Nursing Care Quality Assurance Commission (NCQAC)
Friday, November 17, 2017
8:30 AM – 5:00 PM
Department of Health
Point Plaza East, Room 152/153
310 Israel Road SE
Tumwater, WA 98501
DIRECTIONS
To attend via webinar, please register for the meeting at:
https://attendee.gotowebinar.com/register/2648425929977227011

Commission Members:	Donna L. Poole MSN, ARNP, PMHCNS-BC, Vice-Chair Lois Hoell, MS, MBA, RN, Secretary/Treasurer Gerianne Babbo, EdD, RN Mary Baroni, PhD, RN Adam Canary, LPN Jeannie Eylar, MSN, RN Edie Higby, Public Member Suellyn M. Masek, MSN, RN, CNOR Helen Myrick, Public Member Sharon Ness, RN Tiffany Randich, LPN Renee Ruiz, Public Member Laurie Soine PhD, ARNP Yvonne Strader, RN
Excused:	Tracy Rude, LPN, Chair
Assistant Attorney General:	Gail S. Yu, Assistant Attorney General
Staff:	Paula R. Meyer, MSN, RN, FRE, Executive Director Chris Archuleta, Management Analyst Debbie Carlson, MSN, RN, Associate Director, Nursing Practice Teresa Corrado, LPN, Licensing Manager Mary Dale, Discipline Manager John Furman, PhD, MSN, CIC, COHN-S, Director, Washington Health Professional Services (WHPS) Mary Sue Gorski, PhD, RN, Nursing Education Research and Policy Analyst Barbara Gumprecht, MSN, RN Karl Hoehn, Legal Manager Kathy Moisio, PhD, RN Carole Reynolds, MPH, Policy and Performance Analyst Mindy Schaffner, PhD, MSN-CNS, RN, Associate Director, Nursing Education, Licensing & Research Christian M. Sheehy, Administrative Assistant Catherine Woodard, Associate Director, Discipline

If you have questions regarding the agenda, please call the NCQAC office at 360-236-4713. Items may be taken out of order. If you wish to attend the meeting for a single item, contact our office at the number listed above and request a specific time scheduled for that item.
This meeting is accessible to persons with disabilities. Special aids and services can be made available upon advance request. Advance request for special aids and services must be made no later than November 07, 2017. If you need assistance with special needs and services, please leave a message with that request at 1-800-525-0127 or, if calling from outside Washington State, call (360) 236-4052. If you have limited English language expertise, call 360-236-4713 before November 07, 2017. TDD may also be accessed by calling the TDD relay service at 711. If you need assistance due to a speech disability, Speech-to-Speech provides human voicers for people with difficulty being understood. The Washington State Speech to Speech toll free access number is 1-877-833-6341.
This meeting will be digitally recorded to assist in the production of accurate minutes. All recordings are public record. The minutes of this meeting will be posted on our website after they have been approved at the January 12, 2018 NCQAC meeting. For a copy of the actual recording, please contact the Public Disclosure Records Center (PDRC) at PDRC@doh.wa.gov .

Smoking is prohibited at this meeting.

I. 8:30 AM Opening – Donna Poole, Vice Chair – DISCUSSION/ACTION

II. Call to Order

A. Introductions
B. Order of the Agenda
C. Correspondence
D. Announcements

1. Ms. Rude is unable to attend today. Ms. Poole will conduct the meeting.
2. NCSBN selected Adam Canary to participate as a Member on the NCLEX-PN Knowledge, Skills and Abilities Panel.
3. NCSBN selected Tiffany Randich to participate as a Member on the NCLEX-PN Practice Analysis Panel.

III. 8:40 AM – 8:45 AM Consent Agenda – DISCUSSION/ACTION

Consent Agenda items are considered routine and are approved with one single motion.

A. Approval of Minutes

1. NCQAC Business Meeting
   a. September 8, 2017
2. Advanced Practice Sub-committee
   a. September 20, 2017
3. Discipline Sub-committee
   a. June 27, 2017
4. Consistent Standards of Practice Sub-committee
   a. August 1, 2017
5. Licensing Sub-Committee
   a. September 22, 2017

B. Out-of-State Travel Reports

1. Annual National Council of State Boards of Nursing (NCSBN) Meeting; August 16-18, Chicago, IL; Tracy Rude, Paula Meyer, Lois Hoell, Adam Canary, Mary Baroni, Catherine Woodard, Mindy Schaffner, Amber Bielaski
2. National Cannabis Summit: Science Policy, and Best Practices, August 28-30, Denver CO; Deborah Carlson.
3. Citizens Advocacy Center (CAC) & Council on Licensure, Enforcement, and Regulation (CLEAR) Annual Meeting, September 13-16, Denver, CO; Karl Hoehn & Chris Archuleta.
4. International Health Facility Diversion Association (IHFDA) Annual Conference, September 19-20, St. Louis, MO; Catherine Woodard
5. Serenity Lane Inpatient Facility, September 27-28, Coburg, OR: Melissa Fraser
6. Federation of Associations of Regulatory Boards (FARB) Regulatory Law Seminar, October 5-8, Savannah, GA; Karl Hoehn
7. National Association of Drug Diversion Investigators (NADDI), October 18-20, Pittsburgh, PA; Dana Malone (board member), Lynn Batchelder, Lori Linenberger.
8. NCSBN Leadership and Public Policy Conference, October 11-13, New Orleans, LA, Lois Hoell, Carole Reynolds
9. International Nurse Society on Addictions (IntNSA), October 18-21, Orlando FL, Heidi Dodd, John Furman

IV. 8:45 AM – 9:00 AM NCQAC Panel Decisions – DISCUSSION

The NCQAC delegates the authority as provided by law for certain decision to a panel of at least three members. A member of the NCQAC must chair panels. Pro tem members of NCQAC may serve as panel members. The following minutes are provided for information.

A. Nursing Program Approval Panel (NPAP)- August 1, 2017- October 31, 2017
B. Nursing Assistant Program Approval Panel (NAPAP)- August 1, 2017- October 31, 2017

V. 9:00 AM – 9:30 AM Chair Report – Donna Poole – DISCUSSION/ACTION

A. HELMS/ORBS – report from officers
B. House Bill 1427 Opioid Prescribing task force
C. Nominations Committee – appoint members
D. Legislative Panel – appoint members

VI. 9:30 AM – 10:00 AM Executive Director Report – Paula Meyer – DISCUSSION/ACTION

A. Budget Report
B. Performance Measures Report
1. Commission Performance
2. Legal Performance Measures
3. WHPS Performance Measures
4. Education Performance Measures

C. Uniform Disciplinary Act (UDA) Report

10:00 AM – 10:15 AM Break

VII. 10:15 AM – 11:15 AM Sub-committee Report – DISCUSSION/ACTION

A. Advanced Practice – Laurie Soine, Chair

1. Announcement – Press Release: Veterans Administration Grants Full Practice Authority to Advanced Practice Registered Nurses
2. Medical Acupuncture: Scope of Practice for Advanced Practice Registered Nurse Practitioners Advisory Opinion Draft

B. Consistent Standards of Practice – Suellyn Masek, Chair

1. Compounding Medications Advisory Opinion Draft

C. Licensing – Jeannie Eylar, Chair (Possible Commission Action)

1. Licensing Statistics
2. Licensing 101
3. Presentation by **Claudia Catastini, Director, Office of Infectious Disease.** Ms. Catastini presents DOH proposed changes to chapter 70.24 RCW, Control and Treatment of Sexually Transmitted Diseases.

VIII. 11:15 AM – 11:30 AM – Evaluation of Medication Aides in Nursing Homes by Manu Mooker, MHA, RN, LNHA

Ms. Mooker presents her research on the use of medication aides in Nursing Homes. She completed this work as a student at Seattle University, Masters of Science in Nursing, Adult Gerontological Nurse Practitioner Program.

11:30 AM – 1:00 PM Lunch

IX. 12:00 PM – 1:00 PM Education Session – Cultural Competency and Diversity, Dariush Khaleghi (DK), University of Washington-Tacoma/Key Bank.

Mr. Khaleghi presents information on cultural competency and diversity, and challenges us to rethink the meaning of diversity.

X. 1:00 PM – 1:15 PM Open Microphone

Open microphone is for public presentation of issues to the NCQAC. If the public has issues regarding disciplinary cases, please call 360-236-4713.

XI. 1:15 PM- 1:45 PM Complaint Forms Translation – Tim Farrell – DISCUSSION/ACTION

Health Systems Quality Assurance (HSQA) is considering translating complaint forms in five languages. Mr. Farrell presents the purpose and initiative.

XII. 1:45 PM – 2:15 PM On Line Licensure System – Dan Renfroe – DISCUSSION/ACTION

Mr. Renfroe updates the NCQAC on implementation of on-line applications.

2:15 PM – 2:30 PM BREAK

XIII. 2:30 PM – 3:15 PM Education Report – DISCUSSION/ACTION

A. **Sam Loftin, JD, Associate Director of Consumer Protection, WSAC and Gail Wootan, M.ED, Associate Director, Academic Affairs and Policy, WSAC**
   Mr. Loftin and Ms. Wootan presents on Interagency Memorandum of Understanding and interagency complaint portal.
B. **Tracy Stearns-Church**
   Ms. Stearns-Church presents her proposed project, which addresses the following question: Is the WA state higher education system adequately providing the number of primary care nurse practitioners that is necessary to provide care for the growing aging population?
C. **Incident Reports and Use of Education SPEET Tool** (Dr. Mindy Schaffner)

XIV. 3:15 PM- 4:00 PM VPN Computer Training - Chris Archuleta – DISCUSSION/ACTION

The NCQAC members currently use Citrix on their lap tops. The Department of Health conducted a pilot project with users on VPN to replace Citrix. Staff provides education on the new VPN product.

XV. 4:00 PM Meeting Evaluation

XVI. Closing

Nursing Care Quality Assurance Commission (NCQAC)
Friday, September 8, 2017
8:30 AM- 5:00 PM
Red Lion River Inn
700 N. Division
Spokane, WA 99202
https://attendee.gotowebinar.com/register/421554242061445379

Commission Members:	Tracy Rude, LPN, Chair Donna L. Poole MSN, ARNP, PMHCNS-BC, Vice-Chair Lois Hoell, MS, MBA, RN, Secretary/Treasurer Gerianne Babbo, EdD, RN Mary Baroni, PhD, RN Adam Canary, LPN Jeannie Eylar, MSN, RN Edie Higby, Public Member Suellyn M. Masek, MSN, RN, CNOR Helen Myrick, Public Member Sharon Ness, RN Tiffany Randich, LPN Renee Ruiz, Public Member Laurie Soine PhD, ARNP Yvonne Strader, RN
Assistant Attorney General:	Gail S. Yu, Assistant Attorney General
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Catherine Woodard, Associate Director, Discipline
Amber Zawislak, Licensing, Lead

This meeting was digitally recorded and available at https://attendee.gotowebinar.com/register/4215542420614453379. All recordings are public record. The minutes of this meeting will be posted on our website after approvel at the November 17, 2017 NCQAC meeting. For a copy of the actual recording, please contact the Public Disclosure Records Center (PDRC) at PDRC@doh.wa.gov .

I. 8:30 AM Opening – Tracy Rude, Chair – DISCUSSION/ACTION

II. Call to Order

A. Introduction of new NCQAC members
1. **Dr. Gerianne Babbo, EdD, RN**
2. **Edie Higby, public member**
3. **Sharon Ness, RN**
4. **Yvonne Strader, RN**

B. Order of the Agenda

C. Correspondence

D. Announcements

Ms. Rude announced Dr. Phil Dickison, the scheduled lunch education presenter, will not be able to attend due to the hurricanes in Florida**.**

Ms. Meyer announced the new Department of Health Staff leadership. Dr. John Weisman, Secretary of Health, confirmed Kristin Peterson as the assistant secretary, Health Systems Quality Assurance (HSQA). Ms. Peterson appointed Marc Defreyn as the director of the Office of Investigations and Inspections as well as the Office of Legal Services. Ms. Peterson appointed Martin Pittioni as the Director of the Office of Health Professions. Lisa Hodgson, the current director, is retiring in January 2018.
Ms. Meyer also announced Dr. Kathy Moisio as a new member of National Council of State Boards of Nursing's (NCSBN) Standard Setting Workshop Panel.

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III. 8:40 AM Consent Agenda – DISCUSSION/ACTION

Consent Agenda items are considered routine and are approved with one single motion

A. Approval of Minutes
1. NCQAC Business Meeting, July 14, 2017
2. Advanced Practice Sub-committee
    1. June 21, 2017

2. July 19, 2017

3.Consistent Standards of Practice Sub-committee

1. June 6, 2017

4.Discipline Sub-Committee

1. May 23, 2017

5.Licensing Sub-Committee

1. June 23, 2017

B. Out of State Travel Plan- The date for the NCSBN 2018 Midyear meeting was corrected from 2017 to 2018.

C. Letter from Kathy Thomas, National Council of State Boards of Nursing President, August 2017

MOTION: Dr. Soine moved to remove July 19, 2017 Advanced Practice minutes from consent agenda with a second from Mr. Canary. Motion carried. NCQAC accepted revisions to the ASPC minutes.
MOTION: Ms. Hoell moved to approve the remaining items on the consent agenda with a second from Ms. Randich to accept the agenda. **Motion carried.**

IV. 8:45 AM – 9:00 AM NCQAC Panel Decisions – DISCUSSION

The NCQAC delegates the authority as provided by law for certain decisions to a panel of at least three members. A member of the NCQAC must chair panels. Pro tem members of NCQAC may serve as panel members. The following minutes are provided for information.

A. Nursing Program Approval Panel (NPAP)- July 1, 2017- July 31, 2017

B. Nursing Assistant Program Approval Panel (NAPAP)- July 1, 2017- July 31, 2017

No discussion occurred.

V. 9:00 AM – 10:00 AM Chair Report – Tracy Rude – DISCUSSION/ACTION

A. Data Bases for NCQAC licensing and discipline
No update to report

B. National Council of State Boards of Nursing (NCSBN) Annual meeting, August 15-18, Chicago
The annual meeting was held at the Chicago Hyatt. Travel reports are required by all those in attendance for the November Business Meeting packet.

C. Sub-committee appointments for new members
Ms. Rude assigned the following:
Licensing sub-committee: Dr. Babbo and Ms. Strader, NPAP B: Dr. Babbo assigned as chair of the panel.
Discipline sub-committee: Edie Higby and Sharon Ness

D. Sustainable Developmental Goals
Added to packet for everyone to view and provide feedback on value and guidance.

10:00 AM – 10:15 AM Break

VI. 10:15 AM – 11:00 AM Executive Director Report – Paula Meyer – DISCUSSION/ACTION

A. Budget Report

Ms. Anderson reported the 2017-2019 budget has not been submitted yet from the Department of Health to the Office of Financial Management due to the late adoption of the state budget by the legislature. Ms. Anderson discussed that detailed expenditure data is not yet available, but discussed the fee increase for licenses effective July 1st. Ms. Anderson stated that the new budget will be ready for the November Business Meeting packet.

Ms. Hoell shared NCSBN predicts NCLEX numbers for RN and LPNS's will continue to be flat in 2018. Therefore, there will be minimal impact on revenue beyond projected increases from license fee increases.

B. Performance Measures Report

1. **Commission**
2. **Legal**
3. **Education**
4. **WHPS**

Ms. Meyer discussed the comparisons among NCQAC to HSQA, Medical Quality Assurance Commission (MQAC), Chiropractic Quality Assurance Commission (CQAC) and the current performance measures are ten years old. Ms. Meyer met with representatives of the commissions and HSQA to discuss the performance measures and processes. Some of the current measures are duplicative and may be removed from the data collection and comparison.
The NCQAC also submits performance data to the NCSBN for the Commitment to Ongoing Regulatory Excellence (CORE). Changing the HSQA/NCQAC/MQAC/CQAC measures will not impact the CORE measures or data collection. The NCQAC uses the CORE measures for comparison with other boards of nursing.

C. Rules update

Ms. Meyer provided an update on the status of rules for Nursing Assistants, Substance Abuse, Temporary Practice Permits, House Bill 1427 on opioid prescriptions, and repeal of RCW 18.379.380 on non-traditional program. Ms. Reynolds offered additional information on non-traditional programs and the upcoming meeting on HB 1427.

Ms. Meyer asked the NCQAC to vacate or delay the CR 101 on Nursing Assistants due to potential legislation changing the nursing and nursing assistant statutes.

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MOTION: Dr. Soine moved to withdraw the CR101 for the nursing assistant rules with a second from Ms. Eylar. **Motion carried.**

D. Draft Procedure H17.01 – Establishing Regular and Special Meetings

Ms. Meyer reviewed draft Procedure H17.01 describing the differences between regular and special meetings according to the Open Public Meetings Act. The NCQAC currently holds regular meetings and publishes the dates of the meetings with the Code Reviser.

MOTION: Ms. Ruiz moved to adopt Procedure 17.01 Establishing Regular and Special Meetings with a second from Ms. Eylar. **Motion carried.**

E. Payment for NCQAC related expenses: after the fact explanations required

F. Ms. Meyer discussed the need for state approval for conferences before registering for conferences. All out of state travel must be approved prior to registration being completed or any reservations being made for air travel or hotels. If staff or commission members pay for registration before approval it requires an after the fact memo and more staff time and work to complete the process. Staff should include the out of state travel plan in all packets. If it is incorrect, please contact me as soon as possible for approvals. Staff should review the out of state travel plan frequently. Christian Sheehy will work with NCQAC members to arrange all out of state travel for all 2018 out of state meetings and conferences.

Ms. Meyer presented recommendations for the locations for the upcoming 2018 meetings. All meetings will be available by webinar. Ms. Rude stated nurses need to know that attending a business meeting can be counted in the required Continuing Education hours. Certificates could be given to those nurses attending the meetings.
The NCQAC discussed budgetary impacts and weather conditions when determining 2018 locations. They decided that the January, March, May, and September Business Meetings be held in Tumwater. That the two day July Business Meeting be held in the Tri-cities area and the November 2018 meeting be held in Kent.

MOTION: Ms. Eylar moved to adopt the locations of the 2017-2018 meetings as recommended by NCQAC with a second from Ms. Randich. **Motion carried.**

VII. 11:00 PM – 11:30 PM Strategic Plan – Tracy Rude – DISCUSSION/ACTION

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Ms. Rude discussed the revisions to of the strategic plan from July workshop. The workshop helped create more reasonable and workable expectations.

Ms. Meyer discussed the Criminal Background checks in Washington compared to other states, specifically Utah, the only state to pass the federal Rap Back law. Ms. Meyer met with Jesse Devereaux from Utah to ascertain how they were able to get the law passed and implemented.

Ms. Meyer discussed the data base used to collect licensing and discipline information for all health professions. HELMS is the proposal from HSQA. ORBS is the proposed system from NCSBN. HSQA proposed an additional $10 surcharge for every year for four years for every profession licensee to cover the costs of HELMS. NCQAC requested mediation with the Department of Health due to the differences in costs between HELMS and ORBS. Ms. Yu discussed the language in the nursing law and the language in the law for the Operating Agreement on mediation.

Ms. Meyer reviewed and discussed the remaining strategic goals captured from the July 13 workshop.

MOTION: Dr. Soine moved to adopt the updated strategic plan for 2017-2019 with a second from Ms. Randich. **Motion carried.**

Ms. Yu discussed Nursing Assistant Discipline and the legislation required for the NCQAC to be the licensing and disciplinary authority for Nursing Assistants.

11:30 AM – 12:00 PM Lunch

12:00 PM – 1:00 PM Education Session: NCLEX Next Generation, Dr. Phil Dickison, National Council of State Boards of Nursing (NCSBN) - DISCUSSION

Dr. Dickison was unable to attend. Donna Poole suggested to use this time to share stories or pearls of wisdom of their life experiences, whether personal or professional.

VIII. 1:00 PM – 1:15 PM Open Microphone

Open microphone is for public presentation of issues to the NCQAC. If the public has issues regarding disciplinary cases, please call 360-236-4713. There were no presenters identified for the Open Microphone.

IX. 1:15 PM – 2:15 PM Education Report - DISCUSSION/ACTION

A. Action Now! Effort and Solution Summit Update (Mindy, Geri, Mary and Helen)

1.November 16th Dr. Susan Hassmiller

2.Workgroup updates

Dr. Mindy Schaffner discussed Action Now and its goal to increase LPN to RN progression and provide solutions for nursing education, public health and safety improvements. Several workshops for members and the public have been established to help address issues.

Dr. Babbo provided an update on recruitment and retention workgroup on all nursing education, schools, and providers.

Dr. Gorski discussed the academic progression workgroup, their defined charter and data on the best academic modules.

Ms. Hoell discussed the clinical placements workgroup examining the types of nurses prepared for acute care/community based/geriatric and what models to pursue in the future.

Mr. Canary discussed funding in schools and recruitment of educators for nursing education programs.

Dr. Schaffner discussed the November 16th Action Now conference with Dr. Susan Hassmiller. A work session and reception is planned. It was suggested that the Governor's Mansion could be used for the reception. Further information will be forthcoming. A solution summit is being planned for September/October of 2018.

B. Office of Financial Management (OFM) Healthcare Recruitment/Retention Workgroup Update Mindy/Mary

Dr. Schaffner updated the NCQAC members on the work of the OFM Health Care Workgroup. The group met monthly over this past year, and developed a plan to submit to OFM director for possible action this next year. The work group focused on the recruitment and retention of nurses in public service. Dr. Schaffner will provide an updated report during the January 2018 business meeting.

C. NCSBN Metrics & Outcome Committee Update – Mindy

Dr. Schaffner provided an update on the literature review of the committee and plans for this next year. The committee began its work in January, 2016. The committee is currently looking at the work completed in Canada on the evaluation of nursing education. The NCSBN Board of Directors voted to continue the work of this committee for another year. The committee is working to develop a metric for the evaluation of nursing education.

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2:15 PM – 2:30 PM BREAK

X. 2:30 PM – 3:00 PM Rules hearing – Collection of Demographic Data – WAC 246-840-015 - DISCUSSION/ACTION

The Institute of Medicine's report on the shortage of nursing recommended that by the year 2020, 80% of registered nurses have a baccalaureate degree. This recommendation initiated the need to collect demographic data on all nurses related to their place of work, if they are working full time or part time, the specialty area for their work, and if they have achieved a baccalaureate degree.

NCQAC considered requiring all nurses to complete a demographic survey as a condition for application and renewal.

Ms. Rude opened the hearing at 2:33 PM.

NCQAC members present: 13 NCQAC members in person and two via webinar (Helen Myrick and Mary Baroni).

Ms. Rude called for questions, no questions asked.

2:33 pm- Testimony began

Sofia Aragon, Executive Director, Washington Center for Nursing (WCN) testified that more time was needed to develop the rule and provide further clarity**.** NCSBN engaged with many states to create a national database. The national nursing workforce forum and the WCN developed goals to meet demographic data compilations. Nursing licensure means different things and depends on what state you are from. Before the adoption of the rule there needs to be further discussion on how data will be used and if it will have a negative or positive influence on nursing policy. For instance location of nurses throughout the state are not included in their samples. There needs to be a clear reason for the data.

- What do we mean by this data? It does not include practice, specialty, part-time/full-time, for example.
- Will it demand information from employers? Do we want information at initial licensure? RN's provide surveys when they are working as an ARNP. ,
- Should ARNP survey data be separate from the survey everyone is given?. WCN would like that NCQAC to take their time in implementation of this rule.

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MOTION: Mr. Canary moved to adopt the rules requiring licensees to complete demographic data as a condition of licensure with a second from Ms. Poole. **Motion carried.**

During discussion of the motion, NCQAC members voiced questions and Dr. Gorski answered their questions.

Roll call vote in favor- Ms. Poole, Ms. Hoell, Dr. Babbo, Dr. Baroni, Mr. Canary, Ms. Eylar, Ms. Higby, Ms. Masek, Ms. Randich, Ms. Strader, and Dr. Soine.
Roll call in opposition- Ms. Ness and Ms. Ruiz.

Motion carries. Effective January 1, 2018. Adjourned 3:14 PM.

To request a record of the hearing contact the PDRC at PDRC@doh.wa.gov

XI. 3:15 PM Meeting Evaluation

Pros	Cons
Enjoyed the space	Food
Flexible agenda	Clarification on report
Good discussion	Bathroom flooded
Panel on 7 September was helpful	Cold
Enjoyable evening together	
Transparency and respectful environment	
Loved the room and the view	
Open dialogue	
Webinar	
Pearls were great	

XII. Meeting adjourned at 3:37 pm

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Nursing Care Quality Assurance Commission (NCQAC)
Advanced Practice Sub-Committee Minutes
September 20, 2017 7:00 PM to 8:00 PM

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Committee Members Present: Laurie Soine, PhD, ARNP, **Chair**
Donna Poole, MSN, ARNP, PMHCNS-BC
Heather Schoonover, MN, ARNP, PHCNS-BC, Pro Tem
Heather Bradford, ARNP-CNM, FACNM, Pro Tem

Absent: Christine Burnell, DNP, ARNP-FNP, Pro Tem
Daniel Simonson, ARNP-CRNA, MHPA, Pro Tem
Daniel Petersen, MSN, ARNP, NP-C, RN-BC, Pro Tem
Tracy Rude, LPN, NCQAC Chair
Dayna Morgan, ARNP, RN, Pro Tem

Staff: Deborah Carlson, MSN, RN, Associate Director of Nursing Practice

I. Call to Order – 7:00 p.m.

- Introduction – Laurie Soine
  - Laurie reminded attendees that the subcommittee does not have decision-making authority. Recommendations from the subcommittee may be presented to the next NCQAC meeting and that only the NCQAC has authority to take action.
- Public Disclosure Statement – Read by Laurie Soine
- Roll Call and Introductions– Performed by Deborah Carlson

II. Standing Agenda Items

- Announcements/Hot Topics/NCQAC Business Meeting Highlights
  - Press Release: VA Grants Full Practice Authority to Advanced Practice Registered Nurses includes Nurse Practitioners, Certified Nurse Midwives, and Clinical Nurse Specialists. The rule does not include Certified Registered Nurse Anesthetists. The subcommittee recommends announcing this at the next NCQAC meeting. Debbie sent this out on the listserv.
  - American Academy of Pediatrics "Pediatric Kinship Care Policy Statement" about kinship care arrangements with caregivers who are relatives but not the biological parents of the child. Debbie sent this out on the listserv.
    Children's Bureau Express
  - NCQAC Business Meeting Highlights - Opioid Workshop in Spokane the day prior to the business meeting including highlighting the presentation Dr. Gary Franklin from Labor and Industry presented on the roots of the opioid epidemic. An overview of current pain management rules was also presented at the workshop. The workshop was well received with 500 people registering for the webinar and 200 in attendance. The webinar information is posted on the NCQAC website. Another highlight is meeting the new commission members.
  - NCQAC Substance Use Disorder Conference - October 13, 2017
- NCSBN APRN Knowledge Network Call Minutes were reviewed – Highlighted the National Council State Boards of Nursing Opioid Toolkit.
- APSC Meeting Minutes Draft Review – No minutes (August meeting cancelled).
- Opioid Prescribing – Rule Writing Workshops Updates – Donna Poole

- Donna Poole, ARNP (NCQAC Vice-Chair), Tracy Rude, LPN (NCQAC Chair), Helen Myrick (NCQAC Public Member), and Tiffany Randich, LPN (NCQAC Member) are on the taskforce to develop rules to implement ESHB 1427. Donna was unable to attend the rule writing workshop held today. The next rules workshop is on October 19, 2017 in Spokane, WA. We also want to consider what the role of RNs and LPNs in assisting in the opioid crisis along with the ARNP roles. Opioid Prescribing ESHB 1427 Implementation

II. Old Business

- **None**

IV. New Business

- Medical Acupuncture: Scope of Practice for Advanced Registered Nurse Practitioners Advisory Opinion Draft
  - Laurie and Debbie provided historical information about the formal request for an advisory opinion on whether medical acupuncture is within the scope of practice of ARNPs in WA State. Information on the process of developing the advisory opinion was provided. The advisory opinion provides a roadmap for ARNPs who are interested in incorporating acupuncture techniques into their nursing practice. The draft has been vetted by the NCQAC assistant attorney general (AAG) and the WA DOH East Asian Medicine Practitioner Advisory Committee AAG. Debbie provided an overview of the concerns/issues from stakeholders. Consensus to revise one statement on page four of the draft as follows: "The NCQAC recommends a competency-based model similar to the American Association of Acupuncture and Oriental Medicine (AAAOM) Competency-Based Education Model (2014) for ARNPs." There was unanimous support for the advisory opinion among subcommittee members present for the meeting. Additionally, there was unanimous agreement among subcommittee members to send the opinion onto the NCQAC.

V. Ending Items

- **Open Microphone**
  - Nancy Lawton provided an update on the Opioid Rule Writing meeting today. She appreciates the concept of having RNs and LPNs represented but very concerned there was not an ARNP prescriber represented at the meeting today. Recommendations were made to the task force such as having ARNP(s) with expertise in pain management as a technical advisors appointed to the taskforce.
  - Several public attendees represented the Washington East Asian Medicine Association (WEAMA) including Ash Goddard, Acting President, Curt Eschels and Jamil Shoot to comment on the Medical Acupuncture Advisory Opinion. Fujio McPherson is also represented the WA DOH East Asian Medicine Practitioner Advisory Committee. Ash Goddard reviewed written concerns from WEAMA and shared a document from the National Council State Boards of Nursing National Council State Boards of Nursing Changes in Healthcare Professions' Scope of Practice: Legislative Considerations. Fujio McPherson who is an ARNP and EAMP discussed redundancy in training for and explained his view of the difference between the medicine of acupuncture and the procedure of acupuncture. The technique vs. the theory. Dr. McPherson announced that the Helms Medical Institute Medical Acupuncture Course 300 course for physicians is now open to

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ARNPs. He also announced that Bastyr is working towards having a course for ARNPs considering their previous education.

- **Review of Actions**
  - Add to the November NCQAC Business meeting agenda: [Press Release: VA Grants Full Practice Authority to Advanced Practice Registered Nurses]
  - Revise the statement identified above. Add the Medical Acupuncture: Scope of Practice for Advanced Registered Nurse Practitioners Advisory Opinion Draft to the November NCQAC Business meeting agenda.
- **Date of Next Meeting –** Wednesday, October 18, 2017
- **Adjournment** at 8:02 p.m.

VI.

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Nursing Care Quality Assurance Commission (NCQAC)
Discipline Sub-committee Minutes
June 27, 2017 3:30 pm to 5:30 pm

Committee Members: Adam Canary, LPN, Chair

Jeannie Eylar, MSN, RN (Excused)
Lois Hoell, MS, MBA, RN (Excused)
Tracy Rude, LPN
Renee Ruiz, Public Member (Excused)
Suellyn Masek, MSN, RN, CNOR, ad hoc

Staff: Mary Dale, Discipline Manager
Catherine Woodard, Associate Director of Discipline
Karl Hoehn, Legal Manager
John Furman, Director, WHPS (Absent)
Garr Nielsen, Chief Investigator
Rozanne McCarty, HSC1
Debbie Carlson, Practice Manager, ad hoc

I. 3:30 pm Opening – Adam

- Call to order – Digital recording announcement
- Roll call

II. May 23, 2017 Minutes – Adam

The minutes were approved and will be placed in the September 2017, Business Meeting packet.

III. Criminal Background Checks – Catherine

The Department of Health (DOH) Leadership is in support of background checks but they have not placed this as a priority for the 2018 Legislative session. The Governor's office is requesting more legislative support for the background checks before they will support it. Paula, Tracy Rude and Catherine have talked with Senator Ann Rivers who is sponsoring the bill, and will take the legislation forward.

IV. Discipline Web Pages – Strategic Plan – Mary

The discipline web pages are now live on the DOH, Nursing Commission website. The committee would like to increase nurses' understanding of the disciplinary process. One way to track understanding is through running usability reports. This will indicate how many times people are clicking on the discipline web pages.

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V. New Items – Tracy

Currently, WHPS does not have access to PMP, which impacts their program. Tracy is arranging a meeting with Paul Harris to discuss concerns the Nursing Commission has regarding the lack of access.

A discussion took place on case task backs from legal to investigations. A proposal was made to create a performance measure on task backs but the committee decided to discuss this issue further at the July 2017 meeting in order to review data on task backs for 2016.

VI. Work Plan – Adam

The subcommittee reviewed the status of items on the work plan. There was discussion on the effectiveness of disciplinary actions and how to best gauge success. More discussion will be forth coming on this topic.

VII. Closing

The Disciplinary Sub-Committee meeting ended at 4:03 pm

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Nursing Care Quality Assurance Commission (NCQAC)
Consistent Standards of Practice Sub-committee Agenda
August 1, 2017 12:00 pm to 1:00 pm

Committee Members Present: Tiffany Randich, LPN, Acting Chair
Renee Ruiz, Public Member
Tracy Rude, NCQAC Chair (Ad Hoc)

Absent: Suellyn Masek, MSN, RN, CNOR, Chair

Staff: Deborah Carlson, MSN, RN, Associate Director of Nursing Practice

I. Call to Order – 12:01 p.m.

- Introductions – Tiffany Randich (Suellyn Masek unable to attend today)
- Public Disclosure Statement – Read by Tiffany Randich
- Roll Call – Performed by Deborah Carlson

II. Standing Agenda Items

- Announcements/Hot Topics
    - NCQAC Substance Use Disorder Conference – October 13, 2017 at Crowne Plaza Hotel at SeaTac. Registration is open and we still have many seats available. Conflicts with the Council on Nursing Education in Washington State (CNEWS) Meeting and the Washington State Department of Social and Health Services (DSHS) Annual Delegation Conference.
- NCQAC Business Meeting Highlights – July 14, 2017 - Stephen Henderson, NCQAC member, played “Amazing Grace” on his bagpipes in honor of Charlotte Foster. Sanction standards were reviewed and adopted. Sophia Aragon presented an overview of the Washington Center for Nursing. At the May 2017 meeting Tracy Rude was appointed chair, Donna Poole was re-appointed as vice-chair, and Lois Hoell was re-appointed as treasurer.
- National Council State Boards of Nursing Practice Knowledge Network Call – June 15, 2017 – no comments.
- June 6, 2017 Draft Minutes Reviewed with consensus to send to the NCQAC meeting for approval at the September 8, 2017 meeting (July 4, 2017 meeting cancelled as it fell on a holiday).

III. Old Business

- None

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IV. New Business

- Sub-committee Structure and Reporting Overview and Meeting Times – reviewed the FAQs. NO changes in meeting schedule at this time (First Tuesday of every month from 12:00 p.m. to 1:00 p.m.)
- Overview/Status of Current Projects and Initiatives provided to update existing and new members:
  - Compounding Advisory Opinion – plan to send draft document at the September 5, 2017 CSPSC meeting for review.
  - Dispensing Advisory Opinion – Revision plan to make minor changes to current document and review at the September 5, 2017 CSPSC meeting.
  - School Nursing Delegation – Glucagon – Revision – plan to focus on developing the draft, including stakeholder work over the next few months. No timelines as of yet.
  - Registered Nurse and Licensed Practical Nurse Workgroups – workgroups developing an advisory opinion draft and Frequently Asked Questions (FAQs) draft. Current plan is to send draft documents for review at the November, 7 2017 or December 5, 2017 CSPSC meeting.
    - RN and LPN Scope of Practice Advisory Opinion
    - RN and LPN Scope of Practice FAQs
  - NCQAC/Office of the Superintendent of Public Instruction (OSPI) Staff Model for the Delivery of School Health Services – Revision – making final formatting changes with plan to send draft to the September 5, 2017 meeting. Once this is done, OSPI will take it through their approval process.
  - Jurisprudence Module/Examination –The NCQAC is begin work developing a jurisprudence module/examination working with the National Council State Boards of Nursing (NCSBN). Margaret Holm is lead working with new Pro Tem, Susan Matt. Shana Johnny, Nurse Consultant, is developing the project plan.

V. Ending Items

- Open microphone (as time permits)
  - Kathie Johnson discussed the problem of resources for nurses regarding delegation and need to protect nurses by assuring there are safe delegation laws. High school caseloads are very high. The new school law was passed regarding supervision clarifying that a non-nurse cannot supervise nursing practice – need to build this law into the structure of providing care and delegation.
  - Nicole Klein had questions regarding the school health services model and who "owns" it. OSPI has taken the lead on the revision with input from NCQAC.
- Review of actions
  - CSPSC June 2, 2017 draft minutes – add to the September 8, 2017 NCQAC agenda.

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- Compounding Advisory Opinion – add to the CSPSC September 5, 2017 meeting agenda.
    - Dispensing Advisory Opinion revision – add to the CSPSC September 5, 2017 meeting agenda.
    - Registered Nurse and Licensed Practical Nurse Advisory Opinion and FAQs – add to the November 7, 2017.
    - NCQAC/OSPI Staff Model for the Delivery of School Health Services – Revision – send draft to the CSPSC September 5, 2017 meeting.
- Date of next meeting – September 5, 2017

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Nursing Care Quality Assurance Commission (NCQAC)
Licensing Subcommittee
September 22, 2017 9:30 am to 11:00 am

Meeting Minutes

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Committee Members:	Jeannie Eylar, MSN, RN, Chair Margaret Kelly, LPN Geri Babbo, EdD, MN, RN Lois Hoell, MS, MBA, RN Yvonne Strader, RN,BSN,BSNA,MHA Susy Cook, MN, RN, CHSE, CNE
Staff:	Teresa Corrado, CPM, LPN, Licensing Manager Bobbi Allison, Education Assistant Karl Hoehn, JD, Legal Manager Shana Johnny, MN, RN, Nurse Practice Consultant Mindy Schaffner, PhD, MSN-CNS, RN, Associate Director Education & Licensing

I. 9:30 am Opening – Lois Hoell, MSN, RN, Acting Subcommittee Chair

Members present: Margaret Kelly, Suzy Cook, Lois Hoell, and Yvonne Strader
Excused: Jeannie Eylar

Call to order at 9:55 AM due to technical difficulties.

Note: GoToMeeting will be used going forward with the telephone number option for clearer communication and recordings.

II. Approval of July 28, 2017 Minutes

Motion: Ms. Kelly moved to approve the draft July 28, 2017 meeting minutes and have them forwarded to the Commission for final approval.

Motion carried.

III. Review and approval of Licensing Work Plan

Ms. Corrado presented to the subcommittee the work plan for 2017-2018. This is a fluid document and will be updated as needed. Comments were requested from the subcommittee. The members expressed the work plan was well thought out and had no further comments.

Work plan was approved by consensus.

IV. Newsletter Article for January 2018 Issue

Dr. Schaffner and Ms. Allison presented to the subcommittee the upcoming due dates for the January 2018 Newsletter. The subcommittee was asked if they had ideas for articles, or would like to write an article for this issue. If so to submit by November 14th to either Dr. Schaffner or Ms. Allison via email. Please be aware if photographs are included, a release accompanies the article and photograph.

Ms. Johnny suggested another article on E-Notify, this idea was well received.

Ms. Hoell advised the subcommittee she has attended the last Pierce-Kitsap Nurse Leader Meeting and the membership of this committee expressed their wishes to keep the hard copy of the newsletter. It was suggested printing a hard copy twice a year.

Staff stated the newsletter is published twice a year, and only mailed out in hard copy once a year in July. If the Commission directs staff to print twice a year then the budget would need to be addressed as the cost is substantial. It was also mentioned we are receiving inquiries about advertising in our newsletter, which has the ability to off-set the cost of production, but not the mailing.

V. Rules Update:

Nontraditional – Dr. Schaffner presented the legislative repeal of RCW 18.79.80 and gave the subcommittee information around this rule.

Interim License – Ms. Corrado presented the background of the interim license. A legal analysis will determine our next steps.

VI. Discussion on Continual Failure of the NCLEX

Dr. Schaffner discussed the continuing failure of the NCLEX by students and gave an overview to the subcommittee on the issue of the repeated failure.

By consensus a solution in rough draft will come back at the December 1st meeting for further discussion.

VII. New Performance Measures Reports & Data

Ms. Corrado presented new measures to the subcommittee. This report contains only one month of information, going forward the report will cover one year of data.

Ms. Corrado reported the licensing unit received over 6000 calls last month.

IX. Good of the Order

Staff announced:

1. The Opioid Conference on October 13, 2017, at the Crown Plaza.
2. Action Now Workshop on November 16, 2017, at the Cherberg Building, Conference Rooms A & B, this is located on the Capitol Campus.

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3. The jurisprudence module, which is a collaborative project with NCSBN, will be reported to this committee at a later date.

Meeting Review: Once everyone has VPN installed on their laptops, accessing the meeting through GoToMeeting will be easier.

Next Meeting Dates: Friday, October 27, 2017
Friday, December 1, 2017

NCSBN
2017 ANNUAL MEETING
AUGUST 16, 17, 18, 2017 CHICAGO, IL
TRACY RUDE, NCQAC CHAIR

PURPOSE: This meeting contains the official business meeting of the NCSBN Delegate Assembly (DA). Along with the business agenda, delegates vote for NCSBN leadership positions and there is opportunity for attendees to network with member boards from the same geographic and community areas of practice. It is at this meeting where honor is given to Board Staff and Board Members who have contributed significantly to NCSBN mission and vision.

OUTCOME: This meeting was successful in that the purpose was fulfilled and new NCSBN Board leadership was elected as were new Leadership Succession Committee (LSC) members. I was successful in my election bid and will be able to work with LSC for the next two years.

The DA approved BOD recommendations for bylaw amendments, proposed membership fee for NCLEX exam users' members and model rules relating to pre-licensure program simulation usage. The DA also approved the Colleges of Registered Psychiatric Nurses of Alberta, Manitoba and Saskatchewan as associate members of NCSBN.

Although there were many well-deserved awards presented we are very proud our own staff members Mindy Schaffner, PhD, MSN, CNS, RN and Catherine Woodard, NCQAC Associate Director, Discipline, were presented with the NCSBN 2017 Exceptional Contribution Award.

Mindy's commitment to nursing regulation in the area of education is apparent in her service to all four of the NCSBN Education Committees including serving as chair of the 2016 Nursing Education Trends Committee. She seeks out evidence to support nursing education programs. Standards are developed and outcomes are measured demonstrating her commitment to patient safety and public protection. Her membership in the Distance Learning Committee and APRN Distance Learning Committee has brought to light the need for regulatory standards to guide the clinical portions of these programs. Mindy also mentors educators providing to them her experience and guidance.

Catherine has served NCSBN as a member of the Investigator Training Committee. Her work led to the creation of the Board of Investigator Training. Her law-enforcement training and experience led her to organize trainings, secure speakers and contribute considerable content to investigative reports. Catherine is now faculty on the Board of Nursing Investigator Training and speaks on this topic at other health professionals national meetings. She also presents at Discipline Case Management conferences.

I found all the speakers to be engaging and topics presented were relevant and timely. The presentation by Mary Wakefield, PhD, RN, Former Acting Deputy Secretary US Department of Health and Human Services was one I particularly enjoyed. She spoke to The Next Era of Regulation: Partnerships for Change. Her ability to be forward in her thinking and out-of-the-box, so to speak, was eye-opening and left me with the desire to look at stakeholders and

partners in a new way in order to work with each other to provide care not only in this country but globally as well. We need to seek leaders with that same vision.

RECOMMENDATION: It is my recommendation we continue to support this NCSBN event.

National Council of State Boards of Nursing (NCSBN)
2017 Annual Meeting
Dr. John Hasse PhD, MA
Collaborate Creatively to Make Beautiful Music Together
August 17, Chicago
Paula R. Meyer MSN, RN, FRE

PURPOSE: Dr. Hasse is the curator of American Music at the Smithsonian Institution's National Museum of American History. In 2004, Dr. Hasse presented at the annual meeting on The Jazz Masters. This presentation built on the 2004 presentation on lessons on collaboration demonstrated in music. Dr. Hasse shared his personal experience in healthcare and emphasized the purpose of this presentation: Collaboration, Excellence and Healthcare. Musicians must collaborate- even soloists collaborate with the musical piece, the composer and the accompanist. There is a common objective: two or more working together to make music.

OUTCOME: Dr. Hasse played several pieces on the piano to keep us engaged and demonstrate harmony and discord. There are seven lessons in Collaboration to Make Beautiful Music:

1. Listen closely: Working with others, some without a script, need to listen to tempos, direction, keenly, and listen with generosity: listening closely to move as one;
2. Trust: belief in someone at an emotional level: used an example of McCartney and Lennon, signed an agreement with one another to share credit, whoever did the most work, got their name first. Lennon went to the manager and worked a deal that blind sighted McCartney. McCartney did give in, and trusted, to work together for seven more years.
3. Tune up: every musical group tunes up prior to playing - - and they give each other feedback if they are sharp, flat or in tune; agree on the key, the tempo; with orchestras, the oboe always begins, and each section then joins in to achieve agreement. This demonstrates respect and depending on one another.
4. Harmonize: two or more tones simultaneously to create an agreed upon outcome – a chord is always richer than a single note. Dr. Hasse played a clip from "We are the World" written by Michael Jackson and produced by Quincy Jones. The video included Tina Turner, Billy Joel, Stevie Wonder, Paul Simon and many more stars. It was rumored there was a sign on the studio: Leave your ego at the door. All of the stars worked together to achieve one of the most successful fund raisers of all time.
5. Jam: a jam session breaks down barriers, there is no leader, no hierarchy, and it demonstrates time to play and professional growth; jamming goes beyond brainstorming to produce fresh, new ideas.
6. Collaborate Inventively: none of us is as smart as all of us; Dr. Hasse used the Mile Davis Quintet to demonstrate two innovations. He moved the piano and drums, usually used in the background, to the front with the brass. Each member could play a solo, as long as they wanted; Broadway musicals demonstrate this principle, and Dr. Hasse chose Westside Story to show there are at least six roles working together to achieve the goal.

7. Relish Coop-etition: Coop-etition is cooperation and competition combined to bring out the best in one another. Dr. Hasse used McCartney and Lennon again, with Graham Nash and David Crosby. While there was discourse, the partners used this to begin, and end with a stronger partnership and understanding of each other.

RECOMMENDATION: Review the seven lessons with all groups to see if there are items to focus and learn. NCSBN recorded the session and it is available on the website. This could be used at a noon education session or for work groups of commission members and staff.

Report on out of state travel: Lois Hoell

Purpose: To attend the NCSBN Annual meeting in Chicago, Aug. 16-18, 2017

Outcome: The annual meeting provides a wealth of information not only on national issues, but also international issues as they pertain to nursing regulation. It is an opportunity to be updated on regulatory issues and also to gather significant information on projected future directions.

Recommendation: Every commission member should attend the meeting as an opportunity to gain the knowledge and foresight of the future of nursing regulation.

Host: NCSBN

Title: Annual Conference

Date of Meeting: August 16th thru 18th, 2017

Location: Chicago, IL

Name of Attendee: Adam Canary LPN Commission Member

Purpose: "The NCSBN Annual Meeting contains the official business meeting of the NCSBN Delegate Assembly. In addition to the Delegate Assembly business agenda, delegates vote for NCSBN leadership positions, attendee's network with member boards from the same geographic area and community of practice, and honor member Board Staff and Board Members who have made significant contributions to NCSBN." [i]

Outcome: Presentations included; the President's opening address, the CEO's address, The Next Era of Regulation: Partnerships for Change, Finance Committee Forum, Simulation Guidelines Forum, Board of Directors Subcommittee Forum, Bylaws Committee Forum, The Future of Nursing: Mobile Technology, Robotics and More, Mercy Virtual Nursing: An Innovative Care Delivery Model, What's on Your Mind About Nursing Regulation Today?, Collaborate Creatively to Make Beautiful Music Together, and Awards Ceremony.

Recommendation: For everyone to access the National Council of State Boards of Nursing website and view as many of the presentations as possible for the 2017 Annual Meeting.

One of the Key Presentations: The Future of Nursing: Mobile Technology, Robotics and More

Presented by: Ryan Jeffrey Shaw, PhD, RN, Director, Duke Health Innovation Lab; Associate Professor Duke University School of Nursing, Center for Health Informatics School of Medicine; Center for Applied Genomics & Precision Medicine, Duke University & Margie Molloy, DNP, RN, CNE, CHSE, Director Center for Nursing Discovery Assistant Professor School of Nursing Duke University.

The main discussion points focused on, emerging technologies that will be used for future models of care delivery and how those emerging technologies may impact nursing practice, education, and regulation.

In today's healthcare model, practitioners see a patient through a snapshot of medical information, i.e. blood pressure readings at the time of an office visit, pulse at the time of an office visit, and so forth. Also in today's healthcare model, practitioner's base expected

responses on the average patient. The goal of healthcare technology is to give not a snapshot but the complete picture of a person and to truly allow the practitioner to see how a single person responds to a litany of things. Through emerging technology it is believed that care will be based on individual genomic, environmental, and lifestyle differences that enable more precise ways to prevent and treat disease. [ii]

Moving towards precision health, the ability to be more precise within how genomics, lifestyle, environment, and the phenotype all come together and play a continual part instead of occasional snapshots will allow for a better assessment of disease risks, customized disease monitoring, facilitate disease prevention, and disease detection.

There are numerous health technologies that are actively being developed to allow these possibilities to be explored, such as more advanced smart phones, tattoo sensory wearable devices, smart scales, smart devices placed within living environments, and numerous others. There are also a tremendous amount of companies that are exploring these markets as well with companies specializing in clinical administration markets, digital medical devices market, electronic health records markets, genomics markets, patient engagement markets, remote monitoring markets, and medical big data markets, just to name a few. Currently there are over 500 companies totaling more than $7 billion dollars in funding. [iii] Currently the largest market place and biggest potential lies within the mobile health market, specifically within the mobile phones, as close to 95% of the US population has a mobile phone including 88% of rural areas.[iv]

These future technologies can help monitor and treat chronic illnesses such as, asthma, diabetes, heart disease, cancer, arthritis, depression, and others. Through mobile devices, it would allow practitioners the ability to see a patient within their own environment and to track their data on a constant basis. Future technologies will look to point of care diagnostics; looking at the instant a person develops an illness. Future technologies will look to ingestibles, in which a blood pressure medicine could be in a capsule that only activates once a person’s blood pressure reaches a certain parameter.

The recent success to the growth in healthcare technology is in large part due to interdisciplinary teams coming together. At Duke University, the engineering team partnered with the nursing team to work on a Robotic project to protect people during the most recent Ebola epidemic.

Along with the recent growth of technology comes the preparation for the future of nursing to handle the technology. Studies are being conducted on high simulation labs and how they foster problem solving and critical thinking skills in nursing. The new generations of nursing students are adapting to technological advances and are being able to respond and apply them with ease. The presenters do believe that the healthcare landscape is changing and new technology will allow us to answer a lot of those issues with these technologies.

Some concerns were raised at the question and answer part of the presentation on the ethical standpoint of collecting mass data with health technology. The need to protect health data is more and more important, especially with recent stories of security breaches at even the highest levels. However, we must than ask ourselves, do we halt progress out of fear or do we push ourselves to progress smarter and to progress more mindful of what is at stake.

I believe the technology is among us and we must look to find a way to incorporate it so that we can become an expert with it, so that we can properly regulate it, teach it, and progress it.

[i] https://www.ncsbn.org/9917.htm
[ii] Eric Green, MD, PhD NIH NHGRI
[iii] Venture Scanner
[iv] Pew 2017

National Council of State Boards of Nursing (NCSBN)
2017 NCSBN Annual Meeting & Delegate Assembly
Theme: Collaborating for the Future of Regulation
Chicago, Illinois, August 16-19, 2017
Mary A. Baroni, PhD, RN, NCQAC Member/Alternate Delegate

PURPOSE: The NCSBN Annual Meeting serves as the official business meeting of the NCSBN Delegate Assembly which considers Board of Directors for approval, vote on an approved slate of candidates for Board of Directors and Leadership Succession Committee. The annual meeting is also the venue to honor Board Staff and Board Members for significant contributions to NCSBN and induct Fellows of the NCSBN Institute of Regulatory Excellence (IRE).

OUTCOME: The conference included a new delegate orientation, delegate assembly sessions, networking opportunities and formal presentations. The following is a summary of the conference events:

- NCSBN Welcome Reception and opportunity to meet with 2017 candidates
- Delegate Orientation
- Delegate Assembly Opening Ceremony with Welcoming Address, Opening Reports, Approval of Agenda, and presentation of the 2017 Slate of Candidates
- President's and CEO addresses
- Candidate & Committee Forum
- Elections/Results
- Regulatory Feud Interactive Session: Mary Baroni participated on the IRE Team facing off with the Accreditation Team including representatives from CCNE, ACEN, and C-NEA.
- Awards Ceremony & Dinner: NCQAC Awardees included:
  - Dr. Mindy Schaffner: https://www.ncsbn.org/11261.htm
  - Catherine Woodard: https://www.ncsbn.org/11260.htm
- Key Note Addresses (https://www.ncsbn.org/9917.htm) were presented on the 3rd day including:
  - *The Next Era of Regulation: Partnerships for Change*, Mary Wakefield, PhD, RN, Former Acting Deputy Secretary, US Department of Health and Human Services.
  - *The Future of Nursing: Mobile Technology, Robotics and More,* Ryan J. Shaw, PhD, RN, Duke Health Innovation Lab, Associate Professor, Duke University, School of Nursing, Center for Health Informatics
  - *Mercy Virtual Nursing: An Innovative Care Delivery Model,* Laurie Haworth, MSN, RN, Sr. Clinical Operations Specialist, Mercy Virtual, St. Louis, MO
  - *Collaborate Creatively to Make Beautiful Music Together,* John E. Hasse, PhD, MA, Curator of the American illustrating the power of musical collaboration.

RECOMMENDATION: This was my first NCSBN Annual Meeting and found it to be very grounding in refining my understanding of the structure and processes involved in this organization. As an Alternate Delegate, I was required to complete an online *Delegate Orientation* CEU, attend the preconference delegate orientation. I also participated in the lively rendition of *Regulatory Feud* and happy to report that we were able to prevail over our National Nursing Accreditation opponents! Attending the Awards Ceremony and witnessing Mindy Schaffner and Catherine Woodard being recognized for their outstanding contributions to NCSBN and excellence in nursing regulation was an honor and thrill. Finally, as incoming IRE Committee Chair, I was invited to participate in one of 3 focus groups as part of the ongoing NCSBN Leadership Assessment intended to determine strengths and gaps in the Council's Leadership Programs. To the extent possible, I would encourage all new commission members be allowed to attend an annual meeting during their first term.

NCSBN Annual Meeting

August 17, 2017

Chicago, IL

Catherine Woodard, Associate Director, Discipline

PURPOSE: To receive the Exceptional Contribution Award from NCSBN. *I did not attend the full annual meeting.*

OUTCOME: Attended award banquet, accepted the award, and gave a short acceptance speech.

RECOMMENDATION: The NCSBN annual meeting is a great opportunity to network with colleagues from around the country. I highly recommend attending as often as possible. More importantly, I recommend working with and through NCSBN to promote their mission, participate on committees, and apply their best practices to our work in order to be nominated for this prestigious award.

Nursing Commission Travel Report

from

Mindy Schaffner, PhD, MSN, CNS, RN

Associate Director, Nursing Education, Licensing and Research

Name of Travel Event and Date(s): Annual 2017 NCSBN Meeting, August 16 – 18, 2017

Session: "Collaborate Creativity to Make Beautiful Music"

Purpose: The purpose of this presentation was to take the audience through various music renditions and history of music to make key points about collaboration.

Lessons Learned/Outcome: This was an extremely creative and great presentation to share real stories about musicians and music to illustrate how collaboration always resulted in harmonic music.

Recommendations: The presenter, Dr. John Edward Hasse, PhD would be a great motivational speaker to consider for NCQAC sponsored event.

Session: "Nursing Education Advisor Break-Out Session"

Purpose: The purpose of this session was to bring Nursing Education Advisors from various states to discuss relevant and pressing issues to nursing education.

Lessons Learned/Outcome: Individual states expressed great interest in the NCQAC requirement for student and faculty incident reporting. Research on the use of the Student Practice Evaluation Tool was presented by the North Carolina BON. Many of Washington Nursing Programs use this tool. Both North Carolina and NCQAC (myself) will present at the next NCSBN Research Forum in January, 2018.

Recommendation: NCSBN should continue to bring Nursing Education Network members together every Annual Meeting.

NCSBN
Annual Meeting
August 15-19, 2017, Chicago, IL
Amber Bielaski (Zawislak)

Purpose:
NCSBN's Annual Meeting provides opportunities for participating members to engage in discussions surrounding nursing regulation in association with the varying perspectives of nursing regulators from around the world. The 2017 theme of the Annual Meeting was "Collaborating for the Future of Regulation" and offered insights into the many technological advances of modern medicine and the future of healthcare delivery.

Outcome:
The speakers highlighted the goals of the meeting in which worldly collaboration spanning across several different fields of expertise would be key to ensuring continuous progress among nursing regulation and standards of care. Dr. Mary Wakefield, the former Deputy Secretary of the United States Department of Health and Human Services, presented on *The Next Era of Regulation: Partnerships for Change*. Dr. Wakefield expressed the important role of the nursing community in achieving the Sustainable Development Goals established by the United Nations.

Duke University's Dr. Ryan Jeffrey Shaw and Dr. Margie Molloy shared their work with mobile health technology and robotics in relation to the future of nursing practice and education. The implementation of robotics and simulations in nursing schools will offer students a more realistic view of what they will likely face in their careers. Other advancements in mobile health technology and robotics include better informed health statistics of the general population and the ability to care for highly contagious patients remotely.

Representatives from Mercy Virtual, Liz Klingensmith and Laurie Haworth, presented on the virtual care system that Mercy has pioneered for the future of virtual health systems. Mercy Virtual utilizes technology, telehealth, and the passion of driven healthcare providers to improve the access to affordable, quality care. The passion exemplified by Mercy Virtual for developing healthcare solutions was extremely apparent and the statistics provided on the rise in patient health and satisfaction as a result of Mercy Virtual's system of delivery was astonishing.

Recommendation:
Presentations delivered at the Annual Meeting were intellectually rejuvenating and provided excitement for the future of nursing, as well as the broad spectrum of global healthcare delivery. Recommendations include continuing to influence progress and implement necessary changes to improve the quality of nursing care provided to the population of Washington State.

2017 National Cannabis Summit
Science Policy and Best Practices
August 28-30, 2017 2017 Denver, CO
Deborah Carlson, MSN, RN, PCM

PURPOSE:

Attended the 2017 National Cannabis Summit that provided a platform for stakeholders to come together to discuss the policies and regulatory approaches to enhance public health and safety, advance research, and improve prevention and treatment to respond to changing cannabis policies.

OUTCOME:

Partner organizations included the Advocates for Human Potential, Inc., Addiction Technology Transfer Center Network, National, and the Council for Behavioral Health to address the science, policy, and best practices on public health and governance in an age of cannabis legalization and decriminalization.

In 2016, nine states had medical and recreational cannabis-related questions on their ballots. Currently, twenty-nine states and the District of Columbia have legalized the medical use of cannabis. Eight states and the District of Columbia have legalized cannabis for recreational use. State and local governments, advocacy groups, medical professionals and consumers are vigorously engaged in conversation on the topic.

The conference provided an overview of the changing social and policy landscapes, challenges, and examined policy positions ranging from the most restrictive prohibit through the full commercialized sale of cannabis for recreational, use and discussed the pros and cons of each. This included profit vs. non-profit models. The conference also provided many workshop opportunities:

- *The Impacts of Marijuana Legalization Washington State* provided a data analysis on the impact of legalization and commercialization of legalized cannabis possession and production in Washington State and how the data may be used to focus on the implications for current and future policy decisions.
- *Effect of Enrollment in the New Mexico Medical Cannabis Program on Prescription Opioid Use in Chronic Pain Patients* provided an overview of a retrospective cohort study of patients enrolled in a U.S. state-authorized Medical Cannabis Program (MCP) and how it affected prescription opioid consumption in people with chronic pain. The study indicates that one year after enrollment, MCP patients reported no cannabis-related side-effects, significant pain reduction, and improved quality of life, social life, and activity levels.
- *Supporting Medical Cannabis with a Cannabis Dispensing Pharmacist* provided an overview of the way Minnesota is using pharmacists to dispense cannabis as well as providing education surrounding common cannabis drug interactions and side effects, care coordination and support.
- *A Fireside Chat: How Digital Tools Can Help with Prevention and Treatment* provided

an overview of a prevention program through "MyStrength", a peer-to-peer software application that provides screening, tools, and resources for self-management to address chronic pain without developing opioid dependence. The program is being used in various states including for Medicaid Assisted Treatment (MAT) programs. The sponsor is an employer, clinic, provider, etc. The program works with health plans and some are allowing reimbursement if a provider refers the patient to the program. https://www.mystrength.com/

- *Cannabis Legalization and Public Health* provided information on the debate about the consequences of legalization, public health, and safety.
- *Synthetic Cannabinoids and Cannabis: An Exploratory Study* provided information on the relationship between synthetic cannabinoids (SCRA) and cannabis and whether access to cannabis has a negative impact on exposure to and use of SCRA. Consumer behavior prefers cannabis over SCRA.
- *Cannabis and Congress: A Federal Policy Update* provided an overview of the current climate and the potential for changes to federal cannabis policies. Over the past three years, legislation has been introduced both chambers without success and the current climate does not look positive as to any new legislation taking effect.

RECOMMENDATION:

- The Nursing Care Quality Assurance Commission (NCQAC) members and licensed nurses should have an understanding of the current state and federal regulations re: cannabis and how this affects nursing practice, nursing licensure, discipline, and education.
- The NCQAC should consider evidence-based research related to practice, specifically as the work proceeds on the opioid crisis, substance use disorders, patient safety, etc.

The Council on Licensure, Enforcement and Regulation (CLEAR) 2017 Annual Conference
Citizen Advocacy Center (CAC) 2017 Annual Meeting
September 13–16, 2017
Denver Marriott City Center

Chris Archuleta, Management Analyst
Karl Hoehn, Legal Manager

PURPOSE:

CLEAR is an association of individuals, agencies and organizations that comprise the international community of professional and occupational regulation that promotes regulatory excellence. The annual conference was attended by more than 600 members of the regulatory community from across North America, Europe, Australia and New Zealand. Conference content is developed by and for members of the regulatory community and focuses on four areas of inquiry: Compliance and Discipline; Testing and Examination; Entry to Practice and Beyond; and Administration, Legislation and Policy.

The CAC serves public interest by enhancing the effectiveness and accountability of health professional oversight bodies by offering training, research and networking opportunities for public members and for the health care regulatory, credentialing, and governing boards on which they serve. The CAC 2017 Annual Meeting was incorporated into CLEAR's 2017 Annual Educational Conference and consisted of a total of 7 meeting hours.

OUTCOME:

The CAC portion of the conference focused on implications for professional and occupational regulation and how regulatory bodies have responded to outside forces, highlighted by discussion on different state responses to the North Carolina Board of Dental Examiners vs. the Federal Trade Commission Supreme Court ruling. The overarching theme presented was how to evaluate boards in order to carry out their public protection mission and what options are available. For example, sunset reviews, governor's audits, and changing the composition of the board by increasing pubic membership. David Benton, Chief Executive Officer, National Council of State Boards of Nursing was among the presenters.

CAC sessions also focused on current efforts to evaluate board performance by meeting consumer expectations. Boards operate to protect the public, but there is little outreach to the public to evaluate our performance. A presentation by a Washington Medical Quality Assurance Commission public member revealed that about 70 percent of the public has no idea that commission exists.

The CLEAR conference was composed of more than 40 breakout sessions over four days. Highlights from the session attended are as follows:

- **Keynote Address: Can a Conversation Change an Outcome? Can a Conversation Save a Life?** Patty Skolnik, President/CEO, Citizens for Patient Safety, LLC Ms. Skolnik provided a personal and very powerful presentation on how moving Informed Consent as an event to Shared Decision-Making as a process can improve outcomes and reduce liability.
- **The Court of Public Opinion: A Case Study of Discipline Evidence Gone Viral** Presentation of a recent real life incident involving the College of Veterinarians of Ontario in which video was shared by witnesses on social media prior to the release of the final decision and reasons of a disciplinary hearing, the resulting outrage, and lessons learned.
- **Exploring Views on Dishonest Behavior by Health and Care Professionals and Regulatory Responses.** Fascinating qualitative study by the Professional Standards Authority in England explored how professionals and the public judged whether a disciplinary sanction was appropriate in several different factual scenarios
- **Nudging, Judging, and De-Sludging: How Behavioral Sciences Can Be Applied to Compliance in the Regulatory Sector** Presentation exploring how behavioral sciences are being applied within organizations and the importance of testing, data, and measurement when applying new approaches.
- **Regulating Bad Board Behavior: Real-Life Stories About Boards and Board Members Who Act Inappropriately** Presentation on how board reputations can be tarnished by the behavior of board members and best practices and strategies to encourage healthy environments for effective regulation.
- **Trade Agreements: Implications for International Mobility of Health Professionals** Presentation covering different trade agreement models and key examples from around the world. Discussion centered on the regulatory challenges and opportunities these agreements created in the nursing sector. Mary-Anne Robinson, Chief Client Engagement Officer with CGFNS International Inc. presented.
- **Update on Legislative Threats for Continuing Competence** explored various legislative efforts around the country to weaken or eliminate Maintenance of Certification (MOC) requirements. There was a lively discussion of how well MOC programs actually maintain professional competence.
- **Professional Self-Regulation - Is the Model Past Its Sell by Date?** Presentation on whether professionals can effectively regulate themselves and whether the public should play a more dominant role in the way professions are regulated. Analysis of various jurisdictions was presented including how Ireland introduced public majority governance and its impact.
- **Can I Put My Hat On? I'm a Good Moral Character Now** Presentation on defining good moral character, why regulators should care, and how boards can determine that someone with "bad moral character" has been adequately rehabilitated.
- **Sexual Abuse: Regulator's Scorecard in Achieving Zero Tolerance** The actions of regulators in Ontario and Australia in response to sexual abuse by regulated professionals and recommendations to achieve zero tolerance were presented.
- **Challenging Convention: Addressing Mental Health Issues in Professional Regulation** explored how regulators address mental health issues and programs for

professionals that meet the objectives of protecting the public while de-stigmatizing mental illness.

RECOMMENDATION:

This conference was very well run and organized. The content was diverse and very well presented. The fact that representatives from around North America, Europe, Australia, and New Zealand attended reinforces the importance of responsible regulation across the globe. We recommend the NCQAC continue to send delegates to this annual conference to further our collective understanding of our regulatory responsibilities and gain insight into other types of regulatory authorities across different professions and types of governing bodies. Due to the abundance of educational topics offered, we were only able attend about half of the learning sessions. Therefore, if it is within the NCQAC budget, sending at least one additional representative is recommended.

International Health Facility Diversion Association (IHFDA)
Second Annual Conference
September 19/20, 2017 St Louis, MO
Catherine Woodard, Associate Director, Discipline

PURPOSE: NCSBN recommended me to speak at this event when the organizer asked for someone to discuss the role of boards of nursing in diversion investigations. I prepared a PowerPoint-based presentation that touched on the responsibilities of reporting diversion investigations to boards of nursing, the general background of investigators, our disciplinary process and authority related to licensure, how we partner with facility investigators, the evidence we need to conduct our investigations, and alternative to discipline substance use disorder monitoring programs.

Approximately 275 pharmacists and other diversion specialists who conduct facility diversion investigations attended the conference.

OUTCOME: The audience seemed very pleased with the presentation and information delivered. Attendees asked me to speak on this topic at other conferences in the future. Many attendees expressed appreciation for the learning as many really did not understand our role in the process, or that diversion and substance use disorder made up such a large percentage of nursing investigation caseloads.

The networking at this conference was invaluable, and I was only there for a portion of the one day I presented. The content of the agenda was relevant to our work in Discipline to develop a broader understanding of diversion and the opioid epidemic in general. It was also very helpful to learn from facility investigators about their work and legal challenges.

RECOMMENDATION: The conference was meaningful for Discipline staff who work with diversion investigations, particularly investigators. I recommend attendance at future conferences, and it would be terrific if we could continue in a speaking role at the conference as the conference fee is then waived.

Visited Serenity Lane
Inpatient facility in
Sept. 27th -28th
Coburg Oregon
Melissa Fraser

PURPOSE:

I spent a day at this facility. During that time I visited with the outreach worker, CEO, Medical Director, Mental Health Director and 2-3 of the counselors. I also had the opportunity to visit with one of our new voluntary nurses and get her under contract.
This facility offers a specialized program specific to Healthcare Professionals:

This program provides comprehensive services to any healthcare professional who may be experiencing the negative impact of chemical dependency in their personal and professional life.

Through evaluation, planning, treatment, case management, and advocacy with licensing boards or employers, we assist healthcare professionals through evaluation, planning, treatment, case management, and advocacy with licensing boards or employers.

The program is managed by Dr. Eric Geisler, Medical Director, and coordinated by Jerry Gjesvold, Manager of Employer Services and Kara Litwiller, Director of Mental Health Services. They have extensive training in chemical dependency and maintain confidential communication for each case.

Learning objectives:

- Services offered
- Fees associated with this program
- Support groups offered specific to healthcare Professionals

OUTCOME:

I was able to network with various key employees at this facility and gained information to be able to pass on to the other case management teams in regards to treatment services and how this facility can help our nurses if they choose to receive services there.

RECOMMENDATION:

Serenity lane appears to have a comprehensive inpatient program, Beautiful new facility and healthcare tract specific to our clients.

Federation of Associations of Regulatory Boards (FARB)
Regulatory Law Seminar
October 5-8, Savannah, GA
Karl Hoehn, Legal Manager

PURPOSE:

The Federation of Associations of Regulatory Boards (FARB) is a not-for-profit corporation formed in 1974 to promote public protection and provide a forum for information exchange for associations of regulatory boards and their affiliate stakeholders with interests in professional regulation. FARB's mission is to advance excellence in regulation of the professions in the interest of public protection.

I attended FARB's 2017 Regulatory Law Seminar in Savannah, Georgia, held October 5-8. Designed for assistant attorneys general and board attorneys, the RLS covered topics related to administrative law and other issues involved in representing regulatory boards. Leading experts and attorneys from across the country focused on information needed to ensure the efficient and effective operation of state regulatory boards. The seminar also included a Professional Responsibility (Ethics) Training session.

OUTCOME:

The seminar included a discussion by Tara Koslov, Acting Director of the office of Public Policy of the Federal Trade Commission (FTC), who provided an update on the FTC's current approach to professional regulation and anti-trust actions in light of the FTC action taken against the North Carolina Dental Board.

Additional seminar topics included Fourth and Fifth Amendment issues regarding administrative inspections, delegation to non-state actors such as testing organizations, open records laws in the context of advances in technology, and new state and federal legislative efforts to increase competition and reduce regulatory burdens.

To conclude each day's presentations, there was a roundup of recent, topically relevant cases in the areas discussed that day.

RECOMMENDATION:

I very much appreciated being able to attend this conference. It was very well run and organized. The content was well presented and timely. I recommend the NCQAC continue to send attorneys (or others who might benefit) to this annual conference to gain insight into current legal topics facing regulatory boards.

National Association of Drug Diversion Investigators (NADDI)
28th Annual National Conference

October 16-20, 2017

Pittsburgh, PA

Dana Malone, HCI3
Lori Linenberger Health Services Consultant
Lynn Batchelder, HCI3

PURPOSE: NADDI is a non-profit membership organization that works to develop and implement solutions to the problem of prescription drug diversion and substance abuse. NADDI advocates for the responsible use of prescription drugs by people who need them, and at the same time, works with law enforcement and state regulatory investigators and agents to pursue those involved in related criminal activity, and to reduce drug overdose injuries and fatalities.

NADDI's primary focus is training and education for its members, which include law enforcement personnel, regulatory agents and investigators, health professionals, health care fraud investigators, advocacy and treatment professionals, and the pharmaceutical industry.

Learning objectives:

- Participants will recognize the basics of pharmaceutical diversion, the "who's, what's, why's and how's of the investigatory process.
- Participants will develop a network of subject matter experts.
- Participants will obtain knowledge of available of drug diversion identification and prevention resources.
- Participants will describe current drugs of abuse and the testing methods for particular drugs.

OUTCOME:

Activities and presentations attended:

- Four (4) hours of NADDI State Chapters officers' meeting, to discuss the local NADDI Chapters' progress, yearly local chapters' annual training, and the launching of a new NADDI Website directing at professional networking to share information.
- (36) Hours of conference presentations in the following areas by subject matter experts and national speakers:
- Rx Abuse & Diversion - The Scope of the Problem and the trend towards heroin, 2017, by Lisa McElhaney, NADDI National President.
- Commonly Abused Rx drugs, by Marc Gonzalez, Pharm D., NADDI Training Director.

- Opening Comments by the Chief of the Pittsburgh Police Bureau and the Special Agent in Charge (SAC) of the DEA Philadelphia Field Division.
- Tackling Drug Diversion in Healthcare Facilities as a team effort, by Karla Miller, Pharm D and Melissa Culbreth, MSSW and LMSW, HCA Clinical Services Group.
- Opioid Fraud and Abuse Detection Unit-A DOJ Pilot Program, DOJ, FBI, HHS and DEA.
- Understanding the Relationship between Opioid Misuse and Heroin Abuse, by Dr. Wilson Compton of the National Institute on Drug Abuse (NIDA).
- The Criminal Gang/Illicit Drug Connection in Indian Country, by Retired Rapid City, SD Police Captain Chris Grant, National Native American Gang Specialist.
- A Quality Approach to Diversion Risk in Health Care Facilities, by Jeanne Tuttle, Veterans Administration National Pharmacy Program Manager.
- Synthetic Drugs-Cannabinoids/Cathinone's/Fentanyls, by Shannon MacGillis, Statewide Prosecutor, Florida.
- Abuse Deterrent Formulations, by Dan Cohen, Abuse Deterrent Coalition Forum.
- Impact of the (Fentanyl) Patch for Patch Program in Ontario, Canada, by Dr. Tara Gomes, Epidemiologist, Ontario Drug Policy Research Network.
- Potential Impact of Drug Importation, by Shabbir Safdar, Executive Director Partnership for Safe Medicines.
- National Precursor Log Exchange, by Krista McCormick, Appriss Health.
- Web Pharming: Smuggled Prescription Narcotics Being Sent Into Every State, by Special Agent John Woo, California DOJ.
- Panel Discussion Exploring the Different Roles and Responsibilities in the Supply Chain.
- Preventing Drug Diversion in the OR Setting, by Mark Nauman, Assistant Director of Pharmacy for Froedtert Health.
- The Role of Medication Safety, Compliance and Auditing in Preventing Diversion by Tanya Barnhart, Compliance and Clinical Pharmacy Program, Regions Hospital.
- Tampering and Diversion of Injectable Controlled Substances: A Case Study, by Kristen Jurakovich, Narcotic Control Coordinator, University of Wisconsin Health.
- Narcotics Overdose Prevention and Education, by Ronelle Yanuzzi, Prevention Specialist, Holcomb Behavioral Health Systems.
- Counterfeit Pharmaceutical and Other Dangerous Drugs, by Dan Zsido, NADDI Training and Education Director.
- Overdose Prevention Strategies, by Lisa McElhaney, NADDI President.

Nursing Commission attendees actively participated in the classes and presentations. Our NCQAC staff learned about the current prescription drug abuse epidemic. Participants learned of new ways and methods of preventing, detecting and investigating current trends in drug diversion and unintentional poisoning, especially relating to the importation of counterfeit

Fentanyl from China and India. We learned that patients have died ingesting counterfeit Fentanyl that was disguised as legitimate medications, and seemed to be distributed and even prescribed/administered by legitimate sources.

In addition to attending the above mentioned lectures, the conference provided networking opportunities for attendees to connect with colleagues and resources within the Discipline/Investigations/ and Monitoring Program units and colleagues throughout the United States and Canada.

RECOMMENDATION:

We recommend that the Nursing Care Quality Assurance Commission continue supporting both Washington Health Professional Services (WHPS) and NCQAC Discipline staff, by sending representatives to both regional and national NADDI conferences. The next Pacific Northwest NADDI chapter training session is scheduled for May 3, 2018, in Tacoma. The next NADDI National Conference is scheduled for Norfolk, VA on October 2-5, 2018. NADDI also conducts a Basic Diversion Course that we believe is very beneficial to NCQAC staff.

Report on out of state travel: Lois Hoell, 20N17 NCSBN Leadership and Public Policy Conf., New Orleans, Aug.11-13, 2017'

Purpose: to be updated on current and future strategies for being an effective leader in nursing regulatory efforts.

Outcome: The conference focused on past leaders of change in various roles. One presentation highlighted NASA and women in computer science. A presentation on "Generations" was most informative in focusing on the number of living generations today and their various core values and how to work effectively with each generation.

Recommendation: This conference provides a wealth of information and tools with which to utilize as leaders in nursing. I would highly recommend this conference to all commission members.

National Council State Boards of Nursing
Leadership and Public Policy Meeting
October 11-13, 2017
Omni Royal Hotel, New Orleans, LA
Carole Reynolds, Health Consultant III

PURPOSE:

The meeting is NCSBN's Leadership and Public Policy Conference where ways to be more effective in policy and leadership are discussed. The conference theme was "We Can Do It!" The Lessons and Leadership of the Greatest Generation. The conference covered a variety of modern day topics while, also focusing on President Roosevelt and the Greatest Generation. The objectives for the conference were:

1. Transform data into legislative strategy.
2. Communicate effectively to legislators.
3. Feel empowered by new methods to lead change and enact policy.
4. Gain skills to conduct an effective grassroots campaign.
5. Learn to incorporate social media into a public policy initiative.
6. Study legislative procedure through case studies.

OUTCOME:

The conference offered the following sessions to all attendees:

1. Hidden Human Computers: The Black Women of NASA by Duchess Harris, PhD, JD
    a. Dr. Harris' grandmother was one of the original NASA computers. She spoke about the impact the computers made on NASA and the impact on communities.
2. South Dakota House of Nursing by Gloria Damgaard, RN, MS, FRE, Executive Director, South Dakota Board of Nursing; Senator Deb Soholt, RN, MS, State Senator, South Dakota; Kitty Kinsman, President, The K Group; Linda Young, RN, MS, FRE, BC, Nursing Program Specialist, South Dakota Board of Nursing
    a. The presentation covered the legislative work done last session to update the nurse practitioner statutes and align them more closely with the model rules. This included removing dual oversight requirements with the Medical Board and removing collaborative agreements. The panel presentation allowed for a variety of points of view and topics to be covered. The panel talked about the strategies they used to keep attention on the bill, such as planning to have hearings (with the help of legislators) at the same time as stakeholders are in the capitol. They had a hearing on nurses day to assure the hearing would be well attended.
3. Eleanor Roosevelt: Action and Advocacy by Kirsten Strigel Carter
    a. The presentation discussed Eleanor Roosevelt's unique contributions as First Lady. The presentation also discussed the Roosevelt Library.
4. Partners in Winning the War: American Women in WWII by Joan Wages, President and CEO of the Women's History Museum
    a. The presentation discussed the goal of the museum to place a National Women's on the National Lawn.

5. Generational Legislative Relations Strategies by Chuck Underwood, Founder, The Generational Imperative, Inc.
    a. The presenter gave an overview of the differences. The presentation included information about how to effectively reach and motivate each generation when creating legislative meetings and in person meetings.
6. Political Feasibility Model by Ron Gibbs, MA
    a. The presenter provided a political feasibility model to determine if the legislation was likely to be possible in a given year. The model looked at strategies including an inclusive strategy, an exclusive strategy, and a "no-go" strategy when you have nothing to lose. The feasibility model considers money, connections, the powerbase, and collation n building. The presenter focused on changing the message as needed and keeping an exit strategy if things are not going well.
7. Persuasion in Politicized Environments by Arthur Lupia, PhD
    a. The presenter spoke about how to convey messages people will understand. People make decisions based on emotions more often or first, decisions made on facts are less likely. The presenter also focused on memory; including how little people implement of what they hear. The author also said that when making presentations you want to think of Gladys Knights and the Pips because you want to be the star with the presentation backing you up not the other way around.
8. Social Media Impact: Public Policy and Healthcare Decision Making by Kaela Carey
    a. The presenter explained how they work with clients to set up social marketing strategies and plans to meet needs. She explained the uses of the six biggest social marketing platforms to create support for legislation.
9. The First Family of Radio: Franklin and Eleanor Roosevelt's Historic Wartime Broadcasts by Stephen Smith, Executive Editor and Host, APM Reports
    a. The presenter gave a presentation about the Roosevelt's radio broadcasts. How they spoke, what they covered, and how this made them unique.
10. National World War II Museum: Museum Speaker
    a. The speaker gave a presentation about the history, funding, and future expansions of the museum.

RECOMMENDATION:

It is my recommendation we continue to support this NCSBN event.

International Nurses Society on Addictions (IntNSA)
October 17 – 21, 2017
Orlando, FL
Heidi Dodd, John Furman

Mobilizing all Nurses to Address Substance Use: The Hidden Faces of Addiction

PURPOSE:

IntNSA Mission: To advance excellence in nursing care for the prevention and treatment of addictions for diverse populations across all practice settings through advocacy, collaboration, education, research and policy development.

This conference focuses on the requisite knowledge, skills and abilities for any nurse who cares for persons with substance use, abuse and addictions. Providing client centered care through identification, treatment and recovery services (Incl. regulatory monitoring). Interdisciplinary collaboration utilizing the Institute Of Medicine's core competencies of evidence based practice, informatics, and quality assurance is supported. Attendees will increase their skills and knowledge base for collaborative practice with healthcare colleagues, regulatory bodies (drug courts, monitoring programs, etc.), and other stakeholders.

Attendees include:

- Nurses Who Specialize in the Prevention and Treatment of Addictions
- Allied Health Care Professionals Who Specialize in Addictions
- Nurses who work in state monitoring programs
- Employee Assistance Professionals
- Credentialed Addictions Counselors and Prevention Specialists
- Community Agency Workers

OUTCOME:

Presentations attended (Sample):

Recognizing Impairment in the Workplace –This course provides nurses with an appreciation of the impact of impairment on the provision of nursing care and on patient health as well as the skills to identify and report instances of workplace impairment. (Mandatory Continuing Education for Florida nurses)

Competencies for the Induction of Opioid replacement Therapy – Identify the classes and uses of Medication Assisted Treatment (MAT). Outlines best-practice measures for the safe induction and maintenance of MAT.

Identifying the Need for Mental Health Peer Support Groups – Increase awareness of co-occuring disorders in medical professionals. Outlines management of nurses in monitoring with co-occurring disorders and the benefits of separate mental health peer support groups.

Make Veterans Healthy again… - A discussion of the special considerations and circumstances for service-connected PTSD and substance use disorder.

Uniting and Leading through NP Education – Educating nurse practitioner students across populations regarding their roles in caring for clients with opioid use disorder and chronic pain.

Coming Out of Hiding – Minnesota's experience in providing Peer Support for Nurses with Substance Use Disorder. Understanding the history, origins, and design of the Peer Support model.

The Effective Use of Technology in Recovery – How technology can benefit the provision of peer support services and recovery incentives for nurses in Alternative to Discipline programs.

In addition offered ample opportunity to network with other state Alternative to Discipline Monitoring Programs, Boards, and addiction specialists.

RECOMMENDATION:

This is a valuable educational meeting that provides current research, best practices, and application experiences. Is also one of the few meetings that includes substance use disorder among health professionals and regulatory monitoring as a focus. It would benefit WHPS to have an ongoing presence.

Sincerely,

John Furman PhD, MSN, COHN-S
Director Washington Health Professional Services

Washington State
Nursing Care Quality Assurance Commission
NPAP REPORT
Date: 08-01-17 to 10-31-17

Actions	Number	Total YTD	Instate Approved Programs	Out of State Approved Programs
Letter of Determination:			6 LPN Programs 27 ADN Programs 11 BSN Programs 15 RNB Programs 100 Post BSN Programs 8 Refresher Programs	16 RNB Programs 2 – LPN - BSN 427 Other Programs
Intent to Withdraw Approval				
Conditional Approval	1	2		
Deny Approval	3	3		
Letter of Decision:				
Approval - Programs	13	41		
Approval – Sub Change	2	19		
Plan of Correction (POC) Required	1	6		
Acceptance of Submitted Documents or POC	9	27		
Additional Documents or Actions Required	11	39		
Deferred Action	11	29		
Removal of Conditional Approval	0	2		
Voluntary Closure	0	2		
Deny Substantive Change	1	1		
Site Visit Required	6	9		
Monitoring Report:				
Accept	3	11		
Not Accept				
Student Waivers:				
Accept	2	8		
Not Accept				
Instructor/PD Applications:				
Accept	1	1		
Not Accept	2	3		
Deferred	0	10		
Complaints:				
Open	2	5		
Closed	0	2		
Complaint Investigation Reviewed:				
Action Required	0	3		
No Action Required	0	1		
Licensing Exemption (Waiver) Request:				
Exemption Request Approved				
Exemption Request Denied	4	6		
Refer to CMT	0	1		

Work Plan reviewed – Map of programs reviewed and will be reviewed every 6-months going forward – Strategic Plan meetings moving along – Reviewed pass rates – Reviewed CORE – Required two site visits – ARNP WAC Interpretation (A & B Panels)

Washington State
Nursing Care Quality Assurance Commission
NAPAP REPORT
Date: 08-01-17 to 10-31-17

Actions	Number	Total YTD	Approved Programs
Letter of Determination:			14 Healthcare Assistants 9 Medical Assistants 3 Medication Assistant Endorsement 154 Traditional Programs
Intent to Withdraw Approval	1	2	
Conditional Approval			
Deny Approval	1	4	
Letter of Decision:			
Approval - Programs	2	13	
Approval – Substantive Change			
Plan of Correction (POC) Required	1	1	
Approval / Denial of Instructor	1	1	
Acceptance of Submitted Documents or POC			
Additional Documents or Actions Required	1	24	
Deferred Action	1	10	
Removal of Conditional Approval	0	3	
Program Closure Due to Sanction	0	2	
Site Visit	1	21	
Program Director/Instructor Application:			
Approval			
Denial	0	2	
Referral to CMT:	0	1	
Complaints:			
Open	5	7	
Closed	0	4	
Complaint Investigation Reviewed:			
Action Required	0	1	
No Action Required			

Other: Two applications closed due to inactivity

DEPARTMENT OF HEALTH
NURSING CARE QUALITY ASSURANCE COMMISSION
PROCEDURE

Title:	Officer Nominations	**Number:**	H01.03
Reference:	RCW 18.79.100		
Contact:	Paula R. Meyer, MSN, RN, FRE, Executive Director (ED) Washington State Nursing Care Quality Assurance Commission (NCQAC)		
Effective Date:	March 10, 2017	Date Reviewed:	March 2017
Supersedes:	H01.01 – November 18, 2011 H01.02 – March 1, 2016		
Approved:	[signature]		
	Donna L. Poole MSN, ARNP, PMHCNS-BC **Vice Chair (Acting Chair)** **NCQAC**		

PURPOSE:

The NCQAC shall annually elect officers from among its members. The NCQAC elects a chair, vice chair, and secretary/treasurer. This procedure describes the responsibilities of the nominations committee. The nominations committee selects qualified members of the NCQAC who are willing to serve in leadership positions. The nominations committee presents a slate of qualified candidates to the NCQAC for the annual election.

PROCEDURE:

During the November meeting each year, the chair of the NCQAC appoints three members of the NCQAC to the nominations committee. Members serve a one-year term on the nominations committee. No member should serve more than two consecutive terms on the nominations committee. The Executive Director may appoint a staff member to support the work of the nominations committee.

Members of the nominations committee review the position descriptions for the chair, vice chair, and secretary/treasurer positions. Questions, edits and revision to the position descriptions must be presented to the NCQAC at the next meeting.

A. Committee members approach every member of the NCQAC requesting interest in candidacy for an office. Every member of the NCQAC is eligible as a candidate for an officer position.
B. Committee members review the position descriptions with each NCQAC member. Committee members determine if interviews are needed to evaluate candidate's competencies for the chair, vice chair, and secretary/treasurer positions.
C. Committee members contact each candidate with the results of the evaluation. If the candidate meets the qualifications and continues to be willing to serve, their name is placed on the ballot.
D. The committee is charged with selecting at least two candidates for each officer.

At the March meeting, the committee verbally presents the slate of candidates to the NCQAC. The slate of candidates is included in the business-meeting packet of materials. If there are any questions on the slate, questions for the individual candidates, or challenges to the slate, these must be presented to the NCQAC prior to the election of officers. The NCQAC chair reads the slate of candidates. The chair asks if there are any nominations from the floor. Three members of the NCQAC must support candidates from the floor. The NCQAC chair asks all nominees from the floor if they are qualified and willing to be placed on the slate of candidates. The nominations committee interviews candidates from the floor prior to placing their name on the final slate of candidates. Each candidate and nominees from the floor present a brief statement. The presentation must include purpose of seeking an office and goals.

Each nominee may contact all NCQAC members by telephone, email or in person to discuss their desire to serve as an officer. Nominees cannot offer any perceived benefits to sway votes. Perceived benefits include promises to assign out of state travel, gifts, monetary rewards, or preferential treatment. Nominees are prohibited from consulting with staff related to the election, nominees and offering perceived benefits.

At the May meeting, the nominations committee presents the slate of candidates to the NCQAC from the committee with a second. Once the slate of candidates is adopted by the NCQAC, then the NCQAC proceeds with the election of officers.

Washington State Nursing Care Quality Assurance Commission

Position Description

Nominations Committee

Purpose:

1. Select members of the Nursing Care Quality Assurance Commission (NCQAC) who are qualified and willing to serve in leadership positions.
2. Select members of the NCQAC and staff to be nominated for awards. Complete applications as necessary.

Membership:

1. At least three members of the NCQAC appointed by the Chair.
2. No member should serve more than two consecutive years on the nominations committee.

Duties and Responsibilities:

1. Select at least two candidates each for the position of NCQAC Chair, Vice Chair, and Secretary/Treasurer.
2. Nominate NCQAC members and staff for awards, such as the NCSBN annual awards. Complete and submit applications.

Timeline for leadership nominations and elections:

1. November meeting --
   NCQAC Chair appoints new members to the Nominations Committee.
2. January meeting –
   Announces opening for nominations for the NCQAC annual award.
3. March meeting –
   a. Verbally presents the slate of candidates to the NCQAC. The NCQAC approves the slate of candidates.
   b. Candidates may speak to the NCQAC
4. May meeting –
   a. Election of the Officers, according to Procedure H02.
5. July meeting –
   a. New officers take office
   b. Presents the NCQAC annual award.

Staff:
Executive Director or designee

Adopted: 7/06, 7/08
Revised: 6/08, 9/10, 11/11, 3/13, 3/17
Approved: 7/06, 7/08, 3/13, 3/17

Washington State Nursing Care Quality Assurance Commission

Position Description

Legislative Panel

Purpose: To review and take positions on legislative bills on behalf of the Nursing Commission.

Membership:

The panel is restricted to three members plus the Chair. The chair of the legislative panel is the Vice-Chair of the Nursing Commission and assumes one of the following four positions:

ARNP Member
Registered Nurse Member
Licensed Practical Nurse Member
Public Member

Duties and Responsibilities:

1. Commission vice chair serves as the chair of the legislative panel.
2. The Legislative Panel meets weekly during the legislative session. Commission staff send the agendas to the GovDelivery at least 48 hours in advance of the meeting. Meeting agendas include:
   a. Opening
   b. NCQAC Bill report
      i. Review each bill
      ii. Determine position and action on each bill
      iii. Weekly report on actions
   c. Conclusion

3. The Legislative Panel presents legislative issues to the Nursing Commission throughout Legislative session.
4. Each member accesses the leg.wa.gov website prior to the meeting to review bills in preparation for the meeting.
5. The Legislative Panel presents recommendations for legislative changes at every May commission meeting.

Staff:
Executive Director
An Associate Director
Legal Manager
Performance and Policy Consultant

Approved: 7/06, 7/08
Revised: 6/08, 03/11, 3/15, 10/17

DRAFT

NURSING BUDGET STATUS REPORT – JULY 2017

BUDGET/ALLOTMENTS:

This is the preliminary report for the 17-19 biennium, covering the period from July 1, 2017 through June 30, 2019. Our allotments (spending plans) for a total of $21,774,638 have been approved by the Office of Financial Management (OFM). This amount is based on the Operating Agreement between the Nursing Commission and the DOH, which states that we are to keep our spending authority at the same level as the previous biennium, plus or minus any adjustments by OFM. It includes the raises for state employees and inflation. Due to the delay in the approval of the budget by the Legislature, there is limited expenditure data available at this time. Currently, all posted expenditures are within our budget, and rather than present a "partial" report, we will follow up with a full budget report at the January 2018 meeting.

REVENUES:

The Nursing Commission beginning revenue balance for the 17-19 biennium is approximately $2.6 million. This number is not finalized yet, as the accounting closing entries for the 15-17 biennium will continue to occur until mid-October. Our current revenue estimates for this biennium are $22 million, assuming a very slight licensee growth. These estimates include the fee adjustments that went into effect July 1, 2017.

The recommended revenue balance or "reserve" should be approximately 12.5% of our budget, or approximately $2.8 million. Based on our currently spending level, and estimated revenues, we will maintain an adequate reserve throughout the biennium.

NURSING BUDGET STATUS REPORT

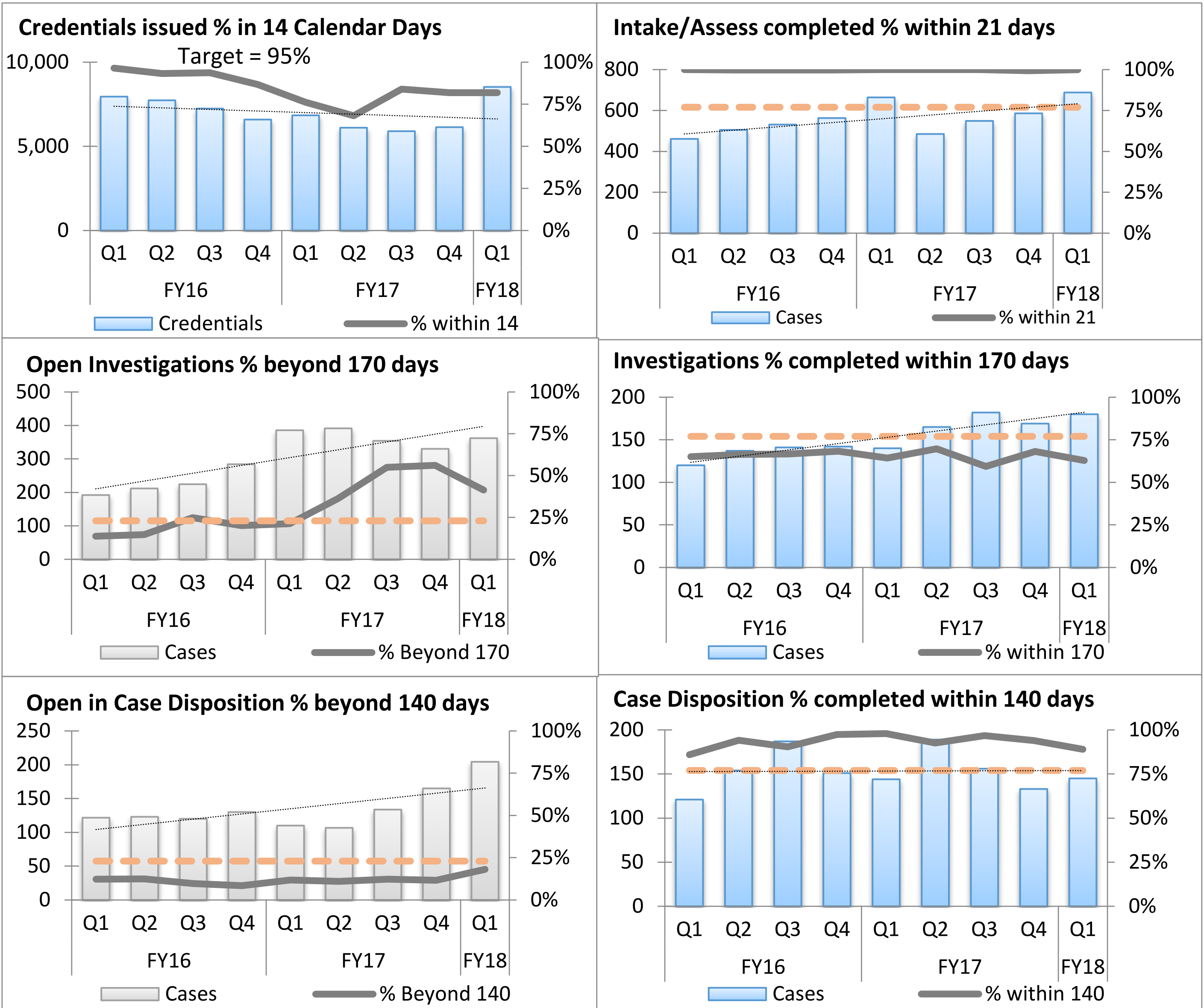
17-19 Biennial Budget

EXPENDITURES TYPES	17-19
	ALLOTMENTS
DIRECT EXPENDITURES:	
FTEs - 57.53	57.53
Staff Salaries	$8,037,816
Staff Benefits	$2,869,482
Commission Salaries	$450,000
Personal Service Contracts	$300,000
Goods & Services	$739,037
Rent	$650,040
Attorney General (AG)	$1,300,080
Travel	$450,000
Equipment	$99,600
Campus IT Support (desk/lap tops)	$287,190
TOTAL DIRECT	**$15,183,245**
SERVICE UNITS:	
FBI Background Checks	$592,833
Office of Professional Standards	$378,602
Adjudication Clerk	$191,660
HP Investigations	$50,495
Legal Services	$31,543
Call Center	$206,017
Public Disclosure	$249,910
Revenue Reconciliation	$155,653
Online Healthcare Provider Lic	$164,593
Suicide Assessment Study	$15,099
TOTAL SERVICE UNITS	**$2,036,405**
INDIRECT CHARGES:	
Agency Indirects (15.4%)	$2,609,226
HSQA Division Indirects (11.5%)	$1,945,762
TOTAL INDIRECTS (26.9%)	**$4,554,988**
GRAND TOTAL	**$21,774,638**

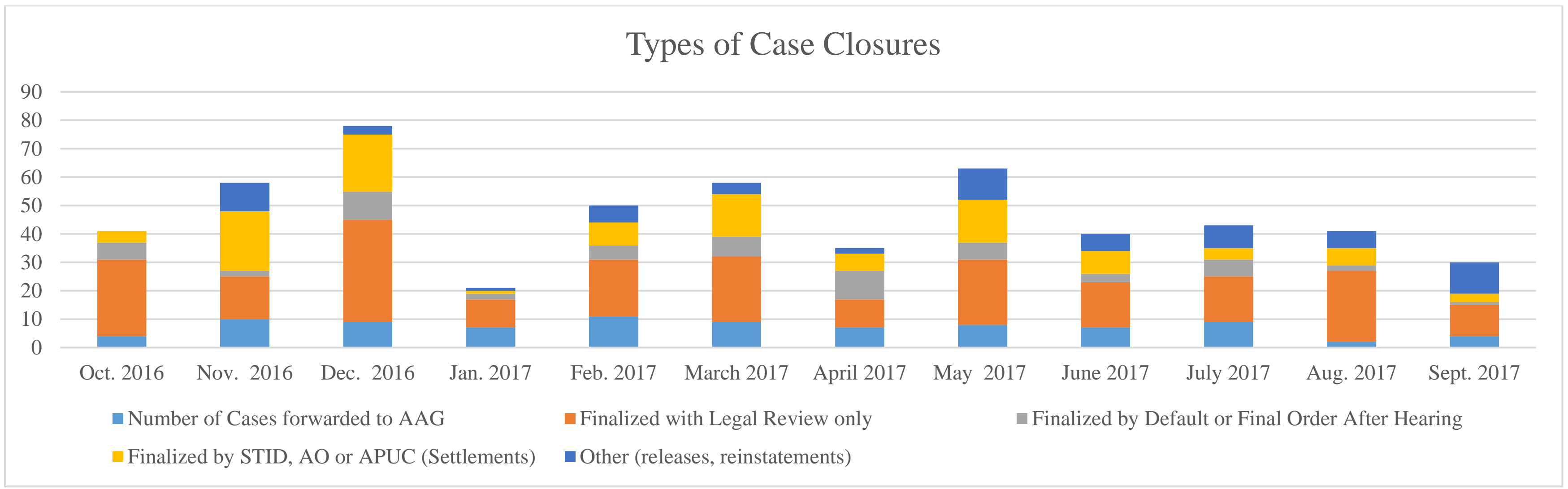
NURSING REVENUE

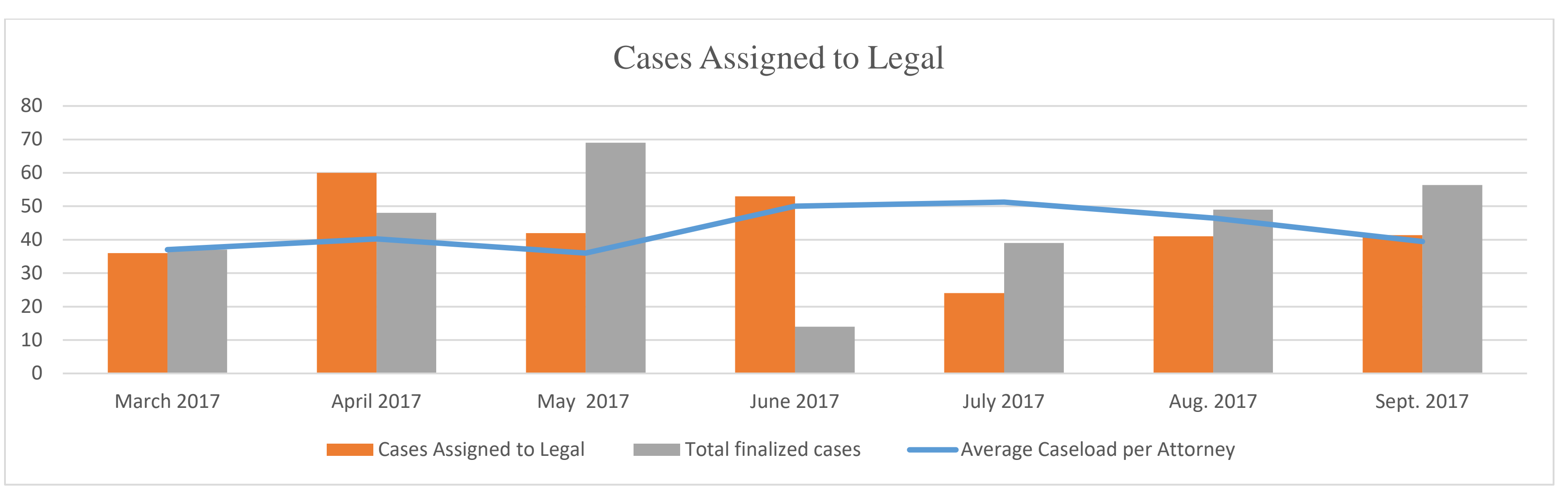
BEGINNING REVENUE BALANCE (estimated)	$2,600,000
17-19 ESTIMATED REVENUES	$22,000,000
17-19 ALLOTMENTS	$21,774,638
ENDING REVENUE BALANCE	**$2,825,362**

Nursing Care Quality Assurance Commission

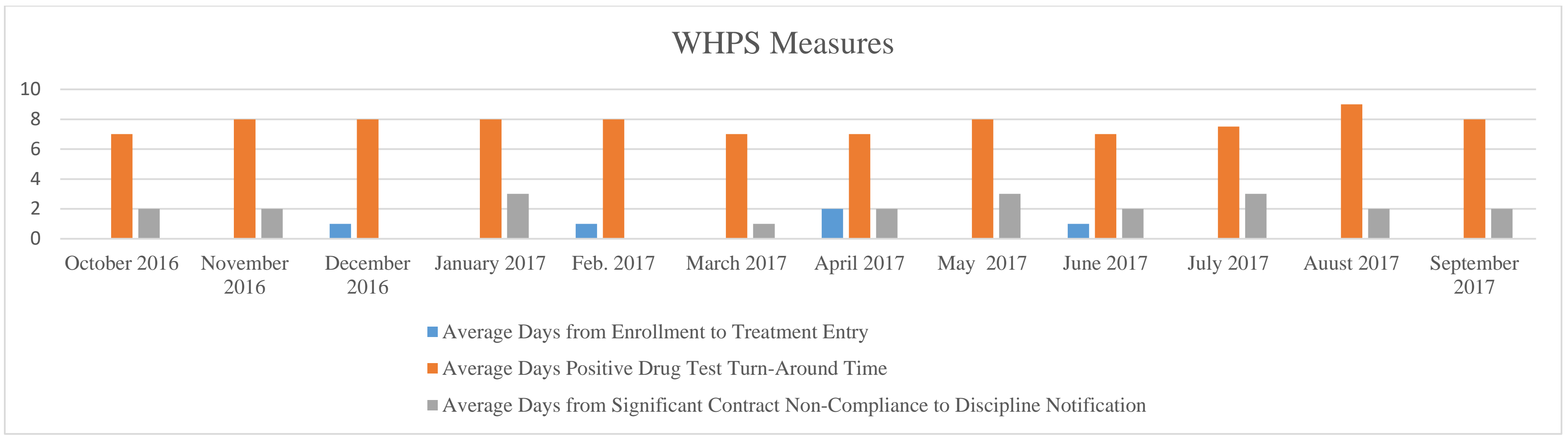


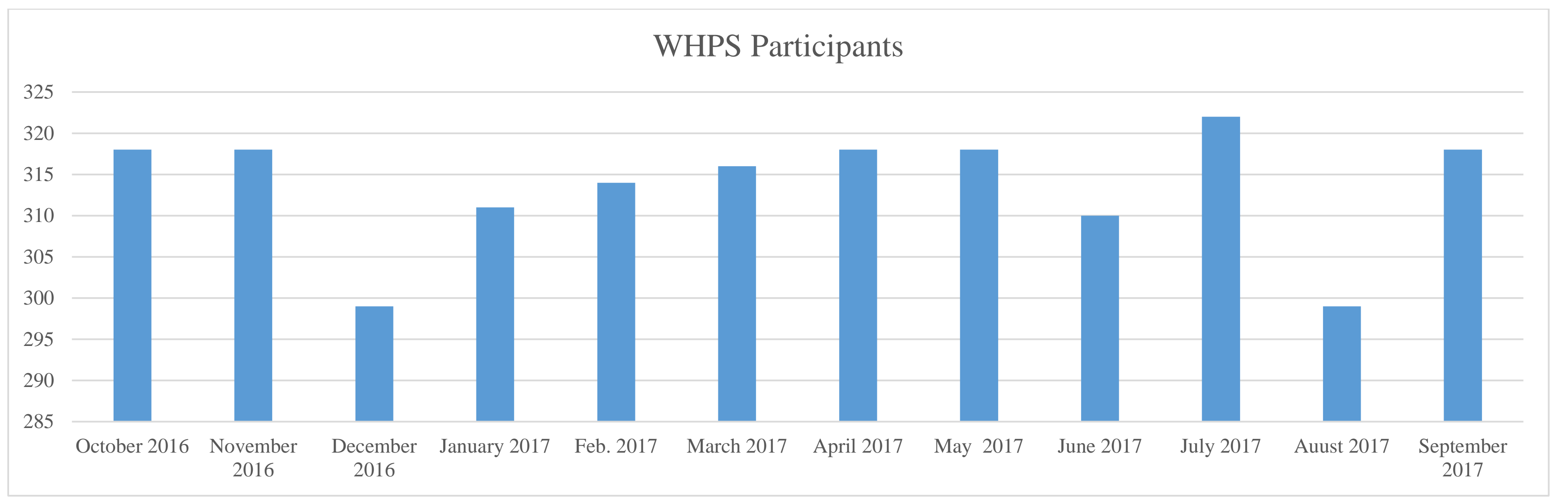
Legal Performance Measures





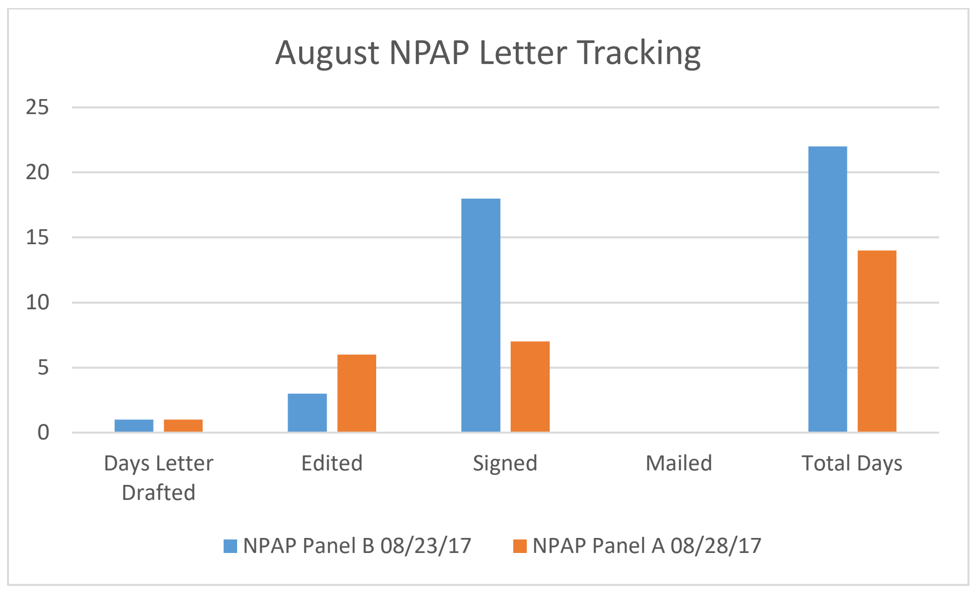
WHPS Performance Measures

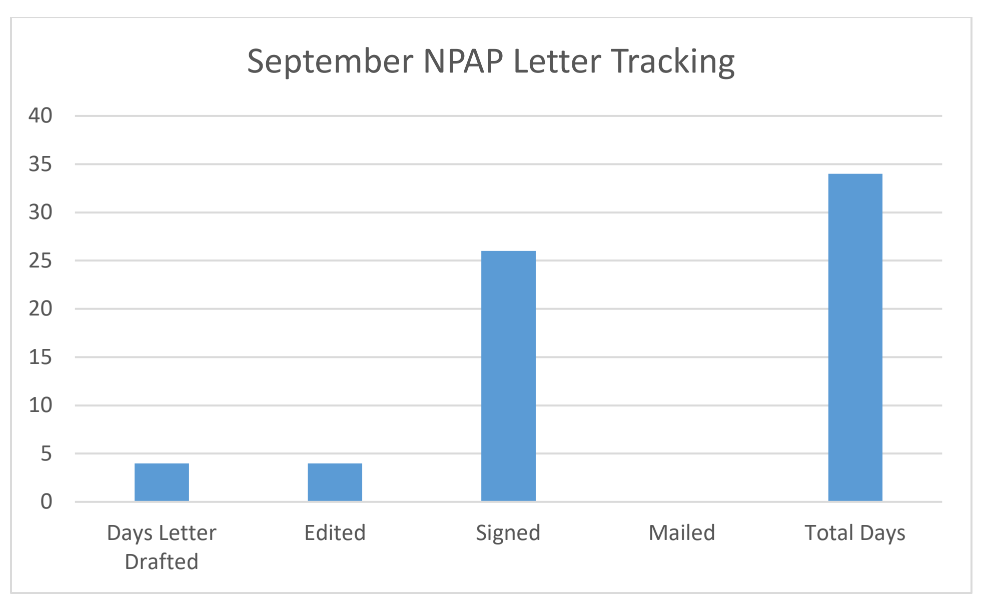


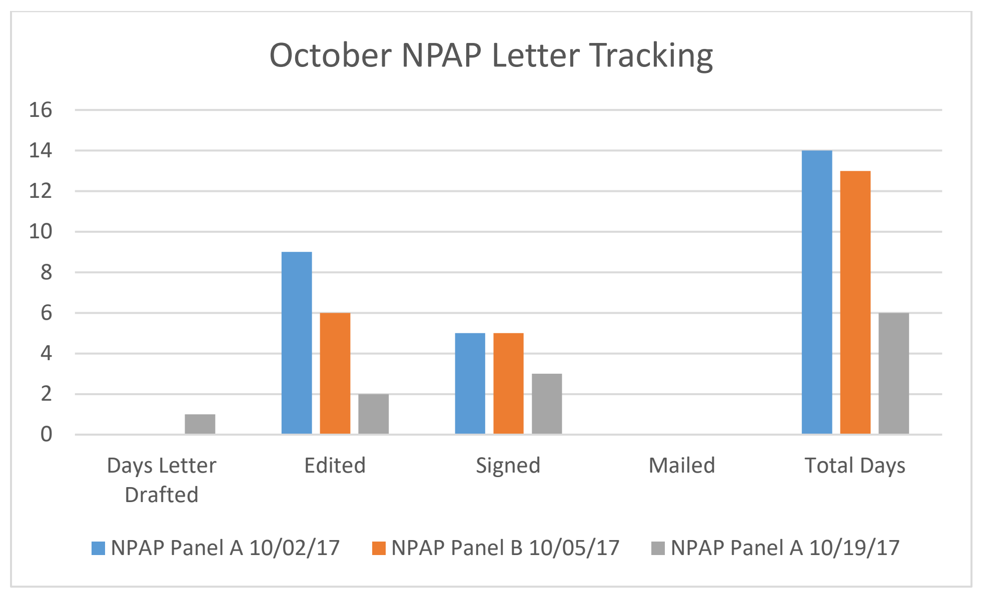


Performance Measures Education Unit

NPAP A & B







HEALTH PROFESSIONS DISCIPLINE AND REGULATORY ACTIVITIES

2015-17

Uniform Disciplinary Act Biennial Report

Health Systems Quality Assurance Division

December 2017

HEALTH PROFESSIONS DISCIPLINE AND REGULATORY ACTIVITIES

2015-17

Uniform Disciplinary Act Biennial Report

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Secretary of Health

Contents

Introductory Summary 5
Health Systems Quality Assurance Division 5
2015-17 Biennium: Disciplinary Activity and Trends 6
Complaints and Discipline 6
Case Disposition 6
Common Violations of the Law 7
Unlicensed Practice 8
Criminal Background Checks 10
Notices of Decision 11
2015-17 Uniform Disciplinary Act Report 12
Complaint Investigation, Closure, and Case Resolution 12
Percentage of Investigations Completed 15
Cite and Fine Authority 18
Sexual Misconduct Cases 19
Complaints Closed Prior to Disciplinary Action 19
Percentage of Complaints Closed 22
Complaint Resolutions after Adjudicative Proceedings 25
Unlicensed Practice Closures and Resolutions 31
Uniform Disciplinary Act Violations 34
Frequent Violations 34
Sanctions Imposed 34
Sanctions Schedule 35
Case Appeals Activity 38
Alternatives to Discipline 39
Case Distribution to Investigators and Staff Attorneys 39
Biennial Comparison 41
Complaints Received 41
Investigations 41

Complaint Closures before Adjudicative Proceedings 42
Complaint Closures after Adjudicative Proceedings 42
Criminal Background Checks 43
Board and Commission Supplemental Reports 47
Reviewing the Disciplinary Graphs 47
Chiropractic Quality Assurance Commission 48
Dental Quality Assurance Commission 51
Board of Denturists 56
Board of Hearing and Speech 58
Board of Massage 60
Medical Quality Assurance Commission 62
Board of Naturopathy 66
Nursing Care Quality Assurance Commission 67
Board of Nursing Home Administrators 71
Board of Occupational Therapy Practice 73
Board of Optometry 75
Board of Osteopathic Medicine and Surgery 77
Pharmacy Quality Assurance Commission 80
Board of Physical Therapy 83
Podiatric Medical Board 85
Examining Board of Psychology 87
Veterinary Board of Governors 89
Appendices 90
Appendix A: Definitions 93
Appendix B: Licensee Counts by Profession 95
Appendix C: Alternative Programs – Chemically Impaired Practitioners 98
Appendix D: Distribution of Staff Attorney Workload 100
Appendix E: Distribution of Investigator Workload 106

UDA Figures

Figure 1: HSQA Disciplinary Process Flow 7
Figure 2: Summary of Case Dispositions and End of Biennium Open Cases 31
Figure 3: Fiscal Years 2015-17 Sanctions Breakdown 35
Figure 4: New Complaints Received, 2007-09 to 2015-17 Biennia 41
Figure 5: Investigations Completed, 2007-09 to 2015-17 Biennia 41
Figure 6: Complaint Closures before Adjudicative Proceedings, 2007-09 to 2015-17 Biennia .. 42
Figure 7: Complaint Closures after Adjudicative Proceedings, 2007-09 to 2015-17 Biennia 42

UDA Tables

Table 1: Secretary and Board/Commission Authority 5
Table 2: Most Common Disciplinary Violations 8
Table 3: Unlicensed Practice Disciplinary Activity 9
Table 4: HSQA Background Check Activity 10
Table 5: Investigation Activity by Profession 13
Table 6: Board and Commission Professions - Percentage of Investigations Completed 16
Table 7: Secretary Professions - Percentage of Investigations Completed 17
Table 8: Complaints Closed Prior to Disciplinary Action 20
Table 9: Board and Commission - Complaints Closed Prior to Adjudicative Proceedings 23
Table 10: Secretary Professions - Complaints Closed Prior to Adjudicative Proceedings 24
Table 11: Complaints Resolved after Adjudicative Proceedings 26
Table 12: Board and Commission - Complaints Resolved after Adjudicative Proceedings 29
Table 13: Secretary Professions - Complaints Resolved after Adjudicative Proceedings 30
Table 14: Unlicensed Practice Closures and Resolutions 32
Table 15: Sanctions Imposed by Profession 36
Table 16: Summary of Case Appeals Activity 38
Table 17: HSQA Background Check Activity Summary 43
Table 18: Criminal Background Reports 44

Introductory Summary

Health Systems Quality Assurance Division

The Health Systems Quality Assurance Division (HSQA) of the Department of Health regulates over 465,000 health care providers in 83 professions.[1]

The department directly regulates 45 health professions. Thirty seven professions are fully regulated in coordination with 17 boards and commissions. The department works closely with these boards and commissions to credential health professionals, investigate complaints, and to take disciplinary action.[2] One board, the Board of Massage, has split authority with the department over its professions.[3]

Table 1: Secretary and Board/Commission Authority 2015-17 Biennium

Regulatory Authority	Licensure	Discipline
Secretary of Health	45	46
Boards/Commissions	38	37
Total	**83**	**83**

The department also supports the work of the health profession boards and commissions to develop rules and standards of practice that regulate the professions. In addition, it assists the boards and commissions in monitoring healthcare providers' compliance with sanctions.

This report describes regulatory activities for all professions subject to the Uniform Disciplinary Act (UDA), including emergency medical services professions. The three emergency services professions are Emergency Medical Technician, Emergency Medical Responder, and Paramedic.

About the 2015-17 Uniform Disciplinary Act (UDA) Report

Because the report describes activities conducted under the authority of chapter 18.130 RCW, the Uniform Disciplinary Act, it is often referred to as the "UDA Report."

This report details the number of complaints made, investigated, and adjudicated among health professions for the period from July 1, 2015 to June 30, 2017. It also reports on the final disposition of cases and provides data on the department's background check activities and its effectiveness in identifying unqualified license holders. In addition, the report includes data on the average distribution, by health profession, of cases assigned to investigators and staff attorneys.

In 2008, the Legislature added a provision allowing health professions boards and commissions to submit supplements to this report. Their reports can cover disciplinary activity, budget concerns, and matters of rule and policy.

[1] This count of healthcare professions considers dietitians/nutritionists and orthotists/prosthetists as single professions.

[2] Under House Bill 1518 (2013), the Medical Quality Assurance Commission and Nursing Care Quality Assurance Commission were granted greater authority of their credentialing, investigative, and disciplinary functions. The department continues to provide some administrative support to these commissions. HB 1518 also authorized the Chiropractic Quality Assurance Commission to undertake a five-year pilot with similar provisions.

[3] While the department has licensing and disciplinary authority for massage practitioners, the Board of Massage has responsibility for evaluating and approving schools and programs of massage, overseeing examinations for massage licensure, establishing continuing education requirements, and determining which other states have substantially equivalent requirements to those of the state of Washington. The board and the department share rulemaking authority for the profession.

The Washington Emergency Medical Services and Trauma Care Steering Committee advises the department about EMS and trauma care needs in the state. The committee reviews the regional medical services and trauma care plans and recommends changes. It also reviews proposed rules and recommends rule modifications for EMS and trauma care.[4]

2015-17 Biennium: Disciplinary Activity and Trends

Complaints and Discipline
Most disciplinary activity starts with a complaint from the public, practitioners, facilities, or insurance companies. The department may also open complaints based on media accounts or information from law enforcement. During the biennium, 24,468 complaints were filed against credentialed healthcare providers and people alleged to be practicing illegally without a license. Included in this total are instances where individual providers received multiple complaints. These new complaints are in addition to 3,548 open complaints carried over from the previous biennium for a total of 28,016 complaints.

These complaints involved around 4%, or 19,585, of the 467,358 healthcare providers licensed by Washington. Of these complaints, 2,378, or 8.5%, resulted in disciplinary sanctions. When considering all healthcare providers, less than 1% of all regulated health practitioners were disciplined.

Case Disposition
Complaints are resolved when closed without disciplinary action, or after informal or formal disciplinary action is taken. Investigative files and disciplinary documents are public records. All actions against healthcare provider credentials since July 1998 are available on the Internet.[5] Tables 11, 12, and 13 in the body of the report detail the closure types after adjudication. These are broken down by profession and type of disciplinary authority (board, commission, or secretary).

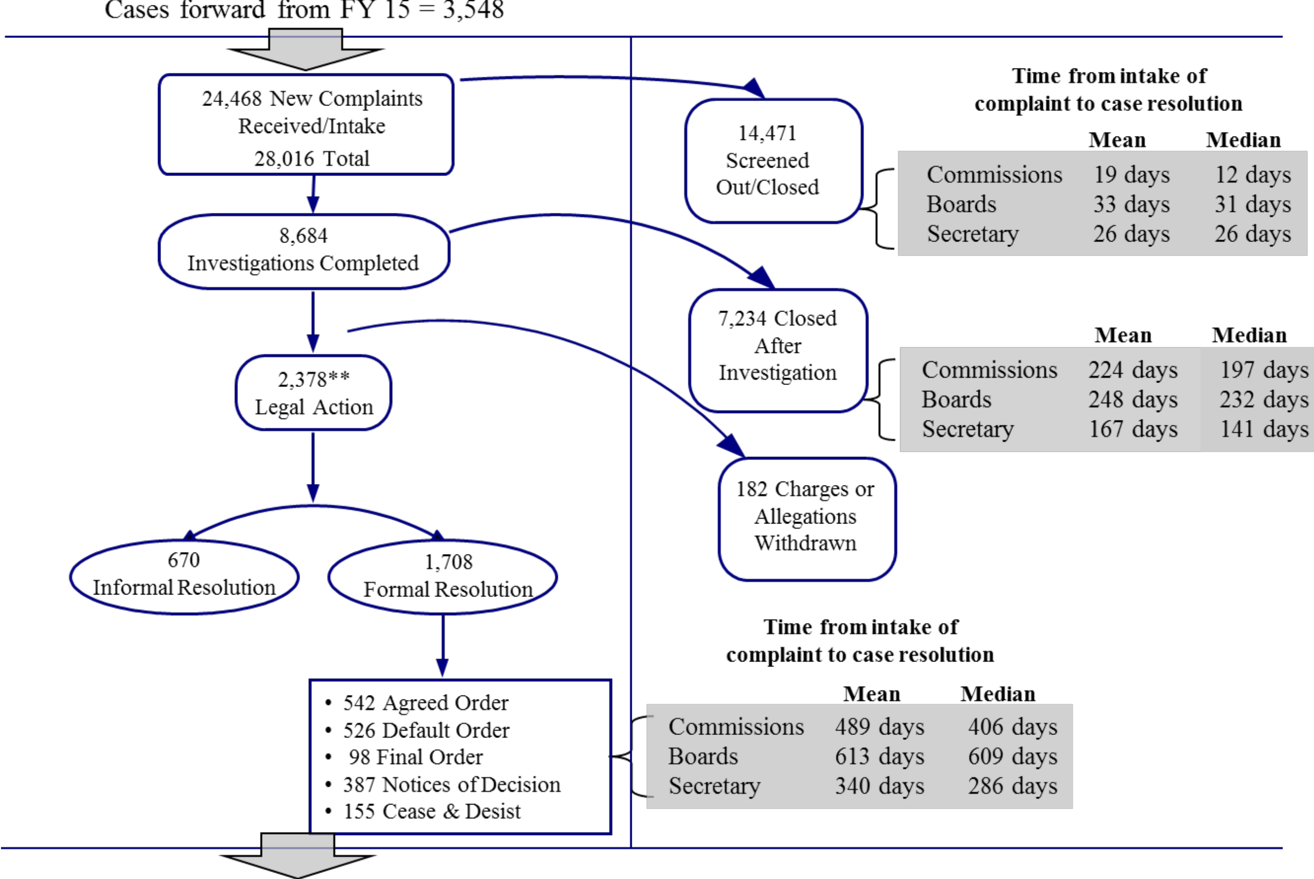
Of the 2,378 disciplinary actions in the 2015-17 biennium, about 28% were resolved with informal dispositions. The remaining actions were made up of formal resolutions. Of these formal resolutions, 23% were Agreed orders, 22% were Default orders, and 4% were Final orders after hearings. Notices of Decision on applications made up 16%, and Cease and Desist orders made up the remaining resolutions—roughly 7%. For definitions of these types of disciplinary actions, see Appendix A (pg. 92).

The following flow chart maps the disciplinary process, with average length of time from complaint intake through resolution.

[4] The Secretary of Health appoints members to the committee as of July 1, 2011. Until then, the governor appointed members.

[5] Credential records are available through the department's "Provider Credential Search". The URL is: https://fortress.wa.gov/doh/providercredentialsearch/.

Figure 1: HSQA Disciplinary Process Flow
2015-17 Biennium



*The small discrepancy between cases carried forward from FY15 and opened within the biennium, and cases closed within the biennium and carried forward at the end of FY17, can be explained by cases which were reopened and closed within the biennium.
** Because this report represents a snapshot of activity within the biennium, it includes cases which were already partway through this process flow when the biennium began. For example, we may have legal action on cases where investigations were completed in the previous biennium.

Common Violations of the Law

The Uniform Disciplinary Act (UDA) regulates healthcare providers. The disciplining authorities decide whether the healthcare professional has committed unprofessional conduct, whether he or she can continue to practice with reasonable skill and safety, and under what conditions, if any. If the department "determines or has cause to believe that a license holder has committed a crime, [they], immediately subsequent to the issuing of Findings of Fact and a Final order, shall notify the attorney general or county prosecuting attorney" as per RCW 18.130.210.

Table 2: Most Common Disciplinary Violations
2015-17 Biennium

Type	Percent of Complaints*
Violation of any state statute, federal statute or administrative rule[6]	33%
Act involving moral turpitude, dishonesty, or corruption relating to the practice of a person's profession[7]	31%
Personal drug or alcohol abuse[8]	22%
Incompetence, negligence, or malpractice[9]	21%
Conviction of a gross misdemeanor or felony relating to the practice of a healthcare profession[10]	15%

* Percentage totals exceed 100% due to complaints recorded with multiple violations

For more information about the frequency of sanctions imposed, by type and by profession, see Table 15: Sanctions Imposed by Profession.

Average Legal and Investigative Caseloads
RCW 18.130.310 requires that this report will "summarize the distribution of the number of cases assigned to each attorney and investigator for each profession." The law further requires that identities of staff attorneys and investigators be kept anonymous. Appendix D: Distribution of Staff Attorney Workload and Appendix E: Distribution of Investigator Workload detail, by health profession, the average number of cases assigned and worked by the division's staff attorneys and investigators for the 2015-17 biennium.

Unlicensed Practice

When healthcare that can be provided only by a licensed professional is offered by an unlicensed person, it is called "unlicensed practice." The secretary is responsible for investigating allegations of unlicensed practice. The Office of Investigation and Inspection manages these complaints. If unlicensed practice is found, the department can issue a Cease and Desist order.

A Cease and Desist order requires the person to stop the unlicensed activity and may impose a fine. Continued unlicensed practice may result in court enforcement of the Cease and Desist order or criminal prosecution. Due to limited resources, the department focuses on those cases alleging the highest potential risk to the public.

There were 943 unlicensed practice complaints during the 2015-17 biennium, a decrease of 273 complaints (around 22%) from the 2013-15 biennium. The complete breakdown is summarized below.

[6] RCW 18.130.180(7)

[7] RCW 18.130.180(1)

[8] RCW 18.130.180(6) and (23)
[9] RCW 18.130.180(4)

[10] RCW 18.130.180(17)

Table 3: Unlicensed Practice Disciplinary Activity
2015-17 Biennium

Total Complaints (including carry-over)	943
Closed No Action Taken Before Investigation	485
Closed No Action Taken After Investigation	309
Cease and Desist Order Issued	155
Total Closed	949
Total Carry-Over (Not Yet Closed)	98

Table 14: Unlicensed Practice Closures and Resolutions offers a more detailed listing of unlicensed practice disciplinary activity by type of profession.

Criminal Background Checks

RCW 18.130.064 allows the department to conduct a criminal history background check on all new applicants and current license holders. The purpose of the statute is to ensure patient safety by identifying those who may not be qualified to practice.

Types of Criminal Background Checks

The department works with several criminal and background databases to obtain criminal and disciplinary data on applicants:

1. *Washington Access to Criminal History (WATCH) – this database is operated by the Washington State Patrol (WSP) and provides criminal conviction records for the state of Washington only. It is used for all applicants.*
2. *National Practitioner Data Bank (NPDB) - this national data bank is administered by the U.S. Department of Health and Human Services. The data bank acts as a central repository for disciplinary information, including adverse actions, about health professionals.*
3. *FBI Fingerprint-based National Background Check- this process is conducted on all out-of-state applicants through the FBI and state patrol.*

The department processed background checks on over 138,000 applicants during the 2015-17 biennium. Checks through the Washington State Patrol's WATCH database returned reports for 3,705 applicants. From the 3,705 returned reports, the department opened 566 investigations.[11] Of these investigations, 47% involved applicants who had disclosed the conviction on the application. Table 18 contains additional details about each profession.

Table 4: HSQA Background Check Activity

Total Applicants	138,401
Applicants with background reports returned	3,705
Cases opened on applicants with reports returned	566
Applicants who disclosed criminal history (% of cases opened)	266 (47%)
Applicants not disclosing criminal history (% of cases opened)	300 (53%)

The background check process also checks all new applicants against the National Practitioner Data Bank (NPDB).[12] This resource includes information about actions in other states to help determine the need for further review.

In addition, since 2009, the department now requires federal fingerprint checks for certain applicants and licensees. This test is used largely on applicants coming from outside of Washington or certain applicants with a criminal history in Washington. The checks are processed through the FBI's Criminal Justice Information Services (CJIS) division.

[11] While 3,705 background reports were returned with criminal activity, many of these reports contained information either unrelated to the application or related to previous background checks (e.g. prior applications for concealed weapons permits.)

[12] Effective May 6, 2013, NPDB and HIPDB (Healthcare Integrity Protection Data Bank) merged. The databanks were merged to eliminate duplication of reporting and querying and to streamline databank operations. All data in the HIPDB was transferred to NPDB. Reporting requirements remain the same.

Notices of Decision

Historically, discipline included complaints opened because of an issue found on a license application. Legislation in 2008 changed the process for responding to application issues. Prior to 2008, the disciplinary process would have been to conduct a full investigation, issue a statement of charges, then issue a Final or Agreed order. Currently, the department issues a Notice of Decision indicating that the pending application is denied or granted with conditions.

For purposes of comparing disciplinary action statistics across biennia, the department has continued to include application cases in our complaint figures. Common issues with applications include discipline in another state where the applicant is already licensed or problems arising from a background check.

2015-17 Uniform Disciplinary Act Report

Complaint Investigation, Closure, and Case Resolution

The Uniform Disciplinary Act (UDA), chapter 18.130 RCW, provides standardized processes for discipline of practitioners. It serves as the statutory framework for the regulation of healthcare providers in Washington. This section of the report contains quantitative data on investigations, case closures, and case resolutions involving healthcare providers during the 2015-17 biennium.

Investigation
The vast majority of healthcare providers never have a complaint filed against them. About 4% of the 467,358 healthcare providers had a complaint against them in the 2015-17 biennium. Of the 28,016 complaints processed during the biennium, about 8.5%, or 2,378, resulted in discipline. When considering all healthcare providers, less than 1% of all regulated practitioners were disciplined.

During the biennium, HSQA received a total of 24,468 complaints against credentialed healthcare providers and people alleged to be practicing illegally without a license. Included in this total are instances where individual providers received multiple complaints. These new complaints are in addition to 3,548 open complaints carried over from the previous biennium. HSQA completed 8,684 investigations during the 2015-17 biennium.

Table 5: Investigation Activity by Profession
2015-17 Biennium

Profession	Carry Over From FY15	Complaints Received	Total Complaints	Investigations Completed	Unlicensed Practice Investigations Completed	Total Investigations Completed
Advanced Emergency Medical Technician	2	9	11	7	0	7
Advanced Registered Nurse Practitioner	38	437	475	132	1	133
Animal Massage Practitioner	1	4	5	0	4	4
Athletic Trainer	1	5	6	1	2	3
Audiologist	2	12	14	8	0	8
Cardiovascular Invasive Specialist	0	4	4	1	1	2
Chemical Dependency Professional	108	316	424	218	9	227
Chemical Dependency Professional Trainee	46	236	282	105	2	107
Chiropractic X-Ray Technician	1	4	5	1	0	1
Chiropractor	125	251	376	211	3	214
Counselor, Agency Affiliated	43	347	390	154	6	160
Counselor, Certified	13	59	72	21	5	26
Counselor, Certified Advisor	3	2	5	1	1	2
Dental Anesthesia Assistant	0	0	0	0	0	0
Dental Assistant	27	109	136	53	6	59
Dental Hygienist	11	67	78	13	0	13
Dentist	234	869	1,103	602	7	609
Denturist	14	34	48	28	0	28
Dietitian/Nutritionist	2	14	16	4	1	5
Dispensing Optician	2	13	15	0	8	8
Dispensing Optician Apprentice	0	13	13	3	0	3
East Asian Medicine Practitioner	18	49	67	29	2	31
Emergency Medical Responder	0	3	3	1	0	1
Emergency Medical Technician	23	94	117	42	0	42
Expanded Function Dental Auxiliary	0	0	0	0	0	0
Genetic Counselor	0	0	0	0	0	0
Health Care Assistant*	8	0	8	0	0	0
Hearing aid Specialist	1	12	13	4	0	4
Home Care Aide	85	1,116	1,201	331	13	344
Humane Society	0	0	0	0	0	0
Hypnotherapist	7	10	17	8	0	8
Licensed Practical Nurse	91	1,024	1,115	218	4	222
Marriage and Family Therapist	21	77	98	48	0	48
Marriage and Family Therapist Associate	6	20	26	9	2	11
Massage Therapist	191	693	884	187	105	292
Medical Assistant	98	534	632	231	21	252
Mental Health Counselor	81	309	390	165	9	174
Mental Health Counselor Associate	20	85	105	50	2	52
Midwife	11	31	42	22	4	26
Naturopathic Physician	57	118	175	90	11	101
Nursing Assistant	612	8,231	8,843	1,592	15	1,607
Nursing Home Administrator	46	297	343	131	1	132

Profession	Carry Over From FY15	Complaints Received	Total Complaints	Investigations Completed	Unlicensed Practice Investigations Completed	Total Investigations Completed
Nursing Pool Operator	0	11	11	5	4	9
Nursing Technician	0	3	3	1	0	1
Occupational Therapist	13	52	65	24	0	24
Occupational Therapy Assistant	6	27	33	8	0	8
Ocularist	0	2	2	2	0	2
Optometrist	8	68	76	41	1	42
Orthotics Prosthetics	2	9	11	2	1	3
Osteopathic Physician	85	219	304	149	1	150
Osteopathic Physician Assistant	3	8	11	9	0	9
Paramedic	13	30	43	23	0	23
Pharmacies and Other Pharmaceutical Firms	86	463	549	182	23	205
Pharmacist	118	491	609	293	4	297
Pharmacist Intern	4	21	25	13	0	13
Pharmacy Assistant	28	123	151	44	0	44
Pharmacy Technician	28	157	185	66	0	66
Physical Therapist	21	118	139	51	3	54
Physical Therapist Assistant	16	54	70	21	0	21
Physician	536	2,997	3,533	1,341	34	1,375
Physician Assistant	41	226	267	111	4	115
Podiatric Physician	19	61	80	40	0	40
Psychologist	43	190	233	73	8	81
Radiological Technologist	6	31	37	15	0	15
Radiologist Assistant	0	1	1	0	0	0
Recreational Therapist	0	2	2	0	0	0
Reflexologist	5	5	10	0	2	2
Registered Nurse	278	2,941	3,219	790	10	800
Respiratory Care Practitioner	9	39	48	18	0	18
Retired Volunteer Medical Worker	0	0	0	0	0	0
Sex Offender Treatment Provider	3	27	30	7	0	7
Sex Offender Treatment Provider Affiliate	0	7	7	3	0	3
Social Worker Advanced	2	30	32	6	0	6
Social Worker Associate Advanced	0	0	0	0	0	0
Social Worker Associate Independent Clinical	19	52	71	28	2	30
Social Worker Independent Clinical	20	124	144	41	2	43
Speech Language Pathologist	3	23	26	9	0	9
Speech Language Pathology Assistant	0	1	1	1	0	1
Surgical Technologist	7	25	32	10	2	12
Veterinarian	58	255	313	137	20	157
Veterinary Medication Clerk	3	6	9	1	0	1
Veterinary Technician	8	31	39	14	1	15
X-Ray Technician	8	30	38	16	1	17
Totals	**3,548**	**24,468**	**28,016**	**8,316**	**368**	**8,684**

* The Health Care Assistant credential has been abolished. It is included here due to cases carried over into the 15-17 biennium.

Percentage of Investigations Completed

The following tables compare investigations completed to the number of complaints received. The column titled "% of B/C (or Secretary) Completed Investigations to Complaints" shows investigations completed as a percentage of complaints received by the same profession. For example, 28% (133) of the 475 total complaints received for Advanced Registered Nurse Practitioners had an investigation completed.

The column titled "% of B/C (or Secretary) Investigations Completed" compares the total number of investigations completed for a profession to the total number of investigations completed for all professions with like disciplinary authority. For example, completed Chiropractor investigations made up 4% (214) of the 5,039 board and commission investigations completed. Meanwhile, Nursing Assistant investigations represented 44% (1,607) of the 3,645 completed secretary profession investigations.

Table 6: Board and Commission Professions - Percentage of Investigations Completed 2015-17 Biennium

Profession	Carry Over From FY15	Complaints Received	Total Complaints	Licensed Practice Investigations Completed	Unlicensed Practice Investigations Completed	Total Investigations Completed	% of BC Completed Investigations to Complaints	% of BC Investigations Completed
Advanced Registered Nurse Practitioner	38	437	475	132	1	133	28%	3%
Audiologist	2	12	14	8	0	8	57%	0%
Chiropractic X-Ray Technician	1	4	5	1	0	1	20%	0%
Chiropractor	125	251	376	211	3	214	57%	4%
Dental Anesthesia Assistant	0	0	0	0	0	0	0%	0%
Dental Assistant	27	109	136	53	6	59	43%	1%
Dentist	234	869	1,103	602	7	609	55%	12%
Denturist	14	34	48	28	0	28	58%	1%
Expanded Function Dental Auxiliary	0	0	0	0	0	0	0%	0%
Hearing aid Specialist	1	12	13	4	0	4	31%	0%
Humane Society	0	0	0	0	0	0	0%	0%
Licensed Practical Nurse	91	1,024	1,115	218	4	222	20%	4%
Naturopathic Physician	57	118	175	90	11	101	58%	2%
Nursing Home Administrator	46	297	343	131	1	132	38%	3%
Nursing Technician	0	3	3	1	0	1	33%	0%
Occupational Therapist	13	52	65	24	0	24	37%	0%
Occupational Therapy Assistant	6	27	33	8	0	8	24%	0%
Optometrist	8	68	76	41	1	42	55%	1%
Osteopathic Physician	85	219	304	149	1	150	49%	3%
Osteopathic Physician Assistant	3	8	11	9	0	9	82%	0%
Pharmacies and Other Pharmaceutical Firms	86	463	549	182	23	205	37%	4%
Pharmacist	118	491	609	293	4	297	49%	6%
Pharmacist Intern	4	21	25	13	0	13	52%	0%
Pharmacy Assistant	28	123	151	44	0	44	29%	1%
Pharmacy Technician	28	157	185	66	0	66	36%	1%
Physical Therapist	21	118	139	51	3	54	39%	1%
Physical Therapist Assistant	16	54	70	21	0	21	30%	0%
Physician	536	2,997	3,533	1,341	34	1,375	39%	27%
Physician Assistant	41	226	267	111	4	115	43%	2%
Podiatric Physician	19	61	80	40	0	40	50%	1%
Psychologist	43	190	233	73	8	81	35%	2%
Registered Nurse	278	2,941	3,219	790	10	800	25%	16%
Speech Language Pathologist	3	23	26	9	0	9	35%	0%
Speech Language Pathology Assistant	0	1	1	1	0	1	100%	0%
Veterinarian	58	255	313	137	20	157	50%	3%
Veterinary Medication Clerk	3	6	9	1	0	1	11%	0%
Veterinary Technician	8	31	39	14	1	15	38%	0%
Totals	**2,041**	**11,702**	**13,743**	**4,897**	**142**	**5,039**		

Table 7: Secretary Professions - Percentage of Investigations Completed
2015-17 Biennium

Profession	Carry Over From FY15	Complaints Received	Total Complaints	Licensed Practice Investigations Completed	Unlicensed Practice Investigations Completed	Total Investigations Completed	% of Secretary Completed Investigations to Complaints	% of Secretary Investigations Completed
Advanced Emergency Medical Technician	2	9	11	7	0	7	64%	0%
Animal Massage Practitioner	1	4	5	0	4	4	80%	0%
Athletic Trainer	1	5	6	1	2	3	50%	0%
Cardiovascular Invasive Specialist	0	4	4	1	1	2	50%	0%
Chemical Dependency Professional	108	316	424	218	9	227	54%	6%
Chemical Dependency Professional Trainee	46	236	282	105	2	107	38%	3%
Counselor, Agency Affiliated	43	347	390	154	6	160	41%	4%
Counselor, Certified	13	59	72	21	5	26	36%	1%
Counselor, Certified Advisor	3	2	5	1	1	2	40%	0%
Dental Hygienist	11	67	78	13	0	13	17%	0%
Dietitian/Nutritionist	2	14	16	4	1	5	31%	0%
Dispensing Optician	2	13	15	0	8	8	53%	0%
Dispensing Optician Apprentice	0	13	13	3	0	3	23%	0%
East Asian Medicine Practitioner	18	49	67	29	2	31	46%	1%
Emergency Medical Responder	0	3	3	1	0	1	33%	0%
Emergency Medical Technician	23	94	117	42	0	42	36%	1%
Genetic Counselor	0	0	0	0	0	0	--	0%
Health Care Assistant	8	0	8	0	0	0	0%	0%
Home Care Aide	85	1,116	1,201	331	13	344	29%	9%
Hypnotherapist	7	10	17	8	0	8	47%	0%
Marriage and Family Therapist	21	77	98	48	0	48	49%	1%
Marriage and Family Therapist Associate	6	20	26	9	2	11	42%	0%
Massage Therapist	191	693	884	187	105	292	33%	8%
Medical Assistant	98	534	632	231	21	252	40%	7%
Mental Health Counselor	81	309	390	165	9	174	45%	5%
Mental Health Counselor Associate	20	85	105	50	2	52	50%	1%
Midwife	11	31	42	22	4	26	62%	1%
Nursing Assistant	612	8,231	8,843	1,592	15	1,607	18%	44%
Nursing Pool Operator	0	11	11	5	4	9	82%	0%
Ocularist	0	2	2	2	0	2	100%	0%
Orthotics Prosthetics	2	9	11	2	1	3	27%	0%
Paramedic	13	30	43	23	0	23	53%	1%
Radiological Technologist	6	31	37	15	0	15	41%	0%
Radiologist Assistant	0	1	1	0	0	0	0%	0%
Recreational Therapist	0	2	2	0	0	0	0%	0%
Reflexologist	5	5	10	0	2	2	20%	0%

Profession	Carry Over From FY15	Complaints Received	Total Complaints	Licensed Practice Investigations Completed	Unlicensed Practice Investigations Completed	Total Investigations Completed	% of Secretary Completed Investigations to Complaints	% of Secretary Investigations Completed
Respiratory Care Practitioner	9	39	48	18	0	18	38%	0%
Retired Volunteer Medical Worker	0	0	0	7	0	0	--	--
Sex Offender Treatment Provider	3	27	30	3	0	7	23%	0%
Sex Offender Treatment Provider Affiliate	0	7	7	6	0	3	43%	0%
Social Worker Advanced	2	30	32	0	0	6	19%	0%
Social Worker Associate Advanced	0	0	0	28	2	0	--	0%
Social Worker Associate Independent Clinical	19	52	71	41	2	30	42%	1%
Social Worker Independent Clinical	20	124	144	10	2	43	30%	1%
Surgical Technologist	7	25	32	16	1	12	38%	0%
X-Ray Technician	8	30	38	7	0	17	45%	0%
Totals	**1,507**	**12,766**	**14,273**	**3,419**	**226**	**3,645**		

The 37 board and commission professions accounted for 58% of the 8,684 investigations completed during the biennium; the 46 secretary authority professions completed the remaining 42%. In general, boards and commissions regulate more of the primary care professions whose practitioners can pose a greater risk of harm to patients. This may be reflected in the higher percentage of completed complaint investigations.

Cite and Fine Authority

RCW 18.130.230 gives the secretary, and the boards and commissions, the authority to cite and fine providers for failing to produce requested documents or records. Providers must produce required items within 21 days of a written request from the disciplinary authority. The deadline can be extended for good cause. The fine accrues at $100 per day of non-compliance. The maximum fine is $5,000.

One important aspect of this law is that it provides a strong incentive to cooperate in investigations, rather than obstruct the process. In the last biennium, seven cases were opened under cite and fine authority, and four of these licensees were assessed a fine. Two were fined the maximum amount, $5,000, the other two were fined $1,000 and $500 respectively. One was a Nursing Home Administrator, two were Dentists, and the fourth was a Chemical Dependency Professional.

Sexual Misconduct Cases
RCW 18.130.062 requires the secretary to act as sole disciplinary authority for complaints that allege only sexual misconduct. The intent of the law is to encourage prompt action when a provider has engaged in sexual misconduct without involving issues of clinical expertise or standard of care.

The appropriate board or commission reviews each complaint and retains responsibility for those cases that also involve clinical expertise or standard of care issues. The boards and commissions transfer cases that involve only sexual misconduct to the secretary for discipline. During the biennium, 30 cases were referred to the secretary. Of those, 9 were returned to the referring board or commission when the investigation revealed an additional concern such as criminal conviction or clinical/standard of care issue.

Case Disposition
Complaints are resolved in one of three ways:
1) Without any disciplinary action.
2) When informal disciplinary action is taken.
3) When formal disciplinary action is taken.

Disciplinary actions totaled 2,378 in the 2015-17 biennium. About 28% of the disciplinary actions were resolved with informal orders. The remaining 72% were resolved by formal resolution, with 23% ending in Agreed orders, 22% with Default orders, and 4% with Final orders after hearings. Notices of Decision on applications made up 16%, and Cease and Desist orders made up the remainder—approximately 7%.

Investigative files and disciplinary documents are public records. Since July 1998, all actions against healthcare provider credentials are available on the Internet.[13]

Definitions are available for key disciplinary terms in Appendix A.

Complaints Closed Prior to Disciplinary Action
Many complaints close before issuance of a statement of allegations or a statement of charges. These cases close for a number of reasons, among them:
- The complaint does not rise to a threshold to warrant investigation.
- After the investigation, it's decided to close the complaint due to minimal risk, the evidence is insufficient to support the allegations against a healthcare provider, the evidence disproves the allegations, or the evidence does not support a finding of unprofessional conduct.
- The disciplinary authority does not have jurisdiction.
- The complaint is best resolved with a Notice of Correction notifying the healthcare provider of a minor technical violation. The healthcare provider has a reasonable time period to correct the violation and then to report the corrective action to the disciplinary authority. If the violation is not corrected, disciplinary action may follow.

In addition, occasionally new evidence warrants the withdrawal of a statement of allegations or statement of charges. The following table provides information by profession for cases closed before disciplinary action. The statistics include closures in unlicensed practice cases.

[13] Credential records are available through the Department's "Provider Credential Search." The URL is: https://fortress.wa.gov/doh/providercredentialsearch/.

Table 8: Complaints Closed Prior to Disciplinary Action
2015-17 Biennium

Profession	Total Complaints	Closed Prior To Investigation	Closed After Investigation	Charges or Allegations Withdrawn	Total Closed
Advanced Emergency Medical Technician	11	2	7	0	9
Advanced Registered Nurse Practitioner	475	266	102	4	372
Animal Massage Practitioner	5	0	1	0	1
Athletic Trainer	6	4	2	0	6
Audiologist	14	2	4	0	6
Cardiovascular Invasive Specialist	4	2	2	0	4
Chemical Dependency Professional	424	90	181	7	278
Chemical Dependency Professional Trainee	282	38	94	1	133
Chiropractic X-Ray Technician	5	0	3	0	3
Chiropractor	376	63	175	13	251
Counselor, Agency Affiliated	390	122	125	2	249
Counselor, Certified	72	26	30	0	56
Counselor, Certified Advisor	5	3	0	0	3
Dental Anesthesia Assistant	0	0	0	0	0
Dental Assistant	136	38	47	0	85
Dental Hygienist	78	24	48	0	72
Dentist	1,103	247	472	12	731
Denturist	48	8	23	0	31
Dietitian/Nutritionist	16	8	5	0	13
Dispensing Optician	15	5	6	0	11
Dispensing Optician Apprentice	13	2	2	0	4
East Asian Medicine Practitioner	67	26	29	1	56
Emergency Medical Responder	3	1	1	0	2
Emergency Medical Technician	117	45	42	1	88
Expanded Function Dental Auxiliary	0	0	0	0	0
Genetic Counselor	0	0	0	0	0
Health Care Assistant	8	0	0	6	6
Hearing aid Specialist	13	2	6	0	8
Home Care Aide	1,201	689	326	0	1,015
Humane Society	0	0	0	0	0
Hypnotherapist	17	1	8	1	10
Licensed Practical Nurse	1,115	738	149	2	889
Marriage and Family Therapist	98	20	50	2	72
Marriage and Family Therapist Associate	26	6	10	0	16
Massage Therapist	884	212	364	10	586
Medical Assistant	632	215	208	1	424
Mental Health Counselor	390	113	171	5	289
Mental Health Counselor Associate	105	26	43	1	70
Midwife	42	7	12	1	20
Naturopathic Physician	175	31	66	4	101
Nursing Assistant	8,843	6,476	1,300	15	7,791
Nursing Home Administrator	343	178	122	3	303

Profession	Total Complaints	Closed Prior To Investigation	Closed After Investigation	Charges or Allegations Withdrawn	Total Closed
Nursing Pool Operator	11	0	9	0	9
Nursing Technician	3	2	1	0	3
Occupational Therapist	65	27	15	0	42
Occupational Therapy Assistant	33	23	8	0	31
Ocularist	2	0	2	0	2
Optometrist	76	29	34	0	63
Orthotics Prosthetics	11	0	11	0	11
Osteopathic Physician	304	79	118	6	203
Osteopathic Physician Assistant	11	0	6	1	7
Paramedic	43	4	21	0	25
Pharmacies and Other Pharmaceutical Firms	549	272	196	5	473
Pharmacist	609	179	214	9	402
Pharmacist Intern	25	5	9	1	15
Pharmacy Assistant	151	54	45	1	100
Pharmacy Technician	185	52	66	1	119
Physical Therapist	139	60	45	1	106
Physical Therapist Assistant	70	28	23	1	52
Physician	3,533	1,442	1,137	42	2,621
Physician Assistant	267	99	88	3	190
Podiatric Physician	80	26	27	1	54
Psychologist	233	94	73	1	168
Radiological Technologist	37	15	11	0	26
Radiologist Assistant	1	1	0	0	1
Recreational Therapist	2	2	0	0	2
Reflexologist	10	1	2	0	3
Registered Nurse	3,219	1,953	553	8	2,514
Respiratory Care Practitioner	48	20	10	1	31
Retired Volunteer Medical Worker	0	0	0	0	0
Sex Offender Treatment Provider	30	16	12	0	28
Sex Offender Treatment Provider Affiliate	7	1	7	0	8
Social Worker Advanced	32	20	10	0	30
Social Worker Associate Advanced	0	0	0	0	0
Social Worker Associate Independent Clinical	71	32	22	1	55
Social Worker Independent Clinical	144	57	51	0	108
Speech Language Pathologist	26	5	7	3	15
Speech Language Pathology Assistant	1	0	1	0	1
Surgical Technologist	32	11	8	0	19
Veterinarian	313	98	128	4	230
Veterinary Medication Clerk	9	2	4	0	6
Veterinary Technician	39	12	12	0	24
X-Ray Technician	38	14	12	0	26
Totals	**28,016**	**14,471**	**7,234**	**182**	**21,887**

Percentage of Complaints Closed

During the biennium, HSQA closed over 21,800 cases before legal proceedings. About 47% were board and commission cases and 53% were secretary profession cases.

The following tables compare cases closed with no disciplinary action to both the total number of cases closed with no action and to the number of complaints received. The column titled "% of B/C (or Secretary) Closures to Complaints" shows the percentage of cases closed with no action compared to the total number of complaints received for that same profession. For example, 76% (106) of the 139 total complaints received for Physical Therapist cases were closed with no action.

The column titled "% of B/C (or Secretary) Closures" shows the total number of cases closed with no action for that profession compared to the total number of board or commission cases closed with no action. For example, the 731 Dentist cases were 7% of the 10,219 board and commission cases closed with no action; the 424 Medical Assistant cases were 4% of the 11,668 secretary profession cases closed with no action.

Table 9: Board and Commission Complaints Closed Prior to Adjudicative Proceedings 2015-17 Biennium

Profession	Carry Over From FY15	Complaints Received	Total Complaints	Total Closed	% of B/C Closures to Complaints	% of B/C Closures
Advanced Registered Nurse Practitioner	38	437	475	372	78%	4%
Audiologist	2	12	14	6	43%	0%
Chiropractic X-Ray Technician	1	4	5	3	60%	0%
Chiropractor	125	251	376	251	67%	2%
Dental Anesthesia Assistant	0	0	0	0	--	0%
Dental Assistant	27	109	136	85	63%	1%
Dentist	234	869	1,103	731	66%	7%
Denturist	14	34	48	31	65%	0%
Expanded Function Dental Auxiliary	0	0	0	0	--	0%
Hearing aid Specialist	1	12	13	8	62%	0%
Humane Society	0	0	0	0	--	0%
Licensed Practical Nurse	91	1,024	1,115	889	80%	9%
Naturopathic Physician	57	118	175	101	58%	1%
Nursing Home Administrator	46	297	343	303	88%	3%
Nursing Technician	0	3	3	3	100%	0%
Occupational Therapist	13	52	65	42	65%	0%
Occupational Therapy Assistant	6	27	33	31	94%	0%
Optometrist	8	68	76	63	83%	1%
Osteopathic Physician	85	219	304	203	67%	2%
Osteopathic Physician Assistant	3	8	11	7	64%	0%
Pharmacies and Other Pharmaceutical Firms	86	463	549	473	86%	5%
Pharmacist	118	491	609	402	66%	4%
Pharmacist Intern	4	21	25	15	60%	0%
Pharmacy Assistant	28	123	151	100	66%	1%
Pharmacy Technician	28	157	185	119	64%	1%
Physical Therapist	21	118	139	106	76%	1%
Physical Therapist Assistant	16	54	70	52	74%	1%
Physician	536	2,997	3,533	2,621	74%	26%
Physician Assistant	41	226	267	190	71%	2%
Podiatric Physician	19	61	80	54	68%	1%
Psychologist	43	190	233	168	72%	2%
Registered Nurse	278	2,941	3,219	2,514	78%	25%
Speech Language Pathologist	3	23	26	15	58%	0%
Speech Language Pathology Assistant	0	1	1	1	100%	0%
Veterinarian	58	255	313	230	73%	2%
Veterinary Medication Clerk	3	6	9	6	67%	0%
Veterinary Technician	8	31	39	24	62%	0%
Totals	**2,041**	**11,702**	**13,743**	**10,219**		

Table 10: Secretary Professions Complaints Closed Prior to Adjudicative Proceedings 2015-17 Biennium

Profession	Carry Over From FY15	Complaints Received	Total Complaints	Total Closed	% of Secretary Closures to Complaints	% of Secretary Closures
Advanced Emergency Medical Technician	2	9	11	9	82%	0%
Animal Massage Practitioner	1	4	5	1	20%	0%
Athletic Trainer	1	5	6	6	100%	0%
Cardiovascular Invasive Specialist	0	4	4	4	100%	0%
Chemical Dependency Professional	108	316	424	278	66%	2%
Chemical Dependency Professional Trainee	46	236	282	133	47%	1%
Counselor, Agency Affiliated	43	347	390	249	64%	2%
Counselor, Certified	13	59	72	56	78%	0%
Counselor, Certified Advisor	3	2	5	3	60%	0%
Dental Hygienist	11	67	78	72	92%	1%
Dietitian/Nutritionist	2	14	16	13	81%	0%
Dispensing Optician	2	13	15	11	73%	0%
Dispensing Optician Apprentice	0	13	13	4	31%	0%
East Asian Medicine Practitioner	18	49	67	56	84%	0%
Emergency Medical Responder	0	3	3	2	67%	0%
Emergency Medical Technician	23	94	117	88	75%	1%
Genetic Counselor	0	0	0	0	--	0%
Health Care Assistant	8	0	8	6	75%	0%
Home Care Aide	85	1,116	1,201	1,015	85%	9%
Hypnotherapist	7	10	17	10	59%	0%
Marriage and Family Therapist	21	77	98	72	73%	1%
Marriage and Family Therapist Associate	6	20	26	16	62%	0%
Massage Therapist	191	693	884	586	66%	5%
Medical Assistant	98	534	632	424	67%	4%
Mental Health Counselor	81	309	390	289	74%	2%
Mental Health Counselor Associate	20	85	105	70	67%	1%
Midwife	11	31	42	20	48%	0%
Nursing Assistant	612	8,231	8,843	7,791	88%	67%
Nursing Pool Operator	0	11	11	9	82%	0%
Ocularist	0	2	2	2	100%	0%
Orthotics Prosthetics	2	9	11	11	100%	0%
Paramedic	13	30	43	25	58%	0%
Radiological Technologist	6	31	37	26	70%	0%
Radiologist Assistant	0	1	1	1	100%	0%
Recreational Therapist	0	2	2	2	100%	0%
Reflexologist	5	5	10	3	30%	0%
Respiratory Care Practitioner	9	39	48	31	65%	0%
Retired Volunteer Medical Worker	0	0	0	0	--	--
Sex Offender Treatment Provider	3	27	30	28	93%	0%
Sex Offender Treatment Provider Affiliate	0	7	7	8	114%	0%
Social Worker Advanced	2	30	32	30	94%	0%
Social Worker Associate Advanced	0	0	0	0	--	0%
Social Worker Associate Independent Clinical	19	52	71	55	77%	0%
Social Worker Independent Clinical	20	124	144	108	75%	1%
Surgical Technologist	7	25	32	19	59%	0%
X-Ray Technician	8	30	38	26	68%	0%
Totals	**1,507**	**12,766**	**14,273**	**11,668**		

Complaint Resolutions after Adjudicative Proceedings
The type of order issued to the healthcare provider indicates the manner in which the case was resolved. All orders are public records. Orders associated with actions against health care providers' credentials since July 1998 are available on the Internet.

The Legislature amended the Uniform Disciplinary Act in 2001 to permit practitioners to surrender their license in lieu of other sanctions. Surrender of license is used when the practitioner agrees to retire and not resume practice.

Surrender is not used if the practitioner intends to practice in another jurisdiction or if the disciplinary authority believes return to practice is reasonably possible.

Stipulation to Informal Disposition: A Stipulation to Informal Disposition (STID) is an informal disciplinary resolution. If the healthcare provider agrees to the STID, he or she does not admit to unprofessional conduct, but does agree to corrective action. STIDs are reported to national data banks, but because they are informal they do not result in a press release.

Agreed Order: The document, formally called a Stipulated Findings of Fact, Conclusions of Law and Agreed order, is a negotiated settlement between the healthcare provider and representatives of the agency. This takes place in a formal disciplinary proceeding. It states the substantiated violations of law and the sanctions being placed on the healthcare provider's credential. The healthcare provider agrees to the conditions in the order. The Agreed order is presented to the disciplinary authority and, if approved, becomes final. The order is reported to national data banks and the public through a press release.

Default Order: A Default order is issued when the credentialed health care provider is given due notice, but either fails to answer the allegations or fails to participate in the adjudicative process as required by law.

Final Order after Hearing: The document is formally called Findings of Fact, Conclusions of Law and Order. This document is issued after a formal hearing has been held. The hearing may be held before a health law judge representing the secretary as the decision-maker or before a panel of board or commission members with a health law judge acting as the presiding officer. The final document identifies the proven facts, violations of law, and the sanctions being placed on the healthcare provider's credential. The healthcare provider has the right to ask for administrative review of an initial order. Final orders are subject to reconsideration of the decision or appeal to a superior court. The order is reported to national data banks and released to the public through a press release.

Notice of Decision (NOD): A NOD is issued pursuant to RCW 18.130.055 when the disciplinary authority decides to deny an application for licensure or grant the license with conditions.

Table 11: Complaints Resolved after Adjudicative Proceedings
2015-17 Biennium

Profession	Informal Disposition	Agreed Order	Default Order	Final Order	Notice of Decision	Total
Advanced Emergency Medical Technician	0	0	0	0	0	0
Advanced Registered Nurse Practitioner	6	8	3	1	3	21
Animal Massage Practitioner	0	0	0	0	0	0
Athletic Trainer	0	0	0	0	0	0
Audiologist	1	0	0	0	0	1
Cardiovascular Invasive Specialist	0	0	0	0	0	0
Chemical Dependency Professional	16	13	20	2	9	60
Chemical Dependency Professional Trainee	8	6	13	3	64	94
Chiropractic X-Ray Technician	0	1	1	0	0	2
Chiropractor	21	15	4	0	0	40
Counselor, Agency Affiliated	13	12	19	0	24	68
Counselor, Certified	2	0	2	0	1	5
Counselor, Certified Advisor	0	0	0	0	2	2
Dental Anesthesia Assistant	0	0	0	0	0	0
Dental Assistant	8	5	6	1	8	28
Dental Hygienist	2	0	0	0	1	3
Dentist	45	39	6	3	2	95
Denturist	2	4	1	0	1	8
Dietitian/Nutritionist	0	0	0	0	0	0
Dispensing Optician	0	0	0	0	0	0
Dispensing Optician Apprentice	0	1	0	0	4	5
East Asian Medicine Practitioner	3	1	0	0	0	4
Emergency Medical Responder	0	1	0	0	0	1
Emergency Medical Technician	4	1	7	2	2	16
Expanded Function Dental Auxiliary	0	0	0	0	0	0
Genetic Counselor	0	0	0	0	0	0
Health Care Assistant	0	0	0	0	0	0
Hearing aid Specialist	0	0	2	0	1	3
Home Care Aide	6	8	11	2	55	82
Humane Society	0	0	0	0	0	0
Hypnotherapist	1	0	0	1	1	3
Licensed Practical Nurse	25	21	16	3	11	76
Marriage and Family Therapist	3	4	0	2	0	9
Marriage and Family Therapist Associate	0	6	0	0	1	7
Massage Therapist	24	26	22	6	18	96
Medical Assistant	25	30	22	0	45	122
Mental Health Counselor	16	8	3	4	2	33
Mental Health Counselor Associate	7	0	0	0	3	10
Midwife	2	3	1	0	0	6
Naturopathic Physician	8	11	2	3	0	24
Nursing Assistant	58	84	220	30	62	454
Nursing Home Administrator	6	0	0	0	0	6
Nursing Pool Operator	0	0	0	0	0	0
Nursing Technician	0	0	0	0	0	0

Profession	Informal Disposition	Agreed Order	Default Order	Final Order	Notice of Decision	Total
Occupational Therapist	2	5	6	1	0	14
Occupational Therapy Assistant	0	0	1	0	0	1
Ocularist	0	0	0	0	0	0
Optometrist	5	1	0	0	0	6
Orthotics Prosthetics	0	0	0	0	0	0
Osteopathic Physician	2	8	1	12	1	24
Osteopathic Physician Assistant	1	0	0	0	0	1
Paramedic	7	4	1	0	0	12
Pharmacies and Other Pharmaceutical Firms	2	2	1	0	1	6
Pharmacist	44	12	11	1	3	71
Pharmacist Intern	1	0	2	0	4	7
Pharmacy Assistant	4	6	9	1	10	30
Pharmacy Technician	16	8	11	0	1	36
Physical Therapist	11	1	0	2	0	14
Physical Therapist Assistant	9	2	2	0	1	14
Physician	116	69	24	2	3	214
Physician Assistant	16	1	0	0	0	17
Podiatric Physician	2	0	0	0	0	2
Psychologist	9	6	4	1	6	26
Radiological Technologist	1	2	2	0	1	6
Radiologist Assistant	0	0	0	0	0	0
Recreational Therapist	0	0	0	0	0	0
Reflexologist	0	0	0	0	0	0
Registered Nurse	69	87	60	13	27	256
Respiratory Care Practitioner	6	3	1	0	0	10
Retired Volunteer Medical Worker	0	0	0	0	0	0
Sex Offender Treatment Provider	1	0	0	0	0	1
Sex Offender Treatment Provider Affiliate	0	0	0	0	0	0
Social Worker Advanced	1	0	0	0	0	1
Social Worker Associate Advanced	0	0	0	0	0	0
Social Worker Associate Independent Clinical	2	8	1	0	0	11
Social Worker Independent Clinical	6	4	1	0	1	12
Speech Language Pathologist	1	0	0	0	2	3
Speech Language Pathology Assistant	0	0	0	0	0	0
Surgical Technologist	0	2	3	0	1	6
Veterinarian	18	2	3	2	2	27
Veterinary Medication Clerk	1	0	0	0	1	2
Veterinary Technician	4	1	0	0	0	5
X-Ray Technician	1	0	1	0	2	4
Totals	**670**	**542**	**526**	**98**	**387**	**2,223***

*This table (along with Tables 12 and 13) does not list Cease and Desist orders, which are covered under Unlicensed Practice (Table 14).

Percentage of Disciplinary Actions

The following tables show the percentage of disciplinary actions for each profession compared to the same profession's total complaints. For example, 22% (14) of the 66 total complaints received for Occupational Therapist cases were closed with disciplinary action.

The tables also show the percentage of disciplinary action for each profession compared to all board and commission or secretary disciplinary actions. For example, the 95 Dentist actions were 9% of the 1,080 board and commission disciplinary actions; the 60 Chemical Dependency Professional actions were 5% of the 1,143 secretary profession disciplinary actions.

Table 12: Board and Commission Professions Complaints Resolved after Adjudicative Proceedings 2015-17 Biennium

Profession	Carry Over from FY15	Complaints Received	Total Complaints	Total Disciplinary Action	% of B/C Disciplinary Action to Complaints	% of All B/C Disciplinary Action
Advanced Registered Nurse Practitioner	38	437	475	21	4%	2%
Audiologist	2	12	14	1	7%	0%
Chiropractic X-Ray Technician	1	4	5	2	40%	0%
Chiropractor	125	251	376	40	11%	4%
Dental Anesthesia Assistant	0	0	0	0	--	0%
Dental Assistant	27	109	136	28	21%	3%
Dentist	234	869	1,103	95	9%	9%
Denturist	14	34	48	8	17%	1%
Expanded Function Dental Auxiliary	0	0	0	0	--	0%
Hearing aid Specialist	1	12	13	3	23%	0%
Humane Society	0	0	0	0	--	0%
Licensed Practical Nurse	91	1,024	1,115	76	7%	7%
Naturopathic Physician	57	118	175	24	14%	2%
Nursing Home Administrator	46	297	343	6	2%	1%
Nursing Technician	0	3	3	0	0%	0%
Occupational Therapist	13	52	65	14	22%	1%
Occupational Therapy Assistant	6	27	33	1	3%	0%
Optometrist	8	68	76	6	8%	1%
Osteopathic Physician	85	219	304	24	8%	2%
Osteopathic Physician Assistant	3	8	11	1	9%	0%
Pharmacies and Other Pharmaceutical Firms	86	463	549	6	1%	1%
Pharmacist	118	491	609	71	12%	7%
Pharmacist Intern	4	21	25	7	28%	1%
Pharmacy Assistant	28	123	151	30	20%	3%
Pharmacy Technician	28	157	185	36	19%	3%
Physical Therapist	21	118	139	14	10%	1%
Physical Therapist Assistant	16	54	70	14	20%	1%
Physician	536	2,997	3,533	214	6%	20%
Physician Assistant	41	226	267	17	6%	2%
Podiatric Physician	19	61	80	2	3%	0%
Psychologist	43	190	233	26	11%	2%
Registered Nurse	278	2,941	3,219	256	8%	24%
Speech Language Pathologist	3	23	26	3	12%	0%
Speech Language Pathology Assistant	0	1	1	0	0%	0%
Veterinarian	58	255	313	27	9%	3%
Veterinary Medication Clerk	3	6	9	2	22%	0%
Veterinary Technician	8	31	39	5	13%	0%
Totals	**2,041**	**11,702**	**13,743**	**1,080**		

Table 13: Secretary Professions Complaints Resolved after Adjudicative Proceedings 2015-17 Biennium

Profession	Carry Over from FY15	Complaints Received	Total Complaints	Total Disciplinary Action	% of Secretary Disciplinary Action to Complaints	% of All Secretary Disciplinary Actions
Advanced Emergency Medical Technician	2	9	11	0	0%	0%
Animal Massage Practitioner	1	4	5	0	0%	0%
Athletic Trainer	1	5	6	0	0%	0%
Cardiovascular Invasive Specialist	0	4	4	0	0%	0%
Chemical Dependency Professional	108	316	424	60	14%	5%
Chemical Dependency Professional Trainee	46	236	282	94	33%	8%
Counselor, Agency Affiliated	43	347	390	68	17%	6%
Counselor, Certified	13	59	72	5	7%	0%
Counselor, Certified Advisor	3	2	5	2	40%	0%
Dental Hygienist	11	67	78	3	4%	0%
Dietitian/Nutritionist	2	14	16	0	0%	0%
Dispensing Optician	2	13	15	0	0%	0%
Dispensing Optician Apprentice	0	13	13	5	38%	0%
East Asian Medicine Practitioner	18	49	67	4	6%	0%
Emergency Medical Responder	0	3	3	1	33%	0%
Emergency Medical Technician	23	94	117	16	14%	1%
Genetic Counselor	0	0	0	0	--	0%
Health Care Assistant	8	0	8	0	0%	0%
Home Care Aide	85	1,116	1,201	82	7%	7%
Hypnotherapist	7	10	17	3	18%	0%
Marriage and Family Therapist	21	77	98	9	9%	1%
Marriage and Family Therapist Associate	6	20	26	7	27%	1%
Massage Therapist	191	693	884	96	11%	8%
Medical Assistant	98	534	632	122	19%	11%
Mental Health Counselor	81	309	390	33	8%	3%
Mental Health Counselor Associate	20	85	105	10	10%	1%
Midwife	11	31	42	6	14%	1%
Nursing Assistant	612	8,231	8,843	454	5%	40%
Nursing Pool Operator	0	11	11	0	0%	0%
Ocularist	0	2	2	0	0%	0%
Orthotics Prosthetics	2	9	11	0	0%	0%
Paramedic	13	30	43	12	28%	1%
Radiological Technologist	6	31	37	6	16%	1%
Radiologist Assistant	0	1	1	0	0%	0%
Recreational Therapist	0	2	2	0	0%	0%
Reflexologist	5	5	10	0	0%	0%
Respiratory Care Practitioner	9	39	48	10	21%	1%
Retired Volunteer Medical Worker	0	0	0	0	--	--
Sex Offender Treatment Provider	3	27	30	1	3%	0%
Sex Offender Treatment Provider Affiliate	0	7	7	0	0%	0%
Social Worker Advanced	2	30	32	1	3%	0%
Social Worker Associate Advanced	0	0	0	0	--	0%
Social Worker Associate Independent Clinical	19	52	71	11	15%	1%
Social Worker Independent Clinical	20	124	144	12	8%	1%
Surgical Technologist	7	25	32	6	19%	1%
X-Ray Technician	8	30	38	4	11%	0%
Totals	**1,507**	**12,766**	**14,273**	**1,143**		

Of the 2,223 disciplinary actions during the 2015-17 biennium, boards and commissions managed 49% while the secretary managed 51%.[14]

Professions with high rates of disciplinary actions compared to total complaints include: Chiropractic X-Ray Technicians with 40%, Counselor- Certified Advisors with 40%, and Dispensing Optician Apprentices with 38%.

Figure 2 displays the distribution of the various complaint outcomes.

Figure 2: Summary of Case Dispositions and End of Biennium Open Cases

Disposition	Count
Closed, No Investigation	14,471
Closed After Investigation	7,234
Informal Disposition	670
Agreed Order	542
Notice of Correction*	540
Default Order	526
Notice Of Decision	387
Charges or Allegations Withdrawn	182
Cease & Desist	155
Final Order	98
Open Cases	3,547

*Notice of Correction is a subset of "Closed After Investigation"

Unlicensed Practice Closures and Resolutions

The secretary is responsible for taking action against unlicensed practice. The HSQA Office of Investigation and Inspection manages intake, assessment, and investigation. Unlicensed practice complaints may be closed before or after investigation, or resolved with a Notice of Correction or a Cease and Desist order.

A Notice of Correction notifies the person there will be further action if they continue to infringe on the scope of practice of credentialed healthcare providers. A Cease and Desist order requires the recipient to stop practice and may impose a fine. Continued unlicensed practice may result in court enforcement of the Cease and Desist order or criminal prosecution. HSQA focuses its resources on those cases posing the greatest risk to the public. Table 14 provides a breakdown of actions by profession.

[14] This total of disciplinary actions does not include Cease and Desist orders, which are covered under Unlicensed Practice (Table 14).

Table 14: Unlicensed Practice Closures and Resolutions 2015-17 Biennium

Profession	Carry Over from 2015	Cases Received	Total Cases	Closed Prior to Investigation	Closed after Investigation	Cease & Desist Order Issued	Total Closed
Advanced Emergency Medical Technician	0	0	0	0	0	0	0
Advanced Registered Nurse Practitioner	0	3	3	2	0	0	2
Animal Massage Practitioner	1	4	5	0	1	0	1
Athletic Trainer	1	1	2	1	1	0	2
Audiologist	0	1	1	1	0	0	1
Cardiovascular Invasive Specialist	0	2	2	1	1	0	2
Chemical Dependency Professional	3	9	12	4	8	0	12
Chemical Dependency Professional Trainee	0	2	2	0	2	0	2
Chiropractic X-Ray Technician	0	0	0	0	0	0	0
Chiropractor	0	6	6	1	3	0	4
Counselor, Agency Affiliated	1	11	12	6	6	0	12
Counselor, Certified	1	16	17	11	3	2	16
Counselor, Certified Advisor	1	0	1	1	0	0	1
Dental Anesthesia Assistant	0	0	0	0	0	0	0
Dental Assistant	1	4	5	0	5	1	6
Dental Hygienist	0	0	0	0	0	0	0
Dentist	5	7	12	0	8	4	12
Denturist	0	1	1	0	0	0	0
Dietitian/Nutritionist	1	3	4	3	1	0	4
Dispensing Optician	1	12	13	5	5	2	12
Dispensing Optician Apprentice	0	2	2	2	0	0	2
East Asian Medicine Practitioner	0	2	2	0	2	0	2
Emergency Medical Responder	0	0	0	0	0	0	0
Emergency Medical Technician	0	1	1	0	0	0	0
Expanded Function Dental Auxiliary	0	0	0	0	0	0	0
Genetic Counselor	0	0	0	0	0	0	0
Health Care Assistant	1	0	1	0	0	1	1
Hearing aid Specialist	0	0	0	0	0	0	0
Home Care Aide	2	92	94	76	14	1	91
Humane Society	0	0	0	0	0	0	0
Hypnotherapist	0	1	1	0	0	0	0
Licensed Practical Nurse	1	3	4	0	3	0	3
Marriage and Family Therapist	0	3	3	3	0	0	3
Marriage and Family Therapist Associate	0	2	2	0	2	0	2
Massage Therapist	90	211	301	103	92	102	297
Medical Assistant	10	32	42	5	20	4	29
Mental Health Counselor	5	15	20	11	8	4	23
Mental Health Counselor Associate	0	3	3	1	2	0	3
Midwife	0	3	3	0	3	0	3
Naturopathic Physician	9	11	20	6	3	10	19
Nursing Assistant	5	126	131	177	14	6	197
Nursing Home Administrator	0	2	2	1	1	0	2
Nursing Pool Operator	0	4	4	0	3	1	4

Profession	Carry Over from 2015	Cases Received	Total Cases	Closed Prior to Investigation	Closed after Investigation	Cease & Desist Order Issued	Total Closed
Nursing Technician	0	1	1	1	0	0	1
Occupational Therapist	0	0	0	0	0	0	0
Occupational Therapy Assistant	0	0	0	0	0	0	0
Ocularist	0	0	0	0	0	0	0
Optometrist	1	6	7	5	1	0	6
Orthotics Prosthetics	0	1	1	0	1	0	1
Osteopathic Physician	0	1	1	1	0	0	1
Osteopathic Physician Assistant	0	0	0	0	0	0	0
Paramedic	0	0	0	0	0	0	0
Pharmacies and Other Pharmaceutical Firms	9	24	33	6	21	1	28
Pharmacist	0	5	5	1	3	0	4
Pharmacist Intern	0	0	0	0	0	0	0
Pharmacy Assistant	0	0	0	0	0	0	0
Pharmacy Technician	0	2	2	0	1	0	1
Physical Therapist	0	4	4	1	2	0	3
Physical Therapist Assistant	0	0	0	0	0	0	0
Physician	11	39	50	16	26	2	44
Physician Assistant	0	6	6	0	4	0	4
Podiatric Physician	0	0	0	0	0	0	0
Psychologist	2	16	18	6	3	0	9
Radiological Technologist	0	1	1	1	0	0	1
Radiologist Assistant	0	1	1	1	0	0	1
Recreational Therapist	0	0	0	0	0	0	0
Reflexologist	4	4	8	0	2	4	6
Registered Nurse	2	15	17	8	11	2	21
Respiratory Care Practitioner	0	1	1	0	0	0	0
Retired Volunteer Medical Worker	0	0	0	0	0	0	0
Sex Offender Treatment Provider	0	0	0	0	0	0	0
Sex Offender Treatment Provider Affiliate	0	0	0	0	0	0	0
Social Worker Advanced	0	4	4	4	0	0	4
Social Worker Associate Advanced	0	0	0	0	0	0	0
Social Worker Associate Independent Clinical	1	2	3	3	0	0	3
Social Worker Independent Clinical	2	6	8	5	2	0	7
Speech Language Pathologist	0	0	0	0	0	0	0
Speech Language Pathology Assistant	0	0	0	0	0	0	0
Surgical Technologist	1	3	4	1	1	2	4
Veterinarian	10	18	28	1	17	5	23
Veterinary Medication Clerk	1	0	1	0	1	0	1
Veterinary Technician	2	2	4	2	1	1	4
X-Ray Technician	0	1	1	1	1	0	2
Totals	**185**	**758**	**943**	**485**	**309**	**155**	**949**

Violations and Sanctions

Uniform Disciplinary Act Violations

Section 180 of the Uniform Disciplinary Act (UDA) lists 25 violations considered unprofessional conduct. Healthcare providers cannot be criminally charged by boards, commissions, or the secretary because the UDA is administrative law. However, actions taken under the UDA may adversely affect the ability of credential holders to make a living in the healthcare field.

The department, or a board or commission, may refer complaints of criminal nature to law enforcement, which may result in criminal action. Conversely, criminal convictions can result in UDA actions against practitioners' credentials.

Frequent Violations

The National Practitioner Data Bank (NPDB) returned 2,225 reportable complaints. Of the 25 possible UDA violations, five accounted for 66% of the 3,826 violations across all professions. The number of violations exceeds the number of NPDB complaints because violators are often cited for more than one violation.

Violations related to RCW 18.130.180(7): Violation of any state or federal statute or administrative rule, were cited 724 times in sanctions reported to the NPDB, making these violations the most frequently reported violation.

However, violations of RCW 18.130.180(7) frequently are not the only reported issue. In fact, 81% were cited in conjunction with other violations. Thus while, this violation made up 18% of all cited violations, it was included in 33% of all complaints received.

The most frequently reported issues in these violations, other than violations of state or federal statute or administrative rule, during the 2015-17 biennium were[14]:

1. RCW 18.130.180(1): Act involving Moral Turpitude Dishonesty or Corruption relation to the practice of a person's profession, 700 (31%).
2. RCW 18.130.180(6) and (23): Personal drug or alcohol abuse, 482 (22%).
3. RCW 18.130.180(4): Incompetence, negligence, or malpractice, 473 (21%).
4. RCW 18.130.180(17): Conviction of a gross misdemeanor or felony relating to the practice of a healthcare profession, 344 (15%).
5. RCW 18.130.180(5): Suspension, revocation, or restriction in another jurisdiction, 291 (13%).

Sanctions Imposed

When adverse actions are reported to NPDB, the sanction imposed on the practitioner is also reported. For purposes of this report, sanctions were divided into five categories:

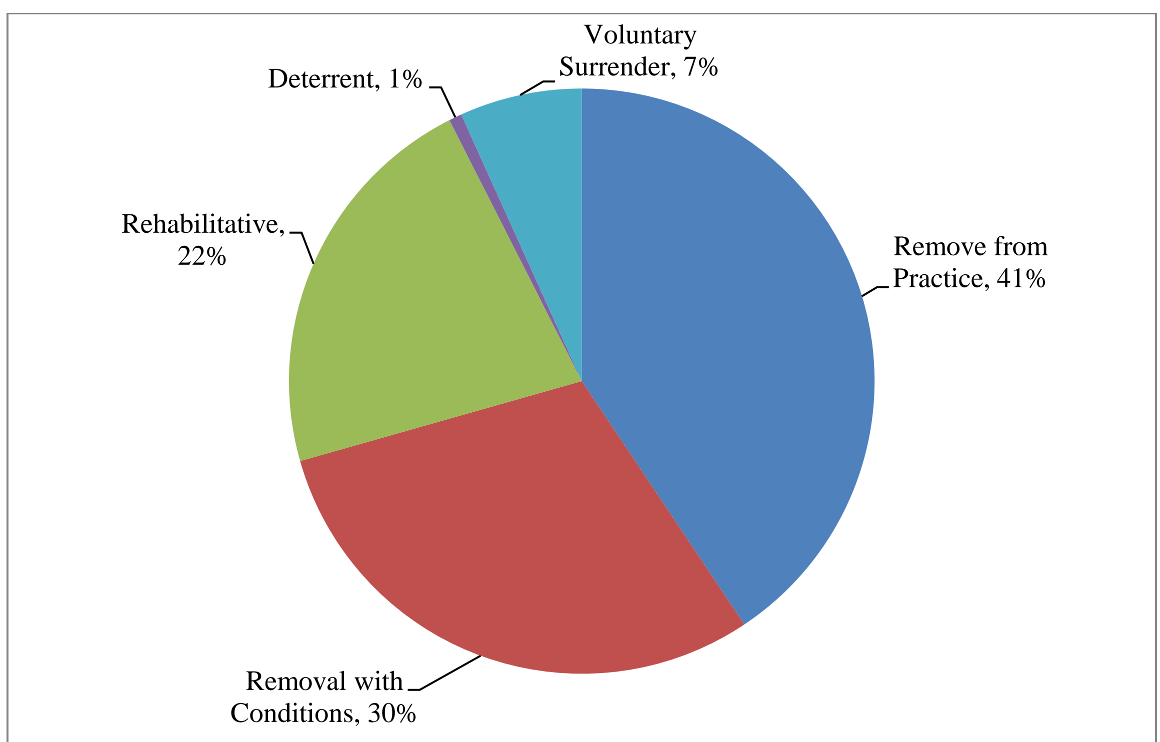
- Removal from practice
- Removal from practice with conditions
- Rehabilitative
- Deterrent
- Surrender of the credential

For definitions of these and other terms, please consult Appendix A.

[14] These statistics detail the violation name, the violation's citation count, and what percent the violation makes up of the 2,225 total complaints reported in the NPDB report. Data involving the Veterinarian Board are not included as this data is not reportable to the data bank based on federal law.

The disciplinary actions represent cases closed after adjudication. There can be multiple cases against a single practitioner. Reports to the data bank represent reports on individual practitioners, not individual cases.

Figure 3: Fiscal Years 2015-17 Sanctions Breakdown
2015-17 Biennium



Sanctions Schedule

In 2006, the department adopted sanction guidelines for professions where the secretary is the disciplinary authority. The purpose of these guidelines was to promote consistent disciplinary sanctions for similar unprofessional conduct. Each of the 14 boards and commissions with disciplinary authority adopted the guidelines later.[15] In 2009, the guidelines were adopted in rule.

Cases sometimes arise that cannot be addressed by the guidelines. To account for these cases, compliance goals were set at 95% for secretary professions and 80% for board and commission professions. These goals have been consistently met or exceeded for the 15-17 biennium.

Notes on Table 15

Numbers from Table 15 may not match exactly with the count of disciplinary actions in Tables 11-13 or the number of complaints/violations on page 34. Table 15 is drawn from a different data source than preceding tables where the data is grouped slightly differently. Denials, Cease and Desist actions, and Notices of Decision are not included in Table 15. Further divergence may occur because Tables 11-13 count cases closed in the last biennium, while Table 15 uses the sanction's effective date.

[15] At this time, there were 14 boards and commissions with disciplinary authority. By the end of FY 2015, there were 17.

Table 15: Sanctions Imposed by Profession
2015-17 Biennium

Profession	Remove From Practice (Revocation, Indefinite Suspension)	Removal with Conditions (Suspension for Specific Period)	Rehabilitative (Probation, Limitation, or Restriction)	Deterrent (Reprimand, Fine)	Voluntary Surrender	Total
Advanced Emergency Medical Technician	0	0	0	0	0	0
Advanced Registered Nurse Practitioner	3	3	4	0	3	13
Animal Massage Practitioner	0	0	0	0	0	0
Athletic Trainer	0	0	0	0	0	0
Audiologist	0	1	1	0	0	2
Cardiovascular Invasive Specialist	0	0	0	0	0	0
Chemical Dependency Professional	66	17	69	0	7	159
Chemical Dependency Professional Trainee	0	0	0	0	0	0
Chiropractic X-Ray Technician	2	0	1	0	0	3
Chiropractor	5	19	6	1	4	35
Counselor, Agency Affiliated	0	0	0	0	0	0
Counselor, Certified	28	7	23	0	9	67
Counselor, Certified Advisor	0	0	0	0	0	0
Dental Anesthesia Assistant	0	0	0	0	0	0
Dental Assistant	14	5	8	0	3	30
Dental Hygienist	0	2	1	0	0	3
Dentist	16	60	19	2	4	101
Denturist	1	5	1	0	0	7
Dietitian/Nutritionist	0	0	0	0	0	0
Dispensing Optician	1	0	0	0	0	1
Dispensing Optician Apprentice	0	0	0	0	0	0
East Asian Medicine Practitioner	1	3	0	0	0	4
Emergency Medical Responder	0	0	0	0	0	0
Emergency Medical Technician	9	4	2	1	0	16
Expanded Function Dental Auxiliary	0	0	0	0	0	0
Genetic Counselor	0	0	0	0	0	0
Health Care Assistant	0	0	0	0	0	0
Hearing aid Specialist	2	0	1	0	0	3
Home Care Aide	35	5	6	0	2	48
Humane Society	0	0	0	0	0	0
Hypnotherapist	0	0	0	0	0	0
Licensed Practical Nurse	27	22	21	0	4	74
Marriage and Family Therapist	4	3	2	0	2	11
Marriage and Family Therapist Associate	0	0	0	0	0	0
Massage Therapist	36	25	23	1	2	87
Medical Assistant	39	19	35	2	6	101
Medical Marijuana Consultant	0	0	0	0	0	0
Mental Health Counselor	8	19	4	0	4	35
Mental Health Counselor Associate	0	0	0	0	0	0
Midwife	3	3	0	0	0	6
Naturopathic Physician	4	9	4	1	2	20
Nursing Assistant	283	47	55	1	12	398

Profession	Remove From Practice (Revocation, Indefinite Suspension)	Removal with Conditions (Suspension for Specific Period)	Rehabilitative (Probation, Limitation, or Restriction)	Deterrent (Reprimand, Fine)	Voluntary Surrender	Total
Nursing Home Administrator	0	6	0	0	2	8
Nursing Pool Operator	0	0	0	0	0	0
Nursing Technician	0	0	0	0	0	0
Occupational Therapist	6	2	2	0	0	10
Occupational Therapy Assistant	1	0	0	0	0	1
Ocularist	0	0	0	0	0	0
Optometrist	0	4	1	0	1	6
Orthotics Prosthetics	0	0	0	0	0	0
Osteopathic Physician	5	2	3	0	4	14
Osteopathic Physician Assistant	0	0	0	0	0	0
Paramedic	2	5	0	0	1	8
Pharmacies and Other Pharmaceutical Firms	0	0	0	0	0	0
Pharmacist	8	39	11	1	3	62
Pharmacist Intern	2	0	1	0	1	4
Pharmacy Assistant	13	3	4	0	3	23
Pharmacy Technician	19	12	3	0	6	40
Physical Therapist	1	10	1	0	0	12
Physical Therapist Assistant	3	5	1	0	2	11
Physician	24	105	30	2	15	176
Physician Assistant	0	13	0	0	6	19
Podiatric Physician	0	2	0	0	0	2
Psychologist	3	7	3	1	3	17
Radiological Technologist	6	1	2	0	2	11
Radiologist Assistant	0	0	0	0	0	0
Recreational Therapist	0	0	0	0	0	0
Reflexologist	0	0	0	0	0	0
Registered Nurse	100	55	72	1	18	246
Respiratory Care Practitioner	4	5	1	0	1	11
Retired Volunteer Medical Worker	0	0	0	0	0	0
Sex Offender Treatment Provider	0	1	0	0	0	1
Sex Offender Treatment Provider Affiliate	0	0	0	0	0	0
Social Worker Advanced	5	9	5	0	1	20
Social Worker Associate Advanced	0	0	0	0	0	0
Social Worker Associate Independent Clinical	0	0	0	0	0	0
Social Worker Independent Clinical	0	0	0	0	0	0
Speech Language Pathologist	0	1	2	0	0	3
Speech Language Pathology Assistant	0	0	0	0	0	0
Surgical Technologist	6	1	1	0	0	8
Veterinarian	3	19	3	0	0	25
Veterinary Medication Clerk	0	1	0	0	0	1
Veterinary Technician	1	3	0	0	0	4
X-Ray Technician	0	0	0	0	0	0
Totals	**799**	**589**	**432**	**14**	**133**	**1,967**

Case Appeals Activity

A healthcare professional has the right to appeal a final decision of a disciplinary authority to a court of law. The process involves filing a petition with a county superior court. Depending on the outcome, the healthcare professional can appeal to an appellate court. An appellate court's decision sets precedence for future decisions of the same nature. A healthcare professional may appeal an appellate court's decision to the Washington State Supreme Court, which decides the cases it will accept or decline. The following table lists all case appeals activity in the last biennium. Below are definitions for the outcomes listed.

Table 16: Summary of Case Appeals Activity
2015-17 Biennium

Docket Number	Profession	County	Outcome
M2010-1697	Physician	King	Affirmed
M2013-293	Dentist	King	Dismissed
M2013-514	Osteopath Physician	Thurston	Denied
M2014-826	Osteopath Physician	Thurston	Dismissed
M2015-1165	Certificate of Need	King	Dismissed
M2015-816	Denturist	Clark	Affirmed
M2015-929	Registered Nurse	Thurston	Denied

Affirmed – Superior court concluded department's decision was correct.
Reversed – Superior court reversed department's decision.
Remand – Superior court returned the case to the department to revisit previous decision.
Denied – Petition for judicial review not accepted by the superior court.
Dismissed – Petition for judicial review dismissed at superior court.
Pending – Superior court has not made a decision on the case
Stayed – Superior court stayed department's decision until the superior court rules on the matter.

Alternatives to Discipline

The department may refer practitioners to one of four different substance abuse monitoring programs. Two programs work under contracts monitored by department staff. The department operates the other two programs.

- Washington Physicians Health Program (WPHP) is a contracted program that works with chemically impaired allopathic physicians and physician assistants, dentists, osteopathic physicians and physician assistants, veterinarians, and podiatrists.
- Washington Recovery Assistance Program for Pharmacy (WRAPP) is a contracted program that works with chemically impaired pharmacists and other credentialed pharmacy staff.
- Washington Health Professional Services (WHPS) is a department-run program that works with chemically impaired practitioners in nursing professions.
- Washington Recovery and Monitoring Program (WRAMP) is a department-run program that works with chemically impaired health professionals not served by WPHP, WHPS, or WRAPP.

Disciplining authorities can refer practitioners to a program. They may also require providers to enter the program as a condition of practice or return to practice. Practitioners may also voluntarily participate in one of the programs if they have an active healthcare credential in Washington. The substance abuse monitoring programs must report practitioners to the department if they don't comply with the conditions of a monitoring contract. The disciplinary authority may then take disciplinary action. See Appendix C, Alternative Programs – Chemically Impaired Practitioners for more information.

Case Distribution to Investigators and Staff Attorneys

RCW 18.130.310 requires, as part of the UDA Report, a report that will "summarize the distribution of the number of cases assigned to each attorney and investigator for each profession." The law further requires that identities of staff attorneys and investigators be kept anonymous. Appendices D and E detail, by health professions, the average number of cases assigned and worked by the division's staff attorneys and investigators for the 2015-17 biennium.

This data may invite comparisons of workload and efficiency between professions. However, the resources needed to pursue individual disciplinary cases cannot be typified across professions or even within a profession. Many factors can influence the amount of investigative and legal resources needed for any individual case, including but not limited to the complexity of the profession, whether there are companion cases with other professions, the nature of the complaint, the availability of investigative records and other information and the involvement of other entities such as law enforcement.

This data also may suggest links to other data within this report, such as the rates of closure of complaints or the rates of discipline. Again, it is important to be cautious; some disciplinary cases may require significant investigative and legal work, only to determine there is no basis for

pursuing discipline. By contrast, in certain instances, serious disciplinary action may occur as a result of information (e.g., criminal convictions or actions by other licensing authorities) that requires a relatively small amount of new investigative or legal work.

The table in Appendix D shows cases worked by investigators and staff attorneys during the biennium. The information is shown by staff and profession. As you review, please note:

- To preserve anonymity individual staff members are indicated by a number.
- The number of cases shown includes any case worked during the biennium.
- This number of cases shown will be different than the numbers of cases received or closed as it can include cases at any point in the investigative or legal process.
- Not all staff worked for the department through the entire biennium which resulted in varying numbers of cases worked.
- The number of months each staff member worked for the department during the 2015-17 biennium is indicated in the bottom row of each chart.
- Certain investigators conduct both investigations and inspections for the pharmacy program.
- In some cases, multiple staff may have provided support to the primary investigator or staff attorney.
- Certain staff attorneys work only for the Medical Quality Assurance Commission.

Biennial Comparison

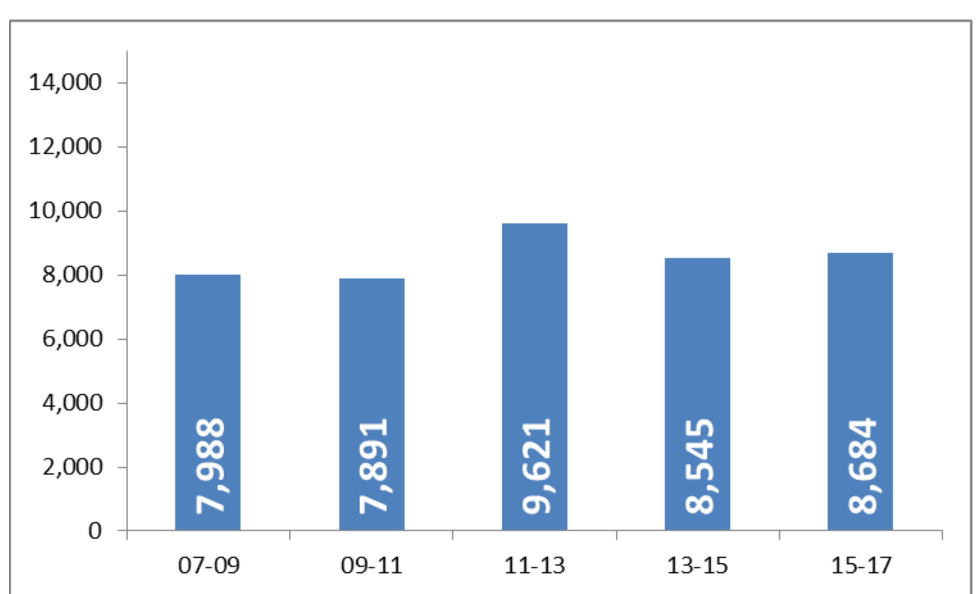
Complaints Received
The number of new complaints received increased 26% from the 2013-15 biennium. This does not include carry-forward complaints from the previous biennium.

Figure 4: New Complaints Received, 2013-15 to 2015-17 Biennia

07-09	09-11	11-13	13-15	15-17
14,435	17,611	19,665	19,395	24,468

Investigations
The number of completed investigations (including unlicensed practice) increased 2% compared to last biennium.

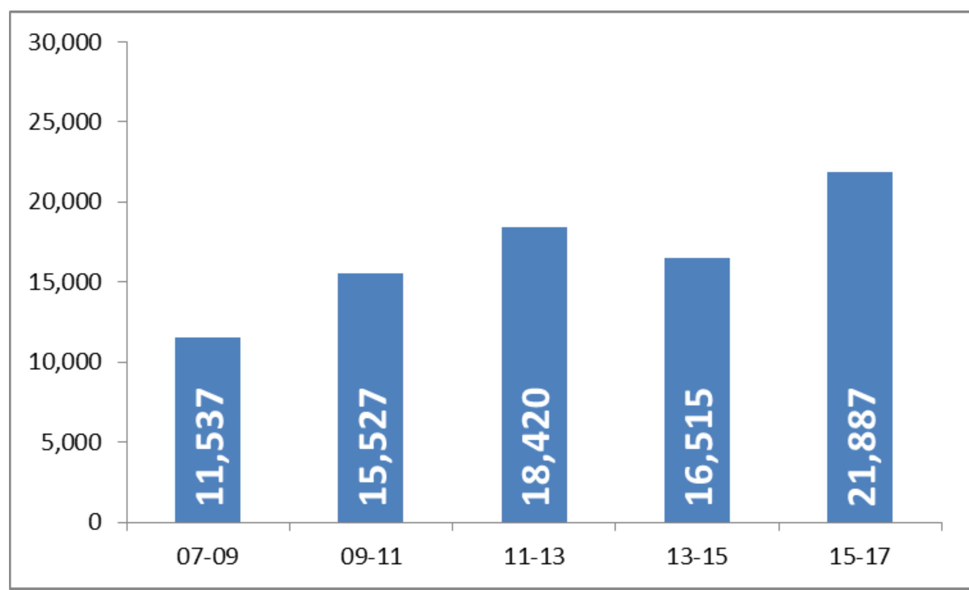
Figure 5: Investigations Completed, 2013-15 to 2015-17 Biennia



Complaint Closures before Adjudicative Proceedings

The following chart shows the change in closures before adjudicative proceedings. These are cases closed with no action. In these cases, evidence disproved the allegations, the complaint was below the threshold for investigation, the disciplinary authority did not have jurisdiction, the allegations were withdrawn, or a Notice of Correction (NOC) was issued. This represents a 33% increase in closures prior to adjudicative proceedings over the last biennium.

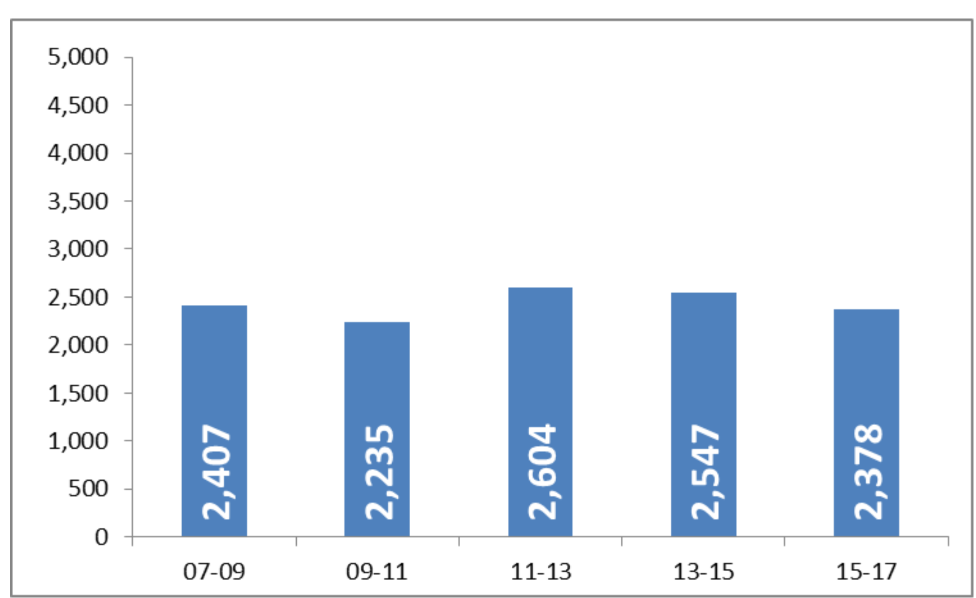
Figure 6: Complaint Closures before Adjudicative Proceedings, 2013-15 to 2015-17 Biennia



Complaint Closures after Adjudicative Proceedings

The following chart shows a 7% decrease in cases resolved with corrective or disciplinary action from the 2013-15 biennium. They include cases closed by Default orders, Informal dispositions (STID), Agreed orders, Final orders after hearing, Unlicensed Practice Cease and Desist orders, and Notices of Decision.

Figure 7: Complaint Closures after Adjudicative Proceedings, 2013-15 to 2015-17 Biennia



Criminal Background Checks

RCW 18.130.064 allows the department to conduct a criminal history background check on all new applicants and current license holders. The purpose of the statute is to ensure patient safety by identifying those who may not be qualified to practice.

The department has checked criminal history background on new applicants for credentials since 2000. For all new applications, the background check process involves checking two separate databases: the Washington State Patrol's WATCH database and the National Practitioner Data Bank (NPDB). The WATCH database provides Washington state criminal conviction records, while the NPDB includes information about actions in other states that help determine the need for further review. Fingerprint based FBI background checks are only used on out-of-state applications or applicants with a criminal history in Washington state.

The department performed over 138,000 background checks on applications during the 2015-17 biennium. Checks through the WATCH database returned reports for 3,705 applicants.

Of the 3,705 reports (which may include unrelated items such as applications for concealed weapons permits), the department opened 566 cases on applicants based on state background check information. Of these investigations, 47% involved applicants who had disclosed a conviction on the application. The full report (Table 18) contains additional details about applicants for each profession.

Table 17: HSQA Background Check Activity Summary
2015-17 Biennium

Total Applicants	138,401
Applicants with returned background reports	3,705
Cases opened on applicants with returned background reports	566
Applicants who disclosed criminal history (% of cases)	266 (47%)
Applicants not disclosing criminal history (% of cases)	300 (53%)

Beginning January 1, 2009, the department began requiring federal fingerprint checks for certain applicants and licensees. The 2008 legislature authorized the department to perform these checks when a state background check is inadequate. The department focuses on applicants coming from outside of Washington and certain applicants with a criminal history in Washington. The checks are processed through the FBI's Criminal Justice Information Services (CJIS) Division.

Background reports using fingerprint data can reveal convictions as well as non-conviction information. Due to the length of the fingerprint process, especially when unreadable fingerprints must be repeated, the department may grant temporary practice permits to applicants who satisfy all licensing requirements but are waiting on FBI results. This helps improve access to care by avoiding delays. The temporary practice permit expires if criminal history is identified and a Notice of Decision is issued.

Table 18: Criminal Background Reports
2015-17 Biennium

Profession	Total Applicant Checks Made	WATCH Reports Produced	Cases Opened on Applicants	Self-Disclosed Yes	Self-Disclosed No	% Disclosed	Actions Taken
Advanced Emergency Medical Technician	59	2	0	0	0	-	0
Advanced Registered Nurse Practitioner	1,906	10	0	0	0	-	0
Animal Massage Practitioner	38	2	0	0	0	-	0
Athletic Trainer	226	1	0	0	0	-	0
Audiologist	63	0	0	0	0	-	0
Cardiovascular Invasive Specialist	101	5	0	0	0	-	0
Chemical Dependency Professional	418	100	16	11	5	69%	8
Chemical Dependency Professional Trainee	1,315	255	94	60	34	64%	48
Chiropractic X-Ray Technician	107	5	1	1	0	100%	1
Chiropractor	247	7	1	0	1	0%	0
Counselor, Agency Affiliated	5,711	301	48	25	23	52%	16
Counselor, Certified	79	3	0	0	0	-	0
Counselor, Certified Advisor	1	0	0	0	0	-	0
Dental Anesthesia Assistant	91	5	0	0	0	-	0
Dental Assistant	4,469	169	18	8	10	44%	8
Dental Hygienist	776	17	3	1	2	33%	0
Dentist	914	4	4	0	4	0%	1
Denturist	19	2	0	0	0	-	0
Dietitian/Nutritionist	499	2	0	0	0	-	0
Dispensing Optician	69	0	0	0	0	-	0
Dispensing Optician Apprentice	384	13	1	0	1	0%	0
East Asian Medicine Practitioner	223	1	0	0	0	-	0
Emergency Medical Responder	97	8	1	1	0	100%	0
Emergency Medical Technician	2,848	77	11	10	1	91%	1
Expanded Function Dental Auxiliary	41	4	0	0	0	-	0
Genetic Counselor	127	0	0	0	0	-	0
Health Care Assistant	0	0	0	0	0	-	0
Hearing aid Specialist	44	6	2	1	1	50%	0
Home Care Aide	15,602	228	72	10	62	14%	27
Humane Society	0	0	0	0	0	-	0
Hypnotherapist	211	4	1	0	1	0%	0
Licensed Practical Nurse	2,310	36	5	4	1	80%	2
Marriage and Family Therapist	276	1	2	0	2	0%	0
Marriage and Family Therapist Associate	395	10	1	1	0	100%	0
Massage Therapist	2,304	88	22	11	11	50%	12
Medical Assistant	14,697	762	75	49	26	65%	23
Mental Health Counselor	1,224	25	5	0	5	0%	1
Mental Health Counselor Associate	1,192	21	2	2	0	100%	1

Profession	Total Applicant Checks Made	WATCH Reports Produced	Cases Opened on Applicants	Self-Disclosed Yes	Self-Disclosed No	% Disclosed	Actions Taken
Midwife	36	0	0	0	0	-	0
Naturopathic Physician	228	2	0	0	0	-	0
Nursing Assistant	29,501	1,011	119	44	75	37%	51
Nursing Home Administrator	121	2	1	0	1	0%	0
Nursing Pool Operator	0	0	1	0	1	0%	0
Nursing Technician	726	1	0	0	0	-	0
Occupational Therapist	680	3	1	0	1	0%	0
Occupational Therapy Assistant	259	6	0	0	0	-	0
Ocularist	3	0	0	0	0	-	0
Optometrist	210	1	0	0	0	-	0
Orthotics Prosthetics	41	0	0	0	0	-	0
Osteopathic Physician	704	0	0	0	0	-	0
Osteopathic Physician Assistant	57	0	0	0	0	-	0
Paramedic	425	8	0	0	0	-	0
Pharmacies and Other Pharmaceutical Firms	0	0	0	0	0	-	0
Pharmacist	1,259	12	5	0	5	0%	0
Pharmacist Intern	1,250	8	5	2	3	40%	0
Pharmacy Assistant	5,578	159	24	15	9	63%	4
Pharmacy Technician	1,339	31	5	0	5	0%	0
Physical Therapist	1,282	7	0	0	0	-	0
Physical Therapist Assistant	514	10	1	1	0	100%	1
Physician	5,092	5	0	0	0	-	0
Physician Assistant	945	3	0	0	0	-	0
Podiatric Physician	52	0	0	0	0	-	0
Psychologist	433	1	1	0	1	0%	0
Radiological Technologist	912	29	2	1	1	50%	1
Radiologist Assistant	1	0	0	0	0	-	0
Recreational Therapist	38	2	0	0	0	-	0
Reflexologist	27	0	0	0	0	-	0
Registered Nurse	21,233	93	6	2	4	33%	6
Respiratory Care Practitioner	537	14	1	0	1	0%	0
Retired Volunteer Medical Worker	0	0	0	0	0	-	0
Sex Offender Treatment Provider	11	0	0	0	0	-	0
Sex Offender Treatment Provider Affiliate	13	0	0	0	0	-	0
Social Worker Advanced	52	0	0	0	0	-	0
Social Worker Associate Advanced	128	3	0	0	0	-	0
Social Worker Associate Independent Clinical	922	13	2	1	1	50%	0
Social Worker Independent Clinical	640	8	1	0	1	0%	0
Speech Language Pathologist	881	3	2	2	0	100%	2
Speech Language Pathology Assistant	74	0	0	0	0	-	0

Profession	Total Applicant Checks Made	WATCH Reports Produced	Cases Opened on Applicants	Self-Disclosed Yes	Self-Disclosed No	% Disclosed	Actions Taken
Surgical Technologist	696	28	2	1	1	50%	1
Veterinarian	552	3	1	1	0	100%	1
Veterinary Medication Clerk	706	19	1	1	0	100%	0
Veterinary Technician	375	3	0	0	0	-	0
X-Ray Technician	785	43	1	0	1	0%	1
Totals	**138,401**	**3,705**	**567**	**266**	**301**	**47%**	**217**

Board and Commission Supplemental Reports

RCW 18.130.310(2) allows health professions boards and commissions to prepare a biennial report to complement the UDA report. The reports may provide additional information about disciplinary activities, rule-making and policy activities, and receipts and expenditures.

The following reports were prepared by the 17 boards and commissions with regulatory authority for health professions. Note that the Board of Massage is a dual authority board, where certain licensing and/or examination functions are the authority of the board, while disciplinary authority resides with the department.

Reviewing the Disciplinary Graphs

The report for each full authority board or commission includes three graphs:

1) The first summarizes, by fiscal year, the number of complaints received, and investigations authorized and completed over the last four years. It also includes the average number of days for investigative activities each year.
2) The second depicts the types of disciplinary case outcomes for each board or commission over the past four years, by fiscal year.
3) The third illustrates the number of summary actions that have been taken by the board or commission over the last four years, by fiscal year. Summary actions immediately suspend or restrict the practitioner's credential pending the outcome of a final hearing and are only used when there is imminent risk of harm to the public. There are three categories of summary actions: 1) actions based on conduct, such as criminal conviction; 2) actions based on practice below the standard of care; and 3) suspensions mandated by law based on a prohibition to practice in another state.

For a complete list of definitions, please see Appendix A.

Chiropractic Quality Assurance Commission

The Chiropractic Quality Assurance Commission (CQAC) protects the public by credentialing and disciplining chiropractors and chiropractic x-ray technicians. The commission regulates the professions by developing rules, policies, and guidelines. CQAC is made up of 11 chiropractors, and 3 public members, appointed by the governor. Chiropractic commission members must have been licensed to practice chiropractic in Washington for a period of five years before appointment.

Chart	Summary
Complaints (0–200); right axis 0–250; FY14, FY15, FY16, FY17; Complaints Received, Investigations Authorized, Investigations Completed, Average Investigative Days	The number of complaints received decreased slightly in FY16 and again in FY17. The average investigative days increased significantly in FY16 but decreased again in FY17.
Cases (0–20); FY14, FY15, FY16, FY17; Informal, Agreed, Default, Final	The number of cases resolved with informal agreements remained fairly consistent in FYI16 and FY17. The number of cases resolved with formal Agreed orders decreased in FY16 but increased in FY17.
Summary Actions (0–2); FY14, FY15, FY16, FY17; Conduct, Standard, Mandatory	There were no summary actions in FY16 and one in FY17. This is consistent with prior years.

Rulemaking and Policy Activity

Legislation

The Chiropractic Quality Assurance Commission (Commission) had no legislative activity in Fiscal years 2016 and 2017.

Rules and Policies

The Chiropractic Quality Assurance Commission's purpose under RCW 18.25.0151 is to regulate the competency and quality of chiropractors and chiropractic X-ray technicians by establishing, monitoring, and enforcing qualifications for licensing, consistent standards of practice, continuing competency mechanisms, and discipline. The rules, policies, and procedures developed by the Commission must promote the delivery of quality health care to the residents of the state. Individual rule sections in chapter 246-808 WAC have been amended over the years to adhere to new requirements and changes in law. However, a thorough review of the entire chiropractic chapter has not been conducted since 1996. As part of the rules chapter review, the Commission identified areas for improvement, as well and categories of rules (initial licensing requirements, temporary practice permits, requirements to return an expired license to active status, billing, preceptor/supervising, definitions, etc.), that needed to be combined because the requirements were contained in more than one rule. This streamline approach will assist stakeholders with finding information they are seeking, and avoid unnecessary correspondence and delays due to confusion and submitting incorrect information.

This rulemaking included:

- Initially identifying 55 rules that potentially needed revisions
- 30 rules are actually being revised
  - Chiropractic colleges/accreditation of colleges/Educational standards
  - Chiropractic licensure and temporary practice permits
  - Reactivation requirements for an expired, inactive, and suspended credential
  - Preceptor/supervisor rules, including delegation of duties to supervised staff
  - Billing
  - Advertising
  - Radiographic standards
  - Sexual misconduct
  - Definitions
  - Mandatory reporting
  - Continuing education, including suicide screening and referral and the Department of Health's model list.

- 21 rules are being repealed
  - Some of the rules and the rule language that is being repealed is being placed into another rule to maintain all of the qualifications in one rule instead of several. For example, the Commission is placing three separate rules pertaining to "temporary practice licenses," and all of their requirements, into one rule making it easier and more efficient for stakeholders to find and to determine what type of temporary license they need.

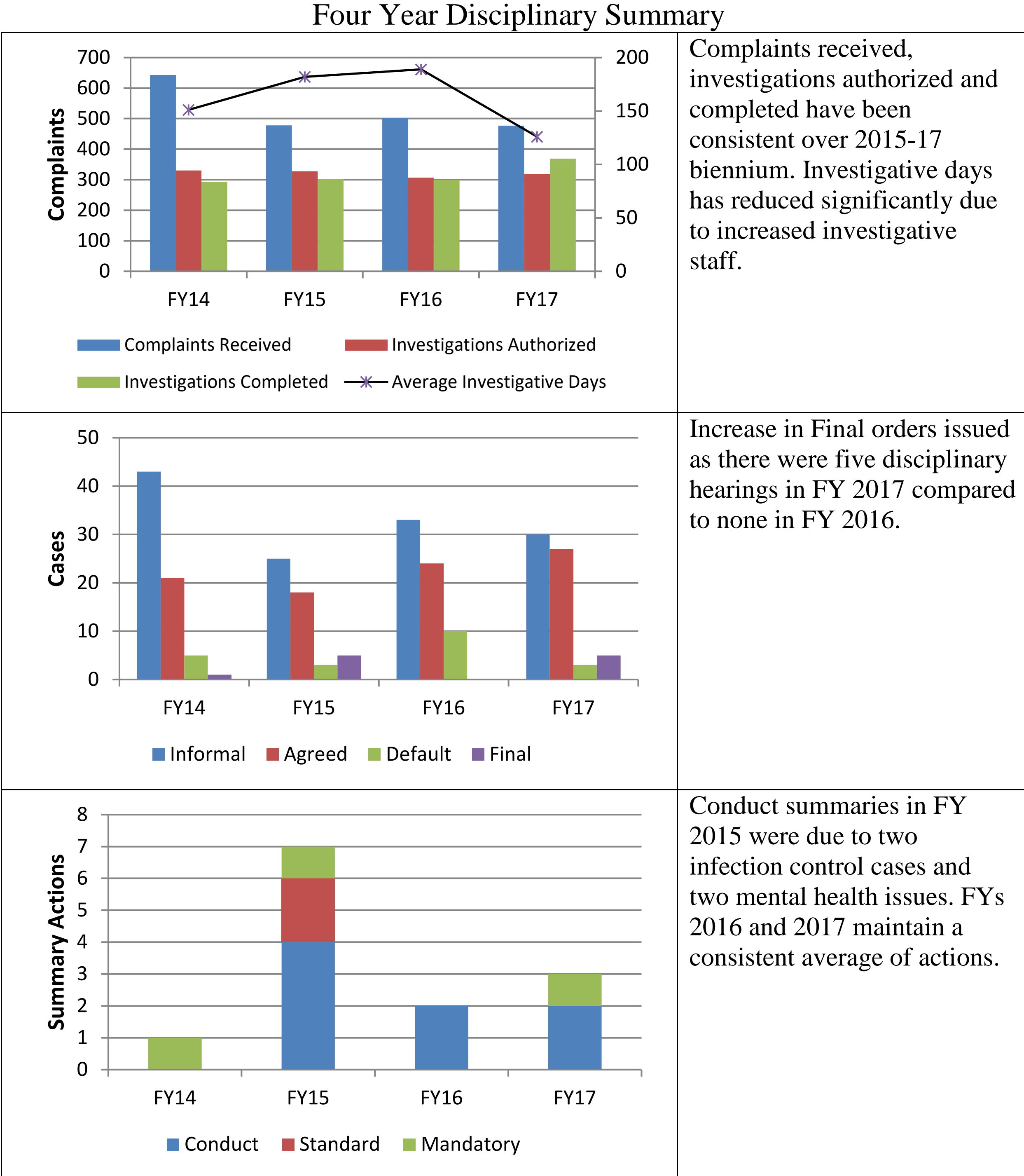
- Created 8 new rules
  - Temporary practice license for military spouse or registered domestic partners
  - Soliciting new patients through accident reports
  - Early Remediation Program (3 new rules)
    - A new avenue to remediate health care providers with complaints that involve minor misconduct or technical errors, and the complaint does not involve patient safety concerns. Remediation plan sanctions can include education or training, but cannot include restrictions, suspension or revocation. Currently, the commission's options are to issue a Stipulation to Informal Disposition (STID), a formal Statement of Charges (SOC), or close the case.
  - Independent Chiropractic Examination (3 new rules)

- Fee reduction effective January 1, 2016 to include:
  - Chiropractic application fee was $530, reduced to $380
  - Separated the jurisprudence examination fee of $100 from the initial application fee to be able to charge applicants for reexaminations and in disciplinary related matters.
  - Chiropractic license renewal fee was $482, reduced to $432
  - Chiropractic late renewal penalty was $302, reduced to $216

- Fee reduction effective August 1, 2017 to include:
  - Chiropractic application fee was $380, reduced to $330
  - Chiropractic license renewal fee was $432, reduced to $380
  - Chiropractic late renewal penalty was $216, reduced to $190

Dental Quality Assurance Commission

The Dental Quality Assurance Commission protects the public by credentialing and disciplining dentists, expanded function dental auxiliaries, dental assistants, and dental anesthesia assistants. The commission regulates the professions by developing rules, policies, and guidelines.
The governor appoints 16 commission members — 12 dentists, 2 expanded-function dental auxiliaries, and 2 public members. All serve four-year terms.



Complaints received, investigations authorized and completed have been consistent over 2015-17 biennium. Investigative days has reduced significantly due to increased investigative staff.

Increase in Final orders issued as there were five disciplinary hearings in FY 2017 compared to none in FY 2016.

Conduct summaries in FY 2015 were due to two infection control cases and two mental health issues. FYs 2016 and 2017 maintain a consistent average of actions.

Rulemaking and Policy Activity

Legislation

The Dental Quality Assurance Commission (commission) evaluated 20 legislative bills in FY 2017 and 14 legislative bills in FY 2016. The commission is implementing four of the five legislative bills that passed in FY 2017.

Engrossed Substitute House Bill 1427 – Opioids – Prescribing – Monitoring – Treatment.
The bill directs the following five boards and commissions to adopt rules establishing requirements for prescribing opioid drugs for seven health professions:

- Podiatric Medical Board
- Dental Quality Assurance Commission
- Board of Osteopathic Medicine and Surgery
- Medical Quality Assurance Commission
- Nursing Care Quality Assurance Commission

The bill allows exemptions based on education, training, amount of opioids prescribed, patient panel, and practice environment. The bill also requires the boards and commissions to consider the agency medical directors' group and the centers for disease control guidelines, and to work in consultation with the department of health, the University of Washington, and the professional associations for each health profession

Substitute House Bill 1411 – Licensure by residency in lieu of examination.
The bill modified RCW 18.32.040 (3)(c) by changing the dentist license eligibility by residency in lieu of examination from approved community based residencies to all Commission on Dental Accreditation (CODA) general practice residency, advanced education in general dentistry residency, and pediatric residency programs. The commission is proposing rule amendments to delete "approved by or administered under the direction of DQAC" in amended WAC 246-817-110, 160, and 220 and repeal WAC 246-817-155 as is it no longer necessary.

Substitute Senate Bill 5322 – Dentist and third parties.
The bill amends RCW 18.32.675 to allow unlicensed persons or entities to own or lease assets (excluding patient records), employ non-credentialed staff, provide business support, and receive fees for the services provided from the dentist owner. The bill also adds two new sections to chapter 18.32 RCW to set parameters for dentists and persons not licensed as dentists:

- Setting requirements to prevent interference by persons not licensed as a dentist with identified clinical decisions;
- Setting requirements for dentists related to preventing patient abandonment.

Engrossed Second Substitute House Bill 1612 – Suicide prevention education.

The bill amends RCW 43.70.442 directing the commission to adopt rules to establish a one-time continuing education and training requirement for dentists on suicide prevention education. The commission may determine in rule three or six hour requirement for suicide prevention education to include assessment of issues related to imminent harm by lethal means. RCW 43.70.442 directs members of several healthcare professions to complete suicide prevention training. Some professions may complete the training one time, while others must complete training every six years. Trainings must meet minimum requirements in the law, and must be from a "model list" of suicide prevention trainings maintained by the department.

Substitute Senate Bill 5079 Dental health services in tribal settings.

This bill authorizes dental health aide therapist services provided by Indian tribes and tribal organizations at tribal reservation clinics. The bill requires these dental health aide therapists would be certified by a federal community health aide program certification board or by a federally recognized Indian tribe with certification standards that are federally equivalent. The bill requires that the Health Care Authority (HCA) coordinate with the Centers for Medicare and Medicaid Services (CMS) to ensure dental health aide therapist services are eligible for federal funding.

Rules and Policies

The commission is considering amendments to WAC 246-817-440 to clarify existing continuing education (CE) requirements. Amendments will clarify appropriate CE subject matter, minimum/maximum number of hours in specified subject matter, methods to obtain CE including web-based options, determine if hours in ethics will be mandatory, consider continued competency mechanisms, and standard housekeeping.

The commission is considering amendments to WAC 246-817-601, 610, 620, and 630 for infection control. The commission has determined current dental infection control standards may be outdated and amendments are necessary to ensure standards are followed to prevent disease transmission in oral healthcare.

The commission is considering amendments to WAC 246-817-120 to clarify that a complete clinical examination from one organization is required for dentist licensure. Additionally, the commission approved Canada's OSCE examination as acceptable for state licensure clinical examination.

The commission is considering an interpretive statement for Dentist Standard of Care-Radiographs. The commission is frequently asked by patients and dentists whether radiographs are required to be taken as part of a dental examination. An interpretive statement will provide guidance to dentists regarding the use of radiographs as part of a dental examination.

The commission's Dental Collaboration Committee has been discussing adoption of a teledentistry guideline. The commission is developing a guideline to describe how teledentistry is to be defined, supervised, regulated and disciplined by the commission consistent with existing statutes governing the practice of dentistry within the state of Washington.

The commission completed and implemented the following rule amendments:

- WAC 246-817-760 Moderate sedation with parenteral agents. The commission finalized rule amendments to WAC 246-817-760 to include specific requirements and exceptions for dentists when sedating pediatric patients consistent with the American Academy of Pediatric Dentists 2011 "Guideline for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures." April 2017.

- WAC's 246-817-510, 520, 525, 540, and 545 Dentists delegation to dental assistants and expanded function dental auxiliaries. The commission finalized rule amendments to these delegations to clarify tasks and eliminate confusion. March 2017.

- WAC 246-817-550 and 560 Dentist delegation to dental hygienists. The commission finalized rule amendments to WAC 246-817-550 and 560 to update the listing of allowable duties a dentist may delegate to a licensed dental hygienist under general and close supervision. The Dental Hygiene Examining Committee (hygiene committee) requested the Dental Quality Assurance Commission (commission) to move specific tasks from close supervision to general supervision and add new tasks for dental hygienists. Specifically, administration of local anesthetic agents was added to allowable delegation under general supervision when certain patient conditions have been met. January 2017.

- WAC 246-817-340 Recording requirement for all prescription drugs - Repealed. The commission implemented new rule WAC 246-817-305 on April 17, 2016. WAC 246-817-305 (3)(i)(i) through (iv) duplicates all requirements listed in WAC 246-817-340. October 2016.

- WAC 246-817-160 Graduates of non-accredited dental schools. The adopted rule ensures clinical education is obtained and to specifically identify when examination eligibility can be met. September 2016.

- WAC's 246-817-130, 135, and 140 License without examination requirements. The adopted rule provides all license requirements in a single rule to eliminate confusion with the current three rules. Additionally, the adopted rule defines "state", "currently engaged in the practice of dentistry", removes the unnecessary requirements, and adds two standard licensure requirements. August 2016.

- WAC 246-817-110 and 246-817-150 – The commission removed the notarization requirement on applications authorized by 2015 Engrossed Substitute Senate Bill 5810. February 2016.

- WAC 246-817-740, 745, 755, 760, and 772 – The commission updated the monitoring and equipment requirements to align with the American Dental Association (ADA), the American Association of Oral and Maxillofacial Surgeons (AAOMS), and the American

Society of Anesthesiology (ASA) national standards currently being used by dentists. March 2016.

- WAC 246-817-310, Maintenance and Retention of Records – The commission updated the retention requirements and created new sections, WAC 246-817-304, 305, and 315 to provide clarity in what should be contained in dental records. Treatment record requirements are necessary to evaluate standard of care for treatment provided. March 2016.

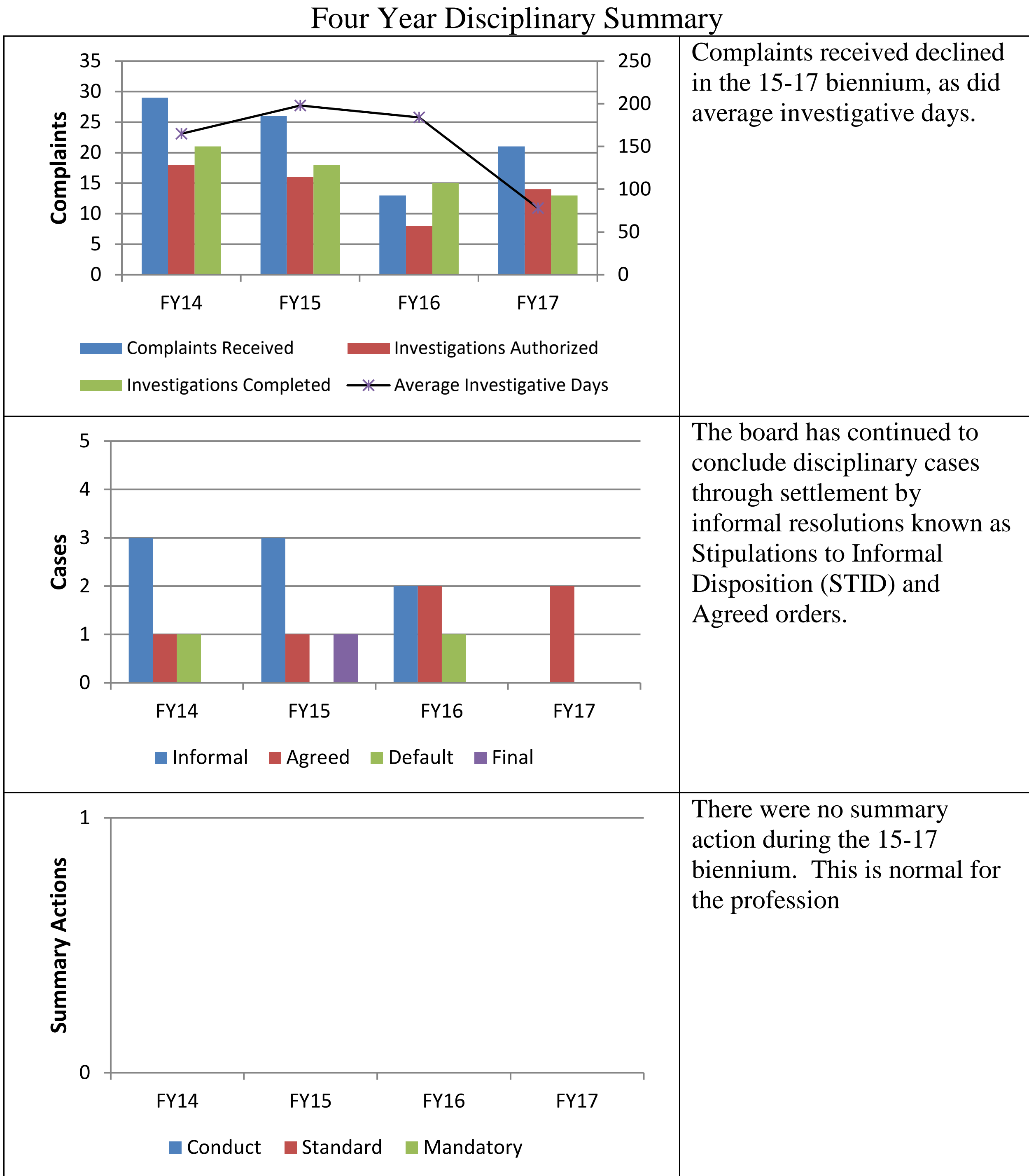
Budget

A preliminary positive fund balance for May 31, 2017 of $4,002,532 from a beginning balance of $4,467,765 on July 1, 2015.

Board of Denturists

The Board of Denturists protects the public by examining, credentialing and disciplining Denturists. The board regulates the profession by developing rules, policies, and guidelines. The secretary appoints 7 board members – 4 denturists, 1 dentist and 2 public members. Neither public member may be affiliated with a health care profession or facility. At least one of the public members must be over the age of 65 representing the senior population.

Four Year Disciplinary Summary



Complaints received declined in the 15-17 biennium, as did average investigative days.

The board has continued to conclude disciplinary cases through settlement by informal resolutions known as Stipulations to Informal Disposition (STID) and Agreed orders.

There were no summary action during the 15-17 biennium. This is normal for the profession

Rulemaking and Policy Activity

Legislation

There has been no legislation passed that affects the Denturist profession.

Rules and Policies

The board did not work on any rules and/or policies in the 15-17 biennium.

The board schedules two practical (clinical) exams a year however they require a minimum of five applicants in order to administer the practical exams. From July 1, 2015 through July 30, 2017, the board administered three practical exams and staff administered six written (computerized) exams.

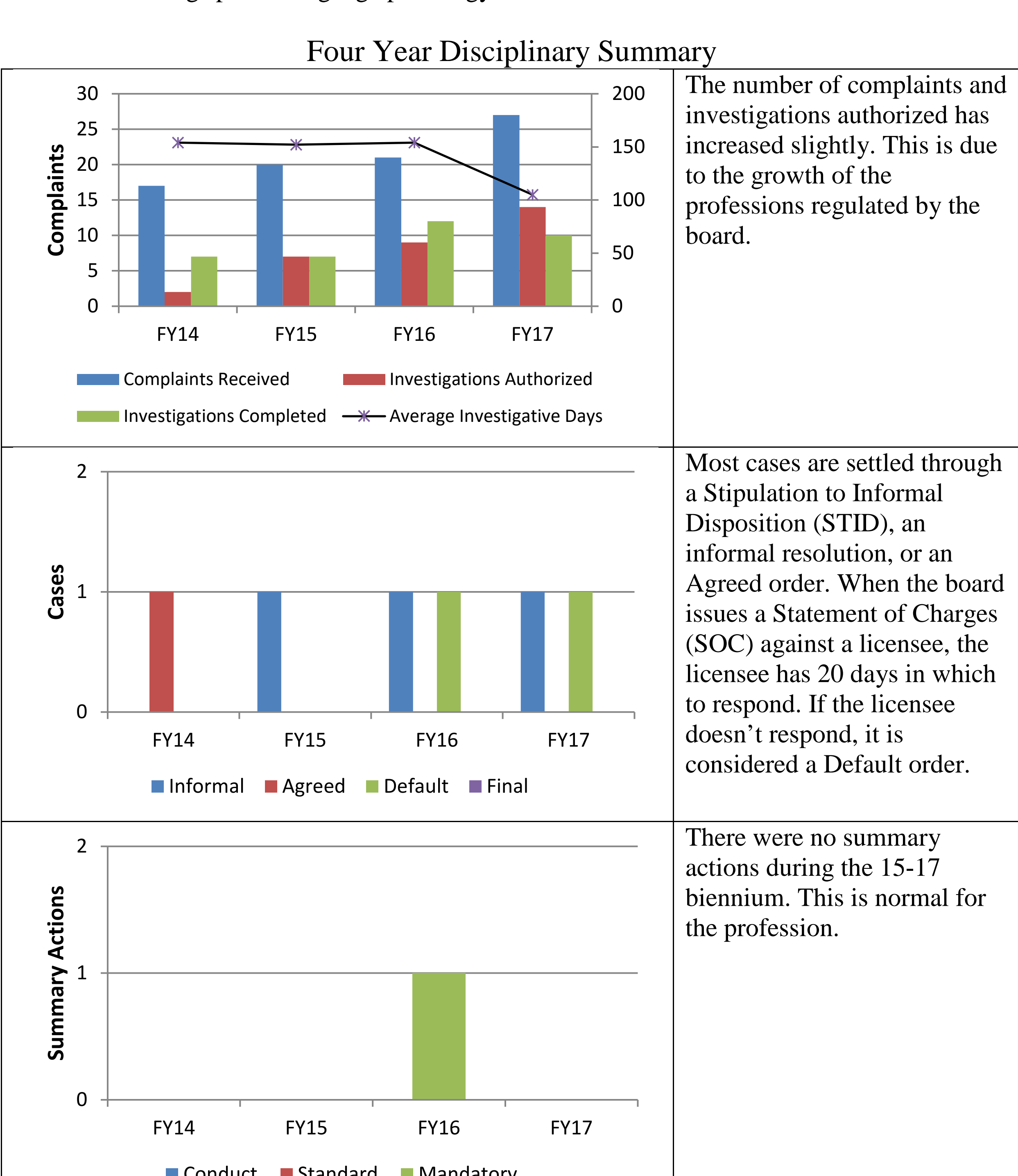
The graph below depicts a five-year exam summary based on a fiscal year.

Fiscal Year	# of applicants for written exam	# passing written exam	# of applicants for practical exam	# passing practical exam
2013	4	4	0	0
2014	18	16	17	14
2015	7	7	8	7
2016	1	1	0	0
2017	14	14	14	11

Board of Hearing and Speech

The Board of Hearing and Speech protects the public by credentialing and disciplining hearing and speech professions and by developing rules, policies, and guidelines regulating the practice of audiologists, hearing aid specialists, speech-language pathologists, and speech-language pathology assistants. The governor appoints 11 board members to serve three-year terms. The board consists of two audiologists, two hearing aid specialists, two speech-language pathologists, three public members, one advisory medical physician, and one non-voting speech-language pathology assistant.

Four Year Disciplinary Summary



The number of complaints and investigations authorized has increased slightly. This is due to the growth of the professions regulated by the board.

Most cases are settled through a Stipulation to Informal Disposition (STID), an informal resolution, or an Agreed order. When the board issues a Statement of Charges (SOC) against a licensee, the licensee has 20 days in which to respond. If the licensee doesn't respond, it is considered a Default order.

There were no summary actions during the 15-17 biennium. This is normal for the profession.

Rulemaking and Policy Activity

Legislation

There was no legislation that passed during the 15-17 biennium that required action by the board.

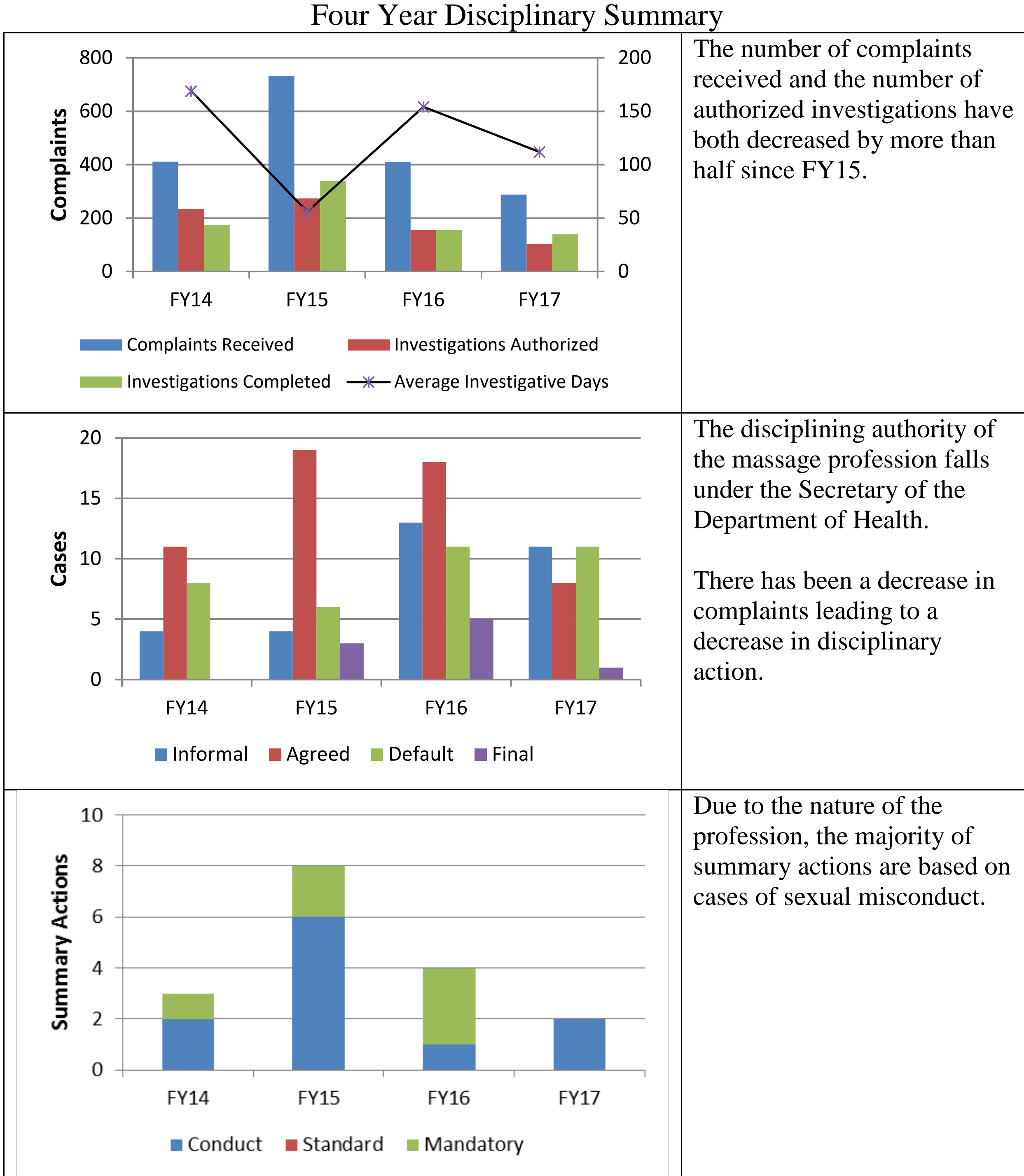
Rules and Policies

The board is currently clarifying rules to make minor updates.

Board of Massage

The Board of Massage protects the public's health and safety by regulating the competency and quality of licensed massage therapists. The governor appoints 4 massage therapists and 1 public member to four-year terms. The professional members must have at least three years of experience as a massage practitioner immediately preceding appointment. The public member cannot be an employee of the state or a present or former member of another licensing board.

Four Year Disciplinary Summary



The number of complaints received and the number of authorized investigations have both decreased by more than half since FY15.

The disciplining authority of the massage profession falls under the Secretary of the Department of Health.

There has been a decrease in complaints leading to a decrease in disciplinary action.

Due to the nature of the profession, the majority of summary actions are based on cases of sexual misconduct.

Rulemaking and Policy Activity

Legislation

SHB 1189 Concerning exemptions from the massage therapy law, passed in the 2017 legislative session. The bill amended RCW 18.108.050 Exemptions, to add a definition of the term "somatic education," and exempts practitioners of ortho-bionomy and the Feldenkrais method of somatic education from a massage license.

Rules and Policies

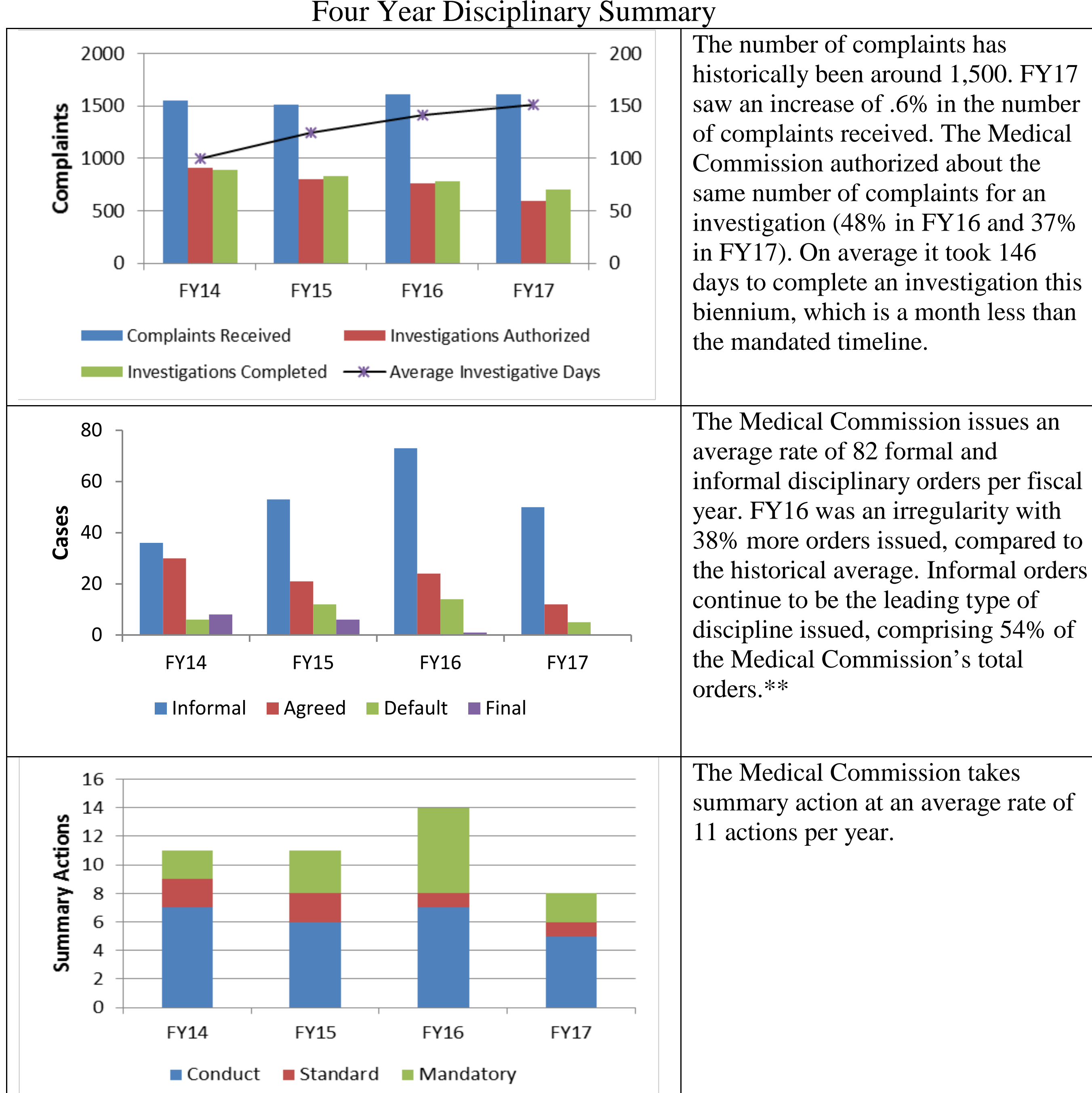
The Board of Massage wrapped up a three year rulemaking process and the new rules became effective July 30, 2017. The new rules added to the chapter include draping, recordkeeping, breast massage, and standard of practice limitations. The board also adopted a rule regarding transfer of training hours in response to HB 2781 and codified as RCW 18.108.028.

The board granted a rules petition on July 7, 2017 to open up thirteen sections of the chapter.

Medical Quality Assurance Commission

The Medical Quality Assurance Commission ("Medical Commission" or MQAC) promotes patient safety and enhances the integrity of the profession through licensing, discipline, rule making, and education. The Governor appoints 21 commission members to four-year terms: thirteen physicians, two physician assistants and six public members to pursue work furthering the Governor's goal of healthy and safe communities.

Four Year Disciplinary Summary



The number of complaints has historically been around 1,500. FY17 saw an increase of .6% in the number of complaints received. The Medical Commission authorized about the same number of complaints for an investigation (48% in FY16 and 37% in FY17). On average it took 146 days to complete an investigation this biennium, which is a month less than the mandated timeline.

The Medical Commission issues an average rate of 82 formal and informal disciplinary orders per fiscal year. FY16 was an irregularity with 38% more orders issued, compared to the historical average. Informal orders continue to be the leading type of discipline issued, comprising 54% of the Medical Commission's total orders.**

The Medical Commission takes summary action at an average rate of 11 actions per year.

** The number and type of disciplinary orders presented in this supplemental report do not match the numbers reported in tables 11 and 12 of the UDA report. This is a result of the Medical Commission tracking disciplinary orders based on a respondent, rather than a complaint.

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Rulemaking and Policy Activity

Legislation

Budget Decision Package: MQAC Discipline Enhancement: The Medical Commission was granted additional spending authority for the purpose of addressing growing discipline costs related to expert witness and prosecution functions.
Interstate Medical Licensure Compact (HB 1337): Creates a new process to expedite licensing for highly qualified physicians interested in practicing in multiple states at a time of physician shortages. Passed in the house 94-3 and passed in the Senate 49-0. Signed by the Governor on May 5, 2017. Implementation efforts are underway and the Medical Commission should be able to issue first licenses by the end of September, 2017.
Physician Limited Licenses (SB 5413): This bill amends physician limited license laws to update two commission license types and provides technical fixes to existing language. The bill amends language that cites the University of Washington as the sole medical program in Washington and removes the two year limitation on fellowship licenses. Passed in the Senate 49-0 and passed in the house 91-6. Governor signed on April 17, 2017. Effective July 23, 2017.

Rules and Policies

Policies

The Medical Commission has issued or revised the following policies, procedures and guidelines.

GUI2017-03	Revised	Sexual Misconduct
GUI2017-02	Revised	Retention of Medical Records
DUI2017-01	New	Death Certificate Guidelines
MD2016-04	New	Communication Guidelines
MD2016-03	New	Processing Complaints Against Licensees Enrolled in WPHP
GUI2016-02	New	Communicating Test Results to Patients
GUI2016-01	New	Simultaneous and Overlapping Elective Surgeries
MD2016-01-IS	New	Continuing Medical Education Requirement for Physicians with Retired Active Licenses
PRO2017-08	Revised	Complainant Request for Reconsideration - Closed Cases
PRO2017-07	Revised	Delegation of Signature Authority
PRO2017-06	Revised	Newsletter Review
PRO2017-05	Revised	Impact Statement
PRO2017-04	New	Panel Composition
PRO2017-03	New	Policy Development
PRO2017-02	Revised	Referral of Sexual Misconduct Cases
PRO2017-01	New	Sexual Misconduct Analysis Review Team
MD2016-06	New	Pro Tem Appointments Procedure
MD2016-02	Revised	Compensation for Commission Duties

SMART Policy

In an effort to bring expertise to every area of regulatory decision-making, the Medical Commission initiated the Sexual Misconduct Analysis Review Team policy. This requires clinical and public members of the Commission to receive specialized training on sexual assault victim interview training and defines the roles and gender of Reviewing Commission Members assigned to complaints involving sexual misconduct allegations containing clinical elements. The new

policy further defines the panel composition of an administrative hearing involving allegations of sexual misconduct.

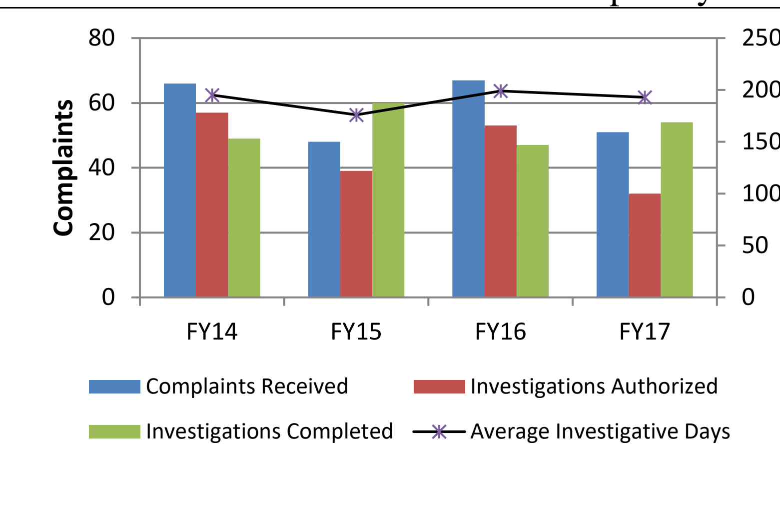
Rulemaking

Suicide Prevention: The Medical Commission revised physician and physician assistant rules to incorporate the mandatory training in suicide assessment, treatment and management. The adopted new rule implements provisions of RCW 43.70.442 that require allopathic physicians and physician assistants (among other professions) to complete training in suicide assessment, treatment, and management. The adopted rule also incorporates an allowance for the Medical Commission to define licensed allopathic physicians and physician assistants who are exempt from the training. Adopted 1/13/2017.

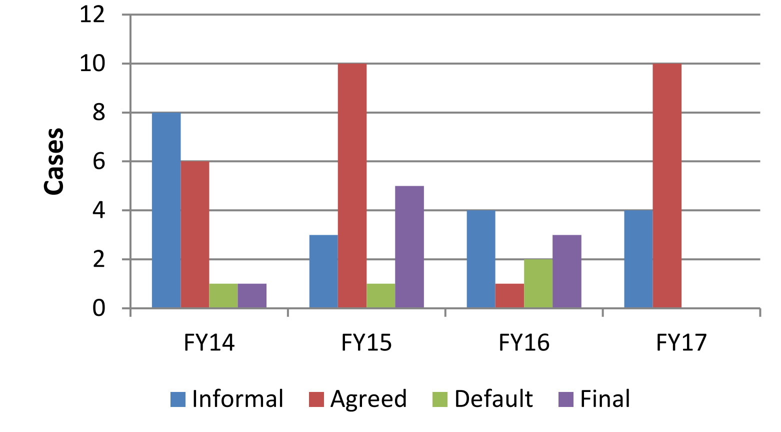
Maintenance of Licensure: The Medical Commission amended rules and adopted a new section of rule regarding license renewal and continuing medical education (CME) requirements to ensure continuing competency for allopathic physicians. Physicians licensed with the Medical Commission now have four options for satisfying their four year CME requirements. Adopted 5/11/2016.

Board of Naturopathy

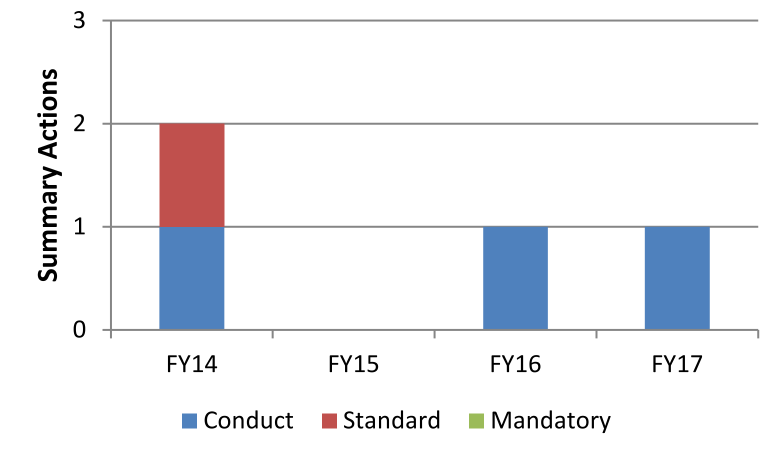
The Board of Naturopathy (board) protects public health, enhances patient safety, and fosters the integrity of the naturopathic physician profession through licensing, disciplinary action, rulemaking, and education. The governor appoints 7 board members – 5 naturopathic physicians and 2 public members. Neither public member may be affiliated with a health care profession or facility.



There was a significant increase in the number of complaints received during the last biennium. It appears that the number received has leveled off and seems to have remained fairly consistent during the last four years. The average number of days to complete an investigation has remained consistent.



The increased number of actions are due to the settling and completion of the sharp increase in complaints that were received in the last biennium. There were a few final hearings but most were generally settled with either a Stipulation to Informal Disposition (STID) or an Agreed order.



The board issued four summary actions this biennium. The board has the ability to issue summary suspensions and/or restrictions if they feel that there is immediate risk to the public.

Rulemaking and Policy Activity

Legislation

The Washington Association of Naturopathic Physicians (WANP) introduced Senate Bill 5369 during the 2017 legislative session that, if passed, would have increased the prescribing authority for naturopathic physicians and changed the definition of "minor office procedures" to that which would be developed by the board in rule. The bill did not get voted out of the senate rules committee. The board supported this bill, has encouraged WANP to run the bill again in the 2018 session, and will support those efforts.

Rules and Policies

- The board amended WAC 246-836-080 to address the one-time, six-hour requirement for naturopathic physicians to obtain training in suicide assessment, treatment, and management as determined by Engrossed Substitute House Bill 2315 (Laws of 2014) and updated by Engrossed Substitute House Bill 1424 (Laws of 2015). This rule became effective March 20, 2016.

- The board is considering modification to WACs 246-836-010 and 210 to clarify the types of nonsurgical cosmetic procedures that may or may not be performed by naturopathic physicians.

- The board is considering modifications to WACs 246-836-080 to clarify acceptable continuing education (CE) by identifying approved providers and providing additional ways for naturopathic physicians to satisfy the requirements, such as allowing a portion to be fulfilled through courses relevant to other health professions. The proposed modifications would also change the CE reporting cycle, with a corresponding increase in the required number of hours.

- The board is adding WACs 246-836-700 to establish the process and criteria for temporary practice permits for military spouses or state-registered domestic partner applicants. This rule project is to implement Engrossed Substitute Senate Bill 5969 (laws of 2011) that directs state agencies to reduce the impact of relocation to military families by reducing the time to obtain professional licenses and to authorize temporary practice permits.

- The board is considering repealing WACs 246-836-330, -340, -350, -360, -370, -380, and -390. These rule sections are redundant to the mandatory reporting requirements in RCW 18.130.070 and chapter 246-16 WAC.

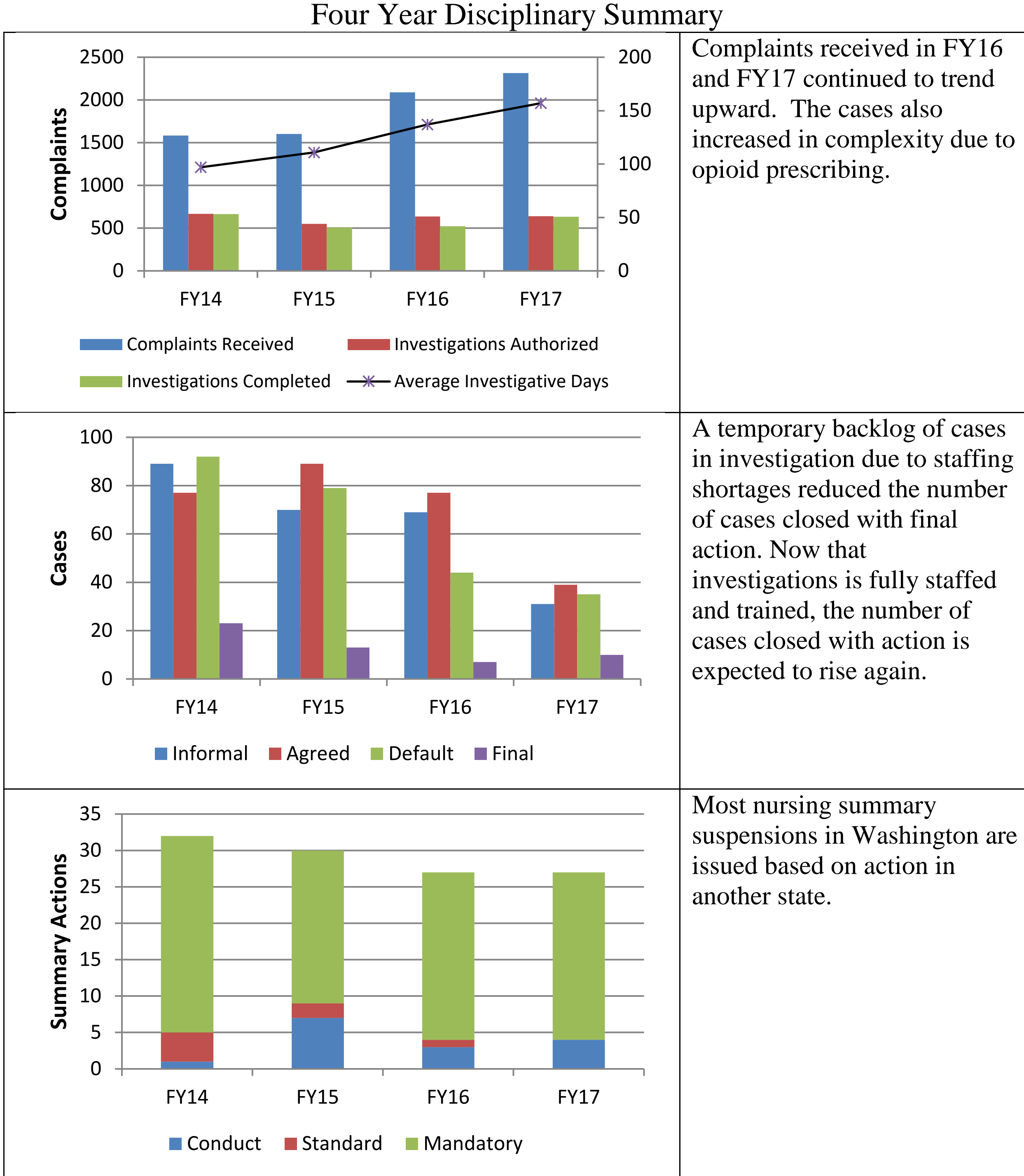
- The board is considering modification to WACs 246-836-150 to streamline the process for nationally accredited colleges of naturopathic medicine to maintain board approval.

- The board adopted professional practice standard guidelines for licensed naturopathic physicians who authorize medical marijuana under Washington State law. The guidelines were the result of the board's participation in a workgroup directed to create the shared guidelines with the Medical Quality Assurance Commission, Nursing Care Quality Assurance Commission, and the Board of Osteopathic Medicine and Surgery. The board is considering adopting the professional practice standards in rule.

Nursing Care Quality Assurance Commission

The Nursing Care Quality Assurance Commission (NCQAC) protects the public's health and safety by regulating the competency and quality of licensed practical nurses, registered nurses, advanced registered nurse practitioners, and nursing technicians. The purpose of the NCQAC includes establishing, monitoring, and enforcing licensing, consistent standards of practice, continuing competency mechanisms, and discipline. The Governor appoints 15 commission members to four-year terms: three licensed practical nurses, seven registered nurses, two advanced registered nurse practitioners, and three public members.

Four Year Disciplinary Summary



Complaints received in FY16 and FY17 continued to trend upward. The cases also increased in complexity due to opioid prescribing.

A temporary backlog of cases in investigation due to staffing shortages reduced the number of cases closed with final action. Now that investigations is fully staffed and trained, the number of cases closed with action is expected to rise again.

Most nursing summary suspensions in Washington are issued based on action in another state.

Washington Health Professional Services (WHPS)
2015–17 Biennium

Profession	Total Mandated	Total Voluntary	Total Enrolled in Biennium	Successful Completions
Registered Nurse	266	19	285	96
Licensed Practical Nurse	28	1	29	15
Advanced Registered Nurse Practitioner	10	2	12	8
Certified Registered Nurse Anesthetist	1	0	1	3

Nursing Education

The NCQAC approves and reviews all nursing education programs in the state of Washington and out-of-state distance learning programs that have clinical practice experiences. This includes nursing assistant training programs, alternative nursing assistant training programs, refresher courses, professional vocational relationship courses, undergraduate and graduate nursing education programs.

The total number of nursing education programs (746) includes:

- In-state
  - 8 LPN
  - 27 ADN
  - 11 BSN
  - 15 RNB
  - 51 Post BSN Programs
  - 8 Refresher Course Programs
  - 2 Professional Vocational Relationship Courses

- Out-of-state programs/tracks
  - 20 RN to BSN
  - 2 LPN to BSN
  - 411 Other graduate and undergraduate tracks

- In-state
  - 181 Traditional Nursing Assistant (NA) programs
  - 15 Home Care Aide to NA programs
  - 9 Medication Assistant to NA programs
  - 4 Medication Assistant-Certified training programs

Rulemaking and Policy Activity

Legislation

Engrossed Substitute House Bill 1427 Concerning opioid treatment programs.
The legislation requires that the Nursing Commission and other disciplining authorities who oversee prescribing professionals to write rules. The rules must establish standards for prescription of opioid drugs. The rules must consider the Agency Medical Directors' Group and the Centers for Disease Control Guidelines when writing the rules. The legislation allows the Nursing Commission to consult with the Department of Health, ARNPS United of Washington, and Washington Association of Nurse Anesthetists when writing the rules. The Nursing Commission is working on coordinated rule writing with other disciplining authorities.

House Bill 1721 Concerning obtaining required clinical experience for licensed practical nurses who complete a nontraditional registered nurse program.
The legislation repealed the statute in the 2017 legislative session regarding the non-traditional nursing education programs and the requirements to complete supervised practice. Non-traditional education programs are schools with "a curriculum which does not include a faculty supervised teaching and learning component in clinical settings." The Nursing Commission is currently working on rule writing to implement the legislation.

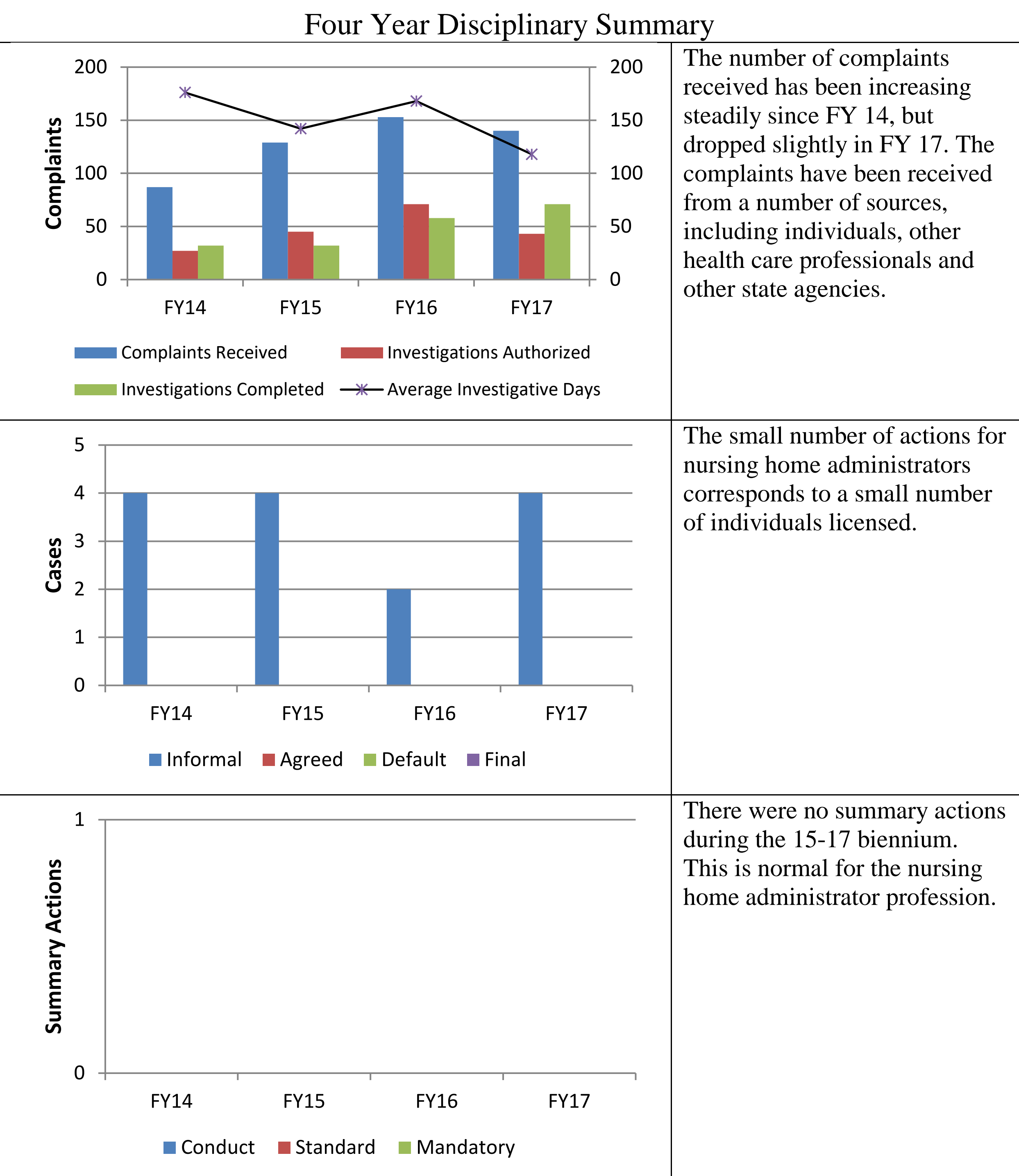
Rules and Policies

Rule Sections	**Title**	**Status**
WAC 246-840-010, WAC 246-840-020, WAC 246-840-300 through WAC 246-840-420	Clinical Nurse Specialist	Effective April 30, 2016
WAC 246-840-302	Clinical Nurse Specialist	Effective July 18, 2016.
WAC 246-840-045, 246-840-090, 246-840-130, 246-840-455, and 246-840-500 through 246-840-575	Nursing Education	Effective September 17, 2016
WAC 246-841 & WAC 246-842	Nursing Assistants	The commission will be vacating the CR 101 and will not pursue rules at this time.
WAC 246-840-730, WAC 246-840-750 –WAC 246-840-780.	Substance Use and Mandatory Reporting	Effective June 24, 2017
WAC 246-840-015	Demographic Data	In Process
WAC 246-840-095	Temporary Practice Permits	In Process
WAC 246-840-048, WAC 246-840-XXX	Interim-Practice Permits	In Process
WAC 246-840-035	Non-Traditional Programs	In Process
WAC 246-840	Opioid Prescribing Rules	In Process

Board of Nursing Home Administrators

The mission and purpose of the Board of Nursing Home Administrators is to protect the health of the people of Washington through the proper licensing of nursing home administrators, and through the objective enforcement of the nursing home administrators practice act or other laws governing the professional behavior of its licensees. The board consists of 4 licensed nursing home administrators, 4 health care professionals and 1 public member, all of which serve five-year terms.

Four Year Disciplinary Summary



The number of complaints received has been increasing steadily since FY 14, but dropped slightly in FY 17. The complaints have been received from a number of sources, including individuals, other health care professionals and other state agencies.

The small number of actions for nursing home administrators corresponds to a small number of individuals licensed.

There were no summary actions during the 15-17 biennium. This is normal for the nursing home administrator profession.

Rulemaking and Policy Activity

Rules and Policies

The Board of Nursing Home Administrators revised rules and they went into effect September, 2016. Changes in the rules focused on continuing education requirements, the administrator in training (AIT) process, qualification requirements for consideration of any reduction in the AIT program. Most notably, the board included recognition of military service and military training in coursework as considerations.

The board also focused on providing training regarding the board's work for their constituency. Board members have presented at association meetings and new administrator training classes.

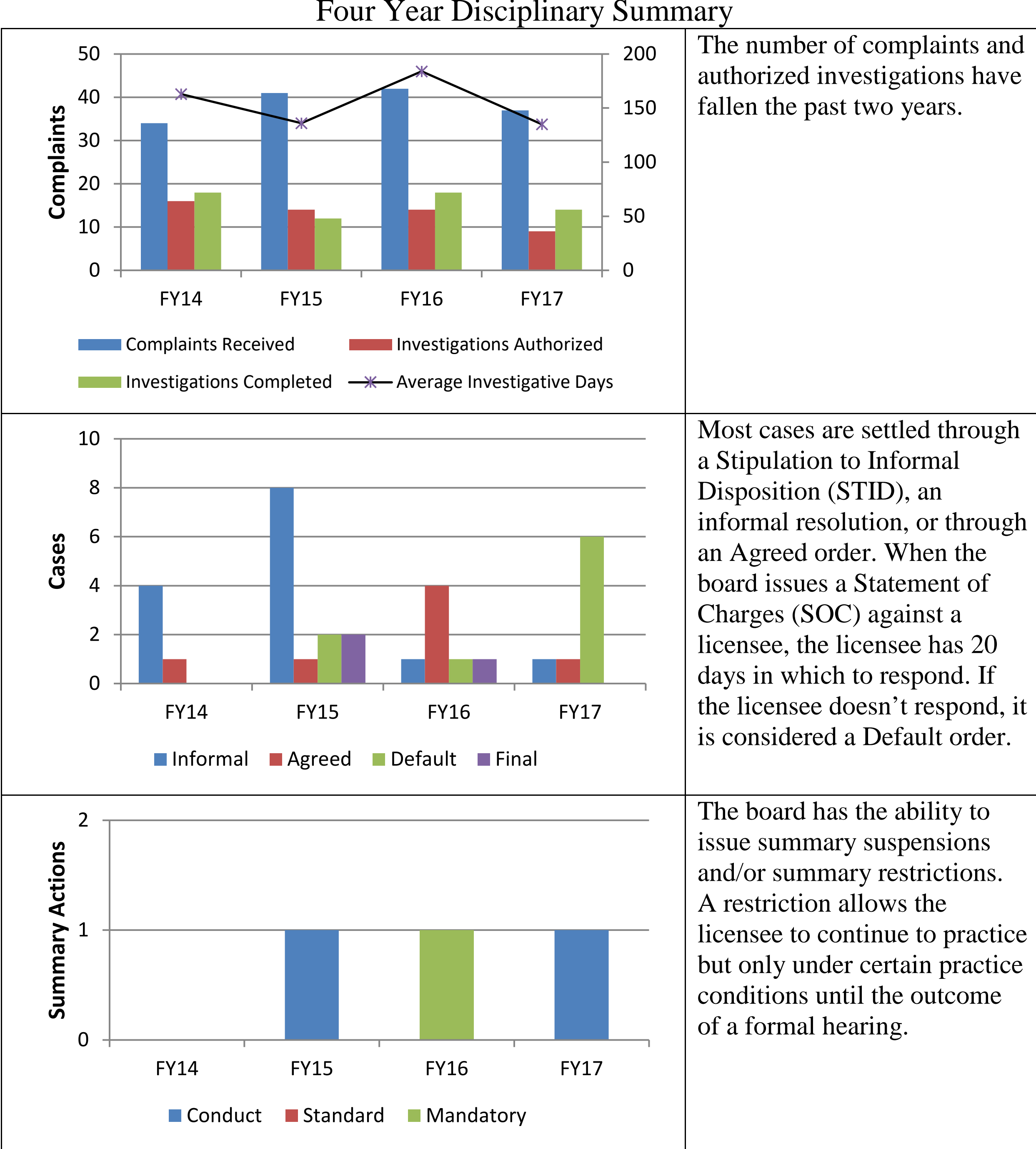
The board also provided technical assistance to Eastern Washington University (EWU) in their endeavor to be accredited by the National Association of Long-Term Care Administrator Boards (NAB.) In June of this year, at NAB's annual meeting, EWU received a certificate of accreditation through 2022.

The Board also began work in this biennium that will continue into the 2017-19 biennium, including development of an on-line newsletter and opening rules to allow applicants to use NAB's new health services executive as another option to meet licensure requirements. The board will also continue to look at ways to deal with increasing complaints, including complaints coming from the continuum of care environments that comprise assisted living facilities, adult family homes and home based services.

Board of Occupational Therapy Practice

The mandate of the Occupational Therapy Practice Board is to protect the public's health and safety and to promote the welfare of the state by regulating the competency and quality of professional healthcare providers under its jurisdiction. The board accomplishes this mandate through a variety of activities working with the Department of Health, Health Systems Quality Assurance division. The board is made up of 3 occupational therapists, 1 occupational therapist assistant and 1 public member appointed by the governor. The professional members must have been in active practice in occupational therapy for at least five years immediately preceding appointment. All members must be residents of Washington State.

Four Year Disciplinary Summary



The number of complaints and authorized investigations have fallen the past two years.

Most cases are settled through a Stipulation to Informal Disposition (STID), an informal resolution, or through an Agreed order. When the board issues a Statement of Charges (SOC) against a licensee, the licensee has 20 days in which to respond. If the licensee doesn't respond, it is considered a Default order.

The board has the ability to issue summary suspensions and/or summary restrictions. A restriction allows the licensee to continue to practice but only under certain practice conditions until the outcome of a formal hearing.

Rulemaking and Policy Activity

Legislation

Legislation was passed in 2016 that requires training on suicide prevention for occupational therapists and occupational therapy assistants to be taken from the model list of approved programs as listed on the department's website. The Board of Occupational Therapy Practice developed rules to implement the legislation. The training may be counted toward the licensee's continuing education requirement.

Rules and Policies

In 2014, the board began working on various parts of the chapter that were opened in 2008, prior to the rules moratorium of 2010. Once the board started reviewing the opened rule sections and proposed draft language, the board decided to withdraw the 2008 CR 101 form and start a new form to reflect current board members. The board is proposing to modify the Occupational Therapy chapter by amending, repealing and adding new sections that will:

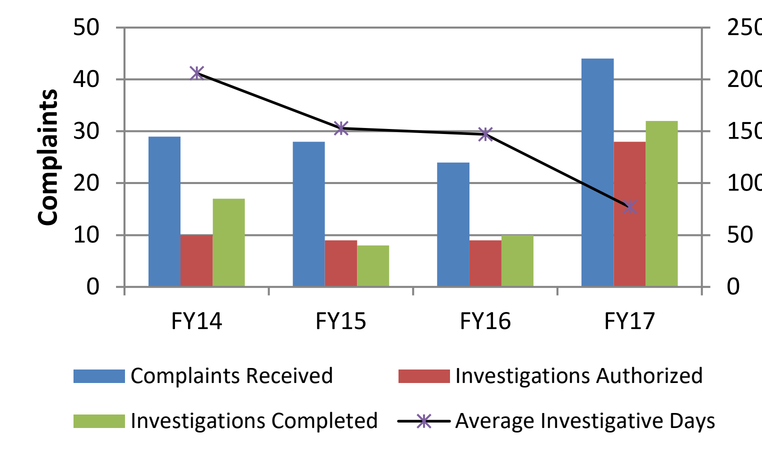
- Establish rules on telehealth and military equivalency;
- Revise definitions, continuing education, and licensing requirements;
- Revise requirements for applicants that have not recently practiced;
- Repeal redundant language regarding consulting capacity of practitioners; and
- Add language to sections on professional conduct and sexual misconduct.

Board of Optometry

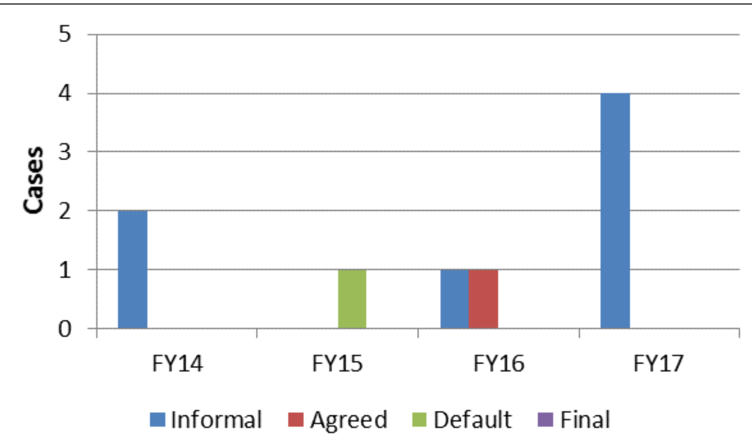
The Board of Optometry protects the public by credentialing and disciplining optometrists. The board regulates the profession by developing rules, policies, and guidelines.

The governor appoints six members – five licensed optometrists and one public member – to serve three-year terms.

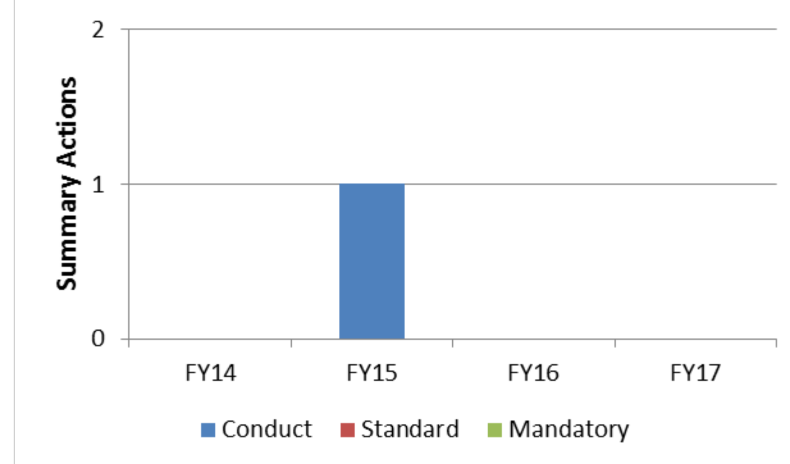
Four Year Disciplinary Summary



The number of complaints has dropped since FY 2014, until FY 2017, when complaints peaked due a single complainant filing reports on behalf of almost 20 complainants. The number of investigations increased due to these complaints. The investigations were performed efficiently, decreasing the average investigative days. The board provided a technical assistance letter to all optometrists relating to the issue that predicated the increase in complaints.



The board has taken few enforcement actions and cases rarely go to hearing. Cases are generally settled through a Stipulation to Informal Disposition (STID), an informal resolution, or through an Agreed order. The uptick in informal enforcement in FY 2017 relates to the complaint issue described above. Both the STID and Agreed order are subject to national data bank reporting.



The board can issue summary (immediate) actions and summary restrictions. A restriction allows the licensee to continue to practice with certain conditions until the outcome of a formal hearing. A mandatory summary action based on orders from other states is required. All of these actions are rare. Over four years, the board has ordered one summary action.

Rulemaking and Policy Activity

Legislation

Substitute Senate Bill 5411
In the 2017 Legislative session, Substitute Senate Bill 5411 was proposed to restrict the use of remote technology that provides patients prescriptions for corrective lenses (other than over-the-counter magnifying lenses) without in-person patient-provider interaction and prescription. The bill do not pass out of the Senate.

Rules and Policies

The following rules were adopted by the Board of Optometry between July 1, 2015 and June 30, 2017:

- **WAC 246-851-090 through WAC 246-851-230 Continuing education rules.** These rules were developed to provide an updated framework for optometrists to follow when selecting continuing education courses. The rule groups continuing course types into five clearly defined categories. These rules also discontinued the board's sponsorship of an annual post-graduate seminar and discontinued the board's case-by-case approval of continuing education courses.

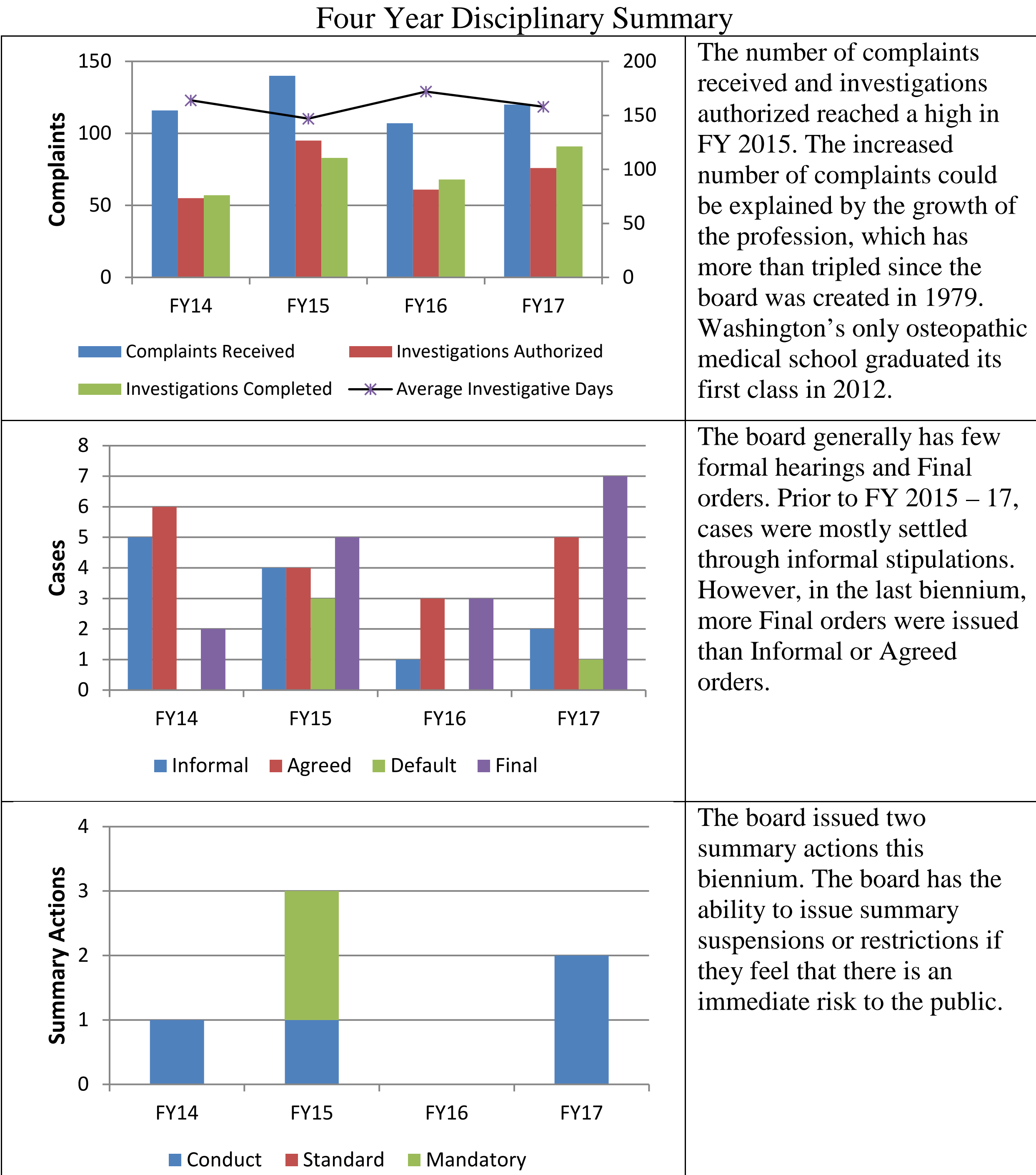
- **WAC 246-851-580 Drug list and WAC 246-851-590 Guidelines for the use of oral Schedule III through V controlled substances and legend drugs.** These rules implemented Substitute Senate Bill (SSB) 5293 (Chapter 113, Laws of 2015), which authorizes optometrists to use, prescribe, dispense, purchase, or possess Schedule II controlled substances that are hydrocodone combination products.

- **WAC 246-851-545 Retired active credential.** This rule added a new section establishing a retired active credential for licensed optometrists.

Board of Osteopathic Medicine and Surgery

The mission and purpose of the Washington State Board of Osteopathic Medicine and Surgery is to protect the health of the people of Washington through the proper licensing of osteopathic physicians and osteopathic physician assistants, and through the objective enforcement of the Osteopathic Medical Practice Act or other laws governing the professional behavior of its licensees. The board consists of 8 practicing osteopathic physicians, 1 practicing osteopathic physician assistant and 2 public members, all of which serve five-year terms.

Four Year Disciplinary Summary



The number of complaints received and investigations authorized reached a high in FY 2015. The increased number of complaints could be explained by the growth of the profession, which has more than tripled since the board was created in 1979. Washington's only osteopathic medical school graduated its first class in 2012.

The board generally has few formal hearings and Final orders. Prior to FY 2015 – 17, cases were mostly settled through informal stipulations. However, in the last biennium, more Final orders were issued than Informal or Agreed orders.

The board issued two summary actions this biennium. The board has the ability to issue summary suspensions or restrictions if they feel that there is an immediate risk to the public.

Rulemaking and Policy Activity

Legislation

House Bill 1431 (2017) Increasing the number of members on the osteopathic board
The Board of Osteopathic Medicine and Surgery (board) currently consists of six licensed osteopathic physicians and one public member. The bill adds two more licensed osteopathic physicians, a licensed osteopathic physician assistant, and one public member, increasing the size of the board from seven members to eleven members. The bill also reclassifies the board as a class five group from a class three group, as defined under chapter 43.03 RCW, increasing board member compensation from $50 a day to $250 a day.

House Bill 1337 (2017) Creating the Interstate medical licensure compact
This bill establishes a process for the issuance of expedited licenses for allopathic and osteopathic physicians who are licensed in a member state to receive a license in another member state. The Interstate Compact is governed by a commission that includes two representative from each member state. A physician must meet specific requirements to be eligible to participate in the compact. Washington is the 20th state to join the medical licensure compact.

House Bill 1427 (2017) Concerning opioids
This bill directs the board, as well as the Dental Quality Assurance Commission, Medical Quality Assurance Commission, Nursing Care Quality Assurance Commission, and Podiatric Medical Board, to adopt rules for prescribing opioids. The boards and commissions must consider the revised Agency Medical Directors Group and Centers for Disease Control guidelines; and consult with their professions' associations, the Department of Health (department), and the University of Washington.

In addition to requiring the boards and commissions to adopt rules for prescribing opioids, the bill:

- Expands access to Prescription Monitoring Program (PMP) data to government, including personnel within the department, the Health Care Authority, and local health offices;
- Authorizes sharing of PMP data with health care facilities and groups of at least five prescribers;
- Allows hospitals to receive PMP data through their continuous quality improvement programs;
- Directs the department to develop an overdose-event letter to be sent to prescribers when these events occur; and
- Requires a feedback reporting mechanism to be created for providers comparing their prescribing practices to others in similar practice specialties.

Rules and Policies

State Auditor's Office performance audit
A performance audit was initiated in 2014 and focused on whether the board and the Medical Quality Assurance Commission (commission) were meeting their statutory obligations to protect the public. The audit report found that that the board was meeting their statutory obligations.

However, the report recommended that the board be dissolved and three osteopathic physicians be added to the commission. The agency response noted that the recommendation was not within the scope of the audit, that the audit report did not provide any evidence to suggest that such a merger would promote efficiency, cost savings, or patient safety, and that such a major change in physician regulation would have to be subject to a full debate, involving all stakeholders, in the legislative arena. During the 2017 legislative session, no legislation was introduced in response to these audit recommendations.

Amendments to the board's sexual misconduct rules

The board amended their rules to clarify what forcible or nonconsensual acts are within the definition of sexual misconduct for osteopathic physicians and osteopathic physician assistants. The intent of the changes is to help licensees under the board's jurisdiction to understand that sexual misconduct includes conduct with any person including people who are not patients, clients, or key third parties that involves force, intimidation, lack of consent, or a conviction of a sex offense listed in RCW 9.94A.030.

Experience with investigations and enforcement under the previous rule raised the need to clarify what acts constitute sexual misconduct. The rule changes are consistent with changes that have been made to sexual misconduct rules by other boards and commissions and by the department.

Mandatory one time training in suicide assessment, treatment, and management

The board adopted rules to implements provisions of RCW 43.70.442. This law requires osteopathic physicians and osteopathic physician assistants to complete a one-time, six-hour training in suicide assessment, treatment, and management. This requirement must be completed by the end of the first full continuing education (CE) reporting period after January 1, 2016, or the first full CE reporting period after initial licensure, whichever is later. The CE reporting period for osteopathic physicians is three years in length and one year in length for osteopathic physician assistants. Beginning July 1, 2017, suicide prevention training must be taken from the Secretary of Health's model list.

The rules are meant to address the suicide epidemic by requiring health care providers under the board's jurisdiction to be trained to recognize the warning signs of suicide, and know what treatment to pursue, or where to refer a person who may have suicidal ideation.

Model death certificate guidelines

The department's Center for Health Statistics developed model guidelines for medical certifiers to follow when completing death certificates. Medical certifiers include allopathic and osteopathic physicians, physician assistants, advanced registered nurse practitioners, chiropractors, coroners and medical examiners. These guidelines were adopted by the department, and the Center for Health Statistics asked the regulatory boards and commissions whose licensees are medical certifiers to adopt the model guidelines. The board adopted the model guidelines at their March 10, 2017 business meeting.

Presentation to osteopathic students

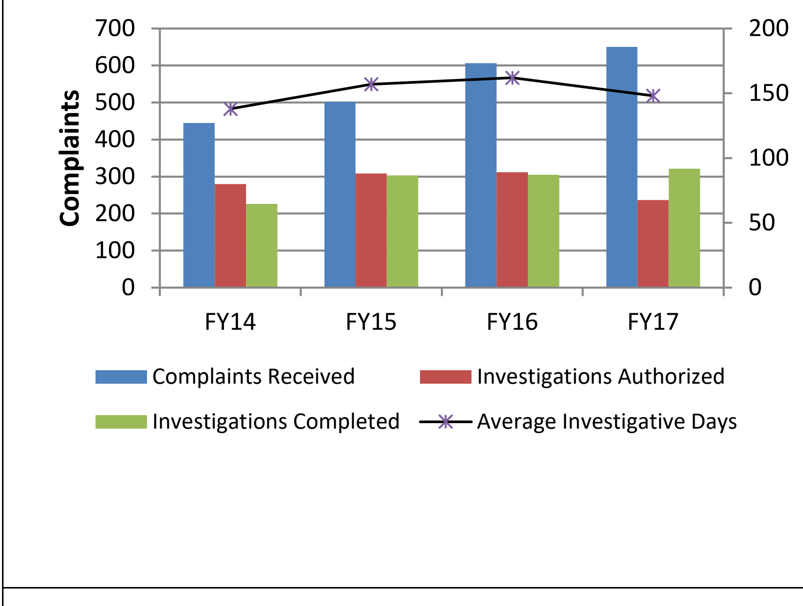
Each year, the board presents to the osteopathic students at the Pacific University of Health Sciences to discuss the scope of the board's work, as well as licensing and disciplinary issues as they relate to osteopathic physicians.

Pharmacy Quality Assurance Commission

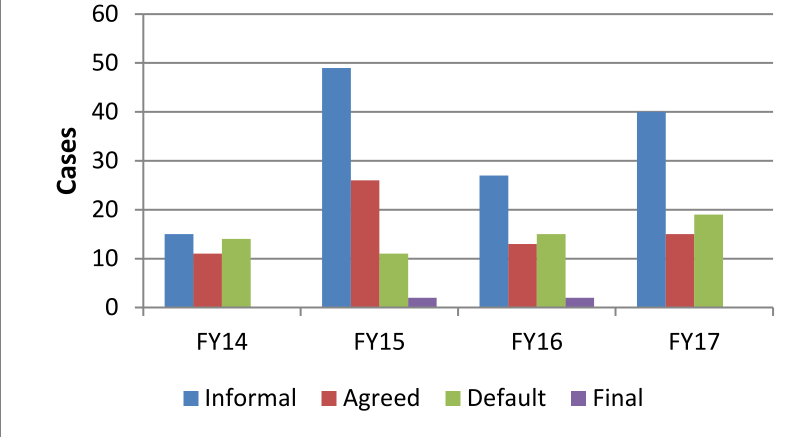
The Pharmacy Quality Assurance Commission (Commission) protects public health, safety, and welfare through licensing, regulations, and discipline of pharmacists, pharmacy interns, pharmacy technicians, and pharmacy assistants as well as a variety of pharmaceutical firms. The Commission regulates the profession by adopting rules to establish qualifications, competencies, and standard of practice for dispensing, distribution, delivery, wholesaling, and manufacturing of drugs and devices.

The practice of pharmacy has evolved significantly in the last 20 years, most significantly with the use of new technology in the delivery of health care. The Commission has been challenged with developing guidance documents for the use of innovative technology or pharmacy practices that are not specifically addressed in law or rule. Some requests may be slight variations of previous approvals. The Commission plans to move forward in the 2017-19 biennium re-writing pharmacy rules to effectively allow pharmacists to provide care that improves patient outcomes and protect patient safety, while being broad and flexible enough to not create barriers to innovation in pharmacy practice.

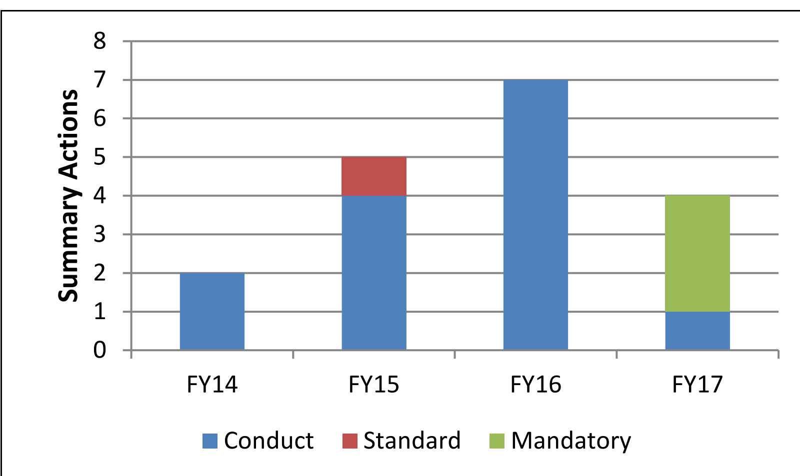
Four Year Disciplinary Summary



The Commission has seen an overall increase in the number of complaints this biennium. The increase in part represents entity complaints reported by the National Association of Boards of Pharmacy (NABP); Food and Drug Administration (FDA); and self-reports. The number of authorizations remained steady with a slight decrease in FY 2017. The decrease in authorizations is due to the number of entity complaints closed before investigation for alleged violations that are not addressed in WA laws or rules, or the complaint against an entity considered otherwise resolved based on disciplinary action taken in another state or not involving a WA patient.



Over this last biennium the Commission has authorized a similar number of cases for both investigation and discipline. The Commission typically works to resolve cases informally if appropriate. In FY 2017 there was an increase in the number of cases closed with Default orders for licensees who failed to respond to the statement of charges. The number of formal hearings/Final orders were consistent with the previous biennium.



Summary action is taken when the Commission finds that a licensee poses an immediate threat to the public health and safety. During FY 2017, there were three cases that required mandatory summary action either based on another state's action or a final finding from the Department of Social Health Services. The conduct based summary case represented an action taken by the Secretary of Health for sexual misconduct with no standard of pharmacy practice issues.

Rulemaking and Policy Activity

Legislation

Engrossed Substitute House Bill 2458 (chapter 69.70 RCW) Access to Prescription Drugs. The law adds individual persons and their representatives to the types of donors who may donate unused drugs to a pharmacy for redistribution through prescription drug donation programs.

Second Substitute House Bill 2681 (RCW 18.64.008) Contraceptive availability awareness. The law's intent is to make the public aware that self-administered hormonal contraceptives may be available at neighborhood pharmacies. The law required the Pharmacy Commission to develop a sign/sticker that pharmacies may post if they have a pharmacist on staff with a collaborative drug therapy agreement to prescribe self-administered hormonal contraceptives.

Engrossed Substitute Senate Bill 6203 (chapters 18.64.550 thru 590, 69.41, and 69.50 RCW and RCW 74.42.230) the law establishes provisions for pharmacy practice in long-term care (LTC) facilities. Rules are being considered as part of the larger rule re-write project beginning in September of 2017.

Substitute Senate Bill 6421 (RCW 70.54.440) Epinephrine Autoinjectors – the law permits prescribing health care practitioners to prescribe epinephrine autoinjectors to authorized entities, to include but not limited to: restaurants, recreation camps, youth sports leagues, amusement parks, colleges, universities, and sports arenas. Pharmacists, advanced registered nurse practitioners and physicians may dispense epinephrine autoinjectors in compliance with a prescription issued in the name of an authorized entity.

Rules and Policies

WAC 246-873-060 Establishes a provision of an emergency department to dispense discharge medications when pharmacy services are unavailable. Implements portions of Substitute Senate Bill 6558- Hospital Pharmacy License and Engrossed Substitute Senate Bill 5460- Emergency Medications. (RCW 70.41.480)

WAC 246-886-180 Added additional approved legend drugs for Washington State Department of Fish and Wildlife chemical capture programs for use by its agents and biologists.

WAC 246-869-105 Pharmacy Continuity of Care Refills in Proclaimed Emergencies. Establishes provisions that allows a pharmacist to provide medications during a governor proclaimed emergency when the patient may not have access to their medications or regular pharmacy.

Chapter 246-874 WAC New Chapter titled Pharmacy and Technology (Automated Drug Dispensing Devices) establishing standards for the use of automated drug dispensing devices.

WAC 246-861-105 Suicide prevention education rules establishes a one-time three hour training requirement on suicide screening and referral and allows those hours to be counted toward the fifteen continuing education credit hours due during the renewal cycle for which the training was completed. Implements Engrossed Second Substitute House Bill 2793.

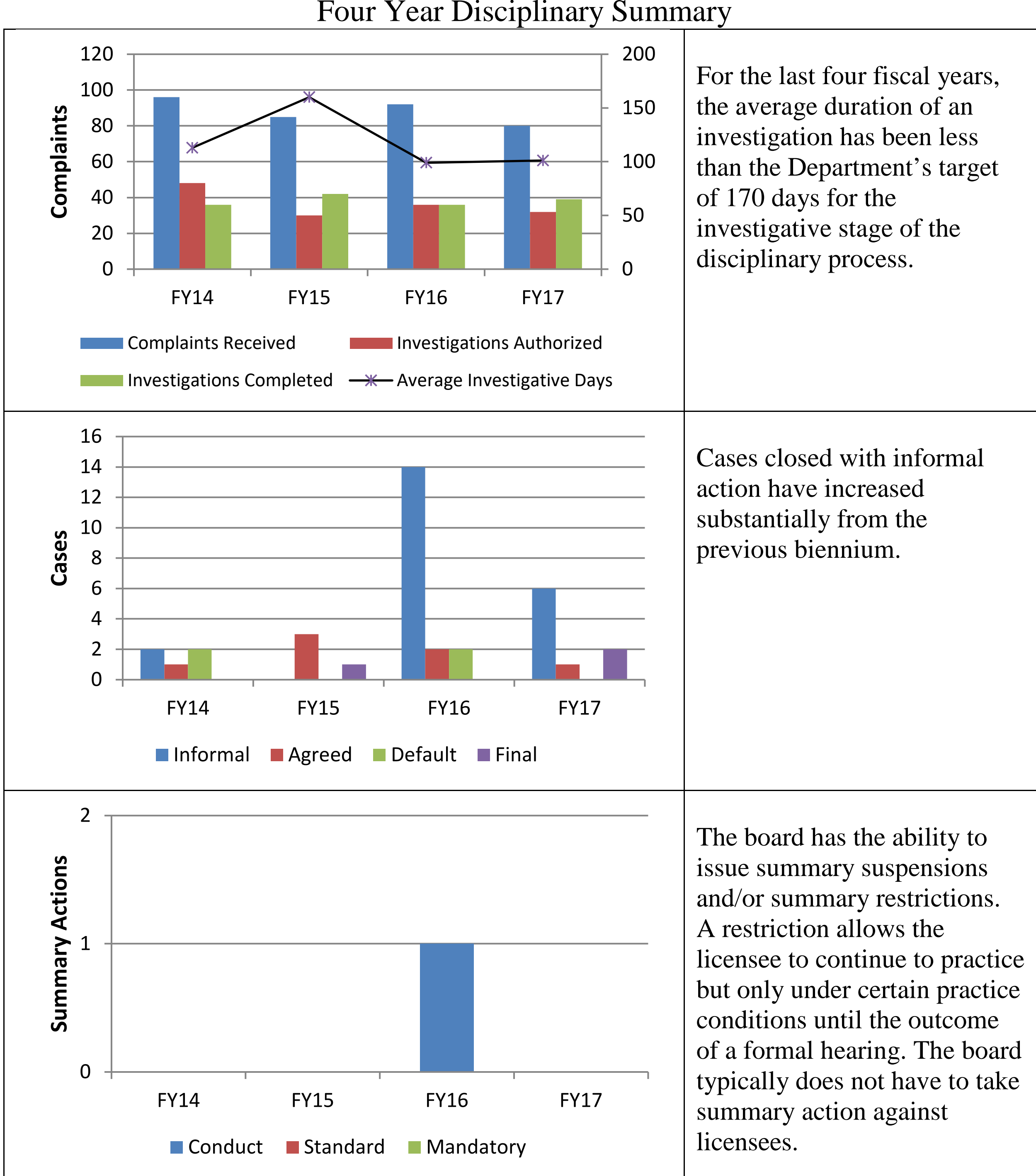
WAC 246-901-080 Pharmacy assistant registration – the rule establishes that pharmacy assistants must renew in accordance with WAC 246-907-0301, which sets a fee for the original and annual renewal for a pharmacy assistant registration. Implements Senate Bill 5549. (RCW 18.64A)

Chapter 246-873A WAC Hospital Pharmacy Associated Clinics – Emergency rules adopted to establish standards supporting services, inspection, and investigation of pharmacy services provided in individual practitioner offices and multi-practitioner clinics owned and operated by a hospital based on a level of risk and the type of pharmacy services provided at a particular location. Implements portions of Substitute Senate Bill 6558- Hospital Pharmacy License and Engrossed Substitute Senate Bill 5460 (RCW 70.41.490, RCW 18.64.011, RCW 18.64.043)

Board of Physical Therapy

The mandate of the Board of Physical Therapy is to protect the public's health and safety and to promote the welfare of the state by regulating the competency and quality of professional healthcare providers under its jurisdiction. The board accomplishes this through a variety of activities working with the Department of Health, Health Systems Quality Assurance division. The Board of Physical Therapy is made up of 4 physical therapists, 1 physical therapist assistant, and 1 public member appointed by the governor. The board typically meets every 8 weeks.

Four Year Disciplinary Summary



For the last four fiscal years, the average duration of an investigation has been less than the Department's target of 170 days for the investigative stage of the disciplinary process.

Cases closed with informal action have increased substantially from the previous biennium.

The board has the ability to issue summary suspensions and/or summary restrictions. A restriction allows the licensee to continue to practice but only under certain practice conditions until the outcome of a formal hearing. The board typically does not have to take summary action against licensees.

Rulemaking and Policy Activity

Legislation

On April 25, 2017, Gov. Inslee signed HB 1278, making Washington the 10th state to enact the Physical Therapy Licensure Compact, or PTLC. The legislation is intended to facilitate interstate practice of physical therapy by allowing physical therapists and physical therapist assistants licensed in Washington state to obtain a practice privilege in any and all other states that are legally joined in the PTLC.

The purpose of the Physical Therapy Licensure Compact is to improve public access to physical therapy services, while preserving the regulatory authority of participating states. The PTLC will allow well-qualified physical therapists and physical therapist assistants to obtain expedited practice privileges across any or all compact member states. The goal of the PTLC is to promote license portability and facilitate telehealth, which will provide greater access to physical therapy services, especially in rural and underserved areas in Washington. As the 10th state to enact the PTLC, the compact's provisions are now in effect, and this includes creating an interstate commission, to which Washington will send a delegate to provide oversight to the compact.

Rules and Policies

Chapter 246-915 WAC—Physical Therapists and Physical Therapist Assistants was opened to clarify, streamline, and update the regulations of licensed physical therapists and licensed physical therapist assistants in Washington State.

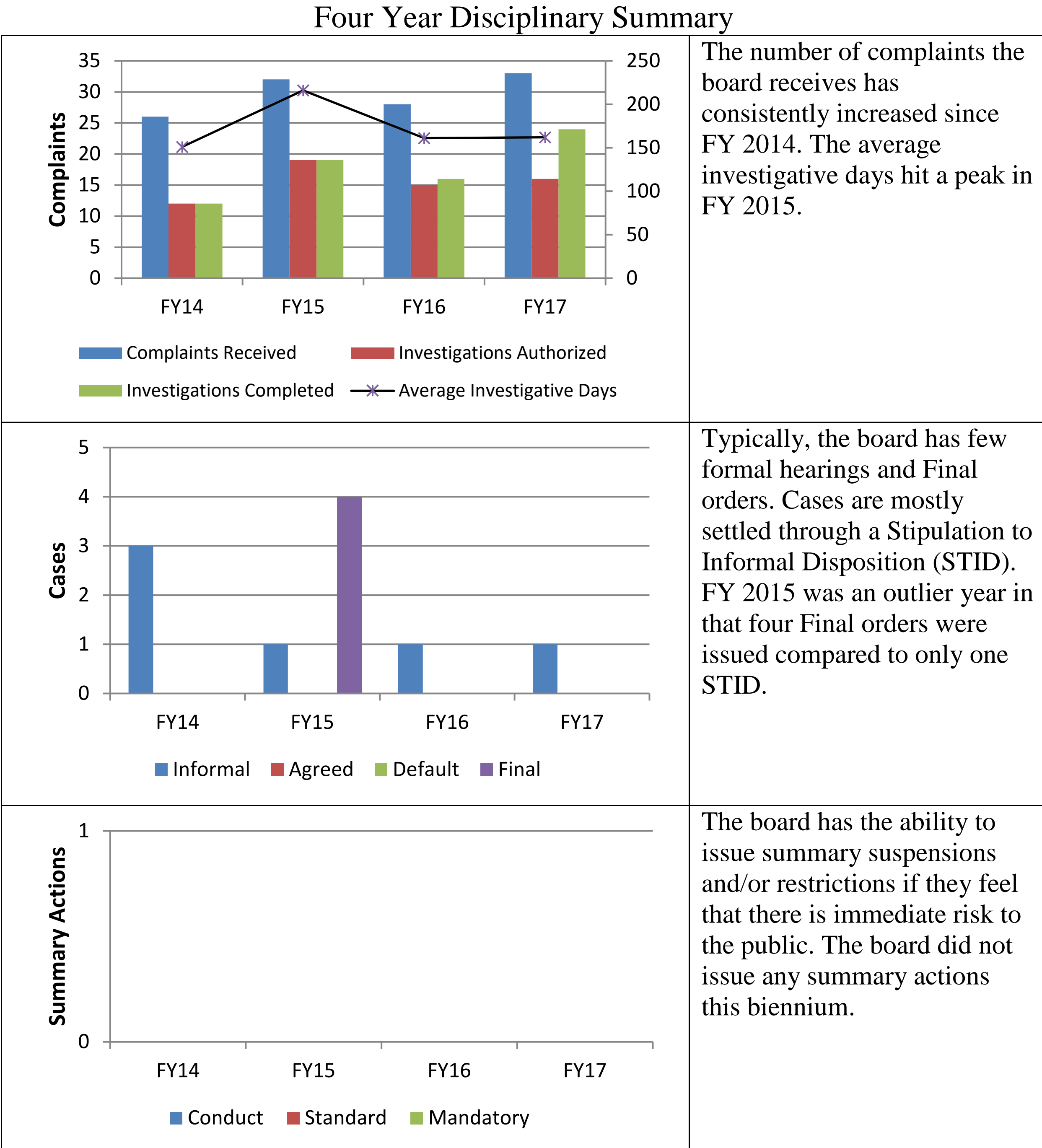
In addition, RCW 43.70.041, enacted in 2013, requires the Department of Health (department) to review all of its existing rules every five years to identify ways to clarify or simplify existing rules. As a result, a comprehensive review of the chapter was conducted in response to this legislative directive. The proposed rules are designed to reflect current best practices in the physical therapy profession in response to the intent of RCW 43.70.041.

The board is updating sexual misconduct rules and is also adding a provision for temporary practice permits for military spouses.

Podiatric Medical Board

The mission and purpose of the Podiatric Medical Board is to protect the public's health and safety and to promote the welfare of the state by regulating the competency and quality of professional health care providers under its jurisdiction. This is accomplished by establishing and enforcing qualifications for licensure and standards of practice, and where appropriate, by disciplining and monitoring practitioners. Only individuals who meet and maintain prescribed standards of competence and conduct shall be allowed to engage in the practice of podiatry as defined and authorized by Chapter 18.22 RCW. The board consists of 4 practicing podiatric physicians and 1 public member, all of which serve five year terms and may not serve more than two consecutive terms.

Four Year Disciplinary Summary



The number of complaints the board receives has consistently increased since FY 2014. The average investigative days hit a peak in FY 2015.

Typically, the board has few formal hearings and Final orders. Cases are mostly settled through a Stipulation to Informal Disposition (STID). FY 2015 was an outlier year in that four Final orders were issued compared to only one STID.

The board has the ability to issue summary suspensions and/or restrictions if they feel that there is immediate risk to the public. The board did not issue any summary actions this biennium.

Rulemaking and Policy Activity

Legislation

The Washington State Podiatric Medical Association (WSPMA) introduced House Bill 1198 during the 2017 legislative session that moved the authority to approve substance abuse programs from the broad authority contained under the Uniform Disciplinary Act in RCW 18.130.175 to specific authority to the board under chapter 18.22. RCW. This bill also increased the impaired practitioner surcharge for podiatric physicians from $25 to $50.

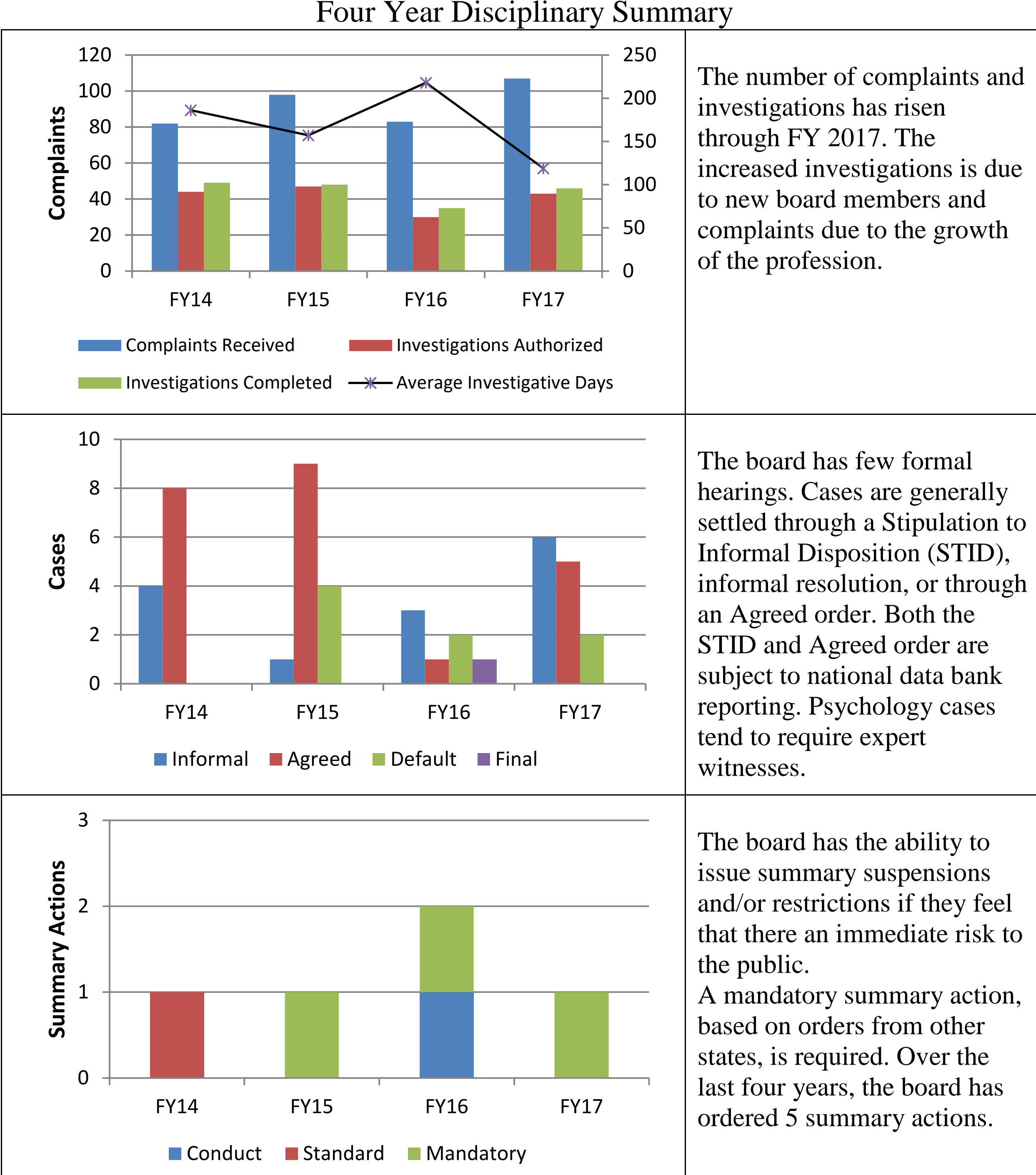
Rules and Policies

- The board adopted rules in December 2015 that changed the continuing medical education (CME) requirement from 50 hours every two years to 100 hours every two years. The adopted rules also now provide for several new options for earning CME. The board postponed the effective date of these rule changes to October 1, 2017, to allow ample time for podiatric physicians to earn the additional hours mandated by the new rules.
- The board is considering repealing WACs 246-922-130, -140, -150, -160, -170, -180, and -190. These rule sections are redundant to the mandatory reporting requirements in RCW 18.130.070 and chapter 246-16 WAC. The board is also considering repeal of WAC 246-922-045 as it is obsolete because it refers to behavior during state-administered licensure examinations and the board stopped administering a state licensure exam many years ago.
- The board is considering modification to WACs 246-922-010, -120, and -240 to remove irrelevant information, as well as the addition of a specific statutory reference.
- The board is considering amendments to WACs 246-922-001 and -055 to correct invalid information.
- The board is adding WACs 246-922-036 establish the process and criteria for temporary practice permits for military spouses or state-registered domestic partner applicants. This rule project is to implement Engrossed Substitute Senate Bill 5969 (laws of 2011) that directs state agencies to reduce the impact of relocation to military families by reducing the time to obtain professional licenses and to authorize temporary practice permits.

Examining Board of Psychology

The mission of the board is to protect the public. This mission is accomplished through licensing and disciplining psychologists. The board also develops rules, policies, and guidelines regulating the practice of psychology. The Governor appoints 9 board members to serve five year terms. The board consists of 7 psychologists and 2 public members.

Four Year Disciplinary Summary



The number of complaints and investigations has risen through FY 2017. The increased investigations is due to new board members and complaints due to the growth of the profession.

The board has few formal hearings. Cases are generally settled through a Stipulation to Informal Disposition (STID), informal resolution, or through an Agreed order. Both the STID and Agreed order are subject to national data bank reporting. Psychology cases tend to require expert witnesses.

The board has the ability to issue summary suspensions and/or restrictions if they feel that there an immediate risk to the public.
A mandatory summary action, based on orders from other states, is required. Over the last four years, the board has ordered 5 summary actions.

Rulemaking and Policy Activity

Legislation

- The Examining Board of Psychology (EBOP) has adopted rules to be consistent with the 2015 amendments to RCW 43.70.442. The amendment requires psychologists, by July 1, 2017, to take suicide prevention continuing education training only from approved training programs listed on the Department of Health's model list.

Rules and Policies

- WAC 246-924-255 Amending the continuing education requirements for suicide assessment training standards for psychologist to align with RCW 43.70.442.

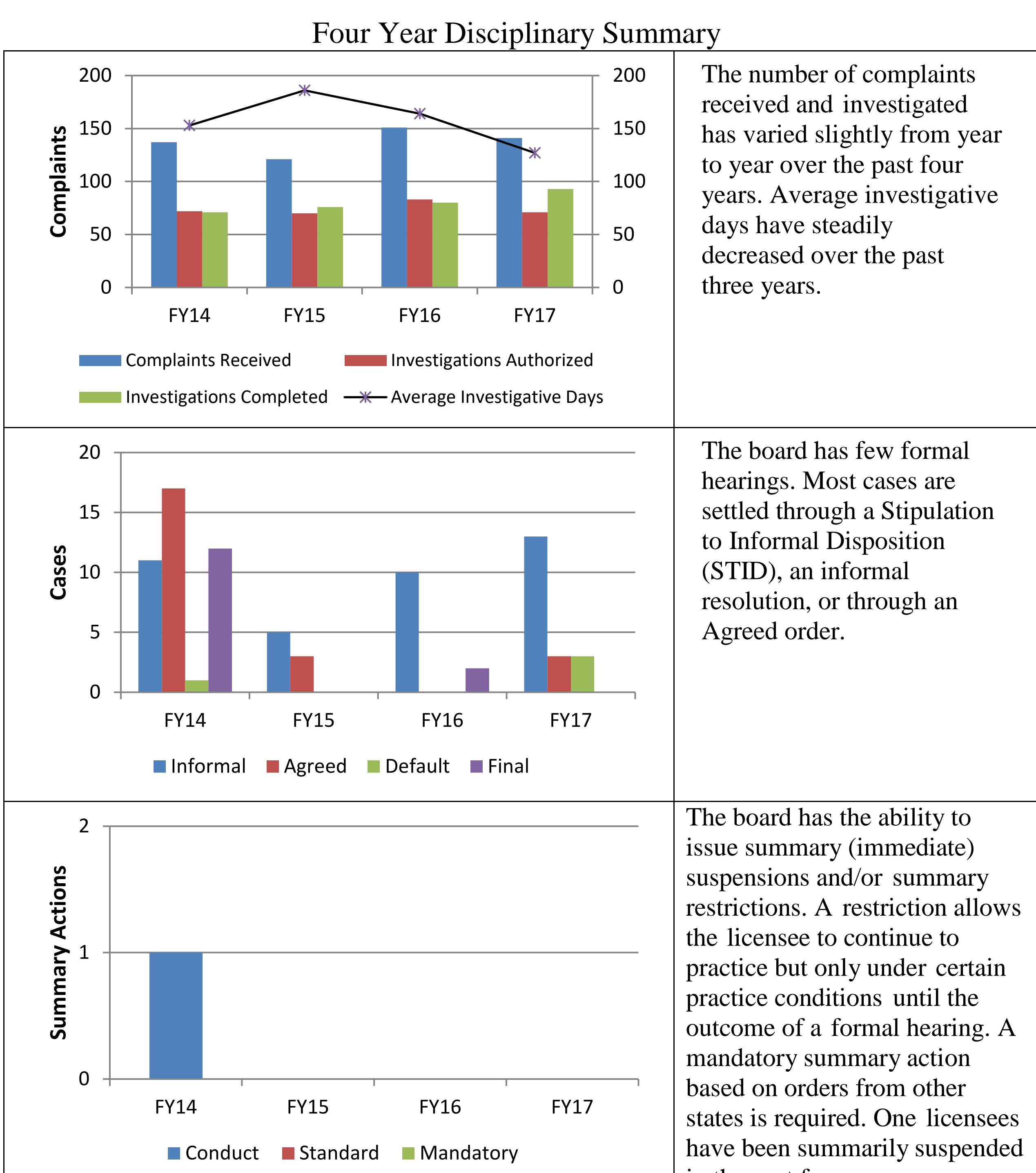
- WAC 246-924-358 adopts rules implementing and update to clarify sexual misconduct establishing clearer standards of conduct for psychology health care providers. The board's experience with investigating and enforcing the current rule has raised the need to clarify what acts constitute sexual misconduct by psychology health care providers. Updating the sexual misconduct rule will establish clearer standards of conduct and will help the board be consistent in its enforcement activities to more fully comply with RCW 18.130.0062 and Executive Order 06-03.

Veterinary Board of Governors

The Veterinary Board of Governors protects the public by credentialing and disciplining veterinarians, veterinary technicians, and veterinary medication clerks. The board regulates the professions by developing rules, policies, and guidelines.

The governor appoints seven members – five licensed veterinarians, one licensed veterinary technician, and one public member – to serve five-year terms.

Four Year Disciplinary Summary



The number of complaints received and investigated has varied slightly from year to year over the past four years. Average investigative days have steadily decreased over the past three years.

The board has few formal hearings. Most cases are settled through a Stipulation to Informal Disposition (STID), an informal resolution, or through an Agreed order.

The board has the ability to issue summary (immediate) suspensions and/or summary restrictions. A restriction allows the licensee to continue to practice but only under certain practice conditions until the outcome of a formal hearing. A mandatory summary action based on orders from other states is required. One licensees have been summarily suspended in the past four years.

Rulemaking and Policy Activity

Legislation

House Bill 1361

In the 2017 Legislative session, House Bill 1361 was introduced to, in part, exempt horse teeth floaters (individuals who file down horse teeth) from veterinary practice regulations (RCW 18.92.060). Teeth floaters would be required to register with the Department of Licensing (DOL) via a web portal to enable clients to provide feedback on their performance. The bill did not pass out of the House.

Rules and Policies

The following rules were adopted by the Veterinary Board of Governors between July 1, 2015 and June 30, 2017:

- **WAC 246-933-200 Veterinary-client-patient relationship (VCPR).** This rule establishes the requirement of a valid VCPR prior to a veterinarian treating a patient. The VCPR is a nationally recognized standard providing the basis for interaction between veterinarians and their clients and animal patients. The VCPR assumes that the veterinarian is responsible for the health of the patient, has current knowledge of the patient's condition, and is available for follow up evaluation or has arranged for emergency coverage.

- **WAC 246-933-340 Practice Management.** This rule amends the existing practice management rule to require an expiration date on all labels for legend drugs dispensed by a veterinarian.

- **WAC 246-933-350 Release of a veterinary prescription.** This new rule requires a veterinarian to release a veterinary prescription to a client upon request. Alternatively, if the client requests the prescription be transmitted electronically to the Washington-license pharmacy of their choice, the veterinarian must fulfill the request. Honoring a client's request for a prescription in lieu of dispensing is a provision of the American Veterinary Medicine Association Principals of Veterinary Medical Ethics.

- **WAC 246-933-460 Organizations, institutions or individuals approved by the veterinary board to provide continuing education courses.** This amended rule adds the Registry of Alternative and Integrative Veterinary Medical Education (RAIVE) in the list of approved continuing education courses.

- **WAC 246-933-990**, **Veterinarian fees and renewal cycle.** This rule implemented fee changes for veterinarians to implement House Bill 2432 (chapter 42, laws of 2016) by increasing the impaired practitioner program license surcharge for these professions and providing some reduced credential fees to offset the surcharge increase.

- **WAC 246-934-100 Sexual Misconduct.** This amended rule clarifies what forcible or nonconsensual acts are within the definition of sexual misconduct by a veterinary provider.

- **WAC 246-935-050 Animal health care tasks.** This amended rule requires licensed veterinarians to directly supervise licensed veterinary technicians and unregistered assistants when administering veterinary biologic injections (vaccines) for diseases listed in Washington State Department of Agriculture (WSDA) WAC 16-42-026(1), including rabies. This rule-making aligns the board's rule with the WSDA rule.

- **WAC 246-935-290 Qualified organizations approved by the Veterinary Board of Governors.** This amended rule updates the list of approved veterinary technician continuing education (CE) organizations to include colleges of veterinary medicine.

Appendices

Appendix A: Definitions is a glossary of terms used throughout this report, including clarifications and abbreviated versions of longer terms.

Appendix B: Licensee Counts by Professions details the number of licensees for each profession over the last seven fiscal years, as well as a compounded annual growth rate over four years whenever possible.

Appendix C: Alternative Programs – Chemically Impaired Practitioners depicts enrollment, both voluntary and mandatory, of health practitioners into substance abuse monitoring programs.

Appendix D: Distribution of Staff Attorney Workload provides an anonymized breakdown of the number of cases per staff attorney and by profession. It also includes the number of months each attorney worked within the biennium.

Appendix E: Distribution of Investigator Workload provides an anonymized breakdown of the number of cases per investigator and by profession. It also includes the number of months each investigator worked within the biennium.

Appendix A: Definitions

Agreed Order: The document, formally called Stipulated Findings of Fact, Conclusions of Law, and Agreed order, is a negotiated settlement between the health care provider and representatives of the agency. It states the substantiated violations of law and the sanctions being placed on the health care provider's credential. The health care provider agrees to the conditions in the order. The Agreed order is presented to the disciplinary authority and, if approved, becomes final. The order is reported to national data banks and the public through a press release.

Board or Commission: A board or commission is a part-time, statutory entity which has rule-making authority, performs quasi-judicial functions, has responsibility for the administration or policy direction of a program, or performs regulatory or licensing functions with respect to a specific profession. See also Chapter 43.03 RCW.

Certification: This credential demonstrates that the professional has met certain qualifications. The regulatory authority – a board, commission, or the secretary of health – sets the qualifications. With some professions, someone who isn't certified may perform the same tasks, but may not use "certified" in their title.

Default Orders: A Default order is issued when the credentialed health care provider is given notice, but either fails to answer the allegations or fails to participate in the adjudicative process as required by law.

Deterrent Sanctions: These include items such as reprimands and fines.

Final Order after Hearing: The document is formally called Findings of Fact, Conclusions of Law and Order. This document is issued after a formal hearing has been held. The hearing may be held before a health law judge representing the secretary as the decision-maker or before a panel of board or commission members with a health law judge acting as the presiding officer. The document identifies the proven facts, violations of law, and the sanctions being placed on the health care provider's credential. The health care provider has the right to ask for administrative review of an initial order. Final orders are subject to reconsideration of the decision or to appeal to a superior court. The order is reported to national data banks, and released to the public through a press release.

License: This credential allows people to practice if they meet certain qualifications. Practicing without a license is illegal. Licensing regulates what practitioners are trained and authorized to do.

Notice of Decision (NOD): This document is issued, pursuant to RCW 18.130.055, when the disciplining authority decides to deny an application for licensure or grant the license with conditions.

Registration: The state keeps an official register of names and addresses of the people in a given profession. This credential signifies the professional is on that register. If required, a description and the location of the service are included; however, registrations do not include training, examination, or continuing education requirements.

Rehabilitative Sanctions: These include probation of license, substance abuse treatment and monitoring, remedial education, counseling, and limitations or restrictions on the practice. The health care provider continues to practice with conditions imposed.

Removal from Practice: The health care provider's credential is revoked or indefinitely suspended.

Removal from Practice with Conditions: The health care provider's credential is suspended for a specified period. Conditions for rehabilitation and reinstatement must be met before the credential can be returned to good standing.

Stipulation to Informal Disposition: A Stipulation to Informal Disposition (STID) is an informal resolution. If the health care provider agrees to sign the STID, he or she does not admit to unprofessional conduct, but does agree to corrective action. STIDs are reported to national data banks, but, because they are informal, they do not result in a press release.

Surrender: The health care provider relinquishes the right to practice. This type of sanction is only permitted, once a complaint is filed, through a stipulation to informal disposition or a formal order. Surrender is not used if the practitioner intends to practice in another jurisdiction or if the disciplining authority believes return to practice is reasonably possible.

Appendix B: Licensee Counts by Profession
2015-17 Biennium

Profession	2011	2012	2013	2014	2015	2016	2017	Annual Growth Rate
Advanced Emergency Medical Technician	398	395	391	367	362	352	367	-1.6%
Advanced Registered Nurse Practitioner	5,035	5,291	5,530	5,975	6,404	6,983	7,759	8.8%
Animal Massage Practitioner	-	13	29	45	59	67	81	29.3%
Athletic Trainer	460	499	520	548	587	642	669	6.5%
Audiologist	396	403	399	399	409	419	430	1.9%
Cardiovascular Invasive Specialist	-	90	166	188	224	253	292	15.2%
Chemical Dependency Professional	2,821	2,843	2,852	2,868	2,878	2,877	2,919	0.6%
Chemical Dependency Professional Trainee	1,452	1,462	1,457	1,503	1,446	1,510	1,619	2.7%
Chiropractic X-Ray Technician	227	215	210	204	209	223	218	0.9%
Chiropractor	2,334	2,328	2,359	2,383	2,467	2,536	2,534	1.8%
Counselor, Agency Affiliated	6,060	5,939	6,334	6,615	7,611	8,322	9,354	10.2%
Counselor, Certified	728	735	717	692	630	579	550	-6.4%
Counselor, Certified Advisor	10	10	4	2	3	5	3	-6.9%
Dental Anesthesia Assistant	-	-	-	4	117	146	174	21.9%
Dental Assistant	11,036	11,709	12,698	13,220	13,692	14,095	14,510	3.4%
Dental Hygienist	5,562	5,696	5,810	5,901	6,056	6,158	6,332	2.2%
Dentist	6,155	6,080	6,048	6,170	6,355	6,430	6,647	2.4%
Denturist	151	138	147	160	143	144	145	-0.3%
Dietitian/Nutritionist	1,541	1,559	1,450	1,484	1,733	1,887	2,065	9.2%
Dispensing Optician	990	1,006	1,019	1,025	1,048	1,002	1,012	-0.2%
Dispensing Optician Apprentice	1,049	1,028	990	968	966	1,056	1,051	1.5%
East Asian Medicine Practitioner	1,262	1,253	1,296	1,345	1,387	1,425	1,537	4.4%
Emergency Medical Responder	628	551	468	405	394	376	371	-5.6%
Emergency Medical Technician	14,095	13,838	13,466	12,932	12,870	12,965	13,032	-0.8%
Expanded Function Dental Auxiliary	114	161	188	192	212	220	240	6.3%
Genetic Counselor	61	83	105	114	136	172	220	20.3%
Health Care Assistant	17,880	18,515	21,207	-	-	-	-	0.0%
Hearing Aid Specialist	-	-	-	-	302	308	316	2.3%
Hearing Instrument Fitter and Dispenser	285	290	296	300	-	-	-	0.0%

Profession	2011	2012	2013	2014	2015	2016	2017	Annual Growth Rate
Home Care Aide	-	15	2,941	6,570	10,708	14,151	18,034	57.4%
Humane Society	13	17	19	19	18	18	19	0.0%
Hypnotherapist	683	692	690	713	788	751	749	2.1%
Licensed Practical Nurse	13,975	13,380	13,060	12,433	11,944	11,893	11,768	-2.6%
Marriage and Family Therapist	1,237	1,239	1,286	1,378	1,486	1,516	1,603	5.7%
Marriage and Family Therapist Associate	297	345	393	434	466	540	569	9.7%
Massage Therapist	13,864	13,927	13,708	13,759	13,656	13,812	13,889	0.3%
Medical Assistant Registered	-	-	-	4,618	6,227	7,144	7,697	18.6%
Medical Assistant Certified	-	-	-	22,739	25,030	25,826	27,915	7.1%
Mental Health Counselor	5,099	5,312	5,515	5,765	6,059	6,406	6,803	5.4%
Mental Health Counselor Associate	1,233	1,329	1,482	1,656	1,789	1,788	1,813	5.2%
Midwife	108	116	123	140	161	165	175	9.2%
Naturopathic Physician	1,035	1,096	1,146	1,186	1,231	1,293	1,398	5.1%
Nursing Assistant	74,975	75,715	75,555	75,346	76,056	76,175	76,173	0.2%
Nursing Home Administrator	453	460	459	439	441	423	441	-1.0%
Nursing Pool Operator	187	172	157	147	158	164	189	4.7%
Nursing Technician	415	360	331	355	396	504	488	10.2%
Occupational Therapist	2,876	2,966	3,078	3,174	3,271	3,390	3,565	3.7%
Occupational Therapy Assistant	625	694	762	873	956	1,024	1,090	9.4%
Ocularist	8	9	7	7	8	9	10	9.3%
Ocularist Apprentice	-	-	3	3	2	1	1	-24.0%
Optometrist	1,395	1,428	1,486	1,513	1,547	1,623	1,637	2.4%
Orthotics Prosthetics	283	291	301	313	330	310	334	2.6%
Osteopathic Physician	1,261	1,328	1,437	1,598	1,769	1,915	2,194	11.2%
Osteopathic Physician Assistant	50	48	52	53	59	72	88	14.1%
Paramedic	2,318	2,464	2,525	2,548	2,568	2,629	2,662	1.3%
Pharmacies and Other Pharmaceutical Firms	3,384	3,501	4,306	4,024	4,190	4,532	4,544	9.6%
Pharmacist	8,861	8,983	9,289	9,391	9,627	9,877	10,232	2.4%
Pharmacist Intern	1,236	1,314	1,419	1,413	1,394	1,476	1,579	2.7%
Pharmacy Assistant	8,364	9,059	9,284	9,658	10,299	10,494	10,546	3.2%
Pharmacy Technician	9,257	9,521	9,482	9,108	8,867	8,863	8,910	-1.5%
Physical Therapist	5,577	5,615	5,798	5,966	6,188	6,455	6,795	4.0%
Physical Therapist Assistant	1,531	1,631	1,779	1,866	1,971	2,098	2,271	6.8%

Profession	2011	2012	2013	2014	2015	2016	2017	Annual Growth Rate
Physician	25,783	26,167	26,536	27,044	27,692	28,732	29,532	2.7%
Physician Assistant	2,472	2,569	2,691	2,814	3,018	3,260	3,587	7.4%
Podiatric Physician	328	334	317	335	353	359	377	4.4%
Psychologist	2,422	2,498	2,579	2,673	2,796	2,908	2,996	3.8%
Radiological Technologist	5,830	6,008	5,975	6,071	6,200	6,397	6,415	1.8%
Radiologist Assistant	3	6	7	8	8	7	8	3.4%
Recreational Therapist	139	134	134	134	146	135	144	1.8%
Registered Nurse	83,381	84,258	86,091	87,359	87,097	95,786	99,474	3.7%
Reflexologist	-	-	-	174	248	257	255	13.6%
Respiratory Care Practitioner	2,516	2,593	2,657	2,692	2,794	2,860	2,915	2.3%
Retired Volunteer Medical Worker	6	7	7	4	4	3	2	-26.9%
Sex Offender Treatment Provider**	149	146	138	135	129	100	123	-2.8%
Social Worker Advanced	96	98	100	114	119	121	139	8.6%
Social Worker Associate Advanced	174	181	207	207	201	228	210	0.4%
Social Worker Associate Independent Clinical	773	873	974	1,114	1,346	1,515	1,632	13.8%
Social Worker Independent Clinical	3,322	3,448	3,578	3,736	3,858	4,051	4,173	3.9%
Speech Language Pathologist	1,841	1,912	2,113	2,377	2,508	2,637	2,835	6.6%
Speech Language Pathology Assistant	151	204	206	206	209	214	230	2.8%
Surgical Technologist	3,041	2,952	2,923	2,898	2,980	3,017	3,062	1.2%
Veterinarian	3,343	3,416	3,417	3,481	3,586	3,697	3,843	3.0%
Veterinary Medication Clerk	542	597	656	739	825	926	1,086	13.4%
Veterinary Technician	1,610	1,699	1,817	1,886	2,027	2,105	2,183	4.7%
X-Ray Technician	1,837	1,711	1,567	1,551	1,580	1,563	1,509	-0.9%
Total	**381,089**	**386,968**	**398,716**	**412,961**	**428,116**	**449,367**	**467,358**	**3.8%**

* The Health Care Assistant credential has been abolished. See Medical Assistant counts.

**Sex Offender Treatment Provider Counts include both the Provider and Affiliate practitioners

Appendix C: Alternative Programs – Chemically Impaired Practitioners 2015-17 Biennium

The law provides a way to assure practitioners provide services according to regulatory standards. RCW 18.130.175 allows disciplining authorities to refer a practitioner to a voluntary substance abuse monitoring program instead of disciplinary action. The disciplining authority can also require that a chemically dependent health care provider participate in a substance abuse program.

Profession	Program	Total Mandated	Total Voluntary*	Total Enrolled in Biennium	Successful Completions
Advanced Registered Nurse Practitioner	WHPS	10	2	12	8
Animal Massage Practitioner	WRAMP	0	0	0	0
Athletic Trainer	WRAMP	0	0	0	0
Audiologist	WRAMP	0	0	0	0
Cardiovascular Invasive Specialist	WRAMP	0	0	0	0
Certified Registered Nurse Anesthetist	WHPS	1	0	1	3
Chemical Dependency Professional/ Trainee	WRAMP	59	1	60	30
Chiropractor X-Ray Technician	WRAMP	0	0	0	0
Chiropractor	WRAMP	1	1	2	2
Counselor, Agency Affiliated	WRAMP	12	1	13	2
Counselor, Certified	WRAMP	0	0	0	2
Dental Anesthesia Assistant	WRAMP	0	0	0	0
Dental Assistant	WRAMP	2	1	3	2
Dental Hygienist	WRAMP	1	0	1	0
Dentist	WPHP	0	6	6	11
Denturist	WRAMP	0	0	0	0
Dietitian/ Nutritionist	WRAMP	0	0	0	0
Dispensing Optician/ Apprentice	WRAMP	0	0	0	2
East Asian Medicine Practitioner	WRAMP	0	0	0	0
Emergency Medical Responder	WRAMP	0	0	0	0
Emergency Medical Technician	WRAMP	1	2	3	1
Expanded Function Dental Auxiliary	WRAMP	0	0	0	0
Genetic Counselor	WRAMP	0	0	0	0
Hearing Aid Specialist	WRAMP	1	0	1	0
Home Care Aide	WRAMP	5	0	5	1
Hypnotherapist	WRAMP	1	0	1	0
Licensed Practical Nurse	WHPS	28	1	29	15
Marriage and Family Therapist/ Associate	WRAMP	0	0	0	0
Massage Therapist	WRAMP	8	0	8	4
Medical Assistant/ Health Care Assistant	WRAMP	20	3	23	5
Mental Health Counselor/ Associate	WRAMP	2	1	3	2
Midwife	WRAMP	0	0	0	0

Profession	Program	Total Mandated	Total Voluntary*	Total Enrolled in Biennium	Successful Completions
Naturopathic Physician	WRAMP	0	0	0	0
Nursing Assistant	WRAMP	17	1	18	11
Nursing Home Administrator	WRAMP	0	0	0	0
Nursing Pool Operator	WRAMP	0	0	0	0
Nursing Technician	WRAMP	0	0	0	0
Occupational Therapist/ Assistant	WRAMP	2	0	2	0
Ocularist	WRAMP	0	0	0	0
Optometrist	WRAMP	0	0	0	0
Orthotics Prosthetics	WRAMP	0	0	0	0
Osteopathic Physician/ Assistant	WPHP	2	8	10	4
Paramedic	WRAMP	0	1	1	0
Pharmacist	WRAPP	17	16	33	10
Pharmacist Intern	WRAPP	0	0	0	0
Pharmacy Assistant	WRAPP	0	0	0	0
Pharmacy Technician	WRAPP	8	35	43	6
Physical Therapist/ Assistant	WRAMP	4	0	4	2
Physician	WPHP	0	110	110	98
Physician Assistant	WPHP	0	8	8	8
Podiatric Physician	WPHP	0	1	1	1
Psychologist	WRAMP	0	0	0	0
Radiological Technologist	WRAMP	0	1	1	3
Radiologist Assistant	WRAMP	0	0	0	0
Recreational Therapist	WRAMP	0	0	0	0
Reflexologist	WRAMP	0	0	0	0
Registered Nurse	WHPS	266	19	285	96
Respiratory Care Practitioner	WRAMP	3	0	3	1
Sex Offender Treatment Provider/ Affiliate	WRAMP	0	0	0	0
Social Worker	WRAMP	0	1	1	0
Speech Language Pathologist/ Assistant	WRAMP	1	0	1	0
Surgical Technologist	WRAMP	1	0	1	1
Veterinarian	WPHP	1	7	8	4
Veterinary Medication Clerk/ Technician	WRAMP	1	1	2	1
X-Ray Technician	WRAMP	0	0	0	0
Totals		**475**	**228**	**703**	**336**

* Includes Voluntary and In-lieu of Discipline enrollments

Appendix D: Distribution of Staff Attorney Workload 2015-17 Biennium

Profession	Attorney 1	2	3	4	5	6	7	8	9	10	11	12
Advanced Emergency Medical Technician	0	0	0	0	0	0	0	0	0	0	0	0
Advanced Registered Nurse Practitioner	30	0	0	0	0	0	0	23	0	0	0	3
Animal Massage Practitioner	0	0	0	0	0	0	0	0	0	0	0	0
Athletic Trainer	0	0	0	0	0	0	0	0	0	0	0	0
Audiologist	0	0	0	0	0	0	1	0	0	0	0	2
Cardiovascular Invasive Specialist	0	0	0	0	0	0	0	0	0	0	0	0
Chemical Dependency Professional	0	1	1	5	16	7	11	0	0	10	0	9
Chemical Dependency Professional Trainee	1	3	4	7	19	5	13	2	0	11	0	16
Chiropractic X-Ray Technician	0	0	0	0	0	0	1	0	0	1	0	0
Chiropractor	0	0	0	82	2	9	1	2	0	39	0	0
Counselor, Agency Affiliated	0	2	2	3	5	1	13	0	0	4	0	10
Counselor, Certified	0	0	1	0	0	1	1	0	0	0	0	0
Counselor, Certified Advisor	0	0	0	0	0	0	0	0	0	0	0	0
Counselor, Registered	0	0	0	0	1	0	0	0	0	0	0	0
Dental Anesthesia Assistant	0	0	0	0	0	0	0	0	0	0	0	0
Dental Assistant	0	1	1	0	0	5	6	0	0	7	0	0
Dental Hygienist	0	0	0	0	0	0	1	0	0	1	0	0
Dentist	0	4	5	0	1	66	45	0	0	73	0	0
Denturist	0	0	0	0	0	1	14	0	0	4	0	0
Dietitian/Nutritionist	0	0	0	0	0	0	0	0	0	0	0	0
Dispensing Optician	0	0	1	0	0	1	0	0	0	0	0	0
Dispensing Optician Apprentice	0	0	0	0	1	0	0	0	0	0	0	0
East Asian Medicine Practitioner	0	0	0	0	1	0	0	0	0	1	0	0
Emergency Medical Responder	0	0	0	0	1	0	0	0	0	0	0	0
Emergency Medical Technician	0	0	0	0	18	0	0	0	0	0	0	0
Expanded Function Dental Auxiliary	0	0	0	0	0	0	0	0	0	0	0	0
Genetic Counselor	0	0	0	0	0	0	0	0	0	0	0	0
Health Care Assistant	0	0	0	0	9	0	1	0	0	2	0	0
Hearing aid Specialist	0	0	0	0	0	0	0	0	0	0	0	0
Home Care Aide	0	3	16	1	35	1	9	2	0	14	0	0
Humane Society	0	0	0	0	0	0	0	0	0	0	0	0
Hypnotherapist	0	0	0	0	0	0	1	0	0	0	0	1
Licensed Practical Nurse	69	0	0	0	2	0	0	48	0	1	0	22
Marriage and Family Therapist	0	0	0	0	1	0	5	0	0	1	0	1
Marriage and Family Therapist Associate	0	0	0	1	0	0	0	0	0	1	0	0
Massage Therapist	0	1	32	0	12	5	65	1	0	14	0	3
Medical Assistant	0	2	10	3	13	1	19	3	0	3	0	14
Mental Health Counselor	1	1	1	2	6	1	6	1	0	2	0	15
Mental Health Counselor Associate	0	0	0	0	1	2	2	0	0	1	0	4
Midwife	0	0	0	0	0	0	0	3	0	5	0	7
Naturopathic Physician	0	4	0	0	0	1	0	0	0	47	0	0
Nursing Assistant	0	16	84	5	183	0	61	12	0	69	0	1

Profession	1	2	3	4	5	6	7	8	9	10	11	12
Nursing Home Administrator	0	0	40	0	0	0	0	3	0	0	0	30
Nursing Pool Operator	0	0	0	0	0	0	2	0	0	0	0	0
Nursing Technician	0	0	0	0	0	0	0	0	0	0	0	0
Occupational Therapist	0	0	0	0	16	0	7	0	0	0	0	0
Occupational Therapy Assistant	0	0	0	0	0	0	2	0	0	0	0	0
Ocularist	0	0	0	0	0	0	0	0	0	0	0	0
Optometrist	0	0	25	0	0	0	0	0	0	0	0	0
Orthotics Prosthetics	0	0	0	0	0	0	0	0	0	0	0	0
Osteopathic Physician	0	0	0	0	32	0	0	0	0	0	0	0
Osteopathic Physician Assistant	0	0	0	0	2	0	0	0	0	0	0	0
Paramedic	0	0	0	0	10	0	0	0	0	0	0	0
Pharmacies and Other Pharmaceutical Firms	0	0	34	32	0	54	0	0	0	0	0	18
Pharmacist	0	0	38	92	0	53	0	0	0	0	0	52
Pharmacist Intern	0	0	0	0	0	3	0	0	0	0	0	8
Pharmacy Assistant	0	0	9	17	0	6	0	1	0	0	0	9
Pharmacy Technician	0	0	15	22	0	9	0	0	0	0	0	17
Physical Therapist	0	0	0	0	29	0	15	0	0	0	0	0
Physical Therapist Assistant	0	0	0	0	7	0	4	0	0	2	0	0
Physician	1	0	0	0	3	2	0	0	58	0	178	0
Physician Assistant	0	0	0	0	0	0	0	0	5	0	12	0
Podiatric Physician	0	0	0	0	2	0	0	0	0	0	0	5
Psychologist	0	0	0	0	0	0	35	3	0	0	0	0
Radiological Technologist	0	0	0	0	5	0	1	0	0	0	0	1
Radiologist Assistant	0	0	0	0	0	0	0	0	0	0	0	0
Recreational Therapist	0	0	0	0	0	0	0	0	0	0	0	0
Reflexologist	0	0	1	0	0	0	3	0	0	0	0	0
Registered Nurse	196	0	1	0	1	0	0	168	0	2	0	21
Respiratory Care Practitioner	0	0	1	0	0	0	2	1	0	1	0	4
Retired Volunteer Medical Worker	0	0	0	0	0	0	0	0	0	0	0	0
Sex Offender Treatment Provider	0	0	0	0	3	0	0	0	0	0	0	0
Sex Offender Treatment Provider Affiliate	0	0	0	0	1	0	0	0	0	0	0	1
Social Worker Advanced	0	0	0	0	0	0	0	0	0	0	0	0
Social Worker Associate Advanced	0	0	0	0	0	0	0	0	0	0	0	0
Social Worker Associate Independent Clinical	0	0	0	0	6	0	2	0	0	0	0	1
Social Worker Independent Clinical	0	2	1	0	5	1	1	0	0	0	0	1
Speech Language Pathologist	0	0	0	0	0	0	0	2	0	0	0	2
Speech Language Pathology Assistant	0	0	0	0	0	0	0	0	0	0	0	1
Surgical Technologist	0	0	1	1	3	0	0	0	0	1	0	1
Veterinarian	0	7	0	0	15	9	0	12	0	0	0	39
Veterinary Medication Clerk	0	0	0	0	0	0	0	1	0	0	0	2
Veterinary Technician	0	1	0	0	0	0	0	0	0	0	0	5
X-Ray Technician	0	0	0	0	1	0	2	0	0	0	0	0
Totals	**298**	**48**	**324**	**273**	**468**	**244**	**352**	**288**	**63**	**317**	**190**	**326**
Months Worked In Biennium	**24**	**4**	**18**	**24**	**24**	**24**	**24**	**18**	**7**	**21**	**20**	**24**

Profession	13	14	15	16	17	18	19	20	21	22	23	24
Advanced Emergency Medical Technician	0	0	0	0	0	0	0	0	0	0	0	0
Advanced Registered Nurse Practitioner	0	0	0	0	0	0	30	0	0	0	0	0
Animal Massage Practitioner	0	2	0	0	0	0	0	0	0	0	0	0
Athletic Trainer	0	0	0	0	0	0	0	0	0	0	0	0
Audiologist	0	0	0	0	0	6	0	0	0	0	0	1
Cardiovascular Invasive Specialist	0	0	0	0	0	0	0	0	0	0	0	0
Chemical Dependency Professional	11	1	10	0	31	32	0	5	0	8	0	4
Chemical Dependency Professional Trainee	7	2	21	0	33	20	1	7	0	10	0	8
Chiropractic X-Ray Technician	0	0	0	0	0	0	0	0	0	0	0	0
Chiropractor	0	10	0	0	0	0	0	45	0	0	0	13
Counselor, Agency Affiliated	9	3	14	0	14	14	1	3	0	6	0	4
Counselor, Certified	2	0	3	0	5	2	0	0	0	1	0	0
Counselor, Certified Advisor	0	0	0	0	0	1	0	0	0	1	0	0
Counselor, Registered	0	0	0	0	0	0	0	1	0	0	0	0
Dental Anesthesia Assistant	0	0	0	0	0	0	0	0	0	0	0	0
Dental Assistant	3	1	9	0	0	0	0	9	4	0	0	4
Dental Hygienist	0	0	2	0	0	0	0	0	0	1	0	0
Dentist	24	23	52	0	2	1	0	74	38	0	0	14
Denturist	0	1	1	0	0	0	0	6	7	0	0	0
Dietitian/Nutritionist	0	0	0	0	0	0	0	0	0	0	0	0
Dispensing Optician	0	0	0	0	0	3	0	0	1	0	0	0
Dispensing Optician Apprentice	0	0	0	0	1	1	0	0	0	0	0	0
East Asian Medicine Practitioner	0	0	1	0	1	0	0	3	0	4	0	0
Emergency Medical Responder	0	0	0	0	0	0	0	0	0	0	0	0
Emergency Medical Technician	0	0	11	0	0	0	0	0	0	0	0	0
Expanded Function Dental Auxiliary	0	0	0	0	0	0	0	0	0	0	0	0
Genetic Counselor	0	0	0	0	0	0	0	0	0	0	0	0
Health Care Assistant	0	0	1	0	0	2	0	1	0	0	0	0
Hearing aid Specialist	0	0	1	0	0	3	0	0	0	0	0	3
Home Care Aide	7	4	17	0	0	0	0	20	0	0	0	0
Humane Society	0	0	0	0	0	0	0	0	0	0	0	0
Hypnotherapist	1	0	0	0	1	1	0	0	0	0	0	0
Licensed Practical Nurse	0	0	0	0	0	1	49	1	0	0	0	0
Marriage and Family Therapist	1	0	1	0	16	3	0	1	0	2	0	0
Marriage and Family Therapist Associate	0	0	4	0	5	2	0	1	0	0	0	4
Massage Therapist	21	6	72	0	24	3	3	8	1	20	0	2
Medical Assistant	12	5	17	0	13	16	0	8	0	27	0	3
Mental Health Counselor	11	0	11	0	36	17	0	2	0	3	0	3
Mental Health Counselor Associate	3	0	1	0	3	6	0	0	0	1	0	1
Midwife	0	2	1	0	0	9	0	0	0	1	0	0
Naturopathic Physician	0	1	8	0	1	0	0	21	0	42	0	0
Nursing Assistant	35	8	62	0	3	5	0	101	0	0	0	0
Nursing Home Administrator	0	0	41	0	0	0	0	0	0	0	0	17
Nursing Pool Operator	0	0	0	0	1	0	0	0	0	0	0	0
Nursing Technician	0	0	0	0	0	0	0	0	0	0	0	0
Occupational Therapist	0	0	0	0	11	0	0	0	0	0	0	0

Profession	13	14	15	16	17	18	19	20	21	22	23	24
Occupational Therapy Assistant	0	0	0	0	7	0	0	0	0	0	0	0
Ocularist	0	0	0	0	0	0	0	0	0	0	0	0
Optometrist	1	0	0	0	1	15	0	0	0	0	0	0
Orthotics Prosthetics	0	0	0	0	0	0	0	0	0	0	0	0
Osteopathic Physician	0	0	0	0	22	76	0	2	0	0	0	26
Osteopathic Physician Assistant	0	0	0	0	1	4	0	0	0	0	0	0
Paramedic	0	0	3	0	0	0	0	0	0	0	0	0
Pharmacies and Other Pharmaceutical Firms	31	3	0	0	1	0	0	0	0	0	0	1
Pharmacist	54	2	0	0	1	0	0	0	0	0	0	0
Pharmacist Intern	1	0	0	0	0	0	0	0	0	0	0	0
Pharmacy Assistant	15	1	0	0	0	0	0	0	0	0	0	0
Pharmacy Technician	13	1	0	0	0	0	0	0	0	0	0	0
Physical Therapist	0	0	0	0	17	0	0	1	0	0	0	0
Physical Therapist Assistant	0	0	0	0	14	0	0	0	0	0	0	0
Physician	0	1	1	123	1	0	0	3	0	9	150	0
Physician Assistant	0	0	0	15	0	0	0	0	0	4	4	0
Podiatric Physician	0	0	0	0	0	0	0	0	0	36	0	1
Psychologist	0	0	0	0	0	0	0	0	0	48	0	5
Radiological Technologist	1	1	2	0	1	0	0	0	0	0	0	2
Radiologist Assistant	0	0	0	0	0	0	0	0	0	0	0	0
Recreational Therapist	0	0	0	0	0	0	0	0	0	0	0	0
Reflexologist	0	0	0	0	0	0	0	0	0	0	0	0
Registered Nurse	0	0	2	0	0	4	176	2	0	0	0	0
Respiratory Care Practitioner	0	0	3	0	1	1	0	2	0	4	0	1
Retired Volunteer Medical Worker	0	0	0	0	0	0	0	0	0	0	0	0
Sex Offender Treatment Provider	0	0	0	0	1	0	0	0	0	0	0	0
Sex Offender Treatment Provider Affiliate	0	0	0	0	0	0	0	0	0	1	0	0
Social Worker Advanced	0	0	0	0	0	1	0	0	0	0	0	0
Social Worker Associate Advanced	0	0	0	0	0	0	0	0	0	0	0	0
Social Worker Associate Independent Clinical	1	0	2	0	4	1	0	0	0	1	0	3
Social Worker Independent Clinical	1	1	1	0	12	1	0	3	0	0	0	2
Speech Language Pathologist	0	0	0	0	0	9	0	0	0	0	0	0
Speech Language Pathology Assistant	0	0	0	0	0	0	0	0	0	0	0	0
Surgical Technologist	1	0	0	0	0	0	0	0	0	2	0	1
Veterinarian	0	0	0	0	39	0	1	0	2	58	0	0
Veterinary Medication Clerk	0	0	0	0	3	0	1	1	0	0	0	0
Veterinary Technician	0	0	0	0	1	0	1	0	0	8	0	0
X-Ray Technician	0	0	1	0	4	0	0	1	0	5	0	0
Totals	**266**	**79**	**376**	**138**	**332**	**260**	**263**	**332**	**53**	**303**	**154**	**123**
Months Worked In Biennium	**24**	**3**	**24**	**6**	**24**	**24**	**24**	**24**	**3**	**24**	**18**	**11**

Profession	25	26	27	28	29	30	31	32
Advanced Emergency Medical Technician	0	0	0	0	0	0	0	0
Advanced Registered Nurse Practitioner	29	0	0	0	0	0	0	0
Animal Massage Practitioner	0	0	0	0	0	0	0	0
Athletic Trainer	0	0	0	0	0	0	0	0
Audiologist	0	0	0	0	0	0	0	0
Cardiovascular Invasive Specialist	0	0	0	0	0	0	0	0
Chemical Dependency Professional	0	0	0	0	0	0	0	0
Chemical Dependency Professional Trainee	0	0	0	0	0	0	0	0
Chiropractic X-Ray Technician	0	0	0	0	0	0	0	0
Chiropractor	0	0	0	0	0	0	0	0
Counselor, Agency Affiliated	0	0	0	0	0	0	0	0
Counselor, Certified	0	0	0	0	0	0	0	0
Counselor, Certified Advisor	0	0	0	0	0	0	0	0
Counselor, Registered	0	0	0	0	0	0	0	0
Dental Anesthesia Assistant	0	0	0	0	0	0	0	0
Dental Assistant	0	0	0	0	0	0	0	0
Dental Hygienist	0	0	0	0	0	0	0	0
Dentist	0	0	0	0	0	0	0	0
Denturist	0	0	0	0	0	0	0	0
Dietitian/Nutritionist	0	0	0	0	0	0	0	0
Dispensing Optician	0	0	0	0	0	0	0	0
Dispensing Optician Apprentice	0	0	0	0	0	0	0	0
East Asian Medicine Practitioner	0	0	0	0	0	0	0	0
Emergency Medical Responder	0	0	0	0	0	0	0	0
Emergency Medical Technician	0	0	0	0	0	0	0	0
Expanded Function Dental Auxiliary	0	0	0	0	0	0	0	0
Genetic Counselor	0	0	0	0	0	0	0	0
Health Care Assistant	0	0	0	0	0	0	0	0
Hearing aid Specialist	0	0	0	0	0	0	0	0
Home Care Aide	0	0	0	0	0	0	0	0
Humane Society	0	0	0	0	0	0	0	0
Hypnotherapist	0	0	0	0	0	0	0	0
Licensed Practical Nurse	60	0	0	0	0	0	0	0
Marriage and Family Therapist	0	0	0	0	0	0	0	0
Marriage and Family Therapist Associate	0	0	0	0	0	0	0	0
Massage Therapist	1	0	0	0	0	0	0	0
Medical Assistant	0	0	0	0	0	0	0	0
Mental Health Counselor	0	0	0	0	0	0	0	0
Mental Health Counselor Associate	0	0	0	0	0	0	0	0
Midwife	0	0	0	0	0	0	0	0
Naturopathic Physician	0	0	0	0	0	0	0	0
Nursing Assistant	0	0	0	0	0	0	0	0
Nursing Home Administrator	0	0	0	0	0	0	0	0
Nursing Pool Operator	0	0	0	0	0	0	0	0
Nursing Technician	0	0	0	0	0	0	0	0

Profession	25	26	27	28	29	30	31	32
Occupational Therapist	0	0	0	0	0	0	0	0
Occupational Therapy Assistant	0	0	0	0	0	0	0	0
Ocularist	0	0	0	0	0	0	0	0
Optometrist	0	0	0	0	0	0	0	0
Orthotics Prosthetics	0	0	0	0	0	0	0	0
Osteopathic Physician	0	0	0	0	0	0	0	0
Osteopathic Physician Assistant	0	0	0	0	0	0	0	0
Paramedic	0	0	0	0	0	0	0	0
Pharmacies and Other Pharmaceutical Firms	0	0	0	0	0	0	0	0
Pharmacist	0	0	0	0	0	0	0	0
Pharmacist Intern	0	0	0	0	0	0	0	0
Pharmacy Assistant	0	0	0	0	0	0	0	0
Pharmacy Technician	0	0	0	0	0	0	0	0
Physical Therapist	0	0	0	0	0	0	0	0
Physical Therapist Assistant	0	0	0	0	0	0	0	0
Physician	0	306	170	55	9	103	83	45
Physician Assistant	0	26	22	8	0	11	5	4
Podiatric Physician	0	0	0	0	0	0	0	0
Psychologist	0	0	0	0	0	0	0	0
Radiological Technologist	0	0	0	0	0	0	0	0
Radiologist Assistant	0	0	0	0	0	0	0	0
Recreational Therapist	0	0	0	0	0	0	0	0
Reflexologist	0	0	0	0	0	0	0	0
Registered Nurse	191	0	0	0	0	0	0	0
Respiratory Care Practitioner	0	0	0	0	0	0	0	0
Retired Volunteer Medical Worker	0	0	0	0	0	0	0	0
Sex Offender Treatment Provider	0	0	0	0	0	0	0	0
Sex Offender Treatment Provider Affiliate	0	0	0	0	0	0	0	0
Social Worker Advanced	0	0	0	0	0	0	0	0
Social Worker Associate Advanced	0	0	0	0	0	0	0	0
Social Worker Associate Independent Clinical	0	0	0	0	0	0	0	0
Social Worker Independent Clinical	0	0	0	0	0	0	0	0
Speech Language Pathologist	0	0	0	0	0	0	0	0
Speech Language Pathology Assistant	0	0	0	0	0	0	0	0
Surgical Technologist	0	0	0	0	0	0	0	0
Veterinarian	0	0	0	0	0	0	0	0
Veterinary Medication Clerk	0	0	0	0	0	0	0	0
Veterinary Technician	0	0	0	0	0	0	0	0
X-Ray Technician	0	0	0	0	0	0	0	0
Totals	**281**	**332**	**192**	**63**	**9**	**114**	**88**	**49**
Months Worked In Biennium	**24**	**24**	**23**	**8**	**24**	**12**	**7**	**5**

Appendix E: Distribution of Investigator Workload
2015-17 Biennium

	Investigator														
Profession	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
Advanced Emergency Medical Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Advanced Registered Nurse Practitioner	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Animal Massage Practitioner	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0
Athletic Trainer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Audiologist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cardiovascular Invasive Specialist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chemical Dependency Professional	3	6	5	6	5	5	0	3	1	0	0	0	0	0	2
Chemical Dependency Professional Trainee	1	1	1	4	3	1	0	4	1	0	1	0	0	0	0
Chiropractic X-Ray Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chiropractor	4	6	1	10	4	18	0	11	0	0	0	0	0	0	4
Counselor, Agency Affiliated	4	9	4	4	2	8	1	6	3	0	3	0	0	0	2
Counselor, Certified	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1
Counselor, Certified Advisor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dental Anesthesia Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dental Assistant	1	1	5	1	0	3	0	2	0	0	0	0	0	0	0
Dental Hygienist	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0
Dentist	1	28	32	5	5	22	4	18	4	0	5	0	0	0	7
Denturist	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Dietitian/Nutritionist	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Dispensing Optician	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Dispensing Optician Apprentice	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
East Asian Medicine Practitioner	0	1	2	0	0	4	0	0	0	0	0	0	0	0	0
Emergency Medical Responder	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Emergency Medical Technician	1	0	0	1	0	5	0	1	2	0	1	0	0	0	0
Expanded Function Dental Auxiliary	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Genetic Counselor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Health Care Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hearing aid Specialist	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Home Care Aide	12	4	6	4	5	6	3	6	21	0	23	0	0	0	2
Humane Society	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hypnotherapist	1	3	0	1	0	0	0	0	0	0	0	0	0	0	0
Licensed Practical Nurse	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
Marriage and Family Therapist	1	6	0	2	1	4	0	1	0	0	0	0	0	0	0
Marriage and Family Therapist Associate	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0
Massage Therapist	5	6	7	17	15	12	5	11	7	0	3	0	0	0	8
Medical Assistant	2	11	5	2	5	10	1	12	7	0	8	0	0	0	2
Mental Health Counselor	3	14	0	7	1	16	0	6	0	0	0	0	0	0	1
Mental Health Counselor Associate	1	6	1	2	0	4	0	1	0	0	0	0	0	0	0
Midwife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Naturopathic Physician	0	17	3	3	0	4	0	3	0	0	0	0	0	0	0

Profession	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Nursing Assistant	66	17	27	32	44	55	5	46	52	0	100	0	0	0	15
Nursing Home Administrator	0	2	2	1	1	7	0	5	16	0	2	0	0	0	4
Nursing Pool Operator	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0
Nursing Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Occupational Therapist	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
Occupational Therapy Assistant	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Ocularist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Optometrist	0	0	1	1	0	1	0	2	0	0	0	0	0	0	2
Orthotics Prosthetics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Osteopathic Physician	1	7	1	2	2	6	1	5	0	0	0	0	0	0	0
Osteopathic Physician Assistant	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0
Paramedic	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Pharmacies and Other Pharmaceutical Firms	1	0	0	1	1	0	0	0	0	13	0	20	22	6	0
Pharmacist	2	0	0	0	0	0	0	0	0	23	0	25	33	21	0
Pharmacist Intern	0	0	0	0	0	0	0	0	0	2	0	1	1	1	0
Pharmacy Assistant	0	0	0	0	0	0	0	0	0	0	0	1	7	2	0
Pharmacy Technician	0	0	0	0	0	0	0	0	0	5	0	1	11	4	0
Physical Therapist	1	2	0	0	3	0	0	5	0	0	1	0	0	0	2
Physical Therapist Assistant	1	0	2	0	2	0	0	0	1	0	0	0	0	0	0
Physician	0	2	0	0	0	2	0	0	1	0	0	0	0	0	0
Physician Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Podiatric Physician	1	1	0	0	1	0	0	1	0	0	1	0	0	0	0
Psychologist	0	5	1	0	0	3	0	1	1	0	1	0	0	0	1
Radiological Technologist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Radiologist Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Recreational Therapist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reflexologist	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Registered Nurse	0	1	0	1	2	1	0	0	1	0	0	0	0	0	0
Respiratory Care Practitioner	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Retired Volunteer Medical Worker	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sex Offender Treatment Provider	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Sex Offender Treatment Provider Affiliate	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Social Worker Advanced	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Social Worker Associate Advanced	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Social Worker Associate Independent Clinical	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
Social Worker Independent Clinical	2	3	1	2	1	1	0	2	0	0	0	0	0	0	0
Speech Language Pathologist	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Speech Language Pathology Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Surgical Technologist	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
Veterinarian	8	4	2	5	0	12	3	3	1	0	0	0	0	0	1
Veterinary Medication Clerk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Veterinary Technician	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
X-Ray Technician	0	1	0	0	0	0	0	2	0	0	0	0	0	0	1
Grand Total	**125**	**172**	**114**	**118**	**104**	**221**	**24**	**166**	**122**	**43**	**150**	**48**	**74**	**34**	**63**
Months Worked	**21**	**24**	**24**	**24**	**21**	**24**	**3**	**21**	**2**	**24**	**24**	**22**	**24**	**24**	**14**

Profession	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Advanced Emergency Medical Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Advanced Registered Nurse Practitioner	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Animal Massage Practitioner	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Athletic Trainer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Audiologist	2	1	0	1	0	0	0	0	3	0	0	0	0	0	0
Cardiovascular Invasive Specialist	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chemical Dependency Professional	6	1	3	10	3	8	0	1	5	0	14	6	5	15	11
Chemical Dependency Professional Trainee	3	1	0	1	3	3	0	0	1	2	7	2	2	10	0
Chiropractic X-Ray Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chiropractor	5	1	3	4	2	8	0	2	0	0	1	4	1	7	6
Counselor, Agency Affiliated	9	3	2	5	0	4	0	0	4	5	3	10	3	5	4
Counselor, Certified	1	2	0	2	0	3	0	0	0	0	0	0	0	0	0
Counselor, Certified Advisor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dental Anesthesia Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dental Assistant	4	3	1	1	2	0	0	0	1	2	2	1	1	2	0
Dental Hygienist	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Dentist	22	37	7	23	15	17	0	6	6	6	5	6	13	15	16
Denturist	0	1	0	0	0	1	0	0	1	0	1	0	0	2	1
Dietitian/Nutritionist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dispensing Optician	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0
Dispensing Optician Apprentice	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
East Asian Medicine Practitioner	0	1	0	0	0	3	0	0	1	1	0	0	1	0	0
Emergency Medical Responder	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emergency Medical Technician	1	3	1	2	0	2	0	0	3	2	1	0	0	1	0
Expanded Function Dental Auxiliary	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Genetic Counselor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Health Care Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hearing aid Specialist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Home Care Aide	4	4	7	16	3	15	0	0	10	3	10	18	15	17	8
Humane Society	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hypnotherapist	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Licensed Practical Nurse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Marriage and Family Therapist	0	2	0	2	1	0	0	0	0	0	1	0	1	1	0
Marriage and Family Therapist Associate	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1
Massage Therapist	2	2	5	6	23	4	0	8	10	5	5	1	4	4	13
Medical Assistant	9	5	2	8	5	13	0	4	12	3	1	9	5	4	7
Mental Health Counselor	6	4	3	4	6	5	0	0	1	0	0	1	4	5	4
Mental Health Counselor Associate	7	2	0	0	0	2	0	1	0	0	1	0	0	0	2
Midwife	2	0	0	4	8	0	0	0	1	0	0	1	0	1	0
Naturopathic Physician	6	3	0	0	3	1	0	3	1	1	2	0	3	0	2
Nursing Assistant	34	25	22	38	23	30	0	17	36	24	42	49	37	64	48
Nursing Home Administrator	7	2	1	5	5	3	0	2	0	1	1	3	0	2	4
Nursing Pool Operator	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0
Nursing Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Occupational Therapist	1	0	0	1	1	0	0	0	0	0	1	0	0	0	1
Occupational Therapy Assistant	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1

Profession	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ocularist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Optometrist	1	0	0	19	0	1	0	0	3	0	0	0	0	0	0
Orthotics Prosthetics	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
Osteopathic Physician	9	2	0	4	3	5	0	0	4	0	6	7	2	4	2
Osteopathic Physician Assistant	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0
Paramedic	0	3	0	0	0	1	0	0	1	0	0	0	0	0	0
Pharmacies and Other Pharmaceutical Firms	0	0	0	0	1	0	14	0	0	0	0	1	0	0	0
Pharmacist	0	0	0	0	0	0	12	0	0	0	0	0	1	0	0
Pharmacist Intern	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Pharmacy Assistant	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Pharmacy Technician	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0
Physical Therapist	2	1	0	3	1	2	0	0	1	0	0	1	0	5	4
Physical Therapist Assistant	0	0	0	3	0	0	0	0	0	0	0	1	2	1	0
Physician	1	0	0	2	1	1	0	0	2	2	0	0	0	0	0
Physician Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Podiatric Physician	3	1	0	0	4	0	0	0	1	0	0	0	0	0	2
Psychologist	6	2	0	3	2	5	0	6	1	0	1	0	2	2	4
Radiological Technologist	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
Radiologist Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Recreational Therapist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reflexologist	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Registered Nurse	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0
Respiratory Care Practitioner	0	1	0	1	1	0	0	0	1	2	0	0	1	0	0
Retired Volunteer Medical Worker	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sex Offender Treatment Provider	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1
Sex Offender Treatment Provider Affiliate	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Social Worker Advanced	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Social Worker Associate Advanced	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Social Worker Associate Independent Clinical	0	1	0	2	0	1	0	0	0	2	0	0	1	0	1
Social Worker Independent Clinical	0	0	0	0	0	1	0	2	0	0	1	3	1	1	2
Speech Language Pathologist	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Speech Language Pathology Assistant	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Surgical Technologist	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0
Veterinarian	5	3	0	2	3	4	0	1	8	0	4	9	1	2	6
Veterinary Medication Clerk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Veterinary Technician	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
X-Ray Technician	0	0	1	2	0	1	0	0	0	0	0	0	0	0	1
Grand Total	**162**	**124**	**59**	**177**	**119**	**150**	**32**	**54**	**122**	**61**	**113**	**136**	**110**	**176**	**153**
Months Worked	**24**	**24**	**1**	**24**	**24**	**24**	**24**	**20**	**7**	**7**	**24**	**24**	**24**	**24**	**24**

Profession	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Advanced Emergency Medical Technician	0	0	0	0	3	0	4	0	0	0	0	0	0	0	0
Advanced Registered Nurse Practitioner	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Animal Massage Practitioner	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Athletic Trainer	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Audiologist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cardiovascular Invasive Specialist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chemical Dependency Professional	0	5	0	0	7	0	7	0	0	3	15	0	0	6	1
Chemical Dependency Professional Trainee	0	3	0	0	7	0	8	0	0	8	5	0	1	4	0
Chiropractic X-Ray Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chiropractor	0	7	0	0	6	0	6	0	0	7	1	0	2	0	0
Counselor, Agency Affiliated	0	3	0	0	3	0	8	2	0	2	10	0	0	7	0
Counselor, Certified	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0
Counselor, Certified Advisor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dental Anesthesia Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dental Assistant	0	1	0	0	0	0	4	2	0	1	0	0	1	0	0
Dental Hygienist	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0
Dentist	0	9	0	0	18	0	71	43	0	24	22	0	2	7	0
Denturist	0	0	0	0	3	0	4	1	0	1	2	0	0	0	0
Dietitian/Nutritionist	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Dispensing Optician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dispensing Optician Apprentice	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
East Asian Medicine Practitioner	0	0	0	0	1	0	2	0	0	0	0	0	0	9	0
Emergency Medical Responder	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emergency Medical Technician	0	1	0	0	1	0	2	0	0	0	1	0	0	0	0
Expanded Function Dental Auxiliary	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Genetic Counselor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Health Care Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hearing aid Specialist	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0
Home Care Aide	0	3	0	0	8	0	4	2	0	6	10	0	1	1	1
Humane Society	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hypnotherapist	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
Licensed Practical Nurse	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
Marriage and Family Therapist	0	1	0	0	0	0	0	0	0	7	0	0	0	1	0
Marriage and Family Therapist Associate	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
Massage Therapist	0	13	0	0	5	0	4	4	0	3	11	0	0	16	1
Medical Assistant	0	6	0	0	9	0	4	0	0	8	11	0	0	2	0
Mental Health Counselor	0	6	0	0	5	0	5	1	0	7	8	0	1	5	0
Mental Health Counselor Associate	0	2	0	0	1	0	1	1	0	1	2	0	0	4	1
Midwife	0	0	0	0	0	0	2	2	0	0	1	0	0	0	0
Naturopathic Physician	0	1	0	0	0	0	1	4	0	1	2	0	1	11	0
Nursing Assistant	0	35	0	0	72	0	17	10	0	11	34	0	10	24	1
Nursing Home Administrator	0	2	0	0	2	0	6	10	0	0	4	0	0	1	0
Nursing Pool Operator	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Nursing Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Occupational Therapist	0	0	0	0	1	0	1	1	0	0	0	0	0	1	0
Occupational Therapy Assistant	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

Profession	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ocularist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Optometrist	0	0	0	0	0	0	1	1	0	2	0	0	0	1	0
Orthotics Prosthetics	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Osteopathic Physician	0	3	0	0	3	0	3	3	0	2	15	0	0	6	0
Osteopathic Physician Assistant	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Paramedic	0	0	0	0	1	0	4	0	0	0	1	0	0	0	0
Pharmacies and Other Pharmaceutical Firms	25	0	3	0	0	4	0	3	22	0	0	15	0	0	0
Pharmacist	42	0	7	0	0	14	0	0	28	0	0	29	0	0	0
Pharmacist Intern	1	0	0	0	0	1	0	0	0	0	0	3	0	0	0
Pharmacy Assistant	5	0	1	0	0	3	0	0	9	0	0	4	0	0	0
Pharmacy Technician	5	0	3	1	0	3	0	0	8	0	0	9	0	0	0
Physical Therapist	0	3	0	0	0	0	2	1	0	1	3	0	0	0	0
Physical Therapist Assistant	0	1	0	0	0	0	1	0	0	1	2	0	0	0	0
Physician	0	1	0	0	0	0	1	1	0	1	1	0	0	1	0
Physician Assistant	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
Podiatric Physician	0	1	0	0	0	0	0	0	0	0	4	0	0	0	0
Psychologist	0	4	0	0	0	0	0	2	0	1	6	0	0	3	0
Radiological Technologist	0	0	0	0	1	0	2	0	0	0	2	0	0	0	0
Radiologist Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Recreational Therapist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reflexologist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Registered Nurse	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0
Respiratory Care Practitioner	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
Retired Volunteer Medical Worker	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sex Offender Treatment Provider	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0
Sex Offender Treatment Provider Affiliate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Social Worker Advanced	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Social Worker Associate Advanced	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Social Worker Associate Independent Clinical	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0
Social Worker Independent Clinical	0	2	0	0	2	0	1	0	0	1	3	0	0	1	0
Speech Language Pathologist	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0
Speech Language Pathology Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Surgical Technologist	0	0	0	0	2	0	0	1	0	0	1	0	0	0	0
Veterinarian	0	4	0	0	3	0	10	3	0	1	6	0	0	5	0
Veterinary Medication Clerk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Veterinary Technician	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0
X-Ray Technician	0	1	0	0	0	0	0	1	0	0	2	0	0	0	0
Grand Total	**78**	**123**	**14**	**1**	**172**	**25**	**188**	**101**	**67**	**107**	**199**	**60**	**19**	**122**	**5**
Months Worked	**24**	**24**	**13**	**4**	**24**	**18**	**24**	**24**	**24**	**24**	**24**	**24**	**3**	**24**	**3**

Profession	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Advanced Emergency Medical Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Advanced Registered Nurse Practitioner	0	2	0	0	0	6	27	16	11	7	27	4	7	18	33
Animal Massage Practitioner	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Athletic Trainer	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Audiologist	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Cardiovascular Invasive Specialist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chemical Dependency Professional	1	2	9	0	11	0	0	0	0	0	0	0	0	0	0
Chemical Dependency Professional Trainee	2	3	4	0	6	0	0	0	0	0	0	0	0	0	0
Chiropractic X-Ray Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chiropractor	14	3	10	0	15	0	0	0	0	0	0	0	0	0	0
Counselor, Agency Affiliated	1	10	8	0	4	0	0	0	0	0	0	0	0	0	0
Counselor, Certified	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0
Counselor, Certified Advisor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dental Anesthesia Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dental Assistant	5	2	1	0	3	0	0	0	0	0	0	0	0	0	0
Dental Hygienist	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Dentist	15	8	20	0	14	0	0	0	0	0	0	0	0	0	0
Denturist	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
Dietitian/Nutritionist	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Dispensing Optician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dispensing Optician Apprentice	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
East Asian Medicine Practitioner	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emergency Medical Responder	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emergency Medical Technician	0	5	2	0	1	0	0	0	0	0	0	0	0	0	0
Expanded Function Dental Auxiliary	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Genetic Counselor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Health Care Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hearing Aid Specialist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Home Care Aide	9	18	6	0	8	0	0	0	0	0	0	0	0	0	0
Humane Society	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hypnotherapist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Licensed Practical Nurse	0	0	0	0	1	17	41	21	26	25	14	20	21	22	29
Marriage and Family Therapist	6	0	4	0	0	0	0	0	0	0	0	0	0	0	0
Marriage and Family Therapist Associate	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Massage Practitioner	4	5	3	0	2	0	0	0	0	0	0	0	0	0	0
Medical Assistant	11	8	2	0	14	0	0	0	0	0	0	0	0	0	0
Mental Health Counselor	1	3	10	0	3	0	0	0	0	0	0	0	0	0	0
Mental Health Counselor Associate	2	1	2	0	2	0	0	0	0	0	0	0	0	0	0
Midwife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Naturopathic Physician	4	1	1	0	3	0	0	0	0	0	0	0	0	0	0
Nursing Assistant	47	63	55	0	39	0	0	0	0	0	0	0	0	0	0
Nursing Home Administrator	3	0	4	0	9	0	0	0	0	0	0	0	0	0	0
Nursing Pool Operator	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Nursing Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Profession	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Occupational Therapist	0	1	3	0	1	0	0	0	0	0	0	0	0	0	0
Occupational Therapy Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ocularist	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Optometrist	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
Orthotist/Prosthetist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Osteopathic Physician	1	3	2	0	10	0	0	0	0	0	0	0	0	0	0
Osteopathic Physician Assistant	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Paramedic	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0
Pharmacies and Other Pharmaceutical Firms	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0
Pharmacist	0	0	0	38	0	0	0	0	0	0	0	0	0	0	0
Pharmacist Intern	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Pharmacy Assistant	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0
Pharmacy Technician	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0
Physical Therapist	2	1	1	0	3	0	0	0	0	0	0	0	0	0	0
Physical Therapist Assistant	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Physician	1	0	3	0	1	0	0	0	1	0	0	0	0	0	0
Physician Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Podiatric Physician	3	6	1	0	2	0	0	0	0	0	0	0	0	0	0
Psychologist	4	2	4	0	3	0	0	0	0	0	0	0	0	0	0
Radiological Technologist	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Radiologist Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Recreational Therapist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reflexologist	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Registered Nurse	0	2	1	0	1	56	118	88	72	79	91	89	64	64	##
Respiratory Care Practitioner	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Retired Volunteer Medical Worker	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sex Offender Treatment Provider and Affiliate	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Social Worker Advanced	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Social Worker Associate Advanced	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Social Worker Associate Independent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Social Worker Independent Clinical	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0
Speech Language Pathologist	1	0	2	0	2	0	0	0	0	0	0	0	0	0	0
Speech Language Pathology Assistant	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
Surgical Technologist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Veterinarian	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Veterinary Medication Clerk	11	3	6	0	5	0	0	0	0	0	0	0	0	0	0
Veterinary Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X-Ray Technician	3	1	0	0	2	0	0	0	0	0	0	0	0	0	0
Grand Total	**157**	**174**	**173**	**65**	**179**	**79**	**186**	**125**	**110**	**111**	**132**	**113**	**92**	**104**	**212**
Months Worked	**24**	**24**	**24**	**24**	**24**	**8**	**24**	**24**	**24**	**24**	**24**	**24**	**24**	**9**	**24**

Profession	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Advanced Emergency Medical Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Advanced Registered Nurse Practitioner	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Animal Massage Practitioner	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Athletic Trainer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Audiologist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cardiovascular Invasive Specialist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chemical Dependency Professional	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chemical Dependency Professional Trainee	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chiropractic X-Ray Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chiropractor	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
Counselor, Agency Affiliated	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
Counselor, Certified	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Counselor, Certified Advisor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dental Anesthesia Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dental Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dental Hygienist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dentist	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Denturist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dietitian/Nutritionist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dispensing Optician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dispensing Optician Apprentice	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
East Asian Medicine Practitioner	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emergency Medical Responder	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emergency Medical Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Expanded Function Dental Auxiliary	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Genetic Counselor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Health Care Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hearing aid Specialist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Home Care Aide	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
Humane Society	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hypnotherapist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Licensed Practical Nurse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Marriage and Family Therapist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Marriage and Family Therapist Associate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Massage Therapist	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Medical Assistant	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Mental Health Counselor	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Mental Health Counselor Associate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Midwife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Naturopathic Physician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nursing Assistant	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0
Nursing Home Administrator	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nursing Pool Operator	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nursing Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Occupational Therapist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Occupational Therapy Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Profession	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Ocularist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Optometrist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Orthotics Prosthetics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Osteopathic Physician	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Osteopathic Physician Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramedic	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0
Pharmacies and Other Pharmaceutical Firms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pharmacist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pharmacist Intern	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pharmacy Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pharmacy Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Physical Therapist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Physical Therapist Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Physician	76	121	120	158	22	26	102	49	141	67	96	104	7	3	40
Physician Assistant	1	7	7	8	2	2	23	3	10	13	10	10	1	0	0
Podiatric Physician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psychologist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Radiological Technologist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Radiologist Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Recreational Therapist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reflexologist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Registered Nurse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Respiratory Care Practitioner	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Retired Volunteer Medical Worker	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sex Offender Treatment Provider	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sex Offender Treatment Provider Affiliate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Social Worker Advanced	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Social Worker Associate Advanced	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Social Worker Associate Independent Clinical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Social Worker Independent Clinical	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Speech Language Pathologist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Speech Language Pathology Assistant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Surgical Technologist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Veterinarian	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Veterinary Medication Clerk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Veterinary Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X-Ray Technician	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	**77**	**128**	**127**	**166**	**24**	**28**	**125**	**98**	**151**	**80**	**106**	**114**	**8**	**3**	**40**
Months Worked	**24**	**9**	**24**	**24**	**10**	**2**	**24**	**5**	**24**	**14**	**22**	**24**	**20**	**1**	**7**

Under Secretary for Health
Washington DC 20420

August 11, 2017

As the State Board of Nursing may be aware, in a final rule published on December 14, 2016, the Department of Veterans Affairs (VA) authorized granting full practice authority to advanced practice registered nurses (APRN) when they are acting within the scope of their VA employment in one of the three following APRN roles: Certified Nurse Practitioners (CNP), Clinical Nurse Specialists (CNS), or Certified Nurse-Midwives (CNM). Advanced Practice Registered Nurses, 81 Fed. Reg. 90198 (Dec, 14, 2016). Certified Registered Nurse Anesthetists (CRNA) were not included under this final rule. This final rule became effective on January 13, 2017, and is available at https://www.gpo.gov/fdsys/pkg/FR-2016-12-14/pdf/FR-2016-12-14.pdf. The amendments made by this final rule are codified at 38 C.F.R. § 17.415.

The final rule established the professional qualifications an individual must possess to be appointed as an APRN within VA, the criteria under which VA may grant full practice authority to an APRN, and defined the scope of full practice authority for each category of the three roles of APRN. The services provided by an APRN under full practice authority in VA are consistent with the nursing profession's standards of practice for such roles. The final rule increases veterans' access to VA health care by expanding the pool of qualified health care professionals who are authorized to provide primary health care and other related health care services to the full extent of their education, training, and certification, without the clinical supervision of physicians, and it permits VA to use its health care resources more effectively and in a manner that is consistent with the role of APRNs in the non-VA health care sector, while maintaining the patient-centered, safe, high-quality health care that Veterans receive from VA.

As explained in the preamble to the final rule, in 38 C.F.R. § 17.415 VA is exercising Federal preemption of state nursing licensure laws to the extent such state laws conflict with full practice authority granted to VA APRNs while acting within the scope of their VA employment. Section 17.415 only preempts State law for VA employees practicing within the scope of their VA employment, and as a result, infringement upon State authority would be limited. For example, this final rule does not eliminate the APRN's need to possess a license from a state licensing board in one of the recognized APRN roles. Also, the full practice authority of an APRN is subject to the limitations imposed by the Controlled Substances Act, 21 U.S.C. 801 et seq., and thus that APRN's state licensure on the authority to prescribe, or administer controlled substances.

In terms of implementation of full practice authority, it is the Veterans Health Administration's (VHA) policy that an individual CNP, CNS or CNM granted full practice authority will be recognized as a licensed independent practitioner (LIP) and be clinically privileged in accordance with VA's clinical privileging process at their VA medical facility. The process for granting full practice authority will be governed by a forthcoming VHA Directive.

Finally, please be aware that a VA APRN (CNP, CNM or CNS) granted full practice authority at a VA facility will complete a templated letter identifying themselves as a VA employee who is privileged to practice as a LIP within the VA system. The APRN will send the letter to their respective state board when applying for initial or ongoing licensure. Enclosed is a copy of the current template for such letter.

Sincerely,

Poonam Alaigh, M.D.
Acting

Enclosure

State Board of Nursing
Advanced Practice Registered Nurse (APRN)
Notice of Existing Grant of Full Practice Authority in the Veterans Health Administration (VHA)

APRN's Name: ____________________

Please Select:

☐ CNP ☐ CNS ☐ CNM

List all states of licensure:

State: _____ License #: __________ Exp. Date: _______ DEA#: _______ Exp. Date: ______
State: _____ License #: __________ Exp. Date: _______ DEA#: _______ Exp. Date: ______
State: _____ License #: __________ Exp. Date: _______ DEA#: _______ Exp. Date: ______

1 VA facility: ____________________
Address: ____________________

2 VA facility: ____________________
Address: ____________________

3 VA facility: ____________________
Address: ____________________

Participates in Telehealth:

☐ Yes ☐ No

If *yes*, list the state(s) in which telehealth patients reside: ____________________

This document will serve to verify that I am employed by the Department of Veterans Affairs as a Certified Nurse Practitioner (CNP), Clinical Nurse Specialist (CNS), or Certified Nurse Midwife (CNM), who has been granted full practice authority under VA regulation 38 C.F.R. 17.415, Full practice authority for advanced practice registered nurses, and am therefore exempt from clinical supervision or mandatory collaboration of a physician when acting within the scope of my VA employment.

APRN Signature: ____________________ Date: __________

Credentials: ____________________

VA Service Chief Signature: ____________________ Date: __________

MEMORANDUM

TO: David Benton
Elliot Vice

FROM: Thomas G. Abram

DATE: February 24, 2017

RE: VA APRN Rule

I conclude that a state may not deny a licensee's application for licensure renewal based on the licensee's failure to maintain a collaborative agreement, otherwise required by state law, where the licensee practices exclusively as an appointed APRN at VA facilities pursuant to 38 CFR Part 17. The basis for this opinion is as follows:

(1) In general, there is conflicting legal precedence on whether a state professional regulatory board may take disciplinary action against a licensee who practices exclusively at a federal facility for unprofessional conduct committed at the federal facility that violates state law. The May 23, 2011 Opinion of Department of Veterans Affairs General Counsel, p. 3 asserts that, under the Supremacy Clause, state regulatory boards do not have such jurisdiction. *See also, City of Jackson v. Jackson*, 235 F. Supp. 2d 532 (S.D. Miss. 2002); *Ohio v. Thomas*, 173 U.S. 276 (1989). On the other hand, the Court in *Colorado State Baord of Medical Examiners v. Sullivan*, 976 P.2d 885 (Colo. App. 1999), held that state regulatory boards have jurisdiction. *See also, Ariz. Atty. Gen. Op*. 189-090 (1989).

(2) In any event, the federal government clearly has the authority to preempt state regulatory authority. Where Congress enacts regulatory legislation governing federal employment or contracting and grants authority for comprehensive federal rulemaking to execute the legislation in such a manner as to demonstrate that Congress intends that federal law

"occupy the field" of the subject matter regulation, then state regulatory law is preempted by federal law.

(3) Here, 38 CFR Part 17, issued under authority granted by 38 U.S.C. Section 7401-7464, establishes the professional qualifications an individual must possess to be appointed as an APRN within the VA, establishes the criteria under which the VA may grant full practice authority to APRNs and defines the scope of full practice authority for approved APRNs. The comments to 38 CFR Part 17 make clear that this rule permits full APRN practice authority at VA facilities regardless of state restrictions on such full practice authority (excluding restrictions on prescribing and administering controlled substances).

(4) Accordingly, without question, the VA intends to "occupy the field" and preempt conflicting state law that would interfere with APRNs' authorized full practice authority within the VA. This effect is not altered by the fact that 38 CFR Part 17 provides that local VA facilities may decline to grant full practice authority at its facility to an APRN who does not have a collaborative agreement or otherwise does not meet state practice act requirements for the state in which the facility is located. The critical issue for preemption is that it is VA, not state, officials who decide whether or not to assert the full practice authority for APRNs at a particular VA facility. The possibility that a VA administrator at a particular facility may decline to assert such authority for political reasons or because of presence of state law practice act restrictions does not negate the fact that the VA rule clearly intends to preempt all state law restrictions.

(5) Consequently, state nursing boards are preempted from taking actions that would effectively add qualifications or requirements for full APRN practice authority beyond those requirements which the VA has determined to be sufficient. For state boards to do

so would interfere with the execution of the federal regulatory scheme and objective to allow full practice authority by APRNs at VA facilities. The United States Supreme court and lower courts have consistently held that a state cannot require someone employed or doing business with the federal government to obtain a license or meet requirements beyond the federally mandated qualifications for employment or contracting. *Leslie Miller, Inc. v. Arkansas*, 352 U.S. 187 (1956); *Sperry v. Fla*., 373 U.S. 379 (1963); *Gartrell Construction, Inc. v. Aubry*, 940 F.2d 437 (9th Cir. 1991), *Elec. Const. Co. v. Flickinger*, 107 Ariz. 222, 485 P.2d 547 (1971); *United States v. Virginia*, 139 F.3d 984 (1998).

(6) These decisions all stand for the proposition that a state cannot require an individual to be licensed by the state to do business or be employed by the federal government where this is not required by the applicable federal regulatory scheme. These cases also support the conclusion that a state licensing authority may not take disciplinary action against a licensee for failure to comply with state law in the course of his or her federal employment where to do so would essentially entail the state licensing board second guessing the qualifications of the federal employee in violation of federal preemption. *See, e.g. Ariz. Atty. Gen. Op.* 103-009 (2003).

(7) These court decisions and attorney general opinions do not expressly address whether, notwithstanding the above, a state nursing board could deny license renewal to an APRN working at a VA facility because the APRN did not have a collaborative agreement. Also, the VA rules require an APRN to have an active, full and unrestricted license in some state to practice at the VA. (But they do not have to have a license that grants full independent practice authority, 38 U.S.C. § 7402(b).) One could argue that the VA rules

should not be found to preempt a state's authority to set its own licensure requirements and that state disciplinary action (or failure to renew) only affects practice outside the VA and, therefore, does not constitute interference with the federal government's regulation of its employees. This was the rationale in *Colorado State Bd. of Medical Examiners*, cited in Paragraph 1.

(8) However, I think a better reading is that the denial of licensure renewal under these circumstances would, in effect, be a disciplinary action for practicing at the VA without a collaborative agreement, etc. In addition, although an APRN could seek a license in another jurisdiction that did not require a collaborative agreement, a denial of license renewal would nonetheless impose a burden and obstacles on the APRN's ability to exercised full practice authority at the VA under the new final rule. Such action could also have a chilling effect on the willingness of APRNs to work at VA hospitals without a collaborative agreement. The overall effect would certainly tend to frustrate the objectives of 38 CFR Part 17. In my opinion, this interference should be sufficient to exercise federal preemption against the nursing board's refusal to renew the license.

(9) This conclusion, as above discussed, is not free from all doubt. It is consistent with the U.S. Department of Veterans Affairs General Counsel Opinion of May 23, 2011. To make a more definitive assessment would require more extensive research. However, I consider the conclusion sound and the VA General Counsel, at least as of 2011, indicates the VA would seek injunctive action against a state attempting to discipline an APRN or deny licensure renewal because of the APRN's acting in accordance with VA rules in practicing at a VA facility.

Department of Health
Nursing Care Quality Assurance Commission

Advisory Opinion

The Nursing Care Quality Assurance Commission (NCQAC) issues this advisory opinion in accordance with WAC 246-840-800. An advisory opinion adopted by the NCQAC is an official opinion about safe nursing practice. The opinion is not legally binding and does not have the force and effect of a duly promulgated regulation or a declaratory ruling by the NCQAC. Institutional policies may restrict practice further in their setting and/or require additional expectations to assure the safety of their patient and//or decrease risk.

Title:	Medical Acupuncture: Scope of Practice for Advanced Registered Nurse Practitioners	*Number:* NCAO x.xx
References:	RCW 18.79 Nursing Care WAC 246-840 Practical and Registered Nursing RCW 18.06 East Asian Medicine Practitioners	
Contact:	Deborah Carlson, MSN, RN, Associate Director of Nursing Practice	
Phone:	(360) 236-4725	
Email:	NursingPracticeConsultation.NCQAC@doh.wa.gov	
Effective Date:	TBD	
Supersedes:	Not Applicable	
Approved By:	Nursing Care Quality Assurance Commission	

Conclusion Statement

The Nursing Care Quality Assurance Commission (NCQAC) concludes that it is within the scope of practice of an advanced registered nurse practitioner (ARNP) to treat patients using acupuncture techniques following successful completion of additional training in medical acupuncture as described in this advisory opinion. An ARNP cannot use the title of East Asian Medical Practitioner (EAMP) or acupuncturist unless the ARNP is licensed as an EAMP.

Background and Analysis

Background

The NCQAC received a request for an advisory opinion on whether an ARNP may perform medical acupuncture. The term "acupuncture" describes a family of procedures involving stimulation of points on the body using a variety of techniques. Practiced in China and other Asian countries for thousands of years, acupuncture is one of the key components of traditional Chinese medicine. The American Academy of Medical Acupuncture (AAMA) defines "medical acupuncture" as "the clinical discipline of acupuncture as practiced by a physician who is also trained and licensed in Western biomedicine." Medical acupuncture combines classic and modern forms of acupuncture with conventional biomedicine.

Acupuncture, as part of East Asian Medicine, is a complementary clinical discipline practiced for the purpose of restoring physiologic balance or homeostasis and normal health and function with the body

and with the environment. Techniques include the application of stimulation such as needling, moxibustion, cupping, and acupressure on specific sites of the body known as acupuncture points. Acupuncture devices such as electroacupuncture machines and heat lamps are commonly used to enhance the effects of acupuncture. Other techniques include trigger point acupuncture, laser acupuncture, acupuncture point injection, and techniques focusing on particular regions of the body: auricular (sometimes referred to as battlefield acupuncture), scalp, face, hand, nose, and foot acupuncture.

Acupuncture is used to treat a wide range of conditions including pain, depression, anxiety, nausea and vomiting, fatigue, neuropathy, sleep disturbance, and addiction/detoxification. Specific protocols such as Battlefield Acupuncture (BA) and Detoxification Five Needle Protocol (NADA) have commonly been used by the Department of Defense and in the Veteran's Health Administration (VHA) system by ARNPs as a technique for pain management and to reduce the use of opioids. The Defense and Veterans Center or Integrative Pain Management reports that over 2,800 providers received training through its Battlefield Acupuncture Training program. The American Society for Pain Management guidelines for pain management include integrative therapy options such as acupuncture.

The World Health Organization (WHO) and the World Federation of Acupuncture and Moxibustion Societies (WFAS) have promulgated acupuncture training and education standards for Western trained physicians. Those standards were first adopted in Beijing, China in 1987 and reaffirmed at the WFAS conference in Milan, Italy in 1996. These standards established a minimum level of training necessary for a Western trained physician to enter the practice of medical acupuncture. The WHO standards for physician acupuncture practitioners are as follows:

> "4.2.1 For licensed graduates of modern Western medical colleges, who already have had education and training in anatomy, physiology, neurology, and all the other basic and clinical sciences involved in medical diagnosis and treatment, training in acupuncture can be accomplished following a different training pathway for them to master acupuncture as a special medical modality.
>
> The theoretical part and objectives of this acupuncture training are parallel to those described in the complete training section, and the acupuncture core syllabus will be the same. (The entire WHO/WFAS document is available from the ABMA.) The whole course should be devoted to acquiring the knowledge and skill in acupuncture techniques as well as the related basic acupuncture theory for at least 200 hours of formal training. By the end of the course the participants should be able to integrate acupuncture into their medical practices. The proficiency of training and practice should be evaluated through an official examination by health authorities to ensure safety, competence, and efficacy."

ARNP education not only includes education and training in anatomy, physiology, neurology, and all the other basic and clinical sciences involved in medical diagnosis and treatment, but also builds on a foundation of nursing theory which recognizes the interactions and impact of therapeutic interventions on the core body systems and on the equilibrium or balance of human processes. ARNPs also study sociology and psychological theories of human behavior. This holistic foundational knowledge, which comprehends treatment of the whole person, is similar to acupuncture theory. Trained to think critically and to exercise professional judgment, the ARNP can build upon his/her expertise through a continuous

DRAFT

application of knowledge to new situations. ARNPs practice a form of holistic nursing: assisting healing, preventing or alleviating suffering, and focusing on the promotion of health and wellness.

Analysis
The nursing law (RCW 18.79) is sufficiently broad to enable an individual ARNP, RN, or LPN to perform a wide range of activities. The ARNP scope of practice is as follows:

ARNP
RCW 18.79.250 states: "An advanced registered nurse practitioner under his or her license may perform for compensation nursing care, as that term is usually understood, of the ill, injured, or infirm, and in the course thereof, she or he may do the following things that shall not be done by a person not so licensed, except as provided in RCW 18.79.260 and 18.79.270:

1. Perform specialized and advanced levels of nursing as recognized jointly by the medical and nursing professions, as defined by the commission;
2. Prescribe legend drugs and Schedule V controlled substances, as defined in the Uniform Controlled Substances Act, chapter 69.50 RCW, and Schedules II through IV subject to RCW 18.79.240(1) (r) or (s) within the scope of practice defined by the commission;
3. Perform all acts provided in RCW 18.79.260."

The East Asian Medicine Practitioner law prohibits the unlicensed practice of acupuncture or the unauthorized use of the title of East Asian medicine practitioner or acupuncturist.
RCW 18.06 East Asian Medicine Practitioners states that:

1. "No one may hold themselves out to the public as an East Asian medicine practitioner, acupuncturist, or licensed acupuncturist or any derivative thereof which is intended to or is likely to lead the public to believe such a person is an East Asian medicine practitioner, acupuncturist, or licensed acupuncturist unless licensed as provided for in this chapter.
2. A person may not practice East Asian medicine or acupuncture if the person is not licensed under this chapter.
3. No one may use any configuration of letters after their name (including L. Ac. or EAMP) which indicates a degree or formal training in East Asian medicine, including acupuncture, unless licensed as provided for in this chapter.
4. The secretary may by rule proscribe or regulate advertising and other forms of patient solicitation which are likely to mislead or deceive the public as to whether someone is licensed under this chapter."

However, RCW 18.06.045(1) exempts from the above law practice of those services that are within the scope of practice of a licensed health care professional:

"Nothing in this chapter shall be construed to prohibit or restrict: (1) The practice by an individual credentialed under the laws of this state and performing services within such individual's authorized scope of practice." RCW 18.06.045(1).

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The practice of medicine for allopathic and osteopathic physicians and their physician assistants under chapters 18.71, 18.57, 18.71A, and 18.57A RCW would permit the practice of acupuncture modalities because the definition of the practice of medicine includes:

1. Offers or undertakes to diagnose, cure, advise, or prescribe for any human disease, ailment, injury, infirmity, deformity, pain or other condition, physical or mental, real or imaginary, by any means or instrumentality;
2. Administers or prescribes drugs or medicinal preparations to be used by any other person;
3. Severs or penetrates the tissues of human beings. RCW 18.71.011.

"Osteopathic medicine and surgery means the use of any and all methods in the treatment of disease, injuries, deformities, and all other physical and mental conditions in and of human beings, including the use of osteopathic manipulative therapy." RCW 18.57.001(4).

A registered nurse may administer medications, treatments, tests, and inoculations, whether or not the severing or penetrating of tissues is involved and whether or not a degree of independent judgment and skill is required at or under the general direction of physicians and other medical practitioners. RCW 18.79.260(2). An ARNP may perform all acts provided in RCW 18.79.260 plus specialized and advanced levels of nursing with an independent scope of practice. RCW 18.79.250.

While the majority of national medical acupuncture certifications are currently restricted to physicians or osteopathic physicians, many organizations offer training for nurses in specific acupuncture protocols. At this time, there is currently no full course available to an ARNP that is similar to the AAMA certification course for physicians.

Recommendations

The NCQAC recommends a competency-based model similar to the American Association of Acupuncture and Oriental Medicine (AAAOM) Competency-Based Education Model (2014) for ARNPs. This model can be conceptualized as overlapping domains or dimensions of professional competence.

- Foundational knowledge, acupuncture theory, and acupuncture points;
- Biomedical knowledge, theory, and principles;
- Patient care, practice, and safety;
- Evidence Based Integrative Medical Practice
- Practice-based learning, professional development, and scholarship;
- Systems-based practice;
- Professionalism and ethics;
- Communication and interpersonal skills; and
- Inter-professional collaboration.

An ARNP should obtain training and certification through a national or international accredited program in the use of medical acupuncture.

The NCQAC recommends an ARNP complete the following minimum number of hours of training:

- For ARNPs who want to practice acupuncture and East Asian medicine: 1500 hour EAMP course. **(Note: an EAMP license is required to advertise or hold oneself out as a practitioner of East Asian medicine or as an acupuncturist).**
- For ARNPs who want to add medical acupuncture techniques to their practice must complete training in the appropriate techniques to add to these modalities to their practice: Not less than 300 hours.
- For ARNPs who want to specialize in a specific medical acupuncture protocol (e.g. NADA or BA): Hours and requirements may vary depending on anticipated specialty and use.

The ARNP performing the technique is responsible for explaining the benefits and risks of these modalities to patients and should obtain informed consent. Infection control practices must be followed. ARNPs must document an assessment, appropriate medical diagnosis, treatment response, progress, and any adverse reactions.

Conclusion

Medical acupuncture techniques may be safely performed by an ARNP with specialized training, skills, ongoing training, and knowledge in acupuncture. ARNPs can complete courses and obtain certification in medical acupuncture and/or specific protocols or skill sets, such as BA subtypes of medical acupuncture. The NCQAC supports ARNPs using acupuncture in their nursing practice as a complementary therapy.

References

National Institutes of Health: National Center for Complementary and Integrative Health and National Cancer Institute – Acupuncture: https://nccih.nih.gov/health/acupuncture
https://www.cancer.gov/about-cancer/treatment/cam/hp/acupuncture-pdq#section/_4

Arizona State Board of Nursing Advisory Opinion – Acupuncture Procedures Performed by Advanced Practice Registered Nurses: https://www.azbn.gov/media/1006/ao-acupuncture-procedures-performed-by-aprns.pdf

Oregon State Board of Nursing – Complementary and Alternative Modalities and Nursing Practice: https://www.oregon.gov/OSBN/pdfs/policies/complementary-alternative_modalities.pdf

Defense and Veterans Center for Integrative Pain Management: http://www.dvcipm.org/clinical-resources/battle-field-acupuncture/frequently-asked-questions

American Society for Pain Management Nursing Position Statement – Pain Management in Patients with Substance Use Disorders: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3741053/

New Hampshire Board of Nursing Position Statement – Role of the RN in Complementary and Alternative Therapies: https://www.nh.gov/nursing/statements-advisories/documents/complementary-alternative-therapy.pdf

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Wisconsin Position Statement – Acupuncture: http://dsps.wi.gov/Documents/Board%20Services/Position%20Statements/Acupuncture.pdf

American Journal of Nursing (Wagner, December 2015, Vol. 115, No. 12)) – Incorporating Acupressure into Nursing Practice: http://www.nursingcenter.com/pdfjournal?AID=3251498&an=00000446-201512000-00025&Journal_ID=54030&Issue_ID=3251403

American Academy of Medical Acupuncture National Center for Complementary and Alternative Medicine (NCCAM): http://www.medicalacupuncture.org/For-Patients/Articles-By-Physicians-About-Acupuncture/NCCAM-Acupuncture-Information

World Health Organization and the World Federation of Acupuncture and Moxibustion Societies (WFSA) Guidelines on Basic Training and Safety in Acupuncture (1999): http://apps.who.int/medicinedocs/en/d/Jwhozip56e/

Complementary and Alternative Medicine: Professions or Modalities? Policy Implications for Coverage, Licensure, Scope of Practice, Institutional Privileges, and Research (Herman, P.M. and Coulter, I.D., 2015): http://www.rand.org/content/dam/rand/pubs/research_reports/RR1200/RR1258/RAND_RR1258.pdf

Department of the Navy Bureau of Medicine and Surgery: Medical, Chiropractic, and Licensed Acupuncture Instruction 6320.100 (March 2013): http://www.med.navy.mil/directives/ExternalDirectives/6320.100.pdf

DRAFT

Washington East Asian Medicine Association

September 18, 2017

To: Debbie Carlson and Paula Meyers, Nursing Care Quality Assurance Commission (NCQAC)

From: WA East Asian Medicine Association (WEAMA)

RE: NCQAC Advisory Opinion on ARNPs Practicing Acupuncture

WEAMA would like to insure consistent standards and competency for the practice of acupuncture in Washington State. Many professions are now interested in practicing acupuncture and we do not want a different standard of training for every health care profession who wants to add acupuncture to their scope of practice.

#1. Health care practitioners in Washington State who want to practice acupuncture must meet the state requirements of national certification and testing required in 18.06 RCW to practice acupuncture.

The Washington State Legislature set high standards for East Asian Medicine Practitioners (EAMPs) to practice acupuncture under 18.06 RCW. The RCW allows for other profession to practice acupuncture under 18.06.050(2)(a) RCW-Applications for examination—Qualifications. WEAMA is currently considering legislation that would add advanced registered nurse practitioners (ARNPs) to this section of RCW that would specifically include ARNPs. We are not trying to prevent ARNPs from practicing acupuncture, we want ARNPs to be adequately trained and meet the same national certification standards that EAMPs and other profession must meet to gain licensure. (Note: an EAMP license is required to advertise or hold oneself out as a practitioner of East Asian medicine or as an acupuncturist).

Protecting public safety by assuring that there is a legally defensible standard of certification and examination to practice acupuncture is essential. Currently Acupuncturists (East Asian Medicine Practitioners) must meet national certification standards through the National Certification Commission on Acupuncture and Oriental Medicine (NCCAOM) to practice acupuncture in Washington State. The goal of having a legally defensible standard of certification examination for ARNPs would be accomplished by requiring passage of the NCCAOM exam. WEAMA does not believe that this would necessarily require a specific number of hours in state law, but meeting the national training requirements and passing the NCCAOM exam will determine competency and the ability to practice acupuncture safely in our state.

#2. Any significant scope expansion in Washington State should be considered under the Sunrise Review process.

Adding acupuncture and/or East Asian Medicine to the scope of any profession listed under 18.120.020 RCW, which would include practical nurses under chapter 18.79 RCW and registered nurses under chapter 18.79 RCW, would be a significant scope expansion for any of the professions listed under 18.120.020 RCW and require a Sunrise Review. Chapter 18.120 RCW applies to proposals to increase an existing profession's scope of practice through a Sunrise Review process. The practice of acupuncture would add an entirely new system of medicine to the scope of ARNPs whereas the ability of the nursing profession to expand its scope is limited to modalities within the nursing profession. Hence the need for a Sunrise Review. We do not see anywhere in statute that would preclude a Sunrise Review for a significant scope expansion by the NCQAC for ARNPs wanting to expand their scope to include acupuncture. If you have an RCW reference for an exclusion for ARNPs not having to go through a Sunrise Review for a major scope expansion we would like to see that reference.

The department requests applicant groups focus their proposals on the criteria in RCW 18.120.010 by demonstrating that proposals:

(a) Protect the public from harm;
(b) Provide assurance of professional ability to perform the increased scope of practice (such as education and training); and
(c) Provide the most cost-beneficial option to protect the public.

The applicant group must also explain the factors in RCW 18.120.030 that are relevant to increases in scopes of practice. WEAMA would like to work with legislators to officially request a Sunrise Review for ARNPs to practice acupuncture.

#3. Medical Acupuncture Training for ARNPs does not exist at this time, therefor we recommend using the existing national standards for training and certification under NCCAOM. If the Medical Acupuncture training status changes in the future, NCQAC would reconsider and assess the new training program and whether it will meet the requirements for a legally defensible standard certification exam.

WEAMA is in agreement with NCQAC that there are no national "medical acupuncture" certifications that are currently available to ARNPs and these programs are restricted to physicians or osteopathic physicians. WEAMA would like to recommend that if there is a "medical acupuncture" program in the future that includes ARNPs, we would suggest that the NCQAC reconsider training competencies and examination. Until that training program meets national standards and is a reality, we recommend that NCQAC use the established certification program at NCCAOM for examination and certification of ARNPs for training in acupuncture.

We believe that NCCAOM allows for training in schools that are don't meet ACAOM standards (i.e., not acupuncture institutions): from a non-vocational institution of higher education accredited by an agency recognized by the U.S. Secretary of Education or an equivalent accrediting agency in the country in which the education was received. Since there is currently no full course available to an ARNP that is similar to the American Academy of Medical Acupuncture (AAMA) certification course for physicians, the only legally defensible standard for a certification exam at this time is the NCCAOM examination that is currently required to practice acupuncture in WA State.

#4. Specific training under the NADA Protocol and/Battlefield Acupuncture (BA) using auricular acupuncture only would be allowed with proper training and certification.

Many organizations offer training for nurses in specific acupuncture protocols such as the NADA Protocol or Battlefield Acupuncture. An ARNP should obtain training and certification through a national or international accredited program in the use of NADA Protocol and/Battlefield Acupuncture (BA). For ARNPs who want to specialize in a specific medical acupuncture protocol (e.g. NADA or BA): Hours and requirements may vary depending on anticipated specialty and use.

The ARNP performing the technique is responsible for explaining the benefits and risks of these modalities to patients and should obtain informed consent. Infection control practices must be followed. ARNPs must document an assessment, appropriate medical diagnosis, treatment response, progress, and any adverse reactions.

Revised Conclusion

Acupuncture may be safely performed by an ARNP with specialized training, skills, ongoing training, and knowledge in acupuncture. ARNPs can complete courses and obtain certification in acupuncture and/or specific protocols or skill sets. The NCQAC supports ARNPs using acupuncture in their nursing practice as a complementary therapy with national certification under the NCCAOM and specific training under the NADA Protocol and/Battlefield Acupuncture (BA) using auricular acupuncture only would be allowed with proper training and certification.

Email: Dan Simonson to the Nursing Care Quality Assurance Commission re: Acupuncture Advisory Opinion

From: Dan Simonson [dsimonson@mac.com]
Sent: Monday, September 25, 2017 11:37 AM
To: Meyer, Paula (DOH); Dr. Laurie Soine ARNP; Poole, Donna (DOH); Carlson, Debbie G A (DOH)
Subject: I do not agree that Acupuncture should be added to the scope of ARNP practice

Dear Ms. Meyer, Dr. Soine, Ms. Poole, and Ms. Carlson,

I am hoping that you will be able to forward this message to the rest of the NCQAC before they take up the issue of acupuncture being added to the scope of ARNP practice.

As a pro-tem member of the NCQAC, I would like to clearly state my position with regard to adding acupuncture to the scope of practice for ARNPs.

I am opposed.

To me, adding acupuncture to our scope is similar to adding "Therapeutic Touch", the "therapy du jour" of the late 1970s.

https://en.wikipedia.org/wiki/Therapeutic_touch

Dolores Krieger set nursing as a science back 30 years when she tried to get us all to use this technique. I remember when it was on the cover of the ANA Journal. She was a true believer, nobody could say it harmed anyone, and it seemed so plausible, etc.

The therapeutic touch : how to use your hands to help or to heal; Dolores Krieger; ©1979

Although seemingly innocent enough, and very much in line with nurses' desire to bring a "care" approach to the "cure" approach of medicine, the terrible effect this useless technique brought to efforts to improve the reputation of nursing as a profession based on scientific evidence was enormous. We were ridiculed in the press until the technique was finally discredited (or more likely, just left to dwindle and die). I remember thinking at the time that if I were ever presented with this type of choice in my professional career, I would oppose it.

And here I am.

We now demand that nursing be evidence-based. In my opinion, there is insufficient evidence to warrant adding acupuncture to the scope of ARNP practice. I am appending to this message a list of a number of Cochrane Reviews on the subject. Although some (particularly those applying to non-serious ailments) might look promising, none give anywhere near the support I feel is necessary to give our patients the impression that it is a legitimate treatment option for any serious condition.

How can we on the Nursing Commission, in good conscience, take the hard-earned money of every nurse in this state (via our licensing fees and access to HEAL-WA) and use it to buy us access to these evidence-based tools such as the Cochrane Collaboration without using it ourselves?

Let me say again: There is insufficient evidence for the effectiveness of acupuncture in the treatment of *serious* illness to justify giving it the imprimatur of our state's regulatory agency for nurses. I want to state clearly that I am not part of any "consensus" that believes there is.

Sincerely,

Dan Simonson, CRNA, MHPA
Member Pro Tem, NCQAC
2607 S. Manito Blvd.

Spokane, WA 99203

<dsimonson@mac.com>
Mobile and Text: (509) 981-6274

Annotated references to Cochrane Collaboration Reviews:

Fibromyalgia

http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD007070.pub2/full

"Conclusions

There is low to moderate-level evidence that compared with no treatment and standard therapy, acupuncture improves pain and stiffness in people with fibromyalgia. There is moderate-level evidence that the effect of acupuncture does not differ from sham acupuncture in reducing pain or fatigue, or improving sleep or global well-being. EA is probably better than MA for pain and stiffness reduction and improvement of global well-being, sleep and fatigue. The effect lasts up to one month, but is not maintained at six months follow-up. MA probably does not improve pain or physical functioning. Acupuncture appears safe. People with fibromyalgia may consider using EA alone or with exercise and medication. The small sample size, scarcity of studies for each comparison, lack of an ideal sham acupuncture weaken the level of evidence and its clinical implications. Larger studies are warranted."

Cancer pain

http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD007753.pub3/full

"Conclusions

None of the studies described in this review were big enough to produce reliable results. None of the studies reported any harm to the participants. We conclude that there is insufficient evidence to judge whether acupuncture is effective in relieving cancer pain in adults. Larger, well-designed studies are needed to provide evidence in this area."

Acute ankle sprains

http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD009065.pub2/full

"Conclusions

The currently available evidence from a very heterogeneous group of randomised and quasi-randomised controlled trials evaluating the effects of acupuncture for the treatment of acute ankle sprains does not provide reliable support for either the effectiveness or safety of acupuncture treatments, alone or in combination with other non-surgical interventions; or in comparison with other non-surgical interventions. Future rigorous randomised clinical trials with larger sample sizes will be necessary to establish robust clinical evidence concerning the effectiveness and safety of acupuncture treatment for acute ankle sprains."

Episodic Migraine

http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD001218.pub3/full

"Conclusions

The available evidence suggests that adding acupuncture to symptomatic treatment of attacks reduces the frequency of headaches. Contrary to the previous findings, the updated evidence also suggests that there is an effect over sham, but this effect is small. The available trials also suggest that acupuncture may be at least similarly effective as treatment with prophylactic drugs. Acupuncture can be considered a treatment option for patients willing to undergo this treatment. As for other migraine treatments, long-term studies, more than one year in duration, are lacking."

Tension Headache

http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD007587.pub2/full

"Conclusions

The available results suggest that acupuncture is effective for treating frequent episodic or chronic tension-type headaches, but further trials - particularly comparing acupuncture with other treatment options - are needed.

Smoking Cessation

http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD000009.pub4/full

"Conclusions

Although pooled estimates suggest possible short-term effects there is no consistent, bias-free evidence that acupuncture, acupressure, or laser therapy have a sustained benefit on smoking cessation for six months or more. However, lack of evidence and methodological problems mean that no firm conclusions can be drawn. Electrostimulation is not effective for smoking cessation. Well-designed research into acupuncture, acupressure and laser stimulation is justified since these are popular interventions and safe when correctly applied, though these interventions alone are likely to be less effective than evidence-based interventions."

The Acupuncture Evidence Project

A Comparative Literature Review

John McDonald
Stephen Janz

January 2017
(Revised Edition)

Commissioned by
Australian Acupuncture and Chinese Medicine Association Ltd

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The Acupuncture Evidence Project: Plain English Summary

Bottom Line

Our study found evidence for the effectiveness of acupuncture for 117 conditions, with stronger evidence for acupuncture's effectiveness for some conditions than others. Acupuncture is considered safe in the hands of a well-trained practitioner and has been found to be cost effective for some conditions. The quality and quantity of research into acupuncture's effectiveness is increasing.

Background

Acupuncture originated in China and is now practised throughout the world. Although acupuncture has been practised for thousands of years, evidence of its effectiveness is still controversial. The Australian Acupuncture and Chinese Medicine Association Ltd (AACMA) identified the need for an updated review of the evidence with greater rigour than was possible in the past and commissioned The Acupuncture Evidence Project.

We searched the literature with a focus on systematic reviews and meta analyses (the highest form of evidence available). We sorted the evidence to identify which conditions acupuncture has been found to be most effective for. We also looked for evidence of acupuncture's safety and cost-effectiveness, and we reported how the evidence for acupuncture's effectiveness has changed over an eleven-year time-frame.

Key results

Of the 122 conditions identified, strong evidence supported the effectiveness of acupuncture for 8 conditions, moderate evidence supported the use of acupuncture for a further 38 conditions, weak positive/unclear evidence supported the use of acupuncture for 71 conditions, and little or no evidence was found for the effectiveness of acupuncture for five conditions (meaning that further research is needed to clarify the effectiveness of acupuncture in these last two categories).

It is no longer possible to say that the effectiveness of acupuncture is because of the placebo effect, or that it is useful only for musculoskeletal pain.

In addition, research showed that acupuncture was cost effective for 10 conditions, and is safe in the hands of a well-trained practitioner. The level of evidence has increased over the 11-year period of this study for 24 conditions. Placebo-controlled clinical trials consistently underestimate the true effect size of acupuncture (which means that acupuncture is more effective than the type of trials used in this review show), yet they have still demonstrated National Health and Medical Research Council (NHMRC) Level I evidence for the effectiveness of acupuncture for 117 conditions.

Summary of Findings

A plain English summary of the findings is found in the Appendix at page 55

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Acknowledgments
The Acupuncture Evidence Project: A Comparative Literature Review was funded by the Australian Acupuncture and Chinese Medicine Association Ltd (AACMA).

Research and analysis was undertaken by John McDonald PhD. The Project was initiated and managed by Stephen Janz.

Tables 3, 4, 5, and 6, and Sections 2 and 3 were written by John McDonald. Stephen Janz wrote the preface and the authors collaborated on Section 1, Tables 7 and 8, and the Appendix. Research design by Stephen Janz and John McDonald.

The authors thank Professor Caroline Smith, National Institute of Complementary Medicine, Western Sydney University, for providing advice regarding evidence levels for assisted reproduction trials; Associate Professor Zhen Zheng, RMIT University, for identifying the evidence levels for post-operative nausea and vomiting and post-operative pain; Judy James for technical and editorial assistance; and the AACMA board for funding and supporting this project. The authors also thank Dr Suzanne Cochrane, Western Sydney University; Associate Professor Chris Zaslawski, University of Technology Sydney; and Associate Professor Zhen Zheng, RMIT University, for providing pre-publication commentary and advice.

Conflicts of interest
Dr John McDonald was a co-author of three of the research papers referenced in this review. Professor Caroline Smith was a co-author of six of the research papers referenced in this review, and Associate Professor Zhen Zheng was co-author of one of the research papers in this review. There were no other conflicts of interest.

The Acupuncture Evidence Project is a publication of the Australian Acupuncture and Chinese Medicine Association Ltd.

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ABSTRACT

Background

The acupuncture evidence project investigated the state of the evidence regarding acupuncture, with the focus on systematic reviews and meta-analyses. The Australian Department of Veterans' Affairs 2010 Alternative Therapies Review and United States Department of Veterans Affairs Acupuncture Evidence Map 2014 were used as baselines, then evidence levels were updated to reflect subsequent research.

Methods

A search of PubMed and Cochrane Library for systematic reviews and meta-analyses from March 2013 to September 2016 was conducted. Three reviews from October 2016 to January 2017 were also included. Evidence levels were graded using NHMRC levels. Risk of bias was assessed using the Cochrane GRADE system where possible. All results were displayed in tables to demonstrate changes in evidence level over time, as well as the current state of evidence by clinical area.

Results

Of the 122 conditions reviewed, evidence of effect was found at various levels for 117 conditions. Five conditions were assessed as 'no evidence of effect'. The level of evidence had increased for 24 conditions since the previous reviews. The findings of this review are limited by the mounting evidence that sham/placebo controls used in acupuncture trials are not inert, which is likely to lead to a consistent underestimation of the true effect size of acupuncture interventions.

Conclusions

Systematic reviews published up to January 2017 indicate that acupuncture has a 'positive effect' on eight conditions (migraine prophylaxis, headache, chronic low back pain, allergic rhinitis, knee osteoarthritis, chemotherapy-induced nausea and vomiting, post-operative nausea and vomiting and post-operative pain), 'potential positive effect' on a further 38 conditions, 'unclear/insufficient evidence' for 71 conditions and 'no evidence of effect' for five conditions. Evidence of cost-effectiveness was identified for 10 conditions, and evidence for safety was identified for nine conditions.

ADDENDUM TO REVISED EDITION

The Acupuncture Evidence Project: A Comparative Literature Review was released in limited circulation in December 2016. New research is regularly being reported and there is always a risk that a significant paper might be published just after a review is completed. Just prior to general publication, the authors became aware of three new studies with findings that were relevant to the review's results. As the objective of the review was to identify the state of acupuncture research, the authors decided to incorporate these late papers and amend the results accordingly, even though the new papers fell outside the initial search dates. These papers concerned chronic pain and assisted reproduction.

The authors have decided to leave the table headers and narrative to reflect evidence levels to 2016. This is a more accurate reflection of the study's results, as only one study has been included from 2017. The additional studies are clearly indicated in the tables. A plain English summary has been added to the Appendix in this revised edition.

17 January 2017

PREFACE

Background

Evidence of effectiveness underpins the validity of all health care interventions. Acupuncture has been practised for thousands of years; however, research into its effectiveness and cost effectiveness is in its relative infancy. The first significant attempt to identify the evidence validating the role of acupuncture was undertaken by the World Health Organization (WHO) in 1979 (1). WHO conducted a Delphi-like symposium in Beijing in 1979 where physicians from around the world identified 43 diseases which they believed acupuncture may benefit (1). The 1979 report was criticised because it was not based on clinical trials, rather the clinical experience of the participants (2).

The US Department of Health and Human Services National Institutes of Health (NIH) released a consensus statement on acupuncture in 1997 (3). The statement identified the efficacy of acupuncture for adult postoperative and chemotherapy nausea and vomiting, and for postoperative dental pain. In addition, the statement found support for the use of acupuncture for a range other conditions and identified the need for further research (3).

In 1996, WHO held a consultation on acupuncture in Cervia, Italy. At this meeting it was decided to review acupuncture again, this time focusing on the now-numerous controlled clinical trials. The result was a review of clinical trials up until early 1999 and culminated in 'Acupuncture: review and analysis of controlled clinical trials' published by WHO in 2002 (4). The report identified 28 conditions for which acupuncture was found to be effective, and nearly 100 others where there was a therapeutic effect (4). It was acknowledged at the time that there were problems with the methodology in some of the trials included in the review (4). Notwithstanding these limitations, the WHO report indicated a growing and convincing body of evidence indicating that there was more to acupuncture than the placebo effect (4).

The Acupuncture Evidence Project

Fourteen years after the WHO publication on acupuncture evidence there has been further refinement in the conduct of clinical trials, not just for acupuncture, but in health-care generally, with clearer guidelines on how to rate the quality of the evidence. The Australian Acupuncture and Chinese Medicine Association Ltd (AACMA) identified the need for an updated review of the literature with greater rigour than was possible in the past, and commissioned the acupuncture evidence project. AACMA engaged experienced clinician and researcher, Dr John McDonald PhD, to conduct the research and analysis for the project.

This review draws on two prior comprehensive literature reviews, one conducted for the Australian Department of Veterans' Affairs (DVA) in 2010 and another conducted for the United States Department of Veterans Affairs (USVA) in 2013 (5, 6). The research identified by these reviews was pooled, then a search of further literature from 2013 to 2016 was conducted. Trials were assessed using the National Health and Medical Research Council (NHMRC) levels of evidence, with risk of bias assessed using the Cochrane GRADE system (7, 8). Results have been tabulated to indicate not just the current state of the evidence, but to indicate how the quality and quantity of evidence has changed from 2005 to 2016. In this review, 122 conditions across 14 broad clinical areas were identified and, of these, only five conditions found 'no evidence of effect' for acupuncture. The level of evidence was found by this review to have increased for 24 conditions.

How to use this review

This project sets a new benchmark to inform acupuncturists, the public, researchers, health departments, governments, and other health providers that acupuncture has a valuable contribution to make to global healthcare and to assist in reducing the global burden of disease.

Acupuncturists should also take confidence from this report that their clinical expertise has been validated, and to confidently offer their services alongside other health professionals. Students and clinicians can use this report to identify areas of clinical interest which they may have overlooked. Researchers can find inspiration for areas of future investigation where the evidence is currently unclear. This review should also encourage educational institutions to maintain robust programs of study in acupuncture to continue to produce graduates capable of the broad scope of practice that this report indicates. It is no longer possible to say that the effectiveness of acupuncture can be attributed to the placebo effect or that it is useful only for musculoskeletal pain.

It is no longer possible to say that the effectiveness of acupuncture can be attributed to the placebo effect or that it is useful only for musculoskeletal pain.

The realisation that pharmacological and surgical interventions are not without their limitations has increased interest in drug-free treatments such as acupuncture (9-13). This review found eight conditions where acupuncture may be used to reduce reliance on pharmacological or surgical options. **Migraine** and **tension headaches** lead to loss of productivity and quality of life; a drug-free therapy has a major health impact and potential cost savings as well as maintaining participation in the workforce (14). Medication is not always an effective or acceptable therapy for **allergic rhinitis** and acupuncture improves the range of interventions available to improve quality of life (15). **Post-operative nausea and vomiting** and **post-operative pain** complicate post-operative management, with acupuncture offering another avenue to enhance care in the post-operative period and reduce reliance on medication alone (16, 17).

Knee osteoarthritis is on the increase globally and contributes not just to disability adjusted life years (DALYs), but is an increasing burden on health budgets (18, 19). The option of a safe, drug-free treatment that may improve quality of life and potentially delay surgical intervention has significant potential to control these spiralling costs and DALYs. **Low back pain** is a WHO priority disease, and is the single largest contributor to disability worldwide (20). The finding that acupuncture benefits chronic low back pain is arguably the most important finding from this report. Finally, **chemotherapy induced nausea and vomiting** is an unwanted complication of cancer treatment and is often not fully controlled even with state-of-the-art antiemetics. Acupuncture can assist in improving quality of life for these cancer patients (21).

It has been estimated that there is a 17-year time lag in translating clinical research into clinical practice (22). During this time patients are being deprived of the benefit of a proven therapy. Health policy makers now have eight clear conditions associated with a significant burden of disease where acupuncture should be integrated into current clinical guidelines without further delay. Placebo controlled clinical trials consistently underestimate the true effect size of acupuncture (as discussed in section 1.4), yet they have still demonstrated NHMRC Level 1 evidence for the effectiveness of acupuncture for a further 109 conditions. This review has found a significant improvement in both the quality of studies and the levels of evidence supporting acupuncture since the most recent reviews conducted by the Australian and US Departments of Veterans Affairs.

Stephen Janz MPH
Project Director
The AACMA Acupuncture Evidence Project
Brisbane, Australia

TABLE OF CONTENTS

ACKNOWLEDGEMENTS, CONFLICTS OF INTEREST i

ABSTRACT ii

ADDENDUM TO REVISED EDITION ii

PREFACE iii

GLOSSARY OF TERMS vii

1 INTRODUCTION 1

1.1 Methods 1

1.2 Assessment of the quality of evidence 2

1.3 Efficacy versus effectiveness 3

1.4 Problems with placebo controls in acupuncture trials 3

1.5 Acupuncture recommendations in clinical practice guidelines 4

1.6 Interpreting the findings 5

1.7 Limitations 6

2 CONDITIONS NOW RATED AS 'EVIDENCE OF POSITIVE EFFECT' IN THIS REVIEW: 7

2.1 Migraine prophylaxis 7

2.2 Headache (chronic tension-type and chronic episodic) 7

2.3 Low back pain 7

2.4 Knee osteoarthritis pain 8

2.5 Allergic rhinitis (seasonal and perennial/persistent) 8

2.6 Chemotherapy-induced nausea and vomiting (CINV) 8

2.7 Post-operative nausea and vomiting (PONV) 9

2.8 Post-operative pain 9

3 RESEARCH INTO THE MECHANISMS OF ACUPUNCTURE 10

TABLES

Table 1. Summary of levels of evidence used in this review 3

Table 2. Statistical summary of findings of this review 5

Table 3. Summary of effectiveness/efficacy in acupuncture research literature sorted by evidence levels 11

Table 4. Summary of changes in evidence levels from 2005 to 2016 14

Table 5. Evidence levels from 2005 to 2016: explanatory notes with references 18

Table 6. All conditions reviewed sorted by clinical areas 34

Cardiovascular/respiratory conditions 34

Musculoskeletal disorders 35

Neurological disorders 38

Mental Health 39

Gynaecology and obstetrics 40

Gastrointestinal disorders 43

Headache and migraine 43

Genitourinary/sexual disorders 44

Surgery 45

Oncology 46

Eye, ear, nose, throat 48

Paediatrics 49

Dermatology 49

Miscellaneous conditions 50

Table 7. Conditions reported in this review with evidence of cost-effectiveness 51

Table 8. Conditions reported in this review with evidence of safety 52

APPENDIX 53

Table 9. NHMRC Evidence Hierarchy: designations of 'levels of evidence' according to type of research question 53

GRADE and guideline development 54

Table 10. Cochrane GRADE: Significance of the four levels of evidence 54

Plain English Summary 55

Bottom Line 55

Background 55

Key Results 55

Summary of Findings 56

REFERENCES 60

GLOSSARY OF TERMS

AACMA	Australian Acupuncture and Chinese Medicine Association Ltd
ART	Assisted reproduction technology
CGRP	calcitonin gene-related peptide
DALYs	disability adjusted life years
DVA	Department of Veterans' Affairs
EA	electroacupuncture
ECP	eosinophilic cationic protein
FEV1	forced expiratory volume in one second
FEV1/FVC	ratio of FEV1 to forced ventilation capacity
GABA	gamma-amino-butyric-acid
GRADE	Grades of Recommendation, Assessment, Development and Evaluation
IgE	immunoglobulin E
IL	interleukin
MA	meta-analysis
MMSE	Mini Mental State Examination
NAD	neck pain and associated disorders
NHMRC	National Health and Medical Research Council
NIH	National Institutes of Health
NSAIDS	non-steroidal anti-inflammatory drugs
OHNSF	Otolaryngology Head Neck Surgery Foundation
PAR	persistent (perennial) allergic rhinitis
PCOS	Polycystic ovarian syndrome
QoL	quality of life
RCT	randomised controlled trial
RQLQ	rhinoconjunctivitis quality of life questionnaire (Juniper)
SAR	seasonal (intermittent) allergic rhinitis
SP	substance P
SR	systematic review
TEAS	transcutaneous electrical acupoint stimulation
TRPV1	transient receptor potential vanilloid 1
USVA	United States Department of Veterans Affairs
VIP	vasoactive intestinal peptide
WAD	whiplash associated disorders

1 INTRODUCTION

Increasing interest in acupuncture has led to the need for an updated review of its efficacy, effectiveness and cost effectiveness. Rather than starting from scratch, this review draws on two prior comprehensive literature reviews into acupuncture. The first was undertaken for the Australian Department of Veterans' Affairs (DVA) in 2010, the second for the United States Department of Veterans Affairs (USVA) in 2013 (5, 6). These reviews did not limit themselves to veteran-specific health issues but considered the evidence regarding acupuncture in the broadest health terms. A search was then conducted for studies after the USVA 2013 review and the evidence analysed, graded and tabulated. The advantage of this comparative approach is not only a pragmatic way of avoiding duplication of work; it also demonstrates the increasing quality and quantity of evidence supporting the effectiveness of acupuncture over the eleven-year period (2005 to 2016) from which studies were drawn.

Table 3 categorises the research literature by evidence levels. This table clearly demonstrates the increase in the volume and scope of research on acupuncture since the prior reviews. Table 4 summarises the changes in evidence levels among the reviews. Of note is the finding that eight conditions are now rated as 'evidence of positive effect'. Two of these had been listed as 'unclear' evidence and three as 'evidence of potential positive effect' prior to this review. Table 5 provides brief notes for each condition and the references justifying the change in evidence levels found by this review. Table 6 organises conditions by clinical areas, allowing the reader to get a snapshot of the state of the evidence for any particular clinical area, and identifies areas where further research needs to be undertaken.

Numerous clinical guidelines now recommend acupuncture for a range of conditions. Of the 122 conditions examined in this review, levels of evidence have increased for 24 conditions. There is now 'evidence of positive effect' for eight conditions and 'evidence of potential positive effect' for a further 38 conditions. Seventy-one conditions are rated as 'unclear/insufficient evidence' and only five conditions are currently rated at 'no evidence of effect'. Further statistics can be found at Table 2. The comparative approach used in this study serves as a reminder that a finding of 'no evidence of effect' or 'unclear' does not mean 'ineffective'. Many of the conditions currently rated as 'unclear' have consistently positive findings in systematic reviews, but because they represent new clinical areas for acupuncture research, the evidence is not yet sufficient to allow firm conclusions to be drawn on effectiveness or efficacy. Section 1.6 provides further assistance in interpreting the findings of this review. There are methodological challenges in investigating acupuncture such as the problems with placebo controlled trials (outlined in section 1.4) which are slowly being overcome.

1.1 Methods

A review of alternative therapies was published by the Australian Government Department of Veterans' Affairs in 2010 (5). In 2014, the US Department of Veterans Affairs published an Evidence Map of Acupuncture reviewing acupuncture research published in or before March 2013 (6). This review focuses on new evidence between March 2013 and September 2016. Like the two previous reviews, this review concentrates on systematic reviews (SR) and meta-analyses (MA), using Cochrane Systematic Reviews where available. The primary focus of this review is to examine evidence supporting the effectiveness and efficacy of acupuncture (see section 1.3 Efficacy versus effectiveness). Where available, evidence on cost-effectiveness and safety has been included (see Tables 7 and 8).

A search was undertaken on PubMed and the Cochrane Library using the search term 'acupuncture' with limits set for dates between March 2013 and September 2016, and restricted to reviews. All languages were included. Systematic reviews, meta-analyses, network meta-analyses, overviews of systematic reviews (NHMRC level I evidence) and some narrative reviews were included, but protocols for systematic reviews were excluded. Systematic reviews of non-invasive or nonpharmacological interventions or of complementary and/or alternative medicine (CAM) interventions were included if they included acupuncture studies. One systematic review from the Australian Journal of Acupuncture and Chinese Medicine was included although this journal is not included in PubMed listings. A check in January 2017 identified three more relevant SRs and MAs (one from October 2016, one from December 2016, and one from January 2017) which were included. A total of 136 systematic reviews, including 27 Cochrane systematic reviews were included in this review, along with three network meta-analyses, nine reviews of reviews and 20 other reviews. Meta-analyses were conducted for 62 of the non-Cochrane systematic reviews. This review includes pooled data from more than 1,000 randomised controlled trials. Some of the included systematic reviews included studies which were not randomised controlled trials.

1.2 Assessment of the quality of evidence

The Australian DVA review (2010) used the National Health and Medical Research Council (NHMRC) levels of evidence (I-IV) which define the source of the evidence, with Level I being 'evidence obtained from a systematic review of all relevant randomised controlled trials', and Level II being 'evidence obtained from at least one properly designed randomised controlled trial' (7). By this definition, this review examined mainly Level I evidence as systematic reviews and meta-analyses were prioritised. Level II evidence from individual randomised controlled trials has been included occasionally where new high quality randomised trials may have changed the conclusions from the most recent systematic review.

Risk of bias in randomised controlled trials has mainly been assessed by the included systematic reviews using the Cochrane GRADE system of low, unclear or high risk of bias across a number of domains (8). The quality of evidence has also been assessed principally using the GRADE system with randomised controlled trials being assessed as high, moderate, low or very low quality evidence. See the Appendix, Table 10 for an outline of GRADE levels. Where systematic reviews have used other systems of quality assessment (such as PRISMA or Jadad) an attempt has been made to convert these scores to an equivalent within the GRADE system. Some systematic reviews have not reported an assessment of quality of evidence of included trials, and due to time constraints, this review has not attempted to make such an assessment.

In the US Veterans Affairs evidence map, evidence has been assessed at four levels: evidence of positive effect, evidence of potential positive effect, unclear evidence and evidence of no effect. In this review this terminology has largely been adopted with the exception that 'evidence of no effect' has been replaced with 'no evidence of effect' which seems to be more strictly accurate. 'Unclear evidence' was described as conflicting evidence between reviews or between authors within a review, with reviewers summarising the evidence as inconclusive. 'Evidence of potential positive effect' refers to reviews reporting all individual RCTs or pooled effects across RCTs as positive, however the reviewers deeming the evidence insufficient to draw firm conclusions. 'Evidence of positive effect' refers to reviews with consistent statistically significant positive effects and where authors have recommended the intervention (6).

Table 1. Summary of levels of evidence used in this review		
Level	**Description**	**GRADE level** (8)
Evidence of positive effect	Reviews with consistent statistically significant positive effects and where authors have recommended the intervention. Strong positive evidence.	Moderate or high quality
Evidence of potential positive effect	Reviews reporting all individual RCTs or pooled effects across RCTs as positive, but the reviewers deeming the evidence insufficient to draw firm conclusions. Moderate positive evidence.	Moderate or high quality
Unclear/insufficient evidence	Reviews consisted mostly of weak positive evidence or conflicting evidence between reviews or between authors within a review, with reviewers summarising the evidence as inconclusive.	Low or very low quality; or conflicting levels of evidence within or between reviews
No evidence of effect	Reviews have consistently found little support for acupuncture.	Consistently low or very low quality

There is not necessarily an exact equivalence between the 'insufficient evidence' category used in the Australian DVA review and 'unclear' in the USVA evidence map, as some conditions rated as 'insufficient evidence' in the former may appear in the 'evidence of potential positive effect' category in the latter. Generally speaking, conditions rated as positive or potential positive in this review are conditions for which evidence levels were either moderate or high quality evidence according to the GRADE definitions, and conditions with low or very low quality evidence were rated as unclear even when all included RCTs reported positive outcomes. Conditions previously rated as 'potential positive' have been down-graded to 'no evidence of effect' where subsequent Cochrane reviews have found little support for acupuncture.

1.3 Efficacy versus effectiveness

Efficacy refers to the ability of an intervention to achieve its intended effect in ideal conditions, i.e. a clinical trial, usually with a placebo control. Effectiveness refers to the result of an intervention in real world clinical practice.

The most common method used to assess efficacy is the randomised sham/placebo controlled blinded clinical trial. This methodology is derived from pharmaceutical research where an inert tablet ('a sugar pill') is compared to a medication. 'Efficacy' in this example is the measure of the effects of the medication on one group of test subjects minus the effects from the sugar pill on the other group of test subjects. The validity of this method of measuring efficacy rests heavily on the assumption that the sham protocol comparator intervention is inert. If the comparator intervention is not inert, this creates difficulties in measuring efficacy accurately, as discussed in the next section.

1.4 Problems with placebo controls in acupuncture trials

It has been observed from the over 8,000 randomised controlled trials which appear in the Cochrane Database of Controlled Clinical Trials that, in studies where acupuncture is compared with no treatment, waitlist or usual care, there is a significantly larger treatment effect than when acupuncture is compared with some form of sham, placebo or minimal acupuncture (23-27). The Society for Acupuncture Research has dubbed this phenomenon a paradox in acupuncture

research (25). There is evidence that many, if not all, the forms of sham/placebo acupuncture treatment protocols used in acupuncture trials to date are not inert, and exert physiological, and possibly also placebo effects, making it extremely difficult (if not impossible) to accurately measure how much of the observed non-specific effects may be attributable to placebo and/or nocebo effects, and how much is due to the placebo not being inert (23, 26-29). Hence a comparison of the effect size of acupuncture when compared to that of placebo acupuncture may result in consistent underestimation of the true effect size (23, 28).

Some acupuncture researchers are now suggesting that clinical decisions regarding whether or not acupuncture should be recommended as a treatment option would be more accurately based on comparisons of acupuncture with usual care or acupuncture with other interventions (head-to-head studies and network meta-analyses) (25, 29). This trend of increased focus on pragmatic trials over explanatory trials is not limited to research into acupuncture, but has been identified as an issue in health research more generally (30). Further research on acupuncture mechanisms has also been recommended by both the Society for Acupuncture Research and the National Institutes for Health (NIH) in the USA which, at the Society for Acupuncture Research's biannual conference in Boston in October 2015, announced a new funding pool dedicated to acupuncture mechanism research (25). NIH have identified limited value in true versus sham acupuncture trials when investigating pain and have consigned such trials to a low programmatic priority (31). NIH has given high priority instead to pragmatic studies investigating acupuncture and pain management along with further research into the mechanisms of acupuncture (31).

The use of exit-debrief questionnaires in published sham/placebo-controlled acupuncture trials, which show no significant differences between the real and sham acupuncture groups in belief about which treatment they had received, suggests that in these trials placebo/nocebo effects are not an adequate explanation for any effects produced in the sham acupuncture group (32).

1.5 Acupuncture recommendations in clinical practice guidelines

In Australia, acupuncture has been included in clinical practice guidelines for various types of acute pain including post-operative pain, and for rotator cuff syndrome (33, 34). In 'Acute Pain Management: Scientific Evidence' published by the Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine in 2015, NHMRC Level I evidence was identified from Cochrane reviews for acupuncture for labour pain, oocyte retrieval pain, primary dysmenorrhoea, tension-type headaches and migraine, and from PRISMA reviews for postoperative pain, back pain and acute burns pain (33).

The development of guidelines requires quality levels of evidence adequate to support a given recommendation, even though they may fall below the highest level in some cases, and requires consideration of other factors including cost, clinical judgement, and patient preference.

In 'Clinical Practice Guidelines for the Management of Rotator Cuff Syndrome in the Workplace', published by The University of New South Wales in 2013, Recommendation 23 states that 'Clinicians may consider acupuncture in conjunction with exercise; both modalities should be provided by suitably qualified health care providers' (Grade C: 'Body of evidence provides some support for recommendation but care should be taken in its application to individual clinical and organisational circumstances') (34).

In 'Consensus Guidelines for the Management of Postoperative Nausea and Vomiting' published in USA by the Society for Ambulatory Anesthesia in 2014, acupuncture and point stimulation of

PC6 were recommended as both prophylactic and treatment strategies [Category A recommendation: based on supportive literature which contains multiple randomised controlled trials which report statistically significant ($P < 0.01$) differences between clinical interventions for a clinical outcome, and aggregated findings are supported by meta-analysis] (35).

Between 2012 and 2015 four International Symposia of Evidence-Based Clinical Practice Guideline in Traditional Medicine have been held in Daejon, South Korea hosted by the Korean Institute of Oriental Medicine (KIOM), bringing together participants from Korea, China, Japan, UK, Norway, Holland and Australia (36). By November 2015, over 870 recommendations for acupuncture were identified for over 100 conditions from multiple international groups and over 30 countries (36). Examples include: the Otolaryngology Head Neck Surgery Foundation's clinical practice guidelines for allergic rhinitis in 2015 (37); the National Institute for Health and Care Excellence (NICE), UK inclusion of migraine and tension type headache in 2012 (38); the Scottish Intercollegiate Guidelines Network guideline for the Management of Chronic Pain, inclusion of acupuncture (Grade A recommendation) for chronic low back pain and osteoarthritis (39); and the National German Gynaecologic Oncology Association's (Arbeitsgemeinschaft Gynakologische Onkologie) inclusion of acupuncture for 12 symptoms associated with breast cancer treatment in 2015 (36, 37).

Table 2. Statistical summary of findings of this review

Evidence Level	Number of Conditions	Changes in Level of Evidence	Number of Conditions
Evidence of Positive effect	8	Increase to positive effect	5
Evidence of Potential positive effect	38	Increase to potential positive effect	18
Unclear/insufficient evidence	71	Increase to unclear/insufficient evidence	1
No evidence of effect	5	Decreased evidence level	2
Total conditions with some evidence of effect (any level)	117	________________________	_____
Total conditions reviewed	122	Total increases in evidence level since prior reviews	24

1.6 Interpreting the findings

This review set out to identify the current state of evidence regarding acupuncture, and has done so principally by examining systematic reviews and meta-analyses. Most of these systematic reviews were restricted to only randomised controlled clinical trials which examine efficacy, not effectiveness (NHMRC level I evidence); however, some systematic reviews did include pragmatic trials and other uncontrolled studies. Consequently, studies which focused on effectiveness rather than efficacy such as cohort studies, case-control studies, or case series (NHMRC level III-IV evidence) were generally excluded from this review.

Placebo controlled clinical trials consistently underestimate the true effect size of acupuncture, yet over 1000 trials have still demonstrated NHMRC Level I evidence for the effectiveness of acupuncture for 117 conditions.

Earlier discussion has demonstrated the limitations of using placebo controlled clinical trials to assess acupuncture's efficacy, with the NIH's acknowledgement of this reflected in its current programmatic priorities which encourage

pragmatic trials at the expense of RCTs (31). Regardless of the limitations of acupuncture RCTs that under-report the true effect size of acupuncture (23, 28), for eight conditions across four clinical areas there is no longer any doubt of acupuncture's efficacy.

For the reasons outlined above, it is not correct to infer that acupuncture is ineffective for conditions which fall outside of the 'evidence of positive effect' category. For a further 109 conditions examined, positive results have been achieved from some trials in every case, with varying levels in the quality of the evidence.

Acupuncture has already been incorporated into clinical guidelines for over 100 conditions even though its current evidence level is rated below 'evidence of positive effect' in most of these cases. This reflects the weighting of other factors in guideline development, and recognition that the quality of levels of evidence are adequate to support a given recommendation, even though they may fall below the highest level in some cases (8). As recommended by both the Society for Acupuncture Research and the NIH, future acupuncture research to inform clinical practice guidelines should be focused on pragmatic trials, head-to-head comparison studies with other interventions (especially currently-recommended usual care interventions) to compare effectiveness, safety and cost-effectiveness, underpinned by further mechanism studies (25, 31). It is accurate to state from this report that there is NHMRC Level 1 evidence for acupuncture's effectiveness for 117 conditions.

The number of conditions included in this review is significantly larger than in previous reviews for two reasons. Firstly, acupuncture researchers have just begun to research the effectiveness of acupuncture for conditions not previously studied. Secondly research has become more nuanced and targeted. For example, what was previously reviewed as 'cancer adverse effects' is now separated into 12 different cancer-related conditions such as pain, fatigue, insomnia and xerostomia.

1.7 Limitations

This review has several limitations. Literature before March 2013 was obtained by pooling results from the DVA 2010 and USVA 2013 reviews. Any MA or SR overlooked by those reviews were not identified in this review. MAs and SRs from March 2013 to September 2016 were identified via a PubMed search. MAs and SRs which were not indexed by PubMed were not identified in this review with one exception. Three additional SRs and MAs published between October 2016 and January 2017 were included in the final revision.

The findings of this review are limited by the mounting evidence that sham/placebo controls used in acupuncture trials are not inert, which is likely to lead to a consistent underestimation of the true effect size of acupuncture interventions (see sections 1.3 and 1.4 above).

By design this review aimed to update previous reviews, and focused on MAs and SRs. Studies which focus solely on effectiveness rather than efficacy such as cohort studies, case-control studies and case series were excluded by most of the SRs. This results in under-reporting studies on the effectiveness of acupuncture. For example, a PubMed search on 3 November 2016 for the following key words returned the following results:

- cohort AND acupuncture (208)
- case control AND acupuncture (377)
- case series AND acupuncture (150).

2 CONDITIONS NOW RATED AS 'EVIDENCE OF POSITIVE EFFECT' IN THIS REVIEW

2.1 Migraine prophylaxis [Positive effect]

For migraine prophylaxis, acupuncture was rated as 'effective' in the Australian DVA review (2010) and 'evidence of positive effect' in the USVA Evidence map of acupuncture (2014) (5, 6). Since March 2013 a narrative review of high quality randomised controlled trials and two systematic reviews including a Cochrane systematic review update, have confirmed that acupuncture is superior to sham acupuncture and seems to be at least as effective as conventional preventative medication in reducing migraine frequency (40-42). Moreover, acupuncture is described as 'safe, long-lasting and cost effective' (40). Subgroup analysis in the Cochrane systematic review found that 16 or more treatment sessions showed a larger effect size (Z=4.06) than 12 treatments or fewer (Z=2.32). Evidence levels in these three reviews was moderate to high quality.

2.2 Headache (chronic tension-type and chronic episodic) [Positive effect]

Chronic tension-type headaches and chronic episodic headaches were not reviewed in the Australian DVA review (2010) and rated as 'evidence of positive effect' in the USVA Evidence map of acupuncture (2014) (5, 6). The most recent Cochrane systematic review update confirmed that acupuncture is effective for frequent episodic and chronic tension-type headaches with moderate to low quality evidence (43). A brief review of systematic reviews and meta-analyses described acupuncture as having a 'potentially important role as part of a treatment plan for migraine, tension-type headache, and several different types of chronic headache disorders' (44). Studies in Germany and the UK found acupuncture for chronic headaches to be cost-effective (44).

2.3 Low back pain [Chronic – positive effect; acute – potential positive effect]

For low back pain, acupuncture was rated as 'effective (possibly)' in the Australian DVA review (2010) and 'unclear' in the USVA Evidence map of acupuncture (2014) (5, 6). The main reason given for the 'unclear' rating in the USVA Evidence map was that 'sham acupuncture controlled trials tended towards statistically nonsignificant results' and a Cochrane systematic review in 2005 which drew no firm conclusions on the effectiveness of acupuncture for acute low back pain (6). The problems associated with the interpretation of the effects of sham acupuncture have already been discussed. When reviews separate the evidence on chronic low back pain from acute low back pain, as was done in the recent review by the US Agency for Healthcare Research and Quality, it was found that there is moderate quality evidence for the effectiveness of acupuncture in chronic low back pain for both pain intensity and function, but only low quality evidence for pain intensity and function in acute low back pain (45).

In a systematic review of 32 randomised controlled trials for acupuncture treatment of chronic non-specific low back pain, acupuncture was superior (both statistically and clinically significant) to sham acupuncture in pain reduction and improved function immediately after treatment (46). Acupuncture was equivalent but not superior to usual care in pain and function, but acupuncture plus usual care was superior to usual care alone (46). The reviewers rated the evidence level of their review as Level of Evidence I (46). A systematic review of 11 randomised controlled trials on acute low back pain, acupuncture was superior to NSAIDS for improving symptoms (small effect), and superior to sham for pain but not function (47). A narrative review of non-invasive and alternative treatments for chronic low back pain rated the evidence for the effectiveness of acupuncture as high and for acupressure as moderate (48).

A review of 16 systematic reviews found that acupuncture alone, or when added to usual care, provided short-term improvement in pain and function for chronic low back pain (medium to large clinical effects) and hence 'should be advocated in routine clinical practice' (49). For acute low back pain, the reviewers could not make firm conclusions about the effectiveness of acupuncture due the inclusion of only two systematic reviews (49). Two studies found that acupuncture is likely to be cost-effective for low back pain or chronic non-specific low back pain, respectively (50, 51).

2.4 Knee osteoarthritis pain [Positive effect]

Knee osteoarthritis pain was not reviewed in the Australian DVA review (2010) and rated as 'evidence of potential positive effect' in the USVA Evidence map of acupuncture (2014) (5, 6). In a network meta-analysis comparing 22 interventions in 152 studies, acupuncture was found to be equal to balneotherapy and superior to sham acupuncture, muscle-strengthening exercise, Tai Chi, weight loss, standard care and aerobic exercise (in ranked order) (52). Acupuncture was also superior to standard care and muscle-strengthening exercises in a sub-analysis of moderate to high quality studies (52). In a systematic review of 12 randomised controlled trials, acupuncture was found to significantly reduce pain intensity, to improve functional mobility and quality of life (53). Subgroup analysis showed greater reduction in pain intensity when treatment lasted for more than four weeks (53). The reviewers concluded that 'current evidence supports the use of acupuncture as an alternative for traditional analgesics in patients with osteoarthritis' (53).

2.5 Allergic rhinitis (seasonal and perennial/persistent) [Positive effect]

For allergic rhinitis, acupuncture was rated as 'effective' in the Australian DVA review (2010) and 'unclear' in the USVA Evidence map of acupuncture (2014) (5, 6). A systematic review of 13 randomised controlled trials concluded that 'acupuncture could be a safe and valid treatment option for allergic rhinitis' (moderate quality evidence) (54). Another systematic review (which included two large multi-centre randomised controlled trials, three comparisons of acupuncture versus medication and one cost-effectiveness study) concluded that there is high quality evidence of the efficacy and effectiveness of acupuncture and that it appears to be safe and cost-effective (15). Clinical practice guidelines for allergic rhinitis published by the Otolaryngology Head Neck Surgery Foundation in 2015 included acupuncture as Option five: 'Clinicians may offer acupuncture, or refer to a clinician who can offer acupuncture, for patients with AR who are interested in nonpharmacological therapy' (Aggregate evidence quality - Grade B) (37).

2.6 Chemotherapy-induced nausea and vomiting (CINV) [Positive effect]

For chemotherapy-induced nausea and vomiting, acupuncture was rated as 'effective' in the Australian DVA review (2010) and was not reviewed separately to 'cancer adverse effects' in the USVA Evidence map of acupuncture (2014) (5, 6). In 2013, a systematic review of seven acupuncture and six acupressure RCTs found that acupuncture reduced the frequency of acute vomiting and the dose of rescue medication but did not reduce acute nausea severity or frequency compared to control. Acupressure showed a decrease in frequency of nausea but not acute vomiting or delayed symptoms. All studies used state-of-the-art combination anti-emetics in addition to acupuncture/acupressure. The reviewers rated the quality of evidence in the acupuncture studies as low to moderate while the acupressure studies were moderate to high quality. There was insufficient evidence to draw firm conclusions due to underpowered studies

(21). However, an updated systematic review by Garcia et al in 2014 (using 18 new RCTs) found that acupuncture is an appropriate referral option for chemotherapy-induced nausea and vomiting (55). On this basis, CINV has been rated as positive rather than potential positive in this review.

2.7 Post-operative nausea and vomiting (PONV) [Positive effect]

For post-operative nausea and vomiting (PONV), acupuncture was rated as 'insufficient evidence' in the Australian DVA review (2010) and 'potential positive effect' in the USVA Evidence map of acupuncture (2014) (5, 6). In a systematic review and meta-analysis of 30 RCTs on acupuncture and acupressure in 2013, both acupuncture and acupressure reduced the number of cases of early nausea and vomiting (up to 24 hours post-surgery) (56). In 2015, a Cochrane update of 59 RCTs on PC6 stimulation found that PC6 stimulation was superior to sham, and equivalent to modern anti-emetics (16).

2.8 Post-operative pain [Positive effect]

For post-operative pain, acupuncture was not reviewed in the Australian DVA review (2010) and rated as 'unclear' in the USVA Evidence map of acupuncture (2014) (5, 6). A systematic review and meta-analysis of 13 RCTs in 2016, found that acupuncture, electroacupuncture (EA) and transcutaneous electrical acupoint stimulation (TEAS) improved pain on day one after surgery and reduced opioid use (17). Subgroup analysis showed that acupuncture and TEAS were superior to EA (17). A systematic review specifically on acute pain after back surgery reviewed five RCTs (three of which were high quality) and found encouraging but limited evidence for the efficacy of acupuncture (57). A systematic review on complementary therapies for pain after knee surgery included three RCTs on acupuncture and one on acupressure (58). The review found that acupressure reduced pain, and while acupuncture did not reduce pain it did reduce ibuprofen use (58). An RCT on acupuncture for pain after total knee arthroplasty found that acupuncture was superior to sham in post-operative fentanyl use, time to first request for fentanyl and pain intensity (59).

3 RESEARCH INTO THE MECHANISMS OF ACUPUNCTURE

Mechanisms underlying acupuncture analgesia have been extensively researched for over 60 years. In animal models, acupuncture and/or electroacupuncture have been shown to be effective for the alleviation of inflammatory, neuropathic, cancer, and visceral pain (60). Ascending neural pathways involving Aδ, Aβ and C sensory fibres have been mapped, the mesolimbic loop of analgesia in the brain and brain stem has been identified and descending pathways have also been mapped (61). Numerous mediators have been identified including opioid and non-opioid neuropeptides, serotonin, norepinephrine, dopamine, cytokines, glutamate, nitric oxide and gamma-amino-butyric-acid (GABA) (60, 61). Acupuncture analgesia has been shown to involve several classes of opioid neuropeptides including enkephalins, endorphins, dynorphins, endomorphins and nociceptin (also known as Orphanin FQ) (61-63). Among the non-opioid neuropeptides, substance P (SP), vasoactive intestinal peptide (VIP) and calcitonin gene-related peptide (CGRP) have been investigated for their roles in both the analgesic and anti-inflammatory effects of acupuncture (60, 64). Two recent reviews of acupuncture analgesia research further demonstrate the complexity of this area of study (61, 62).

The anti-inflammatory effects of acupuncture involve numerous mediators, receptors and signalling pathways, as outlined in two recent reviews (64, 65). The anti-inflammatory effects of acupuncture have particular relevance to allergic rhinitis, irritable bowel syndrome, post-surgical recovery, migraine, osteoarthritis and inflammatory aspects of a range of musculoskeletal conditions. In allergic rhinitis, acupuncture has been shown to down-regulate total and specific IgE, as well as SP and VIP (32, 66). Acupuncture has been shown to down-regulate transient receptor potential vanilloid 1 (TRPV1) in inflammatory pain and there is indirect evidence to suggest that acupuncture may down-regulate TRPV1 expression and sensitivity in allergic rhinitis (32, 64, 67). In irritable bowel syndrome, acupuncture has been shown to down-regulate SP, VIP and CGRP (68, 69). In migraine, acupuncture has been reported to down-regulate CGRP and SP which are also powerful vasodilators (70, 71).

In addition to the extensive research literature on acupuncture's efficacy, effectiveness and safety there is a body of research (largely using animal models) which has investigated physiological changes underpinning the effects of acupuncture in a broad range of clinical areas apart from pain and inflammation. To canvas this research in detail is beyond the scope of this review, however numerous reviews of this mechanism research have been published. A PubMed search on 18 September 2016, using the search terms 'acupuncture AND mechanism', yielded 1,943 hits.

For example:

- Acupuncture regulation of female reproductive function (72)
- Acupuncture regulation of gastrointestinal function (73)
- Acupuncture regulation of bladder function (73)
- Acupuncture regulation of circulation (74).

Table 3. Summary of effectiveness/efficacy in acupuncture research literature sorted by evidence levels		
Australian DVA (Sept 2005 - Sept 2010)	**USVA Evidence map (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
Effective	**Evidence of positive effect**	**Evidence of positive effect**
- Allergic rhinitis (for up to 3 months) - Back or pelvic pain during pregnancy - Migraine prophylaxis (when used with routine care) - Vomiting after chemotherapy (with superseded anti-emetic drugs)	- Chronic pain* - Headache - Migraine ** Chronic pain has been separated into different chronic pain conditions since USVA*	- Allergic rhinitis (perennial & seasonal) - Chemotherapy-induced nausea and vomiting (CINV) (with anti-emetics) - Chronic low back pain - Headache (tension-type and chronic) - Knee osteoarthritis - Migraine prophylaxis - Postoperative nausea & vomiting - Postoperative pain
Effective (possibly)	**Evidence of potential positive effect**	
- Lower back pain	- Ankle sprain - Anxiety - Cancer pain - Constipation - Depression - Dysmenorrhoea - General pain - Insomnia - Labour pain - Obesity - Osteoarthritic pain - Plantar heel pain - Postoperative nausea and vomiting - Post-traumatic Stress Disorder - Pregnancy pain - Prostatitis pain - Restless leg syndrome - Schizophrenia - Smoking cessation - Temporomandibular pain	- Acute low back pain - Acute stroke - Ambulatory anaesthesia - Anxiety - Aromatase-inhibitor-induced arthralgia - Asthma in adults - Back or pelvic pain during pregnancy - Cancer pain - Cancer-related fatigue - Constipation - Craniotomy anaesthesia - Depression (with antidepressants) - Dry eye - Hypertension (with medication) - Insomnia - Irritable bowel syndrome - Labour pain - Lateral elbow pain - Menopausal hot flushes - Modulating sensory perception thresholds - Neck pain (NAD, not WAD) - Obesity - Perimenopausal & postmenopausal insomnia - Plantar heel pain - Post-stroke insomnia - Post-stroke shoulder pain - Post-stroke spasticity - Post-traumatic stress disorder - Prostatitis pain/chronic pelvic pain syndrome - Recovery after colorectal cancer resection - Restless leg syndrome - Schizophrenia (with antipsychotics) - Sciatica - Shoulder impingement syndrome (early stage) (with exercise) - Shoulder pain - Smoking cessation (up to 3 months) - Stroke rehabilitation - Temporomandibular pain

Table 3. Summary of effectiveness/efficacy in acupuncture research literature sorted by evidence levels (contd)		
Australian DVA (Sept 2005 - Sept 2010)	**USVA Evidence map (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
Insufficient evidence	**Unclear evidence**	**Unclear/insufficient evidence**
- Assisted conception (when used on the day of embryo transfer) - Asthma - Bell's palsy - Breathlessness - Chronic neck pain - Cocaine addiction - Depression - Glaucoma - Induction of labour - Insomnia - Irritable bowel syndrome - Labour pain - Lateral elbow pain - Postnatal depression - Postoperative nausea and vomiting - Restless leg syndrome - Rheumatoid arthritis - Schizophrenia - Shoulder pain - Smoking cessation (up to 3 months) - Stroke - Uterine fibroids - Vascular dementia	- Back pain - Cancer adverse effects - Chronic fatigue syndrome - Drug addiction - Dry eye - Erectile dysfunction - Exercise - Fibromyalgia pain - Gastrointestinal disease - High blood pressure - Irritable bowel syndrome - Menopausal symptoms - Neck pain - Opiate addiction - Postoperative pain - Premenstrual syndrome - Quality of life - Rheumatoid arthritis pain - Rhinitis - Shoulder pain - Surgical analgesia - Tinnitus - Xerostomia	- Acupuncture in Emergency Department - Acute ankle sprain in adults - Alzheimer's disease - Angina pectoris - Assisted conception in ART (includes SR and MA from Dec 2016 and Jan 2017) - Asthma in children - Atopic dermatitis - Attention Deficit Hyperactivity Disorder (ADHD) - Autism spectrum disorder (ASD) - Bell's palsy - Bladder pain syndrome - Cancer-related insomnia - Cancer-related psychological symptoms - Carpal tunnel syndrome - Chemotherapy-induced peripheral neuropathy - Chronic fatigue syndrome - Chronic kidney disease - Chronic obstructive pulmonary disease (COPD) - Chronic urinary retention due to spinal cord injury - Chronic urticaria - Dysmenorrhoea - Dyspepsia in diabetic gastroparesis (DGP) - Erectile dysfunction - Exercise performance & post-exercise recovery - Fatigue in systemic lupus erythematosus - Fibromyalgia - Functional dyspepsia - Gag reflex in dentistry - Glaucoma - Heart failure - Hot flushes in breast cancer - Hyperemesis gravidarum - Hypoxic ischemic encephalopathy in neonates - Induction of labour - Inflammatory bowel disease - Itch - Lumbar spinal stenosis - Melasma - Meniere's disease/syndrome - Menopausal syndrome - Multiple sclerosis - Mumps in children - Myelosuppression after chemotherapy - Oocyte retrieval pain relief

Table 3. Summary of effectiveness/efficacy in acupuncture research literature sorted by evidence levels (contd)		
Australian DVA (Sept 2005 - Sept 2010)	**USVA Evidence map (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
Insufficient evidence	**Unclear evidence**	**Unclear/insufficient evidence**
		- Opiate addiction - Opioid detoxification - Parkinson's disease - Polycystic ovarian syndrome - Poor sperm quality - Postnatal depression - Postoperative gastroparesis syndrome (PGS) - Postoperative ileus - Post-stroke hiccoughs - Premenstrual syndrome - Primary ovarian insufficiency - Primary Sjogren's syndrome - Psoriasis vulgaris - Rheumatoid arthritis - Slowing progression of myopia - Spinal cord injury - Stress urinary incontinence in adults - Sudden sensorineural hearing loss - Surgery analgesia - Tinnitus - Traumatic brain injury - Urinary incontinence - Uterine fibroids - Vascular cognitive impairment without dementia - Vascular dementia - Whiplash associated disorder (WAD) - Xerostomia in cancer
Not effective	**Evidence of no effect**	**No evidence of effect**
- Assisted conception (if used around time of oocyte retrieval) - Epilepsy - Smoking cessation (more than 3 months)	- Alcohol dependence - Carpal tunnel syndrome pain - Cocaine addiction - Nausea in pregnancy	- Alcohol dependence - Cocaine addiction - Epilepsy - Nausea in pregnancy - Smoking cessation (more than 6 months)

Table 4. Summary of changes in evidence levels from 2005 to 2016			
Conditions which have not changed in evidence level	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Migraine prophylaxis	Effective	**Positive effect**	**Positive effect**
Headache (tension-type and chronic)	Not reviewed	**Positive effect**	**Positive effect**
Chemotherapy-induced nausea and vomiting	**Effective**	Not reviewed	**Positive effect**
Allergic rhinitis	**Effective**	Unclear	**Positive effect**
Anxiety	Not reviewed	**Potential positive effect**	**Potential positive effect**
Post-traumatic Stress Disorder	Not reviewed	**Potential positive effect**	**Potential positive effect**
Schizophrenia	Insufficient evidence	**Potential positive effect**	**Potential positive effect**
Smoking cessation		**Potential positive effect**	
Up to 3 months post-treatment	Insufficient evidence		**Potential positive effect**
More than 3 months post-treatment	Not effective		**No evidence of effect (more than 6 months)**
Temporomandibular pain		**Potential positive effect**	**Potential positive effect**
Plantar heel pain		**Potential positive effect**	**Potential positive effect**
Cancer pain	Not reviewed	**Potential positive effect**	**Potential positive effect**
Depression	Insufficient evidence	**Potential positive effect**	**Potential positive effect**
Insomnia	Insufficient evidence	**Potential positive effect**	**Potential positive effect**
Labour pain	Insufficient evidence	**Potential positive effect**	**Potential positive effect**
Back or pelvic pain during pregnancy	Effective	**Potential positive effect**	**Potential positive effect**
Prostatitis pain/chronic pelvic pain syndrome	Not reviewed	**Potential positive effect**	**Potential positive effect**
Constipation	Not reviewed	**Potential positive effect**	**Potential positive effect**
Obesity	Not reviewed	**Potential positive effect**	**Potential positive effect**
Restless leg syndrome	Insufficient evidence	**Potential positive effect**	**Potential positive effect**
Induction of labour	**Insufficient evidence**	Not reviewed	**Unclear**
Bell's palsy	**Insufficient evidence**	Not reviewed	**Unclear**
Glaucoma	**Insufficient evidence**	Not reviewed	**Unclear**
Uterine fibroids	**Insufficient evidence**	Not reviewed	**Unclear**
Vascular dementia	**Insufficient evidence**	Not reviewed	**Unclear**
Erectile dysfunction	Not reviewed	**Unclear**	**Unclear**
Tinnitus	Not reviewed	**Unclear**	**Unclear**
Improving exercise performance/recovery	Not reviewed	**Unclear**	**Unclear**
Opiate addiction	Not reviewed	**Unclear**	**Unclear**
Chronic fatigue syndrome	Not reviewed	**Unclear**	**Unclear**

Table 4. Summary of changes in evidence levels from 2005 to 2016 (contd)			
Conditions which have not changed in evidence level	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Fibromyalgia	Not reviewed	**Unclear**	**Unclear**
Premenstrual syndrome	Not reviewed	**Unclear**	**Unclear**
Rheumatoid arthritis	Insufficient evidence	**Unclear**	**Unclear**
Assisted conception in ART	**Insufficient evidence** at embryo transfer; **Ineffective** at oocyte retrieval	Not reviewed	**Unclear**
Nausea in pregnancy	Not reviewed	**Evidence of no effect**	**No evidence of effect**
Alcohol dependence	Not reviewed	**Evidence of no effect**	**No evidence of effect**
Cocaine addiction	Insufficient evidence	**Evidence of no effect**	**No evidence of effect**
Epilepsy	**Not effective**	Not reviewed	**No evidence of effect**
Conditions which have increased in evidence level	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Low back pain	Possibly effective	Unclear	*Research has shown better outcomes for chronic low back pain than for acute low back pain*
Chronic low back pain			**Positive effect**
Acute low back pain			**Potential positive effect**
Knee osteoarthritis	Not reviewed	**Potential positive effect**	**Positive effect**
Postoperative nausea and vomiting	Insufficient evidence	**Potential positive effect**	**Positive effect**
Postoperative pain	Not reviewed	**Unclear**	**Positive effect**
Postoperative nausea and vomiting and pain after tonsillectomy			**Positive effect**
Postoperative pain – back surgery			**Positive effect**
Postoperative pain – knee surgery			**Positive effect**
Stroke	**Insufficient evidence**	Not reviewed	*Stroke research has now separated into several new topics*
Acute stroke			**Potential positive effect**
Stroke rehabilitation			**Potential positive effect**
Post-stroke spasticity			**Potential positive effect**
Post-stroke insomnia			**Potential positive effect**
Post-stoke shoulder pain			**Potential positive effect**
Post-stroke hiccoughs			**Unclear**

Table 4. Summary of changes in evidence levels from 2005 to 2016 (contd)			
Conditions which have increased in evidence level	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Menopausal symptoms	Not reviewed	**Unclear**	*Menopausual symptom research has now separated into two new topics*
Menopausal hot flushes			**Potential positive effect**
Perimenopausal and postmenopausal sleep disturbance			**Potential positive effect**
Cancer adverse effects (not including cancer pain and chemotherapy-induced nausea and vomiting)	Not reviewed	**Unclear**	*Cancer adverse effects research has now separated into several new topics*
Cancer-related fatigue			**Potential positive effect**
Cancer-related insomnia			**Unclear**
Cancer-related peripheral neuropathy			**Unclear**
Hot flushes/flashes in breast cancer			**Unclear**
Xerostomia in cancer	Not reviewed	**Unclear**	**Unclear**
Recovery after colorectal cancer resection			**Potential positive effect**
Aromatase-inhibitor-induced arthralgia			**Potential positive effect**
Chemotherapy-induced peripheral neuropathy			**Unclear**
Myelosuppression after chemotherapy			**Unclear**
Cancer-related psychological symptoms			**Unclear**
Surgical analgesia	Not reviewed	**Unclear**	*Surgical analgesia research has now separated into several new topics*
Craniotomy anaesthesia			**Potential positive effect**
Ambulatory anaesthesia			**Potential positive effect**
Dry eye	Not reviewed	**Unclear**	**Potential positive effect**
Irritable bowel syndrome	Insufficient evidence	**Unclear**	**Potential positive effect**
Hypertension	Not reviewed	**Unclear**	**Potential positive effect**
Lateral elbow pain	**Insufficient evidence**	Not reviewed	**Potential positive effect**

Table 4. Summary of changes in evidence levels from 2005 to 2016 (contd)			
Conditions which have increased in evidence level	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Neck pain			
Neck pain and associated disorders (NAD)	Insufficient evidence	**Unclear**	**Potential positive effect**
Whiplash associated disorders (WAD)			**Unclear**
Shoulder pain	Insufficient evidence	**Unclear**	**Potential positive effect**
Asthma	**Insufficient evidence**	Not reviewed	**Potential positive effect (in adults)**
Carpal tunnel syndrome	Not reviewed	**Evidence of no effect**	**Unclear**
Conditions which have decreased in evidence level	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013) (to Mar 2013)**	**The Acupuncture Evidence Project (to September 2016)**
	Baseline evidence in bold		
Dysmenorrhoea	Not reviewed	**Potential positive effect**	**Unclear**
Ankle sprain	Not reviewed	**Potential positive effect**	**Unclear**

Table 5. Evidence levels from 2005 to 2016: explanatory notes with references			
Conditions which remain unchanged	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Migraine prophylaxis	Effective	**Positive effect**	Acupuncture seems to be at least as effective as conventional preventative medication for migraine and is safe, long lasting, and cost-effective (citing Witt et al 2008) (Da Silva 2015 - Narrative review of large high quality RCTs)(40) Acupuncture reduces migraine frequency. Acupuncture superior to sham and may be as effective as prophylactic drugs; subgroup analysis showed larger effect size when 16 or more treatments given (Z = 4.06) compared to 12 treatments or less (Z = 2.32); Moderate quality evidence (Linde 2016 - Cochrane SR of 22 RCTs of at least 8 weeks duration)(41) Acupuncture superior to sham in effectiveness and reduced risk of recurrence; Moderate to high quality evidence (Yang 2016 - SR of 10 RCTs)(42)
Chemotherapy-induced nausea and vomiting	**Effective**	Not reviewed	Acupuncture reduced the frequency of acute vomiting and the dose of rescue medication but did not reduce acute nausea severity or frequency compared to control. Acupressure showed a decrease in frequency of nausea but not acute vomiting or delayed symptoms. All studies used state-of-the-art combination anti-emetics. Insufficient evidence due to underpowered studies; acupuncture low to moderate quality evidence; acupressure moderate to high quality evidence (McKeon 2013 - SR of 7 acupuncture and 6 acupressure RCTs)(21) Acupuncture is an appropriate referral option for chemotherapy-induced nausea and vomiting (Garcia 2014 - SR update: 18 new RCTs)(55)
Allergic rhinitis	**Effective**	Unclear	Acupuncture could be a safe and valid treatment for allergic rhinitis; Moderate quality evidence (Feng 2015 - SR of 13 RCTs)(54) High quality evidence of efficacy and effectiveness (Taw 2015 - SR of 2 large multi-centre RCTs, 3 acupuncture vs medication RCTs and 1 cost-effectiveness study)(15) OHNSF clinical practice guideline: Option 5: Clinicians may offer acupuncture, or refer to a clinician who can offer acupuncture, for patients with AR who are interested in nonpharmacologic therapy; Aggregate evidence quality - Grade B (Seidman 2015)(37) Acupuncture is cost-effective for allergic rhinitis (Kim 2012, Witt 2010)(75, 76) SAR - Acupuncture significantly superior to rescue medication in QALY gained, but may cost more short term (Reinhold 2013)(77, 78)

Table 5. Evidence levels from 2005 to 2016: explanatory notes with references (contd)			
Conditions which remain unchanged	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Anxiety	Not reviewed	**Potential positive effect**	Acupuncture has 'potential use' (Bazzan 2014 - Narrative review)(79) Positive and statistically significant effects; Moderate to high quality evidence (Goyata 2016 - Integrative review of 19 studies including 6 RCTs; 11 high quality studies; 5 moderate)(80)
Post-traumatic Stress Disorder	Not reviewed	**Potential positive effect**	One new RCT - Acupuncture plus usual care superior to usual care in PTSD severity, depression, pain and physical and mental functioning (Engel 2015 - RCT acupuncture plus usual care vs usual care, n = 55)(81)
Schizophrenia	Insufficient evidence	**Potential positive effect**	Acupuncture effective for schizophrenia, especially in improving sleep, mood and QoL by modulating and normalizing the limbic–paralimbic–neocortical network (LPNN), including the default mode network (DMN); limited evidence (Bosch 2015 - Review of SRs & MAs)(82) Acupuncture plus antipsychotic medication superior to antipsychotic medication alone, in terms of mental state and length of hospitalisation (moderate quality evidence) with fewer adverse effects (low quality evidence) (Shen 2014 – Cochrane update of 30 RCTs)(83)
Smoking cessation	Insufficient evidence (up to 3 months); Not effective (more than 3 months)	**Potential positive effect (short term)**	Potential short-term effects (low quality evidence), Insufficient evidence (more than 6 months) (White 2014 – Cochrane update)(84)
Temperomandibular pain		**Potential positive effect**	One new RCT: Acupuncture was equivalent to occlusal splint in pain intensity and range of mouth opening (Grillo 2015 - RCT acupuncture vs occlusal splint, n = 40)(85)
Plantar heel pain		**Potential positive effect**	No updates
Cancer pain	Not reviewed	**Potential positive effect**	Conflicting SRs Insufficient evidence; low to very low quality evidence (Paley 2015 - Cochrane SR of 5 RCTs) (86) Acupuncture relieved malignancy-related and surgery-induced pain but not pain induced by chemotherapy, radiotherapy or hormone therapy; Reviewers recommend acupuncture be included in multimodal treatment regimens (Chiu 2016 - SR of 29 RCTs)(87)

Table 5. Evidence levels from 2005 to 2016: explanatory notes with references (contd)			
Conditions which remain unchanged	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Depression	Insufficient evidence	**Potential positive effect**	Acupuncture plus SSRIs superior to SSRIs alone, with an early onset of action and was safe and well-tolerated; EA had greater effect than manual acupuncture (Chan 2015 – SR of 13 RCTs: 1 high quality trial, 5 moderate, 7 low) (88) Effective and safe for major depressive disorder, especially in improving sleep, mood and QoL by modulating and normalizing the limbic–paralimbic–neocortical network (LPNN), including the default mode network (DMN); 'promising evidence' (Bosch 2015 - Review of SRs & MAs)(82) Acupuncture is cost-effective compared with counselling or usual care alone, although the ranking of counselling and acupuncture depends on the relative cost of delivering these interventions (Spackman 2014 –cost-effectiveness in one RCT)(89)
Insomnia	Insufficient evidence	**Potential positive effect**	Acupuncture may be superior to medication. Acupuncture for insomnia is potentially mediated by norepinephrine, melatonin, gamma-aminobutyric acid, and beta-endorphin; insufficient evidence (Zhao 2013 - book chapter)(90) Acupuncture statistically superior to sham (3 studies) and medication (27 studies); low quality evidence (Shergis 2016 - SR)(91)
Labour pain	Insufficient evidence	**Potential positive effect**	Acupuncture & acupressure 'promising' – Conflicting results due to heterogeneity in study designs, research questions, treatment protocols and outcomes measures (Levett 2014 - Review of SRs)(92)
Back or pelvic pain during pregnancy	Effective	**Potential positive effect**	Promising results; low quality evidence (Selva Olid 2013)(93) Clinically important and statistically significant changes (Close 2014 - SR of CAM; 2 high quality studies)(94) Moderate quality evidence that acupuncture or exercise, tailored to the stage of pregnancy, significantly reduced evening pelvic or lumbo-pelvic pain. Acupuncture superior to exercise for reducing evening pelvic pain; Both acupuncture and exercise superior to usual care; Insufficient evidence (Liddle 2015 - Cochrane SR: Comparison of interventions)(95)

Table 5. Evidence levels from 2005 to 2016: explanatory notes with references (contd)			
Conditions which remain unchanged	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Prostatitis pain/chronic pelvic pain syndrome	Not reviewed	**Potential positive effect**	Acupuncture superior to both sham and to usual care and safe, thus it should be offered when available (Chang 2016 - SR of 7 RCTs: 3 high quality studies, 1 moderate and 3 low)(96) Acupuncture superior to sham in pain, voiding and QoL; acupuncture superior to medication in pain relief but no different in voiding and QoL; acupuncture as an adjunctive treatment for symptom control should be considered (Qin 2016 - SR of 7 RCTs: 3 high quality studies, 1 moderate and 3 low)(97)
Constipation	Not reviewed	**Potential positive effect**	No updates
Obesity	Not reviewed	**Potential positive effect**	Acupuncture superior to medication, sham and lifestyle modification; low to very low quality evidence (Esteghamati 2015 - Critical review of 3 SRs)(98)
Restless leg syndrome	Insufficient evidence	**Potential positive effect**	Insufficient evidence (Bega 2016 – Overview of alternative treatment of restless leg syndrome)(99)
Induction of labour	**Insufficient evidence**	Not reviewed	Insufficient evidence; included studies ranged from high to low quality evidence (Smith 2013 - Cochrane update with 14 RCTs)(100) Acupressure may reduce the duration of labour especially the first stage; insufficient evidence (Mollart 2015 – SR of 7 RCTs)(101)
Bell's palsy	**Insufficient evidence**	Not reviewed	Seems to be effective; insufficient evidence of efficacy and safety; low quality evidence (Li 2015 – SR & MA of 14 RCTs)(102) Acupuncture superior to waitlist in physical and social function (Kwon 2015 - RCT acupuncture (n=36) vs waitlist (n=13))(103)
Glaucoma	**Insufficient evidence**	Not reviewed	Insufficient evidence; low quality evidence (Law 2013 - Cochrane SR; I RCT on auricular acupressure)(104)
Uterine fibroids	**Insufficient evidence**	Not reviewed	Acupuncture may be a treatment option as part of a CAM treatment approach (Dalton-Brewer 2016 - Narrative review of CAM)(105)
Vascular dementia	**Insufficient evidence**	Not reviewed	Acupuncture plus other therapies significantly improved Mini Mental State scores; low quality evidence (Cao 2013 – SR of 12 RCTs)(106)
Erectile dysfunction	Not reviewed	**Unclear**	Insufficient evidence; low quality evidence (Cui 2016 - SR of 3 RCTs)(107)
Tinnitus	Not reviewed	**Unclear**	EA - Insufficient evidence; low quality evidence (He 2016 - SR of 5 RCTs)(108)

Table 5. Evidence levels from 2005 to 2016: explanatory notes with references (contd)			
Conditions which remain unchanged	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Opiate addiction	Not reviewed	**Unclear**	Acupuncture is effective in opiate detoxification (and associated depression and anxiety) which is mediated by endogenous dynorphin; no effect on opioid cravings; low quality evidence (Wu 2016 – Narrative review)(109) Acupuncture superior to controls for withdrawal/craving and anxiety post-treatment but not long term; low quality evidence (Grant 2016 - SR & MA of 41 RCTs on substance use disorders)(110)
Chronic fatigue syndrome	Not reviewed	**Unclear**	Acupuncture plus usual care may improve fatigue in chronic fatigue syndrome and idiopathic chronic fatigue (Kim 2015 - Multi-centre nonblinded RCT, n = 150)(111)
Fibromyalgia	Not reviewed	**Unclear**	Acupuncture superior to no treatment or standard care in reducing pain and stiffness; low to moderate quality evidence Acupuncture not different from sham in reducing pain, fatigue or improving sleep and global wellbeing; moderate quality evidence EA is probably better than manual acupuncture in reducing pain and stiffness and improving global well-being, sleep and fatigue. (Deare 2013 – Cochrane SR of 9 RCTs)(112) Insufficient evidence; low quality evidence (Yang 2014 – SR of RCTs)(113) Inconsistent evidence (Lauche 2015 – SR of reviews; 2 high and 2 low quality reviews)(114)
Premenstrual syndrome	Not reviewed	**Unclear**	A SR in 2014 included no new evidence (115) Insufficient evidence (Hofmeister 2016 - Narrative review) (116)
Assisted conception in ART	**Insufficient evidence** when used around embryo transfer; **Not effective** when used around oocyte retrieval	Not reviewed	No evidence that acupuncture improves live birth or pregnancy rates in ART regardless of whether performed around the time of oocyte retrieval or embryo transfer (Cheong 2013 - Cochrane update with 20 RCTs)(117). Acupuncture ineffective when used only on the day of oocyte retrieval but effective when used on the day of embryo transfer (Shen 2015 - SR & MA) (118). Acupuncture improves clinical pregnancy rates in women undergoing IVF. Optimal positive effects were seen when acupuncture was used during controlled ovarian hyperstimulation. (Qian 2016 – SR of 30 RCTs & MA)(119) Acupuncture may increase the clinical pregnancy rate and ongoing pregnancy rate and decrease the risk of ovarian hyperstimulation syndrome in women with PCOS undergoing IVF or intracytoplasmic sperm injection (Jo 2017 – SR of 4 RCTs & MA)(120)

Table 5. Evidence levels from 2005 to 2016: explanatory notes with references (contd)			
Conditions which remain unchanged	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Improving exercise performance and post-exercise recovery	Not reviewed	**Unclear**	No updates
Rheumatoid arthritis	Insufficient evidence	**Unclear**	A SR in 2016 included no new evidence (Fernandez-Llanio Camella 2016 -SR of CAM)(121)
Nausea in pregnancy	Not reviewed	**Evidence of no effect**	No significant difference between real and sham acupuncture; low quality evidence (Matthews 2015 - Cochrane SR of interventions for nausea in pregnancy; 2 RCTs on acupuncture)(122)
Alcohol dependence	Not reviewed	**Evidence of no effect**	Low to very low quality evidence (Grant 2016 - SR & MA of 41 RCTs: 12 opioids, 9 cocaine, 11 alcohol, 9 mixed/not reported/other)(110)
Cocaine addiction	Insufficient evidence	**Evidence of no effect**	Low to very low quality evidence (Grant 2016 - SR & MA of 41 RCTs: 12 opioids, 9 cocaine, 11 alcohol, 9 mixed/not reported/other)(110)
Epilepsy	**Not effective**	Not reviewed	No evidence of effect (Cheuk 2014 – Cochrane update)(123)

Table 5. Evidence levels from 2005 to 2016: explanatory notes with references (contd)			
Conditions which have increased in evidence level	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Low back pain	Possibly effective	Unclear	***Research has shown better outcomes for chronic low back pain than for acute low back pain***
Chronic low back pain			High quality evidence for acupuncture; moderate quality evidence for acupressure (Wellington 2014 – SR of noninvasive interventions)(48) Acupuncture alone or as an adjunct to usual care provided short-term improvement in pain and function; low to high quality evidence; 'should be advocated in routine clinical practice' (Liu 2015 - Overview of 16 SRs)(49) Moderate quality evidence for pain and function (Chou 2016 [AHRQ Comparative Effectiveness review])(45) ***Upgrade to positive***
Acute low back pain			Acupuncture superior to NSAIDS for improving symptoms; acupuncture superior to sham for pain but not function (Lee 2013 - SR of 11 RCTs)(47) Low quality evidence for pain and function (Chou 2016 - AHRQ Comparative Effectiveness review)(45) ***Upgrade to potential positive***
Headache (frequent episodic or chronic tension-type)	Not reviewed	**Potential positive effect**	Acupuncture is cost effective for headache (Kim 2012)(76) A potentially important role for acupuncture as part of a treatment plan for migraine, tension-type headache, and several different types of chronic headache disorders. Cost-effective in Germany and UK (Coeytaux 2016 - Brief review of selected SRs and MAs)(44) Acupuncture can reduce workplace headache pain intensity, frequency and related disability; low quality evidence (Lardon 2016 - SR of 15 RCTs)(124) Effective for frequent episodic or chronic tension-type headaches; Moderate or low quality evidence (Linde 2016 - Cochrane SR of 12 RCTs)(43) Acupuncture has been included in the NICE guidelines for headache since 2012(38) ***Upgrade to positive***
Knee osteoarthritis	Not reviewed	**Potential positive effect**	Acupuncture was equal to balneotherapy and superior to sham acupuncture, muscle-strengthening exercise, Tai Chi, weight loss, standard care and aerobic exercise (in ranked order). Acupuncture superior to standard care and muscle-strengthening exercises in sub-analysis of moderate to high quality studies (Corbett 2013: Network meta-analysis (152 studies on 22 interventions: 12 RCTs included in network MA) (52) ***Upgrade to positive***

Table 5. Evidence levels from 2005 to 2016: explanatory notes with references (contd)			
Conditions which have increased in evidence level	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Postoperative nausea and vomiting	Insufficient evidence	**Potential positive effect**	Acupuncture and acupressure reduced number of cases of early nausea and vomiting (up to 24 hours); low quality evidence (Cheong 2013 - SR of 30 RCTs)(56) PC 6 stimulation was superior to sham; low quality evidence; no difference between PC 6 stimulation and anti-emetics (moderate quality evidence); insufficient evidence that PC 6 plus anti-emetics is superior to anti-emetics alone (Lee 2015 - Cochrane update with 59 RCTs of PC 6 stimulation)(16) ***Upgrade to positive***
Postoperative nausea and vomiting and pain after tonsillectomy			Pain scores, analgesic need and nausea and vomiting were reduced (acupuncture vs control); no significant adverse events; insufficient evidence (Cho 2016 - MA of 12 RCTs; 7 high quality)(125) Acupuncture superior to controls and cost-effective; insufficient evidence (Shin 2016 - SR & MA - 4 RCTs [3 high quality]; 3 randomised prospective studies and 1 pilot)(126) ***Upgrade to positive***
Postoperative pain	Not reviewed	**Unclear**	Some forms of acupuncture (acupuncture, EA and TEAS) improved pain on day 1 after surgery and reduced opioid use; subgroup analysis showed acupuncture and TEAS superior to EA; moderate quality evidence (Wu 2016 - SR & MA of 13 RCTs)(17) ***Upgrade to positive***
Postoperative pain – back surgery			Encouraging but limited evidence (Cho 2015 - SR of 5 RCTs; 3 high quality)(57) ***Upgrade to positive***
Postoperative pain – knee surgery			Acupressure reduced pain; acupuncture did not reduce pain but resulted in reduced use of ibuprofen; low quality evidence (Barlow 2013 - SR of CAM – 3 acupuncture & 1 acupressure RCTs)(58) Acupuncture superior to sham in post-operative fentanyl use, time to first request for fentanyl and pain intensity (Chen 2015 - RCT acupuncture vs sham, n=60)(59) ***Upgrade to positive***

Table 5. Evidence levels from 2005 to 2016: explanatory notes with references (contd)			
Conditions which have increased in evidence level	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Stroke	**Insufficient evidence**	Not reviewed	***Stroke research has now become nuanced into several new topics*** Acupuncture may be effective for treating post-stroke neurological impairment and dysfunction such as dysphagia, but does not prevent post-stroke death; (Zhang 2014 - Review of SRs: 8 reviews high quality, 6 moderate, 10 low)(127) ***Upgrade to potential positive***
Acute stroke			Acupuncture plus rehabilitation superior to rehabilitation alone for acute and subacute stroke sequelae (Vados 2015 – SR of 17 RCTs; 5 high quality)(128) Acute ischaemic stroke: EA superior to usual care in Barthel Index, Fugl-Meyer Assessment, National Institutes of Health Stroke Scale, and Revised Scandinavian Stroke Scale; Moderate to high quality evidence (Liu 2015 - MA of 18 RCTs)(129) ***Upgrade to potential positive***
Stroke rehabilitation			May have beneficial effects on improving dependency, global neurological deficiency, and some specific neurological impairments; insufficient evidence; low to very low quality evidence (Yang 2016 – Cochrane update)(130) ***Upgrade to potential positive***
Post-stroke spasticity			Acupuncture or EA significantly decreased spasticity after stroke; low quality evidence (Lim 2015 – SR & MA of 5 RCTs)(131) Acupuncture improved passive resistance to stretching, degree of personal dependence and motor function; insufficient evidence; 6 high quality studies; 3 moderate quality (Rodriguez-Mansilla 2016 – SR of 9 RCTs or controlled studies)(132) ***Upgrade to potential positive***
Post-stroke insomnia			Acupuncture superior to sham acupuncture and to medication; insufficient evidence; low to moderate evidence (Lee 2016 – SR & MA of 13 RCTs)(133) ***Upgrade to potential positive***
Post-stoke shoulder pain			Acupuncture plus rehabilitation superior to rehabilitation alone; insufficient evidence; low to moderate evidence (Lee 2016 – SR of 12 RCTs)(134) ***Upgrade to potential positive***
Post-stroke hiccoughs			Acupuncture may be effective as an adjunctive but not as a stand-alone treatment; low quality evidence (Yue 2016 – SR & MA of 5 RCTs)(135) ***Unclear***

Table 5. Evidence levels from 2005 to 2016: explanatory notes with references (contd)			
Conditions which have increased in evidence level	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Menopausal symptoms	Not reviewed	**Unclear**	***Menopausual symptom research has now separated into two new topics***
Menopausal hot flushes			Acupuncture improves hot flash frequency and severity, menopause-related symptoms, and QoL (vasomotor domain) in natural menopause (Chiu 2015 - MA of 12 studies; 2 high quality studies, 8 moderate and 2 low)(136) Promising results; low quality evidence (Selva Ovid 2013 (Review of 8 SRs and 9 RCTs))(93) Acupuncture superior to wait-list or no treatment; low quality evidence Acupuncture superior to sham in reducing severity but not frequency; very low quality evidence Acupuncture inferior to hormone therapy in QoL and frequency; no difference in severity; low quality evidence (Dodin 2013 - Cochrane SR of 16 RCTs)(137) ***Upgrade to potential positive***
Perimenopausal and postmenopausal sleep disturbance			Significant reduction in sleep disturbance which appears to be associated with changes in serum estradiol, FSH and LH; acupuncture recommended as adjunctive therapy in improving sleep disturbances in perimenopausal and postmenopausal women (Chiu 2016 - SR of 34 studies; 4 high quality)(138) Improved sleep quality; limited evidence; moderate to high quality evidence (Bezarra 2015 - SR of 7 RCTs; 4 high quality; no studies with high risk of bias)(139) ***Upgrade to potential positive***
Cancer adverse effects (not including cancer pain and chemotherapy-induced nausea and vomiting)	Not reviewed	**Unclear**	***Cancer adverse effects research has now become nuanced into several new topics*** Acupuncture plus usual care superior to usual care alone in reducing pain, fatigue, and in improving QoL. Acupuncture's effectiveness for managing anorexia, reducing constipation, paraesthesia and dysaesthesia, insomnia, and limb oedema is unclear; low to very low quality evidence (Lau 2016 - SR & MA of 13 RCTS)(140) Acupuncture may be effective for cancer pain, post-operative pain, aromatase inhibitor related joint pain and neck dissection pain and dysfunction, as well as opioid related constipation and pruritus and chemotherapy-induced nausea and vomiting and neuropathy; no assessment of quality of evidence (Lu 2013 - Narrative review)(141) Acupuncture effective for treatment-related nausea and vomiting, cancer pain, fatigue, hot flushes, xerostomia, dyspnoea and anxiety; low quality evidence (Towler 2013 - Review of 17 reviews)(142) Acupuncture may be appropriate adjunctive therapy for a range of cancer-related symptoms including adverse effects of chemotherapy and radiotherapy and cancer pain (Lian 2014 - SR of 33 RCTs)(143)

Table 5. Evidence levels from 2005 to 2016: explanatory notes with references (contd)			
Conditions which have increased in evidence level	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Cancer-related fatigue			Acupuncture and moxibustion appear to be efficacious adjunctive therapy; Insufficient evidence; low quality evidence (He 2013 - SR of 7 RCTs)(144) Acupuncture and acupressure tend to be effective, acupuncture more than acupressure; low quality evidence (Ling 2013 - SR)(145) Conflicting evidence: 4 studies showed acupuncture or acupuncture plus usual care superior to sham, usual care, enhanced usual care or no treatment; 3 studies showed no difference between acupuncture and sham; very low quality evidence (Posadzki 2013 - SR of 7 RCTs)(146) Acupuncture may reduce fatigue after cancer treatment; low quality evidence (Finnegan-John 2013 - SR of CAM 20 studies; 3 acupuncture/acupressure RCTs)(147) Acupuncture plus education superior to usual care; low quality evidence (Zeng 2014 (SR of 7 RCTs)(148) ***Upgrade to potential positive***
Cancer-related insomnia			Acupuncture may be superior to sham acupuncture, drugs or hormones therapy. Number of studies and effect size are small for clinical significance; low quality evidence (Choi 2016 - SR of 6 RCTs)(149) ***Unclear***
Hot flushes/flashes in breast cancer			Acupuncture superior to sham in some studies and superior to baseline in all studies; low quality evidence (Garcia 2015 - SR of 8 RCTs)(150) Acupuncture had similar efficacy to venlafaxine and gabapentin but may have longer durability after completing treatment and fewer side effects (Johns 2016 - SR of interventions; 2 acupuncture vs medication studies)(151) Acupuncture superior to sham in 3 studies; no different from sham in 6 studies; inferior to hormone therapy in 2 studies; low quality evidence (Chen 2016 - SR of 12 RCTs)(152) Conflicting evidence; low quality evidence (Salehi 2016 - SR of 12 studies)(153) Acupuncture yielded small-size effects on reducing hot-flash frequency and the severity of menopause-related symptoms; Insufficient or conflicting evidence; Low to high quality studies (Chiu 2016 - SR of 7 studies; 4 high quality studies)(87) ***Unclear***

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Table 5. Evidence levels from 2005 to 2016: explanatory notes with references (contd)			
Conditions which have increased in evidence level	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Xerostomia in cancer	Not reviewed	**Unclear**	Insufficient evidence (Zhuang 2013 - SR of 4 studies)(154) Small increase in saliva production; low quality evidence (Furness 2013 - Cochrane SR of non-pharmacological interventions - 9 RCTs; 5 acupuncture)(155) Acupuncture was superior to sham; low quality evidence (Hanchanale 2015 - SR of 6 RCTs)(156) ***Unclear***
Recovery after colorectal cancer resection			Acupuncture efficacious and effective; Low to moderate quality evidence (Kim 2016 - SR of 7 RCTs)(157) ***Upgrade to potential positive***
Aromatase-inhibitor-induced arthralgia			Acupuncture superior to sham in 2 high quality studies; no different from sham in 2 low-quality studies (Bae 2015 - SR of 4 RCTs)(158) Acupuncture reduces joint pain and stiffness but not superior to sham; moderate to high quality evidence (Chien 2015 - SR of 5 RCTs)(159) ***Upgrade to potential positive***
Chemotherapy-induced peripheral neuropathy			Acupuncture superior to sham in one RCT; very low quality evidence (Franconi 2013 - SR of 3 RCTs, 3 case series, 1 rat study)(160) ***Unclear***
Myelosuppression after chemotherapy			Insufficient evidence; low to very low quality evidence (Fu 2015 - Narrative review includes 7 RCTs)(161) ***Unclear***
Cancer-related psychological symptoms			All included studies suggest benefits in depression, anxiety, sleep disturbance, and for improving QoL; strong evidence for safety; no assessment of quality of evidence (Haddad 2014 - SR of 12 studies; 8 RCTs)(162) ***Unclear***
Surgical analgesia	Not reviewed	**Unclear**	***Surgical analgesia has now become nuanced into several new topics*** Conflicting evidence; insufficient evidence; no assessment of quality of evidence (Lee 2014 - Overview of 12 SRs on postsurgical nausea and vomiting and postsurgical pain)(163)

Table 5. Evidence levels from 2005 to 2016: explanatory notes with references (contd)			
Conditions which have increased in evidence level	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Craniotomy anaesthesia			Acupuncture significantly reduced the amount of volatile anaesthetics and led to faster extubation time and postoperative patient recovery and reduced postoperative nausea and vomiting. In addition, significantly reduced blood levels of the brain tissue injury marker S100beta 48 hours after operation; low quality studies excluded from MA, hence moderate to high quality evidence (Asmussen 2016 - MA of 10 RCTs)(164) ***Upgrade to potential positive***
Ambulatory anaesthesia			Acupuncture may reduce preoperative anxiety, and postoperative pain, nausea, vomiting, shivering and emergence delirium. Acupuncture is safe and cost-effective. Acupuncture may be a beneficial adjunctive therapy for ambulatory anaesthesia; insufficient evidence; high quality studies favour acupuncture (Liodden 2013 - Narrative review)(165) ***Upgrade to potential positive***
Postoperative nausea and vomiting and pain after tonsillectomy			Pain scores, analgesic need and nausea and vomiting were reduced (acupuncture vs control); no significant adverse events; insufficient evidence (Cho 2016 - MA of 12 RCTs; 7 high quality)(125) Acupuncture superior to controls and cost-effective; insufficient evidence (Shin 2016 - SR & MA - 4 RCTs [3 high quality]; 3 randomised prospective studies and 1 pilot)(126) ***Upgrade to potential positive***
Dry eye	Not reviewed	**Unclear**	Acupuncture was significantly superior to artificial tears in tear break-up time, Schirmer I test, and cornea fluorescein staining; Low to moderate quality evidence (Yang 2015 - SR & MA of 7 RCTs)(166) ***Upgrade to potential positive***

Table 5. Evidence levels from 2005 to 2016: explanatory notes with references (contd)			
Conditions which have increased in evidence level	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Carpal tunnel syndrome	Not reviewed	**Evidence of no effect**	Acupuncture superior to ibuprofen in function and symptoms (Hadianfard et al 2015 - RCT comparing acupuncture plus night wrist splints with ibuprofen plus night wrist splints, n=50)(167) ***Upgrade to unclear***
Irritable bowel syndrome	Insufficient evidence	**Unclear**	Insufficient evidence; low to moderate quality evidence (Manheimer 2012 - Cochrane SR of 17 RCTs)(168) Acupuncture superior to usual care on IBS symptom severity score at 6, 9 and 12 months but not at 24 months (MacPherson 2016 - high quality RCT)(169) ***Upgrade to potential positive***
Hypertension	Not reviewed	**Unclear**	Acupuncture plus medication superior to sham plus medication; low quality evidence (Wang 2013 - SR of 35 RCTs)(170) Acupuncture plus medication superior to medication, but acupuncture not superior to medication; high quality evidence (Li 2014 - SR of 4 RCTs) (171) Acupuncture plus medication superior to medication, but acupuncture not superior to medication; risk of bias unclear for most domains (Zhao 2015 – 23 RCTs)(172) ***Upgrade to potential positive***
Lateral elbow pain	**Insufficient evidence**	Not reviewed	Acupuncture superior to sham; moderate quality evidence (Gadau 2014 - SR of 19 RCTs)(173) Insufficient evidence: low to very low quality evidence (Tang 2015 - SR of 4 RCTs)(174) ***Upgrade to potential positive***
Neck pain	Insufficient evidence	**Unclear**	Acupuncture plus usual medical care is cost-effective for neck pain and its associated disorders (NAD) (Van der Velde 2015 – SR of 6 studies)(175) Acupuncture superior to sham acupuncture or inactive treatment (at completion of treatment and short-term follow-up) for pain relief; Moderate quality evidence (Trinh 2016 - Cochrane update with 27 RCTS)(176) Limited evidence of effectiveness; low quality evidence (Moon 2014 – 6 RCTs on whiplash associated disorder [WAD])(177) ***Moderate quality evidence for NAD, but low quality evidence for WAD*** ***Upgrade to potential positive for NAD, but leave WAD as unclear***

Table 5. Evidence levels from 2005 to 2016: explanatory notes with references (contd)			
Conditions which have increased in evidence level	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Shoulder pain	Insufficient evidence	**Unclear**	For non-operative treatment options at an early stage of Shoulder Impingement Syndrome (SIS), exercise combined with therapies such as kinesio taping, specific exercises, and acupuncture should be considered as the first line choices (2 included high quality acupuncture studies) (Dong 2015 - SR and network MA)(178) ***Upgrade to potential positive***
Asthma	**Insufficient evidence**	Not reviewed	Acupuncture may improve peak expiratory flow or peak expiratory flow variability in children; low quality evidence (Liu 2015 – SR of 7 RCTs)(179) Acupoint herbal patches superior to sham in improving FEV1 and asthma symptoms; low quality evidence (Lee 2016 – SR & MA of 16 RCTs)(180) Acupuncture improved FEV1, FEV1/FVC, IL and IgE (moderate quality evidence), but not ECP (Su 2016 - SR & MA of 8 RCTs)(181) ***Upgrade to potential positive***

Table 5. Evidence levels from 2005 to 2016: explanatory notes with references (contd)			
Conditions which have decreased in evidence level	**Australian DVA (Sept 2005 - Sept 2010)**	**USVA (Jan 2005 - Mar 2013)**	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**
	Baseline evidence in bold		
Dysmenorrhoea	Not reviewed	**Potential positive effect**	**Conflicting SRs (3 positive SRs; Cochrane SR insufficient evidence)** Acupuncture is effective and acupressure may be effective for pain relief; acupuncture trials had low to moderate risk of bias; acupressure trials high risk of bias (Chen et al, 2013 – MA of 3 acupuncture and 4 acupressure RCTs(182) Acupoint stimulation superior to controls for pain relief; low to moderate quality evidence (Xu et al, 2014 MA of 20 RCTs of acupoint stimulation)(183) Acupuncture and acupressure (vs placebo, waitlist or medication) reduced pain intensity, while acupuncture also improved quality of life; moderate quality evidence (Abaraogu 2015 – SR of 8 RCTs and MA of 4 RCTs)(184) Insufficient evidence; low to very low quality evidence (Smith 2016 - Cochrane update)(185) ***Downgrade to unclear***
Ankle sprain	Not reviewed	**Potential positive effect**	Insufficient evidence; low to very low quality evidence (Kim 2014 – Cochrane SR of 15 RCTs, 5 quasi-randomised trials)(186) ***Downgrade to unclear***

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Table 6. All conditions reviewed sorted by clinical areas		
Condition	**THE ACUPUNCTURE EVIDENCE PROJECT (updates from March 2013 to August 2016) systematic reviews, meta-analyses, network meta-analyses, narrative reviews, cost effectiveness reviews *Cochrane reviews highlighted in bold***	**Comments**
Cardiovascular/respiratory conditions		
Angina pectoris	Xu 2013 (Narrative review)(187): Acupuncture shows effectiveness rates of 80% to 92.6% without adverse effects of medication; no assessment of quality of evidence Yu 2015 (SR of 25 RCTs)(188): Improvement in symptoms and ECG; very low quality evidence Zhang 2015 (SR & MA of 15 RCTs)(189): Acupuncture plus medication superior to medication alone in improving symptoms and ECG; insufficient evidence; no assessment of quality of evidence	***Unclear***
Asthma	Liu 2015 [Childhood asthma] (SR of 7 RCTs)(179): Acupuncture may improve peak expiratory flow or peak expiratory flow variability; insufficient evidence; low quality evidence Lee 2016 [Acupoint herbal patches] (SR & MA of 16 RCTs)(180): Superior to sham in improving FEV1 and asthma symptoms; low quality evidence Su 2016 [Acupoint application in adults] (SR & MA of 8 RCTs)(181): Acupuncture improved FEV1, FEV1/FVC, IL and IgE (moderate quality evidence) but not ECP	Moderate quality evidence of lung function improvements in adults -***Potential positive*** (adults) ***Unclear*** (children)
Chronic obstructive pulmonary disease (COPD)	Coyle 2014 (SR of 16 RCTs)(190): Clinically significant improvements in QoL and dyspnoea, but not lung function; moderate quality evidence	***Unclear***
Heart failure	Lee 2016 (SR of 7 RCTs)(191): Acupuncture improved exercise capacity, quality of life, hemodynamic parameters, and time domain heart rate variability parameters; low quality evidence	***Unclear***
Hypertension	Wang 2013 (SR of 35 RCTs)(170): Acupuncture plus medication superior to sham plus medication; low quality evidence Li 2014 (SR of 4 RCTs)(171): Acupuncture plus medication superior to medication, but acupuncture not superior to medication; high quality evidence Zhao 2015 (SR & MA of 23 RCTs)(172): Acupuncture plus medication superior to medication, but acupuncture not superior to medication; risk of bias unclear for most domains	Low to high quality evidence for acupuncture plus medication ***Potential positive*** *(with medication)*
Vascular cognitive impairment without dementia	Min 2016 (MA of 15 studies)(192): Acupuncture superior to usual care or medication; low quality evidence	***Unclear***

Table 6. All conditions reviewed sorted by clinical areas (contd)		
Condition	**THE ACUPUNCTURE EVIDENCE PROJECT**	**Comments**
Cardiovascular/respiratory conditions (contd)		
Vascular dementia	Cao 2013 (SR of 12 RCTs)(106): Acupuncture plus other therapies significantly improved Mini Mental State scores; low quality evidence	***Unclear***
Musculoskeletal disorders		
Acute ankle sprain in adults	Park 2013 (SR of 17 RCTs; 2 high quality, 15 low quality)(193): Acupuncture superior to various controls in relieving pain, facilitating return to normal activity, and promoting QoL based on subgroup analysis of 2 high quality studies **Kim 2014 (Cochrane SR of 15 RCTs, 5 quasi-randomised trials)(186):** Insufficient evidence; Low to very low quality evidence	***Potential positive*** in USVA review 2014; Insufficient evidence/ low to very low quality evidence (Cochrane) ***Downgrade to unclear***
Carpal tunnel syndrome	Hadianfard 2015 (RCT comparing acupuncture plus night wrist splints with ibuprofen plus night wrist splints, n=50)(167): Acupuncture superior to ibuprofen in function and symptoms	USVA review 2014 'Evidence of no effect'; 1 positive RCT in 2015 ***Upgrade to unclear***
Fibromyalgia	**Deare 2013 (Cochrane SR of 9 RCTs)**(112): Acupuncture superior to no treatment or standard care in reducing pain and stiffness; low to moderate quality evidence Acupuncture not different from sham in reducing pain, fatigue or improving sleep and global wellbeing; moderate quality evidence EA is probably better than manual acupuncture in reducing pain and stiffness and improving global well-being, sleep and fatigue. Yang 2014 (MA of 9 RCTs)(113): Insufficient evidence; low quality evidence Lauche 2015 (SR of reviews; 2 high and 2 low quality reviews)(114): Inconsistent evidence	***Unclear***
Lateral elbow pain	Gadau 2014 (SR of 19 RCTs)(173): Acupuncture superior to sham; moderate quality evidence Tang 2015 (SR of 4 RCTs)(174): Insufficient evidence: low to very low quality evidence	Moderate quality evidence when 19 RCTs included – ***Upgrade to potential positive***
Lumbar spinal stenosis	Kim 2013 (SR of 6 RCTs, 6 controlled trials) (194): Acupuncture superior to controls in pain intensity, functional improvements and QoL; Low quality evidence	***Unclear***

Table 6. All conditions reviewed sorted by clinical areas (contd)		
Condition	**THE ACUPUNCTURE EVIDENCE PROJECT**	**Comments**
Musculoskeletal disorders (contd)		
Low back pain	Taylor 2014 (51): Cost effective for chronic low back pain Andronis 2016 (50): Likely to be cost effective	Chronic and acute low back pain need to be differentiated in SRs
Acute low back pain	Lee 2013 (SR of 11 RCTs; 5 low risk of bias, 6 high)(47): Acupuncture superior to NSAIDS for improving symptoms; acupuncture superior to sham for pain but not function; Chou 2016 [AHRQ Comparative Effectiveness review])(45): Low quality evidence for pain and function	***Upgrade to potential positive***
Chronic low back pain	Lam 2013 (32 RCTs; 25 in MA)(46): Acupuncture may be effective for pain and functional limitation in chronic non-specific low back pain: Evidence Level 1 Wellington 2014 (SR of non-invasive interventions)(48): High quality evidence for acupuncture; moderate quality evidence for acupressure Liu 2015 (Overview of 16 SRs)(49): Acupuncture alone or as an adjunct to usual care provided short-term improvement in pain and function; low to high quality evidence; 'should be advocated in routine clinical practice' Chou 2016 [AHRQ Comparative Effectiveness review])(45): Moderate quality evidence for pain and function Nahin 2016 (4 RCTs; Excluded studies not performed in USA or by US researchers)(195): Acupuncture superior to usual care; Acupuncture superior to sham in 1 RCT, but not superior in 2 RCTs	Moderate to high quality evidence Cost effective, safe ***Upgrade to positive***
Neck pain	Van der Velde 2015 (SR of 6 studies)(175): Acupuncture plus usual medical care is cost-effective for neck pain and its associated disorders (NAD) **Trinh 2016 (Cochrane update with 27 RCTS)**(176): Acupuncture superior to sham acupuncture or inactive treatment (at completion of treatment and short-term follow-up) for pain relief; Moderate quality evidence	Moderate quality evidence (Cochrane update); Acupuncture plus medication is cost-effective ***Potential positive for NAD***
Knee osteoarthritis pain	Corbett 2013 (Network meta-analysis - 152 studies on 22 interventions: 12 RCTs included in network MA)(52): Acupuncture was equal to balneotherapy and superior to sham acupuncture, muscle-strengthening exercise, Tai Chi, weight loss, standard care and aerobic exercise (in ranked order). Acupuncture superior to standard care and muscle-strengthening exercises in sub-analysis of moderate to high quality studies Nahin 2016 (4 RCTs; Excluded studies not performed in USA or by US researchers)(195): Acupuncture superior to attention control or usual care in 3/4 studies; Acupuncture superior to sham in 2/4 studies	Moderate to high quality evidence ***Upgrade to positive***

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Table 6. All conditions reviewed sorted by clinical areas (contd)		
Condition	**THE ACUPUNCTURE EVIDENCE PROJECT**	**Comments**
Musculoskeletal disorders (contd)		
Osteoarthritis	Kim 2012 (Cost effectiveness analysis)(76): Acupuncture is cost effective for dysmenorrhoea, allergic rhinitis, osteoarthritis & headache Manyanga 2014 (SR & MA of 12 trials)(53): Significant reductions in pain intensity, improvement in functional mobility and quality of life; low quality evidence	Cost-effective
Plantar heel pain		***Potential positive*** in USVA review 2014; no updates
Restless leg syndrome	Bega 2016 (Overview of alternative treatment of restless leg syndrome)(99): insufficient evidence	***Potential positive***
Sciatica	Lewis 2015 (Network MA of 21 interventions)(196): Acupuncture 2nd out of 21 interventions for global effect and pain intensity Qin 2015 (SR & MA of 11 RCTs; 10 acupuncture vs medications; 1 acupuncture vs sham)(197): Acupuncture may be superior to drugs and may enhance the effect of drugs for patients with sciatica; low quality evidence Ji 2015 (SR of 12 RCTs)(198): Acupuncture superior to conventional Western medicine in outcomes effectiveness, pain intensity and pain threshold; low quality evidence	Acupuncture 2nd out of 21 interventions for global effect and pain intensity ***Potential positive***
Shoulder pain: Shoulder impingement syndrome (SIS)	Dong 2015 (SR and network MA; 2 high quality acupuncture studies)(178): For non-operative treatment options at an early stage of SIS, exercise combined with therapies such as kinesio taping, specific exercises, and acupuncture should be considered as the first-line choices, whereas pulsed electromagnetic field therapy, localized corticosteroid injection, diacutaneous fibrolysis, and ultrasound therapy may be considered as the second-line treatment choices; however, low-level laser therapy and the localized injection of NSAIDs are not recommended	Moderate to high quality evidence ***Potential positive***
Whiplash associated disorder (WAD)	Moon 2014 (SR of 6 RCTs)(177): Limited evidence of effectiveness; low quality evidence	***Unclear for WAD***

Table 6. All conditions reviewed sorted by clinical areas (contd)		
Condition	**THE ACUPUNCTURE EVIDENCE PROJECT**	**Comments**
Neurological disorders		
Acute stroke	Vados 2015 (SR of 17 RCTs; 5 high quality)(128) Acupuncture plus rehabilitation superior to rehabilitation alone for acute and subacute stroke sequelae Liu 2015 (MA of 18 RCTs)(129): Acute ischaemic stroke: EA superior to usual care in Barthel Index, Fugl-Meyer Assessment, National Institutes of Health Stroke Scale, and Revised Scandinavian Stroke Scale; Moderate to high quality evidence Liu 2015: (Acute ischaemic stroke) EA superior to usual care in Barthel Index, Fugl-Meyer Assessment, National Institutes of Health Stroke Scale, and Revised Scandinavian Stroke Scale; Moderate to high quality evidence	Moderate to high quality evidence ***Potential positive***
Bell's palsy	Li 2015 (SR & MA of 14 RCTs)(102): Seems to be effective; insufficient evidence of efficacy and safety; low quality evidence Kwon 2015 (RCT acupuncture (n=36) vs waitlist (n=13))(103): RCT acupuncture vs waitlist (n=26 vs 13) Acupuncture superior to waitlist in physical and social function	***Unclear***
Epilepsy	**Cheuk 2014 (Cochrane update)**(123): No evidence of effect; low quality evidence	***No evidence of effect*** (Cochrane update)
Parkinson's disease	Kim 2014 (Review of 11 studies: 6 RCTs, 4 uncontrolled open label studies & I crossover trial)(199): Insufficient evidence; low to very low quality evidence	***Unclear***
Post-stroke spasticity	Lim 2015 (SR & MA of 5 RCTs)(131): Acupuncture or EA significantly decreased spasticity after stroke; low quality evidence Rodriguez-Mansilla 2016 (SR of 9 RCTs or controlled studies: 6 high quality; 3 moderate) (132) Acupuncture improved passive resistance to stretching, degree of personal dependence and motor function; insufficient evidence	***Potential positive***
Stroke	Zhang 2014 (Review of SRs: 8 reviews high quality, 6 moderate, 10 low)(127): Acupuncture may be effective for treating post-stroke neurological impairment and dysfunction such as dysphagia, but does not prevent post-stroke death	Moderate to high quality evidence
Stroke rehabilitation	**Yang 2016 (Cochrane update)**(130): May have beneficial effects on improving dependency, global neurological deficiency, and some specific neurological impairments; low to very low quality evidence	***Potential positive*** (Cochrane update)

Table 6. All conditions reviewed sorted by clinical areas (contd)		
Condition	**THE ACUPUNCTURE EVIDENCE PROJECT**	**Comments**
Mental health		
Anxiety	Bazzan 2014 (Narrative review)(79): Acupuncture has 'potential use' Goyata 2016 (Integrative review of 19 studies including 6 RCTs; 11 high quality studies; 5 moderate)(80): Positive and statistically significant effects; Moderate to high quality evidence	Moderate to high quality evidence ***Potential positive***
Alzheimers disease	Zhou 2015 (SR & MA of 10 RCTs)(200): Acupuncture superior to medication in improving cognitive function on MMSE. Acupuncture plus medication superior to medication alone. Acupuncture is safe; no assessment of quality of evidence	***Unclear***
Chronic fatigue syndrome	Kim 2015 (Multi-centre non-blinded RCT, n=150)(111): Acupuncture plus usual care may improve fatigue in chronic fatigue syndrome and idiopathic chronic fatigue	***Unclear***
Depression	Chan 2015 (SR & MA of 13 RCTs;1 high quality, 5 moderate, 7 low)(88): Acupuncture plus SSRIs superior to SSRIs alone, with an early onset of action and was safe and well-tolerated; EA had greater effect than manual acupuncture Bosch 2015 (Review of SRs & MAs)(82): Effective and safe for major depressive disorder, especially in improving sleep, mood and QoL by modulating and normalizing the limbic–paralimbic–neocortical network (LPNN), including the default mode network (DMN); 'promising' evidence Spackman 2014 (Cost-effectiveness analysis)(89): Acupuncture is cost-effective compared with counselling or usual care alone, although the ranking of counselling and acupuncture depends on the relative cost of delivering these interventions	***Potential positive*** in USVA 2014; 2 positive SRs since Cost-effective
Insomnia	Zhao 2013 (SR)(90): Acupuncture may be superior to medication. Acupuncture for insomnia is potentially mediated by norepinephrine, melatonin, gamma-aminobutyric acid, and beta-endorphin; Insufficient evidence Shergis 2016 (SR of 30 studies)(91): Acupuncture statistically superior to sham (3 studies) and medication (27 studies); low quality evidence	***Potential positive*** in USVA 2014; 2 positive SRs since
Opioid detoxification	Wu 2016 (109): Acupuncture is effective in opiate detoxification (and associated depression and anxiety) which is mediated by endogenous dynorphin; no effect on opioid cravings; low quality evidence	***Unclear***
Post-traumatic stress disorder	Engel 2015 (RCT acupuncture plus usual care vs usual care, n=55)(81): Acupuncture plus usual care superior to usual care in PTSD severity, depression, pain and physical and mental functioning	***Potential positive*** in USVA 2014; positive RCT in 2015
Pre-treatment anxiety	Au 2015 (SR of 7 RCTs, MA of 5)(201): Acupressure effective in reducing anxiety; Moderate to high quality evidence	Moderate to high quality evidence ***Potential positive***

Table 6. All conditions reviewed sorted by clinical areas (contd)		
Condition	**THE ACUPUNCTURE EVIDENCE PROJECT**	**Comments**
Mental health (contd)		
Schizophrenia	Bosch 2015 (Review of SRs & MAs)(82): Acupuncture effective for schizophrenia, especially in improving sleep, mood and QoL by modulating and normalizing the limbic–paralimbic–neocortical network (LPNN), including the default mode network (DMN); limited evidence **Shen 2014 (Cochrane update of 30 RCTs)**(83): Acupuncture plus antipsychotic medication superior to antipsychotic medication alone, in terms of mental state and length of hospitalisation (moderate quality evidence) with fewer adverse effects (low quality evidence)	Moderate quality evidence for acupuncture with antipsychotics ***Potential positive***
Smoking cessation	**White 2014 (Cochrane SR 0f 38 RCTs)(84):** Acupuncture and acupressure superior to sham short-term; low quality evidence Insufficient evidence of effects for 6 months or more	***Potential positive*** short term effects ***No evidence of effect*** after 6 months (Cochrane update)
Gynaecology and obstetrics		
Back or pelvic pain during pregnancy	Selva Olid 2013 (Review of 8 SRs and 9 RCTs)(93): Promising results; low quality evidence Close 2014 (SR of 8 RCTs on CAM; 2 acupuncture RCTs with low risk of bias)(94): Clinically important and statistically significant changes **Liddle 2015 (Cochrane SR: Comparison of interventions 26 RCTs – 7 acupuncture RCTs)(95):** Moderate quality evidence showed that acupuncture or exercise, tailored to the stage of pregnancy, significantly reduced evening pelvic or lumbo-pelvic pain. Acupuncture superior to exercise for reducing evening pelvic pain; Both acupuncture and exercise were superior to usual care; Insufficient evidence	***Potential positive***
Dysmenorrhoea	Chen et al, 2013 (MA of 3 acupuncture and 4 acupressure RCTs)(202): Acupuncture is effective and acupressure may be effective for pain relief; acupuncture trials had low to moderate risk of bias; acupressure trials high risk of bias Xu 2014 (MA of 20 RCTs of acupoint stimulation)(183): Acupoint stimulation superior to controls for pain relief; low to moderate quality evidence Abaraogu 2015 (SR of 8 RCTs and MA of 4 RCTs)(184): Acupuncture and acupressure vs placebo, waitlist or medication reduced pain intensity, while acupuncture also improved physical and mental aspects of QoL; moderate quality evidence **Smith 2016 (Cochrane update)**(185): Insufficient evidence; low to very low quality evidence Kim 2012(76): Acupuncture is cost effective for dysmenorrhoea, allergic rhinitis, osteoarthritis & headache	**Conflicting SRs (3 positive SRs vs Cochrane SR insufficient evidence)** Moderate quality evidence vs low to very low quality evidence; Cost effective ***Downgrade to unclear***

Table 6. All conditions reviewed sorted by clinical areas (contd)		
Condition	**THE ACUPUNCTURE EVIDENCE PROJECT**	**Comments**
Gynaecology and obstetrics (contd)		
Induction of labour	**Smith 2013 (Cochrane SR of 14 RCTs)(100):** Insufficient evidence; included studies ranged from high to low quality evidence Mollart 2015 (SR of 7 RCTS)(101): Acupuncture may reduce the duration of labour especially the first stage; insufficient evidence	***Unclear*** (Cochrane update)
Labour pain	Levett 2014 (Critical narrative review of SRs)(92): Acupuncture & acupressure 'promising' – Conflicting results due to heterogeneity in study designs, research questions, treatment protocols and outcomes measures	***Potential positive***
Menopausal hot flushes	Chiu 2015 (MA of 12 studies; 2 high quality, 8 moderate and 2 low)(136): Acupuncture improves hot flash frequency and severity, menopause-related symptoms, and QoL (vasomotor domain) in natural menopause Selva Ovid 2013 (Review of 8 SRs and 9 RCTs) (93): Promising results; low quality evidence **Dodin 2013 (Cochrane SR of 16 RCTs)**(137): Acupuncture superior to wait-list or no treatment; low quality evidence Acupuncture superior to sham in reducing severity but not frequency; very low quality evidence Acupuncture inferior to hormone therapy in QoL and frequency; no difference in severity; low quality evidence Chen 2016 (SR of 12 RCTs) (152): Seems to be effective; insufficient evidence; low quality evidence	'Promising'; very low to moderate quality evidence ***Upgrade to potential positive***
Nausea in pregnancy	**Matthews 2015 (Cochrane SR of interventions for nausea in pregnancy; 2 RCTs on acupuncture)** (122): No significant difference between real and sham acupuncture; low quality evidence	***No evidence of effect***
Hyperemesis gravidarum	Boelig 2016 (SR of interventions - 1 acupuncture study)(203): Insufficient evidence to identify clear differences between acupuncture and metoclopramide; very low quality evidence	***Unclear***
Melasma	Chai 2015 (SR of 8 RCTs; 2 high quality studies; 6 low to moderate)(204): Acupuncture appeared to be effective and safe; insufficient evidence	***Unclear***

Table 6. All conditions reviewed sorted by clinical areas (contd)		
Condition	**THE ACUPUNCTURE EVIDENCE PROJECT**	**Comments**
Gynaecology and obstetrics (contd)		
Perimenopausal and postmenopausal sleep disturbance	Chiu 2016 (SR of 34 RCTs; 4 high quality)(138): Significant reduction in sleep disturbance which appears to be associated with changes in serum estradiol, FSH and LH; acupuncture recommended as adjunctive therapy in improving sleep disturbances in perimenopausal and postmenopausal women Bezerra 2015 (SR of 7 RCTs; 4 high quality; no studies with high risk of bias)(139): Improved sleep quality; limited evidence; moderate to high quality evidence	High quality studies favour acupuncture as adjunctive therapy; moderate to high quality evidence ***Potential positive***
Assisted conception in ART	Manheimer 2013 (SR & MA of 16 RCTs) (205): Insufficient evidence **Cheong 2013 (Cochrane SR of 20 RCTs)(117):** No evidence that acupuncture improves live birth or pregnancy rates in ART regardless of whether performed around the time of oocyte retrieval or embryo transfer Shen 2015 (SR & MA)(118): Acupuncture ineffective when used only on the day of oocyte retrieval but effective when used at follicle phase and 25 min before and after embryo transfer Qian 2016 (SR of 30 RCTs & MA)(119) Acupuncture improves clinical pregnancy rates in women undergoing IVF. Optimal positive effects were seen when acupuncture was used during controlled ovarian hyperstimulation. Jo 2017 (SR of 4 RCTs & MA)(120) Acupuncture may increase the clinical pregnancy rate and ongoing pregnancy rate and decrease the risk of ovarian hyperstimulation syndrome in women with PCOS undergoing IVF or intracytoplasmic sperm injection	***Unclear***
Oocyte retrieval pain relief	**Kwan 2013 (Cochrane SR of 21 RCTs)(206):** Insufficient evidence; low quality evidence	***Unclear*** (Cochrane update)
Polycystic ovarian syndrome	Ren 2014 (SR & MA of 31 studies)(207): Acupuncture may be effective; low quality evidence **Lim 2016 (Cochrane SR of 5 RCTs)(208):** Insufficient evidence; low to very low quality evidence	***Unclear***
Premenstrual syndrome	A SR review in 2014 included only studies before 2012, hence no new evidence (Jang 2014)(115) Insufficient evidence (Hofmeister 2016 - Narrative review)(116)	***Unclear*** in USVA review 2014; no change in level
Primary ovarian insufficiency	Jo 2015 (SR of 8 RCTs & MA)(209): Acupuncture significantly lowered serum FSH levels and more women receiving acupuncture reported resumption of menses; low quality evidence	***Unclear***
Uterine fibroids	Dalton-Brewer 2016 (Narrative review of CAM)(105): Acupuncture may be a treatment option as part of a CAM treatment approach	***Unclear***

Table 6. All conditions reviewed sorted by clinical areas (contd)		
Condition	**THE ACUPUNCTURE EVIDENCE PROJECT**	**Comments**
Gastrointestinal disorders		
Constipation		***Potential positive*** - USVA review 2014; no updates
Dyspespsia in diabetic gastroparesis (DGP)	Yang 2013 (SR of 14 RCTs)(210): May be effective for dyspepsia in DGP; insufficient evidence; low quality evidence	***Unclear***
Functional dyspepsia	**Lan 2014 (Cochrane SR of X RCTs)(211):** Insufficient evidence; low quality evidence Kim 2015 (SR of 20 RCTs; high risk of bias)(212):Acupuncture significantly superior to sham and medication; low quality evidence	***Unclear***
Inflammatory bowel disease	Langhorst 2015 (SR of 2 RCTs: one on Crohn's disease, one on ulcerative colitis)(213): Acupuncture superior to sham in disease activity and wellbeing but no different in QoL; low quality evidence (2 studies with low risk of bias but small samples)	***Unclear***
Irritable bowel syndrome	MacPherson 2016 (High quality RCT)(169): Acupuncture superior to usual care on IBS symptom severity score at 6, 9 and 12 months but not at 24 months	Unclear in USVA review 2014; ***Upgrade to potential positive -*** positive high quality RCT in 2016
Obesity	Esteghamati 2015 (Critical review of 3 SRs)(98): Acupuncture superior to medication, sham and lifestyle modification; low to very low quality evidence	***Potential positive*** - USVA review 2014; no updates
Headache and migraine		
Headache	Kim 2012(76): Acupuncture is cost effective for dysmenorrhoea, allergic rhinitis, osteoarthritis & headache Coeytaux 2016 (Brief review of selected SRs and MAs)(44): A potentially important role for acupuncture as part of a treatment plan for migraine, tension-type headache, and several different types of chronic headache disorders. Cost-effective in Germany and UK Lardon 2016 (SR of 15 RCTs)(124): Acupuncture can reduce workplace headache pain intensity, frequency and related disability; low quality evidence	'A potentially important role for acupuncture' as part of a treatment plan for migraine, tension-type headache, and several different types of chronic headache disorders. ***Positive***

Table 6. All conditions reviewed sorted by clinical areas (contd)		
Condition	**THE ACUPUNCTURE EVIDENCE PROJECT**	**Comments**
Headache and migraine (contd)		
Migraines	(Da Silva 2015 - Narrative review of large high quality RCTs)(40): Acupuncture seems to be at least as effective as conventional preventative medication for migraine and is safe, long lasting, and cost-effective **Linde 2016 (Cochrane SR of 22 RCTs of at least 8 weeks duration)(41):** Acupuncture reduces migraine frequency. Acupuncture superior to sham and may be as effective as prophylactic drugs; subgroup analysis showed larger effect size when 16 or more treatments given (Z = 4.06) compared to 12 treatments or less (Z = 2.32); Moderate quality evidence Yang 2016 (SR of 10 RCTs)(42): Acupuncture superior to sham in effectiveness and reduced risk of recurrence; Moderate to high quality evidence	Moderate to high quality evidence, safe and cost-effective (including Cochrane update); 16 or more treatments more effective than 12 treatments or less - ***Positive***
Tension-type headache	**Linde 2016 (Cochrane SR of 12 RCTs)(43):** Effective for frequent episodic or chronic tension-type headaches; Moderate or low quality evidence	***Positive***
Genitourinary/sexual disorders		
Chronic kidney disease	**Kim 2016 (Cochrane SR of 24 RCTs or quasi-randomised CTs)(214):** Insufficient evidence; low to very low quality evidence	***Unclear***
Erectile dysfunction	Cui 2016 (SR of 3 RCTs): Insufficient evidence; low quality evidence	***Unclear***
Poor sperm quality	Jerng 2014 (SR of 4 RCTs)(215): Insufficient evidence; low quality evidence	***Unclear***
Prostatitis pain/chronic pelvic pain syndrome	Chang 2016 (SR of 7 RCTs: 3 high quality, 1 moderate and 3 low)(96): Acupuncture superior to both sham and to usual care and safe, thus it should be offered when available Qin 2016 (SR of 7 RCTs)(97): Acupuncture superior to sham in pain, voiding and QoL; acupuncture superior to medication in pain relief but no different in voiding and QoL; acupuncture as an adjunctive treatment for symptom control should be considered; (3 high quality studies, 1 moderate and 3 low)	***Potential positive***
Stress urinary incontinence in adults	**Wang 2013 (Cochrane SR of 1 study: acupuncture vs midodrine)(216):** Insufficient evidence; low quality evidence	***Unclear***
Urinary incontinence	Paik 2013 (SR of 4 RCTs)(217): Limited support for acupuncture or acupressure; Insufficient evidence; low to very low quality evidence	***Unclear***

Table 6. All conditions reviewed sorted by clinical areas (contd)		
Condition	**THE ACUPUNCTURE EVIDENCE PROJECT**	**Comments**
Surgery		
Surgical conditions	Lee 2014 (Overview of 12 SRs on postsurgical nausea and vomiting and postsurgical pain)(163): Conflicting evidence; insufficient evidence	Generic systematic reviews on surgical conditions need to be more targeted to specific conditions
Ambulatory anaesthesia	Liodden 2013 (Narrative review)(165): Acupuncture may reduce preoperative anxiety, and postoperative pain, nausea, vomiting, shivering and emergence delirium. Acupuncture is safe and cost-effective. Acupuncture may be a beneficial adjunctive therapy for ambulatory anaesthesia.	Acupuncture safe, cost-effective and effective as an adjunctive therapy; no assessment of quality of evidence ***Potential positive***
Postoperative nausea & vomiting	Cheong 2013 (SR of 30 RCTs)(56): Acupuncture and acupressure reduced number of cases of early nausea and vomiting (up to 24 hours); low quality evidence **Lee 2015 (Cochrane SR of 59 RCTs of PC 6 stimulation)(16):** PC 6 stimulation was superior to sham (low quality evidence); no difference between PC 6 stimulation and anti-emetics (moderate quality evidence); insufficient evidence that PC 6 plus anti-emetics is superior to anti-emetics alone.	***Upgrade to positive*** (Cochrane update)
Postoperative nausea and vomiting and pain after tonsillectomy	Cho 2016 (MA of 12 RCTs; 7 high quality)(125): Pain scores, analgesic need and nausea and vomiting were reduced (acupuncture vs control); no significant adverse events; insufficient evidence Shin 2016 (SR & MA - 4 RCTs – 3 with low risk of bias; 3 randomised prospective studies and 1 pilot)(126): Acupuncture superior to controls and cost-effective; insufficient evidence	***Upgrade to positive*** Cost effective
Postoperative pain	Wu 2016 (SR & MA of 13 RCTs)(17): Some forms of acupuncture (acupuncture, EA and TEAS) improved pain on day 1 after surgery and reduced opioid use; subgroup analysis showed acupuncture and TEAS superior to EA; moderate quality evidence	***Upgrade to positive***
Postoperative pain – back surgery	Cho 2015 (SR of 5 RCTs – 3 high quality)(57): Encouraging but limited evidence	***Upgrade to positive***
Postoperative pain – knee surgery	Barlow 2013 (SR of 5 RCTs: 3 acupuncture; 1 acupressure)(58): Acupressure reduced pain; acupuncture did not reduce pain but resulted in reduced use of ibuprofen; low quality evidence Chen 2015 (RCT acupuncture vs sham, n=60)(59): Acupuncture superior to sham in post-operative fentanyl use, time to first request for fentanyl and pain intensity	***Upgrade to positive***

Table 6. All conditions reviewed sorted by clinical areas (contd)		
Condition	**THE ACUPUNCTURE EVIDENCE PROJECT**	**Comments**
Surgery (contd)		
Craniotomy anaesthesia	Asmussen 2016 (MA of 10 RCTs)(164): Acupuncture significantly reduced the amount of volatile anaesthetics and led to faster extubation time and postoperative patient recovery and reduced postoperative nausea and vomiting. In addition, significantly reduced blood levels of the brain tissue injury marker S100beta 48 hours after operation; (low quality studies excluded from MA)	MA which excluded low quality studies found positive effects; moderate to high quality evidence, but not definitive - ***Potential positive***
Dentistry	Naik 2014 (Narrative review of 40 RCTs)(218): Acupuncture effective for inducing dental analgesia, relieving dental pain, myofacial pain and TMJ pain, controlling gag reflex, reducing dental anxiety and reducing post-operative pain and inflammation; no assessment of quality of evidence	'Promising' narrative review; no assessment of quality of evidence ***Unclear***
Postoperative gastroparesis syndrome (PGS)	Cheong 2014 (SR of 16 RCTs; MA of 7)(219): Might be effective; insufficient evidence; low quality evidence	Insufficient evidence; low quality evidence ***Unclear***
Postoperative ileus	Cheong 2016 (SR of 8 RCTs; MA of 4)(220): Acupuncture might be effective in reducing postoperative ileus; low quality evidence	***Unclear***
Oncology		
Aromatase-inhibitor-induced arthralgia	Bae 2015 (SR of 4 RCTs)(158): Acupuncture superior to sham in 2 high quality studies; no different from sham in 2 low-quality studies Chien 2015 (SR of 5 RCTs)(159): Acupuncture reduces joint pain and stiffness but not superior to sham; moderate to high quality evidence	***Potential positive***
Cancer-related insomnia	Choi 2016 (SR of 6 RCTs)(149): Acupuncture may be superior to sham acupuncture, drugs or hormones therapy. Number of studies and effect size are small for clinical significance; low quality evidence	***Unclear***
Cancer pain	**Pailey 2015 (Cochrane SR of 5 RCTs)(86):** Insufficient evidence; low to very low quality evidence Hu 2016 (SR of 20 RCTs)(221): Acupuncture plus medication superior to medication alone; very low quality evidence Chiu 2016 (SR of 29 RCTs)(87): Acupuncture relieved malignancy-related and surgery-induced pain but not pain induced by chemotherapy, radiotherapy or hormone therapy	Conflicting evidence ***Unclear***

Table 6. All conditions reviewed sorted by clinical areas (contd)		
Condition	**THE ACUPUNCTURE EVIDENCE PROJECT**	**Comments**
Oncology (contd)		
Cancer-related fatigue	He 2013 (SR of 7 RCTs)(144): Acupuncture and moxibustion appear to be efficacious adjunctive therapy; Insufficient evidence; low quality evidence Ling 2013 (SR of RCTs)(145): Acupuncture and acupressure tend to be effective, acupuncture more than acupressure; low quality evidence Posadzki 2013 (SR of 7 RCTs)(146): Conflicting evidence: 4 studies showed acupuncture or acupuncture plus usual care superior to sham, usual care, enhanced usual care or no treatment; 3 studies showed no difference between acupuncture and sham; very low quality evidence Finnegan-John 2013 (SR of CAM 20 studies; 3 acupuncture/acupressure RCTs)(147): Acupuncture may reduce fatigue after cancer treatment; low quality evidence Zeng 2014 (MA of 7 studies)(148): Acupuncture plus education superior to usual care; low quality evidence	***Potential positive***
Cancer-related psychological symptoms	Haddad 2014 (SR of 12 studies; 8 RCTs)(162): All included studies suggest benefits in depression, anxiety, sleep disturbance, and for improving QoL; strong evidence for safety; no assessment of quality of evidence	***Unclear***
Chemotherapy-induced nausea & vomiting (CINV)	McKeon 2013 (SR of 7 acupuncture, 6 acupressure RCTs)(21): Acupuncture reduced the frequency of acute vomiting and the dose of rescue medication but did not reduce acute nausea severity or frequency compared to control. Acupressure showed a decrease in frequency of nausea but not acute vomiting or delayed symptoms. All studies used state-of-the-art combination antiemetics. Insufficient evidence due to underpowered studies; acupuncture low to moderate quality evidence; acupressure moderate to high quality evidence Garcia 2014 (SR update: 18 new RCTs)(55): Acupuncture is an appropriate referral option for chemotherapy-induced nausea and vomiting	***Positive***
Chemotherapy-induced peripheral neuropathy	Franconi 2013 (SR of 3 RCTs, 3 case series, 1 rat study)(160): Acupuncture superior to sham in one RCT; very low quality evidence	***Unclear***
Myelosuppression after chemotherapy	Fu 2015 (Narrative review of 7 RCTs)(161): Insufficient evidence; low to very low quality evidence	***Unclear***
Recovery after colorectal cancer resection	Kim 2016 (SR of 7 RCTs)(157): Acupuncture efficacious and effective; Low to moderate quality evidence	***Potential positive***

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Table 6. All conditions reviewed sorted by clinical areas (contd)		
Condition	**THE ACUPUNCTURE EVIDENCE PROJECT**	**Comments**
Oncology (contd)		
Hot flushes in breast cancer	Garcia 2015 (SR of 8 RCTs)(150): Acupuncture superior to sham in some studies and superior to baseline in all studies; low quality evidence Johns 2016: (SR of interventions; 2 acupuncture vs medication studies)(151): Acupuncture had similar efficacy to venlafaxine and gabapentin but may have longer durability after completing treatment and fewer side effects Chen 2016 (SR of 12 RCTs)(152): Acupuncture superior to sham in 3 studies; no different from sham in 6 studies; inferior to hormone therapy in 2 studies; low quality evidence Salehi 2016 (SR of 12 studies)(153): Conflicting evidence; low quality evidence Chiu 2016 (SR of 7 studies; 4 high quality)(87): Acupuncture yielded small-size effects on reducing hot-flash frequency and the severity of menopause-related symptoms	Insufficient or conflicting evidence; Low to high quality studies ***Unclear***
Xerostomia in cancer	Zhuang 2013 (SR of 4 studies)(154): Insufficient evidence **Furness 2013 (Cochrane SR of non-parmacological interventions 9 RCTs; 5 acupuncture)(155):** Small increase in saliva production; Low quality evidence Hanchanale 2015 (SR of 6 RCTs)(156): Acupuncture was superior to sham; low quality evidence	***Unclear***
Eye, ear, nose, throat		
Allergic rhinitis	Feng 2015 (SR of 13 RCTs)(54): Significant improvements in nasal symptoms scores and RQLQ; Moderate quality evidence Taw 2015 (SR of 2 large multi-centre RCTs, 3 acupuncture vs medication RCTs and 1 cost-effectiveness study)(15): High quality evidence of efficacy and effectiveness Seidman 2015 (OHNSF clinical practice guideline)(37): Option 5: Clinicians may offer acupuncture, or refer to a clinician who can offer acupuncture, for patients with AR who are interested in non-pharmacologic therapy; Aggregate evidence quality - Grade B McDonald 2016 (High quality RCT)(32): PAR - Significant improvements in symptoms, QoL, and reductions in total IgE and dust mite specific IgE and Substance P; high quality evidence Xue 2015 (High quality RCT)(222): SAR - Significant improvement in symptoms; high quality evidence Kim 2012(76): Acupuncture is cost effective for dysmenorrhoea, allergic rhinitis, osteoarthritis & headache Reinhold 2103(77): SAR - Acupuncture significantly superior to rescue medication in QALY gained, but may cost more short term	Moderate to high quality evidence; safe and cost-effective for both SAR and PAR ***Evidence of positive effect***
Dry eye	Yang 2015 (SR of 7 RCTs)(166): Acupuncture was superior to artificial tears in tear break-up time, Schirmer I test, and cornea fluorescein staining; Low to moderate quality evidence	***Upgrade from unclear to potential positive effect***

Table 6. All conditions reviewed sorted by clinical areas (contd)		
Condition	**THE ACUPUNCTURE EVIDENCE PROJECT**	**Comments**
Eye, ear, nose, throat (contd)		
Glaucoma	**Law 2013 (Cochrane SR; I RCT on auricular acupressure)(104):** Insufficient evidence; low quality evidence	***Unclear***
Meniere's disease/syndrome	He 2016 (SR of 12 RCTs)(223): Acupoint stimulation significantly effective in controlling vertigo but did not improve hearing loss; very low evidence	***Unclear***
Sudden sensorineural hearing loss	Zhang 2015 (SR of 12 RCTs)(224): Acupuncture plus usual care superior to usual care alone; low to very low quality evidence	***Unclear***
Tinnitus	He 2016 (SR of 5 RCTs)(91): EA - Insufficient evidence; low quality evidence	***Unclear***
Paediatrics		
Attention Deficit Hyperactivity Disorder (ADHD)	**Li 2011: (Cochrane SR; No eligible studies)(225):** Insufficient evidence	***Unclear*** **[not included in previous reviews]**
Autism spectrum disorder (ASD)	**Cheuk 2011 (Cochrane SR of 10 RCTs)(226):** (4 high quality studies; 6 low quality) Insufficient evidence; low quality evidence	***Unclear*** **[not included in previous reviews]**
Hypoxic ischemic encephalopathy in neonates	**Wong 2013 (Cochrane SR; No eligible studies)(227):** Insufficient evidence	***Unclear*** **[not included in previous reviews]**
Mumps in children	**He 2015 (Cochrane SR; No eligible studies)(228):** Insufficient evidence	***Unclear*** **[not included in previous reviews]**
Slowing progression of myopia	**Wei 2011 (Cochrane SR of 2 RCTs):** (2 high quality studies) Insufficient evidence; low quality evidence	***Unclear*** **[not included in previous reviews]**
Dermatology		
Dermatology	Ma 2015 (SR of 15 RCTs: 3 Level I RCTs; 12 Level II)(229): Acupuncture improves outcome measures in the treatment of dermatitis, chloasma, pruritus, urticaria, hyperhidrosis, and facial elasticity	***Unclear***
Atopic dermatitis	Tan 2015 (SR: no eligible RCTs)(230): Insufficient evidence Vieira 2016 (Evidence-based review of CAM)(231): Acupuncture and acupressure 'promising therapies'; insufficient evidence	***Unclear***
Chronic urticaria	Yao 2015 (SR of 6 RCTs)(232): Acupuncture might be effective and safe for relieving symptoms of chronic urticaria; low level evidence	***Unclear***

Table 6. All conditions reviewed sorted by clinical areas (contd)		
Condition	**THE ACUPUNCTURE EVIDENCE PROJECT**	**Comments**
Dermatology (contd)		
Itch	Yu 2015 (SR & MA of 3 RCTs)(233): Acupuncture superior to sham and no treatment in alleviating itch; acupuncture might be effective for treating itch; insufficient evidence	***Unclear***
Psoriasis vulgaris	Coyle 2015 (SR of 6 RCTs)(234): Some evidence of benefit but also conflicting evidence; low quality evidence	***Unclear***
Miscellaneous conditions		
Acupuncture in Emergency Department	Kim 2013 (SR of 2 RCTs & 2 observational studies)(235): Insufficient evidence; low quality evidence	***Unclear***
Exercise performance & post-exercise recovery	USVA review 2014 'unclear'; no updates	***Unclear***
Fatigue in systemic lupus erythematosus	del Pino-Sedeno 2016 (SR of non-pharmacological interventions; 1 acupuncture study)(236): Acupuncture and minimal acupuncture superior to usual care; moderate quality study	***Unclear***
Primary Sjogren's syndrome	Hackett 2015 (SR of non-pharmacological interventions; 1 acupuncture study)(237): Acupuncture not superior to usual care in increasing salivary flow rate; moderate quality study	***Unclear***
Sensory perception	Baeumler 2014 (MA of 85 high quality studies)(238): Acupuncture effects sensory thresholds especially pressure pain threshold; high quality evidence	***Potential positive effect***

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Table 7. Conditions reported in this review with evidence of cost-effectiveness		
Condition	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**	**Comments**
Allergic Rhinitis	Taw 2015 (SR of 2 large multi-centre RCTs, 3 acupuncture vs medication RCTs and 1 cost-effectiveness study) Kim 2012(Cost effectiveness analysis)(76): Acupuncture is cost effective for dysmenorrhoea, allergic rhinitis, osteoarthritis & headache.	Safe and **cost-effective** for both SAR and PAR.
Ambulatory Anaesthesia	Liodden 2013 (Narrative review)(165): Acupuncture may reduce preoperative anxiety, and postoperative pain, nausea, vomiting, shivering and emergence delirium. Acupuncture is safe and cost-effective. Acupuncture may be a beneficial adjunctive therapy for ambulatory anaesthesia.	Acupuncture safe, **cost-effective** and effective as an adjunctive therapy.
Chronic Pain	MacPherson Oct 2016 (SR & MA of 29 trials) (239)The effects of a course of acupuncture treatment for patients with chronic pain do not appear to decrease importantly over 12 months. Patients can generally be reassured that treatment effects persist. Studies of the cost-effectiveness of acupuncture should take our findings into account.	**"Studies of the cost-effectiveness of acupuncture should take our findings into account."**
Depression	Spackman 2014 (Cost-effectiveness analysis)(89): Acupuncture is cost-effective compared with counselling or usual care alone, although the ranking of counselling and acupuncture depends on the relative cost of delivering these interventions.	**Cost-effective**
Dysmenorrhoea	Kim 2012 (Cost effectiveness analysis)(76): Acupuncture is cost effective for dysmenorrhoea, allergic rhinitis, osteoarthritis & headache.	**Cost effective**
Headache	Kim 2012 (Cost effectiveness analysis)(76): Acupuncture is cost effective for dysmenorrhoea, allergic rhinitis, osteoarthritis & headache. Coeytaux 2016 (Brief review of selected SRs and MAs)(44): A potentially important role for acupuncture as part of a treatment plan for migraine, tension-type headache, and several different types of chronic headache disorders. Cost-effective in Germany and UK.	A potentially important role for acupuncture' as part of a treatment plan for migraine, tension-type headache, and several different types of chronic headache disorders. **Cost effective**
Low back pain	Taylor 2014 (Cost effectiveness analysis/MA)(51): Cost effective for chronic low back pain. Andronis 2016 (SR of 33 studdies)(50): Likely to be cost effective.	Moderate to high quality evidence **Cost effective**, safe.
Migraine	Da Silva 2015 (Narrative review of large high quality RCTs)(40): Acupuncture seems to be at least as effective as conventional preventative medication for migraine and is safe, long lasting, and cost-effective.	Moderate to high quality evidence, safe and **cost-effective** (including Cochrane update); 16 or more treatments more effective than 12 treatments or less.
Neck Pain	Van der Velde 2015 (SR of 6 studies)(175): Acupuncture plus usual medical care is cost-effective for neck pain and its associated disorders (NAD).	Moderate quality evidence (Cochrane update); Acupuncture plus medication is **cost-effective.**
Osteoarthritis	Kim 2012 (Cost effectiveness analysis)(76): Acupuncture is cost effective for dysmenorrhoea, allergic rhinitis, osteoarthritis & headache.	**Cost-effective**
Post-operative nausea and vomiting	Shin 2016 (SR & MA - 4 RCTs – 3 with low risk of bias; 3 randomised prospective studies and 1 pilot)(126): Acupuncture superior to controls and cost-effective.	**Cost effective**

Table 8. Conditions reported in this review with evidence of safety		
Condition	**The Acupuncture Evidence Project (Mar 2013 - Sept 2016)**	**Comments**
Acupuncture generally prior to this review	Zhang et al 2010 (Review of 98 case reports and 17 case series)(240) 'Various types of acupuncture-related adverse events have been reported in China. Similar events have been reported by other countries, usually as a result of inappropriate technique. Acupuncture can be considered inherently safe in the hands of well-trained practitioners.'	**Acupuncture can be considered inherently safe in the hands of well-trained practitioners.**
Allergic Rhinitis	Taw 2015 (SR of 2 large multi-centre RCTs, 3 acupuncture vs medication RCTs and 1 cost-effectiveness study). Kim 2012(76): Acupuncture is cost effective for dysmenorrhoea, allergic rhinitis, osteoarthritis & headache.	**Safe** and cost-effective for both SAR and PAR.
Ambulatory Anaesthesia	Liodden 2013 (Narrative review)(165): Acupuncture may reduce preoperative anxiety, and postoperative pain, nausea, vomiting, shivering and emergence delirium. Acupuncture is safe and cost-effective. Acupuncture may be a beneficial adjunctive therapy for ambulatory anaesthesia.	Acupuncture **safe**, cost-effective and effective as an adjunctive therapy.
Alzheimers disease	Zhou 2015 (SR & MA of 10 RCTs)(200): Acupuncture superior to medication in improving cognitive function on MMSE. Acupuncture plus medication superior to medication alone. Acupuncture is safe.	Acupuncture is **Safe.**
Cancer-related psychological symptoms	Haddad 2014 (SR of 12 studies; 8 RCTs)(162): All included studies suggest benefits in depression, anxiety, sleep disturbance, and for improving QoL; strong evidence for safety; no assessment of quality of evidence.	Strong evidence for **safety.**
Depression	Chan 2015 (SR & MA of 13 RCTs;1 high quality, 5 moderate, 7 low)(88): Acupuncture plus SSRIs superior to SSRIs alone, with an early onset of action and was safe and well-tolerated; EA had greater effect than manual acupuncture. Bosch 2015 (Review of SRs & MAs)(82): Effective and safe for major depressive disorder, especially in improving sleep, mood and QoL by modulating and normalizing the limbic–paralimbic–neocortical network (LPNN), including the default mode network (DMN); 'promising' evidence.	**Safe** and well tolerated. Effective and **safe** for major depressive disorder.
Low back pain	Nahin 2016 (4 RCTs; Excluded studies not performed in USA or by US researchers)(195): Acupuncture superior to usual care; Acupuncture superior to sham in 1 RCT, but not superior in 2 RCTs. NIH (2016) Promise in the following for safety and effectiveness in treating pain: Acupuncture and yoga for back pain, acupuncture and tai chi for osteoarthritis of the knee (241). Chou et al 2016 (Comparative effectiveness review) (47): Serious adverse events were not reported in any trial.	Moderate to high quality evidence Cost effective. Promise in **safety** and effectiveness. Serious adverse events were not reported in any trial.
Migraine	Da Silva 2015 (Narrative review of large high quality RCTs)(40): Acupuncture seems to be at least as effective as conventional preventative medication for migraine and is safe, long lasting, and cost-effective.	Moderate to high quality evidence, **safe** and cost-effective (including Cochrane update); 16 or more treatments more effective than 12 treatments or less.
Osteoarthritis of the Knee	Nahin 2016 (4 RCTs; Excluded studies not performed in USA or by US researchers)(195). NIH 2016 (241): Promise in the following for safety and effectiveness in treating pain: Acupuncture and yoga for back pain, acupuncture and tai chi for osteoarthritis of the knee.	Promise in **safety** and effectiveness.
Prostatitis pain/chronic pelvic pain syndrome	Chang 2016 (SR of 7 RCTs: 3 high quality studies, 1 moderate and 3 low)(96)Acupuncture superior to both sham and to usual care and safe, thus it should be offered when available.	Acupuncture superior to both sham and to usual care and **safe.**

APPENDIX

Table 9. NHMRC Evidence Hierarchy: designations of 'levels of evidence' according to type of research question (242)					
Level	**Intervention**	**Diagnostic accuracy**	**Prognosis**	**Aetiology**	**Screening Intervention**
I	A systematic review of level II studies	A systematic review of level II studies	A systematic review of level II studies	A systematic review of level II studies	A systematic review of level II studies
II	A randomised controlled trial	A study of test accuracy with: an independent, blinded comparison with a valid reference standard, among consecutive persons with a defined clinical presentation	A prospective cohort study	A prospective cohort study	A randomised controlled trial
III-1	A pseudorandomised controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with: an independent, blinded comparison with a valid reference standard, among non-consecutive persons with a defined clinical presentation	All or none	All or none	A pseudorandomised controlled trial (i.e. alternate allocation or some other method)
III-2	A comparative study with concurrent controls: ▪ Non-randomised, experimental trial ▪ Cohort study ▪ Case-control study ▪ Interrupted time series with a control group	A comparison with reference standard that does not meet the criteria required for Level II and III-1 evidence	Analysis of prognostic factors amongst persons in a single arm of a randomised controlled trial	A retrospective cohort study	A comparative study with concurrent controls: ▪ Non-randomised, experimental trial ▪ Cohort study ▪ Case-control study
III-3	A comparative study without concurrent controls: ▪ Historical control study ▪ Two or more single arm study ▪ Interrupted time series without a parallel control group	Diagnostic case-control study	A retrospective cohort study	A case-control study	A comparative study without concurrent controls: ▪ Historical control study ▪ Two or more single arm study
IV	Case series with either post-test or pre-test/post-test outcomes	Study of diagnostic yield (no reference standard)	Case series, or cohort study of persons at different stages of disease	A cross-sectional study or case series	Case series

GRADE and guideline development

GRADE quality levels reflect how much confidence the reviewers have that the estimate of effect is close to the true effect in a systematic review. GRADE considers five factors in making this judgement: imprecision, inconsistency, indirectness of study results, publication bias and bias generally. GRADE levels do not necessarily infer a recommendation, and the GRADE process is separate to the process of making recommendations. Although a high level of evidence is likely to lead to a recommendation, low or very low evidence can lead to a strong recommendation in some cases. The development of recommendations involves more than just the quality of evidence and requires consideration of other factors including cost, clinical judgement and patient preference (8).

Table 10. Cochrane GRADE: Significance of the four levels of evidence (243)

Quality level	Definition
High	We are very confident that the true effect lies close to that of the estimate of the effect
Moderate	We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different
Low	Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect
Very low	We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

PLAIN ENGLISH SUMMARY

Bottom Line

Our study found evidence for the effectiveness of acupuncture for 117 conditions, with stronger evidence for acupuncture's effectiveness for some conditions than others. Acupuncture is considered safe in the hands of a well-trained practitioner and has been found to be cost effective for some conditions. The quality and quantity of research into acupuncture's effectiveness is increasing.

Background

Acupuncture originated in China and is now practised throughout the world. Although acupuncture has been practised for thousands of years, evidence of its effectiveness is still controversial. The Australian Acupuncture and Chinese Medicine Association Ltd (AACMA) identified the need for an updated review of the evidence with greater rigour than was possible in the past and commissioned The Acupuncture Evidence Project.

We searched the literature with a focus on systematic reviews and meta analyses (the highest form of evidence available). We sorted the evidence to identify the conditions for which acupuncture has been found to be most effective for. We also looked for evidence of acupuncture's safety and cost-effectiveness, and we reported how the evidence for acupuncture's effectiveness has changed over an eleven-year time-frame.

Key results

Of the 122 conditions identified, strong evidence supported the effectiveness of acupuncture for eight conditions, moderate evidence supported the use of acupuncture for a further 38 conditions, weak positive/unclear evidence supported the use of acupuncture for 71 conditions, and little or no evidence was found for the effectiveness of acupuncture for five conditions (meaning that further research is needed to clarify the effectiveness of acupuncture in these last two categories).

It is no longer possible to say that the effectiveness of acupuncture is because of the placebo effect, or that it is useful only for musculoskeletal pain.

In addition, research showed that acupuncture was cost effective for 10 conditions, and is safe in the hands of a well-trained practitioner. The level of evidence has increased over the 11-year period of this study for 24 conditions. Placebo-controlled clinical trials consistently underestimate the true effect size of acupuncture (which means that acupuncture is more effective than the type of trials used in this review show), yet they have still demonstrated National Health and Medical Research Council (NHMRC) Level I evidence for the effectiveness of acupuncture for 117 conditions.

Summary of Findings

Summary of Findings 1: The following tables summarise the effectiveness of acupuncture for various conditions.

Table 1. Conditions with strong evidence supporting the effectiveness of acupuncture	
Reviews with consistent statistically significant positive effects and where authors have recommended the intervention. The quality of evidence is rated as moderate or high quality.	
- Allergic rhinitis (perennial & seasonal)	- Knee osteoarthritis
- Chemotherapy-induced nausea and vomiting (with anti-emetics)	- Migraine prophylaxis
- Chronic low back pain	- Postoperative nausea & vomiting
- Headache (tension-type and chronic)	- Postoperative pain

Table 2. Conditions with moderate evidence supporting the effectiveness of acupuncture	
Reviews reporting all individual RCTs or pooled effects across RCTs as positive, but the reviewers deeming the evidence insufficient to draw firm conclusions. The quality of evidence is rated as moderate or high quality.	
- Acute low back pain	- Modulating sensory perception thresholds
- Acute stroke	- Neck pain
- Ambulatory anaesthesia	- Obesity
- Anxiety	- Perimenopausal & postmenopausal insomnia
- Aromatase-inhibitor-induced arthralgia	- Plantar heel pain
- Asthma in adults	- Post-stroke insomnia
- Back or pelvic pain during pregnancy	- Post-stroke shoulder pain
- Cancer pain	- Post-stroke spasticity
- Cancer-related fatigue	- Post-traumatic stress disorder
- Constipation	- Prostatitis pain/chronic pelvic pain syndrome
- Craniotomy anaesthesia	- Recovery after colorectal cancer resection
- Depression (with antidepressants)	- Restless leg syndrome
- Dry eye	- Schizophrenia (with antipsychotics)
- Hypertension (with medication)	- Sciatica
- Insomnia	- Shoulder impingement syndrome (early stage) (with exercise)
- Irritable bowel syndrome	- Shoulder pain
- Labour pain	- Smoking cessation (up to 3 months)
- Lateral elbow pain	- Stroke rehabilitation
- Menopausal hot flushes	- Temporomandibular pain

Summary of Findings 1 (continued): The following tables summarise the effectiveness of acupuncture for various conditions

Table 3. Conditions with weak positive/unclear evidence supporting the effectiveness of acupuncture	
Reviews consisted mostly of weak positive evidence or conflicting evidence between reviews or between authors within a review, with reviewers summarising the evidence as inconclusive. Reviews are of low or very low quality; or there is conflicting levels of evidence within or between reviews.	
- Acupuncture in Emergency Department - Acute ankle sprain in adults - Alzheimer's disease - Angina pectoris - Assisted conception in ART - Asthma in children - Atopic dermatitis - Attention Deficit Hyperactivity Disorder (ADHD) - Autism spectrum disorder (ASD) - Bell's palsy - Bladder pain syndrome - Cancer-related insomnia - Cancer-related psychological symptoms - Carpal tunnel syndrome - Chemotherapy-induced peripheral neuropathy - Chronic fatigue syndrome - Chronic kidney disease - Chronic obstructive pulmonary disease (COPD) - Chronic urinary retention due to spinal cord injury - Chronic urticaria - Dysmenorrhoea - Dyspepsia in diabetic gastroparesis (DGP) - Erectile dysfunction - Exercise performance & post-exercise recovery - Fatigue in systemic lupus erythematosus - Fibromyalgia - Functional dyspepsia - Gag reflex in dentistry - Glaucoma - Heart failure - Hot flushes in breast cancer - Hyperemesis gravidarum - Hypoxic ischemic encephalopathy in neonates - Induction of labour - Inflammatory bowel disease	- Itch - Lumbar spinal stenosis - Melasma - Meniere's disease/syndrome - Menopausal syndrome - Multiple sclerosis - Mumps in children - Myelosuppression after chemotherapy - Oocyte retrieval pain relief - Opiate addiction - Opioid detoxification - Parkinson's disease - Polycystic ovarian syndrome - Poor sperm quality - Postnatal depression - Postoperative gastroparesis syndrome (PGS) - Postoperative ileus - Post-stroke hiccoughs - Premenstrual syndrome - Primary ovarian insufficiency - Primary Sjogren's syndrome - Psoriasis vulgaris - Rheumatoid arthritis Slowing progression of myopia - Spinal cord injury - Stress urinary incontinence in adults - Sudden sensorineural hearing loss - Surgery analgesia - Tinnitus - Traumatic brain injury - Urinary incontinence - Uterine fibroids - Vascular cognitive impairment without dementia - Vascular dementia - Whiplash associated disorder (WAD) - Xerostomia in cancer

Summary of Findings 1 (continued): The following tables summarise the effectiveness of acupuncture for various conditions

Table 4. Conditions with little or no evidence supporting the effectiveness of acupuncture	
Reviews have consistently found little support for acupuncture. The quality of the evidence is consistently low or very low. Further research required.	
- Alcohol dependence - Cocaine addiction - Epilepsy	- Nausea in pregnancy - Smoking cessation (more than 6 months)

Summary of Findings 2: Conditions with evidence of cost-effectiveness.

Table 5. Conditions with evidence of cost effectiveness	
- Allergic Rhinitis - Ambulatory Anaesthesia - Chronic Pain - Depression - Dysmenorrhoea - Headache	- Low back pain - Migraine - Neck Pain (plus usual medical care) - Osteoarthritis - Post-operative nausea and vomiting

Summary of Findings 3: Conditions with evidence of safety.

Table 6. Conditions with evidence of safety	
Condition	Comments
Acupuncture generally prior to this review	Acupuncture can be considered inherently safe in the hands of well-trained practitioners.
Allergic Rhinitis	**Safe** and cost-effective
Ambulatory Anaesthesia	Acupuncture **safe**, cost-effective and effective as an adjunctive therapy.
Alzheimers disease	Acupuncture is **Safe.**
Cancer-related psychological symptoms	Strong evidence for **safety.**
Depression	Strong evidence for **safety.** Effective and **safe** for major depressive disorder.
Low back pain	**Safe** and well tolerated.
Migraine	Moderate to high quality evidence Cost effective. Promise in **safety** and effectiveness. Serious adverse events were not reported in any trial.
Osteoarthritis of the Knee	Promise in **safety** and effectiveness.
Prostatitis pain/chronic pelvic pain syndrome	Acupuncture superior to both sham and to usual care and **safe.**

Summary of Findings 4: Changes in evidence levels over the eleven-year period covered by this review

Table 7. Statistical summary of findings of this review			
Evidence Level	**Number of Conditions**	**Changes in Level of Evidence**	**Number of Conditions**
Strong Evidence of effect	8	Increase to strong evidence	5
Moderate Evidence effect	38	Increase to moderate evidence	18
Unclear/mixed evidence	71	Increase to weak positive/unclear evidence	1
Little of no evidence of effect	5	Decreased evidence level	2
Total conditions with some evidence of effect (any level)	117	________________________	____
Total conditions reviewed	122	Total increases in evidence level since prior reviews	24

REFERENCES

1. Bannerman R. Acupuncture. The World Health Organization View. Geneva. The World Health Organisation; 1979.

2. Chmielnicki B. Evidence-Based Acupuncture: WHO official position. Chmielnicki, B.; 2014 [3 December, 2016]; Available from: http://www.evidencebasedacupuncture.org/who-official-position/.

3. NIH Consensus Conference. Acupuncture. JAMA. 1998 Nov 4;280(17):1518-24.

4. World Health Organization. Acupuncture: review and analysis of reports on controlled clinical trials. Geneva: World Health Organization; 2002.

5. Biotext. Alternative therapies and Department of Veterans' Affairs Gold and White Card arrangements. In: Australian Government Department of Veterans' Affairs, editor: Australian Government Department of Veterans' Affairs; 2010.

6. Hempel S, Taylor SL, Solloway MR, Miake-Lye IM, Beroes JM, Shanman R, et al. VA Evidence-based Synthesis Program Reports. Evidence Map of Acupuncture. Washington (DC): Department of Veterans Affairs; 2014.

7. National Health and Medical Research Council. NHMRC additional levels of evidence and grades for recommendations for developers of guidelines. National Health and Medical Research Council; 2009.

8. Balshem H, Helfand M, Schunemann HJ, Oxman AD, Kunz R, Brozek J, et al. GRADE guidelines: 3. Rating the quality of evidence. J Clin Epidemiol. 2011 Apr;64(4):401-6.

9. Wehling M. Non-steroidal anti-inflammatory drug use in chronic pain conditions with special emphasis on the elderly and patients with relevant comorbidities: management and mitigation of risks and adverse effects. Eur J Clin Pharmacol. 2014 Oct;70(10):1159-72.

10. Krashin D, Murinova N, Sullivan M. Challenges to Treatment of Chronic Pain and Addiction During the 'Opioid Crisis'. Curr Pain Headache Rep. 2016 Dec;20(12):65.

11. Sostres C, Gargallo CJ, Lanas A. Nonsteroidal anti-inflammatory drugs and upper and lower gastrointestinal mucosal damage. Arthritis Res Ther. 2013;15 Suppl 3:S3.

12. Schmidt M, Lamberts M, Olsen AM, Fosboll E, Niessner A, Tamargo J, et al. Cardiovascular safety of non-aspirin non-steroidal anti-inflammatory drugs: review and position paper by the working group for Cardiovascular Pharmacotherapy of the European Society of Cardiology. Eur Heart J Cardiovasc Pharmacother. 2016 Apr;2(2):108-18.

13. Fransen M, Nairn L, Bridgett L, Crosbie J, March L, Parker Mbbs D, et al. Post-acute rehabilitation after total knee replacement: A multicentre randomized clinical trial comparing long-term outcomes. Arthritis Care Res (Hoboken). 2016 Nov 21.

14. Steiner TJ, Stovner LJ, Birbeck GL. Migraine: the seventh disabler. J Headache Pain. 2013 Jan 10;14:1.

15. Taw MB, Reddy WD, Omole FS, Seidman MD. Acupuncture and allergic rhinitis. Curr Opin Otolaryngol Head Neck Surg. 2015 Jun;23(3):216-20.

16. Lee A, Chan SK, Fan LT. Stimulation of the wrist acupuncture point PC6 for preventing postoperative nausea and vomiting. Cochrane Database Syst Rev. 2015(11):Cd003281.

17. Wu MS, Chen KH, Chen IF, Huang SK, Tzeng PC, Yeh ML, et al. The Efficacy of Acupuncture in Post-Operative Pain Management: A Systematic Review and Meta-Analysis. PLOS ONE. 2016;11(3):e0150367.

18. Center for Disease Control and Prevention. Osteoarthritis. In: US Department of Health and Human Services, editor. USA. 2015.

19. Cross M, Smith E, Hoy D, Nolte S, Ackerman I, Fransen M, et al. The global burden of hip and knee osteoarthritis: estimates from the global burden of disease 2010 study. Ann Rheum Dis. 2014;73(7):1323-30.

20. Hoy D, March L, Brooks P, Blyth F, Woolf A, Bain C, et al. The global burden of low back pain: estimates from the Global Burden of Disease 2010 study. Ann Rheum Dis. 2014 Jun;73(6):968-74.

21. McKeon C, Smith, C.A., Hardy, J. & Chang, E. Acupunctrue and acupressure for chemotherapy-induced nausea and vomiting : a systematic review. Australian Journal of Acupuncture and Chinese Medicine. 2013;8(1):2-17.

22. Morris ZS, Wooding S, Grant J. The answer is 17 years, what is the question: understanding time lags in translational research. J R Soc Med. 2011 Dec;104(12):510-20.

23. Birch S. A review and analysis of placebo treatments, placebo effects, and placebo controls in trials of medical procedures when sham is not inert. J Altern Complement Med. 2006 Apr;12(3):303-10.

24. Linde K, Niemann K, Meissner K. Are sham acupuncture interventions more effective than (other) placebos? A re-analysis of data from the Cochrane review on placebo effects. Forsch Komplementmed. 2010 Oct;17(5):259-64.

25. Langevin HM, Wayne PM, Macpherson H, Schnyer R, Milley RM, Napadow V, et al. Paradoxes in acupuncture research: strategies for moving forward. Evid Based Complement Alternat Med. 2011;2011:180805.

26. Lund I, Lundeberg T. Are minimal, superficial or sham acupuncture procedures acceptable as inert placebo controls? Acupunct Med. 2006 Mar;24(1):13-5.

27. Lund I, Naslund J, Lundeberg T. Minimal acupuncture is not a valid placebo control in randomised controlled trials of acupuncture: a physiologist's perspective. Chin Med. 2009;4:1.

28. Linde K, Niemann K, Schneider A, Meissner K. How large are the nonspecific effects of acupuncture? A meta-analysis of randomized controlled trials. BMC Med. 2010;8:75.

29. Lundeberg T, Lund I, Sing A, Naslund J. Is placebo acupuncture what it is intended to be? Evid Based Complement Alternat Med. 2011;2011:932407.

30. Patsopoulos NA. A pragmatic view on pragmatic trials. Dialogues Clin Neurosci. 2011 Jun;13(2):217-24.

31. National Centre for Complementary and Alternative Health. Acupuncture Research - Areas of High and Low Programmatic Priorities. US Department of Health and Human Services; 2015 [cited 2016]; Available from: https://nccih.nih.gov/grants/acupuncture/priorities?nav=fb.

32. McDonald JL, Smith PK, Smith CA, Changli Xue C, Golianu B, Cripps AW. Effect of acupuncture on house dust mite specific IgE, substance P, and symptoms in persistent allergic rhinitis. Ann Allergy Asthma Immunol. 2016 Jun;116(6):497-505.

33. Schug SA, Palmer GM, Scott DA, Halliwell R, Trinca J. Acute pain management: scientific evidence, fourth edition, 2015. Med J Aust. 2016 May 2;204(8):315-7.

34. Hopman K KL, Lukersmith S, McColl AR, & Vine K. Clinical Practice Guidelines for the Management of Rotator Cuff Syndrome in the Workplace. The University of New South Wales. 2013.

35. Gan TJ, Diemunsch P, Habib AS, Kovac A, Kranke P, Meyer TA, et al. Consensus guidelines for the management of postoperative nausea and vomiting. Anesth Analg. 2014 Jan;118(1):85-113.

36. Birch S, Alraek T, Lee MS. Challenges for clinical practice guidelines in traditional medicines: The example of acupuncture. European Journal of Integrative Medicine. http://dx.doi.org/doi:10.1016/j.eujim.2016.07.032

37. Seidman MD, Gurgel RK, Lin SY, Schwartz SR, Baroody FM, Bonner JR, et al. Clinical practice guideline: Allergic rhinitis. Otolaryngol Head Neck Surg. 2015 Feb;152(1 Suppl):S1-43.

38. National Institute for Health Care and Excellence. Management of migraine (with or without aura): NICE guideline CG150. In: National Institute for Health Care and Excellence, editor. 2012 (updated 2015).

39. Scottish Incollegiate Guidelines Network (SIGN). Management of Chronic Pain (SIGN publication no. 136). Scottish Incollegiate Guidelines Network (SIGN); 2013.

40. Da Silva AN. Acupuncture for migraine prevention. Headache. 2015 Mar;55(3):470-3.

41. Linde K, Allais G, Brinkhaus B, Fei Y, Mehring M, Vertosick EA, et al. Acupuncture for the prevention of episodic migraine. Cochrane Database Syst Rev. 2016(6):Cd001218.

42. Yang Y, Que Q, Ye X, Zheng G. Verum versus sham manual acupuncture for migraine: a systematic review of randomised controlled trials. Acupunct Med. 2016 Apr;34(2):76-83.

43. Linde K, Allais G, Brinkhaus B, Fei Y, Mehring M, Shin BC, et al. Acupuncture for the prevention of tension-type headache. Cochrane Database Syst Rev. 2016;4:Cd007587.

44. Coeytaux RR, Befus D. Role of Acupuncture in the Treatment or Prevention of Migraine, Tension-Type Headache, or Chronic Headache Disorders. Headache. 2016 Jul;56(7):1238-40.

45. Chou R, Deyo R, Friedly J, Skelly A, Hashimoto R, Weimer M, et al. AHRQ Comparative Effectiveness Reviews. Noninvasive Treatments for Low Back Pain. Rockville (MD): Agency for Healthcare Research and Quality (US); 2016.

46. Lam M, Galvin R, Curry P. Effectiveness of acupuncture for nonspecific chronic low back pain: a systematic review and meta-analysis. Spine (Phila Pa 1976). 2013 Nov 15;38(24):2124-38.

47. Lee JH, Choi TY, Lee MS, Lee H, Shin BC, Lee H. Acupuncture for acute low back pain: a systematic review. Clin J Pain. 2013 Feb;29(2):172-85.

48. Wellington J. Noninvasive and alternative management of chronic low back pain (efficacy and outcomes). Neuromodulation. 2014 Oct;17 Suppl 2:24-30.

49. Liu L, Skinner M, McDonough S, Mabire L, Baxter GD. Acupuncture for low back pain: an overview of systematic reviews. Evid Based Complement Alternat Med. 2015;2015:328196.

50. Andronis L, Kinghorn P, Qiao S, Whitehurst DG, Durrell S, McLeod H. Cost-Effectiveness of Non-Invasive and Non-Pharmacological Interventions for Low Back Pain: a Systematic Literature Review. Appl Health Econ Health Policy. 2016 Aug 22.

51. Taylor P, Pezzullo L, Grant SJ, Bensoussan A. Cost-effectiveness of Acupuncture for Chronic Nonspecific Low Back Pain. Pain Pract. 2014 Sep;14(7):599-606.

52. Corbett MS, Rice SJ, Madurasinghe V, Slack R, Fayter DA, Harden M, et al. Acupuncture and other physical treatments for the relief of pain due to osteoarthritis of the knee: network meta-analysis. Osteoarthritis Cartilage. 2013 Sep;21(9):1290-8.

53. Manyanga T, Froese M, Zarychanski R, Abou-Setta A, Friesen C, Tennenhouse M, et al. Pain management with acupuncture in osteoarthritis: a systematic review and meta-analysis. BMC Complement Altern Med. 2014;14:312.

54. Feng S, Han M, Fan Y, Yang G, Liao Z, Liao W, et al. Acupuncture for the treatment of allergic rhinitis: a systematic review and meta-analysis. Am J Rhinol Allergy. 2015 Jan-Feb;29(1):57-62.

55. Garcia MK, McQuade J, Lee R, Haddad R, Spano M, Cohen L. Acupuncture for symptom management in cancer care: an update. Curr Oncol Rep. 2014 Dec;16(12):418.

56. Cheong KB, Zhang JP, Huang Y, Zhang ZJ. The effectiveness of acupuncture in prevention and treatment of postoperative nausea and vomiting--a systematic review and meta-analysis. PLOS ONE. 2013;8(12):e82474.

57. Cho YH, Kim CK, Heo KH, Lee MS, Ha IH, Son DW, et al. Acupuncture for acute postoperative pain after back surgery: a systematic review and meta-analysis of randomized controlled trials. Pain Pract. 2015 Mar;15(3):279-91.

58. Barlow T, Downham C, Barlow D. The effect of complementary therapies on post-operative pain control in ambulatory knee surgery: a systematic review. Complement Ther Med. 2013 Oct;21(5):529-34.

59. Chen CC, Yang CC, Hu CC, Shih HN, Chang YH, Hsieh PH. Acupuncture for pain relief after total knee arthroplasty: a randomized controlled trial. Reg Anesth Pain Med. 2015 Jan-Feb;40(1):31-6.

60. Zhang R, Lao L, Ren K, Berman BM. Mechanisms of acupuncture-electroacupuncture on persistent pain. Anesthesiology. 2014 Feb;120(2):482-503.

61. Zhao ZQ. Neural mechanism underlying acupuncture analgesia. Prog Neurobiol. 2008 Aug;85(4):355-75.

62. Han JS. Acupuncture analgesia: areas of consensus and controversy. Pain. 2011 Mar;152(3 Suppl):S41-8.

63. Han JS. Acupuncture and endorphins. Neurosci Lett. 2004 May 6;361(1-3):258-61.

64. McDonald JL, Cripps AW, Smith PK. Mediators, Receptors, and Signalling Pathways in the Anti-Inflammatory and Antihyperalgesic Effects of Acupuncture. Evid Based Complement Alternat Med. 2015;2015:975632.

65. McDonald JL, Cripps AW, Smith PK, Smith CA, Xue CC, Golianu B. The anti-inflammatory effects of acupuncture and their relevance to allergic rhinitis: a narrative review and proposed model. Evid Based Complement Alternat Med. 2013;2013:591796.

66. Li YM, Zhuang LX, Lai XS, Jiang GH. [Effects of electroacupuncture on plasma vasoactive intestinal peptide and substance P in perennial allergic rhinitis patients]. Zhen Ci Yan Jiu. 2007 Apr;32(2):136-8.

67. Zhang Z, Wang C, Gu G, Li H, Zhao H, Wang K, et al. The effects of electroacupuncture at the ST36 (Zusanli) acupoint on cancer pain and transient receptor potential vanilloid subfamily 1 expression in Walker 256 tumor-bearing rats. Anesth Analg. 2012 Apr;114(4):879-85.

68. LU ZZ, Yin, X.J., Teng, W.J., Chen, Y.H., Sun. J., Zhao, J.M., Wang, A.Q.Bao C.H. & Shi, Y. Comparative effect of EA and moxibustion on the expression of SP and VIP in patients with IBS. Journal of Traditional Chinese Medicine. 2015;35(4):402-10.

69. Zhang YN, Zhao HJ, Wang Y, Lu Y, Wang SJ. [Effect of Electroacupuncture Intervention on Constipation-predominant Irritable Bow l Syndrome and Colonic CGRP and SP Expression in Rats]. Zhen Ci Yan Jiu. 2016 Feb;41(1):31-4.

70. Li W, Zhong, GW, Qi, M, Liu, WP, Wang, S, Wen, LB et al. Acupuncture treatment of migraine and plasma CGRP and SP content changes. World Journal of Acupuncture-Moxibustion. 2001;11(3):11-4.

71. Shi H, Li JH, Ji CF, Shang HY, Qiu EC, Wang JJ, et al. [Effect of electroacupuncture on cortical spreading depression and plasma CGRP and substance P contents in migraine rats]. Zhen Ci Yan Jiu. 2010 Feb;35(1):17-21.

72. Stener-Victorin E, Wu X. Effects and mechanisms of acupuncture in the reproductive system. Auton Neurosci. 2010 Oct 28;157(1-2):46-51.

73. Li H, He T, Xu Q, Li Z, Liu Y, Li F, et al. Acupuncture and regulation of gastrointestinal function. World J Gastroenterol. 2015 Jul 21;21(27):8304-13.

74. Qin Q, Mo Q, Liu K, He X, Gao X, Zhu B. Acupuncture at homotopic acupoints exerts dual effects on bladder motility in anesthetized rats. BMC Complement Altern Med. 2015;15:267.

75. Witt CM, Brinkhaus B. Efficacy, effectiveness and cost-effectiveness of acupuncture for allergic rhinitis - An overview about previous and ongoing studies. Auton Neurosci. 2010 Oct 28;157(1-2):42-5.

76. Kim SY, Lee H, Chae Y, Park HJ, Lee H. A systematic review of cost-effectiveness analyses alongside randomised controlled trials of acupuncture. Acupunct Med. 2012 Dec;30(4):273-85.

77. Reinhold T, Roll S, Willich SN, Ortiz M, Witt CM, Brinkhaus B. Cost-effectiveness for acupuncture in seasonal allergic rhinitis: economic results of the ACUSAR trial. Ann Allergy Asthma Immunol. 2013 Jul;111(1):56-63.

78. Reinhold T, Brinkhaus B, Willich SN, Witt C. Acupuncture in patients suffering from allergic asthma: is it worth additional costs? J Altern Complement Med. 2014 Mar;20(3):169-77.

79. Bazzan AJ, Zabrecky G, Monti DA, Newberg AB. Current evidence regarding the management of mood and anxiety disorders using complementary and alternative medicine. Expert Rev Neurother. 2014 Apr;14(4):411-23.

80. Goyata SL, Avelino CC, Santos SV, Souza Junior DI, Gurgel MD, Terra FS. Effects from acupuncture in treating anxiety: integrative review. Rev Bras Enferm. 2016 Jun;69(3):602-9.

81. Engel CC, Cordova EH, Benedek DM, Liu X, Gore KL, Goertz C, et al. Randomized effectiveness trial of a brief course of acupuncture for posttraumatic stress disorder. Med Care. 2014 Dec;52(12 Suppl 5):S57-64.

82. Bosch P, van den Noort M, Staudte H, Lim S. Schizophrenia and Depression: A systematic Review of the Effectiveness and the Working Mechanisms Behind Acupuncture. Explore (NY). 2015 Jul-Aug;11(4):281-91.

83. Shen X, Xia J, Adams CE. Acupuncture for schizophrenia. Cochrane Database Syst Rev. 2014(10):Cd005475.

84. White AR, Rampes H, Liu JP, Stead LF, Campbell J. Acupuncture and related interventions for smoking cessation. Cochrane Database Syst Rev. 2014(1):Cd000009.

85. Grillo CM, Canales Gde L, Wada RS, Alves MC, Barbosa CM, Berzin F, et al. Could Acupuncture Be Useful in the Treatment of Temporomandibular Dysfunction? J Acupunct Meridian Stud. 2015 Aug;8(4):192-9.

86. Paley CA, Johnson MI, Tashani OA, Bagnall AM. Acupuncture for cancer pain in adults. Cochrane Database Syst Rev. 2015(10):Cd007753.

87. Chiu HY, Hsieh YJ, Tsai PS. Systematic review and meta-analysis of acupuncture to reduce cancer-related pain. Eur J Cancer Care (Engl). 2016 Feb 7.

88. Chan YY, Lo WY, Yang SN, Chen YH, Lin JG. The benefit of combined acupuncture and antidepressant medication for depression: A systematic review and meta-analysis. J Affect Disord. 2015 May 1;176:106-17.

89. Spackman E, Richmond S, Sculpher M, Bland M, Brealey S, Gabe R, et al. Cost-effectiveness analysis of acupuncture, counselling and usual care in treating patients with depression: the results of the ACUDep trial. PLOS ONE. 2014;9(11):e113726.

90. Zhao K. Acupuncture for the treatment of insomnia. Int Rev Neurobiol. 2013;111:217-34.

91. Shergis JL, Ni X, Jackson ML, Zhang AL, Guo X, Li Y, et al. A systematic review of acupuncture for sleep quality in people with insomnia. Complement Ther Med. 2016 Jun;26:11-20.

92. Levett KM, Smith CA, Dahlen HG, Bensoussan A. Acupuncture and acupressure for pain management in labour and birth: a critical narrative review of current systematic review evidence. Complement Ther Med. 2014 Jun;22(3):523-40.

93. Selva Olid A, Martinez Zapata MJ, Sola I, Stojanovic Z, Uriona Tuma SM, Bonfill Cosp X. Efficacy and Safety of Needle Acupuncture for Treating Gynecologic and Obstetric Disorders: An Overview. Med Acupunct. 2013 Dec 1;25(6):386-97.

94. Close C, Sinclair M, Liddle SD, Madden E, McCullough JE, Hughes C. A systematic review investigating the effectiveness of Complementary and Alternative Medicine (CAM) for the management of low back and/or pelvic pain (LBPP) in pregnancy. J Adv Nurs. 2014 Aug;70(8):1702-16.

95. Liddle SD, Pennick V. Interventions for preventing and treating low-back and pelvic pain during pregnancy. Cochrane Database Syst Rev. 2015(9):Cd001139.

96. Chang SC, Hsu CH, Hsu CK, Yang SS, Chang SJ. The efficacy of acupuncture in managing patients with chronic prostatitis/chronic pelvic pain syndrome: A systemic review and meta-analysis. Neurourol Urodyn. 2016 Jan 6.

97. Qin Z, Wu J, Zhou J, Liu Z. Systematic Review of Acupuncture for Chronic Prostatitis/Chronic Pelvic Pain Syndrome. Medicine (Baltimore). 2016 Mar;95(11):e3095.

98. Esteghamati A, Mazaheri T, Vahidi Rad M, Noshad S. Complementary and alternative medicine for the treatment of obesity: a critical review. Int J Endocrinol Metab. 2015 Apr;13(2):e19678.

99. Bega D, Malkani R. Alternative treatment of restless legs syndrome: an overview of the evidence for mind-body interventions, lifestyle interventions, and neutraceuticals. Sleep Med. 2016 Jan;17:99-105.

100. Smith CA, Crowther CA, Grant SJ. Acupuncture for induction of labour. Cochrane Database Syst Rev. 2013(8):Cd002962.

101. Mollart LJ, Adam J, Foureur M. Impact of acupressure on onset of labour and labour duration: A systematic review. Women Birth. 2015 Sep;28(3):199-206.

102. Li P, Qiu T, Qin C. Efficacy of Acupuncture for Bell's Palsy: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. PLOS ONE. 2015;10(5):e0121880.

103. Kwon HJ, Choi JY, Lee MS, Kim YS, Shin BC, Kim JI. Acupuncture for the sequelae of Bell's palsy: a randomized controlled trial. Trials. 2015;16:246.

104. Law SK, Li T. Acupuncture for glaucoma. Cochrane Database Syst Rev. 2013(5):Cd006030.

105. Dalton-Brewer N. The Role of Complementary and Alternative Medicine for the Management of Fibroids and Associated Symptomatology. Curr Obstet Gynecol Rep. 2016;5:110-8.

106. Cao H, Wang Y, Chang D, Zhou L, Liu J. Acupuncture for vascular mild cognitive impairment: a systematic review of randomised controlled trials. Acupunct Med. 2013 Dec;31(4):368-74.

107. Cui X, Zhou J, Qin Z, Liu Z. Acupuncture for Erectile Dysfunction: A Systematic Review. Biomed Res Int. 2016;2016:2171923.

108. He M, Li X, Liu Y, Zhong J, Jiang L, Liu Y, et al. Electroacupuncture for Tinnitus: A Systematic Review. PLOS ONE. 2016;11(3):e0150600.

109. Wu SL, Leung AW, Yew DT. Acupuncture for Detoxification in Treatment of Opioid Addiction. East Asian Arch Psychiatry. 2016 Jun;26(2):70-6.

110. Grant S, Kandrack R, Motala A, Shanman R, Booth M, Miles J, et al. Acupuncture for substance use disorders: A systematic review and meta-analysis. Drug Alcohol Depend. 2016 Jun 1;163:1-15.

111. Kim JE, Seo BK, Choi JB, Kim HJ, Kim TH, Lee MH, et al. Acupuncture for chronic fatigue syndrome and idiopathic chronic fatigue: a multicenter, nonblinded, randomized controlled trial. Trials. 2015;16:314.

112. Deare JC, Zheng Z, Xue CC, Liu JP, Shang J, Scott SW, et al. Acupuncture for treating fibromyalgia. Cochrane Database Syst Rev. 2013(5):Cd007070.

113. Yang B, Yi G, Hong W, Bo C, Wang Z, Liu Y, et al. Efficacy of acupuncture on fibromyalgia syndrome: a meta-analysis. J Tradit Chin Med. 2014 Aug;34(4):381-91.

114. Lauche R, Cramer H, Hauser W, Dobos G, Langhorst J. A Systematic Overview of Reviews for Complementary and Alternative Therapies in the Treatment of the Fibromyalgia Syndrome. Evid Based Complement Alternat Med. 2015;2015:610615.

115. Jang SH, Kim DI, Choi MS. Effects and treatment methods of acupuncture and herbal medicine for premenstrual syndrome/premenstrual dysphoric disorder: systematic review. BMC Complement Altern Med. 2014;14:11.

116. Hofmeister S, Bodden S. Premenstrual Syndrome and Premenstrual Dysphoric Disorder. Am Fam Physician. 2016 Aug 1;94(3):236-40.

117. Cheong YC, Dix S, Hung Yu Ng E, Ledger WL, Farquhar C. Acupuncture and assisted reproductive technology. Cochrane Database Syst Rev. 2013(7):Cd006920.

118. Shen C, Wu M, Shu D, Zhao X, Gao Y. The role of acupuncture in in vitro fertilization: a systematic review and meta-analysis. Gynecol Obstet Invest. 2015;79(1):1-12.

119. Qian Y, Xia XR, Ochin H, Huang C, Gao C, Gao L, et al. Therapeutic effect of acupuncture on the outcomes of in vitro fertilization: a systematic review and meta-analysis. Arch Gynecol Obstet. 2016 Dec 19.

120. Jo J, Lee YJ. Effectiveness of acupuncture in women with polycystic ovarian syndrome undergoing in vitro fertilisation or intracytoplasmic sperm injection: a systematic review and meta-analysis. Acupunct Med. 2017 Jan 11.

121. Fernandez-Llanio Comella N, Fernandez Matilla M, Castellano Cuesta JA. Have complementary therapies demonstrated effectiveness in rheumatoid arthritis? Reumatol Clin. 2016 May-Jun;12(3):151-7.

122. Matthews A, Haas DM, O'Mathuna DP, Dowswell T. Interventions for nausea and vomiting in early pregnancy. Cochrane Database Syst Rev. 2015(9):Cd007575.

123. Cheuk DK, Wong V. Acupuncture for epilepsy. Cochrane Database Syst Rev. 2014(5):Cd005062.

124. Lardon A, Girard MP, Zaim C, Lemeunier N, Descarreaux M, Marchand AA. Effectiveness of preventive and treatment interventions for primary headaches in the workplace: A systematic review of the literature. Cephalalgia. 2016 Mar 2.

125. Cho HK, Park IJ, Jeong YM, Lee YJ, Hwang SH. Can perioperative acupuncture reduce the pain and vomiting experienced after tonsillectomy? A meta-analysis. Laryngoscope. 2016 Mar;126(3):608-15.

126. Shin HC, Kim JS, Lee SK, Kwon SH, Kim MS, Lee EJ, et al. The effect of acupuncture on postoperative nausea and vomiting after pediatric tonsillectomy: A meta-analysis and systematic review. Laryngoscope. 2016 Aug;126(8):1761-7.

127. Zhang JH, Wang D, Liu M. Overview of systematic reviews and meta-analyses of acupuncture for stroke. Neuroepidemiology. 2014;42(1):50-8.

128. Vados L, Ferreira A, Zhao S, Vercelino R, Wang S. Effectiveness of acupuncture combined with rehabilitation for treatment of acute or subacute stroke: a systematic review. Acupunct Med. 2015 Jun;33(3):180-7.

129. Liu AJ, Li JH, Li HQ, Fu DL, Lu L, Bian ZX, et al. Electroacupuncture for Acute Ischemic Stroke: A Meta-Analysis of Randomized Controlled Trials. Am J Chin Med. 2015;43(8):1541-66.

130. Yang A, Wu HM, Tang JL, Xu L, Yang M, Liu GJ. Acupuncture for stroke rehabilitation. Cochrane Database Syst Rev. 2016 Aug 26;8:Cd004131.

131. Lim SM, Yoo J, Lee E, Kim HJ, Shin S, Han G, et al. Acupuncture for spasticity after stroke: a systematic review and meta-analysis of randomized controlled trials. Evid Based Complement Alternat Med. 2015;2015:870398.

132. Rodriguez-Mansilla J, Espejo-Antunez L, Bustamante-Lopez AI. [Effectiveness of acupuncture in spasticity of the post-stroke patient. Systematic review]. Aten Primaria. 2016 Apr;48(4):226-34.

133. Lee SH, Lim SM. Acupuncture for insomnia after stroke: a systematic review and meta-analysis. BMC Complement Altern Med. 2016;16:228.

134. Lee SH, Lim SM. Acupuncture for Poststroke Shoulder Pain: A Systematic Review and Meta-Analysis. Evid Based Complement Alternat Med. 2016;2016:3549878.

135. Yue J, Liu M, Li J, Wang Y, Hung ES, Tong X, et al. Acupuncture for the treatment of hiccups following stroke: a systematic review and meta-analysis. Acupunct Med. 2016 Jun 10.

136. Chiu HY, Pan CH, Shyu YK, Han BC, Tsai PS. Effects of acupuncture on menopause-related symptoms and quality of life in women in natural menopause: a meta-analysis of randomized controlled trials. Menopause. 2015 Feb;22(2):234-44.

137. Dodin S, Blanchet C, Marc I, Ernst E, Wu T, Vaillancourt C, et al. Acupuncture for menopausal hot flushes. Cochrane Database Syst Rev. 2013(7):Cd007410.

138. Chiu HY, Hsieh YJ, Tsai PS. Acupuncture to Reduce Sleep Disturbances in Perimenopausal and Postmenopausal Women: A Systematic Review and Meta-analysis. Obstet Gynecol. 2016 Mar;127(3):507-15.

139. Bezerra AG, Pires GN, Andersen ML, Tufik S, Hachul H. Acupuncture to Treat Sleep Disorders in Postmenopausal Women: A Systematic Review. Evid Based Complement Alternat Med. 2015;2015:563236.

140. Lau CH, Wu X, Chung VC, Liu X, Hui EP, Cramer H, et al. Acupuncture and Related Therapies for Symptom Management in Palliative Cancer Care: Systematic Review and Meta-Analysis. Medicine (Baltimore). 2016 Mar;95(9):e2901.

141. Lu W, Rosenthal DS. Acupuncture for cancer pain and related symptoms. Curr Pain Headache Rep. 2013 Mar;17(3):321.

142. Towler P, Molassiotis A, Brearley SG. What is the evidence for the use of acupuncture as an intervention for symptom management in cancer supportive and palliative care: an integrative overview of reviews. Support Care Cancer. 2013 Oct;21(10):2913-23.

143. Lian WL, Pan MQ, Zhou DH, Zhang ZJ. Effectiveness of acupuncture for palliative care in cancer patients: a systematic review. Chin J Integr Med. 2014 Feb;20(2):136-47.

144. He XR, Wang Q, Li PP. Acupuncture and moxibustion for cancer-related fatigue: a systematic review and meta-analysis. Asian Pac J Cancer Prev. 2013;14(5):3067-74.

145. Ling WM, Lui LY, So WK, Chan K. Effects of acupuncture and acupressure on cancer-related fatigue: a systematic review. Oncol Nurs Forum. 2014 Nov 1;41(6):581-92.

146. Posadzki P, Moon TW, Choi TY, Park TY, Lee MS, Ernst E. Acupuncture for cancer-related fatigue: a systematic review of randomized clinical trials. Support Care Cancer. 2013 Jul;21(7):2067-73.

147. Finnegan-John J, Molassiotis A, Richardson A, Ream E. A systematic review of complementary and alternative medicine interventions for the management of cancer-related fatigue. Integr Cancer Ther. 2013 Jul;12(4):276-90.

148. Zeng Y, Luo T, Finnegan-John J, Cheng AS. Meta-Analysis of Randomized Controlled Trials of Acupuncture for Cancer-Related Fatigue. Integr Cancer Ther. 2014 May;13(3):193-200.

149. Choi TY, Kim JI, Lim HJ, Lee MS. Acupuncture for Managing Cancer-Related Insomnia: A Systematic Review of Randomized Clinical Trials. Integr Cancer Ther. 2016 Aug 16.

150. Garcia MK, Graham-Getty L, Haddad R, Li Y, McQuade J, Lee RT, et al. Systematic review of acupuncture to control hot flashes in cancer patients. Cancer. 2015 Nov 15;121(22):3948-58.

151. Johns C, Seav SM, Dominick SA, Gorman JR, Li H, Natarajan L, et al. Informing hot flash treatment decisions for breast cancer survivors: a systematic review of randomized trials comparing active interventions. Breast Cancer Res Treat. 2016 Apr;156(3):415-26.

152. Chen YP, Liu T, Peng YY, Wang YP, Chen H, Fan YF, et al. Acupuncture for hot flashes in women with breast cancer: A systematic review. J Cancer Res Ther. 2016 Apr-Jun;12(2):535-42.

153. Salehi A, Marzban M, Zadeh AR. Acupuncture for treating hot flashes in breast cancer patients: an updated meta-analysis. Support Care Cancer. 2016 Aug 6.

154. Zhuang L, Yang Z, Zeng X, Zhua X, Chen Z, Liu L, et al. The preventive and therapeutic effect of acupuncture for radiation-induced xerostomia in patients with head and neck cancer: a systematic review. Integr Cancer Ther. 2013 May;12(3):197-205.

155. Furness S, Bryan G, McMillan R, Worthington HV. Interventions for the management of dry mouth: non-pharmacological interventions. Cochrane Database Syst Rev. 2013(8):Cd009603.

156. Hanchanale S, Adkinson L, Daniel S, Fleming M, Oxberry SG. Systematic literature review: xerostomia in advanced cancer patients. Support Care Cancer. 2015 Mar;23(3):881-8.

157. Kim KH, Kim DH, Kim HY, Son GM. Acupuncture for recovery after surgery in patients undergoing colorectal cancer resection: a systematic review and meta-analysis. Acupunct Med. 2016 Aug;34(4):248-56.

158. Bae K, Yoo HS, Lamoury G, Boyle F, Rosenthal DS, Oh B. Acupuncture for Aromatase Inhibitor-Induced Arthralgia: A Systematic Review. Integr Cancer Ther. 2015 Nov;14(6):496-502.

159. Chien TJ, Liu CY, Chang YF, Fang CJ, Hsu CH. Acupuncture for treating aromatase inhibitor-related arthralgia in breast cancer: a systematic review and meta-analysis. J Altern Complement Med. 2015 May;21(5):251-60.

160. Franconi G, Manni L, Schroder S, Marchetti P, Robinson N. A systematic review of experimental and clinical acupuncture in chemotherapy-induced peripheral neuropathy. Evid Based Complement Alternat Med. 2013;2013:516916.

161. Fu H, Chen B, Hong S, Guo Y. Acupuncture Therapy for the Treatment of Myelosuppression after Chemotherapy: A Literature Review over the Past 10 Years. J Acupunct Meridian Stud. 2015 Jun;8(3):122-6.

162. Haddad NE, Palesh O. Acupuncture in the treatment of cancer-related psychological symptoms. Integr Cancer Ther. 2014 Sep;13(5):371-85.

163. Lee MS, Ernst E. Acupuncture for surgical conditions: an overview of systematic reviews. Int J Clin Pract. 2014 Jun;68(6):783-9.

164. Asmussen S, Maybauer DM, Chen JD, Fraser JF, Toon MH, Przkora R, et al. Effects of Acupuncture in Anesthesia for Craniotomy: A Meta-Analysis. J Neurosurg Anesthesiol. 2016 Mar 10.

165. Liodden I, Norheim AJ. Acupuncture and related techniques in ambulatory anesthesia. Curr Opin Anaesthesiol. 2013 Dec;26(6):661-8.

166. Yang L, Yang Z, Yu H, Song H. Acupuncture therapy is more effective than artificial tears for dry eye syndrome: evidence based on a meta-analysis. Evid Based Complement Alternat Med. 2015;2015:143858.

167. Hadianfard M, Bazrafshan E, Momeninejad H, Jahani N. Efficacies of Acupuncture and Anti-inflammatory Treatment for Carpal Tunnel Syndrome. J Acupunct Meridian Stud. 2015 Oct;8(5):229-35.

168. Manheimer E, Wieland LS, Cheng K, Li SM, Shen X, Berman BM, et al. Acupuncture for irritable bowel syndrome: systematic review and meta-analysis. Am J Gastroenterol. 2012 Jun;107(6):835-47; quiz 48.

169. MacPherson H, Tilbrook H, Agbedjro D, Buckley H, Hewitt C, Frost C. Acupuncture for irritable bowel syndrome: 2-year follow-up of a randomised controlled trial. Acupunct Med. 2016 Mar 15.

170. Wang J, Xiong X, Liu W. Acupuncture for essential hypertension. Int J Cardiol. 2013 Nov 20;169(5):317-26.

171. Li DZ, Zhou Y, Yang YN, Ma YT, Li XM, Yu J, et al. Acupuncture for essential hypertension: a meta-analysis of randomized sham-controlled clinical trials. Evid Based Complement Alternat Med. 2014;2014:279478.

172. Zhao XF, Hu HT, Li JS, Shang HC, Zheng HZ, Niu JF, et al. Is Acupuncture Effective for Hypertension? A Systematic Review and Meta-Analysis. PLOS ONE. 2015;10(7):e0127019.

173. Gadau M, Yeung WF, Liu H, Zaslawski C, Tan YS, Wang FC, et al. Acupuncture and moxibustion for lateral elbow pain: a systematic review of randomized controlled trials. BMC Complement Altern Med. 2014;14:136.

174. Tang H, Fan H, Chen J, Yang M, Yi X, Dai G, et al. Acupuncture for Lateral Epicondylitis: A Systematic Review. Evid Based Complement Alternat Med. 2015;2015:861849.

175. van der Velde G, Yu H, Paulden M, Cote P, Varatharajan S, Shearer HM, et al. Which interventions are cost-effective for the management of whiplash-associated and neck pain-associated disorders? A systematic review of the health economic literature by the Ontario Protocol for Traffic Injury Management (OPTIMa) Collaboration. Spine J. 2015 Nov 26.

176. Trinh K, Graham N, Irnich D, Cameron ID, Forget M. Acupuncture for neck disorders. Cochrane Database Syst Rev. 2016(5):Cd004870.

177. Moon TW, Posadzki P, Choi TY, Park TY, Kim HJ, Lee MS, et al. Acupuncture for treating whiplash associated disorder: a systematic review of randomised clinical trials. Evid Based Complement Alternat Med. 2014;2014:870271.

178. Dong W, Goost H, Lin XB, Burger C, Paul C, Wang ZL, et al. Treatments for shoulder impingement syndrome: a PRISMA systematic review and network meta-analysis. Medicine (Baltimore). 2015 Mar;94(10):e510.

179. Liu CF, Chien LW. Efficacy of acupuncture in children with asthma: a systematic review. Ital J Pediatr. 2015;41:48.

180. Lee SH, Chang GT, Zhang X, Lee H. Acupoint Herbal Patching for Asthma: A Systematic Review and Meta-analysis of Randomized Controlled Trials. Medicine (Baltimore). 2016 Jan;95(2):e2439.

181. Su L, Meng L, Chen R, Wu W, Peng B, Man L. Acupoint Application for Asthma Therapy in Adults: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. Forsch Komplementmed. 2016;23(1):16-21.

182. Chen MN, Chien LW, Liu CF. Acupuncture or Acupressure at the Sanyinjiao (SP6) Acupoint for the Treatment of Primary Dysmenorrhea: A Meta-Analysis. Evid Based Complement Alternat Med. 2013;2013:493038.

183. Xu T, Hui L, Juan YL, Min SG, Hua WT. Effects of moxibustion or acupoint therapy for the treatment of primary dysmenorrhea: a meta-analysis. Altern Ther Health Med. 2014 Jul-Aug;20(4):33-42.

184. Abaraogu UO, Tabansi-Ochuogu CS. As Acupressure Decreases Pain, Acupuncture May Improve Some Aspects of Quality of Life for Women with Primary Dysmenorrhea: A Systematic Review with Meta-Analysis. J Acupunct Meridian Stud. 2015 Oct;8(5):220-8.

185. Smith CA, Armour M, Zhu X, Li X, Lu ZY, Song J. Acupuncture for dysmenorrhoea. Cochrane Database Syst Rev. 2016;4:Cd007854.

186. Kim TH, Lee MS, Kim KH, Kang JW, Choi TY, Ernst E. Acupuncture for treating acute ankle sprains in adults. Cochrane Database Syst Rev. 2014(6):Cd009065.

187. Xu L, Xu H, Gao W, Wang W, Zhang H, Lu DP. Treating angina pectoris by acupuncture therapy. Acupunct Electrother Res. 2013;38(1-2):17-35.

188. Yu C, Ji K, Cao H, Wang Y, Jin HH, Zhang Z, et al. Effectiveness of acupuncture for angina pectoris: a systematic review of randomized controlled trials. BMC Complement Altern Med. 2015;15:90.

189. Zhang Z, Bai R, Zhang L, Qi W, Wang Y, Li B, et al. [Acupuncture combined with Western medicine for angina of coronary artery disease: a systematic review]. Zhongguo Zhen Jiu. 2015 Apr;35(4):407-11.

190. Coyle ME, Shergis JL, Huang ET, Guo X, Di YM, Zhang A, et al. Acupuncture therapies for chronic obstructive pulmonary disease: a systematic review of randomized, controlled trials. Altern Ther Health Med. 2014 Nov-Dec;20(6):10-23.

191. Lee H, Kim TH, Leem J. Acupuncture for heart failure: A systematic review of clinical studies. Int J Cardiol. 2016 Jul 30;222:321-31.

192. Min D, Xu-Feng W. An Updated Meta-Analysis of the Efficacy and Safety of Acupuncture Treatment for Vascular Cognitive Impairment Without Dementia. Curr Neurovasc Res. 2016;13(3):230-8.

193. Park J, Hahn S, Park JY, Park HJ, Lee H. Acupuncture for ankle sprain: systematic review and meta-analysis. BMC Complement Altern Med. 2013;13:55.

194. Kim KH, Kim TH, Lee BR, Kim JK, Son DW, Lee SW, et al. Acupuncture for lumbar spinal stenosis: a systematic review and meta-analysis. Complement Ther Med. 2013 Oct;21(5):535-56.

195. Nahin RL, Boineau R, Khalsa PS, Stussman BJ, Weber WJ. Evidence-Based Evaluation of Complementary Health Approaches for Pain Management in the United States. Mayo Clin Proc. 2016 Sep;91(9):1292-306.

196. Lewis RA, Williams NH, Sutton AJ, Burton K, Din NU, Matar HE, et al. Comparative clinical effectiveness of management strategies for sciatica: systematic review and network meta-analyses. Spine J. 2015 Jun 1;15(6):1461-77.

197. Qin Z, Liu X, Wu J, Zhai Y, Liu Z. Effectiveness of Acupuncture for Treating Sciatica: A Systematic Review and Meta-Analysis. Evid Based Complement Alternat Med. 2015;2015:425108.

198. Ji M, Wang X, Chen M, Shen Y, Zhang X, Yang J. The Efficacy of Acupuncture for the Treatment of Sciatica: A Systematic Review and Meta-Analysis. Evid Based Complement Alternat Med. 2015;2015:192808.

199. Kim HJ, Jeon BS. Is acupuncture efficacious therapy in Parkinson's disease? J Neurol Sci. 2014 Jun 15;341(1-2):1-7.

200. Zhou J, Peng W, Xu M, Li W, Liu Z. The effectiveness and safety of acupuncture for patients with Alzheimer disease: a systematic review and meta-analysis of randomized controlled trials. Medicine (Baltimore). 2015 Jun;94(22):e933.

201. Au DW, Tsang HW, Ling PP, Leung CH, Ip PK, Cheung WM. Effects of acupressure on anxiety: a systematic review and meta-analysis. Acupunct Med. 2015 Oct;33(5):353-9.

202. Chen HM, Chen CH. Effects of acupressure at the Sanyinjiao point on primary dysmenorrhoea. J Adv Nurs. 2004 Nov;48(4):380-7.

203. Boelig RC, Barton SJ, Saccone G, Kelly AJ, Edwards SJ, Berghella V. Interventions for treating hyperemesis gravidarum. Cochrane Database Syst Rev. 2016(5):Cd010607.

204. Chai Q, Fei Y, Cao H, Wang C, Tian J, Liu J. Acupuncture for melasma in women: a systematic review of randomised controlled trials. Acupunct Med. 2015 Aug;33(4):254-61.

205. Manheimer E, van der Windt D, Cheng K, Stafford K, Liu J, Tierney J, et al. The effects of acupuncture on rates of clinical pregnancy among women undergoing in vitro fertilization: a systematic review and meta-analysis. Hum Reprod Update. 2013 Nov-Dec;19(6):696-713.

206. Kwan I, Bhattacharya S, Knox F, McNeil A. Pain relief for women undergoing oocyte retrieval for assisted reproduction. Cochrane Database Syst Rev. 2013(1):Cd004829.

207. Ren LN, Guo LH, Ma WZ, Zhang R. [A meta-analysis on acupuncture treatment of polycystic ovary syndrome]. Zhen Ci Yan Jiu. 2014 Jun;39(3):238-46.

208. Lim CE, Ng RW, Xu K, Cheng NC, Xue CC, Liu JP, et al. Acupuncture for polycystic ovarian syndrome. Cochrane Database Syst Rev. 2016(5):Cd007689.

209. Jo J, Lee YJ, Lee H. Effectiveness of Acupuncture for Primary Ovarian Insufficiency: A Systematic Review and Meta-Analysis. Evid Based Complement Alternat Med. 2015;2015:842180.

210. Yang M, Li X, Liu S, Li Z, Xue M, Gao D, et al. Meta-analysis of acupuncture for relieving non-organic dyspeptic symptoms suggestive of diabetic gastroparesis. BMC Complement Altern Med. 2013;13:311.

211. Lan L, Zeng F, Liu GJ, Ying L, Wu X, Liu M, et al. Acupuncture for functional dyspepsia. Cochrane Database Syst Rev. 2014(10):Cd008487.

212. Kim KN, Chung SY, Cho SH. Efficacy of acupuncture treatment for functional dyspepsia: A systematic review and meta-analysis. Complement Ther Med. 2015 Dec;23(6):759-66.

213. Langhorst J, Wulfert H, Lauche R, Klose P, Cramer H, Dobos GJ, et al. Systematic review of complementary and alternative medicine treatments in inflammatory bowel diseases. J Crohns Colitis. 2015 Jan;9(1):86-106.

214. Kim KH, Lee MS, Kim TH, Kang JW, Choi TY, Lee JD. Acupuncture and related interventions for symptoms of chronic kidney disease. Cochrane Database Syst Rev. 2016(6):Cd009440.

215. Jerng UM, Jo JY, Lee S, Lee JM, Kwon O. The effectiveness and safety of acupuncture for poor semen quality in infertile males: a systematic review and meta-analysis. Asian J Androl. 2014 Nov-Dec;16(6):884-91.

216. Wang Y, Zhishun L, Peng W, Zhao J, Liu B. Acupuncture for stress urinary incontinence in adults. Cochrane Database Syst Rev. 2013(7):Cd009408.

217. Paik SH, Han SR, Kwon OJ, Ahn YM, Lee BC, Ahn SY. Acupuncture for the treatment of urinary incontinence: A review of randomized controlled trials. Exp Ther Med. 2013 Sep;6(3):773-80.

218. Naik PN, Kiran RA, Yalamanchal S, Kumar VA, Goli S, Vashist N. Acupuncture: An Alternative Therapy in Dentistry and Its Possible Applications. Med Acupunct. 2014 Dec 1;26(6):308-14.

219. Cheong KB, Zhang JP, Huang Y. The effectiveness of acupuncture in postoperative gastroparesis syndrome--a systematic review and meta-analysis. Complement Ther Med. 2014 Aug;22(4):767-86.

220. Cheong KB, Zhang J, Huang Y. [Effectiveness of acupuncture in postoperative ileus: a systematic review and Meta-analysis]. J Tradit Chin Med. 2016 Jun;36(3):271-82.

221. Hu C, Zhang H, Wu W, Yu W, Li Y, Bai J, et al. Acupuncture for Pain Management in Cancer: A Systematic Review and Meta-Analysis. Evid Based Complement Alternat Med. 2016;2016:1720239.

222. Xue CC, Zhang AL, Zhang CS, DaCosta C, Story DF, Thien FC. Acupuncture for seasonal allergic rhinitis: a randomized controlled trial. Ann Allergy Asthma Immunol. 2015 Oct;115(4):317-24.e1.

223. He J, Jiang L, Peng T, Xia M, Chen H. Acupuncture Points Stimulation for Meniere's Disease/Syndrome: A Promising Therapeutic Approach. Evid Based Complement Alternat Med. 2016;2016:6404197.

224. Zhang XC, Xu XP, Xu WT, Hou WZ, Cheng YY, Li CX, et al. Acupuncture therapy for sudden sensorineural hearing loss: a systematic review and meta-analysis of randomized controlled trials. PLOS ONE. 2015;10(4):e0125240.

225. Li S, Yu B, Zhou D, He C, Kang L, Wang X, et al. Acupuncture for Attention Deficit Hyperactivity Disorder (ADHD) in children and adolescents. Cochrane Database Syst Rev. 2011(4):Cd007839.

226. Cheuk DK, Wong V, Chen WX. Acupuncture for autism spectrum disorders (ASD). Cochrane Database Syst Rev. 2011(9):Cd007849.

227. Wong V, Cheuk DK, Chu V. Acupuncture for hypoxic ischemic encephalopathy in neonates. Cochrane Database Syst Rev. 2013(1):Cd007968.

228. He J, Jia P, Zheng M, Zhang M, Jiang H. Acupuncture for mumps in children. Cochrane Database Syst Rev. 2015(2):Cd008400.

229. Ma C, Sivamani RK. Acupuncture as a Treatment Modality in Dermatology: A Systematic Review. J Altern Complement Med. 2015 Sep;21(9):520-9.

230. Tan HY, Lenon GB, Zhang AL, Xue CC. Efficacy of acupuncture in the management of atopic dermatitis: a systematic review. Clin Exp Dermatol. 2015 Oct;40(7):711-5; quiz 5-6.

231. Vieira BL, Lim NR, Lohman ME, Lio PA. Complementary and Alternative Medicine for Atopic Dermatitis: An Evidence-Based Review. Am J Clin Dermatol. 2016 Jul 7.

232. Yao Q, Li S, Liu X, Qin Z, Liu Z. The Effectiveness and Safety of Acupuncture for Patients with Chronic Urticaria: A Systematic Review. Biomed Res Int. 2016;2016:5191729.

233. Yu C, Zhang P, Lv ZT, Li JJ, Li HP, Wu CH, et al. Efficacy of Acupuncture in Itch: A Systematic Review and Meta-Analysis of Clinical Randomized Controlled Trials. Evid Based Complement Alternat Med. 2015;2015:208690.

234. Coyle M, Deng J, Zhang AL, Yu J, Guo X, Xue CC, et al. Acupuncture therapies for psoriasis vulgaris: a systematic review of randomized controlled trials. Forsch Komplementmed. 2015;22(2):102-9.

235. Kim KH, Lee BR, Ryu JH, Choi TY, Yang GY. The role of acupuncture in emergency department settings: a systematic review. Complement Ther Med. 2013 Feb;21(1):65-72.

236. del Pino-Sedeno T, Trujillo-Martin MM, Ruiz-Irastorza G, Cuellar-Pompa L, de Pascual-Medina AM, Serrano-Aguilar P. Effectiveness of Nonpharmacologic Interventions for Decreasing Fatigue in Adults With Systemic Lupus Erythematosus: A Systematic Review. Arthritis Care Res (Hoboken). 2016 Jan;68(1):141-8.

237. Hackett KL, Deane KH, Strassheim V, Deary V, Rapley T, Newton JL, et al. A systematic review of non-pharmacological interventions for primary Sjogren's syndrome. Rheumatology (Oxford). 2015 Nov;54(11):2025-32.

238. Baeumler PI, Fleckenstein J, Takayama S, Simang M, Seki T, Irnich D. Effects of acupuncture on sensory perception: a systematic review and meta-analysis. PLOS ONE. 2014;9(12):e113731.

239. MacPherson H, Vertosick EA, Foster NE, Lewith G, Linde K, Sherman KJ, et al. The persistence of the effects of acupuncture after a course of treatment: A meta-analysis of patients with chronic pain. Pain. 2016 Oct 17.

240. Zhang J, Shang H, Gao X, Ernst E. Acupuncture-related adverse events: a systematic review of the Chinese literature. Bulletin of the World Health Organization. [Review]. 2010 Dec 1;88(12):915-21C.

241. National Centre for Complementary and Alternative Health. News Releases - NIH review finds nondrug approaches effective for treatment of common pain conditions. US Department of Health and Human Services; 2016 [cited 2016]; Available from: https://www.nih.gov/news-events/news-releases/nihreview-finds-nondrug-approaches-effective-treatment-common-pain-conditions.

242. National Health and Medical Research Council. NHMRC additional levels of evidence and grades for recommendations for developers of guidelines. Table 3. NHMRC Evidence Hierarchy: designations of 'levels of evidence' according to type of research question (including explanatory notes). National Health and Medical Research Council; 2009.

243. Balshem H, Helfand M, Schunemann HJ, Oxman AD, Kunz R, Brozek J, et al. GRADE guidelines: 3. Rating the quality of evidence. Table 2. Significance of the four levels of evidence. J Clin Epidemiol. 2011 Apr;64(4):404.

ACUPUNCTURE RESEARCH

Recommendations for Acupuncture in Clinical Practice Guidelines of the National Guideline Clearinghouse*

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ABSTRACT **Objective**: To organize the clinical practice guidelines (CPGs) related to acupuncture included in the National Guideline Clearinghouse (NGC) to systematically summarize the diseases and disorders most commonly treated with acupuncture, the strength of recommendations for acupuncture and the quality of evidence. **Methods**: The NGC database was systematically searched for guidelines that included acupuncture as an intervention. Two independent reviewers studied the summaries and the full texts of the guidelines and included guidelines based on the inclusion and exclusion criteria. Thirty-nine guidelines were collected with 80 recommendations. The Appraisal of Guidelines for Research and Evaluation (AGREE) Ⅱ instrument was used to assess the quality of these guidelines. **Results**: Of the 80 recommendations on acupuncture, 49 recommendations were clearly for acupuncture, 25 recommendations were against acupuncture and 6 recommendations did not indicate any clear recommendations, 37 recommendations were for painful diseases/disorders, and 12 recommendations were for non-painful diseases/disorders. Locomotor system disorders were the most common in the painful diseases/disorders category. Out of all the recommendations for acupuncture, most recommendations (87.76%) were weak in strength, and most of the evidence (40.84%) was of low quality. **Conclusion**: In the National Guideline Clearinghouse, the recommendations for acupuncture focus on painful diseases/disorders. The recommendations in the guidelines are not high in strength, and most of the evidence is moderate or low in quality.

KEYWORDS acupuncture, clinical practice guidelines, National Guideline Clearinghouse

In general, acupuncture is defined as a stimulation of specific acupuncture points through the penetration of the skin with needles. The practice aims to correct imbalances in the flow of qi through meridians (i.e., energy channels), which is the concept of energy used in Chinese medicine.(1) Acupuncture generally includes traditional body needling, electric acupuncture (electro-acupuncture), moxibustion, laser acupuncture, microsystem acupuncture, such as ear (auricular) and scalp acupuncture, and acupressure.(2) As a part of complementary and alternative medicine, acupuncture is widely used throughout the world. One hundred and three member states of the World Health Organization (WHO) have approved the use of acupuncture and 18 have listed acupuncture as a qualified medical insurance expense.(3) According to each clinical situation, clinical practice guidelines (CPGs) provide the best available evidence to support the decision-making of clinicians, managers, and policy makers.(4,5) CPGs play an important role in the guidance of clinical practice and the specification of medical behavior. Consequently, there has been increasing evidence on acupuncture from clinical trials and systematic reviews over the past decade. As a result, many more countries and academic organizations (associations) have included acupuncture in their guidelines. Although acupuncture is already widely used, the strength of recommendations and the quality of evidence for acupuncture as a recommended treatment in the clinical practice guidelines in the West have not been systematically summarized.

The National Guideline Clearinghouse (NGC, http://www.guidelines.gov/) is a publicly available

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database of evidence-based clinical practice guidelines and related documents. It was established by the Agency for Healthcare Research and Quality of the United States Department of Health and Human Services and is one of the most widely used databases that includes clinical guidelines.

We aimed to organize the CPGs related to acupuncture included in the NGC to systematically summarize the diseases and disorders most commonly treated with acupuncture, the strength of recommendations and the quality of evidence for acupuncture as a recommended treatment in the guidelines. This systematic review can help practitioners to understand the role of acupuncture in the healthcare field.

METHODS

Source of Data Collection

Data were retrieved from the electronic database of the NGC. Guidelines were archived by the NGC in a single database with a standardized format and are freely available. All of these advantages greatly benefit the guideline retrieval. We retrieved all electronic data from the NGC database only established by U.S.-based organizations from conception until May 29, 2015.

Definition of Acupuncture for Data Retrieval

In this study, acupuncture included traditional body acupuncture, moxibustion, acupuncture with electrical stimulation (electro-acupuncture/electric acupuncture), laser acupuncture (photo-acupuncture), microsystem acupuncture (such as ear/auricular), face, hand and scalp acupuncture, and acupressure.[2]

Data Retrieval Procedure

An electronic search was performed on the NGC database on May 29, 2015. The search terms included "treatment or intervention" and "U.S.-based organizations only." The following keywords were included in the "specify a keyword" category: "acupuncture," "moxibustion," "acupuncture with electrical stimulation," "electro-acupuncture," "electric acupuncture," "laser acupuncture," "photo-acupuncture," "auricular," "ear acupuncture," "face acupuncture," "hand acupuncture," "scalp acupuncture," or "acupressure." All guidelines were downloaded as portable document files and reviewed. Two independent reviewers studied the summaries and the full texts of the guidelines to determine the included guidelines.

Guideline Selection

Inclusion Criteria

Guidelines were included if they met the following criteria: were created by U.S.-based organizations; were limited to "treatment" or "intervention;" included acupuncture in the guidelines, as defined previously, or referenced acupuncture in the guideline recommendations.

Exclusion Criteria

Guidelines were excluded if acupuncture therapy was referred to as electrical nerve stimulation, massage, trigger point injections, or transcutaneous electrical stimulation and cupping. Furthermore, guidelines were excluded if they only involved acupuncture in the guideline scope, rather than in the recommendation. Finally, if the strength of the recommendation or quality of the evidence was not clear, then the guidelines were not included.

Classification

All the guidelines were reviewed to determine whether acupuncture was involved or not in their recommendations. Because the guidelines were developed by different organizations and societies, there were differences in the methods and standards of guideline development.[6] To simplify the collection and analysis, the quality of evidence and strength of the recommendations were rated.

According to the definition of the grade of the quality of evidence in the guideline development panel, the quality of evidence was classified into 3 categories: high quality evidence (including evidence rating terms, such as strong evidence-base, high quality evidence, 1a, 1b, good, Ⅰ, Ⅰa, or Ⅰb), moderate quality evidence (including evidence rating terms, such as fair or moderate evidence-base, moderate quality evidence, medium quality, 2a, 2b, Ⅱ-1, Ⅱ-2, Ⅱ-3, Ⅱa, or Ⅱb), and low quality evidence (including evidence rating terms, such as Ⅲ, 3, Ⅳ, 4, poor, limited evidence-base, insufficient evidence, low quality evidence, or very low quality evidence). Systematic reviews and meta-analyses were considered to be high quality evidence.

According to the definition of the grade of recommendations in the guideline development panel, the recommendations were classified into 3 categories: strong recommendations (including recommendation

Evidence Map of Acupuncture

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PREFACE

Quality Enhancement Research Initiative's (QUERI) Evidence-based Synthesis Program (ESP) was established to provide timely and accurate syntheses of targeted healthcare topics of particular importance to Veterans Affairs (VA) managers and policymakers, as they work to improve the health and healthcare of Veterans. The ESP disseminates these reports throughout VA.

QUERI provides funding for four ESP Centers and each Center has an active VA affiliation. The ESP Centers generate evidence syntheses on important clinical practice topics, and these reports help:

- develop clinical policies informed by evidence,
- guide the implementation of effective services to improve patient outcomes and to support VA clinical practice guidelines and performance measures, and
- set the direction for future research to address gaps in clinical knowledge.

In 2009, the ESP Coordinating Center was created to expand the capacity of QUERI Central Office and the four ESP sites by developing and maintaining program processes. In addition, the Center established a Steering Committee comprised of QUERI field-based investigators, VA Patient Care Services, Office of Quality and Performance, and Veterans Integrated Service Networks (VISN) Clinical Management Officers. The Steering Committee provides program oversight, guides strategic planning, coordinates dissemination activities, and develops collaborations with VA leadership to identify new ESP topics of importance to Veterans and the VA healthcare system.

Comments on this evidence report are welcome and can be sent to Nicole Floyd, ESP Coordinating Center Program Manager, at nicole.floyd@va.gov.

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TABLE OF CONTENTS

BACKGROUND 1

Key Questions/Scope of Project 1

METHODS

Inclusion Criteria 2

Search 2

Procedure 3

Data Synthesis 3

Bubble Plots 4

Literature Size 4

Clinical Effectiveness 4

Confidence 6

Other Results 6

Future Research 6

Technical Expert Panel 7

Peer Review 7

RESULTS 8

EVIDENCE MAP OF ACUPUNCTURE FOR PAIN 10

Executive Summary: Pain 11

EVIDENCE MAP OF ACUPUNCTURE FOR WELLNESS 15

Executive Summary: Wellness 16

EVIDENCE MAP OF ACUPUNCTURE FOR MENTAL HEALTH 19

Executive Summary: Mental Health 20

OTHER INDICATIONS 22

ADVERSE EVENTS OF ACUPUNCTURE 23

Reviews of Adverse Events of Acupuncture 23

Pain Domain 23

Wellness Domain 24

Mental Health Domain 24

Other Indications 24

FUTURE RESEARCH 25

Pain Domain 26

Wellness Domain 26

Mental Health Domain 27

Other Indications 27

ONGOING RESEARCH ... 28

SUMMARY AND LIMITATIONS ... 29

REFERENCES ... 30

FIGURES

Figure 1: Systematic reviews on acupuncture published January 2005 to March 2013 ... 8
Figure 2: Research volume by priority topic areas ... 8

BUBBLE PLOTS

Acupuncture for Pain ... 10
Acupuncture for Wellness ... 15
Acupuncture for Mental Health ... 19

APPENDIX. PEER REVIEW COMMENTS/AUTHOR RESPONSES ... 48

EVIDENCE MAP OF ACUPUNCTURE

BACKGROUND

Many Veterans desire complementary and alternative medicine or integrative medicine modalities such as acupuncture, both for treatment and for the promotion of wellness. However, the effectiveness and adverse events associated with acupuncture are not firmly established. Given the VA's desire to promote evidence-based practice, this evidence mapping project will help provide guidance to VA leadership about the distribution of evidence to inform policy and clinical decision making.

In general, acupuncture is the stimulation of specific acupuncture points through penetration of the skin with needles, which aims to correct imbalances in the flow of *qi*, a concept of energy in traditional Chinese medicine (TCM), through meridians (ie, energy channels). The available published literature on acupuncture is extensive. PubMed searches in 2013 identified almost 20,000 citations with the term "acupuncture" and almost 1,500 randomized controlled trials (RCTs) with "acupuncture" in the title. Not surprisingly, a large number of systematic reviews and meta-analyses have been published to-date, and even a number of "reviews of reviews" are available in the published literature on acupuncture in general[1-6] or for a specific clinical condition.[4,7-20]

Results from existing reviews of reviews about the effectiveness of acupuncture are non-conclusive. A systematic review of systematic reviews of acupuncture published between 1996 and 2005 included 35 reviews.[1] The overview noted that 12 reviews reported support for acupuncture and 6 reported strong support; however, when applying strict inclusion criteria, such as randomized and double blind studies, good evidence of no benefit was shown. In 2007, Adams compiled a "Brief Overview – A summary of the evidence for use of acupuncture from systematic reviews and meta-analyses" for the Veterans Health Administration Office of Patient Care Services Technology Assessment Program.[21] The report included 42 systematic reviews published since 2002 and concluded that higher quality studies are only beginning to emerge, the evidence base is heterogeneous, and the review results highlight the overall poor quality of studies and reporting. Thus, it is timely to assess the current state of reviews of acupuncture.

KEY QUESTIONS/SCOPE OF PROJECT

The project deliverables are:

- An evidence map that provides a visual overview of the distribution of evidence (both what is known and where there is little or no evidence base) for acupuncture; and
- A set of executive summaries that would help stakeholders interpret the state of the evidence to inform policy and clinical decision making.

This project maps the literature for the indications Pain, Mental Health and Wellness; as well as any clinical area for which at least 3 reviews and/or recent large RCTs exist.

METHODS

This systematic review of systematic reviews provides an overview of the existing literature on acupuncture.

INCLUSION CRITERIA

To be included in the review of reviews, studies had to meet the following criteria:

- Participants: Reviews and new RCTs including human adult participants undergoing acupuncture for any health-related indication were eligible for inclusion in the evidence map. Reviews and new RCTs in adult participants or not further specified age groups were included; reviews and new RCTs exclusively focusing on animals and exclusively focusing on children were excluded.
- Intervention: Reviews and new RCTs of effects of acupuncture using needles, including traditional Chinese acupuncture and other related acupuncture concepts, with or without electro stimulation, with or without moxibustion, and whole body as well as microsystem acupuncture, were eligible. Reviews or RCTs exclusively targeting acupressure, laser acupuncture, transcutaneous electrical nerve simulation, or dry needling were excluded. Reviews on the effectiveness of acupuncture, alone or in combination with other traditional Chinese medicine approaches, were included. Reviews of clinical indications that included studies of acupuncture among many other interventions, and broad reviews on complementary and alternative medicine approaches without particular focus on acupuncture were not sought. Studies addressing the mechanism of action and correlates of acupuncture (eg, brain activity), or investigating the comparative effectiveness of different acupuncture regimes were excluded.
- Comparator (design): Systematic reviews focusing on acupuncture and summarizing primary research studies were eligible. Reviews either identified as "systematic review" in the title or abstract of the publication or reporting the search sources in the abstract were included. In addition, recent, large (N≥500 participants) RCTs focusing on acupuncture, reporting patient outcomes, and not yet included in existing reviews were included. RCTs had to report on the sample size or be described as a multicenter study in the title or abstract to be considered.
- Outcome: Patient outcomes addressed in reviews or trials were eligible. Reviews and RCTs of provider outcomes, acceptance, prevalence, use, costs, study design features, or intervention features not reporting patient health outcomes in the abstract were excluded.
- Timing: Reviews and new RCTs including any intervention duration and any follow-up point were eligible for inclusion. Reviews had to be published in or after 2005 to be included, regardless of the publication date of the included studies in the review. Of the recent RCTs, only those not yet included in existing systematic reviews were considered.
- Setting: Reviews and recent RCTs in healthcare-related settings were eligible.
- English-language reviews, regardless of the language of the included studies, and recent, large RCTs were eligible for inclusion in the review of reviews.

SEARCH

For this project, we searched the electronic databases PubMed using the systematic review clinical query; the Database of Abstracts of Reviews of Effects (DARE), a database dedicated

to catalogue systematic reviews in healthcare; the Cochrane Library of Systematic Reviews which keeps a record of all ongoing and completed Cochrane reviews; and AMED, the Allied and Complementary Medicine database, in March 2013 to identify English-language systematic reviews published since 2005 focusing on acupuncture. In addition, we identified relevant reviews through the review registry PROSPERO, published reviews of reviews, and topic experts.

Recently published, large acupuncture RCTs indexed in PubMed and not yet included in existing systematic review were identified in topic specific searches using the Randomized Controlled Trial filter in PubMed.

PROCEDURE

In the first step, we identified systematic reviews meeting the inclusion criteria and removed data duplicates from the database so that the data from each review entered the dataset only once. This entailed identifying and consolidating online-only and final publication of articles, Cochrane reviews published in the Cochrane database and in a journal article, multiple updates of Cochrane reviews, and references to systematic reviews differently indexed in general and specialist systematic review databases. Where originals and updates of systematic reviews by the same author group were available only the most recent version was considered. These systematic reviews were then coded by clinical topic.

Reviews and recent RCTs identified as potentially relevant and all unclear citations were ordered as full text to evaluate the publication against the specified inclusion criteria. The literature flow was documented in an electronic database. Reasons for exclusion of full text publications were recorded. Results of individual reviews and recent RCTs were extracted in an online database for systematic reviews.

DATA SYNTHESIS

We grouped the identified reviews and trials into the 3 VA priority areas: Pain, Wellness, and Mental Health. In addition, we added categories for Other Indications and for Adverse Events. General acupuncture reviews that could not be categorized as addressing pain, wellness, or mental health were included in the Other Indication domain. Topics of other indications were only eligible for synthesis if at least 3 systematic reviews or recent large RCTs were available for the specific topic.

Topic grouping into the priority domains was guided by a technical expert panel. All reviews focusing on pain regardless of the underlying condition were assigned to the Pain domain. The Wellness domain was used as a broad category covering a wide range of clinical indications and outcomes. This included reviews of indication-unspecific outcomes such as quality of life, reviews of treatments for chronic conditions that reported on symptoms that could be experienced by generally healthy people such as nausea, and reviews of very common conditions such as insomnia. The Mental Health domain covered core mental health conditions and chronic fatigue syndrome due to the use of mental health outcomes in the review. Topics were classified as Other Indication if they did not fit into the VA priority groups. Reviews on adverse

events were assigned to the Adverse Event category if they did not report on the therapeutic effectiveness of acupuncture as well. Where possible, reviews were assigned to one topic only based on the primary focus of the review rather than incorporated multiple times into the evidence synthesis.

BUBBLE PLOTS

The evidence base was distilled into a visual overview of each of the 3 VA priority areas using a bubble plot format. In order to be included in the bubble plots, reviews had to report effect sizes for patient health outcomes for each included study or a pooled result across included studies; present the citations for included studies so that the evidence was identifiable; report on RCT data; and report the effects of passive-controlled studies. We extracted the specific topic (eg, depression treatment), the number of included RCTs, and the size of the treatment effect for the main patient outcomes according to passive-controlled RCT data, from each included systematic review with bubble plot-relevant data. We also extracted additional review characteristics such as whether the review was a Cochrane review or an independent patient data (IPD) review, whether the review showed a positive treatment effect in assessor-blinded RCTs, and whether a majority of studies included in the review not indexed in PubMed.

The bubble plots displays information about the research area in 3 dimensions: the estimated literature size (y-axis), the estimated treatment effect (x-axis), and the confidence in the reported effect (bubble size). Given the format, the large number of existing reviews, and the scope of this project, the bubble plots can only represent limited information.

Literature size

First, the bubble plots provide an overview of the research volume or quantity for the included topics in each priority area. For this estimate, we used the number of included RCTs per review, selecting the systematic review with the most included acupuncture RCTs for the individual topic as the research volume estimate. Reviews vary in their inclusion criteria for study designs (for example whether or not they include observational studies) and providing the volume for a well-established research design such as RCT that is always likely to be included should provide a broad estimate. Furthermore, the number of RCTs should provide an indicator of the overall research volume sufficient for this map of the literature. A pilot test showed that an alternative method, cumulatively adding all studies included in reviews on a particular clinical indication to a database to determine the complete research pool, is immensely time consuming and not feasible for large-scale evidence maps. In the case of acupuncture research, hundreds of individual studies need to be cross-checked against dozens of reviews to prevent duplication, but the lack of unique study identifiers and differences in translation of study titles make such cross-checking impractical within the project timeframe and resources.

Clinical effectiveness

Secondly, the bubble plots provide a broad estimate of the clinical effectiveness of acupuncture for each differentiated clinical indication. This estimate of clinical effectiveness should ideally be a continuous measure representing the summary effect size for the clinical indication. However, in trying to apply this display method to reviews of acupuncture, we were unable to

use a continuous measure such as effect size. Because the studies included in individual reviews may overlap, results of reviews cannot be pooled across reviews and meta-analyses (included studies are not all independent units, and individual studies may be included in more than one review). In addition, different reviews use different summary measures, such as weighted mean differences, odds ratios, or relative risks to summarize treatment effects; individual reviews focused on a variety of different condition-specific continuous or categorical outcome measures (e.g., treatment response, Beck Depression Inventory, Hamilton Depression Rating Scale among hundreds of other measures); inclusion criteria for eligible RCTs differed across reviews; and the review authors' conclusions were often inconsistent across reviews. Therefore, for this application, the bubble plots simply differentiate the findings according to 4 categories: "evidence of no effect," "unclear evidence," "evidence of a potential positive effect," and "evidence of a positive effect."

The category "evidence of no effect" was used for research areas that provided evidence for no positive effect, that is to say reviews which showed that results in the control groups are equivocal or better than in the acupuncture group. The "unclear evidence" category was used for conflicting results across reviews that could not be resolved or for conflicting results within reviews with authors summarizing the evidence as inconclusive. The "evidence of a potential positive effect" category was used for those areas where reviews showed that all individual RCTs or the pooled effect across RCTs were positive, but the best available secondary evidence or all systematic reviews concluded that the evidence base was insufficient to draw firm conclusions despite the statistically significant positive treatment effect. For example, several systematic reviews produced pooled estimates of effects that were statistically significantly positive, yet the review authors judged the evidence insufficient due to limitations of the included trials. The final category, "evidence of a positive effect," was used for clinical areas with evidence of a statistically significant positive effect of acupuncture and where authors of the best available secondary literature recommended the intervention without major concerns regarding the existing evidence.

For each clinical topic, all available systematic reviews and recently published trials were reviewed. Most emphasis was given to Cochrane reviews, individual patient data reviews, and the largest review or recent trial. For topics with narrative reviews without statistical meta-analysis, conflicting results across or within reviews that could be resolved by a synthesis including all relevant RCTs, and for areas where a recent large trial was identified that was not yet incorporated into existing reviews, a statistician checked whether studies could be pooled and performed a meta-analysis to determine the treatment effect. The reanalysis used the data documented in the systematic reviews; it was not feasible to obtain primary study data from several hundred RCTs included in existing reviews. In many cases, it was not possible to resolve the conflicting evidence. Furthermore, the bubble plots summarize dozens of clinical areas, of which each area is represented by up to 10 recent reviews, each review potentially summarizing a large number of individual research studies. Hence the clinical effectiveness category should not be construed as a definitive answer of the effectiveness but rather represents a broad overview, or trend, to broadly summarize the research field.

The effect determination focused on the effectiveness of acupuncture compared to that of "passive" control groups, such as a waiting list group, no treatment, placebo / sham acupuncture,

prescription-free or provider-independent interventions, usual care not further specified, and treatments given to both RCT arms. As we discuss in the future research section, what constitutes a valid control group for acupuncture intervention studies is an area of controversy. For this broad map of the literature we did not favor one control modality over another and had to rely on the published reviews to differentiate or pool across passive comparators. In order to provide a coherent and easy-to-interpret bubble plot across individual topics, we did not include the comparative effectiveness of acupuncture, that is to say acupuncture compared to active comparators such as medication interventions (e.g., equivalence or superiority assessments for acupuncture versus antidepressants). Instead, identified comparative effectiveness results were summarized in the narrative synthesis.

Confidence

Finally, our confidence in the effect for each clinical indicator is represented by the size of the corresponding bubble. By default, we categorized our level of confidence as “Medium”. We changed the confidence to “High” only if an effect was shown in a Cochrane review adhering to strict methodological criteria or in an IPD systematic review not subject to typical meta-analytic limitations, based on the assumption that both of these kinds of reviews represent stronger evidence than an average systematic review. We changed the confidence to “Low” if the reported treatment effect was based primarily on studies not indexed in the largest medical database PubMed (defined as more than 50% of relevant RCTs not indexed) based on the assumption that studies in journals and other outlets not indexed in PubMed are more likely to be of low quality than studies published in PubMed-indexed journals. This issue has been shown to be of particular relevance to the research area acupuncture.[22,23]

Given the large number of clinical topics, the large number of reviews, and the fact that some clinical topics were associated with up to 10 current systematic reviews from independent author groups, this assessment could take only very limited information into account.

OTHER RESULTS

Results from comparative effectiveness reviews (ie, reviews comparing acupuncture to other active treatments) were summarized in a narrative synthesis for each of the domains.

Adverse events of acupuncture interventions were summarized in a narrative synthesis. For this broad overview we only included reviews addressing adverse events in the title or the abstract of the publication and thereby indicating that adverse events were one of the main research questions addressed by the review.

FUTURE RESEARCH

We identified evidence gaps by documenting clinical indications for which there is conflicting evidence across identified reviews or where reviews concluded that the existing evidence base is insufficient to come to firm conclusions. In addition, we documented those topic areas for which systematic reviews exist, but for which the reviews did not identify relevant RCTs. For the non-priority areas we highlighted where research on acupuncture was available but there were only

one or 2 systematic reviews published since 2005 to provide a current estimate of the evidence. Finally, we checked the literature for ongoing systematic reviews that may become available to summarize a topic area in the near future.

TECHNICAL EXPERT PANEL

The technical expert panel (TEP] for the project included Dr. Stephen Ezeji-Okoye, VHA CO Field Advisory Committee on Complementary and Alternative Medicine; Laura Krejci, Associate Director Office of Patient Centered Care and Cultural Transformation; Dr. Edward Seunghoon Lee; Dr. Marc Goldstein; Dr. An-Fu Hsiao; and Dr. Walter Fricke.

PEER REVIEW

A draft version of the deliverables was reviewed by technical experts, as well as clinical leadership. Reviewer comments were addressed in the final product and are documented in the appendix.

RESULTS

The electronic literature search identified 1,223 citations. Of these, 183 citations were classified as unique systematic review citations meeting the inclusion criteria.[24-205] The number of systematic review publications by year is shown in Figure 1 below.

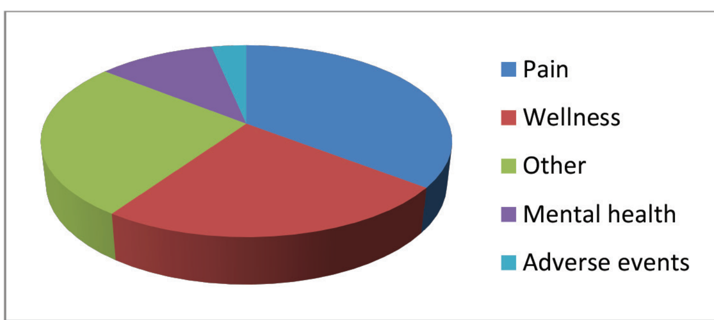
Figure 1: Systematic reviews on acupuncture published January 2005 to March 2013

Number of systematic reviews
40
30
20
10
0
2005 2006 2007 2008 2009 2010 2011 2012 2013
Publication year

The number of published reviews is increasing, between 9 and 35 reviews were published each year with a peak at 2012. The 2013 column only shows systematic reviews published between January and March 2013.

For the evidence map, the results of the existing systematic reviews are presented in the priority areas: Pain, Wellness, and Mental Health. The distribution of topics is shown in Figure 2 below.

Figure 2: Research volume by priority topic areas



Of the identified priority areas, the most systematic reviews were published relevant to the indication Pain (N=65). In total, 44 reviews were classified as relevant to Wellness. For the indication Mental Health, the fewest systematic reviews were identified (N=20). A large number of systematic review did not appear to be relevant to any of the priority areas (Other Indication N=48). Six systematic reviews focused on Adverse Events, not the clinical effectiveness of acupuncture.

The specific clinical topics targeted in the existing systematic reviews included pain, headache, migraine, fibromyalgia, myofascial trigger point pain, burning mouth syndrome, ankle sprain, neck disorder, dysmenorrhea, trigeminal neuralgia, analgesia during surgery, anxiety, schizophrenia, depression, posttraumatic stress disorder, dementia, Alzheimer's Disease, chronic

fatigue syndrome, addiction in general, cocaine addiction, alcohol addiction, opiate addiction, smoking, opioid withdrawal symptoms, quality of life, exercise performance, hiccups, hot flushes, cancer, menopause-related effects, insomnia, cancer-related fatigue, nausea, cancer treatment-related adverse events, uremic pruritus, vasomotor menopausal symptoms, dry eye, dry mouth, premenstrual syndrome, erectile dysfunction, obesity, irritable bowel syndrome, constipation, Ménière's disease, allergic rhinitis, tinnitus, restless legs, temporomandibular disorders, stroke, Bell's palsy, fertility treatment, arthritis, Parkinson, uterine fibroids, pressure ulcer, traumatic brain injury, spinal cord injury, fetal breech presentation, labor induction, aphasia, blood pressure, glaucoma, epilepsy, respiratory disease, asthma, facial spasm, cervical spondylotic radiculopathy, polycystic ovarian syndrome, and angina pectoris symptoms.

EVIDENCE MAP OF ACUPUNCTURE FOR PAIN

The results for the clinical indication Pain are presented in the bubble plot and a text summary below. The bubble plot summarizes the results of 59 systematic reviews for 21 distinct indications relevant to the outcome pain [search date: March 2013].

Confidence
High
Medium
Low

Literature size
50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0

Carpal tunnel
Back pain
Neck pain
Surgery analgesia
Postoperative pain
Fibromyalgia
Rheumatoid arthritis
Shoulder pain
Dysmenorrhea
Osteoarthritis
Ankle sprain
Pain General
Cancer pain
Labor
Prostatitis
Temporomandibular
Plantar heel
Pregnancy pain
Headache
Chronic pain
Migraine

Evidence of no effect
Unclear evidence
Evidence of a potential positive effect
Evidence of a positive effect
Effect

Legend: The bubble plot shows an estimate of the evidence base for pain-related indications judging from systematic reviews and recent large RCTs. The plot depicts the estimated size of the literature (y-axis, number of RCTs included in largest review), the estimated effect (x-axis), and the confidence in the estimate (bubble size).

The figure provides a broad visual overview over the evidence base. The bubble plot depicts the estimated research volume based on the number of acupuncture RCTs included in the largest review summarizing the clinical indication, the estimated treatment effect of acupuncture compared to passive control, and the confidence in the effect, judging from published systematic reviews. Estimates of the size of the treatment effect based on specific individual reviews as well as reason for classifying the evidence base as inconclusive are reported in the narrative synthesis. The evidence map used the clinical topics as addressed in existing reviews, and individual research studies may have contributed to a number of included reviews and clinical indications. All 3 depicted dimensions (literature size, effect, and confidence) are estimates and can only provide a broad overview of the evidence base.

EXECUTIVE SUMMARY: PAIN

As shown in the bubble plot, a large number of studies have addressed the treatment of **headaches** with acupuncture; a 2008 review included 31 RCTs[124] and 5 independent systematic reviews have been published since 2005. A Cochrane review on tension-type headache by Linde et al., last updated in 2009, reported that 3 to 4 months after randomization, the pooled responder rate ratio was 1.24 (95% confidence interval [CI]: 1.05, 1.46) with 50% responders in the acupuncture groups compared to 41% in sham groups across 4 RCTs.[120] The review concluded that acupuncture could be a valuable non-pharmacological tool in patients with frequent episodic or chronic tension-type headaches. A 2012 individual patient data meta-analysis published by Vickers et al for the Acupuncture Trialists' Collaboration included data from 29 RCTs evaluating acupuncture for **chronic pain**.[47] The review reported that patients receiving acupuncture had less pain, with scores that were 0.23 (95% CI: 0.13, 0.33), 0.16 (95% CI: 0.07, 0.25) and 0.15 (95% CI: 0.07, 0.24) standard deviations lower than sham controls for back and neck pain, osteoarthritis, and chronic headache. The review concluded that acupuncture is effective for the treatment of chronic pain and is a reasonable referral option. However, the most recent available best evidence syntheses concentrating on back pain, neck pain, or osteoarthritis individually do not summarize the evidence as equally unrestrictedly positive, as outlined further below. Thus, the conclusion that acupuncture had evidence of effectiveness with high confidence for chronic pain patients is currently still limited by the lack of conclusive evidence syntheses for the individual conditions that make up 50-65% of chronic pain, namely back pain and neck pain. There is considerable research available for **migraine** prophylaxis; a 2009 Cochrane review by the same author group working on headaches included 22 acupuncture RCTs.[121] The review reported sufficient detail for a reanalysis and a positive effect across all passive controlled RCTs as defined in this review of reviews was identified. However, it should be noted that effects were driven by RCTs comparing acupuncture to no acupuncture (relative risk [RR] 2.33; 95% CI: 2.02, 2.69), not RCTs comparing acupuncture and sham (RR 1.13; 95% CI: 0.95, 1.35). The review concluded that acupuncture should be considered a treatment option for patients willing to undergo this treatment. More than half of the 7 included RCTs on chronic headaches included in the chronic pain IPD meta-analysis[47] are also included in the Cochrane reviews on headaches and migraine.

Dysmenorrhea has also been addressed in a large number of primary studies; a 2010 systematic review on primary dysmenorrhea included 27 RCTs.[92] A Cochrane review on dysmenorrhea last

updated in 2012 reported an improvement in pain relief from acupuncture compared with placebo control (odds ratio [OR] 9.5, 95% CI: 21.17, 51.8) and concluded that acupuncture may reduce period pain but further well-designed RCTs are needed.[72] **Osteoarthritis** has also been targeted in a large number of systematic reviews (we identified 6 recent reviews from independent author groups) and individual research studies; a 2012 Centre for Reviews and Dissemination (CRD) network meta-analysis on the relief of chronic pain due to osteoarthritis of the knee included 22 acupuncture RCTs.[174] The report, comparing different physical treatments, concluded that acupuncture is one of a number of physical treatments that produces a clinically-relevant effect in alleviating pain in the short-term, and although further research is needed to substantiate these conclusions, acupuncture should be considered as an evidence-based treatment option for relieving pain due to osteoarthritis of the knee. A 2010 Cochrane review on acupuncture for peripheral joint osteoarthritis reported positive results for acupuncture in comparison to sham and waiting list control but not as add-on treatment compared to exercise-based physiotherapy alone. The review concluded that benefits compared to shame were small, did not meet pre-defined thresholds for clinical relevance, and were probably due at least partially to placebo effects from incomplete blinding, while effects compared to waiting list were clinically relevant but could be associated with expectation or placebo effects.[97] A recent RCT[206] not yet included in the existing systematic reviews and one of the largest available studies on acupuncture and osteoarthritis (N=527) reported no statistically significant differences between acupuncture and sham, but a reanalysis combining the largest review and this trial showed that the pooled treatment effect would remain positive if included in an updated meta-analysis. The IPD meta-analysis on chronic pain[47] included 9 osteoarthritis RCTs. Acupuncture for **pain management** regardless of the underlying conditions has been addressed in some of the identified reviews; the largest review on auriculotherapy for pain management included 17 RCTs.[78] The review reported auriculotherapy was superior to controls for studies evaluating pain intensity (standardized mean difference [SMD] 1.56, 95% CI: 0.85, 2.26) but concluded that a more accurate estimate of the effect requires further large, well-designed trials. A 2009 systematic review on acupuncture for pain treatment published in the *BMJ* concluded that a small analgesic effect of acupuncture was found, which seems to lack clinical relevance and cannot be clearly distinguished from bias.[119] A 2013 review on acupuncture for **ankle sprain** included 17 RCTs.[30] The review found that significantly more participants in acupuncture groups reported global symptom improvement compared with no acupuncture (RR 0.56, 95% CI: 0.42, 0.77), but the review was primarily based on non-indexed publications, trial quality was poor, no sham controlled RCT was identified, and the review concluded that given methodological shortcomings and the small number of high-quality primary studies, the available evidence is insufficient to recommend acupuncture as an evidence-based treatment option. **Cancer-associated pain** has been addressed in 15 RCTs according to the largest recent review.[59] A 2012 Cochrane review identified one relevant RCT that showed statistically significant differences between the acupuncture and placebo groups but the review concluded there is insufficient evidence to judge whether acupuncture is effective in treating cancer pain in adults.[73] **Labor pain** has also been addressed in a number of primary studies; a 2010 review included 10 RCTs.[85] A 2011 Cochrane review reported less intense pain from acupuncture compared with no intervention (SMD -1.00, 95% CI: -1.33, -.067) and positive effects for other outcomes and comparators; however, all comparisons were based on one RCT each and the review concluded acupuncture may have a role in relieving pain during labor but more research is needed.[67]

Positive effects were also reported for other clinical indications; however the evidence base was considerably smaller. A review on **prostatitis** / chronic pelvic pain syndrome included 9 acupuncture RCTs in total and reported a positive effect of acupuncture compared to sham (RR 1.56, 95% CI: 1.09, 2.24); however this result was based on one RCT only.[71] The largest of 4 recent reviews on **temporomandibular** joint disorders included 7 RCTs in total.[195] The review reported significant improvements in pain intensity for a visual analogue scale (weighted mean difference [WMD] -12.6, 95% CI: -21.2, -6.1) but concluded that further rigorous studies are required to establish beyond doubt whether acupuncture has therapeutic value for this indication. A review on acupuncture for **plantar heel pain** included 5 RCTs and the passive controlled RCTs reported statistically significant positive results for pain outcomes, but only 2 RCTs were classified as high quality and no pooled result was presented to determine the size of the treatment effect.[44] A review specific to p**regnancy**-associated pelvic and back pain included 3 RCTs in total and both acupuncture as add-on treatment RCTs reported statistically significant results. However, no pooled effect was presented to estimate the size of the treatment effect.[143]

Acupuncture for the treatment of **back pain** has received a great deal of research attention but the evidence base regarding the effectiveness of acupuncture remains unclear judging from the available systematic reviews. We identified 10 recent systematic reviews on acupuncture for back pain and the largest review, a review on the efficacy, cost-effectiveness, and safety of selected complementary and alternative medicine published by Furlan et al in 2012, included 33 acupuncture RCTs.[62] The review showed a positive effect of acupuncture compared to no treatment but noted that sham-acupuncture controlled trials tended towards statistically nonsignificant results. A 2005 evidence synthesis on low back pain within the framework of the Cochrane Collaboration concluded that the data do not allow firm conclusions regarding the effectiveness of acupuncture for acute low back pain.[170] It is noteworthy that the IPD meta-analysis (see above) on chronic pain which concluded that acupuncture is effective for treating chronic pain also included 10 back pain studies. The largest review on **neck pain** is the review by Furlan et al. [62] published in 2012; it includes 24 acupuncture RCTs. The review came to the same conclusion as for back pain while 2 smaller reviews reported favorable results for acupuncture. The IPD meta-analysis by Vickers at al included some back pain and neck pain studies but was limited to chronic pain (defined as the current episode of pain being of at least 4 weeks' duration), a pooled result was only given for a combined back and neck pain analysis, and indication-specific effects or the individual size of the treatment effect are not known. Acupuncture effects on **analgesia during surgery** were reviewed by Lee and Ernst in 2005; the review included 19 RCTs and the evidence was judged to be inconclusive. Two systematic reviews on **postoperative pain** were published in 2008. The study selection was not identical across reviews and there were inconsistent results across included studies; one of the review concluded the evidence that auricular acupuncture reduces postoperative pain is promising but not compelling.[123] **Fibromyalgia** has been addressed in 12 RCTs according to one of 3 recent systematic reviews; effectiveness results are inconsistent within and across reviews. Results regarding **shoulder pain** are also inconclusive. A 2012 review on shoulder pain after stroke included 3 relevant acupuncture RCTs but did not report a pooled treatment effect estimate; a Cochrane review on shoulder pain, last updated in 2005, identified 9 RCTs with varying results and concluded that due to a small number of clinical and methodological diverse trials, little can be concluded from the review.[167,207] The evidence base for **rheumatoid arthritis** is also unclear

and insufficient data were reported to determine the effectiveness across reviews and included trials. A Cochrane review last updated in 2005 highlighted that conclusions are limited by methodological considerations such as the type of acupuncture, the site of intervention, the small number of clinical trials, and the small sample size of the included studies.[165]

A single review on **carpal tunnel syndrome** was identified that included 6 RCTs. The review did not find statistically significant differences in 2 sham controlled RCTs and conflicting results across outcomes for acupuncture as an add-on treatment in a further RCT.

In addition, a small number of reviews were identified that could not be incorporated in the bubble plot. They addressed primarily the comparative effectiveness of acupuncture in relation to other treatments. The reviews reported that acupuncture was more effective than conventional pharmacological therapies in the treatment of gouty arthritis[35] and neurovascular headache (although this is based on a very limited number of studies),[69] more effective than Chinese herbal medicine for endometriosis,[65] but no more effective than pharmacological sedation for egg retrieval during assisted reproductive therapy[173] and of similar efficacy as carbamazepine for trigeminal neuralgia in the existing low-quality studies.[181] One systematic review on myofascial trigger point pain reported positive results. However, the number of traditional acupuncture trials, rather than trials on dry needling inserted directly into the trigger points, supporting the result was not reported. A systematic review on acupuncture or acupoint injection for management of burning mouth syndrome[180] found injections to be superior to laser acupuncture; no passive controlled acupuncture RCTs were identified.

EVIDENCE MAP OF ACUPUNCTURE FOR WELLNESS

The results for Wellness-relevant indications and outcomes are presented in the bubble plot and text summary below. The bubble plot represents 43 systematic reviews and 3 recent large RCTs not yet incorporated in existing reviews summarizing effects for 20 distinct clinical indications relevant to Wellness [search date: March 2013].

Legend: The bubble plot shows an estimate of the evidence base for wellness-related indications judging from systematic reviews and recent large trials. The plot shows the estimated size of the literature (y-axis, number of RCTs included in largest review), the estimated effect (x-axis), and the confidence in the estimate (bubble size).

The figure provides a visual overview of the evidence base of acupuncture for wellness indications. The bubble plot depicts the estimated research volume based on the number of acupuncture RCTs included in the largest review for each of the differentiated clinical areas, the estimated treatment effect compared to passive control, and the confidence in the effect estimate, judging from published systematic reviews. Effect size estimates of the treatment effect based on specific individual reviews, as well as reason for classifying the evidence base as inconclusive, are reported in the narrative synthesis. The evidence map used the clinical topics as addressed in existing reviews and individual research studies may have contributed to a number of included reviews and clinical indications. All 3 depicted dimensions (literature size, effect, and confidence) are estimates and can only provide a broad overview of the evidence base.

EXECUTIVE SUMMARY: WELLNESS

As shown in the bubble plot, the largest research area was the indication **insomnia**. We identified 7 recent systematic reviews by independent author groups; the largest review, published in 2009, included 46 acupuncture RCTs.[24] A 2012 Cochrane review reported that compared with other treatment alone, acupuncture as an adjunct might marginally increase the proportion of people with improved sleep quality (OR 3.1, 95% CI: 1.9, 4.9) but concluded that the current evidence is not sufficiently rigorous to support or refute acupuncture for treating insomnia. The role of acupuncture in **obesity** has also been evaluated in a large number of studies; a 2012 review included 44 primarily non-PubMed indexed acupuncture RCTs.[60] The review reported a risk ratio of 2.14 (95% CI: 1.58, 2.90) in favor of body weight reduction with a mean difference in body weight reduction of 2.76kg (95% CI: 1.61, 3.83) but noted that the majority of included studies was of low quality. A competing review including 31 acupuncture RCTs concluded that results suggested that acupuncture is an effective treatment for obesity; however, the amount of evidence is not fully convincing because of the poor methodological quality of trials reviewed.[122] **Smoking cessation** has also been addressed in a large number of studies; a 2011 Cochrane review included 31 acupuncture RCTs. The review reported that compared with sham acupuncture the risk ratio for short-term effects was 1.18 (95% CI: 1.03, 1.34) and 1.05 (CI: 0.82, 1.35) for long-term effects[74] but concluded there is no consistent, bias-free evidence that acupuncture, acupressure, laser therapy, or electro-stimulation are effective for smoking cessation and no firm conclusions can be drawn. A 2012 review reported positive effects of acupoint stimulation at immediate, 3- and 6-month follow-up but did not differentiate effects of acupuncture, acupressure, electro-acupuncture, or percutaneous electrical nerve stimulation.[53] Nausea and vomiting was addressed in a number of publications for a variety of indications and results appear to depend on the underlying condition causing the symptom. A 2009 Cochrane review included 11 acupuncture RCTs evaluating the effect of wrist acupuncture point P6 stimulation (acupressure, acupuncture, electro-acupuncture, transcutaneous nerve stimulation, laser stimulation, capsicum plaster, acustimulation device) for preventing postoperative nausea and vomiting (**PONV**).[111] The review reported a pooled effect size of 0.65 (95% CI: 0.48, 0.89) for acupuncture trials compared to sham for nausea and 0.60 (95% CI: 0.43, 0.84) for vomiting. The review concluded that P6 acupoint stimulation prevents post-operative nausea and vomiting; however the majority of included studies evaluated acupressure or other treatments and no conclusions specific to acupuncture were presented.

Positive effects were also reported for other clinical indications; however, the effects are based on only a small number of primary research studies. A Cochrane review on acupuncture for **restless legs syndrome** reported dermal needle therapy in combination with medications and massage was more effective than medications and massage alone in terms of remission of unpleasant sensation in the legs (RR 1.36, 95% CI: 1.06 to 1.75). However, the result was based on a single RCT and the review concluded that the evidence is insufficient.[130] A systematic review on the efficacy of TCM for the management of c**onstipation** included 3 acupuncture RCTs.[99] The RCTs comparing acupuncture treatment with patients taking lactulose or Folium Sennae reported statistically significant benefits in favor of acupuncture but no pooled effect was reported to estimate the size of the acupuncture treatment effect.

The clinical effectiveness is unclear for a number of wellness-relevant indications. Several primary studies and systematic reviews have been published on **cancer treatment-associated physical adverse events**; a 2013 review included 41 RCTs addressing a variety of adverse events such as pain, nausea, hot flashes, fatigue, xerostomia, prolonged postoperative ileus, anxiety / mood disorders, and sleep disturbance.[38] The review concluded that acupuncture is an appropriate adjunctive treatment for chemotherapy-induced nausea / vomiting but additional studies are needed, and for other symptoms efficacy remains undetermined due to the high risk of bias of existing studies. A Cochrane review specific to chemotherapy-induced nausea or vomiting reported that stimulation with needles reduced the proportion of acute vomiting (RR 0.74, 95% CI: 0.58, 0.94) but not acute nausea severity. Results were inconsistent for elector-acupuncture and manual acupuncture, and studies combining electro-acupuncture with state-of-the-art antiemetics and in patients with refractory symptoms are needed to determine clinical relevance.[161] The evidence base across and within 5 additional reviews on cancer and cancer-treatment related adverse events or specific conditions such as cancer-related fatigue, hot flashes in breast cancer survivors, and hiccups in cancer patients was judged to be insufficient to draw firm conclusions by the review authors. A Cochrane review on **irritable bowel syndrome (IBS)** included 17 RCTs[57]. The review indicated that acupuncture was more effective than no specific therapy (RR 2.11, 95% CI: 1.18, 3.79) and Chinese medicine treatment alone (RR 1.17, 95% CI: 1.02, 1.33), but not sham acupuncture for symptom severity (SMD -0.11, 95% CI: -0.35, 0.013) or quality of life (SMD -0.03, 95% CI: -0.27, 0.22). Results of effects of acupuncture on **rhinitis** were judged to be inconsistent in 3 systematic reviews; the largest review included 12 acupuncture RCTs. A recent, large RCT, commissioned by German health insurance companies as part of the "Acupuncture in Routine Care" study and not yet included in existing reviews, included 981 randomized participants with allergic rhinitis. The study reported a mean improvement of 1.48 (SE 0.06) on a rhinitis quality of life questionnaire in the acupuncture group and 0.50 (SE 0.06) in the control group ($p<0.001$).[208] The existing reviews did not report sufficient data to allow a reanalysis of all available RCTs. A 2006 systematic review on acupuncture treatment in g**astrointestinal diseases** included 10 RCTs covering a wide range of indications and reported that quality of life improved independently from the treatment, real or sham acupuncture, while a recent large RCT on functional dyspepsia and a trial on gastroesophageal reflux disease reported superior effects of true acupuncture, and a meta-analytic reanalysis for the purpose of this review of reviews was not possible.[209,210] Two reviews on acupuncture effects on **blood pressure** and one review on **tinnitus** concluded that the evidence is inconclusive. Reviews on **menopausal symptoms**, **premenstrual syndrome**,

and **xerostomia** showed conflicting results across reviews; each topic was targeted in 2 to 3 reviews by independent researcher groups. Reviews on **dry eye**, **exercise performance**, **rrectile dysfunction** and **quality of life** found conflicting results across included studies, did not pool results, and provided insufficient details for a reanalysis without obtaining original trials data. The reviews indicate that only a limited number of individual studies are available, ranging from 2 to 6 included acupuncture RCTs.

A review on acustimulation effects on nausea and vomiting in pregnant women (**nausea-pregnancy**) included 4 acupuncture RCTs and reported no effect in reducing nausea and vomiting.[154]

In addition, a small number of reviews were identified that could not be incorporated in the bubble plots. They primarily addressed the comparative effectiveness of acupuncture in comparison to other active treatments. One review concluded, based on individual RCTs and existing meta-analyses, that acupuncture was as effective as pharmacological therapies or acupressure in addressing postoperative nausea but not vomiting.[54] A review of the effects of acupuncture on hot flushes in men with prostate cancer[117] and reviews of auriculotherapy (either acupuncture or auricular taping) for managing constipation[87, 211] concluded most studies were too methodologically flawed to reach a conclusion. A recent Chinese-language RCT (N=577 participants) not yet included in existing reviews on acupuncture for pulmonary function concluded that the effect of acupuncture is equal to salbutamol aerosol inhalation.[211] A systematic review on acupuncture for respiratory disease in Japan [197] included 2 relevant RCTs, and the evidence tables indicated that acupuncture was superior to waiting list controls for cold prevention. However, no numerical values were reported and the statistical significance is not known.

EVIDENCE MAP OF ACUPUNCTURE FOR MENTAL HEALTH

The results for mental health indications are presented in the bubble plot and text summary below. The bubble plot represents 17 systematic reviews summarizing evidence for 9 clinical indications relevant to mental health [search date: March 2013].

Confidence
High
Medium
Low

Literature size
50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0

Depression
Opiate addiction
Schizophrenia
Alcohol dependence
CFS
Anxiety
Cocaine addiction
Drug addiction
PTSD

Evidence of no effect
Unclear evidence
Evidence of a potential positive effect
Evidence of a positive effect
Effect

Legend: The bubble plot shows an estimate of the evidence base for mental health-related indications judging from systematic reviews and recent large trials. The plot depicts the estimated size of the literature (y-axis, number of RCTs included in largest review), the estimated effect (x-axis), and the confidence in the estimate (bubble size).

The figure provides a broad visual overview of the evidence base of acupuncture for mental health. The bubble plot depicts the estimated research volume based on the number of acupuncture RCTs included in the largest review for each of the 10 depicted clinical indications, the estimated treatment effect of acupuncture compared to passive control, and the confidence in the effect estimate, judging from published systematic reviews. Effect sizes based on specific individual reviews, as well as reason for classifying the evidence bases as inconclusive, are reported in the narrative synthesis. The evidence map used the clinical topics as addressed in existing reviews and individual research studies may have contributed to a number of included reviews and clinical indications. All 3 depicted dimensions (literature size, effect, and confidence) are estimates and can only provide a broad overview of the evidence base.

EXECUTIVE SUMMARY: MENTAL HEALTH

As shown in the bubble plot, acupuncture for the treatment of **depression** has been evaluated in a large number of studies; a 2010 systematic review on acupuncture therapy in depressive disorders included 35 RCTs meeting an initial quality threshold.[103] Across studies and across the most recent of the 5 identified systematic reviews positive effects were shown. However, effects depend on the comparator – a 2010 Cochrane review reported that acupuncture may have an additive benefit when combined with medication compared with medication alone but noted inconsistent effects from acupuncture compared with a waitlist control or sham acupuncture control. The review also noted a high risk of bias in the majority of included trials and concluded that evidence to recommend the use of acupuncture for people with depression is insufficient.[96] **Schizophrenia** has also been addressed in a number of studies; a 2009 systematic review included 13 RCTs.[101] A Cochrane review with literature searches up to April 2005 reported that Brief Psychiatric Rating Scale (BPRS) data favored a combined acupuncture and antipsychotic group (WMD -4.3, 95% CI: -7.0, -1.6). However data for global state outcomes, leaving the study early, and dichotomized BPRS data (improved versus not improved) were equivocal and the review concluded that there is insufficient evidence to recommend the use of acupuncture for people with schizophrenia.[164] A review on acupuncture for **anxiety** and anxiety disorders included 10 RCTs.[147] The review reported that all studies indicated positive findings; however, the review also pointed out that studies lacked many basic methodological details and concluded that there is insufficient research evidence for firm conclusions.

Regarding topics with fewer primary research studies and positive results, a review on **posttraumatic stress disorder (PTSD)** was identified that included 4 RCTs. The review found that acupuncture was superior to waitlist control (posttraumatic symptom scale-self report effect size [ES] -0.98, p=0.001) and cognitive behavioral therapy alone (Revised Impact on Event Scale ES -1.56, p<0.001) based on one RCT each.[31]

The role of acupuncture for **opiate addiction** has been addressed in a substantial number of studies; a 2009 systematic review included 21 RCTs of acupuncture therapy combined with opioid receptor agonists for heroin detoxification,[188] but the evidence base regarding the effectiveness of acupuncture is unclear. The largest review reported no effects on relapse rate after 6 months and the methodology of some included trials was poor; however, positive effects for withdrawal symptoms, side effects, and medication dosage were shown. A competing review concluded that the review results cannot be used to establish the efficacy of acupuncture in the

treatment of opiate addiction because the majority of included studies were classified as having low quality.[58] A review on auricular acupuncture for not further specified **drug addiction** and a review on acupuncture for **chronic fatigue syndrome (CFS)** showed conflicting results across included studies and did neither pool the data nor report sufficient detail for a reanalysis. The reviews included 10 or fewer studies.

Three recent reviews on **cocaine addiction**, including a Cochrane review last updated in 2006,[162] did not support the use of acupuncture for the treatment of cocaine dependence; the largest review included 9 RCTs. A single review on **alcohol dependence** was identified reviewing 11 RCTs; it did not report favorable results and concluded that the existing studies do not allow any conclusion about acupuncture treatment efficacy.

In addition, 2 reviews were identified that could not be incorporated into the bubble plot. One review concluded that acupuncture was no more effective than other treatments in treating opiate addiction.[159] A review comparing acupuncture and Western medicine for post-stroke depression[190] found mixed results depending on the selected patient outcome.

OTHER INDICATIONS

Only 2 indications that were not already included in the priority areas Pain, Wellness, or Mental Health were identified that were addressed in 3 or more systematic reviews. The unique topics are presented in the Future Research section.

A large number of individual studies and 9 recent systematic reviews have been published relating to **stroke** rehabilitation; a 2012 meta-analysis on the efficacy of acupuncture in treating dysphagia in patients with a stroke included 72 RCTs. The review reported that the effectiveness of treatment was higher in the acupuncture group compared to control (OR 5.17, CI: 4.18, 6.38).[45] However, the review was primarily based on non-PubMed indexed studies; a 2008 Cochrane review on the same topic included only one RCT and concluded that there is not enough evidence to make any conclusion about the therapeutic effect of acupuncture. A review published in 2012 which aimed to update the Cochrane review included 9 RCTs; it reported that acupuncture combined with conventional rehabilitation has positive effects on dysphagia but given the methodology of the studies more research is needed before recommending acupuncture as a standard treatment to patients.[199] A further Cochrane review, last updated in 2009, on stroke rehabilitation concluded there is no clear evidence on the effects of acupuncture on subacute or chronic stroke.[157] A third, independent Cochrane review on acupuncture for acute stroke concluded that there is no clear evidence of benefit.[168]

In addition, one systematic review on apoplectic aphasia rehabilitation was identified that did not provide sufficient data to be combined with the other stroke reviews; the review concluded that controlled clinical studies and a systematic review demonstrate that acupuncture has therapeutic effects on aphasia after stroke.[40]

A second topic, acupuncture to support **fertility** treatment, has also received substantial research attention; a systematic review on effects of acupuncture on pregnancy rates in women undergoing in vitro fertilization included 24 RCTs.[61] There were conflicting results across the 6 recent systematic reviews on the topic performed by independent researcher groups. While the largest review concluded that acupuncture improves clinical pregnancy rate and live birth rate, a 2010 publication based on a Cochrane review concluded that there is no evidence of benefit in the use of acupuncture during assisted conception.[98]

In addition, one relevant systematic review was identified that did not report on a passive control group; the review concluded that although acupuncture has gained increasing popularity in the management of subfertility, its effectiveness has remained controversial.[141]

ADVERSE EVENTS OF ACUPUNCTURE

We identified 6 systematic reviews summarizing adverse events of acupuncture. In addition, a number of effectiveness systematic reviews addressed adverse events in the title or the abstract of the publication, indicating that adverse events was one of the main research questions addressed by the review.

REVIEWS OF ADVERSE EVENTS OF ACUPUNCTURE

All 6 independent systematic reviews on adverse events of acupuncture focused on case studies. Because no denominator was reported (number of patients exposed), it is not possible to determine rates of adverse events from these data. In addition, no control group data were available; hence the results are difficult to interpret. The first adverse event review searched Medline through 2011 for literature on vascular injuries caused by acupuncture and found 31 cases, 3 of which resulted in death.[201] This was an update of a prior review, and included all the cases found in the prior review.[212] A second review focused on cardiac tamponade caused by acupuncture, and searched Embase, Medline, AMED, CENTRAL and the Chinese Journal Full-Text Database through January 2010.[204] Of the 26 cases of cardiac tamponade found in 17 articles, 14 deaths were reported. All fatal instances were deemed to have certain causality linking the deaths to acupuncture treatment. A further review searched 4 major Chinese databases through 2010 for literature on adverse events more generally and found 1,038 cases in 167 papers.[202] An acupuncture-related adverse event was defined as any unfavorable and unintended sign, symptom, or disease that presents during or after treatment with acupuncture regardless of causal relationship, and adverse events were classified in one of 4 categories: syncope (N=468), organ or tissue injury (N=451), infection (N=38), and others (N=81). Deaths were reported for 35 cases: 21 of 26 organ or tissue injury-related deaths were judged as having a "certain" likelihood of causality by 2 reviewers, and 3 of the 9 infection-related deaths were judged as certain. One review on acupuncture, moxibustion, and cupping searched 6 databases for English language case reports to 2011.[200] Of the 117 reports published since 2000, 103 reports including 294 cases were related to acupuncture. Adverse events were categorized as either complications, including infections or organ or tissue injury, or adverse reactions. Three deaths were reported with case analysis supporting the causal link between the acupuncture treatment and the fatal outcome. A review that focused on the safety of acupuncture for osteoarthritis of the knee searched PubMed and a Japanese literature database through 2006 and found 12 relevant RCTs, of which 7 included adverse event information.[205] This review found no serious adverse events. A final review of Chinese language literature on acupuncture-related adverse events searched 3 Chinese databases through 2009 and included 115 articles that identified a total of 479 cases.[203] Adverse events were categorized as traumatic, infectious and other, and although 14 deaths were reported, the category and causality were not specified for all these fatal cases. Reviews called for more standardized procedures, including adverse event reporting mechanisms, safe practice procedures, and acupuncturist's qualifications and training, and warned that although adverse events are rare occurrences, a lack of regular reporting makes establishing a frequency difficult.

Adverse Events in Reviews on Acupuncture for Pain

In the domain relating to Pain, 12 reviews addressed adverse events. One review of 10 RCTs of acupuncture for pain relief in labor found no events in the 6 trials that reported on adverse

events.[85] The other 11 reviews all found low rates of adverse event reporting, and of those reported, all events were minor symptoms such as bruising, nausea, temporary pain, dizziness or faintness, or discomfort.[30,50,62,88,94,97,121,140,143,167,182] Three reviews noted that these symptoms were comparable to control groups,[94,97,167] and one review of acupuncture for migraine prophylaxis found that acupuncture resulted in fewer adverse events than prophylactic drug treatment.[121]

Adverse Events in Reviews on Acupuncture for Wellness

Thirteen reviews in the Wellness-relevant domain focused on adverse events as well as the clinical effectiveness. Three reviews on acupuncture treatment for insomnia found low rates of reporting of adverse events, and of the few reports, all but one event were minor events such as bruising.[24,46,112] One instance of a patient dropping out of a study due to pain associated with acupuncture was reported by 2 of the reviews.[46,112] The rest of the reviews in the wellness-relevant category also found low rates of adverse event reporting, and of those events that were reported, the events were minor such as temporary pain, nausea, dizziness, discomfort, or bruising.[52,60,68,86,102,109,111,122,130,142]

Adverse Events in Reviews on Acupuncture for Mental Health

Of the Mental Health reviews, 6 focused on adverse events.[96,103,110,162,164,179] Three reviews of alcohol dependence[110], cocaine dependence[162], and drug addiction[179] found low levels of adverse event reporting (3 of 11 studies, 0 of 7 studies, and 5 of 8 RCTs, respectively), and those studies that did report adverse events mentioned mild levels of symptoms such as pain, bleeding, nausea and dizziness. Two reviews of depression mentioned adverse events. The first included 30 studies, of which one reported on adverse events, and found no statistical difference between acupuncture and the control group.[96] The second review found 21 of the 35 included studies reported on adverse events, and in a pooled analysis acupuncture (including both active and sham) had a statistically significantly lower incidence of adverse events when compared to anti-depressants (10.2% vs 40.4%; $P<0.001$).[103] The final review was of acupuncture for schizophrenia, and of the 5 trials included, 2 small trials reported on adverse events and found favorable results for acupuncture, both when used alone in comparison to antipsychotics and when used in combination with antipsychotics compared to antipsychotics alone.[164]

Adverse Events in Reviews on Acupuncture for Other Indications

Four reviews in the Other Indication category were identified. Two small reviews including 5 and 8 studies of acupuncture for stroke found no included studies reported adverse events.[41,157] A third review including 14 studies on acupuncture for acute stroke found 9 studies reported adverse events, the majority of which were minor.[168] Of 386 cases, 6 were moderate to severe, with no mentions of fatal adverse events. Finally, a review of emergency department acupuncture adverse events found that 2 of the 4 included studies reported adverse events, but that all reports were minor (eg, bruising, dizziness).[36]

FUTURE RESEARCH

We identified evidence gaps by highlighting inconclusive evidence across or within reviews or a lack of primary research according to identified reviews.

However, an overarching theme and source of heterogeneity in results appeared to be the selection of the comparator against which the treatment effects of acupuncture was compared. The bubble plots summarize data from all passive controlled RCTs to determine the effectiveness of acupuncture. Passive controls included no treatment, waiting list assignment, acupuncture as add-on treatment to a treatment plan received by both treatment groups, and placebo control such as sham acupuncture. Clinical effectiveness estimates may depend on the chosen comparator. In research studies, placebo controls are used to blind participants ensuring that treatment effect estimates are not biased. However, in acupuncture trials there are additional considerations.

Sham acupuncture may include needles inserted superficially rather than deep at non-acupoints nearby; true needling at points not thought to influence the desired outcome; acupuncture devices with needles that retract into the handle rather than penetrate the skin; the use of blunt devices to apply pressure without penetration (Streitberger placebo acupuncture); or non-needle approaches, such as deactivated electrical stimulation or detuned laser.[17,213] The type of sham acupuncture may already be a source of heterogeneity among studies assessing the effectiveness of acupuncture. Several authors have suggested that a noninvasive placebo needle at acupoints, such as that used in the Streitberger method, and sham involving needle penetration at non-acupoints may both elicit physiological effects similar to those of acupressure; thus the "sham" acupuncture would be more similar to acupressure than a true control for acupuncture.[47,214,215] Zheng et al (2012)[213] argues that surface stimulation at acupoints, such as acupressure or transcutaneous electrostimulation, should be considered as the adjunctive treatment rather than as a control. Other authors have suggested that the specific acupoints are not as relevant as traditionally assumed[216] and the recent IPD meta-analysis on chronic pain concluded that differences between true and sham acupuncture are relatively modest suggesting that factors in addition to the specific effects of needling are important contributors to the therapeutic effects of acupuncture.[47]

Future research is needed to help distinguish between the effectiveness and cost-effectiveness of acupuncture and sham acupuncture. If the explanation for the observation of little difference in effectiveness between true and sham acupuncture is that both true and sham acupuncture have positive effects, then the specific implication for the VA could be that there is no need for training in acupuncture and for VA to hire licensed acupuncturists, since the sham acupuncture could be performed by a technician with minimal training. The scientific debate is ongoing; a number of reviews highlight clear differences between sham and true acupuncture and counter arguments that sham interventions involving needle penetration result in large nonspecific effects.[119,217,218] Nonetheless, there is currently no universal standard for what constitutes an appropriate method or procedure for a sham acupuncture control, and that this may contribute to the discrepancy between observed clinical effectiveness of acupuncture and the lack of rigorous research supporting these observations.[217]

Further sources of heterogeneity appeared to be the inclusion criteria across reviews and the electronic databases searched. Reviews published in the same year did not use the same study pool and newer reviews rarely included all studies included in previous reviews, therefore simply

accumulating additional evidence. A number of authors have pointed to publication bias ("do certain countries produce only positive results?")[23] For this broad overview we could only flag the concern and highlight inconsistencies across reviews. A number of authors have summarized challenges in acupuncture research that may contribute to the apparent complexity of the research area.[219-221]

FUTURE RESEARCH: PAIN DOMAIN

In the Pain domain, we had to conclude for a number of specific clinical indications that the evidence base is currently unclear and a systematic review stratifying by comparator and outcome is needed to determine the effectiveness and size of the treatment effect. Clinical indications included acupuncture for back pain, neck pain, surgery analgesia, postoperative pain, fibromyalgia, shoulder pain, and rheumatoid arthritis.

Although we classified chronic pain as one of the conditions for which acupuncture has evidence of a positive effect and high confidence, this conclusion is limited by the lack of a consistent signal of positive effect in the individual pain categories that must make up any "chronic pain" population. Back pain alone usually accounts for 50% or more of chronic pain patients, and therefore if acupuncture has a positive effect in chronic pain patients then one would expect acupuncture to have a positive effect in chronic low back pain patients. Yet, we did not identify a definitive evidence synthesis for acupuncture and back pain. Similarly, one of the next most common conditions within a population of chronic pain patients is neck pain, and yet again the best available evidence synthesis of the effectiveness of acupuncture for neck pain is not equally positive as it is for the area chronic pain. This review of reviews suggests the need for an additional systematic review to resolve the discrepancy.

Furthermore, a Cochrane review for endometriosis did not identify any placebo or sham controlled RCTs.[65] One comparative effectiveness review noted that although exercise, spinal manipulation therapy, and acupuncture are widely used interventions in the treatment of chronic low back pain, no study comparing acupuncture head-to-head with the alternative treatments was identified.[63] A large 2013 RCT including 501 participants diagnosed with primary dysmenorrhea concluded that traditional Chinese medicine pattern might affect acupoint-specific effects on pain, however, the main results of the trial are not published yet.[222]

FUTURE RESEARCH: WELLNESS DOMAIN

In the Wellness-relevant domain, we concluded for a substantial number of specific clinical indications that the therapeutic effectiveness of acupuncture is unclear and further research is needed. Topics included acupuncture for cancer treatment adverse events, IBS, rhinitis, blood pressure, menopausal symptoms, premenstrual symptoms, gastrointestinal diseases, tinnitus, dry eye, xerostomia, exercise, quality of life, and erectile dysfunction. For some of the clinical indications the evidence base appeared to be unclear due to the lack of research studies. However, the evidence base for physical symptoms of cancer treatment associated adverse events was unclear despite a large number of research studies. Inconclusive results were potentially due to the diversity of reviewed outcomes. Future systematic reviews and/or future individual studies may determine whether acupuncture has a role in these clinical indications and for which clinical outcome.

FUTURE RESEARCH: MENTAL HEALTH DOMAIN

In the smallest research domain, Mental Health, the effect of acupuncture on CFS and its role in the treatment of addiction, in particularly opiate addiction, remained unclear. Systematic reviews should to differentiate effects on relapse rates and effects on drug withdrawal symptoms.

FUTURE RESEARCH: OTHER INDICATIONS

In the Other Indication domain there were a number of clinical indications with only one or 2 reviews published in recent years. Topics included acupuncture for chemotherapy-induced leukopenia,[196] Bell's Palsy,[64,223] brain injury,[28,70] asthma,[79,160] epilepsy,[131] breech presentation,[115,139] facial spasm,[198] angina pectoris therapy,[34] spinal cord injury,[32] Parkinson's disease,[135] induction of labor,[100] Alzheimer's disease,[107] uremic pruritus,[66] Meniere's syndrome,[106] and the use of acupuncture in emergency departments.[36]

A Cochrane review on acupuncture for vascular dementia,[150] assessed as up to date in April 2011, identified no randomized placebo-controlled trial that could inform the review question. Acupuncture for glaucoma was targeted in a 2009 Cochrane review[145] but the review did not identify any RCT meeting inclusion criteria. A Cochrane review last updated in 2010 did not identify any RCTs on acupuncture for uterine fibroids.[95] Pressure ulcers were addressed in a 2012 publication but no acupuncture study meeting inclusion criteria was identified.[56] A 2010 review on polycystic ovarian syndrome did not identify any relevant RCTs.[91]

A couple of systematic reviews on broad topics such as sham acupuncture compared to true acupuncture exist but could not be considered in this review of reviews due to insufficient reporting and the lack of a sufficient number of relevant systematic reviews.[114,128,137]

Finally, the reviewed topics acupuncture for stroke rehabilitation and the role of acupuncture in supporting fertility treatment both had to be classified as unclear despite the large number of existing primary studies and systematic reviews.

ONGOING RESEARCH

This broad overview over the evidence on acupuncture concentrated on the clinical effectiveness of acupuncture. This did not consider systematic reviews on the more refined existing open questions such as the optimal acupuncture pattern and pressure points,[224] the comparative effectiveness of existing acupuncture protocols,[225] effects of the practitioner,[226] cost-effectiveness considerations,[227] or the optimal intervention time for acupuncture.[228] Furthermore, the use of standardized treatments may not be the optimal treatment for individual patients. Traditional acupuncture involves tailoring treatments to the individual person and innovative methods may be necessary to evaluate acupuncture within the framework of evidence-based medicine.[229]

Individual future research studies on the clinical effectiveness of acupuncture should comply with the revised STandards for Reporting Interventions in Clinical Trials of Acupuncture (STRICTA).[230]

We identified Cochrane review protocols for acupuncture published in the last 3 years for treating plantar heel pain,[231] renal colic,[232] primary hypercholesterolaemia,[233] hearing loss,[234] breech baby in pregnancy,[235] gastroparesis,[236] chronic constipation,[237] urinary incontinence,[238] neuropathic pain,[239] post-stroke upper limb pain,[240] allergic rhinitis,[241] ankle sprains,[242] angina pectoris,[243] chronic kidney disease,[244] back pain,[245] hypertension,[246] obesity,[247] dyspepsia,[248] and multiple sclerosis[249] indicating ongoing reviews. A search of the international registry of systematic reviews PROSPERO in September 2013 identified 9 ongoing systematic reviews on acupuncture and postoperative gastroparesis syndrome, osteoarthritis, chronic pulmonary obstruction disease, headache, neck pain, phantom limb pain, heel pain, cortisol levels, and pregnancy rates; 2 ongoing reviews of reviews on stroke rehabilitation and surgical conditions; and 2 reviews on semen quality and on diabetic peripheral neuropathy were listed as completed but not published in time for this evidence map [web access 9/23/2013].

SUMMARY AND LIMITATIONS

This broad overview of the evidence base on acupuncture included 183 systematic reviews published since 2005. The most secondary literature and primary research is available for the clinical indication Pain. The most promising evidence for the effectiveness of acupuncture was also identified for this outcome. However, it should be noted that we did not review the evidence base with standard evidence synthesis methods (ie, a systematic review). This broad evidence map only estimated the research volume and effectiveness of acupuncture judging from published reviews. We had no control over the scope, inclusion criteria, or methodological rigor of the reviews. Across reviews there is overlap as individual primary studies have contributed to multiple reviews (most prominently in the systematic reviews on pain) and reviews differed widely (in selected areas reviews on the same topic included between one versus 72 studies). Furthermore, the choice of comparator is the subject of an ongoing scientific debate and adds to the complexity of the evidence base on acupuncture.

Evidence maps are only meant as a broad overview over the evidence base indicating in which areas research has been conducted. This report was not designed to inform policies regarding the use of acupuncture or precluding acupuncture for specific conditions within the VA. More detailed and definitive answers, as well as information on differences in effects based on the type of acupuncture intervention, the type of comparator, competing outcomes, or the study design, can only be obtained by carrying out individual systematic reviews for each of the numerous clinical indications. Full systematic reviews would involve targeted electronic searches, inclusion screening titles and abstracts and full text publications to identify primary research studies, numerous steps to minimize reviewer errors and bias such as screening in duplicate, extracting the outcomes of interest from each available primary study for an independent meta-analysis, differentiating comparators and intervention modalities and other potential moderators in subgroup and meta-regressions, quality assessing the included studies, synthesizing the available studies, and evaluating the overall body of evidence in detail. Finally, assessments to evaluate the value of acupuncture need to take into account multiple factors such as the clinical efficacy, risks and benefits compared to standard treatment, costs and cost-effectiveness, as well as patient satisfaction and patient preferences for a particular clinical diagnosis.

REFERENCES

1. Derry CJ, Derry S, McQuay HJ, Moore RA. Systematic review of systematic reviews of acupuncture published 1996-2005. *Clin Med.* Jul-Aug 2006;6(4):381-386.
2. Ernst E. Systematic review of systematic reviews of acupuncture. *Clin Med.* Sep-Oct 2006;6(5):508-509.
3. World Health Organization. *Acupuncture: Review and Analysis of Reports on Controlled Clinical Trials.* Geneva: World Health Organization;2003.
4. Ernst E, Lee MS, Choi TY. Acupuncture: does it alleviate pain and are there serious risks? A review of reviews. *Pain.* Apr 2011;152(4):755-764.
5. Ernst E. Acupuncture: what does the most reliable evidence tell us? *J Pain Symptom Manage.* Apr 2009;37(4):709-714.
6. Ernst E, Pittler MH, Wider B, Boddy K. Acupuncture: its evidence-base is changing. *Am J Chin Med.* 2007;35(1):21-25.
7. Lee C, Crawford C, Wallerstedt D, et al. The effectiveness of acupuncture research across components of the trauma spectrum response (tsr): a systematic review of reviews. *Syst Rev.* 2012;1:46.
8. Lewith G, Berman B, Cummings M, Filshie J, Fisher P, White A. Systematic review of systematic reviews of acupuncture published 1996-2005. *Clin Med.* Nov-Dec 2006;6(6):623-625; author reply 625-626.
9. Ernst E, Lee MS, Choi TY. Acupuncture in obstetrics and gynecology: an overview of systematic reviews. *Am J Chin Med.* 2011;39(3):423-431.
10. Ernst E, Lee MS, Choi TY. Acupuncture for insomnia? An overview of systematic reviews. *Eur J Gen Pract.* Jun 2011;17(2):116-123.
11. Kang HS, Jeong D, Kim DI, Lee MS. The use of acupuncture for managing gynaecologic conditions: An overview of systematic reviews. *Maturitas.* Apr 2011;68(4):346-354.
12. Lee MS, Ernst E. Acupuncture for pain: an overview of Cochrane reviews. *Chin J Integr Med.* Mar 2011;17(3):187-189.
13. Ernst E, Lee MS, Choi TY. Acupuncture for depression?: A systematic review of systematic reviews. *Eval Health Prof.* Dec 2011;34(4):403-412.
14. Ernst E, Lee MS. Acupuncture for rheumatic conditions: an overview of systematic reviews. *Rheumatology (Oxford).* Oct 2010;49(10):1957-1961.
15. Smith CA, Carmady B. Acupuncture to treat common reproductive health complaints: An overview of the evidence. *Auton Neurosci.* Oct 28 2010;157(1-2):52-56.
16. Sherman KJ, Coeytaux RR. Acupuncture for Improving Chronic Back Pain, Osteoarthritis and Headache. *J Clin Outcomes Manag.* May 1 2009;16(5):224-230.

17. Hopton A, MacPherson H. Acupuncture for chronic pain: is acupuncture more than an effective placebo? A systematic review of pooled data from meta-analyses. *Pain Pract.* Mar-Apr 2010;10(2):94-102.

18. Smith CA, Cochrane S. Does acupuncture have a place as an adjunct treatment during pregnancy? A review of randomized controlled trials and systematic reviews. *Birth.* Sep 2009;36(3):246-253.

19. Ezzo J, Streitberger K, Schneider A. Cochrane systematic reviews examine P6 acupuncture-point stimulation for nausea and vomiting. *J Altern Complement Med.* Jun 2006;12(5):489-495.

20. Zhao XF, Du Y, Liu PG, Wang S. Acupuncture for stroke: evidence of effectiveness, safety, and cost from systematic reviews. *Top Stroke Rehabil.* May-Jun 2012;19(3):226-233.

21. Adams E. *Brief Overview: A Summary of the Evidence for Use of Acupuncture From Systematic Reviews and Meta-Analyses.* Boston: Veterans Health Administration;2007.

22. Ma B, Qi GQ, Lin XT, Wang T, Chen ZM, Yang KH. Epidemiology, quality, and reporting characteristics of systematic reviews of acupuncture interventions published in Chinese journals. *J Altern Complement Med.* Sep 2012;18(9):813-817.

23. Vickers A, Goyal N, Harland R, Rees R. Do certain countries produce only positive results? A systematic review of controlled trials. *Control Clin Trials.* Apr 1998;19(2):159-166.

24. Cao H, Pan X, Li H, Liu J. Acupuncture for treatment of insomnia: a systematic review of randomized controlled trials. *J Altern Complement Med.* Nov 2009;15(11):1171-1186.

25. Chen HY, Shi Y, Ng CS, Chan SM, Yung KK, Zhang QL. Auricular acupuncture treatment for insomnia: a systematic review. *J Altern Complement Med.* Jul-Aug 2007;13(6):669-676.

26. Huang W, Kutner N, Bliwise DL. A systematic review of the effects of acupuncture in treating insomnia. *Sleep Med Rev.* Feb 2009;13(1):73-104.

27. Lee MS, Shin BC, Suen LK, Park TY, Ernst E. Auricular acupuncture for insomnia: a systematic review. *Int J Clin Pract.* Nov 2008;62(11):1744-1752.

28. Wong V, Cheuk DK, Lee S, Chu V. Acupuncture for acute management and rehabilitation of traumatic brain injury. *Cochrane Database Syst Rev.* 2013;3:CD007700.

29. Chen MN, Chien LW, Liu CF. Acupuncture or Acupressure at the Sanyinjiao (SP6) Acupoint for the Treatment of Primary Dysmenorrhea: A Meta-Analysis. *Evid Based Complement Alternat Med.* 2013;2013:493038.

30. Park J, Hahn S, Park JY, Park HJ, Lee H. Acupuncture for ankle sprain: systematic review and meta-analysis. *BMC Complement Altern Med.* 2013;13:55.

31. Kim YD, Heo I, Shin BC, Crawford C, Kang HW, Lim JH. Acupuncture for posttraumatic stress disorder: a systematic review of randomized controlled trials and prospective clinical trials. *Evid Based Complement Alternat Med.* 2013;2013:615857.

32. Heo I, Shin BC, Kim YD, Hwang EH, Han CW, Heo KH. Acupuncture for spinal cord injury and its complications: a systematic review and meta-analysis of randomized controlled trials. *Evid Based Complement Alternat Med.* 2013;2013:364216.

33. Posadzki P, Moon TW, Choi TY, Park TY, Lee MS, Ernst E. Acupuncture for cancer-related fatigue: a systematic review of randomized clinical trials. *Support Care Cancer.* Feb 24 2013.

34. Chen J, Ren Y, Tang Y, Li Z, Liang F. Acupuncture therapy for angina pectoris: a systematic review. *J Tradit Chin Med.* Dec 2012;32(4):494-501.

35. Lee WB, Woo SH, Min BI, Cho SH. Acupuncture for gouty arthritis: a concise report of a systematic and meta-analysis approach. *Rheumatology (Oxford).* Feb 18 2013.

36. Kim KH, Lee BR, Ryu JH, Choi TY, Yang GY. The role of acupuncture in emergency department settings: a systematic review. *Complement Ther Med.* Feb 2013;21(1):65-72.

37. Kong LJ, Fang M, Zhan HS, et al. Tuina-focused integrative chinese medical therapies for inpatients with low back pain: a systematic review and meta-analysis. *Evid Based Complement Alternat Med.* 2012;2012:578305.

38. Garcia MK, McQuade J, Haddad R, et al. Systematic review of acupuncture in cancer care: a synthesis of the evidence. *J Clin Oncol.* Mar 1 2013;31(7):952-960.

39. Xu M, Yan S, Yin X, et al. Acupuncture for chronic low back pain in long-term follow-up: a meta-analysis of 13 randomized controlled trials. *Am J Chin Med.* 2013;41(1):1-19.

40. Sun Y, Xue SA, Zuo Z. Acupuncture therapy on apoplectic aphasia rehabilitation. *J Tradit Chin Med.* Sep 2012;32(3):314-321.

41. Wang Y, Shen J, Wang XM, et al. Scalp acupuncture for acute ischemic stroke: a meta-analysis of randomized controlled trials. *Evid Based Complement Alternat Med.* 2012;2012:480950.

42. Choi TY, Lee MS, Ernst E. Acupuncture for cancer patients suffering from hiccups: a systematic review and meta-analysis. *Complement Ther Med.* Dec 2012;20(6):447-455.

43. Hutchinson AJ, Ball S, Andrews JC, Jones GG. The effectiveness of acupuncture in treating chronic non-specific low back pain: a systematic review of the literature. *J Orthop Surg Res.* 2012;7:36.

44. Clark RJ, Tighe M. The effectiveness of acupuncture for plantar heel pain: a systematic review. *Acupunct Med.* Dec 2012;30(4):298-306.

45. Long YB, Wu XP. A meta-analysis of the efficacy of acupuncture in treating dysphagia in patients with a stroke. *Acupunct Med.* Dec 2012;30(4):291-297.

46. Cheuk DK, Yeung WF, Chung KF, Wong V. Acupuncture for insomnia. *Cochrane Database Syst Rev.* 2012;9:CD005472.

47. Vickers AJ, Cronin AM, Maschino AC, et al. Acupuncture for chronic pain: individual patient data meta-analysis. *Arch Intern Med.* Oct 22 2012;172(19):1444-1453.

48. Lee JA, Park SW, Hwang PW, et al. Acupuncture for shoulder pain after stroke: a systematic review. *J Altern Complement Med.* Sep 2012;18(9):818-823.

49. Zhang F, Kong LL, Zhang YY, Li SC. Evaluation of impact on health-related quality of life and cost effectiveness of traditional chinese medicine: a systematic review of randomized clinical trials. *J Altern Complement Med.* Dec 2012;18(12):1108-1120.

50. Chung YC, Chen HH, Yeh ML. Acupoint stimulation intervention for people with primary dysmenorrhea: Systematic review and meta-analysis of randomized trials. *Complement Ther Med.* Oct 2012;20(5):353-363.

51. Kim JI, Choi JY, Lee DH, Choi TY, Lee MS, Ernst E. Acupuncture for the treatment of tinnitus: a systematic review of randomized clinical trials. *BMC Complement Altern Med.* 2012;12:97.

52. Zhuang L, Yang Z, Zeng X, et al. The Preventive and Therapeutic Effect of Acupuncture for Radiation-Induced Xerostomia in Patients With Head and Neck Cancer: A Systematic Review. *Integr Cancer Ther.* Jul 16 2012.

53. Cheng HM, Chung YC, Chen HH, Chang YH, Yeh ML. Systematic review and meta-analysis of the effects of acupoint stimulation on smoking cessation. *Am J Chin Med.* 2012;40(3):429-442.

54. Holmer Pettersson P, Wengstrom Y. Acupuncture prior to surgery to minimise postoperative nausea and vomiting: a systematic review. *J Clin Nurs.* Jul 2012;21(13-14):1799-1805.

55. Qu F, Zhou J, Ren RX. Effects of acupuncture on the outcomes of in vitro fertilization: a systematic review and meta-analysis. *J Altern Complement Med.* May 2012;18(5):429-439.

56. Zhang QH, Sun ZR, Yue JH, et al. Traditional Chinese medicine for pressure ulcer: a meta-analysis. *Int Wound J.* Apr 2013;10(2):221-231.

57. Manheimer E, Wieland LS, Cheng K, et al. Acupuncture for irritable bowel syndrome: systematic review and meta-analysis. *Am J Gastroenterol.* Jun 2012;107(6):835-847; quiz 848.

58. Lin JG, Chan YY, Chen YH. Acupuncture for the treatment of opiate addiction. *Evid Based Complement Alternat Med.* 2012;2012:739045.

59. Choi TY, Lee MS, Kim TH, Zaslawski C, Ernst E. Acupuncture for the treatment of cancer pain: a systematic review of randomised clinical trials. *Support Care Cancer.* Jun 2012;20(6):1147-1158.

60. Sui Y, Zhao HL, Wong VC, et al. A systematic review on use of Chinese medicine and acupuncture for treatment of obesity. *Obes Rev.* May 2012;13(5):409-430.

61. Zheng CH, Huang GY, Zhang MM, Wang W. Effects of acupuncture on pregnancy rates in women undergoing in vitro fertilization: a systematic review and meta-analysis. *Fertil Steril.* Mar 2012;97(3):599-611.

62. Furlan AD, Yazdi F, Tsertsvadze A, et al. A systematic review and meta-analysis of efficacy, cost-effectiveness, and safety of selected complementary and alternative medicine for neck and low-back pain. *Evid Based Complement Alternat Med.* 2012;2012:953139.

63. Standaert CJ, Friedly J, Erwin MW, et al. Comparative effectiveness of exercise, acupuncture, and spinal manipulation for low back pain. *Spine (Phila Pa 1976).* Oct 1 2011;36(21 Suppl):S120-130.

64. Kim JI, Lee MS, Choi TY, Lee H, Kwon HJ. Acupuncture for Bell's palsy: a systematic review and meta-analysis. *Chin J Integr Med.* Jan 2012;18(1):48-55.

65. Zhu X, Hamilton KD, McNicol ED. Acupuncture for pain in endometriosis. *Cochrane Database Syst Rev.* 2011(9):CD007864.

66. Kim KH, Lee MS, Choi SM. Acupuncture for treating uremic pruritus in patients with end-stage renal disease: a systematic review. *J Pain Symptom Manage.* Jul 2010;40(1):117-125.

67. Smith CA, Collins CT, Crowther CA, Levett KM. Acupuncture or acupressure for pain management in labour. *Cochrane Database Syst Rev.* 2011(7):CD009232.

68. Kim SY, Park HJ, Lee H. Acupuncture for premenstrual syndrome: a systematic review and meta-analysis of randomised controlled trials. *BJOG.* Jul 2011;118(8):899-915.

69. Zhao L, Guo Y, Wang W, Yan LJ. Systematic review on randomized controlled clinical trials of acupuncture therapy for neurovascular headache. *Chin J Integr Med.* Aug 2011;17(8):580-586.

70. Zheng GQ, Zhao ZM, Wang Y, et al. Meta-analysis of scalp acupuncture for acute hypertensive intracerebral hemorrhage. *J Altern Complement Med.* Apr 2011;17(4):293-299.

71. Posadzki P, Zhang J, Lee MS, Ernst E. Acupuncture for chronic nonbacterial prostatitis/chronic pelvic pain syndrome: a systematic review. *J Androl.* Jan-Feb 2012;33(1):15-21.

72. Smith CA, Zhu X, He L, Song J. Acupuncture for primary dysmenorrhoea. *Cochrane Database Syst Rev.* 2011(1):CD007854.

73. Paley CA, Johnson MI, Tashani OA, Bagnall AM. Acupuncture for cancer pain in adults. *Cochrane Database Syst Rev.* 2011(1):CD007753.

74. White AR, Rampes H, Liu JP, Stead LF, Campbell J. Acupuncture and related interventions for smoking cessation. *Cochrane Database Syst Rev.* 2011(1):CD000009.

75. Sim H, Shin BC, Lee MS, Jung A, Lee H, Ernst E. Acupuncture for carpal tunnel syndrome: a systematic review of randomized controlled trials. *J Pain.* Mar 2011;12(3):307-314.

76. O'Sullivan EM, Higginson IJ. Clinical effectiveness and safety of acupuncture in the treatment of irradiation-induced xerostomia in patients with head and neck cancer: a systematic review. *Acupunct Med.* Dec 2010;28(4):191-199.

77. Lu SC, Zheng Z, Xue CC. Does acupuncture improve quality of life for patients with pain associated with the spine? A systematic review. *Evid Based Complement Alternat Med.* 2011;2011:301767.

78. Asher GN, Jonas DE, Coeytaux RR, et al. Auriculotherapy for pain management: a systematic review and meta-analysis of randomized controlled trials. *J Altern Complement Med.* Oct 2010;16(10):1097-1108.

79. Shen FY, Lee MS, Jung SK. Effectiveness of pharmacopuncture for asthma: a systematic review and meta-analysis. *Evid Based Complement Alternat Med.* 2011;2011.

80. Kong JC, Lee MS, Shin BC, Song YS, Ernst E. Acupuncture for functional recovery after stroke: a systematic review of sham-controlled randomized clinical trials. *CMAJ.* Nov 9 2010;182(16):1723-1729.

81. Chen N, Zhou M, He L, Zhou D, Li N. Acupuncture for Bell's palsy. *Cochrane Database Syst Rev.* 2010(8):CD002914.

82. Kim MK, Choi TY, Lee MS, Lee H, Han CH. Contralateral acupuncture versus ipsilateral acupuncture in the rehabilitation of post-stroke hemiplegic patients: a systematic review. *BMC Complement Altern Med.* 2010;10:41.

83. La Touche R, Goddard G, De-la-Hoz JL, et al. Acupuncture in the treatment of pain in temporomandibular disorders: a systematic review and meta-analysis of randomized controlled trials. *Clin J Pain.* Jul-Aug 2010;26(6):541-550.

84. Trigkilidas D. Acupuncture therapy for chronic lower back pain: a systematic review. *Ann R Coll Surg Engl.* Oct 2010;92(7):595-598.

85. Cho SH, Lee H, Ernst E. Acupuncture for pain relief in labour: a systematic review and meta-analysis. *BJOG.* Jul 2010;117(8):907-920.

86. Cho SH, Kim J. Efficacy of acupuncture in management of premenstrual syndrome: a systematic review. *Complement Ther Med.* Apr 2010;18(2):104-111.

87. Li MK, Lee TF, Suen KP. A review on the complementary effects of auriculotherapy in managing constipation. *J Altern Complement Med.* Apr 2010;16(4):435-447.

88. Cao H, Liu J, Lewith GT. Traditional Chinese Medicine for treatment of fibromyalgia: a systematic review of randomized controlled trials. *J Altern Complement Med.* Apr 2010;16(4):397-409.

89. Cho SH, Whang WW. Acupuncture for temporomandibular disorders: a systematic review. *J Orofac Pain.* Spring 2010;24(2):152-162.

90. Lee MS, Shin BC, Choi TY, Ernst E. Acupuncture for treating dry eye: a systematic review. *Acta Ophthalmol.* Mar 2011;89(2):101-106.

91. Lim CE, Wong WS. Current evidence of acupuncture on polycystic ovarian syndrome. *Gynecol Endocrinol.* Jun 2010;26(6):473-478.

92. Cho SH, Hwang EW. Acupuncture for primary dysmenorrhoea: a systematic review. *BJOG.* Apr 2010;117(5):509-521.

93. Wu P, Mills E, Moher D, Seely D. Acupuncture in poststroke rehabilitation: a systematic review and meta-analysis of randomized trials. *Stroke.* Apr 2010;41(4):e171-179.

94. Langhorst J, Klose P, Musial F, Irnich D, Hauser W. Efficacy of acupuncture in fibromyalgia syndrome--a systematic review with a meta-analysis of controlled clinical trials. *Rheumatology (Oxford).* Apr 2010;49(4):778-788.

95. Zhang Y, Peng W, Clarke J, Liu Z. Acupuncture for uterine fibroids. *Cochrane Database Syst Rev.* 2010(1):CD007221.

96. Smith CA, Hay PP, Macpherson H. Acupuncture for depression. *Cochrane Database Syst Rev.* 2010(1):CD004046.

97. Manheimer E, Cheng K, Linde K, et al. Acupuncture for peripheral joint osteoarthritis. *Cochrane Database Syst Rev.* 2010(1):CD001977.

98. Cheong Y, Nardo LG, Rutherford T, Ledger W. Acupuncture and herbal medicine in in vitro fertilisation: a review of the evidence for clinical practice. *Hum Fertil (Camb).* Mar 2010;13(1):3-12.

99. Lin LW, Fu YT, Dunning T, et al. Efficacy of traditional Chinese medicine for the management of constipation: a systematic review. *J Altern Complement Med.* Dec 2009;15(12):1335-1346.

100. Lim CE, Wilkinson JM, Wong WS, Cheng NC. Effect of acupuncture on induction of labor. *J Altern Complement Med.* Nov 2009;15(11):1209-1214.

101. Lee MS, Shin BC, Ronan P, Ernst E. Acupuncture for schizophrenia: a systematic review and meta-analysis. *Int J Clin Pract.* Nov 2009;63(11):1622-1633.

102. Chao LF, Zhang AL, Liu HE, Cheng MH, Lam HB, Lo SK. The efficacy of acupoint stimulation for the management of therapy-related adverse events in patients with breast cancer: a systematic review. *Breast Cancer Res Treat.* Nov 2009;118(2):255-267.

103. Zhang ZJ, Chen HY, Yip KC, Ng R, Wong VT. The effectiveness and safety of acupuncture therapy in depressive disorders: systematic review and meta-analysis. *J Affect Disord.* Jul 2010;124(1-2):9-21.

104. Martin-Sanchez E, Torralba E, Diaz-Dominguez E, Barriga A, Martin JL. Efficacy of acupuncture for the treatment of fibromyalgia: systematic review and meta-analysis of randomized trials. *Open Rheumatol J.* 2009;3:25-29.

105. Junhua Z, Menniti-Ippolito F, Xiumei G, et al. Complex traditional Chinese medicine for poststroke motor dysfunction: a systematic review. *Stroke.* Aug 2009;40(8):2797-2804.

106. Long AF, Xing M, Morgan K, Brettle A. Exploring the Evidence Base for Acupuncture in the Treatment of Meniere's Syndrome-A Systematic Review. *Evid Based Complement Alternat Med.* 2011;2011:429102.

107. Lee MS, Shin BC, Ernst E. Acupuncture for Alzheimer's disease: a systematic review. *Int J Clin Pract.* Jun 2009;63(6):874-879.

108. Lee MS, Pittler MH, Shin BC, Kim JI, Ernst E. Acupuncture for allergic rhinitis: a systematic review. *Ann Allergy Asthma Immunol.* Apr 2009;102(4):269-279; quiz 279-281, 307.

109. Cho SH, Whang WW. Acupuncture for vasomotor menopausal symptoms: a systematic review. *Menopause.* Sep-Oct 2009;16(5):1065-1073.

110. Cho SH, Whang WW. Acupuncture for alcohol dependence: a systematic review. *Alcohol Clin Exp Res.* Aug 2009;33(8):1305-1313.

111. Lee A, Fan LT. Stimulation of the wrist acupuncture point P6 for preventing postoperative nausea and vomiting. *Cochrane Database Syst Rev.* 2009(2):CD003281.

112. Yeung WF, Chung KF, Leung YK, Zhang SP, Law AC. Traditional needle acupuncture treatment for insomnia: a systematic review of randomized controlled trials. *Sleep Med.* Aug 2009;10(7):694-704.

113. El-Toukhy T, Khalaf Y. The impact of acupuncture on assisted reproductive technology outcome. *Curr Opin Obstet Gynecol.* Jun 2009;21(3):240-246.

114. Moffet HH. Sham acupuncture may be as efficacious as true acupuncture: a systematic review of clinical trials. *J Altern Complement Med.* Mar 2009;15(3):213-216.

115. Li X, Hu J, Wang X, Zhang H, Liu J. Moxibustion and other acupuncture point stimulation methods to treat breech presentation: a systematic review of clinical trials. *Chin Med.* 2009;4:4.

116. Lee MS, Shin BC, Ernst E. Acupuncture for treating erectile dysfunction: a systematic review. *BJU Int.* Aug 2009;104(3):366-370.

117. Lee MS, Kim KH, Shin BC, Choi SM, Ernst E. Acupuncture for treating hot flushes in men with prostate cancer: a systematic review. *Support Care Cancer.* Jul 2009;17(7):763-770.

118. Fu LM, Li JT, Wu WS. Randomized controlled trials of acupuncture for neck pain: systematic review and meta-analysis. *J Altern Complement Med.* Feb 2009;15(2):133-145.

119. Madsen MV, Gotzsche PC, Hrobjartsson A. Acupuncture treatment for pain: systematic review of randomised clinical trials with acupuncture, placebo acupuncture, and no acupuncture groups. *BMJ.* 2009;338:a3115.

120. Linde K, Allais G, Brinkhaus B, Manheimer E, Vickers A, White AR. Acupuncture for tension-type headache. *Cochrane Database Syst Rev.* 2009(1):CD007587.

121. Linde K, Allais G, Brinkhaus B, Manheimer E, Vickers A, White AR. Acupuncture for migraine prophylaxis. *Cochrane Database Syst Rev.* 2009(1):CD001218.

122. Cho SH, Lee JS, Thabane L, Lee J. Acupuncture for obesity: a systematic review and meta-analysis. *Int J Obes (Lond).* Feb 2009;33(2):183-196.

123. Usichenko TI, Lehmann C, Ernst E. Auricular acupuncture for postoperative pain control: a systematic review of randomised clinical trials. *Anaesthesia.* Dec 2008;63(12):1343-1348.

124. Sun Y, Gan TJ. Acupuncture for the management of chronic headache: a systematic review. *Anesth Analg.* Dec 2008;107(6):2038-2047.

125. Lee H, Kim SY, Park J, Kim YJ, Park HJ. Acupuncture for lowering blood pressure: systematic review and meta-analysis. *Am J Hypertens.* Jan 2009;22(1):122-128.

126. Lee MS, Kim KH, Choi SM, Ernst E. Acupuncture for treating hot flashes in breast cancer patients: a systematic review. *Breast Cancer Res Treat.* Jun 2009;115(3):497-503.

127. Yuan J, Purepong N, Kerr DP, Park J, Bradbury I, McDonough S. Effectiveness of acupuncture for low back pain: a systematic review. *Spine (Phila Pa 1976).* Nov 1 2008;33(23):E887-900.

128. Kong JC, Lee MS, Shin BC. Randomized clinical trials on acupuncture in korean literature: a systematic review. *Evid Based Complement Alternat Med.* Mar 2009;6(1):41-48.

129. Yang H, Liu CZ, Chen X, et al. Systematic review of clinical trials of acupuncture-related therapies for primary dysmenorrhea. *Acta Obstet Gynecol Scand.* 2008;87(11):1114-1122.

130. Cui Y, Wang Y, Liu Z. Acupuncture for restless legs syndrome. *Cochrane Database Syst Rev.* 2008(4):CD006457.

131. Cheuk DK, Wong V. Acupuncture for epilepsy. *Cochrane Database Syst Rev.* 2008(4):CD005062.

132. Wang C, de Pablo P, Chen X, Schmid C, McAlindon T. Acupuncture for pain relief in patients with rheumatoid arthritis: a systematic review. *Arthritis Rheum.* Sep 15 2008;59(9):1249-1256.

133. Lee MS, Shin BC, Ernst E. Acupuncture for rheumatoid arthritis: a systematic review. *Rheumatology (Oxford).* Dec 2008;47(12):1747-1753.

134. Xie Y, Wang L, He J, Wu T. Acupuncture for dysphagia in acute stroke. *Cochrane Database Syst Rev.* 2008(3):CD006076.

135. Lee MS, Shin BC, Kong JC, Ernst E. Effectiveness of acupuncture for Parkinson's disease: a systematic review. *Mov Disord.* Aug 15 2008;23(11):1505-1515.

136. Wang H, Qi H, Wang BS, et al. Is acupuncture beneficial in depression: a meta-analysis of 8 randomized controlled trials? *J Affect Disord.* Dec 2008;111(2-3):125-134.

137. Moffet HH. Traditional acupuncture theories yield null outcomes: a systematic review of clinical trials. *J Clin Epidemiol.* Aug 2008;61(8):741-747.

138. Sun Y, Gan TJ, Dubose JW, Habib AS. Acupuncture and related techniques for postoperative pain: a systematic review of randomized controlled trials. *Br J Anaesth.* Aug 2008;101(2):151-160.

139. van den Berg I, Bosch JL, Jacobs B, Bouman I, Duvekot JJ, Hunink MG. Effectiveness of acupuncture-type interventions versus expectant management to correct breech presentation: a systematic review. *Complement Ther Med.* Apr 2008;16(2):92-100.

140. Davis MA, Kononowech RW, Rolin SA, Spierings EL. Acupuncture for tension-type headache: a meta-analysis of randomized, controlled trials. *J Pain.* Aug 2008;9(8):667-677.

141. Ng EH, So WS, Gao J, Wong YY, Ho PC. The role of acupuncture in the management of subfertility. *Fertil Steril.* Jul 2008;90(1):1-13.

142. Roberts J, Huissoon A, Dretzke J, Wang D, Hyde C. A systematic review of the clinical effectiveness of acupuncture for allergic rhinitis. *BMC Complement Altern Med.* 2008;8:13.

143. Ee CC, Manheimer E, Pirotta MV, White AR. Acupuncture for pelvic and back pain in pregnancy: a systematic review. *Am J Obstet Gynecol.* Mar 2008;198(3):254-259.

144. Manheimer E, Zhang G, Udoff L, et al. Effects of acupuncture on rates of pregnancy and live birth among women undergoing in vitro fertilisation: systematic review and meta-analysis. *BMJ.* Mar 8 2008;336(7643):545-549.

145. Law SK, Li T. Acupuncture for glaucoma. *Cochrane Database Syst Rev.* 2007(4):CD006030.

146. Schneider A, Streitberger K, Joos S. Acupuncture treatment in gastrointestinal diseases: a systematic review. *World J Gastroenterol.* Jul 7 2007;13(25):3417-3424.

147. Pilkington K, Kirkwood G, Rampes H, Cummings M, Richardson J. Acupuncture for anxiety and anxiety disorders--a systematic literature review. *Acupunct Med.* Jun 2007;25(1-2):1-10.

148. Kalavapalli R, Singareddy R. Role of acupuncture in the treatment of insomnia: a comprehensive review. *Complement Ther Clin Pract.* Aug 2007;13(3):184-193.

149. Anderson BJ, Haimovici F, Ginsburg ES, Schust DJ, Wayne PM. In vitro fertilization and acupuncture: clinical efficacy and mechanistic basis. *Altern Ther Health Med.* May-Jun 2007;13(3):38-48.

150. Peng WN, Zhao H, Liu ZS, Wang S. Acupuncture for vascular dementia. *Cochrane Database Syst Rev.* 2007(2):CD004987.

151. Trinh K, Graham N, Gross A, et al. Acupuncture for neck disorders. *Spine (Phila Pa 1976).* Jan 15 2007;32(2):236-243.

152. White A, Foster NE, Cummings M, Barlas P. Acupuncture treatment for chronic knee pain: a systematic review. *Rheumatology (Oxford).* Mar 2007;46(3):384-390.

153. Mayhew E, Ernst E. Acupuncture for fibromyalgia--a systematic review of randomized clinical trials. *Rheumatology (Oxford).* May 2007;46(5):801-804.

154. Helmreich RJ, Shiao SY, Dune LS. Meta-analysis of acustimulation effects on nausea and vomiting in pregnant women. *Explore (NY).* Sep-Oct 2006;2(5):412-421.

155. Kwon YD, Pittler MH, Ernst E. Acupuncture for peripheral joint osteoarthritis: a systematic review and meta-analysis. *Rheumatology (Oxford).* Nov 2006;45(11):1331-1337.

156. Leo RJ, Ligot JS, Jr. A systematic review of randomized controlled trials of acupuncture in the treatment of depression. *J Affect Disord.* Jan 2007;97(1-3):13-22.

157. Wu HM, Tang JL, Lin XP, et al. Acupuncture for stroke rehabilitation. *Cochrane Database Syst Rev.* 2006(3):CD004131.

158. Shiao SY, Dune LS. Metaanalyses of acustimulations: effects on nausea and vomiting in postoperative adult patients. *Explore (NY).* May 2006;2(3):202-215.

159. Jordan JB. Acupuncture treatment for opiate addiction: a systematic review. *J Subst Abuse Treat.* Jun 2006;30(4):309-314.

160. Passalacqua G, Bousquet PJ, Carlsen KH, et al. ARIA update: I--Systematic review of complementary and alternative medicine for rhinitis and asthma. *J Allergy Clin Immunol.* May 2006;117(5):1054-1062.

161. Ezzo JM, Richardson MA, Vickers A, et al. Acupuncture-point stimulation for chemotherapy-induced nausea or vomiting. *Cochrane Database Syst Rev.* 2006(2):CD002285.

162. Gates S, Smith LA, Foxcroft DR. Auricular acupuncture for cocaine dependence. *Cochrane Database Syst Rev.* 2006(1):CD005192.

163. Kim YH, Schiff E, Waalen J, Hovell M. Efficacy of acupuncture for treating cocaine addiction: a review paper. *J Addict Dis.* 2005;24(4):115-132.

164. Rathbone J, Xia J. Acupuncture for schizophrenia. *Cochrane Database Syst Rev.* 2005(4):CD005475.

165. Casimiro L, Barnsley L, Brosseau L, et al. Acupuncture and electroacupuncture for the treatment of rheumatoid arthritis. *Cochrane Database Syst Rev.* 2005(4):CD003788.

166. Mukaino Y, Park J, White A, Ernst E. The effectiveness of acupuncture for depression--a systematic review of randomised controlled trials. *Acupunct Med.* Jun 2005;23(2):70-76.

167. Green S, Buchbinder R, Hetrick S. Acupuncture for shoulder pain. *Cochrane Database Syst Rev.* 2005(2):CD005319.

168. Zhang SH, Liu M, Asplund K, Li L. Acupuncture for acute stroke. *Cochrane Database Syst Rev.* 2005(2):CD003317.

169. Manheimer E, White A, Berman B, Forys K, Ernst E. Meta-analysis: acupuncture for low back pain. *Ann Intern Med.* Apr 19 2005;142(8):651-663.

170. Furlan AD, van Tulder M, Cherkin D, et al. Acupuncture and dry-needling for low back pain: an updated systematic review within the framework of the cochrane collaboration. *Spine (Phila Pa 1976).* Apr 15 2005;30(8):944-963.

171. Lee H, Ernst E. Acupuncture analgesia during surgery: a systematic review. *Pain.* Apr 2005;114(3):511-517.

172. Mills EJ, Wu P, Gagnier J, Ebbert JO. Efficacy of acupuncture for cocaine dependence: a systematic review & meta-analysis. *Harm Reduct J.* Mar 17 2005;2(1):4.

173. Stener-Victorin E. The pain-relieving effect of electro-acupuncture and conventional medical analgesic methods during oocyte retrieval: a systematic review of randomized controlled trials. *Hum Reprod.* Feb 2005;20(2):339-349.

174. Acupuncture and other physical treatments for the relief of chronic pain due to osteoarthritis of the knee: a systematic review and network meta-analysis (Provisional abstract). *Database of Abstracts of Reviews of Effects.* 2012(1):206. http://onlinelibrary.wiley.com/o/cochrane/cldare/articles/DARE-12012028486/frame.html.

175. Carpenter JS, Neal JG. Other complementary and alternative medicine modalities: acupuncture, magnets, reflexology, and homeopathy (Provisional abstract). *American Journal of Medicine.* 2005(12 Supplement B):109-117. http://onlinelibrary.wiley.com/o/cochrane/cldare/articles/DARE-12006003041/frame.html. Published Wellness-Menopause.

176. Jedel E, Carlsson J. Acupuncture in the management of tension-type headache (Provisional abstract). *Physical Therapy Reviews.* 2005(3):131-139. http://onlinelibrary.wiley.com/o/cochrane/cldare/articles/DARE-12005008653/frame.html.

177. Selfe TK, Taylor AG. Acupuncture and osteoarthritis of the knee: a review of randomized controlled trials (Structured abstract). *Family and Community Health.* 2008(3):247-254. http://onlinelibrary.wiley.com/o/cochrane/cldare/articles/DARE-12008104955/frame.html.

178. Tough EA, White AR. Effectiveness of acupuncture/dry needling for myofascial trigger point pain (Provisional abstract). *Physical Therapy Reviews.* 2011(2):147-154. http://onlinelibrary.wiley.com/o/cochrane/cldare/articles/DARE-12011006164/frame.html.

179. Lua PL, Talib NS. The effectiveness of auricular acupuncture for drug addiction: a review of research evidence from clinical trials. *ASEAN Journal of Psychiatry.* 2012;13(1):55-68.

180. Yan Z, Ding N, Hua H. A systematic review of acupuncture or acupoint injection for management of burning mouth syndrome. *Quintessence Int.* Sep 2012;43(8):695-701.

181. Liu H, Li H, Xu M, Chung KF, Zhang SP. A systematic review on acupuncture for trigeminal neuralgia. *Altern Ther Health Med.* Nov-Dec 2010;16(6):30-35.

182. Lee JH, Choi TY, Lee MS, Lee H, Shin BC. Acupuncture for acute low back pain: a systematic review. *Clin J Pain.* Feb 2013;29(2):172-185.

183. Hao XA, Xue CC, Dong L, Zheng Z. Factors associated with conflicting findings on acupuncture for tension-type headache: qualitative and quantitative analyses. *J Altern Complement Med.* Apr 2013;19(4):285-297.

184. Dos Santos S, Hill N, Morgan A, Smith J, Thai C, Cheifetz O. Acupuncture for treating common side effects associated with breast cancer treatment: a systematic review (Provisional abstract). *Medical Acupuncture.* 2010(2):81-97. http://onlinelibrary.wiley.com/o/cochrane/cldare/articles/DARE-12010004956/frame.html.

185. Jedel E. Acupuncture in xerostomia--a systematic review. *J Oral Rehabil.* Jun 2005;32(6):392-396.

186. Lee MS, Shin BC, Ernst E. Acupuncture for treating menopausal hot flushes: a systematic review. *Climacteric.* Feb 2009;12(1):16-25.

187. Urroz P, Colagiuri B, Smith CA, Cheema BS. Effect of acute acupuncture treatment on exercise performance and postexercise recovery: a systematic review. *J Altern Complement Med.* Jan 2013;19(1):9-16.

188. Liu TT, Shi J, Epstein DH, Bao YP, Lu L. A meta-analysis of acupuncture combined with opioid receptor agonists for treatment of opiate-withdrawal symptoms. *Cell Mol Neurobiol.* Jun 2009;29(4):449-454.

189. Wang T, Zhang Q, Xue X, Yeung A. A systematic review of acupuncture and moxibustion treatment for chronic fatigue syndrome in China. *Am J Chin Med.* 2008;36(1):1-24.

190. Zhang GC, Fu WB, Xu NG, et al. Meta analysis of the curative effect of acupuncture on post-stroke depression. *J Tradit Chin Med.* Mar 2012;32(1):6-11.

191. Kim LW, Zhu J. Acupuncture for essential hypertension (Provisional abstract). *Alternative Therapies in Health and Medicine.* 2010(2):18-29. http://onlinelibrary.wiley.com/o/cochrane/cldare/articles/DARE-12010002948/frame.html.

192. Touche R, Angulo-Diaz-Parreno S, de-la-Hoz JL, et al. Effectiveness of acupuncture in the treatment of temporomandibular disorders of muscular origin: a systematic review of the last decade (Structured abstract). *Journal of Alternative and Complementary Medicine.* 2010(1):107-112. http://onlinelibrary.wiley.com/o/cochrane/cldare/articles/DARE-12010002321/frame.html.

193. Cao L, Zhang XL, Gao YS, Jiang Y. Needle acupuncture for osteoarthritis of the knee. A systematic review and updated meta-analysis. *Saudi Med J.* May 2012;33(5):526-532.

194. Ernst E, Lee MS. A trial design that generates only ‘’positive’’ results. *J Postgrad Med.* Jul-Sep 2008;54(3):214-216.

195. Jung A, Shin BC, Lee MS, Sim H, Ernst E. Acupuncture for treating temporomandibular joint disorders: a systematic review and meta-analysis of randomized, sham-controlled trials. *J Dent.* May 2011;39(5):341-350.

196. Lu W, Hu D, Dean-Clower E, et al. Acupuncture for chemotherapy-induced leukopenia: exploratory meta-analysis of randomized controlled trials. *J Soc Integr Oncol.* Winter 2007;5(1):1-10.

197. Suzuki M, Yokoyama Y, Yamazaki H. Research into acupuncture for respiratory disease in Japan: a systematic review. *Acupunct Med.* Jun 2009;27(2):54-60.

198. Wang QP, Bai M, Lei D. Effectiveness of acupuncture in treatment of facial spasm: a meta-analysis. *Altern Ther Health Med.* May-Jun 2012;18(3):45-52.

199. Wong IS, Ng KF, Tsang HW. Acupuncture for dysphagia following stroke: a systematic review. *European Journal of Integrative Medicine.* 2012;4(2):e141-e150.

200. Xu S, Wang L, Cooper E, et al. Adverse events of acupuncture: a systematic review of case reports. *Evid Based Complement Alternat Med.* 2013;2013:581203.

201. Bergqvist D. Vascular injuries caused by acupuncture. A systematic review. *Int Angiol.* Feb 2013;32(1):1-8.

202. He W, Zhao X, Li Y, Xi Q, Guo Y. Adverse events following acupuncture: a systematic review of the Chinese literature for the years 1956-2010. *J Altern Complement Med.* Oct 2012;18(10):892-901.

203. Zhang J, Shang H, Gao X, Ernst E. Acupuncture-related adverse events: a systematic review of the Chinese literature. *Bull World Health Organ.* Dec 1 2010;88(12):915-921C.

204. Ernst E, Zhang J. Cardiac tamponade caused by acupuncture: a review of the literature. *Int J Cardiol.* Jun 16 2011;149(3):287-289.

205. Yamashita H, Masuyama S, Otsuki K, Tsukayama H. Safety of acupuncture for osteoarthritis of the knee: a review of randomised controlled trials, focusing on specific reactions to acupuncture (Structured abstract). *Acupuncture in Medicine.* 2006(Supplement):S49-s52. http://onlinelibrary.wiley.com/o/cochrane/cldare/articles/DARE-12007001077/frame.html.

206. Suarez-Almazor ME, Looney C, Liu Y, et al. A randomized controlled trial of acupuncture for osteoarthritis of the knee: effects of patient-provider communication. *Arthritis Care Res (Hoboken).* Sep 2010;62(9):1229-1236.

207. Pittler MH, Ernst E. Complementary therapies for reducing body weight: a systematic review. *Int J Obes (Lond).* Sep 2005;29(9):1030-1038.

208. Brinkhaus B, Witt CM, Jena S, Liecker B, Wegscheider K, Willich SN. Acupuncture in patients with allergic rhinitis: a pragmatic randomized trial. *Ann Allergy Asthma Immunol.* Nov 2008;101(5):535-543.

209. Zhang CX, Guto LK, Guo BR. [Clinical efficacy of electroacupuncture combined with dalitong granule for gastroesophageal reflux disease and its mechanism]. *Zhongguo Zhen Jiu.* Jun 2012;32(6):491-498.

210. Ma TT, Yu SY, Li Y, et al. Randomised clinical trial: an assessment of acupuncture on specific meridian or specific acupoint vs. sham acupuncture for treating functional dyspepsia. *Aliment Pharmacol Ther.* Mar 2012;35(5):552-561.

211. Han J. [Observation on effect of acupuncture at Yuji (LU 10) on the pulmonary function of patients with bronchial asthma and immediate efficacy of relieving asthma]. *Zhongguo Zhen Jiu.* Oct 2012;32(10):891-894.

212. Bergqvist D. Vascular injuries caused by acupuncture. *Eur J Vasc Endovasc Surg.* Aug 2008;36(2):160-163.

213. Zheng CH, Zhang MM, Huang GY, Wang W. The role of acupuncture in assisted reproductive technology. *Evid Based Complement Alternat Med.* 2012;2012:543924.

214. Haake M, Muller HH, Schade-Brittinger C, et al. German Acupuncture Trials (GERAC) for chronic low back pain: randomized, multicenter, blinded, parallel-group trial with 3 groups. *Arch Intern Med.* Sep 24 2007;167(17):1892-1898.

215. Lund I, Lundeberg T. Are minimal, superficial or sham acupuncture procedures acceptable as inert placebo controls? *Acupunct Med.* Mar 2006;24(1):13-15.

216. Zhang H, Bian Z, Lin Z. Are acupoints specific for diseases? A systematic review of the randomized controlled trials with sham acupuncture controls. *Chin Med.* 2010;5:1.

217. Linde K, Niemann K, Schneider A, Meissner K. How large are the nonspecific effects of acupuncture? A meta-analysis of randomized controlled trials (Provisional abstract). *BMC Medicine.* 2010(1):75. http://onlinelibrary.wiley.com/o/cochrane/cldare/articles/DARE-12011001754/frame.html.

218. Moroz A, Freed B, Tiedemann L, Bang H, Howell M, Park JJ. Blinding measured: a systematic review of randomized controlled trials of acupuncture. *Evid Based Complement Alternat Med.* 2013;2013:708251.

219. White A, Foster N, Cummings M, Barlas P. The effectiveness of acupuncture for osteoarthritis of the knee: a systematic review. *Acupunct Med*. Dec 2006;24:40-48.

220. Shi GX, Yang XM, Liu CZ, Wang LP. Factors contributing to therapeutic effects evaluated in acupuncture clinical trials. *Trials.* 2012;13:42.

221. MacPherson H, Hammerschlag R. Acupuncture and the emerging evidence base: contrived controversy and rational debate. *J Acupunct Meridian Stud.* Aug 2012;5(4):141-147.

222. Liu YQ, Ma LX, Xing JM, et al. Does Traditional Chinese Medicine pattern affect acupoint specific effect? Analysis of data from a multicenter, randomized, controlled trial for primary dysmenorrhea. *J Altern Complement Med.* Jan 2012;19(1):43-49.

223. He L, Zhou MK, Zhou D, Li N, Wu B. Acupuncture for Bell's palsy: a systematic review. *Chinese Journal of Evidence-Based Medicine.* 2005;5(2):106-109, 129.

224. Yeung WF, Chung KF, Poon MM, et al. Prescription of chinese herbal medicine and selection of acupoints in pattern-based traditional chinese medicine treatment for insomnia: a systematic review. *Evidence-Based Complementary and Alternative Medicine.* 2012:Article Number 902578.

225. Zheng H, Chen M, Wu X, Li Y, Liang FR. Manage migraine with acupuncture: a review of acupuncture protocols in randomized controlled trials. *Am J Chin Med.* 2010;38(4):639-650.

226. Prady SL, Burch J, Crouch S, Macpherson H. Controlling practitioner-patient relationships in acupuncture trials: a systematic review and meta-regression. *Acupunct Med.* Mar 15 2013.

227. Kim SY, Lee H, Chae Y, Park HJ. A systematic review of cost-effectiveness analyses alongside randomised controlled trials of acupuncture. *Acupunct Med.* Dec 2012;30(4):273-285.

228. Li Y, Liu LA, Zhao L, et al. [Acupuncture and moxibustion for peripheral facial palsy at different stages: multi-central large-sample randomized controlled trial]. *Zhongguo Zhen Jiu.* Apr 2011;31(4):289-293.

229. Berle C, Cobbin D, Smith N, Zaslawski C. An innovative method to accommodate Chinese medicine pattern diagnosis within the framework of evidence-based medical research. *Chin J Integr Med.* Nov 2011;17(11):824-833.

230. MacPherson H, Altman DG, Hammerschlag R, et al. Revised STandards for Reporting Interventions in Clinical Trials of Acupuncture (STRICTA): Extending the CONSORT statement. *J Evid Based Med.* Aug 2010;3(3):140-155.

231. Lee S, Kim J-E, Kim J-H, Kim T-H, Choi S-M. Acupuncture and related interventions for treating plantar heel pain in adults. *Cochrane Database of Systematic Reviews.* 2013(2). http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD010394/abstract.

232. Uthman Olalekan A, Uthman Rashidah T. Acupuncture for renal colic. *Cochrane Database of Systematic Reviews: Reviews.* 2012;Issue 1.

233. Lim Chi Eung D, Ng Rachel WC, Chen W, Cheng Nga Chong L, Zaslawski C, Li X. Acupuncture for primary hypercholesterolaemia. *Cochrane Database of Systematic Reviews.* 2012(12). http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD010286/abstract.

234. Li Z-j, Liang F-r, Chen J, et al. Acupuncture for sudden idiopathic sensorineural hearing loss. *Cochrane Database of Systematic Reviews: Reviews.* 2012;Issue 1.

235. Lee Shao C, Gyte Gillian ML, Dou L. Acupuncture for turning a breech baby in pregnancy. *Cochrane Database of Systematic Reviews: Reviews.* 2012;Issue 1.

236. Kim Kun H, Lee Myeong S, Choi T-Y, Kim T-H, Ernst E. Acupuncture for symptomatic gastroparesis. *Cochrane Database of Systematic Reviews: Reviews.* 2012;Issue 2.

237. Cao H, Wang Y, Zhao H, Liu Jian P, Han M. Acupuncture for chronic constipation. *Cochrane Database of Systematic Reviews.* 2012(11). http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD004117.pub3/abstract.

238. Wang Y, Zhishun L, Peng W. Acupuncture for stress urinary incontinence in adults. *Cochrane Database of Systematic Reviews: Reviews.* 2011;Issue 10.

239. Wang E, Saxena M. Acupuncture for neuropathic pain in adults. *Cochrane Database of Systematic Reviews: Reviews.* 2011;Issue 2.

240. Liang Cui M, Peng W, Ma Xiao J. Acupuncture for post-stroke upper limb pain. *Cochrane Database of Systematic Reviews: Reviews.* 2011;Issue 4.

241. Lee Myeong S, Lee D-H, Kim J-I, Shin B-C, Ernst E. Acupuncture for allergic rhinitis. *Cochrane Database of Systematic Reviews: Reviews.* 2011;Issue 9.

242. Kim T-H, Lee Myeong S, Kim Kun H, Kang Jung W, Choi T-Y, Ernst E. Acupuncture for treating acute ankle sprains in adults. *Cochrane Database of Systematic Reviews: Reviews.* 2011;Issue 4.

243. Kim T-H, Lee Myeong S, Kim Kun H, Kang Jung W, Choi T-Y, Ernst E. Acupuncture for angina pectoris. *Cochrane Database of Systematic Reviews: Reviews.* 2011;Issue 3.

244. Kim Kun H, Lee Myeong S, Kim T-H, Kang Jung W, Choi T-Y, Lee Jae D. Acupuncture and related interventions for the symptoms of chronic kidney disease. *Cochrane Database of Systematic Reviews: Reviews.* 2011;Issue 11.

245. Furlan Andrea D, Yazdi F, Tsertsvadze A, et al. Acupuncture for (sub)acute non-specific low-back pain. *Cochrane Database of Systematic Reviews: Reviews.* 2011;Issue 8.

246. Yang J, Feng Y, Ying L, et al. Acupuncture for hypertension. *Cochrane Database of Systematic Reviews.* 2010(11). http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD008821/abstract.

247. Li J, Lu Y, Shi Yu M, Lenon G, Shi Y. Acupuncture for overweight or obese people. *Cochrane Database of Systematic Reviews.* 2010(7). http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD008612/abstract.

248. Lan L, Zeng F, Liu Guang J, Ying L, Wu X, Liu Lan M. Acupuncture for functional dyspepsia. *Cochrane Database of Systematic Reviews: Reviews.* 2010;Issue 4.

249. Cui Y, Zhishun L, Marchese M, Lee Myeong S, Wang J, Niu J. Acupuncture for multiple sclerosis. *Cochrane Database of Systematic Reviews.* 2010(1). http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD008210/abstract.

APPENDIX. PEER REVIEW COMMENTS/AUTHOR RESPONSES

Comment	Response
The scope here states that acupuncture is "one type of Traditional Chinese Medicine" (TCM). In fact, acupuncture is one aspect of Chinese or Oriental Medicine, (which includes multiple modalities including herbal medicine, manual therapies, and movement therapies) and TCM is school of thought in Chinese Medicine. There are other schools of thought as well. Acupuncture is practiced by practitioners of traditional Japanese Medicine as well as practitioners of Medical Acupuncture.	We have revised the sentence accordingly.
paragraph 1 The reviewers use the terms "effectiveness and harms" in …. this biases the reader toward negative bias. The usual terms are risk and benefit.	We have replaced the term "harms" with the broader, more accurate, and more common term "adverse events" to avoid any notion of bias.
page 4: Bubble Plots Review methods described on page 4 are somewhat difficult to follow. I would suggest editing for clarification.	The section has been edited for clarity and revised accordingly.
Reasoning for confidence of effect seems somewhat arbitrary. I am not sure that rating a systematic review low based only on the included studies not being indexed in PubMed is the best indicator available for assessing quality of evidence, although I do understand the reasoning.	With hundreds of reviews and RCTs we needed a simple system and used an issue that was both widely discussed as well as easy to follow up. We have added more references addressing the use of publically available studies in acupuncture research to provide more information on the rationale.
Also, it is unclear how the investigators controlled for the same RCTs being included in multiple SRs, as this could potentially alter the strength of the effect size.	For evidence maps we rely on the systematic reviews as published and have no control over the inclusion criteria of the review. To address this point, we have added a note following each of the three evidence maps and the limitation section alerting the reader to this issue.
Pg 6 ln 32 title should be VHA CO Field Advisory Committee.	changed
Pg12 ln 35 back pain is listed as unclear, yet included in part of positive effect seen in chronic pain. Is there a distinction between acute back pain and chronic back pain which would account for this? Given that back pain is the leading cause of chronic pain it seems surprising the evidence would be so different for back pain and chronic pain.	We have added a comparison of the studies included in the IPD review on chronic pain and the back pain, neck pain, headache, and osteoarthritis reviews. We have also highlighted issues surrounding the unique scope of reviews and the overlap of reviewed studies across reviews in each of the evidence maps and in the limitation section of the report.
In one of the reviews on the use of acupuncture for opioid addiction (page 22), which was not incorporated in the bubble plot, the issue of comparative effectiveness studies is raised – the conclusion was that acupuncture was no better than other treatment, but non-inferiority could be considered a positive finding.	To address this point, we have added a sentence to the limitation section of the report clarifying that an assessment of acupuncture need to take the clinical efficacy but also risks and benefits compared to standard treatment into account.
Pg 28 ln 2-3 and 20-21 in discussion on further research the evidence base is listed as unclear. With trend to positive in pain and wellness as well as some findings of positive evidence in pain it would have seemed that at least for the indications where the evidence is positive a more definitive statement than the evidence is unclear could have been made.	To address the point, we have specified in the future research section that the unclear evidence refers to specific clinical indications within the domains, not the domains itself.

When this report is made public services and facilities will be trying to determine what conditions have sufficient research to support their use. Those conditions with positive findings would appear to be conditions where use would be justified while those trending towards positive it could be considered. However, by reporting that the evidence base is unclear it would make all use seem questionable. It may be that policy will need to be written on how to use these findings and it may be that such guidance would be better than having each facility interpret the data individually. If there were any trends on patterns of usage both in frequency and duration of treatment that were seen that would be useful information for the field	We have moved the limitation section to the end of the report and stated more clearly that the evidence maps are not designed to give definitive answers regarding the effectiveness of acupuncture. We have made more explicit that we did not review the evidence base ourselves with standard methods, i.e. a systematic review; we only estimated the effectiveness of acupuncture judging from published reviews and recent trials. Consequently the evidence map is only meant as a broad overview over the evidence base indicating in which areas research has been conducted and we broadly summarized the results of the 184 included reviews.
Ernst E, White AR: A review of problems in clinical acupuncture research. Am J Chin Med 1997; 25(1):3-11	We have cited the paper illustrating the complexity of the research area in the Future Research study.
Acupuncture trials are frequently inconclusive. Although the gold standard in clinical research is the double- blinded, placebo- controlled trial, yet this was designed to evaluate pharmaceuticals and not acupuncture, which includes and operator and individualization of treatment. One article concludes that "Problems in clinical acupuncture research include the diversity of forms of therapy, need for individualization, blinding and control procedures. " (see above- Ernst E, White : Am J Chin Med 1997; 25(1):3-11) . Because our research methods are not yet adequate, it is important to consider supporting veteran demand at the same time sponsoring research activity in order to clarify the issues.	We agree, however the issue about supporting veteran demands while at the same time sponsoring research is a decision for VA policy makers.
I would suggest writing a set of "take home points" for each of the medical indications for which acupuncture was assessed. That is, using plain language, briefly describe the indications for which the VA should offer acupuncture to patients and which indications need further study.	We have added a summary to the report and clarified that guidance on how acupuncture should be offered within the VA is outside the scope of the evidence map.
Assessment needs to be done that can assess overall value of acupuncture taking into account multiple factors: clinical efficacy, cost savings, patient satisfaction, risk vs benefit compared to standard treatment for a particular clinical diagnosis. Most acupuncture studies look at clinical efficacy only.	We have added this point to the limitation section.
The bias is simply that the review sets randomized, placebo-control trials as the gold standard, when there are multiple issues with using placebo for acupuncture studies. Simply stating that there is no significant difference between sham and true acupuncture obscures the possibility that both sham and true acupuncture actually had positive effects. The effects of both should be reported.	For this reason we have not limited the evidence map to reviews of placebo-controlled trials and instead have focused on reviews on all passive-controlled comparators, including no control treatment, waiting lists, and add-on trials where acupuncture was added to a common treatment in one group only while the control group received no additional treatment. We have added the choice of comparator issue to the limitation section to highlight that it adds to the complexity of the research area. Future research is needed to help distinguish between the effectiveness and cost-effectiveness of acupuncture and sham acupuncture. If the explanation for the observation of little difference in effectiveness between true and sham acupuncture is that both have positive effects, then it may be that there is no need for training in acupuncture and for VA to hire licensed acupuncturists, since the sham acupuncture could be performed by a technician with minimal training.

Furthermore, the use of standardized treatments for the treatment arm may not be the optimal treatment for any given patient. Traditional acupuncture involves tailoring treatments to a person based on several factors, apart from the conventional medical diagnosis. Not all patients with the same symptom are given the same Chinese medical diagnosis. Because of this, each patient may be treated with different points.	We have added this point to the Future Research section (see Ongoing Research).
I am concerned that the supposed lack of evidence for some indications would be used to set policy precluding using acupuncture for specific conditions. For instance, in my experience, carpal tunnel syndrome responds very well to acupuncture. I am curious about the data that they examined. I believe that a trial of treatment is always warranted, as the risks and benefits to the patient are much more favorable than more invasive interventions.	To address this point, we have added that this report was not designed to inform policies regarding the use of acupuncture or precluding acupuncture for specific conditions within the VA to the limitation section. We have added more information regarding the carpal tunnel review.

Department of Health
Nursing Care Quality Assurance Commission

Advisory Opinion

The Nursing Care Quality Assurance Commission (NCQAC) issues this advisory opinion in accordance with WAC 246-840-800. An advisory opinion adopted by the NCQAC is an official opinion about safe nursing practice. The opinion is not legally binding and does not have the force and effect of a duly promulgated regulation or a declaratory ruling by the NCQAC. Institutional policies may restrict practice further in their setting and/or require additional expectations to assure the safety of their patient and//or decrease risk.

Title:	Compounding Medications by Licensed Practical Nurses, Registered Nurses, and Advanced Registered Nurse Practitioners	*Number:* NCAO X.X
References:	RCW 18.79 Nursing Care WAC 246-840 Practical and Registered Nursing Nursing Scope of Practice Decision Tree WAC 246-878 Good Compounding Practices WAC 246-330-200 Ambulatory Surgical Centers-Pharmaceutical Services	
Contact:	Deborah Carlson, MSN, RN	
Phone:	360-236-4725	
Email:	Debbie.carlson@doh.wa.gov	
Effective Date:	TBD	
Supersedes:	Not applicable	
Approved By:	Nursing Care Quality Assurance Commission	

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Conclusion Statement

The Nursing Care Quality Assurance Commission concludes that a licensed registered nurse (RN) or a licensed practical nurse (LPN) as directed by a licensed physician and surgeon, dentist, osteopathic physician and surgeon, naturopathic physician, optometrist, podiatric physician and surgeon, physician assistant, osteopathic physician assistant, advanced registered nurse practitioner, or midwife for a patient under the health care practitioner's care may compound medications for a specific patient. An advanced registered nurse practitioner (ARNP) with prescriptive authority may prescribe or prepare compound medications for a specific patient under the ARNP's care.

Background

The Nursing Care Quality Assurance Commission (NCQAC) received a request to develop an advisory opinion as to whether it is in the scope of practice for nurses to compound medications. While most compounding occurs in pharmacies, it may not always be feasible to have a licensed pharmacist immediately available. Compounding of drugs by nurses commonly occurs for immediate use in perioperative, emergency care, clinics, health care provider offices, home care, and in other settings when there is a significant gap between ordering and delivering of the compounded medication.

The potential for contamination of compounded products and resulting infections are a serious threat to patient safety. On November 27, 2013, President Obama signed the Drug Quality and Security Act (Compounding Quality Act) related to the oversight of compounding of human drugs. The impetus for the new law was an incident in 2012 where a commercial pharmacy's compounded sterile preparations (CSPs) injured 271 people and caused 21 deaths in 16 states.[1] The law imposes strict requirements for CSPs that are to be administered into a human being. However, the CSP may be exempt from some provisions of the law if it is compounded for an identified individual patient on the basis of a valid prescription order that a compounded preparation is necessary for that identified patient. Immediate use preparations are frequently used in settings such as emergency rooms, operating rooms, and intensive care. Many compounded medications in surgical settings are not made commercially and required to be mixed immediately prior to use.

The United States Pharmacopeia (USP) defines the following standards for nonsterile, Chapter 795 (<795>), and sterile preparations, Chapter 797 (<797>), hazardous drugs, Chapter 800 (<800>), and other essential compounding components. Any drug that is recognized in the USP must adhere to USP standards for identity, strength, quality, purity, packaging, and labeling or risk being deemed adulterated or misbranded. Standards apply to all persons who compound sterile preparations and all health care settings. <797> describes the minimum practices and quality standards to be followed when preparing compounded sterile human and animal drugs (compounded sterile preparations, or CSPs) for injections, implants, or other infusions into the human body. These practices and standards must be used to prevent harm, including death, to human and animal patients that could result from 1) microbial contamination (nonsterility), 2) excessive bacterial endotoxins, 3) variability from the intended strength of correct ingredients, 4) chemical and physical contaminants, and/or 5) use of ingredients of inappropriate quality.[2] Chapter 797 uses risk assessment categories (immediate use, low risk, low risk with less than twelve hours beyond use date, medium risk, and high risk) to identify risk factors such as the environment, temperature storage, type of product, and when the preparation will be used. Pharmaceutical compounding includes compounding medications to prepare a small quantity of medications as well as manufacturing where a commercial vendor with FDA approval uses mass production to compound bulk quantity of medications.

Variations occur in the definition of compounding from various organizations and in state law:

- The Washington State Pharmacy Quality Assurance Commission (PQAC) statute and rule, RCW 18.64.011(6) and WAC 246-878-010(1), define compounding as combining two or more

[1] ASHP Guidelines on Compounding Sterile Preparations (June 2, 2013): http://www.ashp.org/DocLibrary/BestPractices/PrepGdlCSP.aspx

[2] The USP is currently reviewing public comments to its proposed revisions to General Chapter 797 (<797>). The proposed revisions are available at :*<797> Pharmaceutical Compounding—Sterile Preparations*. The proposed revisions define a compounded sterile preparation (CSP) as: "A preparation intended to be sterile that is created by combining, diluting, pooling, or otherwise adulterating a drug product or bulk drug substance. A product produced by reconstituting a conventional manufactured product for an individual patient strictly in accordance with the directions contained in the approved labeling provided by the product manufacturer is not considered a CSP for the purposes of this chapter." The proposed rules recognize that nurses also prepare CSPs. The proposed rule requires that the employer and all employees must be trained and qualified, demonstrating proficiency in core competencies; must ensure that the practices and standards are correctly applied; and must proactively identify and remedy potential problems. http://www.usp.org/usp-nf/notices/general-chapter-797-proposed-revision. The final rule may not be published until March 2017 or later. http://www.usp.org/frequently-asked-questions/pharmaceutical-compounding-sterile-preparations

ingredients in the preparation of a prescription. Chapter 246-878 WAC, Good Compounding Practices, dates from 1994 and will be revised as a result of the passage of HB 1800, Chapter 146, Laws of 2013, which amended RCW 18.64.270. RCW 18.64.270 requires that any medicinal products that are compounded for patient administration or distribution to a licensed practitioner for patient use or administration shall, at a minimum, meet the standards of the official United States pharmacopeia as it applies to nonsterile products and sterile administered products.[3]

- The United States Food and Drug Administration (FDA) is still developing draft guidance on implementing the changes to its law, which defines compounding as "the combining, admixing, mixing, diluting, pooling, reconstituting, or otherwise altering of a drug or bulk drug substance to create a drug." Compounding Quality Act, Sec. 503B(d)(1). Compounding, the combining or altering of ingredients of two or more drugs, may be necessary to create a medication tailored to the needs of an individual patient. Compounded drugs are not FDA-approved. Under Section 503A of the Federal Food, Drug, and Cosmetic Act (FDAC), a compounded drug product may be eligible for exemption from additional regulation if it is "compounded for an identified individual patient based on the receipt of a valid prescription order or a notation, approved by the prescribing practitioner, on the prescription order (this includes orders that a physician writes in the charts of his or her patients) that a compounded product is necessary for the identified patient."[4] The FDAC rule states that compounding does not include mixing, reconstituting, or similar acts that are performed in accordance with the directions in approved labeling provided by the product's manufacturer and other manufacturer direction consistent with that labeling. 21 CFR §353(f). However, the USP indicates that mixing and reconstituting processes following package insert directions will be subject to USP standards.
- The USP defines compounding of nonsterile preparations in <795> as the "preparation, mixing, assembling, altering, packaging, and labeling of a drug, drug-delivery device, or device in accordance with a licensed practitioner's prescription, medication order, or initiative based on the practitioner/patient/pharmacist/compounder relationship in the course of professional practice."[5] Sterile compounding differs from nonsterile compounding primarily by requiring the maintenance of sterility when compounding exclusively with sterile ingredients and components. Some differences include ISO-classified air environments; personnel garbing and gloving; personnel training and testing in principles and practices of aseptic manipulations and sterilization; environmental quality specifications and monitoring; and disinfection of gloves and surfaces. The standards apply to those preparations prepared to the manufacturers' labeled

[3] In 2013, the PQAC declared its intention to write updated rules on compounding as a result of the change in USP guidelines. http://apps.leg.wa.gov/documents/laws/wsr/2013/11/13-11-096.htm

[4] Draft Prescription Requirement under Section 503A of the Federal Food, Drug, and Cosmetic Act Guidance for Industry, April 2016, at 5.
http://www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/Guidances/UCM496286.pdf

[5] The definition continues, with examples of what compounding includes: "Compounding includes the following:
- Preparation of drug dosage forms for both human and animal patients
- Preparation of drugs or devices in anticipation of prescription drug orders based on routine, regularly observed prescribing patterns
- Reconstitution or manipulation of commercial products that may require the addition of one or more ingredients
- Preparation of drugs or devices for the purposes of, or incident to, research (clinical or academic), teaching, or chemical analysis
- Preparation of drugs and devices for prescriber's office use where permitted by federal and state law."
http://www.usp.org/sites/default/files/usp_pdf/EN/gc795.pdf

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instructions and other manipulations when preparing sterile preparations that may expose the original content to potential contamination, as well as preparations that contain nonsterile ingredients or employ nonsterile components and devices that must be sterilized before use. USP does not differentiate between compounding and reconstituting medications. (Subject to revision: see fn. 2).
- The American Pharmacists Association (APhA) defines compounding as the mixing of ingredients, including dilution, admixture, repacking, reconstitution, and other manipulations of sterile products, to prepare a medication for patient use.

The Infusion Nurses Society (INS) standard 17.1 states that, "Compounding of parenteral solutions and medications is in accordance with state and federal regulations, the American Society of Health-System Pharmacists (ASHP), the Drug Quality and Security Act, and the USP National Formulary (FM), including but not limited to General Chapter <797>." According to the ASHP guidelines, the "term *compounding personnel* refers to any individual involved in compounding sterile preparations, regardless of profession. Compounding personnel are responsible for ensuring that CSPs are accurately identified, measured, diluted, and mixed and are correctly purified, sterilized, packages, sealed, labeled, sorted, dispensed, distributed, and disposed of it not used. Emphasis should be on the need to maintain quality standards for the control of processes, components, and environments and for the skill and knowledge of personnel who prepare CSPs." ASHP Guidelines on Compounding Sterile Preparations (June 2, 2013) at 91-92.

The Centers for Medicare and Medicaid Services (CMS) aligned the State Operations Manual for hospitals with the USP standards. The October 30, 2015 CMS revision recognizes that nurses commonly prepare medications for immediate use. CMS recognizes the INS standards of practice for nurses.

Analysis

The commission may adopt rules or issue advisory opinions in response to questions put to it by professional health associations, nursing practitioners, and consumers in this state concerning the authority of various categories of nursing practitioners to perform particular acts. RCW 18.79.110(1). The Washington State nursing law does not specifically prohibit compounding medications by an RN or LPN. The practice of nursing includes carrying out a medical regimen. RCW 18.79.040. A RN may, at or under the general direction of a licensed physician and surgeon, dentist, osteopathic physician and surgeon, naturopathic physician, optometrist, podiatric physician and surgeon, physician assistant, osteopathic physician assistant, advanced registered nurse practitioner, or midwife acting within the scope of his or her license, administer medications, treatments, tests, and inoculations, whether or not the severing or penetrating of tissues is involved and whether or not a degree of independent judgment and skill is required. Such direction must be for acts which are within the scope of registered nursing practice. RCW 18.79.260. An LPN may, under the direction of a licensed physician and surgeon, dentist, osteopathic physician and surgeon, naturopathic physician, optometrist, podiatric physician and surgeon, physician assistant, osteopathic physician assistant, advanced registered nurse practitioner, midwife or under the direction and supervision of a RN administer drugs, medication, treatments, tests, injections, and inoculations, whether or not piercing of the skin is involved and whether or not a degree of independent judgment and skill is required. RCW 18.79.270. Registered nursing practice also includes the performance of such additional acts requiring education and training that are recognized by the medical and nursing professions as proper and recognized by the commission to be performed by registered nurses. RCW 18.79.240.

The definition of compounding in the pharmacy law and rule, RCW 18.64.011(6) and WAC 246-878-010(1), means "the act of combining two or more ingredients in the preparation of a prescription." RCW 18.64.020 restricts the practice of pharmacy to licensed pharmacists. The "practice of pharmacy" includes "the practice of and responsibility for: Interpreting prescription orders; the compounding, dispensing, labeling, administering, and distributing of drugs and devices; the monitoring of drug therapy and use; the initiating or modifying of drug therapy in accordance with written guidelines or protocols previously established and approved for his or her practice by a practitioner authorized to prescribe drugs; the participating in drug utilization reviews and drug product selection; the proper and safe storing and distributing of drugs and devices and maintenance of proper records thereof; the providing of information on legend drugs which may include, but is not limited to, the advising of therapeutic values, hazards, and the uses of drugs and devices." However, the pharmacy laws do not restrict the scope of authorized practice of any practitioner other than a pharmacist, duly licensed as such under the laws of this state. RCW 18.64.255. The Legend Drug Act, RCW 69.41.030, does not apply to a practitioner acting within the scope of his or her license whose possession of any legend drug is in the usual course of business or employment. This exempts any licensed practitioner acting within the scope of his or her license from the law's prohibition of the sale, delivery, or possession of legend drugs. A licensed health practitioner with prescriptive authority may compound medications for a patient under his or her care. Neither the pharmacy law nor the nursing law prohibits a licensed health care practitioner with prescriptive authority from directing a RN or LPN to compound medications for the practitioner's patient. It is a recognized and long-accepted practice for nurses to compound medications.

Recommendations

The NCQAC recommends health care settings use compounding pharmacy services or compounding manufacturers whenever possible. Nurses compounding medications are responsible for ensuring the medication is compounded according to USP guidelines. The nurse must have the training, knowledge, skills, and abilities (competency) to prepare compound medications safely in accordance with state and federal laws, regulations, guidelines, and other standards of care.

The nurse must be familiar with regulations, guidelines, and practices that aim to reduce contamination that can occur during the compounding process. The nurse must determine whether the setting is appropriate to compound and administer the medication safely following all compounding regulations, guidelines, and practices. The nurse must follow State and Federal regulations, infection control standards, Occupational Safety and Health Administration requirements, and the Washington Industrial Safety and Health Act.

Conclusion

Awareness of standards and following recommended practices will decrease the likelihood of an adverse event. The NCQAC concludes that it is within the scope of practice of a properly trained nurse to compound medications for a specific patient pursuant to an order by a licensed provider with prescriptive authority.

References

ASHP Guidelines on Compounding Sterile Preparations (June 2, 2013): http://www.ashp.org/DocLibrary/BestPractices/PrepGdlCSP.aspx

Centers for Disease Control and Prevention and the Safe Injection Practices Coalition, One & Only Campaign: http://www.oneandonlycampaign.org/safe_injection_practices

FDA Compounding Quality Act Title I of the Drug Quality and Security Act of 2013: http://www.fda.gov/Drugs/GuidanceComplianceRegulatoryInformation/PharmacyCompounding/default.htm

FDA Compounding Questions and Answers: http://www.fda.gov/Drugs/GuidanceComplianceRegulatoryInformation/PharmacyCompounding/ucm339764.htm

Infusion Nurses Society: https://www.ins1.org/default.aspx

Institute for Safe Medication Practices Preparation of Compounded Sterile Preparations (2016): http://www.ismp.org/Tools/guidelines/IVSummit/IVCGuidelines.pdf

Just the Facts: Compounding, APhA: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3627035/

Pharmacy Compounding of Human Drug Products under Section 503A of the Federal Food, Drug, and Cosmetic Act: http://www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/Guidances/UCM469119.pdf

Pharmacy Compounding Standards, Washington State Department of Health Pharmacy Commission: http://www.doh.wa.gov/LicensesPermitsandCertificates/FacilitiesNewReneworUpdate/Pharmacy/PharmacyCompoundingStandards

Potential Risks of Pharmacy Compounding (Gudeman, J., Jozwiakowski, M., Chollet, J., and Randell, M., March 13, 2013), Drugs in R and D: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3627035/

Revised Hospital Guidance for Pharmaceutical Services and Expanded Guidance Related to Compounding Medications, (October 30, 2015), CMS: https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/Survey-and-Cert-Letter-16-01.pdf

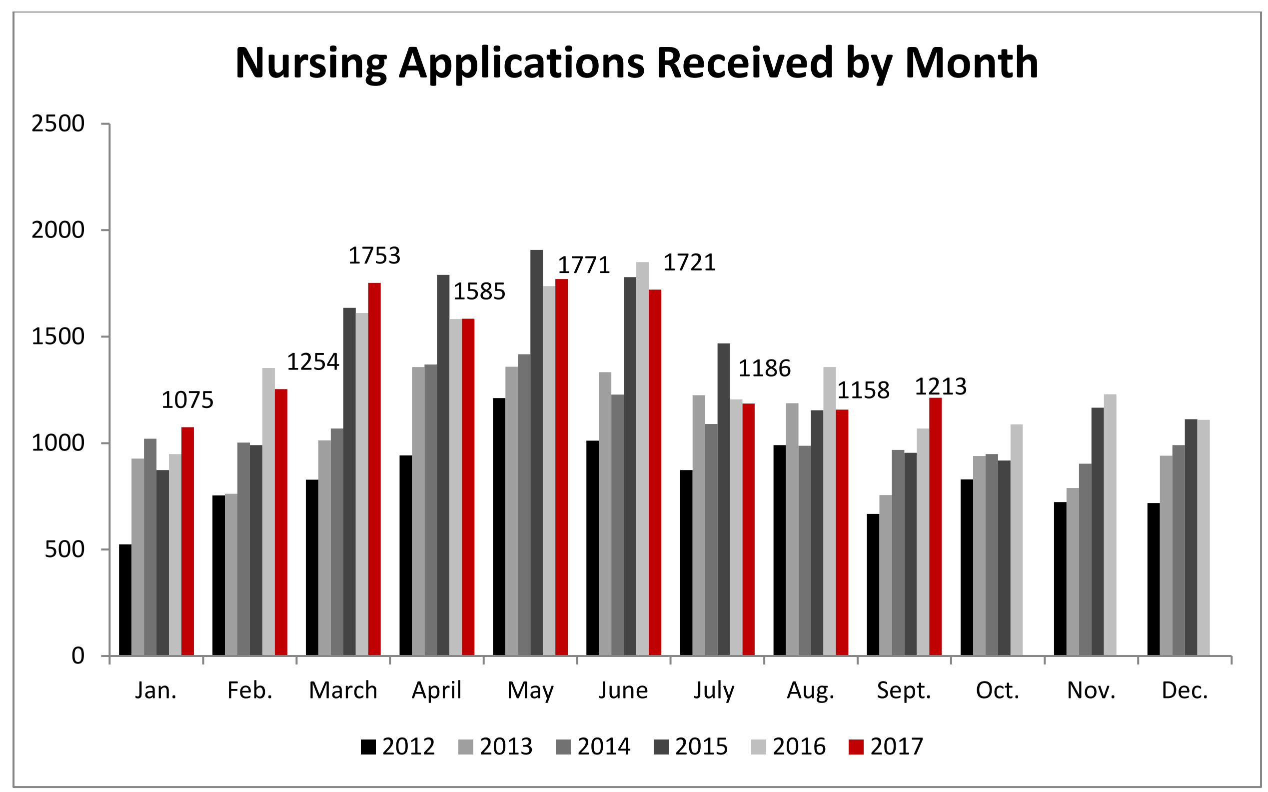
Sterile Compounding: Clinical, Legal, and Regulatory Implications for Patient Safety (Quershi, N., Wesolowicz, L., Stievater, T., and Tungol Lin, A., December 2014), Journal of Managed Care and Specialty Pharmacy: http://www.amcp.org/WorkArea/DownloadAsset.aspx?id=18839

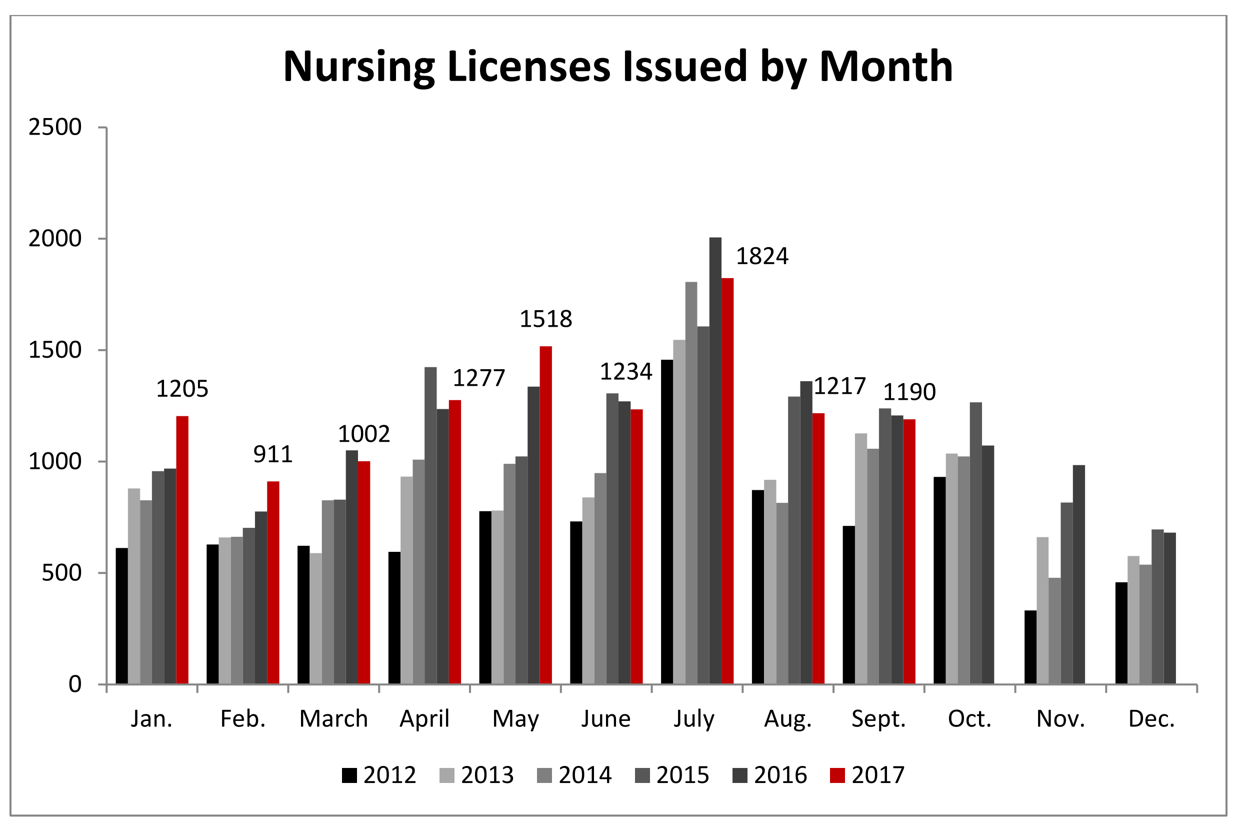
Understanding Medication Compounding Issues, (April 2014), (Hicks, R.W.) – Association of periOperative Nurses (AORN): https://www.aorn.org/websitedata/cearticle/pdf_file/CEA14510-0001.pdf

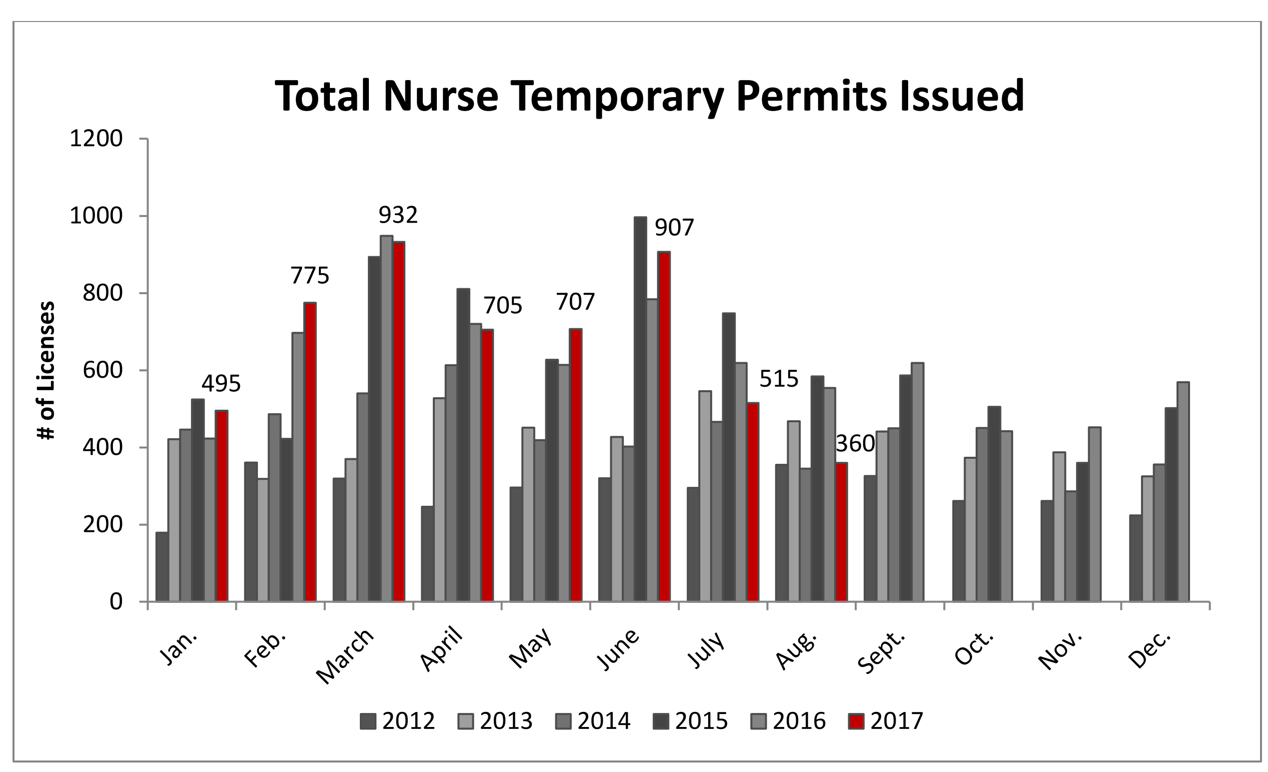
USP Compounding Standards and Resources: http://www.usp.org/usp-healthcare-professionals/compounding

USP Chapter 795 Pharmaceutical Compounding – Nonsterile Preparations Revision Bulletin (January 1, 2014): http://www.usp.org/sites/default/files/usp_pdf/EN/gc795.pdf

Nurse Licensing Update: October 2017







Total Nurse Temporary Permits Issued
# of Licenses
1200
1000
800
600
400
200
0
495
775
932
705
707
907
515
360
Jan.
Feb.
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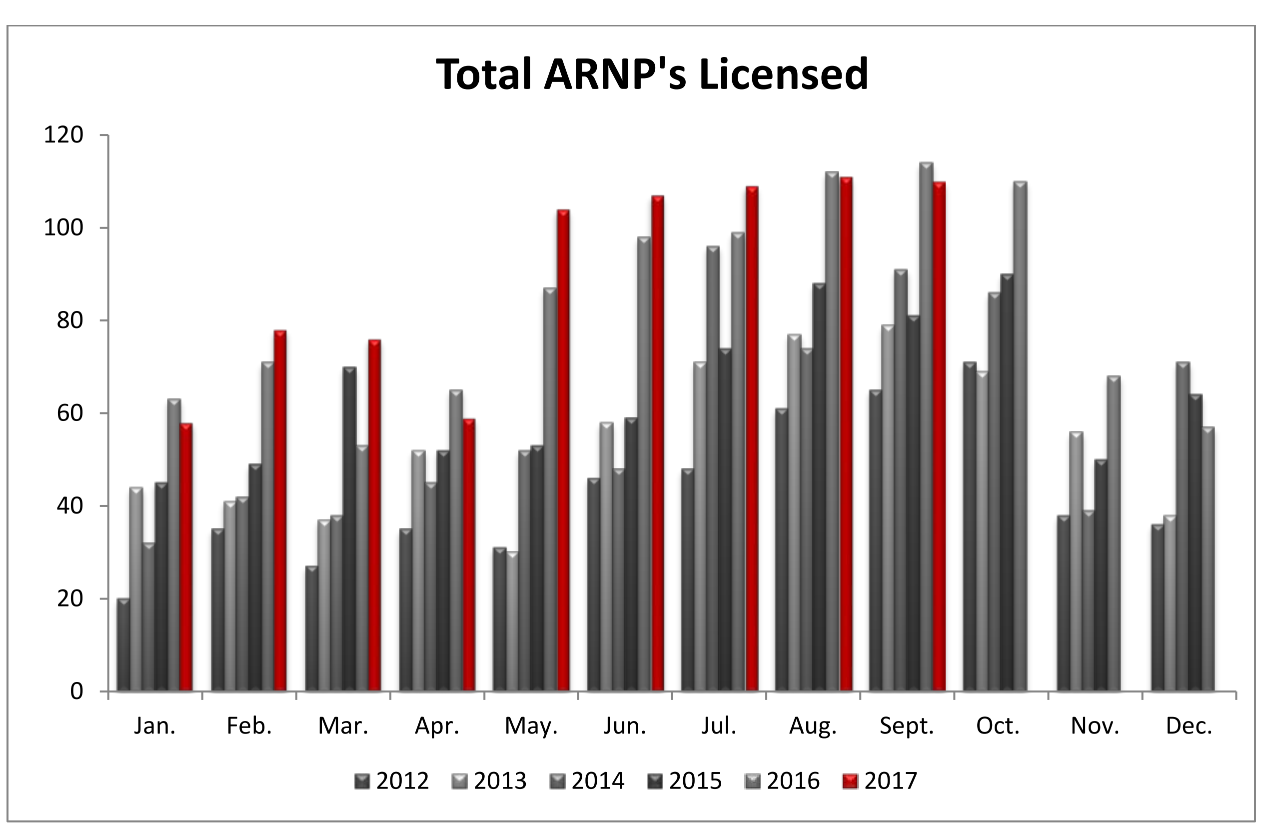
2017



Total ARNP's Licensed
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80
60
40
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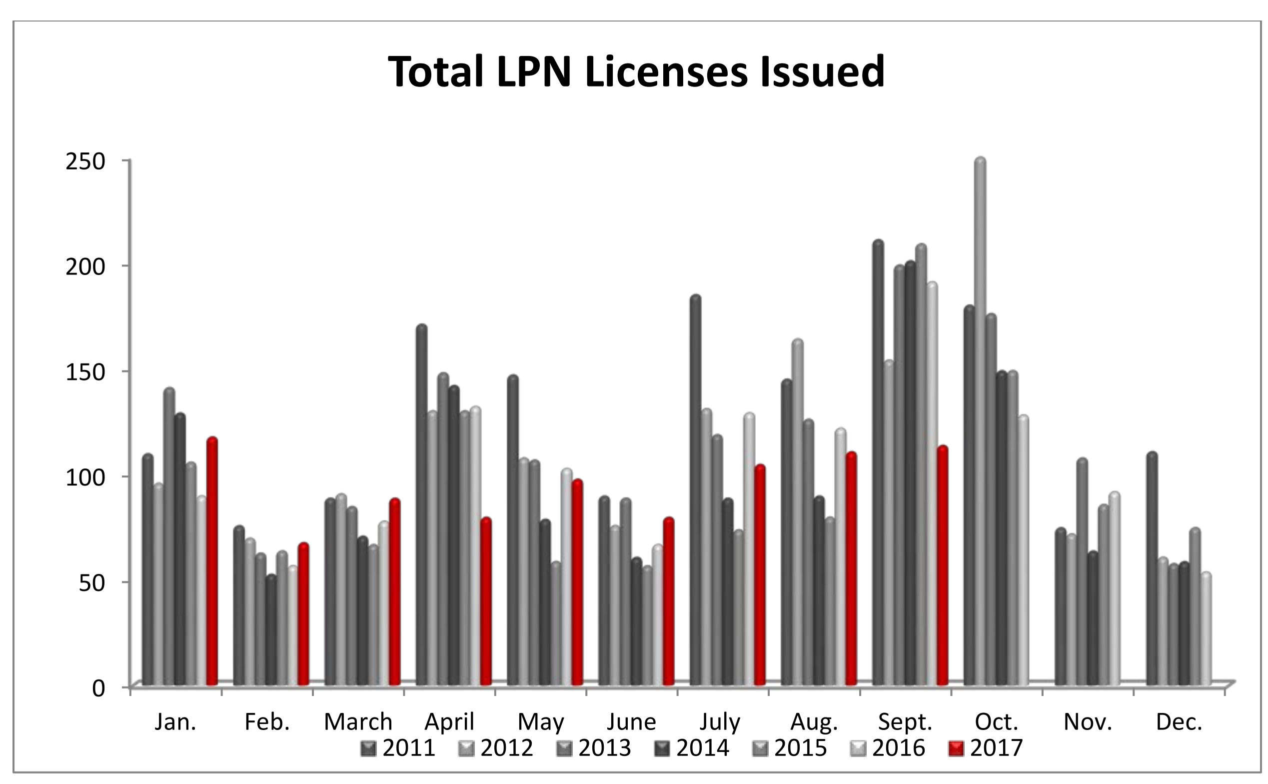
Total LPN Licenses Issued
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150
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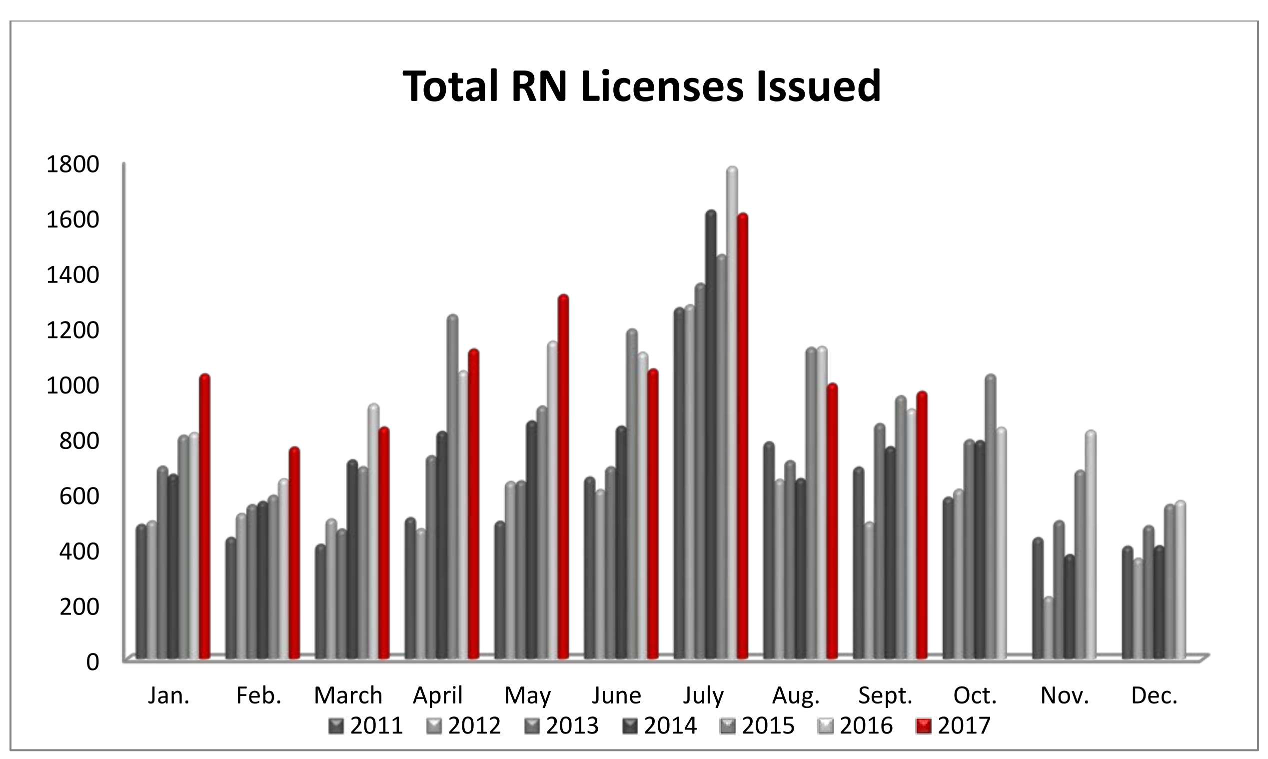
Total RN Licenses Issued
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1600
1400
1200
1000
800
600
400
200
0
Jan.
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July
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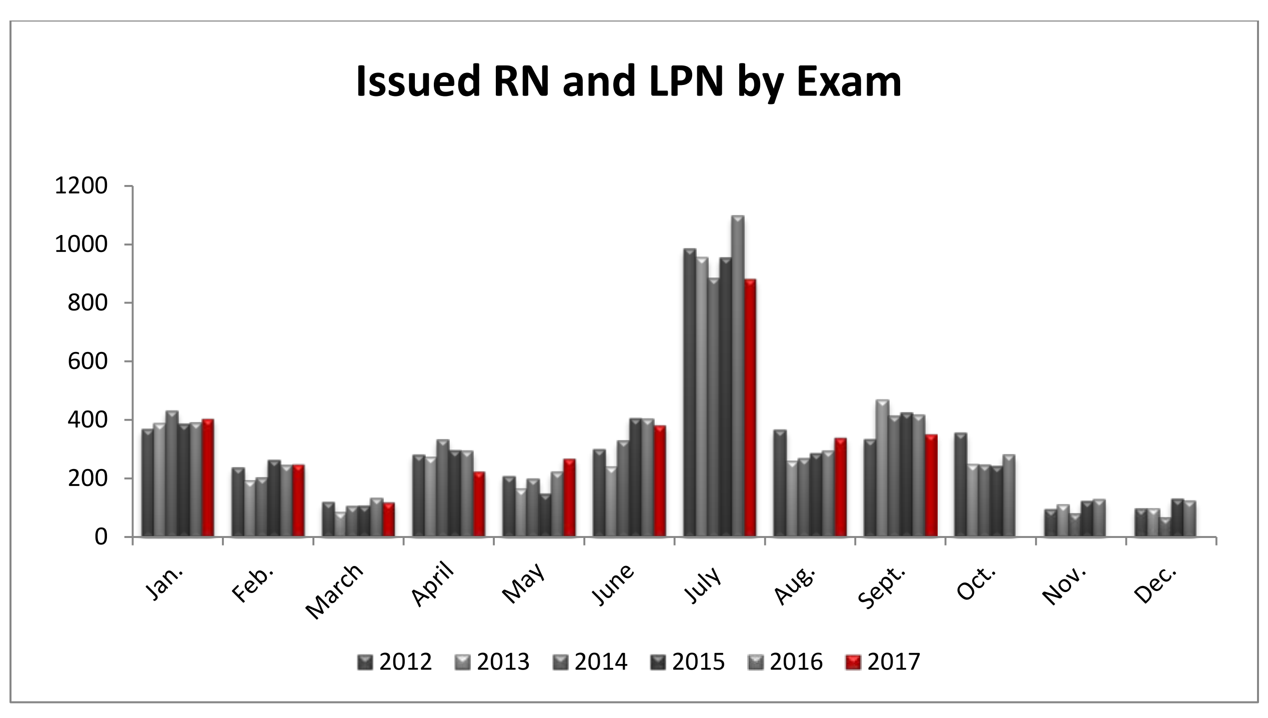
Issued RN and LPN by Exam
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2012
2013
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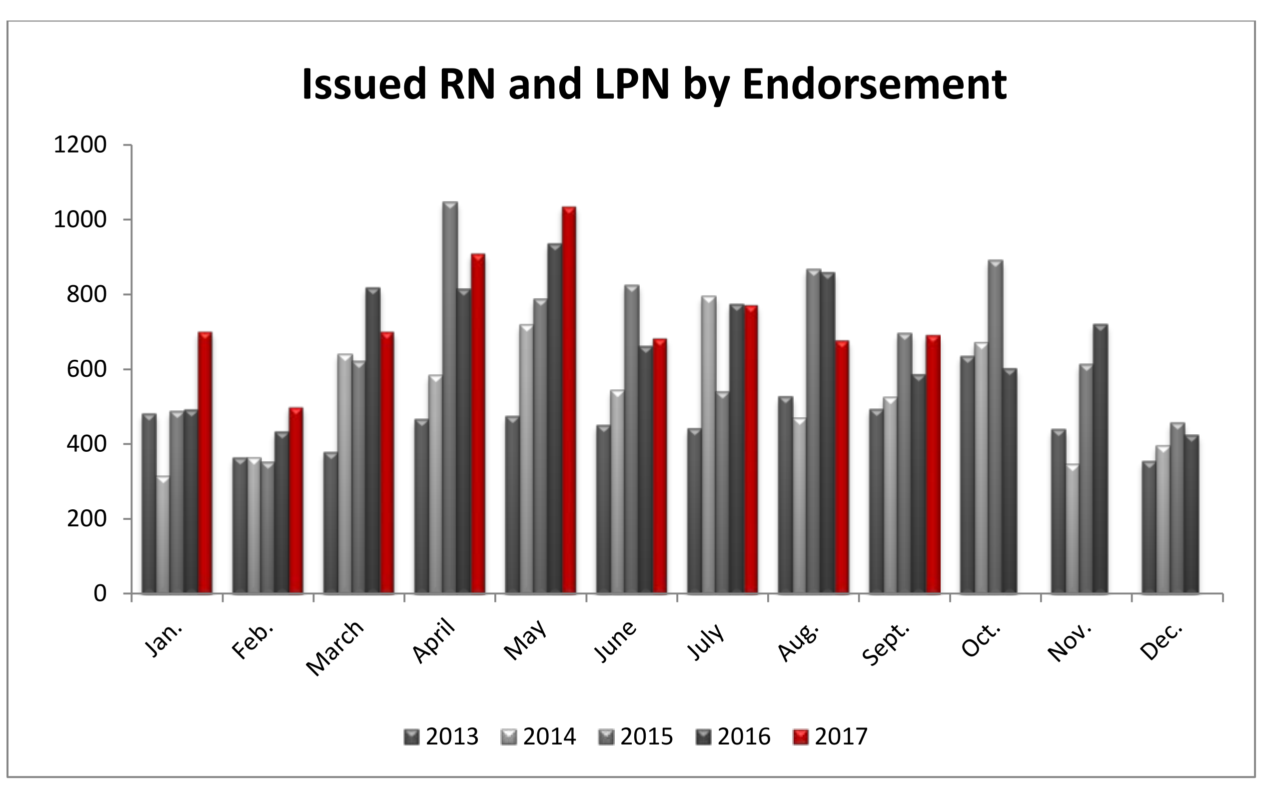
2017


Issued RN and LPN by Endorsement
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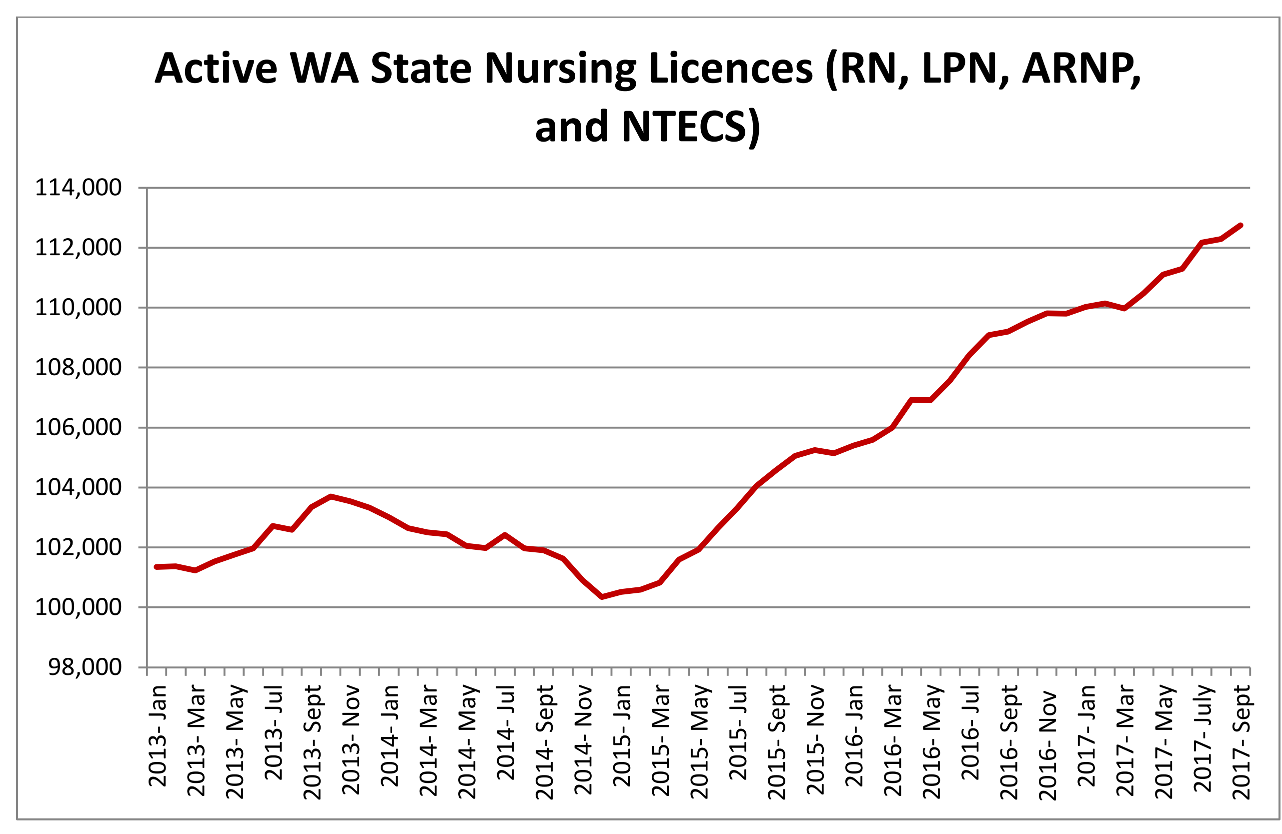
Active WA State Nursing Licences (RN, LPN, ARNP, and NTECS)
114,000
112,000
110,000
108,000
106,000
104,000
102,000
100,000
98,000
2013- Jan
2013- Mar
2013- May
2013- Jul
2013- Sept
2013- Nov
2014- Jan
2014- Mar
2014- May
2014- Jul
2014- Sept
2014- Nov
2015- Jan
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2015- Jul
2015- Sept
2015- Nov
2016- Jan
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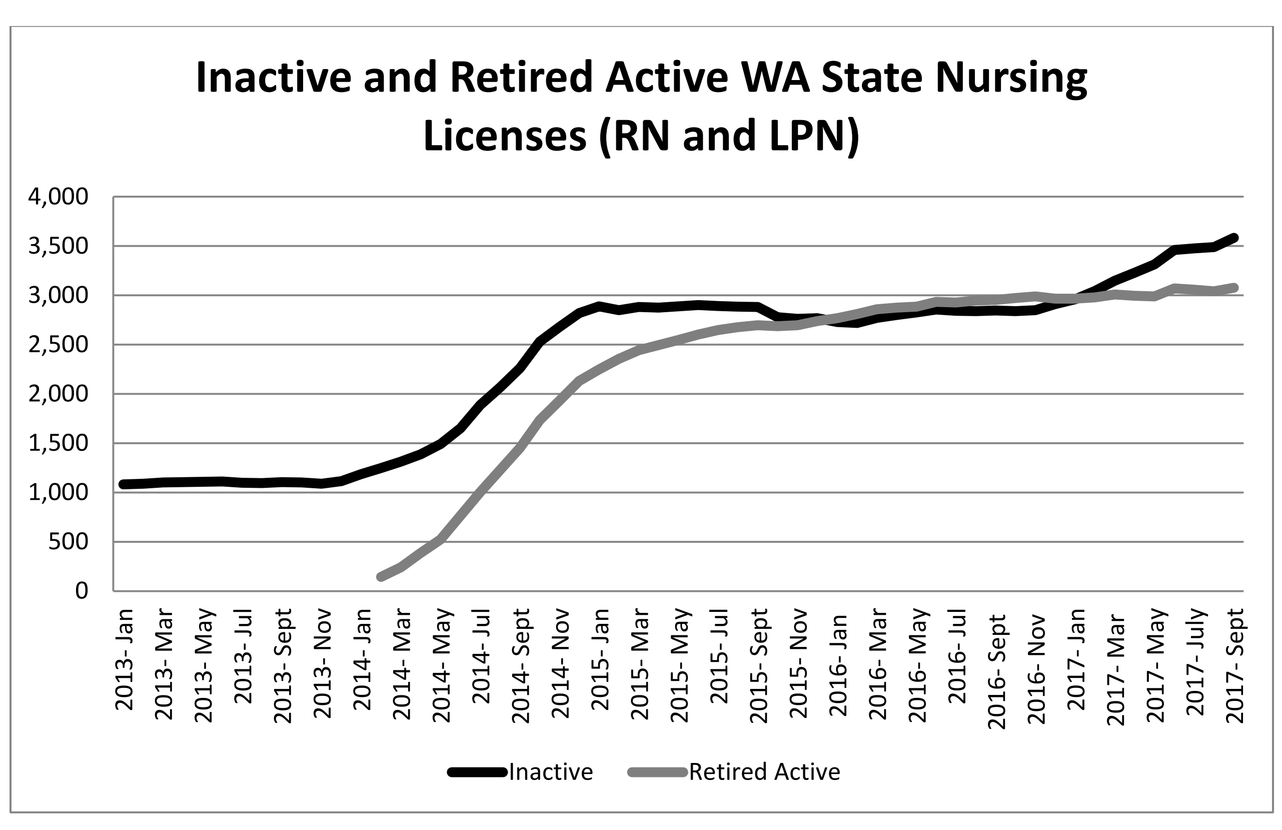
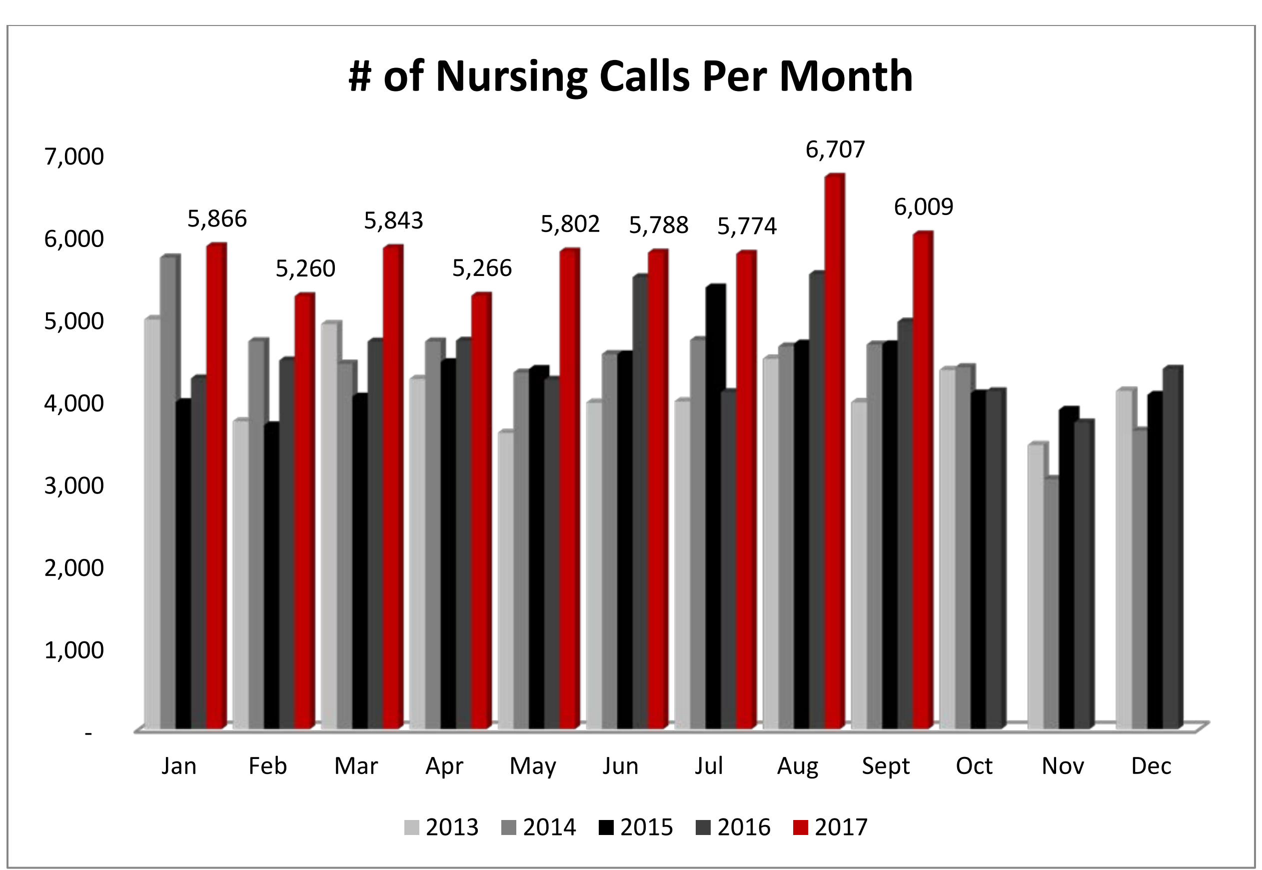
2016- May
2016- Jul
2016- Sept
2016- Nov
2017- Jan
2017- Mar
2017- May
2017- July
2017- Sept


Inactive and Retired Active WA State Nursing Licenses (RN and LPN)
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2013- Jan
2013- Mar
2013- May
2013- Jul
2013- Sept
2013- Nov
2014- Jan
2014- Mar
2014- May
2014- Jul
2014- Sept
2014- Nov
2015- Jan
2015- Mar
2015- May
2015- Jul
2015- Sept
2015- Nov
2016- Jan
2016- Mar
2016- May
2016- Jul
2016- Sept
2016- Nov
2017- Jan
2017- Mar
2017- May
2017- July
2017- Sept
Inactive
Retired Active



# of Nursing Calls Per Month
7,000
6,000
5,000
4,000
3,000
2,000
1,000
-
5,866
5,260
5,843
5,266
5,802
5,788
5,774
6,707
6,009
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sept
Oct
Nov
Dec
2013
2014
2015
2016
2017

2019 Office of Infectious Disease Proposal for Agency Request Legislation
Chapter 70.24 RCW: CONTROL AND TREATMENT OF SEXUALLY TRANSMITTED DISEASES
Summary: Proposed Changes

1 - Title Change: Chapter 70.24 RCW: CONTROL AND TREATMENT OF INFECTIOUS DISEASES

Retain -- No Changes in all grey sections directly below.

Section #	Section Title	Section Summary
70.24.005	Transfer of duties to the department of health.	Transfers From DSHS to DOH
70.24.022	Interviews, examination, counseling, or treatment of infected persons or persons believed to be infected—Dissemination of false information—Penalty.	Allows for Disease Investigation and Control
70.24.050	Diagnosis of sexually transmitted diseases—Confirmation—Anonymous prevalence reports.	Allows for HIV prevalence reporting
70.24.080	Penalty.	Penalty for this Chapter: Misdemeanor
70.24.084	Violations of chapter—Aggrieved persons—Right of action.	Rights for people violated
70.24.090	Pregnant women—Test for syphilis.	Syphilis Testing for pregnant Women
70.24.107	Rule-making authority—1997 c 345.	Gives DOH authority for rules
70.24.120	Sexually transmitted disease case investigators—Authority to withdraw blood.	Allows DIS to Draw Blood
70.24.125	Reporting requirements for sexually transmitted diseases—Rules.	SBOH to adopt rules for STD reporting
70.24.130	Adoption of rules.	SBOH responsible for rule adoption
70.24.150	Immunity of certain public employees.	Immunity if work done in good faith.
70.24.420	Additional local funding of treatment programs not required.	Nothing construes need local funds
70.24.430	Application of chapter to persons subject to jurisdiction of department of corrections.	Nothing creates state-mandated liberty
70.24.901	Construction—Chapter applicable to state registered domestic partnerships—2009 c 521.	Allows for spouse/partner

015: Change Legislative Finding to include infectious diseases and/or statement that infectious disease are a Public Health issue.
017: Definitions to consider: Adjust definition of STD? Include Blood-borne Pathogens? Define HIV Test?

Section #	Section Title	Section Summary
70.24.015	Legislative finding.	Finds STDs important to address
70.24.017	Definitions.	Defines terms for Chapter

2 - 110: Expand the age to access to include 13 year olds and expand treatment to include preventative treatment (vaccines and PrEP).

Section #	Section Title	Section Summary
70.24.110	Minors—Treatment, consent, liability for payment for care.	Allows 14 and over to access STD tx

3 - 024; 034; 070: Public Health Behaviors Endangering changes to consider include removing 90 day clause TBD depending on work with LHJs

Section #	Section Title	Section Summary
70.24.024	Orders for examinations and counseling—Restrictive measures—Investigation—etc	Allows Public Health to Conduct Behaviors Endangering Counseling, Testing, and ultimately, detention
70.24.034	Detention—Grounds—Order—Hearing.	
70.24.070	Detention and treatment facilities.	

4 - 140: Decriminalization changes include addressing Felony A and TBD depending on work with stakeholders — **Linked to RCW 9A.36.011**

Section #	Section Title	Section Summary
70.24.140	Certain infected persons—Sexual intercourse unlawful without notification.	Misdemeanor (except HIV)

5 - 220: Expand AIDS Education to be "Comprehensive Sexual Health" education TBD with working with OSPI — **Linked to RCW 28A.230.070**

Section #	Section Title	Section Summary
70.24.220	AIDS education in public schools—Finding.	Finds AIDS education should be in school

340: Remove mandatory HIV testing for prostitution and drug convictions. Replace HIV w/Blood-borne pathogens. Remove 72 hour limitation.
6 - 360 and 370: Remove HIV + Replace w/ Blood Borne Pathogens. Replace "possible risk" with substantial exposure w/ medical assessment.

Section #	Section Title	Section Summary
70.24.340	~~Convicted persons—Mandatory testing and counseling for certain offenses~~—Employees' substantial exposure to bodily fluids—Procedure and court orders.	Mandatory testing of certain offenses Substantial Exposure testing
70.24.360	Jail detainees—Testing and counseling of persons who present a possible risk.	Jail and Corrections detainees presenting possible risk – sources testing and counseling
70.24.370	Correction facility inmates—Counseling and testing of persons who present a possible risk—Training for administrators and superintendents—Procedure.	

400: Remove restrictive language around Center for AIDS Education.
450: Remove reporting requirement

Section #	Section Title	Section Summary
70.24.400	Funding for office on AIDS ~~Center for AIDS education~~ Department's duties for awarding grants.	HIV Funds to DOH. DOH grants.
70.24.450	Confidentiality—~~Reports~~—Unauthorized disclosures.	Confidentiality of section

Remove: AIDS Counseling Requirements; AIDS Clearinghouse; AIDS Education Requirements for Certain Professions
Remove: Specific HIV Testing Consent and Requirement for Opt Out Screening

Section #	Section Title	Section Summary
70.24.100	Syphilis laboratory tests.	Legacy language. Lab "free of charge"
70.24.095	Pregnant women—Drug treatment program participants—AIDS counseling.	Requires HIV and AIDS Counseling for certain people
70.24.320	Counseling and testing—AIDS and HIV—Definitions.	
70.24.325	Counseling and testing—Insurance requirements.	
70.24.380	Board of health—Rules for counseling and testing.	
70.24.240	Clearinghouse for AIDS educational materials.	Establishes AIDS Clearinghouse
70.24.250	Office on AIDS—Repository and clearinghouse for AIDS education and training material—University of Washington duties.	
70.24.200	Information for the general public on sexually transmitted diseases—Emphasis.	General STD info – Abstinence first
70.24.210	Information for children on sexually transmitted diseases—Emphasis.	Info for Children – Abstinence first
70.24.260	Emergency medical personnel—Rules for AIDS education and training.	Requires AIDS education for certain profession
70.24.270	Health professionals—Rules for AIDS education and training.	
70.24.280	Pharmacy quality assurance commission—Rules for AIDS education and training.	
70.24.290	Public school employees—Rules for AIDS education and training.	
70.24.300	State and local government employees—Determination of substantial likelihood of exposure—Rules for AIDS education and training.	
70.24.310	Health care facility employees—Rules for AIDS education and training.	
70.24.330	HIV testing—Consent, exceptions.	HIV testing consent required
70.24.335	HIV testing—Opt-out screening.	
70.24.410	AIDS advisory committee—Duties, review of insurance problems—Termination.	Advisory Committee. Terminated 1991

7 – Drug User Health: Possibilities to consider: Technical Fix [re-insert 70.24.400(12)]; decriminalize possessing syringe; address disclosure law; and/or Legalize Safe Consumption Sites. **Linked to RCW 69.50.102**

EVALUATION OF MEDICATION AIDES IN NURSING HOMES

Manu Mooker, LNHA, RN, MHA

Introduction

- Health care delivery system is more complex
- Nursing homes admitting more acute patients
- Shortage of nurses
- Increased cost of care
- Traditional role of nurses in long term care facilities
- Critical thinking by nurses

Medication Administration

- Medication use process
- Medication administration - six steps
- Medication administration is the most common therapeutic intervention in long term care facilities (Barton, 2009)
- The ultimate responsibility of medication error placed on licensed nurses (Lane, Stanton & Harrison, 2005)
- Majority of medication errors likely to occur at the prescribing and transcribing phase of medication use (Lane, et al. 2005)

Oversight and Role of Medication Aide

- The NCSBN refers to this role as medication aides, whereas Washington Department of Health refers to them as medication assistants.
- There are currently 34 states that allow use of medication aides in nursing homes. (Dupler, Crogan & Bequir, 2015)
- Regulation of programs varies by state; some are overseen by Boards of Nursing and some by Department of Health
- Duties and allowed tasks to be completed by medication aides vary between states (Budden, 2011)

Medication Aides in Washington State

- One must be a certified nursing assistant. (NA-C)
  - *At least 1,000 hours of work experience in nursing home as NA-C (Medication Assistant Endorsement, 2017)*
- State approved training program
  - *60 hours of didactic teaching and 40 hours of clinical experience*
  - *NCSBN approved curriculum adopted nationally in 2007*
- Medication Assistant Competency Evaluation (MACE)
  - *Competency evaluation initially and annually (Dupler et al. 2015)*
  - *Standardized nationally*

Medication Aides: Tasks Permitted

- Defined by Washington Administrative Code 246-841-589.
- Tasks must be delegated by a registered nurse.
- Medication aides can administer:
  - *Over the counter drugs*
  - *Legend drugs*
  - *Schedule IV & V medications orally, topically or through inhalation*
  - *Ordered treatments*

Literature Review

- Average time spent for medication administration is between 4.08 – 5.51 hours per day (Thompson, et al., 2009)
- Preparation of medications and providing medications are the most time consuming steps (Barton, 2009)
- A decrease in medication error rate is seen in facilities using medication aides (Vogelsmeier, 2011; Budden, 2011)
- A decrease in quality indicators associated with activities of daily living and urinary tract infections (Walsh, et al., 2013)
- Staffing levels and composition of staff is associated with greater quality of care (Castel & Anderson, 2011; Walsh, et al., 2013)

Facility A (Case Study)

- 206 bed licensed skilled nursing facility in south Seattle
- Certified to provide Medicare & Medicaid services
- Accepts both short term and long term care patients
- Implemented medication aide program in 2015
  - *Recruiting and retention of quality care staff*
  - *Nursing shortage*
  - *Utilizing staff to their full scope of practice and potential*
- Medication aides only administer medications in long term care

Hypotheses

- Hypothesis 1: Licensed nursing hours will be decreased
- Hypothesis 2: Medication errors will increase
- Hypothesis 3: Pharmacy services related deficiencies will increase
- Hypothesis 4: There will be a decrease in quality of care

Hypotheses Evaluation

- Data collected from facility administrator
- Quality indicators were reviewed
- Number of total deficiencies and pharmacy related deficiencies
  - *Compared with four other like sized facilities*
  - *Over 150 beds*

Hypothesis 1: Licensed nursing hours will be decreased

- Federal regulations do not require a minimum staffing level (Title 42 CFR 483.35)
- Requires "sufficient nursing staff with appropriate competencies and skill sets to provide nursing and related services" (Title 42 CFR 483.35)
- Licensed nurse coverage on a 24 hours basis and eight hours of registered nurse coverage. (Title 42 CFR 483.35)
  - *Washington state requires 16 hours of registered nurse coverage (WAC 388-97-1090)*
  - *3.4 hours of direct care per resident per day which includes registered nurses (WAC 388-97-1090)*
- Facility A staffing composition has changed, but no decline in licensed nursing hours
  - *Current staffing ratio is 1:33 for RNs, LPNs and medication aides.*

Hypothesis 2-Medication errors will increase

- The facility administrator shared that medication errors have remained unchanged with implementation of medication aides.
- Administrator so pleased with program that plan to roll out to short term wing

Pharmacy related deficiencies

- F329: Each resident's drug regiment is free from unnecessary drugs and requires each resident's entire drug/medication to be managed to achieve highest well-being.
- F332: Facility is free from medication error; rate is less than or equal to five percent.
- F333: Resident is free from significant medication error.
- F425: A licensed pharmacist safely provides drugs and other similar products available, which are needed every day and in emergencies.
- F431: Drug records and properly marked/labeled drugs and other similar products are maintained according to accepted professional standards

Hypothesis 3-Pharmacy services related deficiencies will increase

Deficiency Category	Survey date: 7/15/16	Survey date: 5/07/15	Survey date: 03/25/14
Mistreatment Deficiencies	1	0	2
Quality Care Deficiencies	1	0	0
Resident Assessment Deficiencies	0	0	0
Resident Rights Deficiencies	0	1	4
Nutrition and Dietary Deficiencies	0	1	0
Pharmacy Services Deficiencies	**2**	**2**	**1**
Environmental Deficiencies	1	2	1
Administration Deficiencies	0	0	0

- Total number of pharmacy related deficiencies has remained stable

Review of Facility A pharmacy related deficiencies for the past 3 years

Pharmacy Deficiencies	Facility A			Facility B			Facility C			Facility E		
	2016	2015	2014	2016	2015	2014	2016	2015	2014	2016	2015	2014
F 329	1	1	0	0	1	0	1	1	1	1	1	1
F332	0	0	0	0	0	0	0	0	0	0	0	0
F333	0	1	0	0	0	0	0	0	0	0	0	0
F425	0	0	0	0	0	0	1	0	0	1	0	1
F431	1	0	1	0	0	0	1	1	1	0	0	1

Hypothesis 4-There will be a decrease in quality of care

Nursing Home Long-Stay Residents	Facility A ('16-'17)	('15-'16)	Washington Average	National Average
Percentage of long-stay residents experiencing one or more falls with major injury	3.9%	4.00%	2.7%	3.4%
Percentage of long-stay residents with a urinary tract infection	3.1%	4.1%	4.1%	4.2%
Percentage of long-stay high-risk residents with pressure ulcers	**2.1%**	1.3%	4.8%	5.7%
Percentage of long-stay low-risk resident who lose control of their bowels or bladder	**50.7%**	49.2%	52.6%	47.3%
Percentage of long-stay residents who have/had a catheter inserted and left in their bladder	1.9%	2.7%	2.5%	2.4%
Percentage of long-stay residents whose ability to move independently worsened	**14.1%**	13.2%	17.7%	18.1%
Percentage of long-stay residents whose need for help with daily activities has increased	**10.4%**	9.6%	13.4%	15.1%
Percentage of long-stay residents who have depressive symptoms	**60.5%**	54.6%	9.3%	5.2%

Discussion

- Similar results found as in previous studies.
  - *Quality of care indicators changed as in previous studies*
  - *Pharmacy related deficiencies remained stable across the three years reviewed*
  - *Staffing level has not decreased*

Limitations

- Data is publically available
- No data received from facility related to medication errors
- Facility administrator self-report was main source

Future Research Opportunities

- Evaluation of satisfaction of medication aides and licensed nursing staff
- Evaluation of satisfaction of residents who receive their medications from aides.
- Evaluation of hesitancy of other facilities in Washington state to adopt this program

References

Barton, A. (2009). Patient Safety and Quality: An Evidence-Based Handbook for Nurses. *AORN Journal,90*(4), 601-602. doi:10.1016/j.aorn.2009.09.014

Budden, J. S. (2011). The safety and regulation of medication aides. *Journal of Nursing Regulation,2*(2), 18-23. doi:10.1016/s2155-8256(15)30282-9

Castle, N. G., & Anderson, R. A. (2011). Caregiver Staffing in Nursing Homes and Their nfluence on Quality of Care. *Medical Care,49*(6), 545-552. doi:10.1097/mlr.0b013e31820fbca9

Code of Federal Regulations Title 42- Chapter IV- Subchapter G- Part 483- Subpart B- Section 483.35- Nursing services Retrieved on July 27, 2017 from https://www.law.cornell.edu/cfr/text/42/483.35

Dupler, A. E., Crogan, N. L., & Beqiri, M. (2015). Medication Assistant-Certification Program in Washington State: Barriers to implementation. *Geriatric Nursing,36*(4), 322-326. doi:10.1016/j.gerinurse.2015.06.005

Lane, R., Stanton, N. A., & Harrison, D. (2006). Applying hierarchical task analysis to medication administration errors. *Applied Ergonomics,37*(5), 669-679. doi:10.1016/j.apergo.2005.08.001

Medicare Nursing Home Profile. (n.d.). Retrieved May 02, 2017, from

https://www.medicare.gov/nursinghomecompare/profile.html#profTab=1&ID=505442&loc=SEATTLE%2C%20WA&lat=47.6062095&lng=-122.3320708&name=CAROLINE%20KLINE%20GALLAND%20HOME&Distn=7.3

Medication Assistance Endorsement (n.d.). Retrieved July 27, 2017, from http://www.doh.wa.gov/LicensesPermitsandCertificates/ProfessionsNewReneworUpdate/NursingAssistant/FrequentlyAskedQuestions/MedicationAssistantEndorsementFAQs#7

National Coordinating Counsel for Medication Error Reporting and Prevention. (n.d.). Retrieved June 4, 2017, from http://www.nccmerp.org/about-medication-errors

References

Nursing Assistant Certified-Education Program List (2017) Retrieved April 28, 2017, from http://www.doh.wa.gov/LicensesPermitsandCertificates/NursingCommission/NursingEducation/NursingAssistantCertified/ProgramList/u14855q/4D656469636174696F6E2061737369737374616E74/u14855c/616C6C636F6C756D6E73/u14855m/contain)

Thomson, M. S., Gruneir, A., Lee, M., Baril, J., Field, T. S., Gurwitz, J. H., & Rochon, P. A. (2009). Nursing Time Devoted to Medication Administration in Long-Term Care: Clinical, Safety, and Resource Implications. Journal of the American Geriatrics Society,57(2), 266-272. doi:10.1111/j.1532-5415.2008.02101.x

Parry, A. M., Barriball, K. L., & While, A. E. (2015). Factors contributing to Registered Nurse medication administration error: A narrative review. International Journal of Nursing Studies,52(1), 403-420. doi:10.1016/j.ijnurstu.2014.07.003

Patient Safety Primer-Medication Errors (2015, March). Retrieved June 4, 2017, from https://psnet.ahrq.gov/primers/primer/23/medication-errors

Revised Code of Washington Title 18-Chapter 18.88A-Section-085 Medication assistant endorsement-Requirements. Retrieved on July 07, 2017 from https://app.leg.wa.gov/rcw/default.aspx?cite+18.88A.082

Vogelsmeier, A. (2011). Medication Administration in Nursing Homes: RN Delegation to Unlicensed Assistive Personnel. Journal of Nursing Regulation, 2(3), 49-55. Doi:10.1016/s2155-8256(15)30273-8

Walker, M.J. (2008). Effects of the Medication Nursing Assistant Role on Nurse Job Satisfaction and Stress in Long-Term Care. Nursing Administration Quarterly, 32(4), 296-300. Doi: 10.1097/01.naq.0000336726.03065.9f

References

Walsh, J. E., Lane, S. J., & Troyer, J. L. (2013). Impact of Medication Aide Use on Skilled Nursing Facility Quality. The Gerontologist,54(6), 976-988. doi:10.1093/geront/gnt085

Washington Administrative Code Title 246-Chapter 841-Section-490 Core curriculum in approved nursing assistant-certified training programs. Retrieved on July 27, 2017 from
https://app.leg.wa.gov/wac/default.aspx?cite=246-841-490

Washington Administrative Codes Title 246-Chapter 841-Section-589 Medication administration and performing prescriber ordered treatments. Retrieved on April 28, 2017 from
http://app.leg.wa.gov/wac/default.aspx?cite=246-841-589

Washington Administrative Codes Title 388-Chapter 97-Section-1090 Direct care hours. Retrieved on April 28, 2017 from http://apps.leg.wa.gov/wac/default.aspx?cite=388-97-1090

Zhang, N. J., Unruh, L., Liu, R., & Wan, T. T. (2006). Minimum nurse staffing ratios for nursing homes. Nursing Economics,24(2), 78-85. Retrieved June 8, 2017 fromhttps://www.ncbi.nlm.nih.gov/pubmed/16676750.

Online Licensing and Information Collection (OLIC) Project

Nursing Care Quality Assurance Commission

11/17/2017

Online Application Portal

Live Demonstration

Online Licensing

Goals

- Provide online portal for new license applications for health profession and facilities
- Provide streamlined, easy-to-use online applications
- Store license application data in licensing system

Benefits

- Reduce the amount of time to issue licenses
- Improve patient safety and access to care
- Allow providers and facilities to provide care sooner

Online Licensing Timeline

December 2017: Field testing for select applications, including licensed practical nurse

January 2018: Rollout #1 – nursing technician registration

February 2018: Rollout #2 – licensed practical nurse

March 2018: Rollout #3 – advanced registered nurse practitioner

May 2018: Rollout #4 – registered nurse

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NURSING CARE QUALITY ASSURANCE COMMISSION

EDUCATION INCIDENT REPORTING

WAC 246-840-513

10/01/2016 through 9/30/2017

Academic Year

Unreasonable Ricks reported numbers	Care/other reported numbers	Patient Harm	TOTAL NUMBER OF INCIDENT REPORTS
45	12	1	58

Medication error	Care/other	Unknown	TOTAL NUMBER OF INCIDENT REPORTS
42	12	4	58

NCBON Just Culture STUDENT PRACTICE EVENT EVALUATION TOOL (SPEET)

Event(s): **Event Number:**

	Criteria	Human Error	At Risk Behavior			Reckless Behavior		Score
		0	**1**	**2**	**3**	**4**	**5**	
G	**General Nursing Practice**	No prior counseling for practice related issues	Prior counseling for single **non-related** practice issue	Prior counseling for single "related" issue	Prior counseling for "same" issue	Prior counseling for multiple related or nonrelated practice issues	Prior counseling for same or related issue with no or little evidence of improvement.	
U	**Understanding expected based on program level, course objectives/ outcomes**	Has knowledge, skill and ability - *Incident was accidental, inadvertent, or an oversight*	Task driven/rote learning. OR Wrong action for this circumstance.	Failed to demonstrate appropriate understanding of options/resources. OR Aware of safety issues but in this instance cut corners.	Understands rationale but failed to recognize situations in terms of overall picture or to prioritize actions. OR In this instance, failed to obtain sufficient info or consult before acting.	Able to recognize potential problems. In this instance "negligent" OR failed to act according to standards. Risk to client outweighed benefits.	Knows or should have known correct action, role and limitations. In this instance action was "gross negligence/ unsafe act" and demonstrated no regard for patient safety.	
I	**Internal Program or Agency Policies/ standards/ inter-disciplinary orders**	Unintentional breech OR No policy/standard/ order available.	Policy not enforced. OR Cultural norm or common deviation of staff. OR Policy/order misinterpreted	Student cut corners or *deviated* in this instance from policy/standard/order as time saver.- No evidence or suggestion of a pattern of behavior.	Aware of policy/ standard/ order but ignored or disregarded to achieve *perceived expectations* of faculty, staff, patient or others. May indicate pattern or single event.	Disregarded policy/standard/order for own personal gain.	Maliciously disregarded policy/standard/order	
D	**Decision/ choice**	Accidental/ mistake/ Inadvertent error	Advantages to patient outweighed risk	Emergent situation - quick response required.	Non-emergent situation. Chose to act/not to act without weighing options or utilizing resources. Used poor judgement	Clearly a prudent student would not have done. Unacceptable risk to patient/agency/public Disregard for patient safety.	Conscious choice. Put own interest above that of patient/agency/pubilc. Egregious choice. Neglected red flags	
E	**Ethics/ credibility/ accountability**	Identified own error and self reported.Identifies opportunities for improvement and develops action plan for ensuring incident will not be repeated.	Admitted to error and accepts responsibility. Identifies opportunities for improvement and develops action plan for ensuring incident will not be repeated.	Acknowledged role in error but attributes to circumstances and/or blames others to justify action/inaction. Cooperative during investigation. Demonstrates desire to improve practice.	Denies responsibility until confronted with evidence. Reluctantly accepts responsibility. Made excuses or made light of occurrence. Marginally cooperative during investigation.	Denied responsibility despite evidence. Indifferent to situation. Uncooperative and/or dishonest during investigation.	Took active steps to conceal error or failed to disclose known error.	

Criteria Score __________

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NCBON Just Culture STUDENT PRACTICE EVENT EVALUATION TOOL (SPEET)

	Mitigating Factors – check all identified		Aggravating Factors – check all identified	
	Communication breakdown (multiple handoffs, change of shift, language barriers)			
	Unavailable resources (inadequate supplies/equipment)		Especially heinous, cruel, and / or violent act	
	Interruptions / chaotic environment / emergencies – frequent interruptions / distractions		Knowingly created risk for more than one client	
	Inadequate supervision by faculty or preceptor		Threatening / bullying behaviors	
	Inappropriate assignment by faculty or preceptor		Prior formal student disciplinary record for practice issue(s)	
	Policies / procedures unclear			
	Client factors (combative/agitated, cognitively impaired, threatening)			
	Non-supportive environment – interdepartmental/staff/student conflicts		Other (identify)	
	Lack of response by other departments / providers			
	Other (identify)			
	Total # mitigating factors identified		Total # aggravating factors identified	

Criteria Score (from front page)
Mitigating factors (subtract 1 point for 1 factors; 2 points for 4 – 6 Factors; and for 7 or more factors)
Aggravating factors (add 1 point for ea identified factor)
Total Overa

Human Error	At-Risk Behavior	Reckless Behavior
# criteria in green= ____ IF 3 or more criteria in Green OR total score <8 – Address event by consoling student and/or developing remedial improvement plan with student	# criteria in yellow=_____ IF 3 or more criteria in yellow OR total score 8 -19 – Address event by coaching student, possibly counseling, and/or developing remedial improvement plan with student	# criteria in red = _____ IF 3 or more criteria in red OR total score 20 or greater - Consider disciplinary action and/or remedial action in addressing event with student

Evaluator:_______________________________________
Name:____________________________________
Event:____________________________________

School
Date of

NCBON Education Consultant___________________________________
Action Taken:____

NOTE: This SPEET is NOT used if event involves misconduct such as: academic cheating, confidentiality, fraud, theft, drug abuse, diversion, boundary issues, sexual misconduct, mental/physical impairment. Instead, these are managed through established mechanisms outside of this clinical framework.

Human Error = Inadvertently doing other than what should have been done; a slip lapse, mistake.
At-Risk Behavior = Behavioral choice that increases risk where risk is not recognized or is mistakenly believed to be justified. Reckless
Behavior = Behavioral choice to consciously disregard a substantial and unjustifiable risk.
Consoling = Comforting, calming; supporting student while examining event.
Coaching = Supportive discussion with the student on the need to engage in safe behavioral choices.
Remedial Action = Actions taken to aid student including education, training assignment to program level-appropriate tasks.
Counseling = A first step disciplinary action; putting the student on notice that performance is unacceptable Disciplinary
Action = Punitive deterrent to cause student to refrain from undesired behavioral choices.

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