

I. Applicant Description

Answers to the following questions will help the department fully understand the role of applicants. Your answers in this section will provide context for the reviews under Financial Feasibility ([WAC 246-310-220](#)) and Structure and Process of Care ([WAC 246-310-230](#)).

1. Provide the legal name(s) and address(es) of the applicant(s)

Note: The term “applicant” for this purpose includes any person or individual with a ten percent or greater financial interest in the partnership or corporation or other comparable legal entity. [WAC 246-310-010\(6\)](#)

Dhaliwal Medical Associates PLLC dba Washington Vital Vision. Throughout the application this will be referenced as WAVV. The address is 10803 Southeast Kent Kangley Road, Kent, WA 98030

2. Identify the legal structure of the applicant (LLC, PLLC, etc.) and if known, provide the UBI number.

PLLC UBI Number 605-006-669

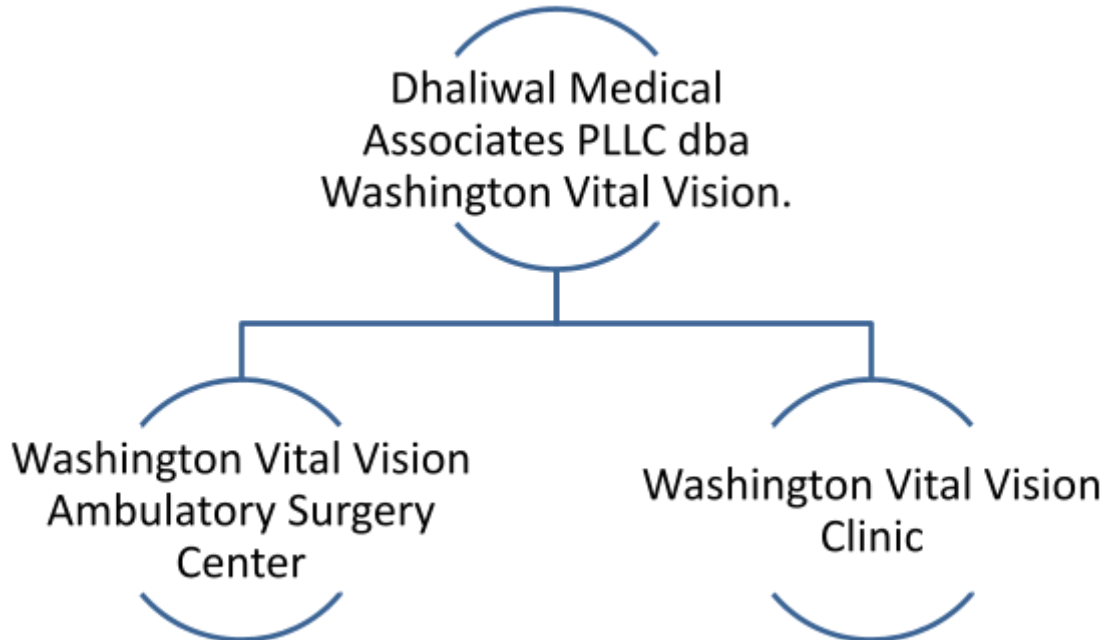
3. Provide the name, title, address, telephone number, and email address of the contact person for this application.

Harpal Dhaliwal
Administrator
206-800-3445
10803 Southeast Kent Kangley Road
Kent, WA 98030

4. Provide the name, title, address, telephone number, and email address of any other representatives authorized to speak on your behalf related to the screening of this application (if any).

Lance Baldwin
ASC Consultant
318-792-8215
1320 118th Dr SE
Lake Stevens, WA 98258

5. Provide an organizational chart that clearly identifies the business structure of the applicant(s) and the role of the facility in this application.



II. Project Description

Answers to the following questions will help the department fully understand the type of facility you are proposing as well as the type of services to be provided. Your answers in this section will provide context for the reviews under Need ([WAC 246-310-210](#)) and Structure and Process of Care ([WAC 246-310-230](#))

1. Provide the name and address of the existing facility.

N/A – facility not operational

2. Provide the name and address of the proposed facility. If an address is not yet assigned, provide the county parcel number and the approximate timeline for assignment of the address.

Washington Vital Vision
10803 Southeast Kent Kangley Road
Kent, WA 98030

3. Provide a detailed description of the proposed project.

Overview:

Dhaliwal Medical Associates PLLC, doing business as Washington Vital Vision, proposes to establish a new Ambulatory Surgical Center (ASC) at 10803 Southeast Kent-Kangley Road, Kent, Washington. The proposed ASC will be a two-operating-room facility specializing in ophthalmology and specialty surgeries. This application seeks Certificate of Need (CN) approval for the development of a freestanding ASC within the Southeast King planning area. The space is currently under renovation and not yet operational.

Scope of the Project:

This project involves tenant improvements and renovations to an existing commercial medical office space to bring it into compliance with the physical plant requirements for licensure as an ambulatory surgical facility under WAC 246-330. The finished facility will include two Class A operating rooms, pre- and post-operative areas, sterile processing, patient intake, recovery space, and support areas. The estimated capital expenditure for renovation, equipment acquisition, and build-out is \$115,000.

Purpose and Justification:

The proposed ASC is being developed to meet the growing demand for outpatient ophthalmologic surgery in the Southeast King planning area, which has documented numeric need for additional operating room capacity. Washington Vital Vision aims to provide timely, efficient, and cost-effective outpatient surgical care to adult and geriatric patients, primarily for cataract and other vision-preserving procedures. The facility’s development is consistent with WAC 246-310-210 and WAC 246-310-270 requirements and mirrors the structure of other successful ophthalmology-focused ASC approvals in similar Washington State planning areas.

- 4. With the understanding that the review of a Certificate of Need application typically takes at least 6-9 months, provide an estimated timeline for project implementation, below:

1. Table: Project Implementation Time Line

Event	Anticipated Month/Year
Design Complete	May 2025
Construction Commenced	May 2025
Construction Completed	Feb 2026
Facility Prepared for Survey	Mar 2026
Project Completion	May 2026

- 5. Identify the surgical specialties to be offered at this facility by checking the applicable boxes below. Also attach a list of typical procedures included within each category.

- Ear, Nose, & Throat
- Gastroenterology
- General Surgery
- Gynecology
- Other? Describe in detail:
- Maxillofacial
- Ophthalmology
- Oral Surgery
- Plastic Surgery
- Podiatry
- Urology

2. Table: Typical Procedures Performed

CPT Code	Procedure Description
66984	Cataract removal with insertion of intraocular lens (IOL), 1 stage
66821	YAG laser capsulotomy (after cataract surgery, for cloudy capsule)
67028	Intravitreal injection of pharmacologic agent (e.g., Avastin, Eylea)
65855	Laser trabeculoplasty for open-angle glaucoma (e.g., SLT)
67036	Vitrectomy (removal of vitreous gel, e.g., for floaters or hemorrhage)
66170	Trabeculectomy (glaucoma filtering surgery)
66180	Aqueous shunt (tube implant) for glaucoma
67904	Repair of blepharoptosis (droopy upper eyelid)
67820	Epilation of eyelashes (removal of misdirected lashes)
66982	Complex cataract surgery (e.g., small pupil, capsular support device)
67900	Repair of eyelid entropion (inward turning)
67901	Repair of eyelid ectropion (outward turning)
66761	Laser iridotomy for narrow-angle glaucoma
67105	Repair of retinal detachment with scleral buckle
67108	Repair of retinal detachment with vitrectomy and laser/cryotherapy
67228	Panretinal photocoagulation (for diabetic retinopathy)
67039	Vitrectomy with membrane peeling (e.g., macular pucker)
66830	Removal of secondary membrane from lens capsule (surgical)
67210	Focal laser treatment for macular edema
67041	Vitrectomy with endolaser photocoagulation

6. If you checked gastroenterology, above, please clarify whether this includes the full spectrum of gastroenterological procedures, or if this represents a specific sub-specialty:

N/A

7. For existing facilities, provide a discussion of existing specialties and how these would or would not change as a result of the project.

N/A

8. Identify how many operating rooms will be at this facility at project completion. Note, for certificate of need and credentialing purposes, “operating rooms” and “procedure rooms” are one and the same.

2 Operating Rooms

9. Identify if any of the operating rooms at this facility would be exclusively dedicated to endoscopy, cystoscopy, or specialty surgery services. [WAC](#)

[246-310-270\(9\)](tel:246-310-270)

None

10. Provide a general description of the types of patients to be served by the facility at project completion (e.g. age range, etc.).

The ASC will primarily serve Medicare-aged and adult populations (ages 18 and older) in Southeast King County who face access challenges related to wait times, payer mix restrictions at regional centers, and geographic barriers to hospital-based outpatient services.

Washington Vital Vision will not provide services to pediatric patients due to equipment, staff training, and anesthesia limitations that do not meet pediatric specialty standards. Patients under the age of 18 who require ophthalmic surgery will be referred to appropriately equipped pediatric ophthalmology providers and surgical facilities.

Referral pathways will include:

- **Direct coordination with Seattle Children's Hospital** and other pediatric-designated centers of excellence in the Puget Sound region.
- **Establishing partnerships with pediatric ophthalmologists** for evaluation and surgical consultation.
- **Providing referring families with insurance-compatible options** that include pediatric anesthesiology and child-appropriate post-operative care environments.

Clear referral protocols and care coordination documents will be established to ensure safe, timely redirection of pediatric patients to suitable care providers.

11. If you submitted more than one letter of intent for this project, provide a copy of the applicable letter of intent that was submitted according to [WAC 246-310-080](#).

See Exhibit 1

12. Provide single-line drawings (approximately to scale) of the facility, both before and after project completion.

See Exhibit 2

13. Confirm that the facility will be licensed and certified by Medicare and Medicaid, which is a requirement for CN approval. If this application proposes the expansion of an existing facility, provide the existing facility's identification numbers.

License #: ASF.FS. In progress

Medicare #: 1568826949

Medicaid #: Washington Vital Vision will complete enrollment with Washington Apple Health (Medicaid) and obtain a ProviderOne ID upon CN approval and licensure.

Documentation of enrollment will be provided to the Department of Health once available.

14. Identify whether this facility will seek accreditation. If yes, identify the accrediting body.

Yes - ACHC

15. **OPTIONAL** – The Certificate of Need program highly recommends that applicants consult with the office of Construction Review Services (CRS) early in the planning process. CRS review is required prior to construction and licensure ([WAC 246-330-500](#), [246-330-505](#), and [246-330-510](#)). Consultation with CRS can help an applicant reliably predict the scope of work required for licensure and certification. Knowing the required construction standards can help the applicant to more accurately estimate the capital expenditure associated with a project.

If your project includes construction, please indicate if you’ve consulted with CRS and provide your CRS project number.

This project requires construction; Construction review number is 61616275

III. Certificate of Need Review Criteria

A. Need (WAC 246-310-210)

[WAC 246-310-210](#) provides general criteria for an applicant to demonstrate need for healthcare facilities or services in the planning area. [WAC 246-310-270](#) provides specific criteria for ambulatory surgery applications. Documentation provided in this section must demonstrate that the proposed facility will be needed, available, and accessible to the community it proposes to serve. Some of the questions below only apply to existing facilities proposing to expand. For any questions that are not applicable to your project, explain why.

Some of the questions below require you to access facility data in the planning area. Please contact the Certificate of Need Program for any planning area definitions, facility lists, and applicable survey responses with utilization data.

1. List all surgical facilities operating in the planning area – to include hospitals, ASFs, and ASCs.

Table 3: All Surgical Facilities in Southeast Planning Area

Facility Name	Facility Type	City	Zip Code	CN-Approved
Valley Medical Center	Hospital	Renton	98055	Yes
MultiCare Covington Medical Center	Hospital	Covington	98042	Yes
St. Francis Hospital	Hospital	Federal Way	98003	Yes

St. Elizabeth Hospital	Hospital	Enumclaw	98022	Yes
MultiCare Auburn Medical Center	Hospital	Auburn	98001	Yes
Evergreen Eye Surgery Center	ASC	Federal Way	98003	No
Rainier Surgical Center	ASC	Federal Way	98003	No
Cascade Ambulatory Surgery Center	ASC	Auburn	98002	No
Auburn Surgery Center	ASC	Auburn	98002	No
VP Surgery Center of Auburn	ASC	Auburn	98001	No
MultiCare Surgery Center – Auburn	ASC	Auburn	98001	No
Virginia Mason Surgery Center	ASC	Federal Way	98003	Yes
Northwest Eye Surgeons	ASC	Renton	98057	Yes
Valley Covington ASC	ASC	Covington	98042	Yes
ENT Facial & Allergy	ASC	Enumclaw	98022	No
Plastic and Reconstructive Surgeons	ASC	Renton	98055	No
Sports Medicine Day Center	ASC	Renton	98055	No
Surgery Center Enumclaw	ASC	Enumclaw	98022	No
Valley Eye and Laser Center	ASC	Renton	98055	No
Fogel Endoscopy Center	Endoscopy	Federal Way	98003	No
Federal Way Ambulatory Surgical Facility	ASC	Federal Way	98003	No
MultiCare Cascade Surgical Center	Hospital-Affiliated ASC	Auburn	98001	Yes

- Identify which, if any, of the facilities listed above provide similar services to those proposed in this application.

Table 4: Facilities That Provide Similar Services

Facility Name	Location	
Evergreen Eye Surgery Center	ASC	Federal Way
Rainier Surgical Center	ASC	Federal Way
Cascade Ambulatory Surgery Center	ASC	Auburn
Auburn Surgery Center	ASC	Auburn
VP Surgery Center of Auburn	ASC	Auburn
MultiCare Surgery Center – Auburn	ASC	Auburn
Virginia Mason Surgery Center	ASC	Federal Way
Northwest Eye Surgeons	ASC	Renton
Valley Covington ASC	ASC	Covington
ENT Facial & Allergy	ASC	Enumclaw
Plastic and Reconstructive Surgeons	ASC	Renton
Sports Medicine Day Center	ASC	Renton
Surgery Center Enumclaw	ASC	Enumclaw
Valley Eye and Laser Center	ASC	Renton

3. Provide a detailed discussion outlining how the proposed project will not represent an unnecessary duplication of services.

Washington Vital Vision's proposed ASC does not represent an unnecessary duplication of services for the Southeast King planning area. This conclusion is supported by the following facts:

a) There is Demonstrated Quantitative Need

Ambulatory surgery represents a substantial portion of modern surgical care in the United States. National Survey of Ambulatory Surgery data (See Exhibit 6) document tens of millions of ambulatory surgery visits annually, with a large share occurring in freestanding facilities. Within ambulatory surgery, cataract-related diagnoses and lens procedures are among the most common services, reflecting persistent demand for ophthalmic surgery among older adults. In the Southeast King planning area, WAVV's application documents numeric need for additional outpatient operating room capacity; establishing a two-OR ophthalmology-focused ASC in Kent directly addresses this identified capacity shortfall and expands timely access to vision-preserving surgery. According to WAC 246-310-270 and the Department of Health's own CN19-09 evaluation, the Southeast King planning area already reflects a shortage of outpatient operating room (OR) capacity. The Department's numeric methodology indicated a shortfall of at least **14.27 outpatient ORs** in this region by the 2020–2021 period. The addition of two operating rooms at Washington Vital Vision would contribute to closing that deficit and help distribute case load more equitably across the planning area.

b) The Facility Will Serve a Targeted, Underserved Specialty

The proposed ASC is **solely focused on ophthalmology**, a specialty with growing demand due to the aging population. Cataract surgery remains one of the most frequently performed outpatient procedures for individuals over 65. Several facilities in the region, including Rainier Surgical Center and VP Surgery Center, are **not ophthalmic-capable**. Only **five ASCs in the planning area** have been verified as offering comprehensive ophthalmology services.

c) The ASC Will Improve Geographic and Timely Access

While other ophthalmology-capable ASCs exist (e.g., Virginia Mason Surgery Center, Evergreen Eye), they are concentrated in limited ZIP codes and are affiliated with integrated delivery systems. By locating the Washington Vital Vision ASC in Kent—a high-density, high-growth area with underserved subpopulations—the project improves geographic access and offers additional capacity for Medicare, Medicaid, and private-pay patients. This is especially relevant given reported appointment wait times exceeding 6–8 weeks at comparable providers.

d) The ASC Offers Open Access to Credentialed Surgeons

Unlike CN-exempt physician-owned facilities, Washington Vital Vision ASC will be open to use by **non-employee, credentialed ophthalmic surgeons**. This model ensures broader access for both patients and independent providers, supporting system-wide capacity without concentrating volume into closed facilities.

e) No Expansion Beyond Service Scope

The ASC is not expanding into new specialties or offering overlapping surgical services. It is a focused facility with two ORs, offering only outpatient ophthalmology. There is no overlap with ophthalmic, specialty surgery, podiatric, or GI surgery centers that dominate other outpatient surgical volume in the region.

4. Complete the methodology outlined in [WAC 246-310-270](#), unless your facility will be exclusively dedicated to endoscopy, cystoscopy, or specialty surgery. If your facility will be exclusively dedicated to endoscopy, cystoscopy, or specialty surgery, so state. If you would like a copy of the methodology template used by the department, please contact the Certificate of Need Program.

Need Methodology Assumptions and Data	
Assumption	Data Used
Planning Area	Southeast King County
Population Forecasts	Age Group: 0-75+ Year 2025 – 687,785 Year 2029 – 727,118
Use Rate	Divided calculated surgical cases by 2025 population results in the service area use rate of 70.31/1,000 population
OR Annual capacity in minutes	68,850 outpatient surgery minutes; 94,250 inpatient or mixed-use surgery minutes (per methodology in rule)
Existing providers/OR's	Based on listing of Southeast King County Providers that are CON approved; 33 – dedicated mixed use ORs 13 – dedicated outpatient ORs
Methodology Results	Numeric Need for an additional 16.28 outpatient ORs

5. If the methodology does not demonstrate numeric need for additional operating rooms, [WAC 246-310-270\(4\)](#) gives the department flexibility. WAC 246-310-270(4) states: “Outpatient operating rooms should ordinarily not be approved in planning areas where the total number of operating rooms available for both inpatient and outpatient surgery exceeds the area need.”

These circumstances could include but are not limited to: lack of CN approved operating rooms in a planning area, lack of providers performing widely utilized surgical types, or significant in-migration to the planning area. If there isn't sufficient numeric need for the approval of your project, please explain why the

department should give consideration to this project under [WAC 246-310-270\(4\)](#). Provide all supporting data.

6. For existing facilities, provide the facility’s historical utilization for the last three full calendar years.

N/A

7. Provide projected surgical volumes at the proposed facility for the first three full years of operation, separated by surgical type. For existing facilities, also provide the intervening years between historical and projected. Include the basis for all assumptions used as the basis for these projections.

Dr Dhaliwal currently performs surgery at Northwest Eye Surgeons (Seattle location) and Valley Hospital. These volumes reflect the patients seen in clinic and performed at various locations.

Table 5: Projected Surgery Volume

Year	2026	2027	2028	2029
Sx volume	324	343	364	386

8. Identify any factors in the planning area that could restrict patient access to outpatient surgical services. [WAC 246-310-210\(1\) and \(2\)](#)

Here’s how the project aligns with each subsection:

(1) Population Need and Availability

- The **adult and geriatric population** in the Southeast King planning area has a **documented and growing need** for ophthalmic surgical services.
- The **proposed ASC does not reduce or eliminate any existing services**; rather, it **adds new OR capacity**.
- Other facilities with similar services are **limited, regionally concentrated, and capacity-constrained**.
- The project is **complementary—not duplicative**, and **expands access**, especially for Medicare and Medicaid populations.

✓ **Conforms to 1(a)–(d)**

(2) Access for Underserved Populations

- The ASC will **serve all patients aged 18 and older**, including **Medicare, Medicaid, and medically indigent patients**.
- The facility will implement a **charity care policy** consistent with regional hospital standards.

- The ASC is located in **Kent**, an area with a diverse population and underserved subgroups.
- No **unresolved civil rights or access complaints** exist against the applicant.
- Patients will have access via **referral, personal physician, or direct scheduling**.

✓ **Conforms to 2(a)–(d)**

(3) Special Needs / Circumstances

- The ASC is a **specialty-focused facility** (ophthalmology) that meets **targeted specialty care demand**.
- While not a research or educational institution, it complements **local specialty provider networks** and helps relieve the burden on multispecialty ASCs and hospitals.

✓ **No conflict with 3(a)–(c)**

(4) Impact on Health Professional Training

- The ASC will **not restrict or displace existing training programs**.
- It does **not reduce service access for teaching institutions**, nor does it monopolize specialty access within the planning area.

✓ **No adverse effect under 4(a)–(b)**

(5) HMO-Specific Criteria

- The ASC is **not an HMO-based project**, nor does it restrict access to or from HMOs or other insurance arrangements.
- It remains **open to credentialed ophthalmologists regardless of payer affiliation**.

✓ **Not applicable, but not prohibitive**

(6) Nursing Home/Long-Term Care Provisions

- Not applicable. The ASC does **not involve nursing home beds or long-term care services** under RCW 70.41 or 70.38.115.

✓ **N/A, but compliant by default**

9. In a CN-approved facility, [WAC 246-310-210\(2\)](#) requires that “all residents of the service area, including low-income persons, racial and ethnic minorities, women, handicapped persons, and other underserved groups and the elderly are likely to have adequate access to the proposed health service or services.” Confirm your facility will meet this requirement.

See #2 in response to the previous question.

10. Provide a copy of the following policies:

- Admissions policy
- Charity care or financial assistance policy
- Patient Rights and Responsibilities policy
- Non-discrimination policy
- Any other policies directly related to patient access to care.

See Exhibit 3

B. Financial Feasibility (WAC 246-310-220)

Financial feasibility of a project is based on the criteria in [WAC 246-310-220](#).

1. Provide documentation that demonstrates that the immediate and long-range capital and operating costs of the project can be met. This should include but is not limited to:
 - Utilization projections. These should be consistent with the projections provided under “Need” in section A. Include the basis for all assumptions.
 - Pro Forma revenue and expense projections for at least the first three full calendar years of operation. Include the basis for all assumptions.
 - Pro Forma balance sheet for the current year and at least the first three full calendar years of operation. Include the basis for all assumptions.
 - For existing facilities, provide three years of historical revenue and expense statements, including the current year. Ensure these are in the same format as the pro forma projections. For incomplete years, identify whether the data is annualized.
2. Provide the following applicable agreements/contracts:
 - Management agreement
 - Operating agreement
 - Medical director agreement
 - Development agreement
 - Joint Venture agreement

Note that all agreements above must be valid through at least the first three full years following completion of the project or have a clause with automatic renewals. Any agreements in draft form must include a document signed by both entities committing to execute the agreement as submitted following CN approval.

3. Certificate of Need approved ASFs must provide charity care at levels comparable to those at the hospitals in the ASF planning area. You can access charity care statistics from the Hospital Charity Care and Financial Data (HCCFD) [website](#). Identify the amount of charity care projected to be provided at this facility, captured as a percentage of gross revenue, as well as charity care information for the planning area hospitals. The table below is for your convenience but is not required. [WAC 246-310-270\(7\)](#)

Planning Area Hospital 3-year Average Charity Care as a Percentage of Total Revenue	1.62%
Projected Facility Charity Care as a Percentage of Total Revenue	1.7%

4. Provide documentation of site control. This could include either a deed to the site or a lease agreement for the site. If a lease agreement is provided, the terms must be for at least five years following project completion. The costs identified in these documents should be consistent with the Pro Forma provided in response to question 1.

Lease to be provided

5. For new facilities, confirm that the zoning for your site is consistent with the project.

N/A

6. Complete the table below with the estimated capital expenditure associated with this project. Capital expenditure is defined under [WAC 246-310-010\(10\)](#). If you have other line items not listed below, please include the items with a definition of the line item. Include all assumptions used as the basis the capital expenditure estimate.

Item	Cost
a. Land Purchase	\$0
b. Utilities to Lot Line	\$0
c. Land Improvements	\$0
d. Building Purchase	\$0
e. Residual Value of Replaced Facility	\$0
f. Building Construction	\$104,000
g. Fixed Equipment (not already included in the construction contract)	\$0
h. Movable Equipment	\$0
i. Architect and Engineering Fees	\$11,000
j. Consulting Fees	\$0
k. Site Preparation	\$0
l. Supervision and Inspection of Site	\$0
m. Any Costs Associated with Securing the Sources of Financing (include interim interest during construction)	\$0
1. Land	\$0
2. Building	\$0
3. Equipment	\$0
4. Other	\$0
n. Washington Sales Tax	\$0
Total Estimated Capital Expenditure	\$115,000

7. Identify the entity or entities responsible for funding the capital expenditure identified above. If more than one entity is responsible, provide breakdown of percentages and amounts for all.

The entire project is funded by Dhaliwal Medical Associates PLLC without outside financing.

8. Please identify the amount of start-up costs expected for this project. Include any assumptions that went into determining the start-up costs. If no start-up costs are needed, explain why.

No start-up costs are anticipated for this project because the Dhaliwal Medical Associates PLLC had already acquired all necessary medical equipment and furnishings through a separate business venture. These assets were transferred at no additional cost to the current project, eliminating the need for new capital expenditures. Additionally, the majority of facility infrastructure was already in place and compliant with healthcare standards, requiring no substantial renovation or construction investment prior to launch.

9. Provide a non-binding contractor's estimate for the construction costs for the project.

N/A

10. Explain how the proposed project would or would not impact costs and charges to patients for health services. [WAC 246-310-220](#)

The proposed project is not expected to increase costs or charges to patients. WAVV has acquired all necessary surgical equipment—including surgical instrument, phacoemulsification systems, and surgical microscopes—through a separate venture, thereby avoiding significant capital investment that might otherwise be reflected in patient billing. Additionally, the clinic will operate within an existing facility, eliminating the need for new construction or renovation-related overhead. By utilizing an efficient workflow and leveraging already-owned resources, the project aims to maintain competitive and transparent pricing for ophthalmic services, with no projected cost increases to patients.

11. Provide documentation that the costs of the project, including any construction costs, will not result in an unreasonable impact on the costs and charges to patients for health services in the planning area. [WAC 246-310-220](#)

Peer-reviewed evidence indicates that procedures performed in ambulatory surgery centers (ASCs) are, on average, materially shorter than comparable procedures performed in hospital outpatient settings. In addition, national survey data show that freestanding ambulatory surgery visits have shorter average operating-room and overall visit times than hospital-based ambulatory surgery. These findings support that specialty-focused ASCs can increase throughput, improve scheduling flexibility, and help contain costs by delivering high-volume outpatient procedures in an efficient setting—while preserving hospital capacity for higher-acuity and inpatient needs. (See “Procedures Take Less Time at Ambulatory Surgery Centers”, Exhibit 6)

12. Provide the **projected** payer mix by gross revenue and by patients using the example table below. If “other” is a category, define what is included in “other.”

Payer	Percentage by Revenue WAC 246-310-220(1)	Percentage by Patient WAC 246-310-210(2)
Medicare	40%	50%
Medicaid	5%	10%
Other Payers (please list in individual lines)	55%	40%
Total	100%	100%

13. If this project proposes CN approval of an existing facility, provide the historical payer mix by revenue and patients for the existing facility for the most recent year. The table format should be consistent with the table shown above.

N/A

14. Provide a listing of new equipment proposed for this project. The list should include estimated costs for the equipment. If no new equipment is required, explain.

The proposed project is not expected to increase costs or charges to patients. WAVV has acquired all necessary surgical equipment—including surgical instrument, phacoemulsification systems, and surgical microscopes—through a separate venture, thereby avoiding significant capital investment that might otherwise be reflected in patient billing. Additionally, the clinic will operate within an existing facility, eliminating the need for new construction or renovation-related overhead. By utilizing an efficient workflow and leveraging already-owned resources, the project aims to maintain competitive and transparent pricing for ophthalmic services, with no projected cost increases to patients.

15. Provide a letter of financial commitment or draft agreement for each source of financing (e.g. cash reserves, debt financing/loan, grant, philanthropy, etc.). [WAC 246-310-220](#).

The project is privately funded by Washington Vital Vision and will not require outside funding.

16. If this project will be debt financed through a financial institution, provide a repayment schedule showing interest and principal amount for each year over which the debt will be amortized. [WAC 246-310-220](#)

N/A

17. Provide the applicant’s audited financial statements covering the most recent three years. [WAC 246-310-220](#)

See Exhibit 4

C. Structure and Process of Care ([WAC 246-310-230](#))

Projects are evaluated based on the criteria in [WAC 246-310-230](#) for staffing availability, relationships with other healthcare entities, relationships with ancillary and support services, and compliance with federal and state requirements. Some of the questions within this section have implications on financial feasibility under [WAC 246-310-220](#) and will be marked as such.

1. Identify all licensed healthcare facilities owned, operated by, or managed by the applicant. This should include all facilities in Washington State as well as out-of-state facilities, and should identify the license/accreditation status of each facility.

Washington Vital Vision does not own or operate additional licensed healthcare facilities.

2. Provide a table that shows FTEs [full time equivalents] by classification (e.g. RN, LPN, Manager, Scheduler, etc.) for the proposed facility. If the facility is currently in operation, include at least the last three full years of operation, the current year, and the first three full years of operation following project completion. There should be no gaps in years. All staff classifications should be defined.

Position	2026	2027	2028	2029
Administrator	1	1	1	1
RN's	1	1	1	1
Surgical Technologists	2	2	2	2
Receptionist/ Scheduler	1	1	1	1
Total	5	5	5	5

3. Provide the basis for the assumptions used to project the number and types of FTEs identified for this project.

Projecting the number and types of Full-Time Equivalents (FTEs) for WVV involves analyzing operational data of similar facilities, understanding growth strategies, and adapting to evolving healthcare trends. Here's how these assumptions are grounded:

1. Strategic Expansion: If WVV plans to introduce new services or specialties, it necessitates additional FTEs with specific expertise. Assumptions regarding expansion are based on comprehensive market research, patient demand, and the institute's strategic objectives. Current projections are limited to 2.6% for the purposes of the application resulting in a stable staffing model.

2. Technological Integration: Anticipating the incorporation of new medical or

surgical technologies that may streamline procedures but require specialized skills is crucial. Assumptions here factor in potential technology upgrades and their impact on staffing needs and configurations.

3. Compliance with Standards: The projection takes into account how adherence to healthcare regulations and quality standards influences staffing, particularly in areas like patient safety and infection control. Expected or potential regulatory changes that might affect staffing levels are considered.

4. Benchmarking: By comparing with similar institutions, WVV can gauge whether its staffing levels are in line with industry norms, adjusted for facility size, procedure types, and regional labor market conditions.

5. Quality of Care and Patient Feedback: Patient satisfaction surveys and feedback play a significant role in identifying areas for improvement, possibly leading to adjustments in staffing to elevate care quality.

6. Healthcare and Economic Trends: Broader trends, such as the increasing preference for outpatient care or shifts in healthcare financing, inform staffing projections. Economic factors affecting the labor market, including supply and wage expectations, are also considered.

In summary, WVV uses a multi-faceted approach to project future staffing needs, ensuring the ASC is prepared to meet demand, uphold quality standards, and adapt to the changing healthcare landscape. This strategic planning ensures the institute remains a leader in spinal care while efficiently managing its workforce.

4. Provide the name and professional license number of the current or proposed medical director. If not already disclosed under [WAC 246-310-220\(1\)](#) above, identify if the medical director is an employee or under contract.

Physician owner/employee: Amardeep Dhaliowal MD61316125

5. If the medical director is/will be an employee rather than under contract, provide the medical director's job description.

See Exhibit 3

6. Identify key staff by name, if known (e.g. nurse manager, clinical director, etc.)

WVV will provide these members as they are hired at the DOH request.

7. Provide a list of physicians who would use this surgery center, including their names, license numbers, and specialties. [WAC 246-310-230\(3\) and \(5\)](#).

N/A

8. For existing facilities, provide names and professional license numbers for

current credentialed staff. [WAC 246-310-230\(3\) and \(5\)](#).

N/A

9. Describe your methods for staff recruitment and retention. If any barriers to staff recruitment exist in the planning area, provide a detailed description of your plan to staff this project. [WAC 246-310-230\(1\)](#)

Recruitment

Targeted Advertising: Use of specialized job boards, social media platforms, and professional networks to reach potential candidates with the desired skills and experience in ophthalmic and specialty surgery care and related fields.

Employee Referral Programs: Encouraging current clinic employees to refer qualified candidates by offering incentives, recognizing that referrals often result in hires who fit well with the organization's culture and have higher retention rates.

Competitive Compensation and Benefits Packages: Offering attractive salary packages, health benefits, retirement plans, and other perks to stand out in the competitive healthcare job market.

Retention

Professional Development and Career Advancement: Providing ongoing education, training programs, and opportunities for professional growth to help staff enhance their skills and advance their careers within the organization.

Recognition and Reward Systems: Programs to recognize and reward employees for their contributions, hard work, and dedication, which can boost morale and job satisfaction.

Flexible Work Arrangements: Offering flexible scheduling options, part-time positions, and telecommuting opportunities where feasible to help staff balance work and personal commitments.

Creating a Positive Work Environment: Fostering a supportive and inclusive culture that values teamwork, communication, and mutual respect, making employees feel valued and engaged.

Open Communication Channels: Encouraging open and transparent communication between staff and management to discuss concerns, feedback, and suggestions, ensuring employees feel heard and involved in decision-making.

10. For existing facilities, provide a listing of ancillary and support services already in place. [WAC 246-310-230\(2\)](#)

N/A

11. For new facilities, provide a listing of ancillary and support services that will be established. [WAC 246-310-230\(2\)](#)

Contracted / Arranged Support Services

- Biomedical equipment maintenance, including routine inspection, calibration, and repair
- Laboratory services, limited to waived or point-of-care testing, if required
- Pharmaceutical supply services, including procurement and replenishment of medications
- Billing, coding, and revenue cycle management, provided through third-party billing services
- Information technology and systems support, including EHR maintenance, cybersecurity, and data backup
- Environmental services, including housekeeping and regulated medical waste disposal
- Laundry and linen services
- Emergency medical transport, provided through local EMS providers under established protocols
- Transfer agreement with a local acute-care hospital to ensure continuity of care for patients requiring higher-level services

12. Identify whether any of the existing ancillary or support agreements are expected to change as a result of this project. [WAC 246-310-230\(2\)](#)

N/A

13. If the ASF is currently operating, provide a listing of healthcare facilities with which the ASF has working relationships. [WAC 246-310-230\(4\)](#)

N/A

14. Identify whether any of the existing working relationships with healthcare facilities listed above would change as a result of this project. [WAC 246-310-230\(4\)](#)

N/A

15. For a new facility, provide a listing of healthcare facilities with which the ASF would establish working relationships. [WAC 246-310-230\(4\)](#)

Valley Medical Center
400 S 43rd St, Renton, WA 98055

16. Provide a copy of the existing or proposed transfer agreement with a local hospital. [WAC 246-310-230\(4\)](#)

N/A

17. Provide an explanation of how the proposed project will promote continuity in the provision of health care services in the planning area, and not result in an unwarranted fragmentation of services. [WAC 246-310-230\(4\)](#)

Promoting Continuity of Care

Enhanced Access to Specialized Care: By maintaining its focus on specialty surgeries and treatments, the project reinforces WVV role as a key provider of specialized care. This specialization ensures patients have continued access to high-quality, expert care for specialty conditions within the planning area.

Integration with Local Healthcare Systems: The project aims to further integrate WVV's services with the broader local healthcare ecosystem. By fostering partnerships with local hospitals, primary care providers, and rehabilitation centers, the ASC ensures a seamless patient care continuum from diagnosis to surgery and post-operative rehabilitation.

Consistent Quality Improvement: Ongoing investments in state-of-the-art surgical technology, staff training, and quality improvement programs under the project will enhance the quality of care. This ensures that patients in the planning area have access to the latest and most effective treatments for specialty conditions, promoting better outcomes and patient satisfaction.

Avoiding Unwarranted Fragmentation of Services

Filling a Critical Niche: By focusing on specialty surgeries and care, the project fills a critical healthcare niche without duplicating services readily available in the planning area. This approach avoids fragmenting healthcare services and ensures that resources are concentrated where they are most needed.

Community Health Needs Assessment: The project is informed by a thorough assessment of the community's health needs, ensuring that the services provided are tailored to the specific needs of the population. By aligning its services with community needs, the institute ensures that its offerings complement rather than compete with other healthcare services in the area.

In summary, the proposed project by WVV is designed to enhance the continuity and quality of specialized ophthalmic and specialty surgery care in the planning area, while avoiding the fragmentation of healthcare services. Through specialized focus, integration with the local healthcare system, and a commitment to quality improvement, the project supports a cohesive healthcare environment that meets the specific needs of the community.

18. Provide an explanation of how the proposed project will have an appropriate relationship to the service area's existing health care system as required in [WAC 246-310-230\(4\)](#).

WVV's proposed project will enhance the existing healthcare system in its service area by adhering to the requirements set forth in WAC 246-310-230(4), which emphasizes the need for new or expanded health care facilities to have an appropriate relationship to the existing health care system. Here's how the project aligns with this mandate:

Filling Existing Gaps in Care: The project is designed to address specific gaps in the current healthcare system, particularly in ophthalmic and specialty surgery care. By focusing on areas of need that are currently underserved, the project supports the overall health ecosystem without unnecessary duplication of services.

Collaborative Care Networks: WVV plans to enhance its collaboration with existing healthcare providers, including hospitals, primary care physicians, rehabilitation centers, and other specialists in the area. This collaborative approach ensures a more integrated healthcare delivery system that facilitates seamless patient transitions between different levels of care, improving patient outcomes.

Complementary Services: The project is structured to complement, rather than compete with, existing services. By providing specialized care that supports the broader health needs of the community, the project contributes to a more comprehensive and efficient healthcare system.

Community Health Needs Assessment: Integral to the project's planning phase is a thorough assessment of the community's health needs. This ensures that the expansion of services is directly responsive to the identified needs of the population, enhancing the relevance and utility of the existing healthcare system.

Access to Specialized Care: By expanding access to high-quality, specialized ophthalmic and under served specialty care, the project addresses a critical need within the community. This increased access is expected to reduce the need for patients to seek care outside the service area, keeping healthcare resources within the community and supporting local health systems.

Use of Advanced Technology: By incorporating advanced medical technologies and surgical techniques, the project supports the service area's health system modernization efforts. This commitment to innovation can lead to better patient outcomes and more efficient use of healthcare resources.

Through these strategies, WVV's proposed project ensures an appropriate

relationship to the service area's existing healthcare system. The project aims to enhance the continuum of care, improve access to specialized services, and contribute to the overall health and wellbeing of the community.

19. Identify whether any facility or practitioner associated with this application has a history of the actions listed below. If so, provide evidence that the proposed or existing facility can and will be operated in a manner that ensures safe and adequate care to the public and conforms to applicable federal and state requirements. [WAC 246-310-230\(3\) and \(5\)](#)
- a. A criminal conviction which is reasonably related to the applicant's competency to exercise responsibility for the ownership or operation of a health care facility; or
 - b. A revocation of a license to operate a healthcare facility; or
 - c. A revocation of a license to practice as a health profession; or
 - d. Decertification as a provider of services in the Medicare or Medicaid program because of failure to comply with applicable federal conditions of participation.

No facility or practitioner associated with this application has a history of the actions listed.

D. Cost Containment ([WAC 246-310-240](#))

Projects are evaluated based on the criteria in WAC 246-310-240 in order to identify the best available project for the planning area.

1. Identify all alternatives considered prior to submitting this project.
2. Provide a comparison of the project with alternatives rejected by the applicant. Include the rationale for considering this project to be superior to the rejected alternatives. Factors to consider can include, but are not limited to: patient access to healthcare services, capital cost, legal restrictions, staffing impacts, quality of care, and cost or operation efficiency.

In considering the proposed project by WV, several alternatives were evaluated and ultimately rejected based on a comprehensive analysis. The primary objective was to enhance patient access to specialized ophthalmic and specialty surgery care while ensuring the project's alignment with factors like capital cost, legal constraints, staffing impacts, quality of care, and operational efficiency. Here's how the selected project compares to the alternatives:

Alternative 1: Expanding Existing Hospital Services

Rationale for Rejection:

- Capital Cost: High due to the need for building renovations and specialized equipment, making it financially less viable compared to other options.
- Legal Constraints: Expansion within a hospital setting could face more rigorous regulatory hurdles and compliance requirements, delaying project timelines.
- Staffing Impacts: Requires recruiting or training existing hospital staff for specialized spine care, potentially disrupting current services and increasing operational costs.
- Quality of Care: While potentially high, integrating specialized services into a general hospital environment could dilute the focus on spine care excellence.
- Operational Efficiency: Managing ophthalmic care within a larger hospital setting might introduce inefficiencies, such as longer patient wait times and less streamlined care processes.
-

Alternative 2: Partnering with Out-of-Area Specialists

Rationale for Rejection:

- Capital Cost: Lower upfront costs, but potentially higher long-term expenses due to specialist fees and coordination complexities.
- Legal Constraints: Contracting and credentialing specialists from outside the area could introduce legal complexities and administrative burdens.
- Staffing Impacts: Dependency on external specialists might lead to inconsistencies in staff availability and commitment, affecting continuity of care.
- Quality of Care: Potential variability in the quality of care due to differing practices and approaches of various specialists, challenging to standardize care protocols.

- Operational Efficiency: Coordination between the institute and external specialists could complicate scheduling, increase patient wait times, and affect overall service delivery efficiency.
-

Alternative 3: Developing a Mobile Surgical Care Unit

Reason for Rejection:

- Capital Cost: High initial investment in mobile units equipped with necessary medical technologies, alongside ongoing operational and maintenance costs.
- Legal Constraints: Mobile health services face unique regulatory challenges, including licensure across different jurisdictions and adherence to varied health codes.
- Staffing Impacts: Recruiting healthcare professionals willing to work in a mobile setting may be challenging, and maintaining a consistent team could impact service delivery.
- Quality of Care: Limited by the mobile unit's capacity to provide comprehensive spine care, particularly for procedures requiring advanced facilities.
- Operational Efficiency: While offering potential access improvements, the logistical challenges of operating a mobile unit (scheduling, travel between locations, setup) could reduce overall efficiency and increase costs.

Alternative 4: Do Nothing

Reason for Rejection:

- Capital Cost: While this alternative avoids the immediate capital expenditure associated with expansion or updates, it may lead to higher long-term costs. Failing to invest in facility improvements or technology updates could result in inefficiencies, increased maintenance costs, and the potential loss of competitiveness, affecting revenue.
- Legal Constraints: The healthcare sector is rapidly evolving, with changes in regulations and standards often necessitating updates to facilities and practices. By doing nothing, the institute risks falling out of compliance with future legal requirements, potentially incurring legal penalties and jeopardizing its license to operate.
- Staffing Impacts: Staff retention and recruitment could be negatively impacted by the decision to maintain the status quo. High-performing staff members often seek dynamic work environments where there are opportunities for professional growth and engagement with advanced treatment methods. Without continual improvement, staff morale and satisfaction may decline, leading to higher turnover rates.
- Quality of Care: The quality of care is likely to suffer over time without investments in new technologies, training, and facility enhancements. As other institutions advance, the gap in service quality and patient outcomes could widen, diminishing the institute's reputation and its ability to attract and retain patients.
- Operational Efficiency: Operational inefficiencies are likely to persist or worsen without action. As patient demands evolve and technologies advance, failing to update or optimize operations will likely result in increased wait times, reduced

patient throughput, and an inability to leverage cost-saving innovations.

By choosing the "do nothing" alternative, WVV would likely see a gradual erosion of its competitive position in the healthcare market. The institution would miss opportunities to enhance patient care, improve operational efficiencies, and maintain a satisfied and motivated workforce. These considerations underscore the necessity of pursuing strategic enhancements to stay aligned with industry best practices and meet the evolving needs of patients and staff.

Selected Project: WVV CON

- **Patient Access to Healthcare Services:** The CON directly addresses the need for localized, specialized ophthalmic and specialty surgery care, enhancing patient access within the community and reducing the need for patients to seek care in distant locations.
- **Capital Cost:** The project requires minimal investment, it leverages the existing infrastructure of the clinic, optimizing capital outlay compared to building new facilities or extensive renovations elsewhere.
- **Legal Restrictions:** Operating within the existing legal and regulatory framework of an ASC presents fewer barriers to expansion and allows for more streamlined implementation of specialized services.
- **Staffing Impacts:** The project builds on the institute's existing expertise. This approach capitalizes on existing knowledge and minimizes disruption.
- **Quality of Care:** Specializing in ophthalmic and specialty surgery care allows for a high level of expertise, leading to better patient outcomes. The controlled environment of an ASC, dedicated solely to ophthalmic and specialty surgery care, supports higher standards of quality and safety.
- **Cost or Operation Efficiency:** The ASC model is known for its efficiency and cost-effectiveness, benefiting from specialized focus and streamlined operations. This model allows for the provision of high-quality care at a lower cost than hospital-based alternatives.

In conclusion, the WVV's project was deemed superior to the rejected alternatives based on a holistic evaluation of critical factors. The decision reflects a commitment to providing high-quality, accessible, and efficient ophthalmic and specialty surgery care tailored to the needs of the local community.

3. Identify any aspects of the facility's design that lead to operational efficiency. This could include but is not limited to: LEED building, water filtration, or the methods for construction, etc. [WAC 246-310-240\(2\) and \(3\)](#).

WVV's operational efficiency is significantly enhanced through deliberate design choices in patient flow optimization, technology integration, adherence to city and state construction guidelines, and compliance with Medicare regulations for fire safety. Here's an expanded view on how these aspects contribute to efficiency:

Patient Flow Optimization

By meticulously designing the layout to streamline patient movements, WVV minimizes wait times and reduces bottlenecks, enhancing patient satisfaction and staff productivity. Key strategies include:

- **Centralized Registration Areas:** Streamlining check-in processes to reduce initial wait times.
- **Intuitive Signage and Wayfinding:** Helping patients navigate the facility easily, reducing stress and improving movement efficiency.
- **Dedicated Pathways:** Separating patient and supply corridors to minimize congestion and enhance privacy.

Technology Integration

The integration of advanced technologies automates and streamlines operations, leading to better resource management and patient care:

- **Electronic Health Records (EHRs):** Facilitates seamless access to patient records, reducing paperwork and enabling more informed decision-making by healthcare providers.
- **Telemedicine Facilities:** Expands access to care, especially for patients in remote areas, reducing the need for physical visits and optimizing the use of space and resources.
- **Automated Inventory Systems:** Ensures medical supplies are efficiently managed and replenished, reducing waste and ensuring essential items are always available.

Adherence to City and State Construction Guidelines

Facility renovation and build-out will follow recognized health care facility design standards. The 2006 Guidelines for Design and Construction of Health Care Facilities (FGI/AIA) are widely used as a code or reference standard by accrediting bodies and public authorities, and include ambulatory care facility requirements relevant to freestanding surgical facilities. Using these standards to inform the functional program, infection-control risk assessment, and core facility systems supports a safe environment of care and aligns the project with expectations for licensure and accreditation. (See Facility Guidelines Institute, 2006 Guidelines for Design and Construction of Health Care Facilities. 2006 edition Exhibit 7). Complying with local construction codes ensures the facility is built to high standards, promoting safety and sustainability:

- **Energy Efficiency:** Meeting or exceeding local guidelines for energy use not only lowers operational costs but also aligns with environmental sustainability goals.
- **Accessibility Standards:** Ensuring the facility meets ADA (Americans with Disabilities Act) standards, facilitating access for all patients and complying with legal requirements.

Medicare Regulations for Fire Safety

Compliance with Medicare's fire safety standards (e.g., NFPA 101: Life Safety Code) is critical for patient safety and operational continuity:

- Fire Detection and Suppression Systems: Advanced systems detect and control fires rapidly, minimizing risk and potential damage.
- Regular Drills and Staff Training: Preparing staff for emergency situations ensures a swift, coordinated response, essential for patient safety during a fire incident.

Through these design and operational strategies, WVV not only meets the regulatory requirements outlined in WAC 246-310-240(2) and (3) but also creates an environment that is safe, efficient, and responsive to the needs of patients and staff. This comprehensive approach to facility design and management underscores the institute's commitment to delivering high-quality care while maintaining operational excellence.



B. Certificate of Need Program Revised Code of Washington (RCW) and Washington Administrative Code (WAC)

Certificate of Need Program laws [RCW 70.38](#)

Certificate of Need Program rules [WAC 246-310](#)

1. Commonly Referenced Rules for Ambulatory Surgery Projects:

WAC Reference	Title/Topic
246-310-010	Certificate of Need Definitions
246-310-160	Regular Review Process
246-310-200	Bases for findings and action on applications
246-310-210	Determination of Need
246-310-220	Determination of Financial Feasibility
246-310-230	Criteria for Structure and Process of Care
246-310-240	Determination of Cost Containment
246-310-270	Ambulatory Surgery

Certificate of Need Contact Information:

[Certificate of Need Program Web Page](#)

Phone: (360) 236-2955

Email: FSLCON@doh.wa.gov

Construction Review Services Resources:

[Construction Review Services Program Web Page](#)

Phone: (360) 236-2944

Email: CRS@doh.wa.gov

2. Licensing Resources:

[Ambulatory Surgical Facilities Laws. RCW 70.230](#)


[Ambulatory Surgical Facilities Rules. WAC 246-330](#)

[Ambulatory Surgical Facilities Program Web Page](#)

3. Hospital Charity Care and Financial Data (HCCFD) Program Resources


[HCCFD Web Page](#)

Email: CharityCare@doh.wa.gov

Section 1 Policies and Procedures	 WASHINGTON VITAL VISION	
Policy Name: ADMISSION / TREATMENT		Page 1 of 1
Approved: December 2, 2024	Revised:	

POLICY:

It is the policy of this facility to admit and treat all persons without regard to race, color, national origin, handicap, sex, sexual orientation, religious or fraternal organization, or age. The same requirements are applied to all, and patients are assigned without regard to race, color, national origin, handicap, sex, sexual orientation, religious or fraternal organization, or age. All services are available without distinction to patients and visitors regardless of race, color, national origin, handicap, sex, sexual orientation, religious or fraternal organization, or age. All persons and organizations having occasion to refer persons for services or to recommend the center are advised to do so without regard to the person's race, color, national origin, handicap, sex, sexual orientation, religious or fraternal organization, or age.

Section 1 Policies and Procedures	 WASHINGTON VITAL VISION	
Policy Name: COMPLIANCE WITH HHS SECTION 1557	Page 1 of 3	
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POLICY:


It is the policy of Washington Vital Vision not to discriminate on the basis of race, color, national origin, sex, age or disability. Washington Vital Vision has adopted an internal grievance procedure providing for prompt and equitable resolution of complaints alleging any action prohibited by Section 1557 of the Affordable Care Act (42 U.S.C.18116) and its implementing regulations at 45 CFR part 92, issued by the U.S. Department of Health and Human Services. Section 1557 prohibits discrimination on the basis of race, color, national origin, sex, age or disability in certain health programs and activities. Section 1557 and its implementing regulations may be examined with the Civil Rights Coordinator, who has been designated to coordinate the efforts of Washington Vital Vision to comply with Section 1557:

Director of Operations
 10803 SE Kent-Kangley Rd Ste 103,
 Kent, WA 98030
Phone:
Fax:

Any person who believes someone has been subjected to discrimination on the basis of race, color, national origin, sex, age or disability may file a grievance under this procedure. It is against the law for Washington Vital Vision to retaliate against anyone who opposes discrimination, files a grievance, or participates in the investigation of a grievance.

PROCEDURE:


- All facility staff will be inserviced on HHS 1557 requirements and how Washington Vital Vision ensures compliance.
- A facility staff member will be designated by the Governing Body as the Civil Rights Coordinator.
- The facility will have available a *Notice of Nondiscrimination* and *Taglines* in the top 15 languages of patients in the state, as well as, a *Statement of Nondiscrimination* in two non-English languages of patients in the state.
- Washington Vital Vision must publish/post taglines in significant publications, in prominent locations and on its web site, to notify the individual about the availability of language assistance services.

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- o The taglines, which are short statements in non-English languages, must be in the top 15 non-English languages spoken by individuals with limited proficiency in your state.
- o The English version will be posted as well.
- o These taglines can be listed in one document
- The *Notice of Nondiscrimination* and *Tagline* documents, in the top 15 languages of patients in the state, as well as English, will be provided to the patient in a manner that is sufficiently conspicuous and visible so that the patient can see and read the information.
- The *Statement of Nondiscrimination*, in two non-English languages and English, should be included on small-size significant publications and significant publications.
- The *Taglines*, in the 15 non-English languages, as well as English, will be posted on the facility's web site.


Grievance Procedure

- Grievances must be submitted to the Civil Rights Coordinator within (60 days) of the date the person filing the grievance becomes aware of the alleged discriminatory action.
- A complaint must be in writing, containing the name and address of the person filing it. The complaint must state the problem or action alleged to be discriminatory and the remedy or relief sought.
- The Civil Rights Coordinator, or designee, shall conduct an investigation of the complaint. This investigation may be informal, but it will be thorough, affording all interested persons an opportunity to submit evidence relevant to the complaint. The Civil Rights Coordinator will maintain the files and records of Washington Vital Vision relating to such grievances. To the extent possible, and in accordance with applicable law, the Civil Rights Coordinator will take appropriate steps to preserve the confidentiality of files and records relating to grievances and will share them only with those who have a need to know.
- The Civil Rights Coordinator will issue a written decision on the grievance, based on a preponderance of the evidence, no later than 30 days after its filing, including a notice to the complainant of their right to pursue further administrative or legal remedies.
- The person filing the grievance may appeal the decision of the Civil Rights Coordinator by writing to the Governing Body within 15 days of receiving the Civil Rights Coordinator's decision. The Governing Body shall issue a written decision in

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response to the appeal no later than 30 days after its filing.


The availability and use of this grievance procedure does not prevent a person from pursuing other legal or administrative remedies, including filing a complaint of discrimination on the basis of race, color, national origin, sex, age or disability in court or with the U.S. Department of Health and Human Services, Office for Civil Rights. A person can file a complaint of discrimination electronically through the Office for Civil Rights Complaint Portal, or by mail or phone at: _____

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U.S. Department of Health and Human Services
 200 Independence Avenue SW., Room 509F, HHH Building
 Washington, DC 20201.
 (800) 368–1019
 (800) 537–7697 (TDD)
<https://ocrportal.hhs.gov/ocr/portal/lobby.jsf>

Complaint forms are available at <http://www.hhs.gov/ocr/office/file/index.html>. Such complaints must be filed within 180 days of the date of the alleged discrimination.


Washington Vital Vision will make appropriate arrangements to ensure that individuals with disabilities and individuals with limited English proficiency are provided auxiliary aids and services or language assistance services, respectively, if needed to participate in this grievance process. Such arrangements may include, but are not limited to, providing qualified interpreters, providing taped cassettes of material for individuals with low vision, or assuring a barrier-free location for the proceedings. The Civil Rights Coordinator will be responsible for such arrangements.

Section 1 Policies and Procedures		
Policy Name: GOVERNANCE		Page 1 of 2
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POLICY:

The Governing Body sets policy for, and has the overall and ultimate responsibility and authority for determining, implementing and monitoring policies governing the facility’s total operation. The Governing Body may delegate operational responsibility to the Director of Operations, who manages the day-to-day operation and provides regular reporting to the Governing Body. Delegation of operational responsibility does not relieve the Governing Body of their rightful and legal responsibility, which includes but is not limited to:

- Adopting a statement of the mission, goals and objectives of, and a description of the services provided at the facility.
- Adopting policies, procedures, rules and regulations for the development, conduct and management of the facility.
- Oversight and accountability for the Quality Assessment and Performance Improvement program.
- Ensuring the facility policies and programs are administered so as to provide quality healthcare in a safe environment.
- Develop and maintain a disaster preparedness plan.
- Reviewing and taking appropriate action with respect to the legal conduct of the facility and its staff.
- Establishing a system of financial management and accountability for the facility.
- Establishing an annual budget for, and adopting and modifying a schedule of fees and charges to be utilized in the operation of the facility.
- Establishing a policy on the rights and responsibilities of patients of the facility.

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- Approving all major contracts and arrangements affecting the medical care rendered at the facility including, but not limited to:
 - Proper credentialing of health care physicians;
 - The provision of radiology, pathology and medical laboratory services directly or through external providers of such services; and
 - The provision of ancillary services to the facility by other persons or organizations.
- Formulating long-range plans in accordance with the mission and goals of the facility.
- Operating the facility without limitation by reason of race, age, sex, ethnicity, religion, sexual orientation, or disability.
- Establishing an organizational structure for the facility, electing, appointing or employing officers and/or Director of Operations to direct the clinical and administrative activities of the facility, and documenting the authority, responsibility and function of such positions.
- Making initial appointments and reappointments to the medical staff of the facility (“medical staff”), and assigning or curtailing clinical privileges with the documented advice and recommendations of the credentialing committee of the medical staff.

Section 1 Policies and Procedures	 WASHINGTON VITAL VISION	
Policy Name: MEDICAL DIRECTOR RESPONSIBILITIES	Page 1 of 1	
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QUALIFICATIONS OF MEDICAL DIRECTOR:

- Member of the medical staff as a licensed independent physician, with clinical privileges appropriate to the Scope of Care of the facility.
- Documented training, education and/or experience in the management of patients receiving surgical services.
- Available and willing to provide consultation to the facility and medical staff regarding the delivery of ambulatory surgical services.


DUTIES AND RESPONSIBILITIES:

- Provide consultation as requested by medical or facility staff.
- Oversee and actively participate in the QAPI activities of the facility.
- Participate in the development and approval of policies and procedures associated with patient care.
- Participate in the continuing education program for the facility and medical staff.
- Participate in the identification and resolution of issues associated with the provision of the ambulatory surgical services.
- Make recommendations regarding the numbers, qualifications and competencies of facility staff.
- Make recommendations regarding resource allocation needed to provide the ambulatory surgical services.
- Chair the meetings of the Medical Advisory Committee.

AUTHORITY OF THE MEDICAL DIRECTOR:

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- The Medical Director has the authority to direct facility and medical staff decision-making processes through direct participation and/or formal referral of recommendations.

Section 1 Policies and Procedures	 WASHINGTON VITAL VISION	
Policy Name: PATIENT RIGHTS AND RESPONSIBILITIES	Page 1 of 3	
Approved:	Revised:	


POLICY:

Washington Vital Vision has established this Patient’s Bill of Rights as a policy with the expectation that observance of these rights will contribute to more effective patient care and greater satisfaction for the patient, his/her physician, and the facility organization. It is recognized that a personal relationship between the physician and the patient is essential for the provision of proper medical care. The traditional physician-patient relationship takes on a new dimension when care is rendered within an organized structure. Legal precedent has established that the facility itself also has a responsibility to the patient. It is in recognition of these factors that these rights are affirmed.

No catalog of rights can guarantee the patient the kind of treatment he has a right to expect. This facility has many functions to perform, including the prevention and treatment of disease, the education of both health professionals and patients. All these activities must be conducted with an overriding concern for the patient, and above all, the recognition of his/her dignity as a human being. Success in achieving this recognition assures success in the defense of the rights of the patient.


AS A PATIENT, YOU HAVE THE RIGHT TO:

- Considerate, respectful care at all times and under all circumstances with recognition of your personal dignity.
- Personal and informational privacy and security for self and property.
- Have a surrogate (parent, legal guardian, person with medical power of attorney) exercise the Patient Rights when you are unable to do so, without coercion, discrimination or retaliation.
- Confidentiality of records and disclosures and the right to access information contained in your clinical record. Except when required by law, you have the right to approve or refuse the release of records.
- Information concerning your diagnosis, treatment and prognosis, to the degree known.

Section 1 Policies and Procedures	 WASHINGTON VITAL VISION	
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- Participate in decisions involving your healthcare and be fully informed of and to consent or refuse to participate in any unusual, experimental or research project without compromising your access to services.
- Make decisions about medical care, including the right to accept or refuse medical or surgical treatment after being adequately informed of the benefits, risks and alternatives, without coercion, discrimination or retaliation.
- Self-determination including the rights to accept or to refuse treatment and the right to formulate an advance directive.
- Competent, caring healthcare providers who act as your advocates and treats your pain as effectively as possible.
- Know the identity and professional status of individuals providing service and be provided with adequate education regarding self-care at home, written in language you can understand.
- Be free from unnecessary use of physical or chemical restraint and or seclusion as a means of coercion, convenience or retaliation.
- Know the reason(s) for your transfer either inside or outside the facility.
- Impartial access to treatment regardless of race, color, age, sex, sexual orientation, national origin, religion, handicap or disability.
- Receive an itemized bill for all services within a reasonable period of time and be informed of the source of reimbursement and any limitations or constraints placed upon your care.
- File a grievance with the facility by contacting the Director of Operations, via telephone or in writing, when you feel your rights have been violated.

Washington Vital Vision
 10803 SE Kent-Kangley Rd Ste 103
 Kent, WA 98030
Phone: (206) 800-3445
Fax: XXXXXXXX

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Approved:	Revised:	

- Report any comments concerning the quality of services provided to you during the time spent at the facility and receive fair follow-up on your comments.
- Know about any business relationships among the facility, healthcare providers, and others that might influence your care or treatment.
- File a complaint of suspected violations of health department regulations and/or patient rights. Complaints may be filed at:


Washington State Department of Health:
<https://fortress.wa.gov/doh/opinio/s?s=ComplaintFormHPF>

Office of the Medicare Beneficiary Ombudsman
<http://www.medicare.gov/claims-and-appeals/medicare-rights/get-help/ombudsman.html>

Accreditation Association for Ambulatory Health Care (AAAHC)
 847-853-6060 Phone
info@aaahc.org

AS A PATIENT, YOU ARE RESPONSIBLE FOR:


- Providing, to the best of your knowledge, accurate and complete information about your present health status and past medical history and reporting any unexpected changes to the appropriate physician(s).
- Following the treatment plan recommended by the primary physician involved in your case.
- Providing an adult to transport you home after surgery and an adult to be responsible for you at home for the first 24 hours after surgery.
- Indicating whether you clearly understand a contemplated course of action, and what is expected of you, and ask questions when you need further information.
- Your actions if you refuse treatment, leave the facility against the advice of the physician, and/or do not follow the physician’s instructions relating to your care.

Section 1 Policies and Procedures		
Policy Name: PATIENT RIGHTS AND RESPONSIBILITIES	Page 4 of 3	
Approved:	Revised:	

- Ensuring that the financial obligations of your healthcare are fulfilled as expediently as possible.
- Providing information about, and/or copies of any living will, power of attorney or other directive that you desire us to know about.

AS A PATIENT, YOU HAVE THE RIGHT TO:


- Considerate, respectful care at all times and under all circumstances with recognition of your personal dignity. You have the right to be free from all forms of abuse and harassment. You will have access to protective services if needed.
- Personal and informational privacy and security for self and property.
- Have a surrogate (parent, legal guardian, person with medical power of attorney) exercise the Patient Rights when you are unable to do so, without coercion, discrimination or retaliation.
- Confidentiality of records and disclosures and the right to access information contained in your clinical record. Except when required by law, you have the right to approve or refuse the release of records.
- Information concerning your diagnosis, unanticipated outcomes, treatment and prognosis, to the degree known.
- Participate in decisions involving your healthcare and be fully informed of and to consent or refuse to participate in any unusual, experimental or research project without compromising your access to services.
- Make decisions about medical care, including the right to accept or refuse medical or surgical treatment after being adequately informed of the benefits, risks and alternatives, without coercion, discrimination or retaliation.
- Self-determination including the rights to accept or to refuse treatment and the right to formulate an advance directive.

Section 1 Policies and Procedures	 WASHINGTON VITAL VISION	
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- Competent, caring healthcare providers who act as your advocates and treats your pain as effectively as possible.
- Know the identity and professional status of individuals providing service and be provided with adequate education regarding self-care at home, written in language you can understand.
- Be free from unnecessary use of physical or chemical restraint and or seclusion as a means of coercion, convenience or retaliation.
- Know the reason(s) for your transfer either inside or outside the facility.
- Impartial access to treatment regardless of race, color, age, sex, sexual orientation, national origin, religion, handicap or disability.
- Receive an itemized bill for all services within a reasonable period of time and be informed of the source of reimbursement and any limitations or constraints placed upon your care.
- File a grievance with the facility by contacting the Director of Operations, via telephone or in writing, when you feel your rights have been violated.

Washington Vital Vision
 10803 SE Kent-Kangley Rd Ste 103
 Kent, WA 98030
Phone: (206) 800-3445
Fax: XXXXXXXX

- Report any comments concerning the quality of services provided to you during the time spent at the facility and receive fair follow-up on your comments.
- Know about any business relationships among the facility, healthcare providers, and others that might influence your care or treatment.
- File a complaint of suspected violations of health department regulations and/or patient rights. Complaints may be filed at:

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Approved:	Revised:	


Washington State Department of Health:
<https://fortress.wa.gov/doh/opinio/s?s=ComplaintFormHPF>

Office of the Medicare Beneficiary Ombudsman
<http://www.medicare.gov/claims-and-appeals/medicare-rights/get-help/ombudsman.html>

Accreditation Association for Ambulatory Health Care (AAAHC)
 847-853-6060 Phone
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- Following the treatment plan recommended by the primary physician involved in your case.
- Providing an adult to transport you home after surgery and an adult to be responsible for you at home for the first 24 hours after surgery.
- Indicating whether you clearly understand a contemplated course of action, and what is expected of you, and ask questions when you need further information.
- Your actions if you refuse treatment, leave the facility against the advice of the physician, and/or do not follow the physician’s instructions relating to your care.
- Ensuring that the financial obligations of your healthcare are fulfilled as expediently as possible.
- Providing information about, and/or copies of any living will, power of attorney or other directive that you desire us to know about.

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POLICY:

Washington Vital Vision provides ambulatory surgical care.

Layout

The Operating Suite is physically and distinctly separate and segregated from the General Office Area (waiting room, exam room (s), administrative area, physician office, staff lounge, etc.).

The Operating Suite includes the Operating Room, Prep/Scrub area, Clean and/or Dirty Room, and Pre/Post areas.

The operating suite is physically separate from the general office.


There is a room dedicated for use as an operating room.

All major surgery is done in the separate and distinct operating room(s).

Facility Environment

The ASC must have a safe and sanitary environment that is properly constructed, equipped, and maintained to protect the health and safety of patients as well as to provide for the provision of surgical services. The basic life safety from fire requirement for facilities participating in the Medicare and Medicaid programs is in compliance with the most current edition of the NFPA, LSC and HCFC. Any exception to this policy must be medically necessary on a per case basis and at the sole discretion and responsibility of the operating surgeon.

The facility displays a professional appearance in keeping with a medical facility designed to carry out procedures. The facility must be neat, comfortable and clean and should include a waiting area, business office and sanitary lavatory facilities. One or more dedicated exam rooms must be available that provide for privacy and treatment in a sanitary, orderly environment.

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The floors, walls and countertops are covered with smooth and easy to clean material which is free from tears, breaks or cracks. If the floors contain seams or individual tiles they are sealed with an impermeable sealant other than silicone.

All openings to outdoor air are effectively protected against the entrance of insects, animals, etc.

Operating Room Environment & Equipment

Each operating room must be designed and equipped so that the types of surgery conducted can be performed in a manner that protects the lives and assures the physical safety of all individuals in the area.

Each operating room is of a size adequate to allow for the presence of all equipment and personnel necessary for the performance of the operations, and must comply with applicable local, state/provincial or federal/national requirements. There must be ample clear space on each side of the procedure table to accommodate emergency personnel and equipment in case of emergency and permit for the safe transfer of the patient to a gurney for transport. Facility personnel can physically demonstrate to the inspector that the emergency criteria, as stated above, can be met in the operating room space available.


There is adequate operating room storage space to hold equipment, sterile supplies, and medications. Storage space should be adequate to minimize the need to leave the operating room for frequently used supplies, equipment, and/or medication.

Each operating room is adequately ventilated and temperature controlled.

Temperature in the O.R.s will not exceed 73 degrees Fahrenheit. Humidity within the perioperative suite will be between 20% and 60% and below 70% in sterile storage areas (addendum d to ANSI/ASHRAE/ASHE Standard 170-2008).

The OR ceiling surface or drop-in tiles are smooth, washable, and free of particulate matter that could contaminate the OR.

Only properly inspected equipment is used in the operating suite.

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There is an adequate operating room table or chair.

The operating room is provided with adequate general lighting in the ceiling.

Adequate illumination for patients, machines and monitoring equipment, which can include battery powered illuminating systems.

Sufficient electrical outlets are available, labeled and grounded to suit the location (e.g. wet locations) and connected to emergency power supplies where appropriate.

Sequential compressive devices (SCD) are employed for operations lasting one(1) hour or longer, except for operations carried out solely under local or topical anesthesia.

When unipolar electrocautery is used, a single-use/disposable grounding pad is used.

“Forced air warmer,” blanket warmers, or other devices are used to maintain the patient’s temperature.

Pre/Post Environment

The Pre/Post is maintained, clean and free of litter.

Patients Served


The patient population served by this facility includes adult patients seeking surgical intervention to diagnose, maintain or restore optimal wellness.

The following defines Washington Vital Vision’s patient population:

● Young Adult (19-45 years)	● Middle Adult (45-60 years)
● Older Adult (>60 years)	

Scope and Complexity of Patient Care Needs

The facility provides a safe and comfortable environment for patients and personnel to assist providers in meeting the health care needs of our patients. The staff provides

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quality, cost effective, competent care respectful of each patient’s rights and dignity. Only ophthalmic procedures are performed at this facility. In the immediate post-procedure phase of the surgical encounter, patients are under the direct supervision of the surgeon or a qualified anesthesia provider, who maintains responsibility for the patient until they have been appropriately discharged from the facility.

Invasive procedures and/or procedures requiring sedation will be performed in an operating room to meet established facility patient monitoring and personnel requirements.

Staffing

Members of the staff will be assigned daily patient care responsibilities by the ASC Manager. Sufficient nursing personnel will be available to assist with preoperative, intra-operative and postoperative care of patients undergoing surgical procedures per the following standards:

- An ACLS certified RN will be present in the facility whenever patients are present.
- During the intraoperative phase, an RN and physician will be present in the operating room

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- The schedule will be evaluated and personnel assigned to nursing care in preoperative area, the operating rooms, Pre/Post areas or other areas, as needed. Other personnel will be assigned according to the type of procedure, expertise, abilities, etc., keeping in mind the number of personnel available, as well as ancillary tasks to be performed, to allow for smooth functioning of the ambulatory surgery facility.
- A physician will be present, not merely immediately available, until all patients operated on that day have been physically discharged.
- In the event of their prolonged absences, the ASC Manager and Medical Director will determine the division of duties among the remaining personnel. During short-term absence such as illness or vacation, a designated RN will assume daily duties.

Staff Qualifications

The nursing staff maintains current licensure and BLS certification. ACLS certification is required for RN's. Organizational membership in the Association of Peri-Operative Registered Nurses (AORN), and the American Society of Post Anesthesia Nurses (ASPAN) is encouraged. A continuous program of inservice education and periodic skills for all personnel is maintained to ensure quality care is provided.

Standards of Practice

The Association of Peri-Operative Registered Nurses (AORN), the American Society of Post Anesthesia Nurses (ASPAN) and the Association for the Advancement of Medical Instrumentation (AAMI) standards are referenced as used in the formulation and review of policies and standards of practice, as well as input from the expertise of the staff.

Southeast King Planning Area

Number of Operating Rooms, and Number of Surgical Cases and Minutes, by Location, 2029

Facility	Special Procedure Rooms	Dedicated Outpatient Ors	Mixed Use ORs	Inpatient Min/case	Inpatient Cases in Mixed Use Ors	Inpatient Mins. In Mixed Use Ors	Outpatient Min/Case	Outpatient Cases	Outpatient Mins.	Data Source
FHS St. Elizabeth, Enumclaw			3	95	1,380	131,506			-	DOH 2022 Survey
FHS St. Francis, Federal Way			8	126	4,263	539,235				DOH 2022 Survey
MultiCare Auburn Medical Center, Auburn			6	107	3,194	340,531				DOH 2023 Survey
MultiCare Covington Hospital			6	84	1,875	156,744				DOH 2023 Survey
Valley Medical Center, includes ASC, Renton			17	96	11,382	1,093,651				DOH 2020 survey
Auburn Surgery Center, Auburn (ASF.FS.6022028)		2					45	240	10,800	DOH 2017 Survey
Multicare Cascade Surgery Center, Auburn (ASF.FS.60604663)		3					167	2,275	379,860	DOH 2023 Survey
ENT Facial & Allergy, Enumclaw (ASF.FS.60360678)		1					38	708	26,832	DOH 2023 Survey
Evergreen Eye Center, Federal Way (ASF.FS.60099942)		2					54	5,693	307,422	DOH 2022 Survey
Fogel Endoscopy Center, Federal Way [CN # 1302]										
Sight Partners Northwest Eye Surgeons, Renton (ASF.FS.60977747)		2					13	1,598	20,774	provided by Sight Partners
Proliance Plastic and Reconstructive Surgeons, Renton (ASF.FS.60572737)		2					158	357	56,406	DOH 2023 survey
Rainier Surgical Center, Federal Way (ASF.FS.60099146)		3					202	789	159,142	DOH 2017 survey
Sports Medicine Day Surgery, Renton (ASF.FS.60100100)		1					50	245	12,250	DOH 2017 survey
Valley Eye and Laser Center, Inc., Renton (ASF.FS.60101656)		1					50	2,100	105,000	DOH 2017 survey
Totals		17	40		22,094	2,261,667	777	14,005	1,078,486	
Average				102			86			
Operating Rooms counted in methodology		13	33							
Total Surgeries		14,005								
Area Population 2025		687,785								
Use Rate		70.31								
Planning Area Projected Population projected 2029		727,118								
Total future surgeries based on projected population		51,124								
%Outpatient of Total Procedures		61.20%								
%Inpatient of Total Procedures		38.80%								
Average Inpatient Min/Case		101.62								
Average Outpatient Min/Case		86.29								

Southeast King ASC Need Methodology, 2025

	Sevice Area Population, 2029		727,118		Claritas, 2025				
a.i.	94,250	minutes per year, inpatient/mixed use OR							
a.ii	68,850	minutes per year, outpatient OR							
a.iii	33	dedicated mixed use ORs x 94,250	=	3,110,250	=	30,608	mixed use surgeries		
a.iv	13	dedicated OP ORs x 68,850 minutes	=	895,050	=	10,373	outpatient surgeries		
b.i.		2029 Projected inpatient/mixed use surgeries	=	22,679	=	2,304,571	minutes, mixed use surgeries		
		2029 Projected outpatient surgeries	=	23,364	=	2,015,977	minutes, outpatient surgeries		
b.ii.		Forecast number of outpatient surgeries minus capacity of dedicated outpatient ORs							
		23,364	-	10,373	=	12,991			
b.iii.		Average time of mixed use surgeries		=	101.62	minutes			
		Average time of outpatient surgeries		=	86.29	minutes			
b.iv.		Mixed use surgeries, 2025* average minutes/case							
			=	2,304,571	minutes				
		Remaining outpatient surgeries (b.ii) * average minutes/case							
			=	1,120,927	minutes				
		Total		=	3,425,498	minutes			
c.i.		If b.iv. < a.iii., divide by (a.iii. - b.iv.) 94,250 to determine surplus of mixed use ORs							
		Not applicable; proceed to c.iii.							
	b.iv.	3,425,498							
	a.iii.	3,110,250							
		(315,248)	÷	94,250	=	(3.34)			
c.ii.		If b.iv. > a.iii., divide (mixed use part of b.iv. - a.iii.) by 94,350 to determine shortage of mixed use ORs							
	b.iv.	3,425,498							
	a.iii.	3,110,250							
		(805,679.12)	÷	94,250	=	(8.55)			
		Divide outpatient part of b.iv. By 68,850 to determine the shortage of dedicated outpatient ORs							
		1,120,927	÷	68,850	=	16.28			

By Elizabeth L. Munnich and Stephen T. Parente

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Procedures Take Less Time At Ambulatory Surgery Centers, Keeping Costs Down And Ability To Meet Demand Up

Elizabeth L. Munnich (beth.munnich@louisville.edu) is an assistant professor of economics at the University of Louisville, in Kentucky.

Stephen T. Parente is a professor of finance and associate dean at the Carlson School of Management, University of Minnesota, in Minneapolis.

ABSTRACT During the past thirty years outpatient surgery has become an increasingly important part of medical care in the United States. The number of outpatient procedures has risen dramatically since 1981, and the majority of surgeries performed in the United States now take place in outpatient settings. Using data on procedure length, we show that ambulatory surgery centers (ASCs) provide a lower-cost alternative to hospitals as venues for outpatient surgeries. On average, procedures performed in ASCs take 31.8 fewer minutes than those performed in hospitals—a 25 percent difference relative to the mean procedure time. Given the rapid growth in the number of surgeries performed in ASCs in recent years, our findings suggest that ASCs provide an efficient way to meet future growth in demand for outpatient surgeries and can help fulfill the Affordable Care Act's goals of reducing costs while improving the quality of health care delivery.

Technological developments in medicine have dramatically changed the provision of surgical care in the United States during the past thirty years. Advances in anesthesia and the development of laparoscopic surgery in the 1980s and 1990s made it possible for patients to be discharged the same day as their surgery, whereas previously they would have had to spend several days in the hospital recovering.^{1,2} The introduction of the Medicare inpatient prospective payment system in 1983 created additional incentives for hospitals to shift patient care from inpatient to outpatient departments.³

Between 1981 and 2005 the number of outpatient surgeries nationwide—performed either in hospital outpatient departments or in free-standing ambulatory surgery centers (ASCs)—grew almost tenfold, from 3.7 million to over 32.0 million. Outpatient procedures represented over 60 percent of all surgeries in the United States in 2011, up from 19 percent in 1981.⁴

The expansion of health insurance coverage

under the Affordable Care Act (ACA) presents opportunities to explore new ways to accommodate the increased demand for outpatient services. In addition, the ACA's goals of reducing the cost and improving the quality of health care delivery makes it increasingly important to find alternatives to existing methods of care delivery that cost less and are in more flexible settings.

ASCs are such an alternative to hospital outpatient departments. The number of ASCs has grown quickly to meet the rising demand for outpatient surgery services since the 1980s.⁵ Whereas outpatient departments provide a range of complex services, including inpatient and emergency services, ASCs provide outpatient surgery exclusively. Since most ASCs focus on a limited number of services, they may provide higher-quality care at a lower cost than hospitals that offer a broad range of services.⁶ Similar to retail clinics that meet primary care needs, ASCs offer convenient, relatively low-cost access to health care services.⁷

This article addresses the possibilities for ASCs

to generate substantial cost savings in outpatient surgery by presenting new evidence on the cost advantages of these centers relative to hospital outpatient departments. This is particularly important in light of the anticipated growth in demand for outpatient surgeries, in part as a result of the ACA.

Background On Ambulatory Surgery Centers

The number of outpatient surgeries has grown considerably in the United States since the early 1980s. Outpatient surgery volume across both hospital-based and freestanding facilities grew by 64 percent between 1996 and 2006, according to the National Survey of Ambulatory Surgery.⁸

Physicians receive the same payment for an outpatient procedure, regardless of whether it occurred in an ASC or a hospital. However, payments to facilities differ between settings. In general, reimbursements for outpatient procedures in hospitals are higher than those for procedures in ASCs, to account for the fact that compared to ASCs, hospitals must meet additional regulatory requirements and treat patients whose medical conditions are more complex.⁹ However, there is little evidence about the extent of cost advantages of ASCs, since these facilities have not historically reported cost or volume data. In spite of the limited availability of information about ASC costs, the Centers for Medicare and Medicaid Services has adjusted the relative facility payments over time to reflect speculative cost differentials across the two types of outpatient surgery facilities.¹⁰

Changes in reimbursement levels for outpatient procedures have likely contributed to fluctuations in the number of ASCs in recent years. In 2000 Medicare's traditional cost-based reimbursement system for outpatient care in hospitals was replaced with the outpatient prospective payment system, which reimburses hospitals on a predetermined basis for what the service provided is expected to cost.

Noting the dramatic growth in outpatient surgeries performed in ASCs relative to hospitals around the same time, the Centers for Medicare and Medicaid Services subsequently made efforts to reduce ASCs' payments. The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 froze ASCs' payment updates, and between 2008 and 2012 Medicare phased in a new system for ASCs' payments based on the outpatient prospective payment system.^{9,11} The rates were set so that for any outpatient procedure, payments to ASCs would be no more than 59 percent of payments made to hospitals, phased in fully by 2012. This policy change re-

duced incentives to treat patients in ASCs, which may have contributed to slower growth in this sector in recent years (Exhibit 1).

In spite of reduced incentives for treating patients outside of hospitals, growth in outpatient volume was greater in ASCs than in hospitals during the period 2007–11. For example, volume among Medicare beneficiaries grew by 23.7 percent in ASCs, compared to 4.3 percent in hospital outpatient departments (Exhibit 2). This suggests that physicians and patients still increasingly prefer outpatient surgery in ASCs to that in hospitals, because of either perceived advantages in cost and quality or resource constraints that inhibit hospitals' ability to meet the growing demand for outpatient surgeries.

ASCs have been praised for their potential to provide less expensive, faster services for low-risk procedures and more convenient locations for patients and physicians, compared to outpatient departments.^{11–14} However, if hospitals are better equipped to treat high-risk patients, treating higher-risk patients in ASCs could have negative consequences for patient outcomes.

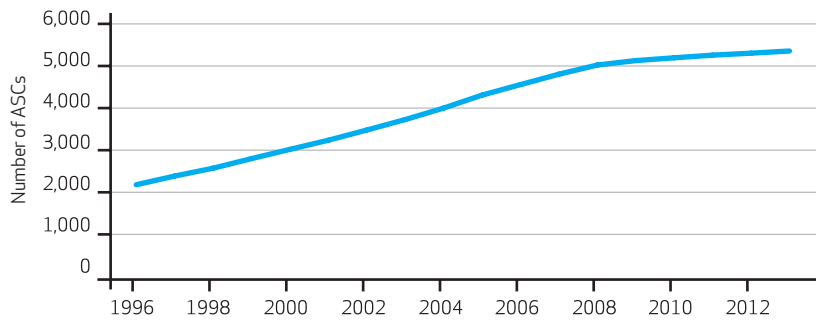
There is little evidence about the quality of care provided in ASCs or their ability to function as substitutes for hospitals in providing outpatient surgery. Comparisons of outcomes between these two types of outpatient facilities are complicated by the fact that ASCs tend to treat a healthier mix of patients than hospitals do. Thus, any differences in observed outcomes between the two settings could reflect differences in underlying patient health instead of differences in quality of care.

Elsewhere, we used variations in ASC use generated by changes in Medicare reimbursements to outpatient facilities to show that patients treated in ASCs fare better than those treated in hospitals.¹⁵ In particular, we considered the likelihood that patients undergoing one of the five highest-volume outpatient procedures¹⁶ visited an emergency department or were admitted to the hospital after surgery. These outcomes have been used in the medical literature as proxies for quality in outpatient surgical care.^{17,18} These measures are also interesting from a policy perspective: As of October 2012, as part of the Ambulatory Surgical Center Quality Reporting Program,¹⁹ ASCs are required to report transfers of patients directly from the ASC to a hospital and hospital admissions of ASC patients upon discharge from the facility.

Our findings indicate that the highest-risk Medicare patients were less likely than other high-risk Medicare patients to visit an emergency department or be admitted to a hospital following an outpatient surgery when they were treated in an ASC, even among similar patients

EXHIBIT 1

Number Of Medicare-Certified Ambulatory Surgery Centers (ASCs), 1996-2013



SOURCE Kay Tucker, director of communications, Ambulatory Surgery Center Association, October 29, 2013.

undergoing the same procedure who were treated by the same physician in an ASC and a hospital. These results indicate that ASCs provide high-quality care, even for the most vulnerable patients.

In this article we examine the question of whether or not ASCs are less costly than hospital outpatient departments. The answer to this question is not straightforward, since little is known about surgery cost and volume in ASCs. The often-cited cost differential between ASCs and outpatient departments is frequently attributed to differences in reimbursement rates for the two types of facilities, which reflect hospitals' greater complexity of patients and procedures. But for an average patient undergoing a high-volume procedure, are ASCs more efficient than hospital outpatient departments?

Study Data And Methods

Our analysis incorporated one important aspect of cost in the outpatient surgery setting: the time it takes to perform procedures in ASCs and hospital outpatient departments. For data on that time, we used the National Survey of Ambulatory

Surgery. This survey of outpatient surgery in hospitals and freestanding surgery centers in the United States was conducted by the Centers for Disease Control and Prevention from 1994 to 1996 and in 2006.

The 2006 data include patients' diagnoses, demographic characteristics, and surgical procedures, as well as information about length of surgery and recovery for 52,000 visits at 437 facilities. There are four length-of-surgery measures: time in the operating room; time in surgery (a subset of time in the operating room); time in postoperative care; and total procedure time (time in the operating room, time in postoperative care, and transport time between the operating room and the recovery room).

Previous research has documented differences in surgery time between ASCs and hospital outpatient departments.^{12,20} However, observed differences in procedure time may reflect underlying differences in patients' characteristics, instead of differences in efficiency between the two types of facilities. To address this concern, we estimated the relationship between outpatient setting and procedure time, controlling for a patient's primary procedure, number of procedures, and characteristics such as underlying health and demographics.²¹

Study Results

It is the nature of outpatient procedures that the patient spends most of his or her time in a surgical facility preparing for and recovering from surgery, not actually undergoing the surgery (Exhibit 3). This suggests that organization, staffing, and specialization may play a large role in the cost differences between ASCs and hospital outpatient departments.

Our estimates of the time savings for ASC treatment suggest that ASCs are substantially faster than hospitals at performing outpatient procedures, after procedure type and observed patient characteristics are controlled for (Exhibit 4). On average, patients who were treated in ASCs spent 31.8 fewer minutes undergoing procedures than patients who were treated in hospitals—a difference of 25 percent relative to the mean procedure time of 125 minutes (Exhibit 3). Thus, for an ASC and a hospital outpatient department that have the same number of staff and of operating and recovery rooms, the ASC can perform more procedures per day than the hospital can.

We estimated the cost savings for an outpatient procedure performed in an ASC using the results presented above and estimates of the cost of operating room time. Estimated charges for this time are \$29–\$80 per minute, not including fees for the surgeon and anesthesia provider.²² Our

EXHIBIT 2

Number Of Outpatient Surgery Visits, By Facility Type, 2007 And 2011

Type	2007	2011	Change (%)
Ambulatory surgery center	373,284	461,718	23.7
Freestanding	260,466	344,292	32.2
Hospital-based	112,818	117,426	4.1
Hospital outpatient department	1,173,309	1,224,218	4.3
All types	1,546,593	1,685,936	9.0

SOURCE Authors' analysis of a 5 percent sample of Medicare claims data. NOTE The numbers of outpatient department visits include only those that involved at least one surgical procedure.

calculation suggests that even excluding physician payments and time savings outside of the operating room, ASCs could generate savings of \$363–\$1,000 per outpatient case.

These results support the claim that ASCs provide outpatient surgery at lower costs than hospitals. However, they provide little information about what is driving these cost differences.

Terrence Trentman and coauthors discuss several factors that affect patient flow and could result in differences in preoperative and recovery times for outpatient procedures between in ASCs and hospitals.²⁰ For example, compared to the situation in hospitals, in ASCs surgeons are more likely to be assigned to a single operating room for all cases, which reduces delays; the operating room is often closer to the preoperative and recovery rooms, because facilities are smaller; teams of staff have clearer and more consistent roles, with less personnel turnover; and staffing is not done by shifts—that is, staff members go home only after all cases are finished, which creates incentives to work quickly. In addition, hospitals may be more likely to have emergency add-on and bring-back cases for more complex cases that compete with outpatient procedures for operating room time.

These differences suggest that hospitals would have to adopt a substantially different and highly specialized organizational model to achieve the same efficiencies as ASCs.

Discussion

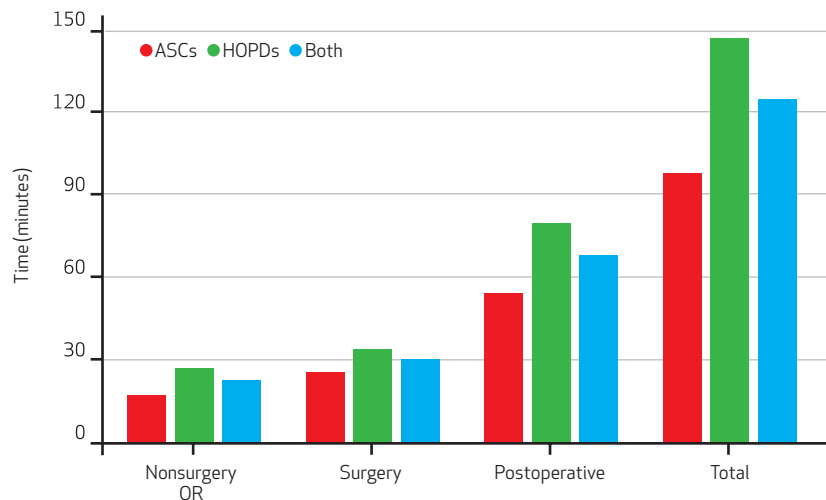
The findings presented here provide evidence that ASCs are a lower-cost alternative to hospitals for outpatient surgical procedures. The tremendous growth in the number of ASCs since the 1980s suggests that these facilities are quite flexible in meeting the growing demand for outpatient services. This is not surprising, given that ASCs have a smaller footprint than hospitals, which makes them less costly to build—particularly in urban environments, where available land may be scarce or difficult to acquire.

The Congressional Budget Office projects that as a result of the ACA, an additional twenty-five million people will have health insurance by 2016.²³ The question of whether the current supply of health care providers will be able to accommodate the anticipated surge in demand for services resulting from the ACA has received a considerable amount of attention.²⁴

To get a sense of the magnitude of the anticipated growth in the outpatient surgery market following the ACA, we used a microsimulation model to project hospital outpatient surgical volume through 2021 (for details about the model, see the online Appendix).²⁵ Our estimates indi-

EXHIBIT 3

Average Outpatient Surgical Procedure Time, By Facility Type, 2006

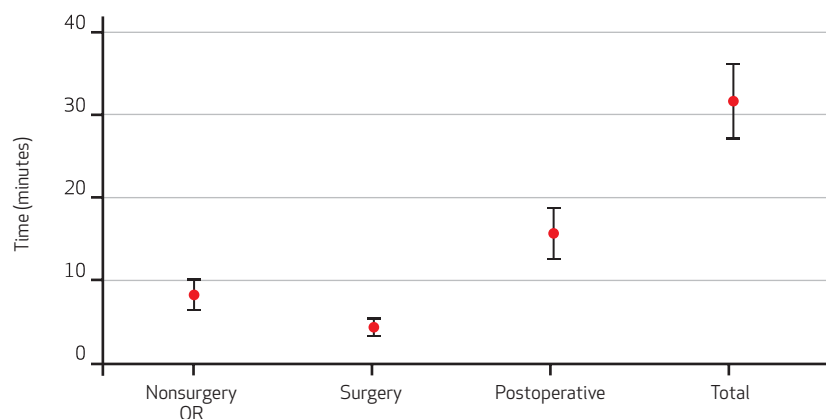


SOURCE Authors' analysis of data from the 2006 National Survey of Ambulatory Surgery. **NOTES** Estimates were weighted using sample weights. ASC is ambulatory surgery center. HOPD is hospital outpatient department. "Both" is both types of facilities. OR is operating room. "Total" is total procedure time, from entering the operating room to leaving postoperative care, as described in the text.

cated that outpatient surgical volume in hospitals alone will increase by 8–16 percent annually between 2014 and 2021, compared to annual

EXHIBIT 4

Estimated Time Savings for Ambulatory Surgery Centers (ASCs) Relative to Hospital Outpatient Departments



SOURCE Authors' analysis of data from the 2006 National Survey of Ambulatory Surgery. **NOTES** Estimates and standard error bars represent results from separate ordinary least squares regressions of nonsurgical time in the operating room, surgery time, postoperative recovery time, and total time on an indicator for treatment in an ASC. (Total time is total procedure time, from entering the operating room to leaving postoperative care, as described in the text.) All regressions controlled for primary procedure, total number of procedures, patient's risk score, age, sex, disability status, type of insurance, and an indicator for whether the facility was located in a Metropolitan Statistical Area. The full specifications for these regressions are available in the online Appendix (see Note 25 in text). Data were balanced across surgery and postoperative time components; the final sample included 34,467 observations. Estimates were weighted using sample weights. Standard errors were clustered at the facility level. All estimates are significant ($p < 0.01$). OR is operating room.

growth rates of 1–3 percent in the previous ten years.

We did not have adequate data on surgical volume in ASCs to produce an equally precise estimate for the projected demand in this sector attributable to the ACA. However, our results indicate substantial growth even in hospital outpatient surgical volume, which has been growing at a much slower rate than ASC surgical volume. The trends in the growth in the number of ASCs before the passage of the ACA and our model for projected growth in the number of hospital outpatient department procedures suggest that it will be increasingly important to identify ways to accommodate growing demand for outpatient surgery. This is particularly important since hospitals will also likely face increased demand for other types of outpatient visits besides surgery after the ACA is implemented.

The rapid growth in the number of procedures performed at ASCs in recent years is a good indication of the ability of the market to expand quickly when there are sufficient incentives for it to do so. The range of surgeries performed in ASCs has increased considerably since the 1980s. In 1981 Medicare covered 200 procedures that were provided in ASCs. Today about 3,600 different surgical procedures are covered under Medicare's ASC payment system.⁹ Consequently, the volume of procedures performed in ASCs has increased dramatically, and the share of all outpatient surgeries performed in freestanding ASCs increased from 4 percent in 1981 to 38 percent in 2005.^{26,27} The Ambulatory Surgery Center Association has estimated that roughly 5,300 ASCs provide more than twenty-five million procedures annually in the United States.²⁷

Physicians who have an ownership stake in an ASC obtain greater profits from performing procedures in these facilities rather than in hospitals. Since physicians receive the same payment for their services regardless of whether procedures are performed in an ASC or a hospital, one implication of ASCs' lowering the cost of outpatient surgery without the price being ad-

justed accordingly—therefore leading to higher profit per procedure—is that it could create greater incentives for providers to recommend unnecessary procedures in physician-owned ASCs, a concept known as demand inducement. Another consequence of demand inducement is that physicians may respond to the increased number of patients with health insurance—as a result of the ACA—by performing surgeries that are not clinically indicated. Future research should examine the implications of reductions in the cost of outpatient surgery for demand inducement.

Conclusion

The ASC market faces challenges to meeting increased demand for outpatient surgery. As noted above, recent reimbursement changes have lowered payments to ASCs, which reduces the incentives to start or expand these facilities.

This gap in reimbursement is likely to continue to widen because Medicare's reimbursement rates for hospital procedures are updated annually according to projected changes in hospital prices, whereas ASC reimbursements are updated annually according to projected changes in the prices of all goods purchased by urban consumers, and medical spending is increasing at a much faster rate than other spending in the US economy. Furthermore, the disparity between medical and other consumer spending is expected to increase over time.

Critics of ASCs argue that these facilities “cherry pick” profitable patients and procedures, diverting important revenue streams from hospitals.^{28–31} In combination with research on the quality of care in ASCs,¹⁵ the findings in this article indicate that ASCs are a high-quality, lower-cost substitute for hospitals as venues for outpatient surgery. Increased use of ASCs may generate substantial cost savings, helping achieve the ACA's goals of reducing the cost and improving the quality of health care delivery. ■

25 million

Procedures

The roughly 5,300 ASCs in the United States provide more than 25 million procedures each year.

These findings were previously presented at the National Bureau of Economic Research Hospital Organization and Productivity Conference, Harwich, Massachusetts, October 4–5, 2013.

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Ambulatory Surgery in the United States, 2006

by Karen A. Cullen, Ph.D., M.P.H.; Margaret J. Hall, Ph.D.; and Aleksandr Golosinskiy,
Division of Health Care Statistics

Abstract

Objectives—This report presents national estimates of surgical and nonsurgical procedures performed on an ambulatory basis in hospitals and freestanding ambulatory surgery centers in the United States during 2006. Data are presented by types of facilities, age and sex of the patients, and geographic regions. Major categories of procedures and diagnoses are shown by age and sex. Selected estimates are compared between 1996 and 2006.

Methods—The estimates are based on data collected through the 2006 National Survey of Ambulatory Surgery by the Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS). The survey was conducted from 1994–1996 and again in 2006. Diagnoses and procedures presented are coded using the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD–9–CM).

Results—In 2006, an estimated 53.3 million surgical and nonsurgical procedures were performed during 34.7 million ambulatory surgery visits. Of the 34.7 million visits, 19.9 million occurred in hospitals and 14.9 million occurred in freestanding ambulatory surgery centers. The rate of visits to freestanding ambulatory surgery centers increased about 300 percent from 1996 to 2006, whereas the rate of visits to hospital-based surgery centers remained largely unchanged during that time period. Females had significantly more ambulatory surgery visits (20.0 million) than males (14.7 million), and a significantly higher rate of visits (132.0 per 1,000 population) compared with males (100.4 per 1,000 population).

Average times for surgical visits were higher for ambulatory surgery visits to hospital-based ambulatory surgery centers than for visits to freestanding ambulatory surgery centers for the amount of time spent in the operating room (61.7 minutes compared with 43.2 minutes), the amount of time spent in surgery (34.2 minutes compared with 25.1 minutes), the amount of time spent in the postoperative recovery room (79.0 minutes compared with 53.1 minutes), and overall time (146.6 minutes compared with 97.7 minutes).

Although the majority of visits had only one or two procedures performed (59.8 percent and 27.7 percent, respectively), 1.0 percent had five or more procedures performed. Frequently performed procedures on ambulatory surgery patients included endoscopy of large intestine (5.7 million), endoscopy of small intestine (3.5 million), extraction of lens (3.1 million), injection of agent into spinal canal (2.0 million), and insertion of prosthetic lens (2.6 million). The leading diagnoses at ambulatory surgery visits included cataract (3.0 million); benign neoplasms (2.0 million), malignant neoplasms (1.2 million), diseases of the esophagus (1.1 million), and diverticula of the intestine (1.1 million).

Keywords: Outpatients • Diagnoses • Procedures • ICD–9–CM • National Survey of Ambulatory Surgery

Introduction

This report presents data from the 2006 National Survey of Ambulatory Surgery (NSAS). The survey, previously conducted annually from 1994 through 1996, was conducted by NCHS to gather and disseminate data about ambulatory surgery in the United States. For NSAS, ambulatory surgery refers to surgical and nonsurgical procedures performed on an ambulatory (outpatient) basis in a hospital or freestanding center's general operating rooms, dedicated ambulatory surgery rooms, and other specialized rooms, such as endoscopy units and cardiac catheterization laboratories. NSAS is the principal source for national data on the characteristics of visits to hospital-based and freestanding ambulatory surgery centers.

Ambulatory surgery has been increasing in the United States since the early 1980s. Two major reasons for the increase are advances in medical technology and changes in payment arrangements. The medical advances include improvements in anesthesia, which enable patients to regain consciousness more quickly with fewer after effects and better analgesics for relief of pain. In addition, minimally invasive and noninvasive procedures have been developed and are being used with increasing frequency. Examples include laser surgery, laparoscopy, and endoscopy. These medical advances have made surgery less complex and risky (1) and have allowed many



procedures to move from inpatient to ambulatory settings (2–6).

At the same time, concern about rising health care costs led to changes in the Medicare program that encouraged the development of ambulatory surgery. In the early 1980s, the Medicare program was expanded to cover care in ambulatory surgery centers, and a prospective payment system based on diagnosis-related groups was adopted for hospital inpatient care that created strong financial incentives for hospitals to shift less complex surgery to outpatient settings. Many state Medicaid plans and private insurers followed the lead of the Medicare program and adopted similar policies (7).

Additional changes in the health care system, such as the growth of managed care along with consolidation of hospitals, have furthered the growth of ambulatory surgery (3,8). As these changes occurred, many types of surgeries done in hospitals were increasingly performed during ambulatory visits. Both in conjunction with and as a result of these changes, the number of freestanding ambulatory surgery centers (ASCs) grew from 239 in 1983 (9) to over 3,300 nearly two decades later (3,10). The number of procedures being performed in ASCs also increased dramatically—from 380,000 procedures in 1983 to 31.5 million in 1996 (5).

The National Hospital Discharge Survey (NHDS), which has been conducted by NCHS every year since 1965, includes information on surgical and nonsurgical procedures performed in inpatient settings (11–13). Although NHDS remains a good source of data for procedures that can be done only on an inpatient basis, such as open-heart surgery or cesarean delivery, NHDS estimates have become incomplete for procedures that can be performed on an ambulatory basis. NSAS was undertaken to obtain information about ambulatory procedures. For many types of procedures, data from both NHDS and NSAS are now required to obtain national estimates. Reports that present both ambulatory and inpatient procedure data for 1994, 1995, and 1996 have been published (14–16).

NSAS and NHDS are two of the NCHS provider-based surveys that constitute the National Health Care Surveys (NHCS). The NHCS were designed to provide nationally representative data on the use of health care resources of major sectors of the health care delivery system. Information on ambulatory procedures is also collected in two other NHCS surveys. The National Ambulatory Medical Care Survey obtains information on procedures ordered or performed during visits to physicians' offices (17), and the National Hospital Ambulatory Medical Care Survey (NHAMCS) collects data on procedures ordered or performed during visits to hospital outpatient and emergency departments (18).

Methods

Data source

NSAS covers procedures performed in ambulatory surgery centers, both hospital-based and freestanding. The hospital universe includes noninstitutional hospitals exclusive of federal, military, and Department of Veterans Affairs hospitals located in the 50 states and the District of Columbia. Only short-stay hospitals (hospitals with an average length of stay for all patients of fewer than 30 days), or those whose specialty was general (medical or surgical), or children's general were included in the survey. These hospitals must also have had six beds or more staffed for patient use. This universe definition is the same as that used for the NHDS and the NHAMCS. For the 2006 NSAS, the hospital sample frame was constructed from the products of Verispan, L.L.C., specifically its "Healthcare Market Index, Updated June 15, 2005" and its "Hospital Market Profiling Solution, Second Quarter, 2005" (19). These products were formerly known as the SMG Hospital Market Database. In 2006, the sample consisted of 224 hospitals. Of the 224 hospitals, 35 were found to be out-of-scope (ineligible) because they went out of business or otherwise failed to meet the criteria for the NSAS universe. Of the 189 in-scope (eligible)

hospitals, 142 hospitals responded to the survey for a response rate of 75.1%.

The universe of freestanding facilities included ones that were regulated by the states or certified by the Centers for Medicare & Medicaid Services (CMS) for Medicare participation. The sampling frame consisted of facilities listed in the 2005 Verispan Freestanding Outpatient Surgery Center Database (20) and Medicare-certified facilities included in the CMS Provider-of-Services (POS) file (21). Facilities specializing in dentistry, podiatry, abortion, family planning, or birthing were excluded. However, procedures commonly found in these settings were not excluded from in-scope locations. In 1994–1996, pain block locations were also excluded; however, they were included in the 2006 NSAS. In 2006, the sample consisted of 472 freestanding ASCs. Of the 472 freestanding ambulatory surgery centers, 74 were found to be out-of-scope (ineligible) because they failed to meet the criteria for the NSAS universe. Of the 398 in-scope (eligible) freestanding ambulatory surgery centers, 295 responded to the survey for a response rate of 74.1%. The overall response rate was 74.4%.

Sample design

The NSAS sampled facilities were selected using a multistage probability design with facilities having varying selection probabilities. Independent samples of hospitals and freestanding ambulatory surgery centers were drawn. Unlike the 1994–1996 NSAS, which used a three-stage stratified cluster design, with the first stage consisting of geographic primary sampling units or PSUs, the 2006 NSAS used a two-stage list-based sample design. Facilities were stratified by facility type (hospital compared with freestanding), ambulatory surgery status of hospitals (i.e., whether or not the hospital performed such surgery), facility specialty, and geographic region.

The first stage of the design consisted of selection of facilities using systematic random sampling with probabilities proportional to the annual

number of ambulatory surgeries performed. For the stratum of hospitals which, according to the sampling frame data, did not have ambulatory surgery, a national sample of 25 hospitals was selected to permit estimates of surgery in hospitals that either added ambulatory surgery since the frame was selected or differed from the frame.

At the second stage, within sampled facilities, a sample of ambulatory surgery visits was selected using a systematic random sampling procedure. Selection of visits within each facility was performed separately for each location where ambulatory surgery was performed. These locations included main operating rooms; dedicated ambulatory surgery units; cardiac catheterization laboratories; and rooms for laser procedures, endoscopy, and laparoscopy. Locations within hospitals dedicated exclusively to abortion, dentistry, podiatry, or small procedures were not included. The exclusion of these specialty locations, as well as the exclusion of facilities dedicated exclusively to those specialties, was recommended based on the feasibility study for the NSAS that was conducted in 1989–1991. Based on the recommendation of outside experts who were consulted prior to the design of the 2006 NSAS, the 2006 NSAS includes pain block facilities, whereas the 1994–1996 NSAS did not (22). Because NSAS data are collected from a sample of visits, persons with multiple visits during the year may be sampled more than once. NSAS estimates are of the number of visits to or procedures performed in ambulatory surgery facilities, not the number of persons served by these facilities.

Data collection

Sample selection and abstraction of information from medical records were performed at the facilities. Facility staff did the sampling in about 40 percent of facilities that participated in the 2006 survey, and facility staff abstracted the data in about 30 percent of the participating facilities. In the remaining facilities, the work was performed by personnel of the U.S. Census Bureau

acting on behalf of NCHS. Data processing and medical coding were performed by the Constella Group Inc., Durham, North Carolina. Editing and estimation were completed at NCHS.

The abstract form (“**Technical Notes**”) contains items relating to the personal characteristics of the patients such as age, sex, race, and ethnicity; and administrative items such as date of procedure, disposition, and expected sources of payment. The medical information includes up to seven diagnoses and six procedures, which were coded according to the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD–9–CM) (23).

A quality control program was conducted on the coding and entering of data from abstracts to electronic form. Approximately 10 percent of the abstractions were independently recoded by an NSAS coder at the Constella Group, Inc., with discrepancies resolved by a chief coder. The overall error rate for the 2006 NSAS was 0.3 percent for diagnosis coding and keying, 0.2 percent for procedure coding and keying, and 0.3 percent for demographic coding and keying.

Estimation

Because of the complex multistage design of the NSAS, the survey data must be inflated or weighted in order to produce national estimates. The estimation procedure produces essentially unbiased national estimates, and has three basic components: inflation by reciprocals of the probabilities of sample selection, adjustment for nonresponse, and population weighting ratio adjustments. These three components of the final weight are described in more detail in another report (22).

Standard errors

The standard error (SE) is primarily a measure of sampling variability that occurs by chance because only a sample, rather than the entire universe, is surveyed. Estimates of the sampling variability for this report were calculated

using Taylor approximations in SUDAAN, which takes into account the complex sample design of the NSAS. A description of the software and the approach it uses has been published (24). The SEs of statistics presented in this report are included in each of the tables.

Testing of significance and rounding

In this report, statistical inference is based on the two-sided *t*-test with a critical value of 2.58 (0.01 level of significance). Terms such as “higher” and “less” indicate that differences are statistically significant. Terms such as “similar” or “no difference” mean that no statistically significant difference exists between the estimates being compared. A lack of comment on the difference between any two estimates does not mean that the difference was tested and found not to be significant.

The feasibility of using one weight to calculate estimates and variances was assessed to determine whether the SEs produced from the single-weight variable were for the most part greater than the SEs produced by the variance weights for the same estimates. For certain estimates, the single weights produced variances that underestimated the true variances. This underestimation can lead to Type I errors in which the null hypothesis is incorrectly rejected when using the commonly used significance level of $\alpha=0.05$. As a result, the decision was made that an α of 0.01 should be used to reduce the likelihood of committing a Type I error.

Estimates of counts in the tables have been rounded to the nearest thousand. Therefore, figures within tables do not always add to the totals. Rates and percentages were calculated from unrounded figures and may not precisely agree with rates or percentages calculated from rounded data.

Nonsampling error

As in any survey, results are subject to both sampling and nonsampling errors. Nonsampling errors include

reporting and processing errors as well as biases due to nonresponse and incomplete response. The magnitude of the nonsampling errors cannot be computed. However, these errors were kept to a minimum by procedures built into the operation of the survey. To eliminate ambiguities and to encourage uniform reporting, attention was given to the phrasing of items, terms, and definitions. Quality control procedures and consistency and edit checks reduced errors in data coding and processing. The unweighted response rate for the 2006 NSAS was 74.4%. [Table 1](#) presents weighted characteristics of NSAS respondents and nonrespondents, along with weighted response rates. Responding compared with nonresponding distributions were similar, with the exception of higher cooperation among facilities in a nonmetropolitan statistical area. The effect of this differential response is minimized in the visit estimates in most cases, as NSAS uses a nonresponse adjustment factor that takes annual visit volume, specialty, facility type, and geographic region into account. Item nonresponse rates in NSAS are generally low (5% or fewer). However, levels of nonresponse may vary considerably in the survey.

NSAS does not completely measure ambulatory procedures that are performed in locations such as physicians' offices, for example, injections of therapeutic substances, skin biopsies, and certain plastic surgery procedures. The National Ambulatory Medical Care Survey has data about procedures in physicians' offices (17) and the National Hospital Ambulatory Medical Care Survey provides information about procedures in other hospital outpatient and emergency departments (18). As medical technology continues to advance and changes in payment policy promote it, increasing numbers and types of procedures may move from NSAS facilities to elsewhere.

Because certain freestanding facilities and certain specialized locations within hospitals and freestanding facilities are excluded from the NSAS design, ambulatory

procedures performed in some specialties are not completely measured by the survey. Excluded specialties include dentistry, podiatry, abortion, family planning, and birthing; and locations that perform small procedures, such as removal of skin lesions, were also excluded. However, procedures in these specialties performed in general operating rooms or other in-scope locations are included in the survey.

The determination of whether an ambulatory surgery facility is a hospital or a freestanding center is based on the universe from which the facility was selected. In most cases, it was apparent whether a facility was a hospital or a freestanding ambulatory surgery center, but some facilities were not easily classified. For example, a "freestanding" facility may be owned by a hospital but located some distance away. If such a facility is separately listed in the 2005 Verispan Freestanding Outpatient Surgery Center Database or in the CMS POS file and is selected into the NSAS sample from this universe, it is considered a freestanding facility. Additional definitions of terms used in the NSAS have been published (22).

Use of tables

The statistics presented in this report are based on a sample, and therefore may differ from the figures that would be obtained if a complete census had been taken. Visits are reported by first-listed diagnosis, which is the one specified as the principal diagnosis on the face sheet or discharge summary of the medical record, or if a principal diagnosis was not specified, the first one listed on the face sheet or discharge summary of the medical record. It was usually the main cause of the visit. The number of first-listed diagnoses is the same as the number of visits.

The estimates shown in this report include surgical procedures, such as tonsillectomy; diagnostic procedures, such as ultrasound; and other therapeutic procedures, such as injection or infusion of cancer chemotherapeutic substance. Up to six procedures are coded for each

visit. All-listed procedures include all occurrences of the procedure coded regardless of the order on the medical record.

The diagnoses and procedures appear in separate tables of this report, presented by chapter of the ICD-9-CM. Within these chapters, subcategories of diagnoses or procedures are shown. These specific categories were selected primarily because of their large numbers or because they are of special interest.

According to the 2006 NSAS, an estimated 287,000 ambulatory surgery visits with procedures were admitted to the hospital as inpatients. Of these, 269,000 (93.8 percent) were visits to hospitals and 18,000 (6.2 percent) were visits to freestanding centers. In most instances, the ambulatory procedures for these patients become part of their inpatient records. People admitted as inpatients were included in this report, and procedures for these patients were included in the summaries of outpatient procedures, as described in the first version of this report for 1994 (5). These patients were excluded in the 1995 and 1996 *Advance Data Reports* (4,5) and will be excluded to avoid double counting from the Series 13 report in which data from the 2006 NHDS and 2006 NSAS will be presented together, following the same process as reports published using the 1994–1996 data (14–16).

The chances are about 40 in 100 that an estimate from the sample would differ from a complete census by more than the SE. The chances are 9 in 100 that the difference would be more than twice the SE, and about 4 in 100 that the difference would be more than 2.5 times as large as the SE.

The relative standard error (RSE) of an estimate is obtained by dividing the SE by the estimate itself. The RSE is expressed as a percentage of an estimate and can be multiplied by the estimate to obtain the SE. Because of low reliability, estimates with a RSE of more than 30 percent or those based on a sample of fewer than 30 records are replaced by asterisks (*). The estimates that are based on 30 to 59 patient records are preceded by an asterisk (*) to indicate that they also have low reliability.

The population estimates used in computing rates are for the U.S. civilian population, including institutionalized persons, as of July 1, 2006. Rates are computed using adjustments made after the 2000 census (postcensal estimates) of the civilian population of the United States. The data are from unpublished tabulations provided by the U.S. Census Bureau. Facilities are classified by location into one of the four geographic regions of the United States that correspond to those used by the U.S. Census Bureau.

Results

Patient and facility characteristics

- In 2006, an estimated 53.3 million surgical and nonsurgical procedures were performed during 34.7 million ambulatory surgery visits (Table 2).
- The 34.7 million ambulatory surgery visits accounted for about 61.6 percent of the combined total of ambulatory surgery visits and inpatient discharges with surgical and nonsurgical procedures (56.4 million) (Figure 1).
- An estimated 19.9 million (57.2 percent) of the ambulatory surgery visits occurred in hospitals and 14.9 million (42.8 percent) occurred in freestanding centers (Table 2, Figure 2).
- From 1996 to 2006, the change in the rate of visits to freestanding centers was larger than that for visits to hospital-based ambulatory surgery centers. The rate of visits to freestanding ambulatory surgery centers increased about 300 percent from 1996 to 2006, while the rate in hospital-based centers was flat (Figure 3).
- Females had significantly more ambulatory surgery visits (20.0 million) than males (14.7 million), and a significantly higher rate of visits (132.0 per 1,000 population) compared with males (100.4 per 1,000 population) (Table 2).
- Although the vast majority of ambulatory surgery visits had routine

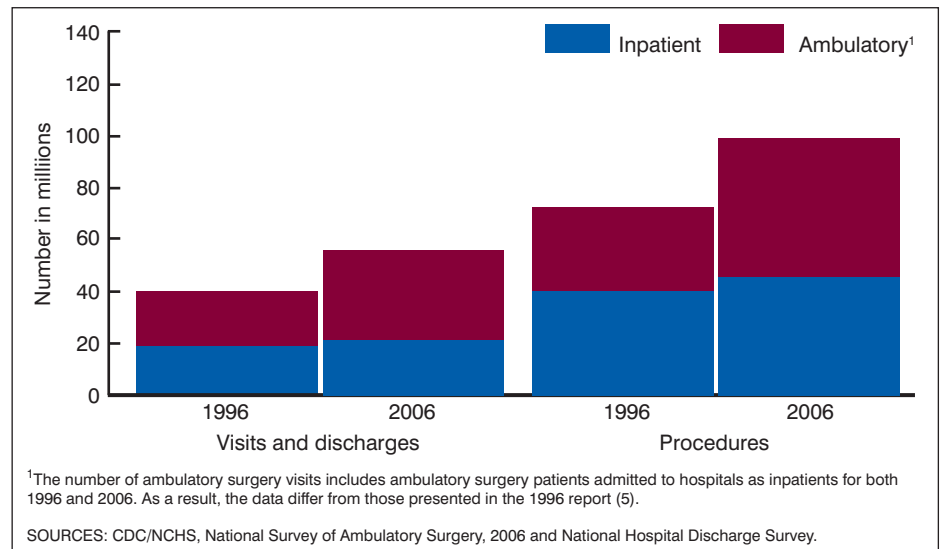


Figure 1. Ambulatory surgery visits and discharges of hospital inpatients with procedures: United States, 1996 and 2006 (revised)

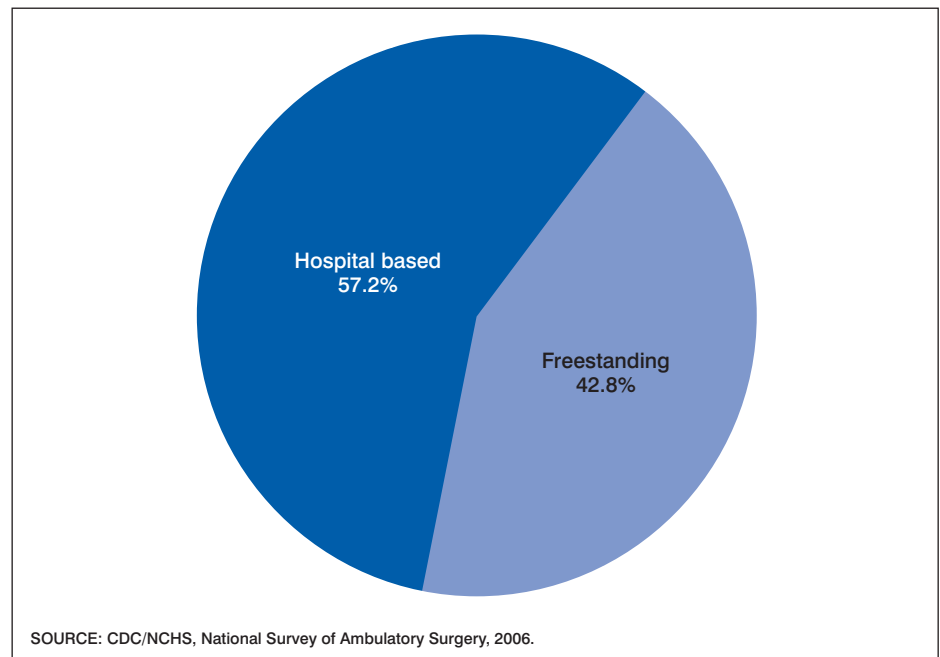


Figure 2. Percent distribution of ambulatory surgery visits by type of facility: United States, 2006

discharges (93.1 percent), 0.8 percent were admitted as inpatients (Table 3).

- Although general anesthesia alone was provided in 30.7 percent of ambulatory surgery visits, 20.8 percent received anesthesia only intravenously, and 20.8 percent received multiple types of anesthesia (data not shown).

Surgical times for ambulatory surgery visits

- Total time is defined as the length of time from when the patient enters the operating room to the time he or she leaves postoperative care. Operating room time is the length of time the patient is in the operating room. The surgical time is the portion of the

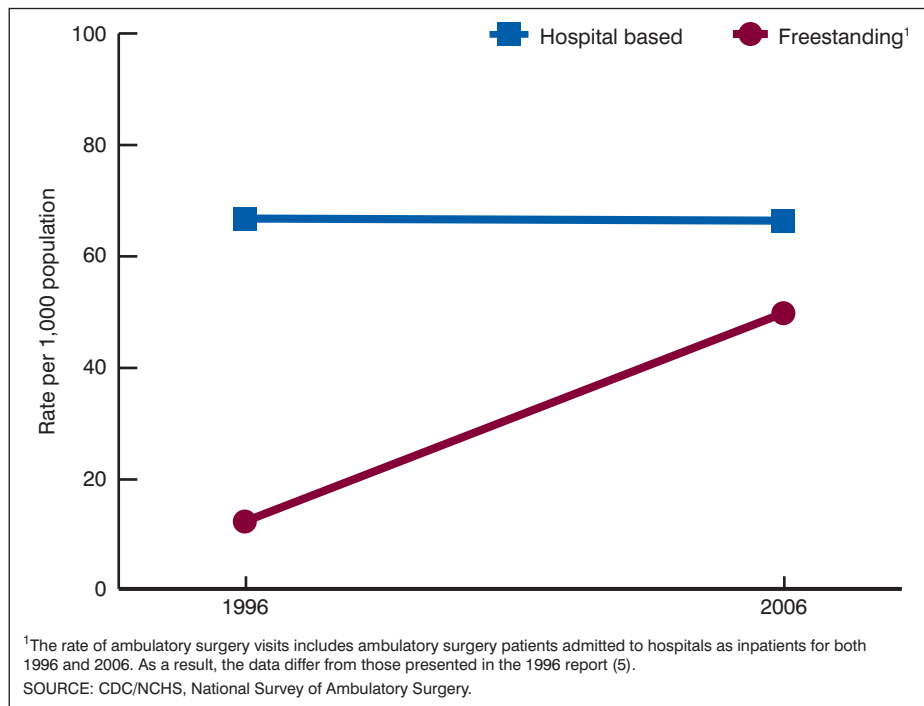


Figure 3. Rates of ambulatory surgery visits by facility type: United States, 1996 and 2006

time spent in the operating room during which the surgical procedure occurs. Typically, the surgical time is the time from when the incision is made until the wound is closed. After the surgical procedure, the patient recovers in the postoperative room before he or she is discharged; the time spent here is considered the post operative room time. Average times for surgical visits were higher for ambulatory surgery visits to hospital-based ambulatory surgery centers than for visits to freestanding ambulatory surgery centers for the amount of time spent in the operating room (61.7 minutes compared with 43.2 minutes), the amount of time spent in surgery (34.2 minutes compared with 25.1 minutes), the amount of time spent in the postoperative recovery room (79.0 minutes compared with 53.1 minutes), and overall time (146.6 minutes compared with 97.7 minutes) (Table 4).

- The average time spent in surgery also varied with the diagnosis. The average surgical time for inguinal hernia diagnoses was more than twice

that for diagnoses of benign neoplasm of the colon (49.4 minutes compared with 21.8 minutes) (Table 5).

Ambulatory procedures

- Females had significantly more ambulatory surgery procedures (30.6 million) than males (22.7 million) and a significantly higher rate of procedures (2,020.2 per 10,000 population) than males (1,548.1 per 10,000 population) (Tables 6,7). This was driven by differences for females between 15 and 64 years of age (Figure 4).
- Although the majority of visits had only one or two procedures performed (59.8 percent and 27.7 percent, respectively), 1.0 percent had five or more procedures performed (Figure 5).
- Frequently performed procedures on ambulatory patients included endoscopy of large intestine (5.7 million), endoscopy of the small intestine (3.5 million), extraction of lens (3.1 million), injection of agent into spinal canal (2.0 million), and insertion of prosthetic lens (2.6 million) (Table 6).

- Females had higher rates per 10,000 population than males for certain ambulatory procedures, such as extraction (125.5 compared with 78.8) and insertion (105.2 compared with 67.4) of lens and endoscopy of the small (134.7 compared with 97.1) and large (217.8 compared with 166.4) intestine (Table 7).
- Ambulatory procedures often performed on children under 15 years included myringotomy with insertion of tube (667,000), tonsillectomy with or without adenoidectomy (530,000), and adenoidectomy without tonsillectomy (132,000) (Table 6).
- Common ambulatory procedures for persons 15–44 years of age were endoscopy of large intestine (779,000); endoscopy of small intestine (770,000); injection of agent into spinal canal (533,000); injection or infusion of therapeutic or prophylactic substance (429,000); and operations on muscle, tendon, fascia, and bursa (403,000) (Table 6).
- Ambulatory surgery procedures commonly performed on persons 45–64 years of age were endoscopy of large intestine (2.9 million), endoscopy of small intestine (1.4 million), injection of agent into spinal canal (835,000), and operations on muscle, tendon, fascia and bursa (755,000) (Table 6).
- For persons 65–74 years of age, endoscopy of large intestine (1.2 million), extraction of lens (1.1 million), insertion of lens (923,000), endoscopy of small intestine (648,000), and endoscopic polypectomy of the large intestine (424,000) were the most frequent ambulatory procedures (Table 6).
- Common ambulatory procedures for those 75 years of age or over were extraction of lens (1.3 million), insertion of lens (1.1 million), endoscopy of large intestine (778,000), endoscopy of small intestine (550,000), and injection of agent into spinal canal (336,000) (Table 6).

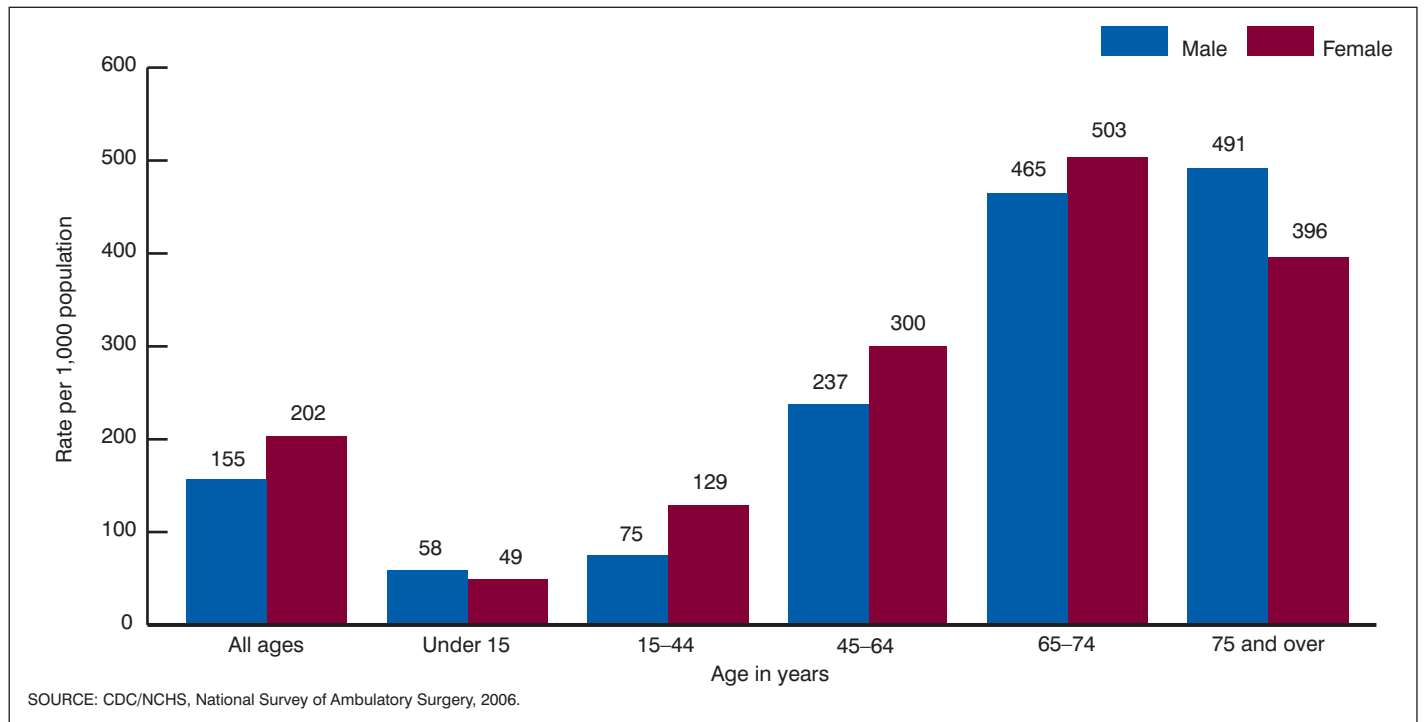


Figure 4. Rate of ambulatory surgery procedures by age and sex: United States, 2006 (revised)

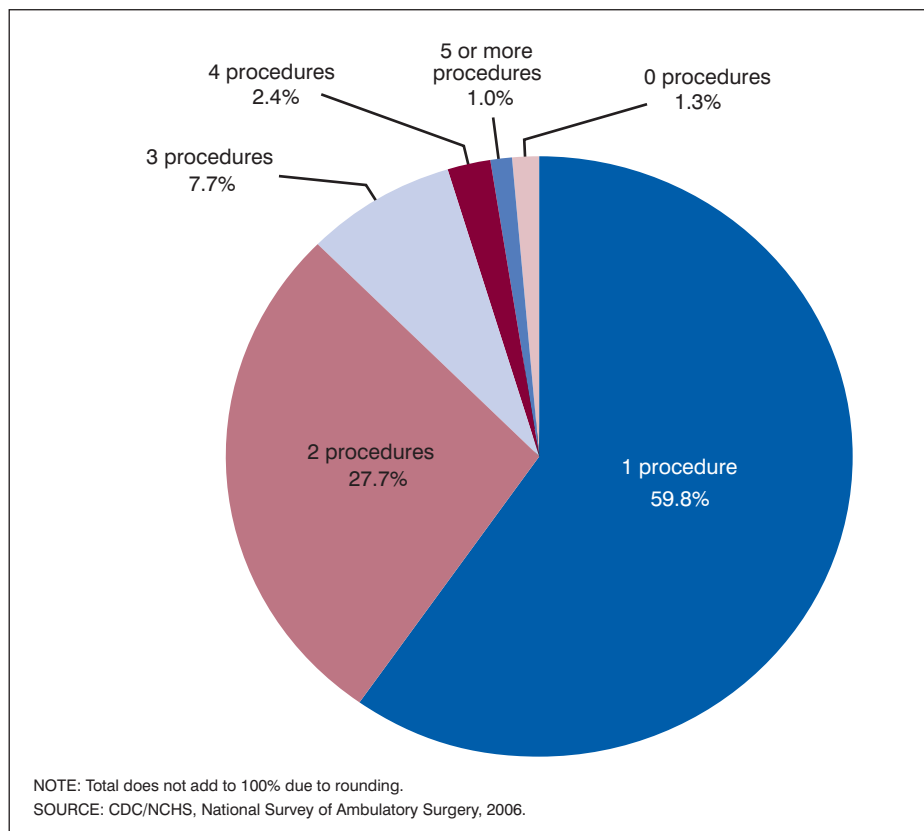


Figure 5. Percent distribution of the number of ambulatory surgery procedures performed per visit: United States, 2006 (revised)

Diagnoses for ambulatory surgery visits

- The leading diagnoses at ambulatory surgery visits included cataract (3.0 million); benign neoplasms (2.0 million), malignant neoplasms (1.2 million), diseases of the esophagus (1.1 million), and diverticula of the intestine (1.1 million) (Table 8).
- Rates of ambulatory surgery visits per 10,000 population varied by gender. For example, the rate of ambulatory surgery visits was higher for females than for males for first-listed diagnoses of cataract (123.5 compared with 77.5) (Table 9).

Discussion

May 2009 revisions of NSAS 2006 data file originally released on October 22, 2008

Identification of a double coding issue with NSAS 2006 data set

The 2006 NSAS public-use data files were released in October 2008. A

researcher contacted NCHS in mid February questioning the fact that the number of myringotomies in the 2006 NSAS was double the number of children under 15 years of age receiving this procedure. In the 1996 NSAS data, there was close to a one-to-one correspondence between these two estimates. The reason for the difference was that in 1996, myringotomy was coded once per record, even if the procedure was performed bilaterally; in 2006, myringotomy was coded twice if performed bilaterally. This inconsistency was unintentional.

Given this inconsistency, the entire 2006 NSAS data set was examined to see if there were other records with multiple identical procedure codes. It was determined that a total of 4,923 records (including myringotomies) of the original 52,233 records in 2006 NSAS had multiple coding (approximately 9%). Double coding was present in only 35 records of 125,000 in the 1996 NSAS.

Coding guidelines followed for the 2006 NSAS data

The 1994–1996 NSAS procedure coding guidelines were based upon *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD–9–CM) inpatient coding guidelines that were in effect at that time. With the use of these guidelines, multiple coding rarely occurred, even if bilateral or other multiple procedure codes were listed in the record more than one time. Instead of using these ICD–9–CM inpatient coding guidelines, the 2006 NSAS used National Hospital Ambulatory Medical Care Survey (NHAMCS) procedure coding guidelines. Although NHAMCS guidelines were also based on ICD–9–CM codes, they differed in allowing double coding if the following circumstances occurred: if more than one site was specified, if a procedure was bilateral, and if an abstractor recorded a procedure multiple times. In NHAMCS, an editing process removed all double codes that were determined to be inappropriate. However, this step in the editing process was not incorporated

Table A. A comparison of estimates of procedures from Table 2, by selected characteristics: United States, 2006

Characteristic	Original NSAS (Number in thousands)	Revised NSAS (Number in thousands)	Revised/ original (Percent)	Decrease	Percent decrease
Total procedures	57,062	53,329	93.5	3,733	7
Facility type					
Hospital based.	32,320	30,761	95.2	1,559	5
Freestanding.	24,742	22,568	91.2	2,174	9
Male					
Hospital based.	14,051	13,286	94.6	765	5
Freestanding.	10,277	9,395	91.4	882	9
Female					
Hospital-based.	18,270	17,475	95.6	795	4
Freestanding.	14,465	13,173	91.1	1,292	9
Region					
Northeast	8,551	8,018	93.8	533	6
Midwest	13,583	12,575	92.6	1,008	7
South	25,509	24,023	94.2	1,486	6
West	9,420	8,713	92.5	707	8
Male					
Northeast	3,710	3,486	94.0	224	6
Midwest	5,803	5,321	91.7	482	8
South	10,755	10,143	94.3	612	6
West	4,060	3,730	91.9	330	8
Female					
Northeast	4,841	4,532	93.6	309	6
Midwest	7,780	7,254	93.2	526	7
South	14,754	13,879	94.1	875	6
West	5,359	4,983	93.0	376	7
Metropolitan status					
Metropolitan statistical area	48,874	45,691	93.5	3,183	7
Nonmetropolitan statistical area	8,189	7,638	93.3	551	7
Male					
Metropolitan statistical area	20,821	19,399	93.2	1,422	7
Nonmetropolitan statistical area	3,507	3,282	93.6	225	6
Female					
Metropolitan statistical area	28,053	26,292	93.7	1,761	6
Nonmetropolitan statistical area	4,682	4,356	93.0	326	7

NOTES: Table A is a comparison of the January 28, 2009, *National Health Statistics Report*, Number 11, procedure estimates (taken from Table 2) to the revised estimates in this September 4, 2009, revision. NSAS is the National Survey of Ambulatory Surgery.

into the 2006 NSAS data production, thereby creating the double coding issue.

Revising the NSAS Data Set and How It Affected the Data

To maintain comparability with the 1994–1996 NSAS data, since multiple codes were not included in the 1996 NSAS, all multiple procedure codes were removed from the 2006 NSAS data. As a result, the estimate for the total number of 2006 NSAS procedures fell from 57,062,000 to 53,329,000, a

6.5% decrease. Categories were differentially affected. [Tables A and B](#) show the 2006 NSAS original and the 2006 NSAS revised estimates for some of the major procedure categories included in this and the January 28, 2009, NSAS *National Health Statistics Report*. The tables also include ratios of the revised estimates to the original estimates to show relative changes. As expected, the revised estimates decreased most for bilateral and other multiple site procedures.

Table B. A comparison of estimates of procedures from Table 6, by selected characteristics: United States, 2006

Characteristic	Original NSAS (Number in thousands)	Revised NSAS (Number in thousands)	Revised/ original (Percent)	Decrease	Percent decrease
Total procedures	57,062	53,329	93.5	3,733	7
Age					
Under 15 years	4,034	3,266	81.0	768	19
15–44 years	13,691	12,780	93.3	911	7
45–64 years	21,369	20,167	94.4	1,202	6
65–74 years	9,622	9,182	95.4	440	5
75 years and over	8,345	7,934	95.1	411	5
Sex					
Male	24,328	22,681	93.2	1,647	7
Female	32,734	30,648	93.6	2,086	6
Procedure category					
Nervous system	4,106	3,198	77.9	908	22
Eye	7,296	7,085	97.1	211	3
Ear	1,723	1,114	64.7	609	35
Nose, mouth, and pharynx	3,179	2,864	90.1	315	10
Respiratory system	448	445	99.3	3	1
Cardiovascular system	1,395	1,376	98.6	19	1
Digestive system	14,677	14,414	98.2	263	2
Urinary system	1,799	1,776	98.7	23	1
Male genital organs	655	631	96.3	24	4
Female genital organs	2,503	2,497	99.8	6	0.2
Musculoskeletal system	8,439	7,944	94.1	495	6
Integumentary system	4,108	3,581	87.2	527	13
Misc diagnostic/therapeutic and new technologies	6,387	6,060	94.9	327	5
Other (includes endocrine system, hemic and lymphatic system, and obstetrical procedures	346	344	99.4	2	1

NOTES: Table B is a comparison of the January 28, 2009, *National Health Statistics Reports*, Number 11, procedure estimates (taken from Table 6) to the revised estimates in this September 4, 2009, revision. NSAS is the National Survey of Ambulatory Surgery.

The procedure estimates for the following chapters were most affected by the deletion of multiple codes:

- Operations on the nervous system decreased 22% largely due to multiple coding of injection of agent into spinal canal.
- Operations on the ear decreased 35% largely due to double coding of myringotomy with insertion of tube.
- Operations on the nose, mouth, and pharynx decreased 10%.
- Operations on the integumentary system decreased 13% largely due to multiple coding of excision or destruction of lesion or tissue of skin and subcutaneous tissue.

Since myringotomies are a common procedure for children, estimates for both myringotomies and for overall

procedures for children decreased a great deal after double coding was eliminated. The children's estimate decreased by 19% and the myringotomy estimate decreased by 44%.

Steps taken to improve coding in the future

A coding manual for the 2009 Ambulatory Surgical Center (ASC) data (now being gathered through NHAMCS) that clarifies the multiple coding issue is being prepared for coding of NHAMCS data. The differences between CPT and ICD–9–CM coding principles are discussed in the new manual along with what to do if the record contains only CPT codes. For the 2009 coding of ASC data, a crosswalk has been developed to generate ICD–9–CM codes from CPT codes. Instructions detailing how to

handle duplicate codes are also included.

When the 2009 NHAMCS data are processed, NCHS will examine all double coding and remove any codes that are found to be inappropriate.

Your suggestions are welcomed on how to handle multiple codes in future ASC data. Please send any suggestions to Nancy Sonnenfeld at nsonnenfeld@cdc.gov.

Steps data users should take upon receiving the revised data

All data analyses based on the original NSAS data set should not be used. Instead, the analyses should be rerun using the revised data set. Similarly, any estimates or standard errors taken from the original NSAS *National Health Statistics Reports* (January 28, 2009) should not be used. Instead, these numbers should be obtained from this revised (September 4, 2009) report. Changes in this report are not limited to procedure estimates and standard errors affected by the method of handling multiple codes. Printing errors were also discovered, which affected some of the standard errors for visits and for procedures. These errors have been corrected in this revised report.

What has changed in the revised NSAS data set

As was indicated previously in the discussion of the data set revision, the estimates of some procedures (PROC1-PROC6), particularly those that were coded multiple times, have changed. They are lower because duplicates have been deleted. The values for other variables that were derived from the procedure data had to be derived again from the newer data set. The variables affected were NUMPROC (number of procedures per visit), SGFLAG1-SGFLAG6 (flags indicating if the procedures were surgical or nonsurgical), and PD1CLASS-PD6CLASS (the Agency for Health Care Research and Quality's Procedure Class Tool variables). Because of the changes in certain estimates, standard errors for these estimates may also have changed.

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Table 1. Characteristics of the 2006 National Survey of Ambulatory Surgery facility respondents and nonrespondents: United States

Facility characteristic	Number of sampled in-scope facilities	Total percent distribution (weighted)	Responding facility percent distribution (weighted)	Nonresponding facility percent distribution (weighted)	Weighted response rate	Standard error
All facilities	587	100.0	100.0	100.0	83.7	2.6
Facility type						
Hospital based	189	49.9	51.2	43.1	85.9	3.8
Freestanding	398	50.1	48.8	56.9	81.5	3.3
Geographic region						
Northeast	90	11.7	12.5	8.2	88.7	4.5
Midwest	126	24.1	23.7	25.9	82.5	6.8
South	222	40.4	41.8	33.2	86.6	3.6
West	149	23.7	22.0	32.8	77.5	5.2
Metropolitan status ¹						
Metropolitan statistical area	521	73.1	70.1	88.6	80.3	2.9
Nonmetropolitan statistical area	66	26.9	29.9	11.4	93.1	3.7
Growth area ²						
Below 7.8% growth	209	43.3	46.1	29.3	89.0	3.5
Above 7.8% growth	378	56.7	53.9	70.7	80.0	3.4
Poverty status of area ²						
Below 13.1% in poverty	337	51.9	52.1	51.3	83.9	3.1
Above 13.1% in poverty	250	48.1	47.9	48.7	83.5	4.2
Primary care shortage area ²						
Nonshortage area	99	22.5	24.3	13.7	90.1	5.0
Shortage area	488	77.5	75.7	86.3	81.8	3.1

¹Distribution between respondents and nonrespondents is significantly different ($p < 0.05$).

²Based on the Area Resource File value for the county in which the facility is located. Growth is based on the population difference between 2006 and 1996. Poverty is based on the percentage of population below the poverty level. Shortage area includes full or partial shortage area for primary care physicians.

SOURCE: CDC/NCHS, National Survey of Ambulatory Surgery.

Table 2. Number, percent distribution, and rate of ambulatory surgery visits and all-listed procedures, by facility characteristics and sex: United States, 2006

Characteristic	Both sexes		Male		Female	
	Estimate	Standard error	Estimate	Standard error	Estimate	Standard error
			Number in thousands			
Total visits	34,738	1,829	14,707	781	20,032	1,072
Facility type						
Hospital based	19,869	880	8,491	395	11,379	518
Freestanding	14,869	1,603	6,216	674	8,653	939
Region						
Northeast	5,298	645	2,248	273	3,051	385
Midwest	8,047	610	3,378	272	4,669	355
South	15,931	1,540	6,749	656	9,182	897
West	5,462	427	2,331	179	3,130	266
Metropolitan status						
Metropolitan statistical area	29,715	1,943	12,566	825	17,149	1,138
Nonmetropolitan statistical area	5,024	937	2,140	407	2,883	537
			Percent distribution			
Total visits	100.0	...	100.0	...	100.0	...
Facility type						
Hospital based	57.2	2.9	57.7	2.9	56.8	2.9
Freestanding	42.8	2.9	42.3	2.9	43.2	2.9
Region						
Northeast	15.3	1.7	15.3	1.7	15.2	1.8
Midwest	23.2	1.8	23.0	1.8	23.3	1.8
South	45.9	2.7	45.9	2.8	45.8	2.8
West	15.7	1.3	15.9	1.3	15.6	1.4
Metropolitan status						
Metropolitan statistical area	85.5	2.7	85.4	2.8	85.6	2.7
Nonmetropolitan statistical area	14.5	2.7	14.6	2.8	14.4	2.7
			Rate per 1,000 population ¹			
Total visits	116.5	6.1	100.4	5.3	132.0	7.1
Facility type						
Hospital based	66.6	3.0	58.0	2.7	75.0	3.4
Freestanding	49.9	5.4	42.4	4.6	57.0	6.2
Region						
Northeast	96.9	11.8	84.6	10.3	108.5	13.7
Midwest	121.7	9.2	103.8	8.3	139.0	10.6
South	147.0	14.2	127.3	12.4	165.7	16.2
West	79.2	6.2	67.8	5.2	90.5	7.7
Metropolitan status						
Metropolitan statistical area	119.3	7.8	102.7	6.7	135.5	9.0
Nonmetropolitan statistical area	99.6	18.6	85.3	16.2	113.8	21.2

See footnotes at end of table.

Table 2. Number, percent distribution, and rate of ambulatory surgery visits and all-listed procedures, by facility characteristics and sex: United States, 2006—Con.

Characteristic	Both sexes		Male		Female	
	Estimate	Standard error	Estimate	Standard error	Estimate	Standard error
Number in thousands						
Total procedures	53,329	2,654	22,681	1,138	30,648	1,575
Facility type						
Hospital based	30,761	1,276	13,286	593	17,475	751
Freestanding	22,568	2,328	9,395	971	13,173	1,385
Region						
Northeast	8,018	898	3,486	392	4,532	530
Midwest	12,575	904	5,321	412	7,254	532
South	24,023	2,224	10,143	939	13,879	1,316
West	8,713	690	3,730	299	4,983	430
Metropolitan status						
Metropolitan statistical area	45,691	2,853	19,399	1,213	26,292	1,686
Nonmetropolitan statistical area	7,638	1,387	3,282	613	4,356	791
Percent distribution						
Total procedures	100.0	...	100.0	...	100.0	...
Facility type						
Hospital based	57.7	2.7	58.6	2.7	57.0	2.8
Freestanding	42.3	2.7	41.4	2.7	43.0	2.8
Region						
Northeast	15.0	1.6	15.4	1.6	14.8	1.6
Midwest	23.6	1.7	23.5	1.8	23.7	1.8
South	45.0	2.6	44.7	2.6	45.3	2.7
West	16.3	1.3	16.4	1.4	16.3	1.4
Metropolitan status						
Metropolitan statistical area	85.7	2.6	85.5	2.7	85.8	2.6
Nonmetropolitan statistical area	14.3	2.6	14.5	2.7	14.2	2.6
Rate per 1,000 population ¹						
Total procedures	178.8	8.9	154.8	7.8	202.0	10.4
Facility type						
Hospital based	101.3	4.3	89.4	4.0	112.7	4.9
Freestanding	77.5	7.8	65.4	6.6	89.3	9.1
Region						
Northeast	146.6	16.4	131.3	14.7	161.1	18.8
Midwest	190.2	13.7	163.5	12.7	215.9	15.8
South	221.6	20.5	191.3	17.7	250.5	23.8
West	126.3	10.0	108.4	8.7	144.0	12.4
Metropolitan status						
Metropolitan statistical area	183.5	11.5	158.5	9.9	207.7	13.3
Nonmetropolitan statistical area	151.5	27.5	130.8	24.4	172.0	31.2

... Category not applicable.

¹Rates were calculated using U.S. Census Bureau 2000-based postcensal estimates of the civilian population as of July 1, 2006.

SOURCE: CDC/NCHS, National Survey of Ambulatory Surgery.

Table 3. Number of ambulatory surgery visits by disposition and principal expected source of payment: United States, 2006

Characteristic	Estimate	Standard error	Percent distribution	Standard error
Number in thousands				
All visits	34,738	1,829	100	...
Disposition of patient				
Routine ¹	32,356	1,792	93.1	0.9
Observation status	401	66	1.2	0.2
Inpatient admission	287	43	0.8	0.1
Surgery cancelled	79	19	0.2	0.1
Not stated	944	174	2.7	0.5
Other	*	*	*	*
Principal expected source of payment				
Private insurance	18,070	1,045	53.0	1.2
Medicare	10,996	660	32.2	0.9
Medicaid	2,204	189	6.5	0.5
Workers compensation	627	101	1.8	0.3
Other government insurance	309	63	0.9	0.2
Self pay	1,131	185	3.3	0.5
Other	783	170	2.3	0.5

... Category not applicable.

* Figure does not meet standards of reliability or precision.

¹Patients with routine disposition were those who were discharged to their normal place of residence, i.e., home, nursing home, or prison.

SOURCE: CDC/NCHS, National Survey of Ambulatory Surgery.

Table 4. Distribution of times for surgical visits by ambulatory surgery facility type: United States, 2006

Calculated time in minutes	Mean	Standard error	25th percentile	Median	75th percentile
Total					
Total ¹	124.5	3.6	65	100	153
Operating room ²	53.7	1.4	25	40	65
Surgical ³	30.3	0.8	11	20	36
Postoperative room ⁴	66.9	2.0	32	51	81
Hospital based					
Total ¹	146.6	5.3	84	120	177
Operating room ²	61.7	1.6	33	50	75
Surgical ³	34.2	0.9	13	24	43
Postoperative room ⁴	79.0	3.2	25	39	60
Freestanding					
Total ¹	97.7	3.8	53	76	120
Operating room ²	43.2	2.0	20	30	50
Surgical ³	25.1	1.4	9	15	27
Postoperative room ⁴	53.1	2.3	29	43	66

¹Total time was calculated by subtracting the time when the patient entered the operating room from the time the patient left postoperative care.

²Operating room time was calculated by subtracting the time when the patient entered the operating room from the time the patient left the operating room.

³Surgical time was calculated by subtracting the time the surgery began from the time the surgery ended. Surgical time typically extends from when the first incision is made until the wound is closed.

⁴Postoperative room time was calculated by subtracting the time when the patient entered postoperative care from the time the patient left postoperative care.

SOURCE: CDC/NCHS, National Survey of Ambulatory Surgery.

Table 5. Average surgical duration by selected diagnoses and ambulatory surgery facility type: United States, 2006

Selected diagnoses and ICD–9–CM codes	Average total time (in minutes) ¹	Standard error	Average surgical time (in minutes) ²	Standard error	
Total					
Cataract . . . . .	.366	70.2	2.7	18.1	0.7
Benign neoplasm of the colon . . . . .	.211.3	90.3	4.1	21.8	0.7
Diverticula of the intestine . . . . .	.562	79.5	4.2	16.9	0.7
Intervertebral disc disorders . . . . .	.722	82.9	7.2	21.1	3.0
Hemorrhoids . . . . .	.455	86.7	4.0	18.2	0.9
Gastritis and duodenitis . . . . .	.535	91.0	6.5	14.2	1.3
Chronic diseases of tonsils and adenoids . . . . .	.474	155.2	7.9	22.5	1.0
Otitis media and Eustachian tube disorders . . . . .	.381–382	65.7	5.1	12.3	1.0
Carpal tunnel syndrome . . . . .	.354.0	96.0	3.6	18.2	0.9
Inguinal hernia . . . . .	.550	169.0	6.4	49.4	1.6
Hospital based					
Cataract . . . . .	.366	88.4	3.7	22.7	1.5
Benign neoplasm of the colon . . . . .	.211.3	111.5	7.5	24.6	1.4
Diverticula of the intestine . . . . .	.562	102.7	5.0	19.0	1.7
Intervertebral disc disorders . . . . .	.722	107.4	14.8	29.9	5.4
Hemorrhoids . . . . .	.455	112.0	6.6	20.7	1.3
Gastritis and duodenitis . . . . .	.535	111.4	7.8	17.9	1.7
Chronic diseases of tonsils and adenoids . . . . .	.474	161.6	11.0	23.4	1.5
Otitis media and Eustachian tube disorders . . . . .	.381–382	75.0	4.9	13.5	1.4
Carpal tunnel syndrome . . . . .	.354.0	111.2	5.6	19.1	1.1
Inguinal hernia . . . . .	.550	177.2	7.2	52.0	1.8
Freestanding					
Cataract . . . . .	.366	57.3	2.4	14.9	0.5
Benign neoplasm of the colon . . . . .	.211.3	77.9	3.0	20.0	0.7
Diverticula of the intestine . . . . .	.562	68.3	4.0	15.9	0.7
Intervertebral disc disorders . . . . .	.722	61.4	5.3	12.8	2.2
Hemorrhoids . . . . .	.455	75.1	4.0	16.9	1.3
Gastritis and duodenitis . . . . .	.535	68.9	6.6	10.0	1.0
Chronic diseases of tonsils and adenoids . . . . .	.474	148.9	10.2	20.6	0.9
Otitis media and Eustachian tube disorders . . . . .	.381–382	56.8	5.8	10.2	0.6
Carpal tunnel syndrome . . . . .	.354.0	83.8	3.2	17.1	1.3
Inguinal hernia . . . . .	.550	145.8	7.7	40.1	2.3

¹Total time was calculated by subtracting the time when the patient entered the operating room from the time the patient left postoperative care.

²Surgical time was calculated by subtracting the time the surgery began from the time the surgery ended. Surgical time typically extends from when the first incision is made until the wound is closed.

NOTE: Procedure categories and code numbers are based on the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD–9–CM).

SOURCE: CDC/NCHS, National Survey of Ambulatory Surgery.

Table 6. Number of ambulatory surgery procedures, by procedure category, sex, and age: United States, 2006

Procedure category and ICD-9-CM code	Total	Sex		Age				
		Male	Female	Under 15 years	15-44 years	45-64 years	65-74 years	75 years and over
				Number in thousands				
All procedures	53,329	22,681	30,648	3,266	12,780	20,167	9,182	7,934
Operations on the nervous system.01-05	3,198	1,272	1,926	*	888	1,385	427	484
Injection of agent into spinal canal03.91-03.92	1,991	844	1,147	*	533	835	286	336
Release of carpal tunnel04.43	577	179	398	*	143	279	73	81
Operations on the eye08-16	7,085	2,803	4,283	103	266	1,651	2,289	2,775
Operations on eyelids08	386	137	249	*29	39	156	75	87
Extraction of lens.13.1-13.6	3,058	1,154	1,904	*	38	610	1,070	1,335
Insertion of prosthetic lens (pseudophakos)13.7	2,582	987	1,595	*	33	524	923	1,098
Operations on the ear18-20	1,114	568	545	858	118	59	*38	41
Myringotomy with insertion of tube.20.01	715	382	333	667	*32	*	*	*
Operations on the nose, mouth, and pharynx21-29	2,864	1,441	1,423	1,050	937	617	162	97
Incision, excision, and destruction of nose21.1,21.3-21.4,21.6	293	142	151	*	144	77	*34	*18
Turbinectomy21.6	196	100	96	*	110	54	*	*
Repair and plastic operations on the nose.21.8	308	160	147	*	153	100	*27	*
Operations on nasal sinuses22	606	328	278	*	222	276	*	*
Tonsillectomy with or without adenoidectomy.28.2-28.3	737	314	423	530	186	*	*	-
Adenoidectomy without tonsillectomy28.6	140	83	57	132	*	*	-	-
Operations on the respiratory system30-34	445	225	220	*34	70	176	88	*77
Bronchoscopy with or without biopsy33.21-33.24,33.27	173	71	102	*	*	*67	*43	*
Operations on the cardiovascular system35-39,00.50-00.51,00.53-00.55,00.61-00.66	1,376	712	664	*	165	605	284	312
Cardiac catheterization.37.21-37.23	492	280	212	*	*41	238	123	88
Operations on the digestive system42-54	14,414	6,500	7,914	*	2,824	6,448	2,925	1,956
Dilation of esophagus.42.92	341	140	201	*	*37	152	83	66
Endoscopy of small intestine with or without biopsy45.11-45.14,45.16	3,467	1,423	2,044	*	770	1,390	648	550
Endoscopy of large intestine with or without biopsy45.21-45.25	5,741	2,438	3,304	*	779	2,921	1,233	778
Endoscopic polypectomy of large intestine45.42	1,399	788	611	*	69	701	424	207
Laparoscopic cholecystectomy51.23	503	87	416	*	229	193	*	*
Hernia repair.53.0-53.1,53.2-53.9	920	724	196	73	298	331	133	84
Repair of inguinal hernia.53.0-53.1	526	482	*45	39	139	186	88	74
Operations on the urinary system55-59	1,776	932	844	*	375	624	369	356
Cystoscopy with or without biopsy.57.31-57.33	751	406	345	*	147	271	157	169
Operations on the male genital organs60-64	631	631	...	166	146	143	109	67
Operations on the female genital organs65-71	2,497	...	2,497	*	1,633	689	109	*60
Hysteroscopy68.12	313	...	313	-	159	121	*	*
Dilation and curettage of uterus.69.0	611	...	611	-	334	227	*29	*
Operations on the musculoskeletal system76-84,00.70-00.73,00.80-00.84	7,944	3,856	4,088	295	2,602	3,696	871	479
Partial excision of bone76.2-76.3,77.6-77.8	449	231	218	*	121	228	57	*31
Reduction of fracture76.7,79.0-79.3	495	310	185	102	213	115	*35	*29
Injection of therapeutic substance into joint or ligament76.96,81.92	218	87	131	*	45	112	32	*26
Removal of implanted devices from bone76.97,78.6	212	108	104	27	85	58	*	*
Excision and repair of bunion and other toe deformities77.5	461	68	394	*	115	226	83	*30
Arthroscopy of knee.80.26	956	502	455	*	358	448	103	*32
Excision of semilunar cartilage of knee80.6	690	384	307	*	204	352	90	*42
Replacement or other repair of knee81.42-81.47,81.54-81.55,00.80-00.84	463	260	203	*	216	190	*35	*
Operations on muscle, tendon, fascia, and bursa82-83	1,465	642	823	55	403	755	165	88

See footnotes at end of table.

Table 6. Number of ambulatory surgery procedures, by procedure category, sex, and age: United States, 2006—Con.

Procedure category and ICD-9-CM code	Total	Sex		Age				
		Male	Female	Under 15 years	15-44 years	45-64 years	65-74 years	75 years and over
Number in thousands								
Operations on the integumentary system85-86	3,581	1,045	2,535	166	1,223	1,415	435	341
Biopsy of breast85.11-85.12	261	*	250	*	79	130	*28	*
Local excision of lesion of breast (lumpectomy)85.21	329	*	317	*	110	133	*52	*
Excision or destruction of lesion or tissue of skin and subcutaneous tissue86.2-86.4	1,092	542	550	100	332	395	139	127
Miscellaneous diagnostic and therapeutic procedures and new technologies ¹87-99.00	6,060	2,617	3,442	242	1,456	2,517	999	846
Arteriography and angiocardiology using contrast material88.4-88.5	1,054	561	492	-	*74	471	297	213
Diagnostic ultrasound88.7,00.21-00.25,00.28,00.29	322	159	162	*	53	147	70	50
Injection or infusion of therapeutic or prophylactic substance99.1-99.2	1,462	529	933	35	429	599	202	196
Operations on the endocrine system, operations on the hemic and lymphatic system, and obstetrical procedures06-07,40-41,72-75	344	78	266	*	77	140	*78	*41

* Figure does not meet standards of reliability or precision.

. . . Category not applicable.

- Quantity zero.

¹Chapter 00 codes included in this category: 00.01-00.03, 00.09, 00.10-00.18, 00.21-00.25, 00.28-00.29, 00.31-00.35, 00.39, 00.40-00.43, 00.45-00.48, 00.52, 00.74-00.76, and 00.91-00.93.

NOTES: Procedure categories and code numbers are based on the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM). The standard error (SE) of an estimate can be obtained by multiplying the estimate by the corresponding relative standard error (RSE). The RSE can be obtained by dividing the SE of the rate by the rate in Table 7.

SOURCE: CDC/NCHS, National Survey of Ambulatory Surgery.

Table 7. Rate and standard error for the rate of ambulatory surgery procedures, by procedure category, sex, and age: United States, 2006

Procedure category and ICD-9-CM code	Total	Sex		Age				
		Male	Female	Under 15 years	15-44 years	45-64 years	65-74 years	75 years and over
				Rate per 10,000 population ¹				
All procedures	1,788.3	1,548.1	2,020.2	537.5	1,019.2	2,695.9	4,854.0	4,325.3
Operations on the nervous system01-05	107.2	86.9	126.9	*	70.8	185.2	225.7	263.8
Injection of agent into spinal canal03.91-03.92	66.8	57.6	75.6	*	42.5	111.6	151.3	183.4
Release of carpal tunnel04.43	19.3	12.2	26.2	*	11.4	37.3	38.7	44.2
Operations on the eye08-16	237.6	191.3	282.3	17.0	21.2	220.8	1,210.0	1,513.0
Operations on eyelids08	12.9	9.4	16.4	*4.7	3.1	20.9	39.6	47.5
Extraction of lens13.1-13.6	102.5	78.8	125.5	*	3.0	81.6	565.7	727.6
Insertion of prosthetic lens (pseudophakos)13.7	86.6	67.4	105.2	*	2.6	70.1	488.2	598.7
Operations on the ear18-20	37.3	38.8	35.9	141.2	9.4	7.9	*20.2	22.3
Myringotomy with insertion of tube20.01	24.0	26.1	21.9	109.7	*2.6	*	*	*
Operations on the nose, mouth, and pharynx21-29	96.0	98.3	93.8	172.9	74.7	82.5	85.8	53.1
Incision, excision, and destruction of nose21.1,21.3-21.4,21.6	9.8	9.7	9.9	*	11.5	10.3	*18.1	*9.6
Turbinectomy21.6	6.6	6.8	6.4	*	8.8	7.2	*	*
Repair and plastic operations on the nose21.8	10.3	11.0	9.7	*	12.2	13.3	*14.4	*
Operations on nasal sinuses22	20.3	22.4	18.3	*	17.7	36.9	*	*
Tonsillectomy with or without adenoidectomy28.2-28.3	24.7	21.4	27.9	87.2	14.9	*	*	-
Adenoidectomy without tonsillectomy28.6	4.7	5.6	3.8	21.8	*	*	-	-
Operations on the respiratory system30-34	14.9	15.4	14.5	*5.6	5.6	23.6	46.3	*42.1
Bronchoscopy with or without biopsy33.21-33.24,33.27	5.8	4.8	6.8	*	*	*9.0	*22.7	*
Operations on the cardiovascular system35-39,00.50-00.51,00.53-00.55,00.61-00.66	46.1	48.6	43.8	*	13.2	80.9	150.0	169.9
Cardiac catheterization37.21-37.23	16.5	19.1	14.0	*	*3.2	31.9	65.0	48.0
Operations on the digestive system42-54	483.3	443.7	521.7	*	225.2	861.9	1,546.3	1,066.2
Dilation of esophagus42.92	11.4	9.6	13.2	*	*3.0	20.4	43.7	35.8
Endoscopy of small intestine with or without biopsy45.11-45.14,45.16	116.3	97.1	134.7	*	61.4	185.9	342.6	299.6
Endoscopy of large intestine with or without biopsy45.21-45.25	192.5	166.4	217.8	*	62.1	390.4	651.6	424.3
Endoscopic polypectomy of large intestine45.42	46.9	53.8	40.3	*	5.5	93.7	223.9	112.6
Laparoscopic cholecystectomy51.23	16.9	5.9	27.4	*	18.2	25.9	*	*
Hernia repair53.0-53.1,53.2-53.9	30.9	49.4	12.9	11.9	23.8	44.3	70.6	46.0
Repair of inguinal hernia53.0-53.1	17.7	32.9	*2.9	6.5	11.1	24.9	46.6	40.2
Operations on the urinary system55-59	59.6	63.6	55.7	*	29.9	83.5	195.3	194.1
Cystoscopy with or without biopsy57.31-57.33	25.2	27.7	22.7	*	11.7	36.2	83.1	92.2
Operations on the male genital organs60-64	21.2	43.1	...	27.4	11.6	19.2	57.4	36.7
Operations on the female genital organs65-71	83.7	...	164.6	*	130.2	92.1	57.4	*32.7
Hysteroscopy68.12	10.5	...	20.7	-	12.7	16.2	*	*
Dilation and curettage of uterus69.0	20.5	...	40.2	-	26.7	30.3	*15.4	*
Operations on the musculoskeletal system76-84,00.70-00.73,00.80-00.84	266.4	263.2	269.5	48.6	207.5	494.1	460.5	261.3
Partial excision of bone76.2-76.3,77.6-77.8	15.1	15.8	14.4	*	9.6	30.5	29.9	*17.0
Reduction of fracture76.7,79.0-79.3	16.6	21.2	12.2	16.8	17.0	15.4	*18.5	*16.0
Injection of therapeutic substance into joint or ligament76.96,81.92	7.3	5.9	8.6	*	3.6	14.9	16.9	*14.2
Removal of implanted devices from bone76.97,78.6	7.1	7.3	6.9	4.4	6.8	7.7	*	*
Excision and repair of bunion and other toe deformities77.5	15.5	4.6	26.0	*	9.1	30.3	44.1	*16.5
Arthroscopy of knee80.26	32.1	34.2	30.0	*	28.5	59.9	54.3	*17.7
Excision of semilunar cartilage of knee80.6	23.1	26.2	20.2	*	16.3	47.1	47.8	*22.8
Replacement or other repair of knee81.42-81.47,81.54-81.55,00.80-00.84	15.5	17.7	13.4	*	17.2	25.4	*18.6	*
Operations on muscle, tendon, fascia, and bursa82-83	49.1	43.8	54.2	9.0	32.1	100.9	87.3	47.8

See footnotes at end of table.

Table 7. Rate and standard error for the rate of ambulatory surgery procedures, by procedure category, sex, and age: United States, 2006—Con.

Procedure category and ICD-9-CM code	Total	Sex		Age				
		Male	Female	Under 15 years	15-44 years	45-64 years	65-74 years	75 years and over
Rate per 10,000 population ¹								
Operations on the integumentary system	120.1	71.3	167.1	27.3	97.5	189.2	229.9	186.1
Biopsy of breast	8.8	*	16.5	*	6.3	17.4	*14.7	*
Local excision of lesion of breast (lumpectomy)	11.0	*	20.9	*	8.8	17.8	*27.4	*
Excision or destruction of lesion or tissue of skin and subcutaneous tissue	36.6	37.0	36.3	16.4	26.5	52.8	73.4	69.2
Miscellaneous diagnostic and therapeutic procedures and new technologies ²	203.2	178.6	226.9	39.8	116.1	336.4	528.1	461.4
Arteriography and angiocardiology using contrast material	35.3	38.3	32.5	—	*5.9	62.9	156.8	116.0
Diagnostic ultrasound	10.8	10.9	10.7	*	4.2	19.7	36.8	27.5
Injection or infusion of therapeutic or prophylactic substance	49.0	36.1	61.5	5.7	34.2	80.1	107.0	107.0
Operations on the endocrine system, operations on the hemic and lymphatic system, and obstetrical procedures	11.5	5.3	17.5	*	6.1	18.7	*41.2	*22.5
Standard error								
All procedures	89.00	77.65	103.83	72.44	57.38	148.54	286.03	231.38
Operations on the nervous system	11.32	10.57	12.94	*	9.57	19.50	27.43	37.71
Injection of agent into spinal canal	8.97	8.72	10.01	*	7.31	15.38	23.29	29.95
Release of carpal tunnel	2.07	1.55	2.99	*	1.95	5.05	6.50	9.35
Operations on the eye	21.50	16.25	27.63	3.06	3.11	21.09	142.35	134.99
Operations on eyelids	1.36	1.33	1.95	*1.30	0.58	3.23	6.31	8.37
Extraction of lens	10.02	7.09	13.29	*	0.54	9.41	67.74	67.42
Insertion of prosthetic lens (pseudophakos)	9.02	6.28	12.08	*	0.49	8.58	63.85	57.88
Operations on the ear	6.87	6.09	8.04	30.27	1.87	1.43	*5.08	6.62
Miringotomy with insertion of tube	5.20	5.28	5.41	25.32	*0.73	*	*	*
Operations on the nose, mouth, and pharynx	10.76	10.54	12.78	25.76	8.67	12.86	16.80	10.80
Incision, excision, and destruction of nose	1.28	1.34	1.83	*	2.14	1.63	*4.72	*2.33
Turbinectomy	0.95	1.14	1.23	*	1.45	1.35	*	*
Repair and plastic operations on the nose	1.17	1.58	1.24	*	1.66	2.12	*3.82	*
Operations on nasal sinuses	3.27	3.64	4.08	*	3.36	9.02	*	*
Tonsillectomy with or without adenoidectomy	4.15	3.52	5.17	16.93	2.15	*	*	—
Adenoidectomy without tonsillectomy	0.99	1.41	0.86	4.79	*	*	—	—
Operations on the respiratory system	1.98	2.17	2.48	*1.45	1.31	4.51	9.96	*8.10
Bronchoscopy with or without biopsy	0.97	0.78	1.63	*	*	*2.32	*6.07	*
Operations on the cardiovascular system	5.69	6.51	5.44	*	2.05	11.89	23.17	24.91
Cardiac catheterization	2.51	3.07	2.24	*	*0.84	5.78	12.17	11.18
Operations on the digestive system	41.17	39.15	44.18	*	20.69	77.38	158.44	94.26
Dilation of esophagus	1.63	1.55	2.14	*	*0.80	3.45	9.02	7.33
Endoscopy of small intestine with or without biopsy	10.46	9.45	12.04	*	7.33	18.77	32.51	29.46
Endoscopy of large intestine with or without biopsy	21.68	19.32	24.41	*	10.15	43.49	87.41	46.99
Endoscopic polypectomy of large intestine	5.76	6.72	5.30	*	1.25	11.00	36.55	14.02
Laparoscopic cholecystectomy	1.51	0.84	2.79	*	2.25	2.98	*	*
Hernia repair	2.42	4.22	1.29	2.58	2.20	4.99	10.61	7.07
Repair of inguinal hernia	1.48	2.87	*0.56	1.17	1.39	2.93	8.53	6.97
Operations on the urinary system	4.82	5.39	5.38	*	3.99	9.10	24.40	20.98
Cystoscopy with or without biopsy	2.95	3.40	3.05	*	2.29	4.82	12.46	12.97
Operations on the male genital organs	1.87	3.81	...	5.07	1.35	3.06	8.85	6.77
Operations on the female genital organs	7.20	...	14.15	*	11.67	9.85	11.27	*8.52
Hysteroscopy	1.60	...	3.14	—	2.37	2.54	*	*
Dilation and curettage of uterus	2.17	...	4.27	—	3.07	4.00	*3.48	*

See footnotes at end of table.

Table 7. Rate and standard error for the rate of ambulatory surgery procedures, by procedure category, sex, and age: United States, 2006—Con.

Procedure category and ICD-9-CM code	Total	Sex		Age				
		Male	Female	Under 15 years	15-44 years	45-64 years	65-74 years	75 years and over
				Standard error				
Operations on the musculoskeletal system76-84,00.70-00.73,00.80-00.84	19.47	21.20	20.32	5.85	19.10	38.44	48.77	24.82
Partial excision of bone76.2-76.3,77.6-77.8	1.45	1.92	1.59	*	1.33	3.98	5.48	*3.78
Reduction of fracture76.7,79.0-79.3	1.68	2.44	1.37	2.21	2.28	2.67	*4.88	*3.33
Injection of therapeutic substance into joint or ligament76.96,81.92	0.87	1.00	1.16	*	0.78	2.26	3.20	*3.27
Removal of implanted devices from bone76.97,78.6	0.94	1.29	1.01	1.20	1.27	1.17	*	*
Excision and repair of bunion and other toe deformities77.5	1.79	0.84	3.30	*	1.69	4.23	8.82	*4.01
Arthroscopy of knee.80.26	3.72	4.43	3.69	*	3.98	7.18	9.35	*4.45
Excision of semilunar cartilage of knee.80.6	1.99	2.86	1.80	*	1.88	4.51	6.94	*4.92
Replacement or other repair of knee81.42-81.47,81.54-81.55,00.80-00.84	1.97	2.81	1.64	*	2.86	3.28	*3.95	*
Operations on muscle, tendon, fascia, and bursa82-83	5.22	3.37	8.29	1.75	4.43	12.84	13.25	7.76
Operations on the integumentary system85-86	8.53	6.42	13.24	3.92	9.50	14.66	20.62	19.98
Biopsy of breast85.11-85.12	1.26	*	2.43	*	1.23	2.93	*3.56	*
Local excision of lesion of breast (lumpectomy).85.21	1.17	*	2.29	*	1.45	2.22	*6.37	*
Excision or destruction of lesion or tissue of skin and subcutaneous tissue86.2-86.4	3.20	3.92	3.33	2.57	3.24	5.25	13.11	10.15
Miscellaneous diagnostic and therapeutic procedures and new technologies ²87-99,00	16.60	15.67	19.36	5.56	14.75	30.74	48.83	47.14
Arteriography and angiocardiology using contrast material.88.4-88.5	5.40	6.50	4.91	-	*1.61	10.60	27.50	25.38
Diagnostic ultrasound.88.7,00.21-00.25,00.28,00.29	1.76	1.79	2.12	*	0.95	3.86	8.70	6.49
Injection or infusion of therapeutic or prophylactic substance99.1-99.2	7.20	4.86	10.46	1.09	7.30	13.78	16.48	13.21
Operations on the endocrine system, operations on the hemic and lymphatic system, and obstetrical procedures06-07,40-41,72-75	1.16	0.77	1.98	*	1.07	2.53	*7.97	*5.08

* Figure does not meet standards of reliability or precision.

- Quantity zero.

. . . Category not applicable.

¹Rates were calculated using U.S. Census Bureau 2000-based postcensal estimates of the civilian population as of July 1, 2006.

²Chapter 00 codes included in this category: 00.01-00.03, 00.09, 00.10-00.18, 00.21-00.25, 00.28-00.29, 00.31-00.35, 00.39, 00.40-00.43, 00.45-00.48, 00.52, 00.74-00.76, 00.91-00.93.

NOTES: Procedure categories and code numbers are based on the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM). The relative standard error (RSE) can be obtained by dividing the standard error (SE) of the rate by the rate. The SE of a number in Table 6 can be obtained by multiplying the RSE by the estimate.

SOURCE: CDC/NCHS, National Survey of Ambulatory Surgery.

Table 8. Number of ambulatory surgery visits by first-listed diagnosis, sex, and age: United States, 2006

Category of first-listed diagnosis and ICD-9-CM code	Total	Sex		Age				
		Male	Female	Under 15 years	15-44 years	45-64 years	65-74 years	75 years and over
Number in thousands								
All conditions	34,738	14,707	20,032	2,471	8,351	12,948	5,887	5,081
Infectious and parasitic diseases001-139	145	64	81	*	*	*42	*	*
Neoplasms140-239	3,285	1,626	1,659	69	381	1,474	772	589
Malignant neoplasms140-208,230-234	1,173	534	639	*	117	446	285	314
Malignant neoplasm of skin172-173,176.0,198.2	303	164	139	*	34	87	59	123
Malignant neoplasm of breast174-175,198.81	235	*	234	-	*35	121	*52	*
Benign neoplasms210-229	2,000	1,039	961	53	241	985	468	253
Benign neoplasm of colon211.3	1,389	785	604	-	90	730	380	189
Lipoma214	126	61	64	*	*23	76	*	*
Endocrine, nutritional and metabolic diseases, and immunity disorders240-279	266	74	192	*	91	103	*34	*
Diseases of the nervous system and sense organs320-389	5,308	2,114	3,194	729	412	1,243	1,317	1,607
Carpal tunnel syndrome354.0	552	171	381	-	138	263	66	86
Cataract366	3,009	1,135	1,874	*	34	592	1,066	1,313
Disorders of the eyelid373-374	174	71	103	*	*12	58	45	48
Otitis media and Eustachian tube disorders381-382	623	324	299	577	*	*	*	*
Diseases of the circulatory system390-459	1,736	832	904	*	256	860	353	264
Heart disease391-392.0,393-398,402,404,410-416,420-429	540	318	222	*	*41	241	131	128
Hemorrhoids455	715	287	427	*	151	411	108	*45
Diseases of the respiratory system460-519	1,294	591	703	572	396	207	81	*38
Deviated nasal septum470	134	77	57	*	75	42	*	*
Chronic sinusitis473	141	82	59	*	52	56	*	*
Chronic disease of tonsils and adenoids474	680	273	407	496	172	*	-	-
Diseases of the digestive system520-579	6,808	3,081	3,727	326	1,597	2,688	1,242	955
Diseases of teeth and supporting structures520-525	221	114	107	171	*	*	*	*
Diseases of esophagus530	1,132	531	601	*	255	447	224	177
Gastritis and duodenitis535	703	228	475	*	170	257	146	118
Hernia550-553	1,141	764	377	64	335	418	174	149
Inguinal hernia550	515	470	*45	33	131	189	91	71
Noninfectious enteritis and colitis555-558	228	102	126	*	81	87	*34	*
Diverticula of intestine562	1,135	513	622	*	*59	522	306	248
Cholelithiasis574	376	*64	312	*	178	130	*	*
Diseases of the genitourinary system580-629	2,932	847	2,085	115	1,143	1,050	358	267
Calculus of kidney and ureter592	381	178	204	*	144	165	*40	*31
Benign mammary dysplasias610	94	-	94	-	*35	*45	*	*
Lump or mass in breast611.72	198	*	191	*	83	85	*	*
Disorders of menstruation and other abnormal vaginal bleeding626,627.0-627.1	481	...	481	-	250	201	*	*
Complications of pregnancy, childbirth, and the puerperium630-677	322	...	322	-	315	*	-	-
Abortion and ectopic and molar pregnancy630-639	260	...	260	-	253	*	-	-
Diseases of the skin and subcutaneous tissue680-709	631	292	339	56	224	233	*	49
Sebaceous cyst706.2	134	69	65	*	*44	53	*	*
Diseases of the musculoskeletal system and connective tissue710-739	4,523	1,875	2,648	67	1,336	2,035	599	486
Arthropathies and related disorders710-719	809	378	431	*	276	378	89	52
Internal derangement of knee717	321	177	144	*	116	150	*33	*
Intervertebral disc disorders722	861	404	456	-	312	389	93	67
Lumbago724.2	156	64	91	-	35	57	31	33
Rheumatism, excluding back725-729	968	382	586	*26	287	484	114	57
Acquired deformities of toe735	287	58	229	*	74	121	61	*28

See footnotes at end of table.

Table 8. Number of ambulatory surgery visits by first-listed diagnosis, sex, and age: United States, 2006—Con.

Category of first-listed diagnosis and ICD-9-CM code	Total	Sex		Age				
		Male	Female	Under 15 years	15-44 years	45-64 years	65-74 years	75 years and over
Congenital anomalies740-759	479	184	*	132	126	*	*	*
Symptoms, signs, and ill-defined conditions.780-799	1,390	548	842	*	403	520	185	147
Abdominal pain789.0	167	51	116	*	53	71	*	*
Injury and poisoning800-999	2,230	1,255	976	169	777	848	270	166
Fractures800-829	513	321	192	102	237	107	*32	*35
Current tear of medial cartilage or meniscus of knee836.0	424	253	171	*	120	231	53	*20
Supplementary classificationsV01-V85	3,134	1,245	1,890	74	778	1,406	503	373
Visit for sterilizationV25.2	292	50	242	*	263	*	-	-
Diseases of the blood and blood-forming organs, mental disorders, and certain conditions originating in the perinatal period280-289,290-319,760-779	255	80	174	*	*47	88	*47	*62
Anemias280-285	189	*58	131	*	*	*61	*40	*62

* Figure does not meet standards of reliability or precision.

- Quantity zero.

. . . Category not applicable.

NOTES: Diagnostic categories and code numbers are based on the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM). The standard error (SE) of an estimate can be obtained by multiplying the estimate by the corresponding relative standard error (RSE). The RSE can be obtained by dividing the SE of the rate by the rate in Table 9.

SOURCE: CDC/NCHS, National Survey of Ambulatory Surgery.

Table 9. Rate and standard error for the rate of ambulatory surgery visits by first-listed diagnosis, sex, and age: United States, 2006

Category of first-listed diagnosis and ICD-9-CM code	Total	Sex		Age				
		Male	Female	Under 15 years	15-44 years	45-64 years	65-74 years	75 years and over
				Rate per 10,000 population ¹				
All conditions	1,164.9	1,003.8	1,320.4	406.7	666.0	1,731.0	3,111.9	2,769.8
Infectious and parasitic diseases001-139	4.9	4.4	5.4	*	*	*5.6	*	*
Neoplasms140-239	110.2	111.0	109.4	11.4	30.4	197.0	408.2	320.9
Malignant neoplasms140-208,230-234	39.3	36.4	42.1	*	9.3	59.6	150.9	171.1
Malignant neoplasm of skin172-173,176.0,198.2	10.2	11.2	9.2	*	2.7	11.6	31.2	67.0
Malignant neoplasm of breast174-175,198.81	7.9	*	15.4	-	*2.8	16.1	*27.4	*
Benign neoplasms210-229	67.1	70.9	63.3	8.7	19.2	131.7	247.3	137.7
Benign neoplasm of colon211.3	46.6	53.6	39.8	-	7.1	97.6	200.9	103.1
Lipoma214	4.2	4.2	4.2	*	*1.8	10.2	*	*
Endocrine, nutritional and metabolic diseases, and immunity disorders240-279	8.9	5.1	12.7	*	7.3	13.8	*18.2	*
Diseases of the nervous system and sense organs320-389	178.0	144.3	210.5	120.1	32.8	166.1	696.1	876.3
Carpal tunnel syndrome354.0	18.5	11.7	25.1	-	11.0	35.1	35.1	46.6
Cataract366	100.9	77.5	123.5	*	2.7	79.2	563.7	715.6
Disorders of the eyelid373-374	5.8	4.8	6.8	*	*0.9	7.7	24.0	26.0
Otitis media and Eustachian tube disorders381-382	20.9	22.1	19.7	95.0	*	*	*	*
Diseases of the circulatory system390-459	58.2	56.8	59.6	*	20.4	115.0	186.8	144.1
Heart disease391-392.0,393-398,402,404,410-416,420-429	18.1	21.7	14.7	*	*3.2	32.2	69.2	69.7
Hemorrhoids455	24.0	19.6	28.2	*	12.0	54.9	57.1	*24.3
Diseases of the respiratory system460-519	43.4	40.3	46.3	94.2	31.5	27.7	42.6	*20.9
Deviated nasal septum470	4.5	5.3	3.8	*	6.0	5.6	*	*
Chronic sinusitis473	4.7	5.6	3.9	*	4.1	7.5	*	*
Chronic disease of tonsils and adenoids474	22.8	18.6	26.8	81.7	13.7	*	-	-
Diseases of the digestive system520-579	228.3	210.3	245.7	53.6	127.4	359.3	656.7	520.6
Diseases of teeth and supporting structures520-525	7.4	7.8	7.1	28.1	*	*	*	*
Diseases of esophagus530	37.9	36.2	39.6	*	20.3	59.8	118.2	96.5
Gastritis and duodenitis535	23.6	15.5	31.3	*	13.6	34.3	77.0	64.4
Hernia550-553	38.3	52.1	24.9	10.6	26.7	55.8	92.2	81.4
Inguinal hernia550	17.3	32.1	*3.0	5.4	10.5	25.3	48.0	38.9
Noninfectious enteritis and colitis555-558	7.6	6.9	8.3	*	6.4	11.7	*18.2	*
Diverticula of intestine562	38.1	35.0	41.0	*	*4.7	69.8	161.7	135.0
Cholelithiasis574	12.6	*4.4	20.6	*	14.2	17.4	*	*
Diseases of the genitourinary system580-629	98.3	57.8	137.4	18.9	91.1	140.4	189.1	145.5
Calculus of kidney and ureter592	12.8	12.1	13.4	*	11.5	22.0	*21.2	*16.8
Benign mammary dysplasias610	3.2	-	6.2	-	*2.8	*6.0	*	*
Lump or mass in breast611.72	6.6	*	12.6	*	6.6	11.4	*	*
Disorders of menstruation and other abnormal vaginal bleeding626,627.0-627.1	16.1	...	31.7	-	20.0	26.9	*	*
Complications of pregnancy, childbirth, and the puerperium630-677	10.8	...	21.2	-	25.1	*	-	-
Abortion and ectopic and molar pregnancy630-639	8.7	...	17.1	-	20.2	*	-	-
Diseases of the skin and subcutaneous tissue680-709	21.2	19.9	22.3	9.3	17.9	31.2	*	27.0
Sebaceous cyst706.2	4.5	4.7	4.3	*	*3.5	7.1	*	*
Diseases of the musculoskeletal system and connective tissue710-739	151.7	128.0	174.6	11.0	106.5	272.1	316.9	264.7
Arthropathies and related disorders710-719	27.1	25.8	28.4	*	22.0	50.6	46.9	28.3
Internal derangement of knee717	10.8	12.1	9.5	*	9.2	20.0	*17.2	*
Intervertebral disc disorders722	28.9	27.6	30.1	-	24.9	52.0	49.1	36.4
Lumbago724.2	5.2	4.4	6.0	-	2.8	7.6	16.6	17.8
Rheumatism, excluding back725-729	32.5	26.1	38.6	*4.2	22.9	64.7	60.5	31.1
Acquired deformities of toe735	9.6	3.9	15.1	*	5.9	16.2	32.2	*15.5

See footnotes at end of table.

Table 9. Rate and standard error for the rate of ambulatory surgery visits by first-listed diagnosis, sex, and age: United States, 2006—Con.

Category of first-listed diagnosis and ICD-9-CM code	Total	Sex		Age				
		Male	Female	Under 15 years	15-44 years	45-64 years	65-74 years	75 years and over
Rate per 10,000 population ¹								
Congenital anomalies740-759	16.1	12.6	*	21.7	10.0	*	*	*
Symptoms, signs, and ill-defined conditions.780-799	46.6	37.4	55.5	*	32.2	69.5	97.7	80.3
Abdominal pain789.0	5.6	3.5	7.7	*	4.2	9.4	*	*
Injury and poisoning800-999	74.8	85.6	64.3	27.9	62.0	113.4	142.6	90.4
Fractures800-829	17.2	21.9	12.7	16.8	18.9	14.3	*17.0	*19.1
Current tear of medial cartilage or meniscus of knee836.0	14.2	17.3	11.3	*	9.5	30.9	28.0	*10.7
Supplementary classificationsV01-V85	105.1	84.9	124.6	12.2	62.1	187.9	265.9	203.4
Visit for sterilizationV25.2	9.8	3.4	16.0	*	20.9	*	—	—
Diseases of the blood and blood-forming organs, mental disorders, and certain conditions originating in the perinatal period.280-289,290-319,760-779	8.5	5.5	11.5	*	*3.8	11.8	*25.1	*33.8
Anemias280-285	6.3	*4.0	8.6	*	*	*8.2	*21.1	*33.8
Standard error								
All conditions	61.32	53.33	70.69	54.26	35.76	100.68	195.86	156.70
Infectious and parasitic diseases001-139	0.90	0.85	1.24	*	*	*1.37	*	*
Neoplasms.140-239	7.96	8.89	7.90	1.94	2.75	16.81	39.52	25.97
Malignant neoplasms140-208,230-234	2.76	3.20	3.01	*	1.22	5.11	15.04	18.58
Malignant neoplasm of skin172-173,176.0,198.2	1.26	1.60	1.21	*	0.61	1.92	5.43	13.56
Malignant neoplasm of breast.174-175,198.1	0.77	*	1.52	—	*0.76	2.17	*5.07	*
Benign neoplasms.210-229	6.27	7.19	6.04	1.55	2.18	13.86	31.43	14.94
Benign neoplasm of colon.211.3	5.42	6.13	5.18	—	1.68	12.00	28.25	12.22
Lipoma214	0.61	0.84	0.84	*	*0.46	1.93	*	*
Endocrine, nutritional and metabolic diseases, and immunity disorders240-279	1.10	0.84	1.76	*	1.38	2.07	*4.00	*
Diseases of the nervous system and sense organs320-389	13.69	10.58	17.50	22.75	3.62	13.98	75.05	75.91
Carpal tunnel syndrome354.0	2.02	1.51	2.92	—	1.95	4.87	6.23	9.54
Cataract366	9.90	6.98	13.19	*	0.50	9.24	67.68	66.28
Disorders of the eyelid373-374	0.65	0.76	0.88	*	*0.25	1.34	4.50	4.36
Otitis media and Eustachian tube disorders381-382	4.19	3.94	4.65	20.45	*	*	*	*
Diseases of the circulatory system390-459	5.11	6.22	5.23	*	2.71	11.07	22.02	19.84
Heart disease391-392,393-398,402,404,410-416,420-429	2.68	3.57	2.37	*	*0.86	5.61	12.87	13.80
Hemorrhoids455	3.16	3.20	3.61	*	2.39	7.12	9.11	*5.26
Diseases of the respiratory system460-519	5.73	5.15	6.92	20.07	3.55	4.41	7.87	*5.32
Deviated nasal septum470	0.66	0.92	0.84	*	1.17	1.37	*	*
Chronic sinusitis473	0.71	1.00	0.84	*	0.85	1.66	*	*
Chronic disease of tonsils and adenoids474	4.48	3.48	5.71	18.27	2.03	*	—	—
Diseases of the digestive system520-579	18.04	16.10	20.74	8.11	11.77	31.61	64.45	47.47
Diseases of teeth and supporting structures520-525	1.21	1.38	1.35	4.99	*	*	*	*
Diseases of esophagus.530	4.31	4.28	4.86	*	2.81	7.88	17.63	12.02
Gastritis and duodenitis.535	3.12	2.19	4.38	*	2.43	4.92	13.40	11.48
Hernia550-553	3.38	4.71	2.88	2.33	2.90	5.97	11.16	11.74
Inguinal hernia.550	1.58	3.09	*0.56	1.13	1.33	3.49	8.56	6.92
Noninfectious enteritis and colitis.555-558	1.42	1.38	2.11	*	1.68	2.28	*4.54	*
Diverticula of intestine.562	5.25	6.01	5.21	*	*1.03	12.67	22.33	19.19
Cholelithiasis574	1.20	*0.71	2.22	*	1.98	2.42	*	*
Diseases of the genitourinary system580-629	5.71	4.23	8.89	3.46	5.70	10.17	20.18	18.20
Calculus of kidney and ureter592	1.32	1.54	1.60	*	1.95	2.73	*4.20	*4.63
Benign mammary dysplasias610	0.61	—	1.21	—	*0.69	*1.48	*	*
Lump or mass in breast.611.72	1.07	*	2.04	*	1.22	2.57	*	*
Disorders of menstruation and other abnormal vaginal bleeding.626,627.0-627.1	1.90	...	3.73	—	2.59	3.25	*	*

Table 9. Rate and standard error for the rate of ambulatory surgery visits by first-listed diagnosis, sex, and age: United States, 2006—Con.

Category of first-listed diagnosis and ICD-9-CM code	Total	Sex		Age				
		Male	Female	Under 15 years	15-44 years	45-64 years	65-74 years	75 years and over
				Standard error				
Complications of pregnancy, childbirth, and the puerperium630-677	1.35	...	2.65	-	3.17	*	-	-
Abortion and ectopic and molar pregnancy630-639	1.27	...	2.50	-	2.99	*	-	-
Diseases of the skin and subcutaneous tissue680-709	3.02	3.02	4.06	2.04	2.41	7.03	*	5.30
Sebaceous cyst706.2	0.69	1.11	0.77	*	*0.77	1.44	*	*
Diseases of the musculoskeletal system and connective tissue710-739	11.91	11.38	13.53	1.64	10.18	21.94	28.02	32.52
Arthropathies and related disorders710-719	2.96	3.44	3.01	*	3.58	5.37	6.84	4.84
Internal derangement of knee717	1.79	2.69	1.36	*	2.22	3.04	*4.09	*
Intervertebral disc disorders722	4.49	4.23	5.10	-	5.40	7.26	9.32	6.28
Lumbago724.2	0.93	0.95	1.18	-	0.80	1.51	4.55	4.40
Rheumatism, excluding back725-729	2.26	2.23	3.08	*0.97	2.12	5.56	7.55	5.40
Acquired deformities of toe735	1.35	0.81	2.21	*	1.21	2.78	8.32	*3.65
Congenital anomalies740-759	4.79	2.66	*	3.51	2.75	*	*	*
Symptoms, signs, and ill-defined conditions780-799	7.79	6.81	9.04	*	4.91	12.20	15.95	11.22
Abdominal pain789.0	0.95	0.71	1.49	*	0.89	2.16	*	*
Injury and poisoning800-999	5.15	6.22	5.27	3.51	5.05	8.65	20.49	11.84
Fractures800-829	1.49	2.23	1.31	2.23	2.20	2.51	*4.74	*4.17
Current tear of medial cartilage or meniscus of knee836.0	1.58	2.46	1.28	*	1.54	3.80	5.29	*2.77
Supplementary classificationsV01-V85	8.88	8.70	10.44	2.06	5.93	19.34	31.05	24.27
Visit for sterilizationV25.2	1.15	0.52	2.20	*	2.43	*	-	-
Diseases of the blood and blood-forming organs, mental disorders, and certain conditions originating in the perinatal period280-289,290-319,760-779	1.19	1.12	1.71	*	*0.74	2.78	*6.55	*7.27
Anemias280-285	1.01	*0.93	1.42	*	*	*2.09	*5.94	*7.27

* Figure does not meet standards of reliability or precision.

- Quantity zero.

... Category not applicable.

¹Rates were calculated using U.S. Census Bureau 2000-based postcensal estimates of the civilian population as of July 1, 2006.

NOTES: Diagnostic categories and code numbers are based on the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM). The relative standard error (RSE) can be obtained by dividing the standard error (SE) of the rate by the rate. The SE of a number in Table 8 can be obtained by multiplying the RSE by the estimate.

SOURCE: CDC/NCHS, National Survey of Ambulatory Surgery.

Technical Notes

Form Approved OMB No. 0935-0048 Approval Expires 11/30/2009

NSAS-5

NATIONAL SURVEY OF AMBULATORY SURGERY MEDICAL ABSTRACT

Notice - All information which would permit identification of an individual or an establishment will be held confidential, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to other persons or used for any other purpose. Public reporting burden of this collection of information is estimated to average 12 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: CDC/ATSDR Reports Clearance Officer, 1600 Clifton Road, MS-D-74 Atlanta, GA 30333, ATTN: PRA (50514254)

A. PATIENT INFORMATION

1. Facility number: _____

2. NSAS number and its used: _____

3. Date of surgery: Month _____ Day _____ Year **2 0 0**

4. Procedure CPT Code: _____ - _____

B. PATIENT CHARACTERISTICS

5. Date of birth: Month _____ Day _____ Year _____

6. Age (Complete only if date of birth not given): _____ years _____ months _____ days

7. Sex (Mark (X) one):
 Male
 Female
 Not stated

8. Ethnicity (Mark (X) one):
 Hispanic or Latin
 Not Hispanic or Latin
 Not stated

9. Race (Mark (X) all that apply):
 White
 Black or African American
 American Indian or Alaska Native
 Asian
 Native Hawaiian or Other Pacific Islander
 Other _____
 Not stated

10. Status/Disposition of Patient (Mark (X) the appropriate box):
 Routine discharge to outpatient ambulatory
 Discharge to observation status
 Discharge to post-surgical recovery care facility
 Admitted to hospital as inpatient
 Surgically observed in hospital
 Other - Specify _____
 Status/Disposition not stated

C. PAYMENT INFORMATION

11. Expected source of payment:

	Principal	Other source	Principal	Other source
GOVERNMENT SOURCES				
Medicare (If Medicare, also mark system - Fee-for-service, HMO, PPO)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Medicaid (If Medicaid, also mark system - Fee-for-service, HMO, PPO)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRICARE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Worker's compensation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other government (If so, please specify _____)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PRIVATE INSURANCE				
Private or commercial (If private, also mark system - Fee-for-service, HMO, PPO)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER SOURCES				
Self pay (If so, specify insurance - Health health insurance)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Charity care/Write off	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No charge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (Please specify _____)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No source of payment indicated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. Total charges: \$ _____ .00 Not available

D. SURGICAL VISIT INFORMATION

13. Time (Mark (X) all that apply):

	Not complete
a. Time in operating room	<input type="checkbox"/>
b. Time in prep room	<input type="checkbox"/>
c. Time in recovery room	<input type="checkbox"/>
d. Time in postoperative care	<input type="checkbox"/>
e. Time in preoperative area	<input type="checkbox"/>
f. Time in postoperative care	<input type="checkbox"/>

14. Type of anesthesia (Mark (X) all that apply):

a. General	<input type="checkbox"/>
b. IV sedation	<input type="checkbox"/>
c. MAC (Monitored Anesthesia Care)	<input type="checkbox"/>
d. Regional	<input type="checkbox"/>
(1) Epidural	<input type="checkbox"/>
(2) Spinal	<input type="checkbox"/>
(3) Peripheral block	<input type="checkbox"/>
(4) Tourniquet block	<input type="checkbox"/>
(5) Block	<input type="checkbox"/>
e. Sedated	<input type="checkbox"/>
f. Other - Specify _____	<input type="checkbox"/>
g. None specified	<input type="checkbox"/>

15. Anesthesia administered by - (Mark (X) all that apply):
 Anesthesiologist
 CRNA (Certified Registered Nurse Anesthetist)
 Surgeon/Other physician
 Not stated/Not recorded

Please continue on the reverse side

F. MEDICAL INFORMATION																																				
16. FINAL DIAGNOSES (including E-codes diagnoses) – Narrative description		Optional – ICD-9-CM Codes																																		
Principal	1.																																			
Other	2.																																			
Additional	3.																																			
	4.																																			
	5.																																			
	6.																																			
	7.																																			
17. Signs and symptoms, procedures – Narrative description		Optional – CPT-4 Codes	Optional – ICD-9-CM Codes																																	
Principal	1.																																			
Other	2.																																			
Additional	3.																																			
	4.																																			
	5.																																			
	6.																																			
<input type="checkbox"/> None																																				
18. Symptoms present during or after surgery (Mark (X) all that apply)																																				
<table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> Accidental laceration/puncture or perforation</td> <td><input type="checkbox"/> High blood pressure/hypertension</td> <td><input type="checkbox"/> None indicated</td> </tr> <tr> <td><input type="checkbox"/> Airway obstruction</td> <td><input type="checkbox"/> Hypoxia</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Apnea</td> <td><input type="checkbox"/> Incontinence</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Bleeding/hemorrhage</td> <td><input type="checkbox"/> Low blood pressure/hypotension</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Blood transfusion needed</td> <td><input type="checkbox"/> Malignant hyperthermia</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Cardiac arrest</td> <td><input type="checkbox"/> Nausea</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Difficulty waking up</td> <td><input type="checkbox"/> Peripheral edema</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Dysrhythmia/arrhythmia</td> <td><input type="checkbox"/> Shock</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Embolism</td> <td><input type="checkbox"/> Vomiting</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Fainting/syncope/dizziness</td> <td><input type="checkbox"/> Other – Please specify: _____</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Fever</td> <td></td> <td></td> </tr> </table>				<input type="checkbox"/> Accidental laceration/puncture or perforation	<input type="checkbox"/> High blood pressure/hypertension	<input type="checkbox"/> None indicated	<input type="checkbox"/> Airway obstruction	<input type="checkbox"/> Hypoxia		<input type="checkbox"/> Apnea	<input type="checkbox"/> Incontinence		<input type="checkbox"/> Bleeding/hemorrhage	<input type="checkbox"/> Low blood pressure/hypotension		<input type="checkbox"/> Blood transfusion needed	<input type="checkbox"/> Malignant hyperthermia		<input type="checkbox"/> Cardiac arrest	<input type="checkbox"/> Nausea		<input type="checkbox"/> Difficulty waking up	<input type="checkbox"/> Peripheral edema		<input type="checkbox"/> Dysrhythmia/arrhythmia	<input type="checkbox"/> Shock		<input type="checkbox"/> Embolism	<input type="checkbox"/> Vomiting		<input type="checkbox"/> Fainting/syncope/dizziness	<input type="checkbox"/> Other – Please specify: _____		<input type="checkbox"/> Fever		
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<input type="checkbox"/> Fainting/syncope/dizziness	<input type="checkbox"/> Other – Please specify: _____																																			
<input type="checkbox"/> Fever																																				
G. FOLLOW-UP INFORMATION																																				
19a. Did someone attempt to follow-up with the patient within 24 hours after the surgery?		Yes	No																																	
		<input type="checkbox"/>	<input type="checkbox"/>																																	
19b. Did they reach the patient? (If not, why?)		Yes	No																																	
		<input type="checkbox"/>	<input type="checkbox"/>																																	
(1) What was learned from this follow-up? (Mark (X) all that apply)																																				
<table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> Patient had a question</td> <td><input type="checkbox"/> Called the physician/surgeon</td> <td><input type="checkbox"/> Went to an emergency department</td> </tr> <tr> <td><input type="checkbox"/> Patient had no problems</td> <td><input type="checkbox"/> Came back to the ambulatory surgery center</td> <td><input type="checkbox"/> Was admitted to the hospital</td> </tr> <tr> <td><input type="checkbox"/> Patient had problem(s) and –</td> <td><input type="checkbox"/> Called the emergency department</td> <td><input type="checkbox"/> Other – Please specify: _____</td> </tr> <tr> <td><input type="checkbox"/> Called the doctor</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> Went to the doctor</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> Nothing</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> Unknown</td> <td></td> <td></td> </tr> </table>				<input type="checkbox"/> Patient had a question	<input type="checkbox"/> Called the physician/surgeon	<input type="checkbox"/> Went to an emergency department	<input type="checkbox"/> Patient had no problems	<input type="checkbox"/> Came back to the ambulatory surgery center	<input type="checkbox"/> Was admitted to the hospital	<input type="checkbox"/> Patient had problem(s) and –	<input type="checkbox"/> Called the emergency department	<input type="checkbox"/> Other – Please specify: _____	<input type="checkbox"/> Called the doctor			<input type="checkbox"/> Went to the doctor			<input type="checkbox"/> Nothing			<input type="checkbox"/> Unknown														
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<input type="checkbox"/> Went to the doctor																																				
<input type="checkbox"/> Nothing																																				
<input type="checkbox"/> Unknown																																				
(2) What problem(s) did the patient mention (e.g., low drainage, depression, pain, nausea)?																																				
20. Completed by		21. Date	OFFICE USE ONLY																																	
			FF code																																	

Acknowledgments

This report was prepared in the Division of Health Care Statistics (DHCS). This report was edited by Gail V. Johnson, CDC/CCHIS/Division of Creative Services, Writer Editor Services Branch; typeset by Annette F. Holman and graphics produced by Gail Ogburn and Tommy C. Seibert, CDC/CCHIS/Division of Creative Services, Graphic Services Branch.

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National Center for Health Statistics

Director

Edward J. Sondik, Ph.D.

Acting Co-Deputy Directors

Jennifer H. Madans, Ph.D.

Michael H. Sadagursky

U.S. DEPARTMENT OF
HEALTH & HUMAN SERVICES

Centers for Disease Control and Prevention
National Center for Health Statistics
3311 Toledo Road
Hyattsville, MD 20782

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3

Ambulatory Care Facilities

3.1 Outpatient Facilities

Appendix material, which appears in shaded boxes at the bottom of the page, is advisory only.

1 General Considerations

1.1 Applicability

1.1.1 This part of the Guidelines applies to the outpatient unit in a hospital, a freestanding facility, or an outpatient facility in a multiple-use building containing an ambulatory health care facility as defined in the NFPA 101 Life Safety Code occupancy chapters.

***1.1.2** The general standards set forth in Sections 1 through 5 of this chapter (General Considerations, Diagnostic and Treatment Locations, Service Areas, Administrative and Public Areas, and Construction Standards) shall apply to each of the facility types below. Additions and/or modifications shall be made as described in this chapter and in the chapters for the specific facility types. Consideration shall be given to the special needs of anticipated patient groups/demographics as determined by the functional program.

- Primary Care Outpatient Centers (Chapter 3.2)
- Small Primary (Neighborhood) Outpatient Facilities (Chapter 3.3)
- Freestanding Outpatient Diagnostic and Treatment Facilities (Chapter 3.4)
- Freestanding Urgent Care Facilities (Chapter 3.5)
- Freestanding Birthing Centers (Chapter 3.6)
- Ambulatory Surgical Facilities (Chapter 3.7)
- Gastrointestinal Endoscopy Facilities (Chapter 3.9)
- Renal Dialysis (Acute and Chronic) Centers (Chapter 3.10)
- Psychiatric Outpatient Centers (Chapter 3.11)

1.1.3 Specialty facilities not identified above may have needs that are not addressed in this chapter. Development of such specialty facilities shall rely on a detailed and specific functional program to establish physical environment requirements beyond the general requirements identified in this chapter.

1.2 Outpatient Facility Classification

1.2.1 The outpatient facilities described in this part of

the Guidelines are used primarily by patients capable of traveling into, around, and out of the facility unassisted. This group includes the disabled confined to wheelchairs. Occasional facility use by stretcher patients shall not be used as a basis for more restrictive institutional occupancy classifications.

1.2.2 Where patients are rendered incapable of self-preservation due to the care process, facilities shall comply with the Ambulatory Health Care Occupancies section of NFPA 101 in addition to details herein. The Business Occupancy section of NFPA 101 applies to other types of outpatient facilities. Outpatient units that are part of another facility may be subject to the additional requirements of the other occupancy.

1.2.3 References are made to Chapter 2.1, General Hospitals, for certain service spaces. Those references are intended only for the specific areas indicated.

1.3 Functional Program

Each project sponsor shall provide a functional program for the facility. (See Section 1.2-2.)

1.4 Environment of Care

1.4.1 Patient Privacy

Each facility design shall ensure appropriate levels of patient acoustical and visual privacy and dignity throughout the care process, consistent with needs established in the functional program. See Sections 1.1-6 and 1.2-2.1.2.5 (4).

1.5 Shared/Purchased Services

When services are shared or purchased, modification or elimination of space and equipment to avoid unnecessary duplication shall be permitted.

APPENDIX

A1.1.2 The applicability of Sections 3.1-6 (Special Systems) and 3.1-7 (Building Systems) generally are specified in these sections and/or in the text of the individual facility type chapters.

3.1 OUTPATIENT FACILITIES

1.6 Facility Access

1.6.1 Where the outpatient occupancy is part of another facility, separation and access shall be maintained as described in NFPA 101.

1.6.2 Building entrances used to reach the outpatient services shall be at grade level, clearly marked, and located so patients need not go through other activity areas. (Lobbies of multi-occupancy buildings may be shared.)

1.6.3 Design shall preclude unrelated traffic within the unit.

1.7 Site

*1.7.1 Location

1.7.2 Parking

1.7.2.1 In the absence of a formal parking study, parking for outpatient facilities shall be provided at the rate noted for each type of unit.

1.7.2.2 On-street parking, if available and acceptable to local authorities having jurisdiction, may satisfy part of this requirement unless described otherwise.

1.7.2.3 If the facility is located in a densely populated area where a large percentage of patients arrive as pedestrians, or if adequate public parking is available nearby, or if the facility is conveniently accessible via public transportation, adjustments to this standard may be made with approval of the appropriate authorities.

2 Diagnostic and Treatment Locations

Clinical and support areas shall be provided to support the functional program. The following spaces are common to most outpatient facilities:

APPENDIX

A1.7.1 Community outpatient units should ideally be conveniently accessible to patients via available public transportation.

A2.1.1 Door swings should be oriented to provide patient privacy.

A2.1.2 Door swings should be oriented to provide patient privacy.

A2.1.3 Door swings should be oriented to provide patient privacy.

2.1 Examination and Treatment Rooms

*2.1.1 General Purpose Examination Room(s)

2.1.1.1 Space requirements

(1) Area. Rooms for medical, obstetrical, and similar examinations, if provided, shall have a minimum floor area of 80 net square feet (7.43 square meters) excluding vestibules, toilets, closets, and fixed casework.

(2) Clearances. Room arrangement shall permit a minimum clearance of 2 feet 8 inches (81.28 centimeters) at each side and at the foot of the examination table.

2.1.1.2 Hand-washing station. A hand-washing station shall be provided.

2.1.1.3 Documentation space. A counter or shelf space for writing shall be provided.

*2.1.2 Special Purpose Examination Rooms

2.1.2.1 Space requirements

(1) Area. Rooms for special clinics such as eye, ear, nose, and throat examinations, if provided, shall have a minimum floor area of 80 net square feet (7.43 square meters). This square footage shall exclude vestibules, toilets, closets, and fixed casework.

(2) Clearances. Room arrangement shall permit a minimum clearance of 2 feet 8 inches (81.28 centimeters) at each side and at the foot of the examination table, bed, or chair.

2.1.2.2 Hand-washing station. A hand-washing station shall be provided.

2.1.2.3 Documentation space. A counter or shelf space for writing shall be provided.

*2.1.3 Treatment Room(s)

2.1.3.1 Space requirements

(1) Area. Rooms for minor surgical and cast procedures, if provided, shall have a minimum floor area of 120 square feet (11.15 square meters). This square footage shall exclude vestibule, toilet,

closets, and fixed casework. The minimum room dimension shall be 10 feet (3.05 meters).

- (2) Clearance. Room arrangement shall permit a minimum clearance of 3 feet (91.44 centimeters) at each side and at the foot of the bed.

2.1.3.2 Hand-washing station. A hand-washing station shall be provided.

2.1.3.3 Documentation space. A counter or shelf for writing shall be provided.

2.1.4 Observation Room(s)

***2.1.4.1 Location.** The room shall be convenient to a nurse or control station.

2.1.4.2 Space requirements. If provided, observation rooms for the isolation of suspect or disturbed patients shall have a minimum floor area of 80 square feet (7.43 square meters). This square footage shall exclude vestibule, toilet, closets, and fixed casework.

2.1.5 Airborne Infection Isolation Rooms

2.1.5.1 Applicability. In facilities with a functional program that includes treatment of patients with known infectious disease, the need for and number of such rooms shall be determined by an infection control risk assessment (ICRA).

2.1.5.2 Standards. Where airborne infection isolation room(s) are required, they shall comply with the general requirements of Section 2.1-3.2.2, except that a shower or tub shall not be required.

2.1.6 Protective Environment Rooms

2.1.6.1 Applicability. The need for and number of required protective environment rooms shall be determined by an infection control risk assessment.

2.1.6.2 Standards. When required, the protective environment room(s) shall comply with the general requirements of Section 2.1-3.2.3, except that a toilet, bathtub, or shower shall not be required.

2.1.7 Support Areas for Examination and Treatment Rooms

2.1.7.1 Nurse station(s). A work counter, communication system, space for supplies, and provisions for charting shall be provided.

2.1.7.2 Drug distribution station. This may be a part of the nurses station and shall include a work counter, sink, refrigerator, and locked storage for biologicals and drugs.

2.1.7.3 Sterilizing facilities. A system for sterilizing equipment and supplies shall be provided. Sterilizing procedures may be done on- or off-site, or disposables may be used to satisfy functional needs.

2.1.7.4 Clean storage. A separate room or closet for storing clean and sterile supplies shall be provided. This storage shall be in addition to that of cabinets and shelves.

2.1.7.5 Soiled holding. Provisions shall be made for separate collection, storage, and disposal of soiled materials.

2.1.7.6 Wheelchair storage space. Such storage shall be out of the direct line of traffic.

2.1.8 Support Areas for Patients

2.1.8.1 Toilet(s) for patient use. These shall be provided separate from public use toilet(s) and located to permit access from patient care areas without passing through publicly accessible areas.

*2.2 Imaging Facilities

Basic diagnostic procedures (these may be part of the outpatient service, off-site, shared, by contract, or by referral) shall be provided and shall include the following:

APPENDIX

A2.1.4.1 This is to permit close observation of patients. An examination room may be modified to accommodate this function. A toilet room with lavatory should be immediately accessible.

A2.2 Imaging Facilities

a. Access. Stretchers should have ready access to and from other areas of the facility. The emergency, surgery, cystoscopy, and outpatient clinics should be accessible to the imaging suite.

b. Layout. Particular attention should be paid to the management of outpatients for preparation, holding, and observation.

c. Location. Imaging should be located with consideration of ceiling height requirements, proximity to electrical services, and future expansion considerations.

3.1 OUTPATIENT FACILITIES

2.2.1 Access

2.2.2 Radiographic Room(s)

See Section 2.1-5.5 for special requirements.

2.2.3 Support Areas for Imaging Facilities

2.2.3.1 Viewing and administrative areas(s)

2.2.3.2 Film and media processing facilities. These shall be provided as indicated in the functional program and as technology requires.

2.2.3.3 Storage facilities for exposed film. These shall be provided as indicated in the functional program and as technology requires.

2.2.4 Support Areas for Patients

2.2.4.1 Dressing rooms or booths. These shall be provided as required by the functional program, with convenient toilet access.

2.2.4.2 Toilet rooms. Toilet rooms with hand-washing stations shall be accessible to procedure room(s) if procedures provided may result in the need for immediate access to patient toilet facilities.

2.3 Laboratory

Facilities shall be provided within the outpatient department, or through an effective contract arrangement with a nearby hospital or laboratory service, for hematology, clinical chemistry, urinalysis, cytology, pathology, and bacteriology. If these services are provided on contract, the following laboratory facilities shall also be provided in (or be immediately accessible to) the outpatient facility:

2.3.1 Laboratory Work Counter(s)

These shall have sink, vacuum, gas, and electric services.

2.3.2 Hand-washing Station(s)

Hand-washing stations or counter sink(s) equipped for hand washing shall be provided.

2.3.3 Support Areas for the Laboratory

2.3.3.1 Storage cabinet(s) or closet(s)

2.3.3.2 Specimen collection facilities

(1) These shall have a water closet and lavatory.

(2) Blood collection facilities shall have seating space, a work counter, and hand-washing station.

3 Service Areas

3.1 Environmental Services

3.1.1 Housekeeping Room(s)

3.1.1.1 Number. At least one housekeeping room per floor shall be provided.

3.1.1.2 Facility requirements. Each housekeeping room shall contain a service sink and storage for housekeeping supplies and equipment.

3.2 Engineering Services and Maintenance

The following shall be provided (sharing of these with other services shall be permitted provided capacity is appropriate for overall use):

3.2.1 Equipment Rooms

Equipment room(s) for boilers, mechanical equipment, and electrical equipment shall be provided.

3.2.2 Equipment and Supply Storage

Storage room(s) for supplies and equipment shall be provided.

3.3 Materials Management

3.3.1 Waste Management

For information on treatment or disposal of waste, see Section 3.1-6.3.

3.3.1.1 Collection and storage

(1) Space and facilities shall be provided for the sanitary storage of waste in accordance with the functional program.

(2) These facilities shall use techniques acceptable to the appropriate health and environmental authorities.

3.3.1.2 Trash chutes. The design and construction of trash chutes shall comply with NFPA 82.

4 Administrative and Public Areas

4.1 Public Areas

The following shall be provided:

4.1.1 Entrance

This shall be located at grade level and be able to accommodate wheelchairs.

4.1.2 Reception. A reception and information counter or desk shall be provided.

*4.1.3 Waiting Space(s)

4.1.4 Public Toilets

Toilet(s) for public use shall be conveniently accessible from the waiting area without passing through patient care or staff work areas or suites.

4.1.5 Public Telephones

Conveniently accessible public telephone(s) shall be provided.

4.1.6 Provisions for Drinking Water

Conveniently accessible provisions for drinking water shall be provided.

4.1.7 Wheelchair Storage

Conveniently accessible wheelchair storage shall be provided.

*4.2 Administrative Areas

4.2.1 Interview Space(s)

Space(s) shall be provided for private interviews related to social service, credit, etc.

4.2.2 General or Individual Office(s)

Space providing adequate work area for business transactions, records storage, and administrative and professional staffs shall be provided.

4.2.3 Medical Records

Provisions shall be made for securing medical records.

4.2.4 Equipment and Supply Storage

General storage facilities for supplies and equipment shall be provided as identified in the functional program.

4.2.5 Support Areas for Staff

Special storage for staff personal effects with locking drawers or cabinets (may be individual desks or cabinets) shall be provided. Such storage shall be convenient to individual workstations and shall be staff controlled.

5 Construction Standards

5.1 Design and Construction, including Fire-Resistant Standards

5.1.1 Building Codes

5.1.1.1 Construction and structural elements of free-standing outpatient facilities shall comply with recognized building code requirements for offices (business occupancies) and the standards contained herein.

5.1.1.2 Outpatient facilities that are an integral part of a hospital or that share common areas and functions with a hospital shall comply with the construction standards for general hospitals. See applicable sections of Chapter 2.1.

5.1.2 Provision for Disasters

5.1.2.1 Earthquakes. Seismic force resistance of new construction for outpatient facilities shall comply with Section 1.1-5 and shall be given an importance factor of one. Where the outpatient facility is part of an existing building, that facility shall comply with applicable local codes.

5.1.2.2 Other natural disasters. Special design provisions shall be made for buildings in regions that have sustained loss of life or damage to buildings from hurricanes, tornadoes, floods, or other natural disasters.

APPENDIX

A4.1.3 Consideration should be given to special needs of specific patient groups in a shared/general waiting area, such as separation of adolescent and geriatric patients.

A4.2 Multipurpose room(s) should be provided for private interviews, conferences, meetings, and health education purposes. Where health education is accommodated, the room(s) should be equipped for audiovisual aids.

3.1 OUTPATIENT FACILITIES

5.2 General Standards for Details and Finishes

5.2.1 Details

Details shall comply with the following standards:

5.2.1.1 Corridor width

- (1) Minimum public corridor width shall be 5 feet (1.52 meters). Staff-only corridors shall be permitted to be 3 feet 8 inches (1.12 meters) wide.
- (2) Items such as provisions for drinking water, telephone booths, vending machines, etc., shall not restrict corridor traffic or reduce the corridor width below the required minimum.
- (3) Out-of-traffic storage space for portable equipment shall be provided.

5.2.1.2 Ceiling height. The minimum ceiling height shall be 7 feet 10 inches (2.39 meters), with the following exceptions:

- (1) Corridors, storage rooms, toilet rooms, etc. Ceiling height in corridors, storage rooms, toilet rooms, and other minor rooms shall not be less than 7 feet 8 inches (2.34 meters).
- (2) Rooms with ceiling-mounted equipment/light fixtures. Radiographic and other rooms containing ceiling-mounted equipment shall have ceilings of sufficient height to accommodate the equipment and/or fixtures.
- (3) Boiler rooms. Boiler rooms shall have ceiling clearances not less than 2 feet 6 inches (76.20 centimeters) above the main boiler header and connecting piping.
- (4) Clearances. Tracks, rails, and pipes suspended along the path of normal traffic shall be not less than 6 feet 8 inches (2.03 meters) above the floor.

5.2.1.3 Exits

- (1) Each building shall have at least two exits that are remote from each other.
- (2) Other details relating to exits and fire safety shall

comply with NFPA 101 and the standards outlined herein.

5.2.1.4 Door width

- (1) The minimum nominal door width for patient use shall be 3 feet (0.91 meter).
- (2) If the outpatient facility serves hospital inpatients, the minimum nominal width of doors to rooms used by hospital inpatients transported in beds shall be 3 feet 8 inches (1.12 meters).

5.2.1.5 Glazing materials

- (1) Doors, sidelights, borrowed lights, and windows glazed to within 18 inches (45.72 centimeters) of the floor shall be constructed of safety glass, wired glass, or plastic glazing material that resists breakage and creates no dangerous cutting edges when broken.
- (2) Similar materials shall be used in wall openings of playrooms and exercise rooms unless otherwise required for fire safety.
- (3) Glazing materials used for shower doors and bath enclosures shall be safety glass or plastic.

5.2.1.6 Hand-washing stations

- (1) Hand-washing stations shall be located and arranged to permit proper use and operation.
- (2) Particular care shall be taken to provide the required clearance for operation of blade-type handles.
- (3) Provisions for hand drying shall be included at all hand-washing stations except scrub sinks.

5.2.1.7 Thresholds and joints. Threshold and expansion joint covers shall be flush with the floor surface to facilitate use of wheelchairs and carts.

5.2.1.8 Radiation protection. Radiation protection for x-ray and gamma ray installations shall comply with Section 2.1-5.5.

5.2.1.9 Protection from heat-producing equipment.

Rooms containing heat-producing equipment (such as boiler or heater rooms) shall be insulated and ventilated to prevent occupied adjacent floor or wall surfaces from exceeding a temperature 10°F above the ambient room temperature.

5.2.2 Finishes

Finishes shall comply with the following standards:

5.2.2.1 Fire-retardant materials

- (1) Cubicle curtains and draperies shall be noncombustible or flame-retardant and shall pass both the large- and small-scale tests required by NFPA 701.
- (2) The flame-spread and smoke-developed ratings of finishes shall comply with Section 2.1-8.1. Where possible, the use of materials known to produce large amounts of noxious gases shall be avoided.

5.2.2.2 Floors

- (1) Floor materials shall be readily cleanable and appropriately wear-resistant.
- (2) In all areas subject to wet cleaning, floor materials shall not be physically affected by liquid germicidal and cleaning solutions.
- (3) Floors subject to traffic while wet, including showers and bath areas, shall have a nonslip surface.
- (4) Wall bases in areas frequently subject to wet cleaning shall be monolithic and covered with the floor, tightly sealed to the wall, and constructed without voids.

5.2.2.3 Walls. Wall finishes shall be washable and, in the proximity of plumbing fixtures, shall be smooth and moisture resistant.

5.2.2.4 Penetrations. Floor and wall areas penetrated by pipes, ducts, and conduits shall be tightly sealed to minimize entry of rodents and insects. Joints of structural elements shall be similarly sealed.

6 Special Systems**6.1 General****6.1.1 Applicability**

As required by the functional program, special systems shall be installed in accordance with the following standards:

6.1.2 Testing

6.1.2.1 Prior to acceptance of the facility, all special systems shall be tested and operated to demonstrate to the owner or its designated representative that the installation and performance of these systems conform to design intent.

6.1.2.2 Test results. Test results shall be documented for maintenance files.

6.1.3 Documentation

6.1.3.1 Upon completion of the special systems equipment installation contract, the owner shall be furnished with a complete set of manufacturers' operating, maintenance, and preventive maintenance instructions, a parts lists, and complete procurement information, including equipment numbers and descriptions.

6.1.3.2 Operating staff persons shall also be provided with instructions for proper operation of systems and equipment. Required information shall include all safety or code ratings as needed.

6.1.4 Insulation

Insulation shall be provided surrounding special system equipment to conserve energy, protect personnel, and reduce noise.

6.2 Elevators**6.2.1 Dimensions**

Cars shall have a minimum inside floor dimension of not less than 5 feet (1.52 meters).

6.2.2 Leveling Device

Elevators shall be equipped with a two-way automatic level-maintaining device with an accuracy of $\pm 1/2$ inch (± 12.7 millimeters).

3.1 OUTPATIENT FACILITIES

6.2.3 Elevator Controls

6.2.3.1 Elevator call buttons and controls shall not be activated by heat or smoke. Light beams, if used for operating door reopening devices without touch, shall be used in combination with door-edge safety devices and shall be interconnected with a system of smoke detectors. This is so the light control feature will be overridden or disengaged should it encounter smoke at any landing.

6.2.3.2 Elevator controls, alarm buttons, and telephones shall be accessible to wheelchair occupants and usable by the blind.

6.2.4 Installation and Testing

6.2.4.1 Standards. Installation and testing of elevators shall comply with ANSI/ASME A17.1 for new construction and ANSI/ASME A17.3 for existing facilities. (See ASCE/SEI 7 for seismic design and control system requirements for elevators.)

6.2.4.2 Documentation. Field inspections and tests shall be made and the owner shall be furnished with written certification stating that the installation meets the requirements set forth in this section as well as all applicable safety regulations and codes.

6.3 Waste Processing

Space and facilities shall be provided for the treatment or disposal of waste.

Note: For information on collection and storage of waste, see Section 3.1-3.3.1, Waste Management.

6.3.1 General

6.3.1.1 The functional program shall stipulate the categories and volumes of waste for disposal and shall stipulate the methods of disposal for each.

6.3.1.2 These facilities shall use techniques acceptable to the appropriate health and environmental authorities.

6.3.2 Medical Waste Disposal

6.3.2.1 General

- (1) Medical waste shall be disposed of by incineration or other approved technologies. Two or more institutions shall be permitted to share incinerators or other major disposal equipment.
- (2) Use of incinerators or other major disposal equipment to dispose of other medical waste shall be permitted where local regulations permit.

6.3.2.2 Space requirements

- (1) Incinerators with capacities of 50 pounds per hour or more shall be in a separate room or outdoors; those with lesser capacities shall be permitted to be in a separate area within the facility boiler room.
- (2) Rooms and areas containing incinerators shall have adequate space and facilities for charging and cleaning incinerators, as well as necessary clearances for work and maintenance.
- (3) Provisions shall be made for operation, temporary storage, and disposal of materials so that odors and fumes do not drift back into occupied areas.
- (4) Existing approved incinerator installations that are not in separate rooms or outdoors may remain unchanged provided they meet the above criteria.

6.3.2.3 Equipment

- (1) Incinerators or other major disposal equipment shall be designed for the actual quantity and type of waste to be destroyed.
- (2) Equipment shall meet all applicable regulations.
- (3) The design and construction of incinerators, if used, shall comply with NFPA 82 and conform to the standards prescribed by area air pollution regulations.

Note: For information about refuse chutes, see Section 3.1-3.3.1.2.

*6.3.2.4 Recovery of waste heat

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A6.3.2.4 When incinerators are used, consideration should be given to the recovery of waste heat from on-site incinerators used to dispose of large amounts of waste materials.

| *6.3.2.5 Environmental/health risk assessments

6.3.3 Nuclear Waste Disposal

See Code of Federal Regulations, title X, parts 20 and 35, concerning the handling and disposal of nuclear materials in health care facilities.

7 Building Systems

7.1 Plumbing

7.1.1 General

7.1.1.1 Applicability. These requirements do not apply to small primary (neighborhood) outpatient facilities or outpatient facilities that do not perform invasive applications or procedures. See Section 3.3-6.1 for requirements for small primary (neighborhood) outpatient facilities.

7.1.1.2 Standards. Unless otherwise specified herein, all plumbing systems shall be designed and installed in accordance with the International Plumbing Code.

7.1.2 Plumbing and Other Piping Systems

7.1.2.1 General piping and valves

- (1) All piping, except control-line tubing, shall be identified.
- (2) All valves shall be tagged, and a valve schedule shall be provided to the facility owner for permanent record and reference.
- | (3) No plumbing piping shall be exposed overhead or exposed on walls where possible accumulation of dust or soil may create a cleaning problem or where leaks would create a potential for food contamination.

7.1.2.2 Hemodialysis piping

- (1) Where the functional program includes hemodialysis, continuously circulated filtered cold water shall be provided. Piping shall be in accordance with AAMI RD62.
- (2) In new construction and renovation where hemodialysis or hemoperfusion are routinely

performed, a separate water supply and drainage facility that does not interfere with hand-washing shall be provided.

7.1.2.3 Potable water supply systems. The following standards shall apply to potable water supply systems:

- (1) Capacity. Systems shall be designed to supply water at sufficient pressure to operate all fixtures and equipment during maximum demand. Supply capacity for hot- and cold-water piping shall be determined on the basis of fixture units, using recognized engineering standards. Where the ratio of plumbing fixtures to occupants is proportionally more than required by the building occupancy and is in excess of 1,000 plumbing fixture units, a diversity factor is permitted.
- (2) Valves. Each water service main, branch main, riser, and branch to a group of fixtures shall have valves.
 - (a) Stop valves shall be provided for each fixture.
 - (b) Appropriate panels for access shall be provided at all valves where required.
- (3) Backflow prevention
 - (a) Systems shall be protected against cross-connection in accordance with American Water Works Association (AWWA) *Recommended Practice for Backflow Prevention and Cross-connection Control*.

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A6.3.2.5 Incinerators should be designed in a manner fully consistent with protection of public and environmental health, both on-site and off-site, and in compliance with federal, state, and local statutes and regulations. Toward this end, permit applications for incinerators and modifications thereof should be supported by environmental assessments and/or environmental impact statements (EISs) and/or health risk assessments (HRAs) as required by regulatory agencies. Except as noted below, such assessments should utilize standard U.S. EPA methods, specifically those set forth in U.S. EPA guidelines, and should be fully consistent with U.S. EPA guidelines for health risk assessment. Under some circumstances, however, regulatory agencies having jurisdiction over a particular project may require use of alternative methods.

3.1 OUTPATIENT FACILITIES

(b) Vacuum breakers or backflow prevention devices shall be installed on hose bibs and supply nozzles used for connection of hoses or tubing in laboratories, housekeeping sinks, etc.

(4) Potable water storage vessels (hot and cold) not intended for constant use shall not be installed.

(5) Emergency eyewash and showers shall comply with ANSI Z358.1.

7.1.2.4 Hot water systems. See Section 1.6-2.2.1.

7.1.2.5 Drainage systems. The following standards shall apply to drainage systems:

(1) Piping

(a) Drain lines from sinks used for acid waste disposal shall be made of acid-resistant material.

(b) Drain lines serving some types of automatic blood-cell counters shall be of carefully selected material that will eliminate the potential for undesirable chemical reactions (and/or explosions) between sodium azide wastes and copper, lead, brass, solder, etc.

(c) Insofar as possible, drainage piping shall not be installed within the ceiling or exposed in operating and delivery rooms, nurseries, food preparation centers, food-serving facilities, food storage areas, central services, electronic data processing areas, electric closets, and other sensitive areas.

Where exposed overhead drain piping in these areas is unavoidable, special provisions shall be made to protect the space below from leakage, condensation, or dust particles.

(2) Floor drains

(a) Floor drains shall not be installed in operating and delivery rooms.

* (b) If a floor drain is installed in cystoscopy, it shall contain a nonsplash, horizontal-flow flushing bowl beneath the drain plate.

(c) Dietary area floor drains and/or floor sinks

(i) Type. These shall be of a type that can be easily cleaned by removing the cover. Removable stainless steel mesh shall be provided in addition to grilled drain covers to prevent entry of large particles of waste that might cause stoppages.

(ii) Location. Floor drains or floor sinks shall be provided at all “wet” equipment (as ice machines) and as required for wet cleaning of floors. Location of floor drains and floor sinks shall be coordinated to avoid conditions where locations of equipment make removal of covers for cleaning difficult.

(3) Sewers. Building sewers shall discharge into community sewerage. Where such a system is not available, the facility shall treat its sewage in accordance with local and state regulations.

(4) Kitchen grease traps

(a) Grease traps shall be of capacity required.

(b) These shall be located and arranged to permit easy access without the need to enter food preparation or storage areas.

(c) These shall be accessible from outside the building without need to interrupt any services.

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A7.1.2.5 (2)(b) Floor drains in cystoscopy operating rooms have been shown to disseminate a heavily contaminated spray during flushing. Unless flushed regularly with large amounts of fluid, the trap tends to dry out and permit passage of gases, vapors, odors, insects, and vermin directly into the operating room. For new construction, if the users insist on a floor drain, the drain plate should be located away from the operative site and should be over a frequently flushed nonsplash, horizontal-flow type of bowl, preferably with a closed system of drainage. Alternative methods include (1) an aspirator/trap installed in a wall connected to the collecting trough of the operating table by a closed, disposable tube system or (2) a closed system using portable collecting vessels. (See NFPA 99.)

- (5) Plaster traps. Where plaster traps are used, provisions shall be made for appropriate access and cleaning.

7.1.2.6 Condensate drains. See Section 1.6-2.1.2.2.

7.1.3 Plumbing Fixtures

In addition to the requirements of Section 1.6-2.1.3, the following standards shall apply to plumbing fixtures in outpatient facilities:

7.1.3.1 Clinical sinks

- (1) Handles on clinical sinks shall be at least 6 inches (15.24 centimeters) long.
- (2) Clinical sinks shall have an integral trap wherein the upper portion of the water trap provides a visible seal.

7.1.3.2 Scrub sinks. Freestanding scrub sinks and lavatories used for scrubbing in procedure rooms shall be trimmed with foot, knee, or ultrasonic controls; single-lever wrist blades shall not be permitted.

7.1.4 Medical Gas and Vacuum Systems

7.1.4.1 Medical gas systems. If piped medical gas is used, the installation, testing, and certification of non-flammable medical gas and air systems shall comply with the requirements of NFPA 99. Station outlets shall be provided consistent with need established by the functional program. (See also Table 3.1-2.)

7.1.4.2 Vacuum systems. Central vacuum systems. Where the functional program requires, central clinical vacuum system installations shall be in accordance with NFPA 99.

7.2 Heating, Ventilating, and Air-Conditioning (HVAC) Systems

7.2.1 Applicability

These requirements do not apply to small primary (neighborhood) outpatient facilities or outpatient facilities that do not perform invasive applications or procedures. See Section 3.3-6.2 for requirements for small primary (neighborhood) outpatient facilities.

7.2.2 General

*7.2.2.1 Mechanical system design

- (1) Efficiency. The mechanical system shall be designed for overall efficiency and life-cycle costing. Details for cost-effective implementation of design features are interrelated and too numerous (as well as too basic) to list individually.
- (a) Recognized engineering procedures shall be followed for the most economical and effective results. A well-designed system can generally achieve energy efficiency at minimal additional cost and simultaneously provide improved patient comfort.
- (b) Different geographic areas may have climatic and use conditions that favor one system over another in terms of overall cost and efficiency.
- (c) In no case shall patient care or safety be sacrificed for conservation.
- (d) Facility design features such as site, building mass, orientation, configuration, fenestration, and other features relative to passive and active energy systems shall be considered.
- (e) Use of recognized energy-saving mechanisms such as variable-air-volume (VAV) systems, load shedding, programmed controls for unoccupied periods (nights and weekends, etc.), and use of natural ventilation shall be considered, site and climatic conditions permitting.

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A7.2.2.1 Mechanical system design

- a. Remodeling and work in existing facilities may present special problems. As practicality and funding permit, existing insulation, weather stripping, etc., should be brought up to standard for maximum economy and efficiency. Consideration should be given to additional work that may be needed to achieve this.
- b. Insofar as practical, the facility should include provisions for recovery of waste cooling and heating energy (ventilation, exhaust, water and steam discharge, cooling towers, incinerators, etc.).
- c. Systems with excessive installation and/or maintenance costs that negate long-range savings should be avoided.
- d. Use of mechanically circulated outside air does not reduce the need for filtration.

3.1 OUTPATIENT FACILITIES

(2) Air-handling systems

- * (a) Air-handling systems shall be designed with an economizer cycle where appropriate to use outside air.
- (b) VAV systems. The energy-saving potential of VAV systems is recognized, and the standards herein are intended to maximize appropriate use of such systems. Any system used for occupied areas shall include provisions to avoid air stagnation in interior spaces where thermostat demands are met by temperatures of surrounding areas.
- (c) Non-central air-handling systems (i.e., individual room units used for heating and cooling purposes, such as fan-coil units, heat pump units, etc.) shall meet the following requirements: These units may be used as recirculating units only. All outdoor air requirements shall be met by a separate central air handling system with the proper filtration, as noted in Table 3.1-1.

- (3) Vibration isolators. Mechanical equipment, ductwork, and piping shall be mounted on vibration isolators as required to prevent unacceptable structure-borne vibration.
- (4) System valves. Supply and return mains and risers for cooling, heating, and steam systems shall be equipped with valves to isolate the various sections of each system. Each piece of equipment shall have valves at the supply and return ends.

7.2.2.2 Ventilation and space conditioning requirements. All rooms and areas used for patient care shall have provisions for ventilation.

- (1) Ventilation rates. The ventilation rates shown in Table 2.1-2 shall be used only as minimum standards; they do not preclude the use of higher, more appropriate rates.

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A7.2.2.1 (2)(a) It may be practical in many areas to reduce or shut down mechanical ventilation during appropriate climatic and patient care conditions and to use open windows for ventilation.

- (2) Air change rates. Air supply and exhaust in rooms for which no minimum total air change rate is noted may vary down to zero in response to room load. For rooms listed in Table 2.1-2, where VAV systems are used, minimum total air change shall be within limits noted.

- (3) Temperature and humidity. Space temperature and relative humidity shall be as indicated in Table 2.1-2.

- (4) Air movement direction. To maintain asepsis control, airflow supply and exhaust shall be controlled to ensure general movement of air from “clean” to “less clean” areas, especially in critical areas. The ventilation systems shall be designed and balanced according to the requirements in Table 2.1-2 and in the applicable notes.

- (5) Natural ventilation. Although natural window ventilation for nonsensitive and patient areas shall be permitted, mechanical ventilation shall be provided for all rooms and areas in the facility.

- (6) Renovation. For renovation projects, prior to the start of construction and preferably during design, airflow and static pressure measurements shall be taken at the connection points of new ductwork to existing systems. This information shall be used by the designer to determine if existing systems have sufficient capacity for intended new purposes, and so any required modifications to the existing system can be included in the design documentation.

7.2.2.3 Testing and documentation

- (1) Upon completion of the equipment installation contract, the owner shall be furnished with a complete set of manufacturers’ operating, maintenance, and preventive maintenance instructions, parts lists, and complete procurement information, including equipment numbers and descriptions. Required information shall include energy ratings as needed for future conservation calculations.

- (2) Operating staff persons shall also be provided with written instructions for the proper operation of systems and equipment.

7.2.3 Ventilation Requirements for Specific Locations

*7.2.3.1 Operating rooms

- (1) Air supply
 - (a) In new construction and major renovation work, air supply for operating rooms shall be from non-aspirating ceiling diffusers with a face velocity in the range of 25 to 35 fpm (0.13 to 0.18 m/s), located at the ceiling above the center of the work area. Return air shall be near the floor level, at a minimum. Return air shall be permitted high on the walls, in addition to the low returns.
 - (b) Each operating and delivery room shall have at least two return-air inlets located as far from each other as practical.
 - (c) Turbulence and other factors of air movement shall be considered to minimize the fall of particulates onto sterile surfaces.
- (2) Temperature. Temperature shall be individually controlled for each operating room.
- (3) Ventilation rates
 - (a) Operating room ventilation systems shall operate at all times, except during maintenance and conditions requiring shutdown by the building's fire alarm system.

- (b) During unoccupied hours, operating room air change rates may be reduced, provided that the positive room pressure is maintained as required in Table 2.1-2.

7.2.3.2 Cough-inducing procedure rooms. Rooms used for sputum induction, aerosolized pentamidine treatments, or other cough-inducing procedures shall meet the requirements of Table 2.1-2 for airborne infection isolation rooms. If booths are used, refer to Section 2.1-5.8.1.

7.2.3.3 Anesthesia storage rooms. The ventilation system for anesthesia storage rooms shall conform to the requirements of NFPA 99, including the gravity option. Mechanically operated air systems are optional in this room.

7.2.3.4 ETO sterilizer space. The ventilation system for the space that houses ethylene oxide (ETO) sterilizers shall be designed as follows:

- (1) A dedicated (not connected to a return air or other exhaust system) exhaust system shall be provided. Refer to 29 CFR Part 1910.1047.
- (2) All source areas shall be exhausted, including the sterilizer equipment room, service/aeration areas, and the space above the sterilizer door, as well as the aerator.

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A7.2.3.1 Ventilation for operating rooms

- a.** The operating and delivery room ventilation systems should operate at all times to maintain the air movement relationship to adjacent areas. The cleanliness of the spaces is compromised when the ventilation system is shut down. For example, airflow from a less clean space such as the corridor can occur, and standing water can accumulate in the ventilation system (near humidifiers or cooling coils).
- b.** The recommended air change rate in an operating room is 20 to 25 air changes per hour (ACH) for ceiling heights between 9 feet (2.74 meters) and 12 feet (3.66 meters). The system should provide a single directional flow regime, with both high and low exhaust locations. A face velocity of around 25 to 35 fpm (0.13 to 0.18 m/s) is sufficient from the non-aspirating diffuser array provided that the array size itself

is set correctly. The non-aspirating diffuser array size should be set so that it covers at least the area footprint of the table plus a reasonable margin around it. In the cited study, this margin is 21 inches (0.53 meter) on the short side and 12 inches (0.3 meter) on the long side. If additional diffusers are required, they may be located outside this central diffuser array. Up to 30% of the central diffuser array may be allocated to non-diffuser items (medical gas columns, lights, etc.).

The recommended ventilation rates in the previous paragraph were derived from studies conducted by the National Institutes of Health titled "Comparison of Operating Room Ventilation Systems in the Protection of the Surgical Site" (Memarzadeh 2002) and "Effect of Operation Room Geometry and Ventilation System Parameter Variations on the Protection of the Surgical Site" (Memarzadeh 2004).

3.1 OUTPATIENT FACILITIES

- (a) If the ETO cylinders are not located in a well-ventilated, unoccupied equipment space, an exhaust hood shall be provided over the cylinders.
 - (b) The relief valve shall be terminated in a well-ventilated, unoccupied equipment space or outside the building.
 - (c) If the floor drain to which the sterilizer(s) discharges is not located in a well-ventilated, unoccupied equipment space, an exhaust drain cap shall be provided (coordinate with local codes).
- (3) General airflow shall be away from the sterilizer operator(s).
- (4) A dedicated exhaust duct system for ETO shall be provided. The exhaust outlet to the outside shall be at least 25 feet (7.62 meters) away from any air intake.
- (5) An audible and visual alarm shall activate in the sterilizer work area, and in a 24-hour staffed location, upon loss of airflow in the exhaust system.

7.2.3.5 Food preparation centers. Exhaust hoods handling grease-laden vapors in food preparation centers shall meet the following requirements:

- (1) Hoods shall comply with NFPA 96.
- (2) All hoods over cooking ranges shall be equipped with grease filters, fire extinguishing systems, and heat-actuated fan controls.
- (3) Cleanout openings shall be provided every 20 feet (6.10 meters) and at changes in direction in the horizontal exhaust duct systems serving these hoods. Each horizontal duct run shall have at least one cleanout opening. Horizontal runs of ducts serving range hoods shall be kept to a minimum.

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A7.2.5.3 (2) See *Industrial Ventilation: A Manual of Recommended Practice*, published by the American Conference of Governmental Industrial Hygienists (www.acgih.org), for additional information.

7.2.3.6 Fuel-fired equipment rooms. Rooms with fuel-fired equipment shall be provided with sufficient outdoor air to maintain equipment combustion rates and to limit workstation temperatures.

7.2.4 Thermal Insulation and Acoustical Provisions

See Section 1.6-2.2.1.

7.2.5 HVAC Air Distribution

7.2.5.1 Return air systems. All return air ventilation systems in patient care areas of outpatient surgery facilities shall be ducted.

7.2.5.2 HVAC ductwork. See Section 1.6-2.2.2.1.

7.2.5.3 Exhaust systems

(1) General

- (a) To enhance the efficiency of recovery devices, required for energy conservation, combined exhaust systems shall be permitted.
- (b) Local exhaust systems shall be used whenever possible in place of dilution ventilation to reduce exposure to hazardous gases, vapors, fumes, or mists.
- (c) Fans serving exhaust systems shall be located at the discharge end and shall be readily serviceable.
- (d) Airborne infection isolation rooms shall not be served by exhaust systems incorporating a heat wheel.

*** (2) Anesthesia scavenging system.** Each space routinely used for administering inhalation anesthesia and inhalation analgesia shall be served by a scavenging system to vent waste gases.

- (a) If a vacuum system is used, the gas-collecting system shall be arranged so that it does not disturb patients' respiratory systems.
- (b) Gases from the scavenging system shall be exhausted directly to the outside. The anesthesia evacuation system may be combined with the room exhaust system, provided that

the part used for anesthesia gas scavenging exhausts directly to the outside and is not part of the recirculation system.

- (c) Where anesthesia scavenging systems are required, air supply shall be at or near the ceiling. Return or exhaust air inlets shall be near the floor level.
- (d) Scavenging systems are not required for areas where gases are used only occasionally, such as the emergency department, offices for routine dental work, etc.

7.2.5.4 Air outlets and inlets

- (1) Fresh air intakes
 - (a) Fresh air intakes shall be located at least 25 feet (7.62 meters) from exhaust outlets of ventilating systems, combustion equipment stacks, medical-surgical vacuum systems, plumbing vents, or areas that may collect vehicular exhaust or other noxious fumes. (Prevailing winds and/or proximity to other structures may require greater clearances.)
 - (b) The requirement for a 25-foot (7.62-meter) separation also pertains to the distance between the intake and the exhaust and/or gas vent off packaged rooftop units.
 - (c) Plumbing and vacuum vents that terminate at a level above the top of the air intake may be located as close as 10 feet (3.05 meters).
 - (d) The bottom of outdoor air intakes serving central systems shall be as high as practical, but at least 6 feet (1.83 meters) above ground level or, if installed above the roof, 3 feet (0.91 meter) above roof level.
- (2) Exhaust outlets. Exhaust outlets from areas that may be contaminated shall be above roof level, arranged to minimize recirculation of exhaust air into the building and directed away from personnel service areas.

- (3) Gravity exhaust. Where conditions permit, gravity exhaust may be used for nonpatient areas such as boiler rooms, central storage, etc.
- (4) Construction requirements. The bottom of air distribution devices (supply/return/exhaust) shall be at least 3 inches (7.62 centimeters) above the floor.

7.2.5.5 Ventilation hoods

- (1) Exhaust hoods and safety cabinets
 - (a) Hoods and safety cabinets are permitted to be used for normal exhaust of a space provided minimum air change rates are maintained.
 - (b) If air change standards in Table 2.1-2 do not provide sufficient air for proper operation of exhaust hoods and safety cabinets (when in use), makeup air (filtered and preheated) shall be provided around these units to maintain the required air-flow direction and exhaust velocity. Use of makeup air will avoid dependence upon infiltration from outdoor and/or from contaminated areas.
 - (c) Makeup systems for hoods shall be arranged to minimize “short circuiting” of air and to avoid reduction in air velocity at the point of contaminant capture.
- (2) Laboratory fume hoods. Laboratory fume hoods shall meet the following general standards:
 - (a) General standards
 - (i) Average face velocity of 75 feet per minute (0.45 to 0.56 meters per second).
 - (ii) Connection to an exhaust system to the outside that is separate from the building exhaust system
 - (iii) Location of an exhaust fan at the discharge end of the system
 - (iv) Inclusion of an exhaust duct system of noncombustible corrosion-resistant material as needed to meet the planned usage of the hood.

3.1 OUTPATIENT FACILITIES

- (b) Special standards for use with strong oxidants
 - (i) Fume hoods, and their associated equipment in the air stream intended for use with perchloric acid and other strong oxidants, shall be constructed of stainless steel or other material consistent with special exposures.
 - (ii) These hoods and equipment shall be provided with a water wash and drain system to permit periodic flushing of duct and hood.
 - (iii) Electrical equipment intended for installation within such ducts shall be designed and constructed to resist penetration by water. Lubricants and seals shall not contain organic materials.
 - (iv) When perchloric acid or other strong oxidants are only transferred from one container to another, standard laboratory fume hoods and the associated equipment may be used in lieu of stainless steel construction.
- (c) Special standards for use with infectious or radioactive materials. In new construction and major renovation work, each hood used to process infectious or radioactive materials shall meet the following requirements:
 - (i) Each hood shall have a minimum face velocity of 90 to 110 feet per minute (0.45 to 0.56 meters per second) with suitable pressure-independent air-modulating devices and alarms to alert staff of fan shutdown or loss of airflow.
 - (ii) Each hood shall have filters with a 99.97 percent efficiency (based on the DOP test method) in the exhaust stream, and be designed and equipped to permit the safe removal, disposal, and replacement of contaminated filters. Filters shall be as close to the hood as practical to minimize duct contamination.

- (iii) Fume hoods intended for use with radioactive isotopes shall be constructed of stainless steel or other material suitable for the particular exposure and shall comply with NFPA 801, *Facilities for Handling Radioactive Materials*. **Note:** Radioactive isotopes used for injections, etc., without probability of airborne particulates or gases may be processed in a clean-work-bench-type hood where acceptable to the Nuclear Regulatory Commission.

7.2.6 HVAC Filters

7.2.6.1 Filter efficiencies

- (1) All central ventilation or air conditioning systems shall be equipped with filters with efficiencies equal to, or greater than, those specified in Table 3.1-1.
- (2) Non-central air handling systems shall be equipped with permanent (cleanable) or replaceable filters with a minimum efficiency of MERV 3 (68 percent weight arrestance).
- (3) Filter efficiencies, tested in accordance with ASHRAE 52.1, shall be average.

7.2.6.2 Filter bed location. Where two filter beds are required, filter bed no. 1 shall be located upstream of the air conditioning equipment and filter bed no. 2 shall be downstream of any fan or blowers.

7.2.6.3 Filter frames. Filter frames shall be durable and proportioned to provide an airtight fit with the enclosing ductwork. All joints between filter segments and enclosing ductwork shall have gaskets or seals to provide a positive seal against air leakage.

7.2.6.4 Filter manometers. A manometer shall be installed across each filter bed having a required efficiency of 75 percent or more, including hoods requiring HEPA filters. Provisions shall be made to allow access for field testing.

7.2.7 Steam and Hot Water Systems

See Section 1.6-2.2.3.

7.3 Electrical Systems

7.3.1 General

7.3.1.1 Applicable standards

- (1) All electrical material and equipment, including conductors, controls, and signaling devices, shall be installed in compliance with applicable sections of NFPA 70 and NFPA 99.
- (2) All electrical material and equipment shall be listed as complying with available standards of listing agencies or other similar established standards where such standards are required.

7.3.1.2 Testing and documentation. Electrical installations, including alarm and communication systems, shall be tested to demonstrate that equipment installation and operation is appropriate and functional. A written record of performance tests on special electrical systems and equipment shall show compliance with applicable codes and standards.

7.3.1.3 Power disturbance safeguards. Data processing and/or automated laboratory or diagnostic equipment, if provided, may require safeguards from power line disturbances.

7.3.2 Electrical Distribution and Transmission

7.3.2.1 Switchboards

- (1) Location
 - (a) Main switchboards shall be located in an area separate from plumbing and mechanical equipment and shall be accessible to authorized persons only.
 - (b) Switchboards shall be convenient for use and readily accessible for maintenance but away from traffic lanes.
 - (c) Switchboards shall be located in dry, ventilated spaces free of corrosive or explosive fumes or gases or any flammable material.
- (2) Overload protective devices. These shall operate properly in ambient room temperatures.

7.3.2.2 Panelboards

- (1) Panelboards serving normal lighting and appliance circuits shall be located on the same floor as the circuits they serve.
- (2) Panelboards serving critical branch emergency circuits shall be located on each floor that has major users.
- (3) Panelboards serving life safety emergency circuits may also serve floors above and/or below.

7.3.2.3 Ground-fault circuit interrupters

7.3.3 Power Generating and Storing Equipment

7.3.3.1 Emergency electrical service. Emergency lighting and power shall be provided for in accordance with NFPA 99, NFPA 101, and NFPA 110.

7.3.4 Lighting

7.3.4.1 General. See Section 1.6-2.3.1.1.

7.3.4.2 Lighting for specific locations in the outpatient facility

- (1) Exam/treatment/trauma rooms. A portable or fixed examination light shall be provided for examination, treatment, and trauma rooms.
- (2) Operating and delivery rooms. Operating and delivery rooms shall have general lighting in addition to special lighting units provided at surgical and obstetrical tables. General lighting and special lighting shall be on separate circuits.

7.3.4.3 Emergency lighting. See Section 1.6-2.3.1.2.

7.3.5 Receptacles (Convenience Outlets)

7.3.5.1 Duplex grounded-type receptacles (convenience outlets) shall be installed in all areas in sufficient quantities for tasks to be performed as needed.

7.3.5.2 Each examination and worktable shall have access to a minimum of two duplex receptacles.

3.1 OUTPATIENT FACILITIES

7.3.6 Equipment

7.3.6.1 X-ray equipment. Fixed and mobile x-ray equipment installations shall conform to articles 517 and 660 of NFPA 70.

7.3.6.2 Inhalation anesthetizing locations. At inhalation anesthetizing locations, all electrical equipment and devices, receptacles, and wiring shall comply with applicable sections of NFPA 99 and NFPA 70.

7.3.6.3 Special electrical equipment. Special equipment is identified in the subsections of Section 2, Diagnostic and Treatment Locations, of this chapter. These sections shall be consulted to ensure compatibility between programmatically defined equipment needs and appropriate power and other electrical connection needs.

7.4 Telecommunications and Information Systems

7.4.1 Locations for terminating telecommunications and information system devices shall be provided.

7.4.2 A space shall be provided for central equipment locations. Special air conditioning and voltage regulation shall be provided when recommended by the manufacturer.

7.5 Fire Alarm System

Any fire alarm system shall be as required by NFPA 101 and installed per NFPA 72.

**Table 3.1-1
Filter Efficiencies for Central Ventilation and Air Conditioning Systems in Outpatient Facilities**

<i>Area designation</i>	<i>No. filter beds</i>	<i>Filter bed no. 1 (MERV, %)</i>	<i>Filter bed no. 2¹ (MERV, %)</i>
All areas for patient care, treatment, and/or diagnosis, and those areas providing direct service or clean supplies such as sterile and clean processing, etc.	2	8 (30%)	14 (90%)
Laboratories	1	13 (80%)	—
Administrative, bulk storage, soiled holding areas, food preparation areas, and laundries	1	8 (30%)	—

¹These requirements do not apply to small primary (neighborhood) outpatient facilities or outpatient facilities that do not perform invasive applications or procedures.

Notes

1. Additional roughing or prefilters should be considered to reduce maintenance required for main filters.
2. MERV = minimum efficiency reporting value. MERVs are based on ASHRAE 52.2.
3. The filtration efficiency ratings are based on average dust spot efficiency per ASHRAE 52.1.

**Table 3.1-2
Station Outlets for Oxygen, Vacuum, and Medical Air in Outpatient Facilities**

<i>Section</i>	<i>Location</i>	<i>Oxygen</i>	<i>Vacuum</i>	<i>Medical Air</i>
3.1-2.1.1/2.1.2	General/special purpose examination	0	0	—
3.1-2.1.3	Treatment	0	0	—
3.1-2.1.5	Isolation	0 ¹	0 ¹	—
3.6-2.1	Birthing room	2	2	—
3.7-2.2	Examination in outpatient surgical facility	0 ¹	0 ¹	—
	<i>Ambulatory operating rooms</i>			
3.7-2.3.1.1	Class A—minor surgical procedure room	1	1	—
3.7-2.3.1.2	Class B—intermediate surgical procedure room	2	2	—
3.7-2.3.1.3	Class C—major surgical procedure room	2	3	—
3.7-2.4.1	Post-anesthesia recovery	1	1	—
3.7-2.4.2	Phase II recovery	0 ¹	0 ¹	—
—	Cysto procedure	1	3	—
	<i>Urgent Care</i>			
—	Procedure room	1	1	1
—	Cast room	0 ¹	0 ¹	—
—	Catheterization room	1	2	2
	<i>Endoscopy</i>			
3.9-2.3	Procedure room	1	3	—
3.9-2.3.2	Holding/prep/recovery area	0 ¹	0 ¹	—
3.9-3.2.2	Decontamination area	—	—	—

¹Portable source shall be available for the space.

3.2 Primary Care Outpatient Centers

Appendix material, which appears in shaded boxes at the bottom of the page, is advisory only.

1 General Considerations

The primary care center provides comprehensive community outpatient medical services.

1.1 Applicability

All standards set forth in Sections 1 through 5 of Chapter 3.1 (General, Diagnostic and Treatment Locations, Service Areas, Administrative and Public Areas, and Construction Standards) shall apply to primary care outpatient centers, with additions and modifications described herein. (See Chapter 3.3 for small primary (neighborhood) outpatient facilities.)

1.2 Functional Program

The number and type of diagnostic, treatment, and administrative areas shall be sufficient to support the services and estimated patient load described in the functional program.

1.3 Site

1.3.1 Parking

Parking spaces for patients and family shall be provided at the rate of not less than two parking spaces for each examination and each treatment room. In addition, one space shall be provided for each of the maximum number of staff persons on duty at any one shift. Adjustments, as described in Section 3.1-1.7.2, shall be permitted where public parking, public transportation, etc., reduces the need for on-site parking.

2 Diagnostic and Treatment Locations

*2.1 Examination and Treatment Rooms

A2.1 Examination rooms and services as described in Section 3.1-2.1 may be provided. In addition, offices and/or practitioner consultation rooms may be combined with examination rooms.

2.2 Imaging Facilities

Provisions shall be made for x-ray procedures as described in Section 3.1-2.2 in the Outpatient Facilities chapter. Services may be shared or provided by contract off-site.

2.3 Laboratory Facilities

Provisions shall be made for laboratory procedures as described in Section 3.1-2.3 in the Outpatient Facilities chapter. Services may be shared or provided by contract off-site.

2.4 Specimen Storage

Each outpatient unit shall have appropriate facilities for storage and refrigeration of blood, urine, and other specimens.

3 Administrative and Public Areas

3.1 Public Areas

Public areas shall be situated for convenient access and designed to promote prompt accommodation of patient needs, with consideration for personal dignity.

3.1.1 Entrances

3.1.1.1 Entrances shall be well marked and at grade level.

3.1.1.2 Where entrance lobby and/or elevators are shared with other tenants, travel to the outpatient unit shall be direct and accessible to the disabled. Except for passage through common doors, lobbies, or elevator stations, patients shall not be required to go through other occupied areas or outpatient service areas.

3.1.1.3 Entrances shall be convenient to parking and accessible via public transportation.

3.1.2 Reception

3.1.2.1 Reception/information counter. A reception and information counter or desk shall be located to provide visual control of the entrance to the outpatient unit and shall be immediately apparent from that entrance.

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3.1.2.2 Control counter. A control counter shall be provided with access to patient files and records for scheduling of services. This shall be permitted to be part of the reception, information, and waiting room control.

3.1.3 Waiting Area

3.1.3.1 The waiting area for patients and escorts shall be under staff control.

3.1.3.2 The seating area shall contain not fewer than two spaces for each examination and/or treatment room.

3.1.3.3 Where the outpatient unit has a formal pediatrics service, a separate, controlled area for pediatric patients shall be provided.

3.1.3.4 Wheelchairs shall be accommodated within the waiting area.

3.1.4 Provisions for Drinking Water

Drinking water shall be available for waiting patients. In shared facilities, provisions for drinking water may be outside the outpatient area if convenient for use.

3.2 Administrative Areas

Each primary care outpatient facility shall make provisions to support administrative activities, filing, and clerical work as appropriate. (See also Section 3.1-4.2.) Administrative areas provided shall include the following:

3.2.1 Office(s)

3.2.1.1 Office(s), separate and enclosed, with provisions for privacy shall be provided.

3.2.1.2 Clerical space or rooms for typing and clerical work shall be provided separate from public areas to ensure confidentiality.

3.2.3 Multipurpose Rooms

Multiuse rooms for conferences, meetings, and health education shall be provided. One room may be primarily for staff use but also available for public access as needed. In smaller facilities, the room may also serve for consultation and other purposes.

3.2.4 Medical Records

Filing cabinets and storage shall be provided for the safe and secure storage of patient records with provisions for ready retrieval.

3.2.5 Supply Storage

Office supply storage (closets or cabinets) shall be provided within or convenient to administrative areas.

3.2.6 Support Areas for Staff

A staff toilet and lounge in addition to and separate from public and patient facilities.

4 Building Systems

4.1 Plumbing

All standards set forth in Section 3.1-7.1 of the Outpatient Facilities shall be met.

4.2 Heating, Ventilating, and Air-Conditioning Systems

All standards set forth in Section 3.1-7.2 of the Outpatient Facilities chapter shall be met.

3.3 Small Primary (Neighborhood) Outpatient Facilities

1 General Considerations

Facilities covered under this section are often contained within existing commercial or residential buildings as “storefront” units, but they may also be small, free-standing new or converted structures. The size of these units limits occupancy, thereby minimizing hazards and allowing for less stringent standards. Needed community services can therefore be provided at an affordable cost.

1.1 Size

The term small structure shall be defined as space and equipment serving four or fewer workers at any one time.

1.2 Applicability

Meeting all provisions of Sections 2 through 5 (Diagnostic and Treatment Locations, Service Areas, Administrative and Public Areas, and Construction Standards) of Chapter 3.1 for general outpatient facilities is desirable, but limited size and resources may preclude satisfying any but the basic minimums described. This section does not apply to outpatient facilities that are within a hospital, nor is it intended for larger, more sophisticated units.

1.3 Site

1.3.1 Location

The small neighborhood center is expected to be especially responsive to communities with limited income. It is essential that it be located for maximum accessibility and convenience. In densely populated areas, many of the patients might walk to services. Where a substantial number of patients rely on public transportation, facility location shall permit convenient access requiring a minimum of transfers.

1.3.2 Parking

1.3.2.1 Not less than one convenient parking space shall be provided for each staff member on duty at any one time, and no fewer than four spaces shall be provided for patients.

1.3.2.2 Parking requirements may be satisfied by street parking or by a nearby public parking lot or garage.

1.3.2.3 Where the facility is within a shopping center or similar area, customer spaces may meet parking needs.

2 Diagnostic and Treatment Locations

2.1 Examination and Treatment Rooms

2.1.1 Number

At least one examination room shall be available for each provider who may be on duty at any one time.

2.1.2 Function

Rooms may serve both as examination and treatment spaces (see Section 3.1-2.1.1).

2.1.3 Support Areas for Examination and Treatment Rooms

2.1.3.1 Toilet rooms

- (1) A toilet room containing a hand-washing station shall be accessible from all examination and treatment rooms.
- (2) Where a facility contains no more than three examination and/or treatment rooms, the patient toilet shall be permitted to serve waiting areas.

2.1.3.2 Clean work area. A clean work area with a counter, hand-washing station, and storage for clean supplies shall be provided. This may be a separate room or an isolated area.

2.1.3.3 Soiled holding room. A soiled holding room shall be provided (see Section 3.1-2.1.7.5).

2.1.3.4 Equipment and supply storage

- (1) Sterile equipment and supplies. Sterile equipment and supplies shall be provided to meet functional requirements. Sterile supplies may be prepackaged disposables or processed off-site.

- (2) Biological and drug storage. Locked storage for biologicals and drugs shall be provided.

2.2 Diagnostic Facilities

2.2.1 General

2.2.1.1 Functional program. The functional program shall identify diagnostic services that will not be provided within the facility.

2.2.1.2 Standards. When these services are provided within the facility, spaces to accommodate them shall meet the standards of Section 3.1-2.

2.2.2 Laboratory

Laboratory services and/or facilities shall meet the following standards:

2.2.2.1 Specimen collection. Urine collection rooms shall be equipped with a water closet and hand-washing station. Use of the toilet room provided within the examination and treatment room for specimen collection shall be permitted.

2.2.2.2 Blood collection. Blood collection facilities shall have space for a chair and work counter.

2.2.2.3 Other laboratory services. Services shall be available within the facility or through a formal agreement or contract with a hospital or other laboratory for hematology, clinical chemistry, urinalysis, cytology, pathology, and bacteriology.

3 Administrative and Public Areas

3.1 Public Areas

Public areas shall include the following:

3.1.1 Reception

A reception and information center or desk shall be provided.

3.1.2 Waiting Area

This space shall include provisions for wheelchairs.

3.2 Administrative Areas

3.2.1 Office

An office area for business transactions, records, and other administrative functions, separate from public and patient areas, shall be provided.

3.2.2 Equipment and Supply Storage

General storage facilities for office supplies, equipment, sterile supplies, and pharmaceutical supplies shall be provided.

3.2.3 Staff Storage

Locked storage (cabinets or secure drawers) convenient to workstations shall be provided for staff valuables.

4 Construction Standards

Every building and every portion thereof shall be designed and constructed to sustain all dead and live loads in accordance with accepted engineering practices and standards. If existing buildings are converted for use, consideration shall be given to the structural requirements for concentrated floor loadings, including x-ray equipment, storage files, and similar heavy equipment that may be added.

5 Building Systems

The following shall apply for the small outpatient facility in lieu of Section 3.1-7.

5.1 Plumbing

Plumbing and other piping systems shall meet the following standards:

5.1.1 Systems shall comply with applicable codes, be free of leaks, and be designed to supply water at sufficient pressure to operate all fixtures and equipment during maximum demand.

5.1.2 Backflow preventers (vacuum breakers) shall be installed on all water supply outlets to which hoses or tubing can be attached.

5.1.3 Water temperature at lavatories shall not exceed 110°F (43°C).

3.3 SMALL PRIMARY (NEIGHBORHOOD) OUTPATIENT FACILITIES

5.1.4 All piping registering temperatures above 110°F (43°C) shall be covered with thermal insulation.

5.2 Heating, Ventilating, and Air-Conditioning Systems

These shall meet the following standards:

5.2.1 A minimum indoor winter-design-capacity temperature of 75°F (24°C) shall be set for all patient areas. Controls shall be provided for adjusting temperature as appropriate for patient activities and comfort.

5.2.2 All occupied areas shall be ventilated by natural or mechanical means.

5.2.3 Air-handling duct systems shall meet the requirements of NFPA 90A.

5.3 Electrical Systems

5.3.1 Testing

Prior to completion and acceptance of the facility, all electrical systems shall be tested and operated to demonstrate that installation and performance conform to applicable codes and functional needs.

5.3.2 Lighting

5.3.2.1 Lighting shall be provided in all facility spaces occupied by people, machinery, and/or equipment, and in outside entryways.

5.3.2.2 Automatic emergency lighting shall be provided in every facility that has a total floor area of more than 1,000 square feet (92.9 square meters) and in every facility requiring stairway exit.

5.3.2.3 An examination light shall be provided for each examination and treatment room.

5.3.3 Receptacles

Sufficient duplex grounded-type receptacles shall be available for necessary task performance. Each examination and work table area shall be served by at least one duplex receptacle.

5.3.4 X-Ray Equipment

X-ray equipment installations, when provided, shall conform to NFPA 70.

3.4 Freestanding Outpatient Diagnostic and Treatment Facilities

Appendix material, which appears in shaded boxes at the bottom of the page, is advisory only.

1 Applicability

* 1.1 Facility Type

This section applies to the outpatient diagnostic and treatment facility that is separate from the acute care hospital. This facility is a new and emerging form of outpatient center that is capable of accommodating a wide array of outpatient diagnostic services and minimally invasive procedures.

1.2 Standards

The general standards for outpatient facilities set forth in Sections 1 through 5 of Chapter 3.1 (General Considerations, Diagnostic and Treatment Locations, Service Areas, Administrative and Public Areas, and Construction Standards) shall be met for the free-standing outpatient diagnostic and treatment facility, with two modifications:

1.2.1 For those facilities performing diagnostic imaging and minimally invasive interventional procedures, all provisions of Sections 2.1-5.4 and 5.5 shall also apply, except that adjacencies to emergency, surgery, cystoscopy, and outpatient clinics are not required.

1.2.2 For those facilities performing nuclear medicine procedures, all provisions of Section 2.1-5.6 shall also apply, except that support services such as radiology, pathology, emergency department, and outpatient clinics are not required.

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A1.1 The range of services provided in these facilities is very dynamic and growing, including diagnostic cardiac catheterization, general radiography, fluoroscopy, mammography, CT scanning, magnetic resonance imaging (MRI), ultrasound, radiation therapy, and IV therapies. Facilities may specialize in only one of these areas or may provide a mix of services.

3.5 Freestanding Urgent Care Facilities

1 General Considerations

1.1 Applicability

This section applies to facilities that provide urgent care to the public but are not part of licensed hospitals, are not freestanding emergency services, or do not provide care on a 24-hour-per-day, seven-day-per-week basis.

1.2 Site

1.2.1 Signage

1.2.1.1 The facility shall post signs that clearly indicate the type and level of care offered and the hours of operation (if not 24 hours per day, seven days per week).

1.2.1.2 The facility shall post directional signs and information showing the nearest emergency department that is part of a licensed hospital.

1.2.2 Parking

1.2.2.1 Not less than one parking space shall be provided for each staff member on duty at any one time, and no fewer than two spaces shall be provided for each examination and each treatment room.

1.2.2.2 Additional spaces shall be provided for emergency vehicles.

1.2.2.3 Street, public, and shared lot spaces, if included as part of this standard, shall be exclusively for the use of the urgent care facility.

1.2.2.4 All required parking spaces shall be convenient to the urgent care entrance.

2 Diagnostic and Treatment Locations

2.1 Examination and Treatment Rooms

In addition to the requirements of Section 3.1-2.1, the following shall be provided:

2.1.1 Examination Rooms

2.1.1.1 Number. At least two examination rooms shall be provided.

2.1.1.2 Space requirements

- (1) Area. The examination rooms shall have a clear floor area of 120 square feet (11.15 square meters) excluding vestibule, toilet, closet, and fixed casework (treatment room may also be utilized for examination).
- (2) Clearances. Room arrangement shall permit a minimum clearance of 3 feet 6 inches (1.07 meters) at each side, head, and foot of the bed.

2.1.2 Procedure Room

At least one procedure room with the following characteristics shall be provided.

2.1.2.1 Capacity. Setup of the room to accommodate more than one patient shall be permitted.

- (1) Utilities and services shall be provided for each patient.
- (2) Provisions shall be included for patient privacy.

2.1.2.2 Space requirements

- (1) Where a procedure room is set up for multi-patient use, each patient area shall have a minimum clear area of 250 net square feet (23.23 square meters) excluding vestibule, toilet, closet, and fixed casework.
- (2) Room arrangement shall permit a minimum clearance of 3 feet 6 inches (1.07 meters) at each side, head, and foot of the bed.

2.1.2.3 Scrub stations. Hands-free scrub stations shall be located at each procedure room.

2.1.3 Observation Facilities

Facilities shall be provided for holding urgent care patients until they can be discharged or transferred to an appropriate hospital.

2.1.3.1 Number. Use of one or more examination/treatment rooms for this purpose shall be permitted.

2.1.3.2 Facility requirements. Size, type, and equipment shall be as required for anticipated patient load and lengths of stay.

2.1.3.3 Functional requirements. Each observation bed shall permit the following:

- (1) Direct visual observation of each patient from the nurse station, except where examination/treatment rooms are used for patient holding. View from the duty station may be limited to the door.
- (2) Patient privacy
- (3) Access to patient toilets
- (4) Secure storage of patients' valuables and clothing
- (5) Dispensing of medication
- (6) Bedpan storage and cleaning
- (7) Nourishment area (see Section 2.1-2.3.5). Meal provisions shall be made for patients held for more than four hours.

2.2 Imaging Facilities**2.2.1 Standards**

Standards stipulated in Section 3.1-2.2 shall be met during all hours of operation.

2.2.2 Facility Requirements

Radiographic equipment shall be adequate for any part of the body including, but not limited to, fractures.

2.2.3 Support Areas for Patients

Separate dressing rooms are not required for unit(s) used only for emergency procedures.

2.3 Laboratory**2.3.1 Standards**

See Section 3.1-2.3 for applicable standards.

2.3.2 Facility Requirements

In addition, immediate access to blood for transfusions and provisions for cross-match capabilities shall be provided.

2.4 Support Areas for Diagnostic and Treatment Locations**2.4.1 A Nurse Control and Workstation**

2.4.1.1 This shall accommodate charting, files, and staff consultation activities.

2.4.1.2 It shall be located to permit visual control of clinical area and its access.

2.4.1.3 Communication links with the examination/treatment area, procedure room, reception control, laboratory, radiology, and on-call staff shall be provided.

2.4.2 Poison Control Center

A poison control center with immediately accessible antidotes and a file of common poisons shall be provided.

2.4.2.1 Communication links with regional and/or national poison centers and regional EMS centers shall be provided.

2.4.2.2 This service may be part of the nurse control and workstation.

2.4.3 Equipment Storage

2.4.3.1 Location for CPR emergency cart. A CPR emergency cart shall be provided. It shall be located away from public circulation areas but immediately accessible to all areas, including entrance and receiving areas.

2.4.3.2 Wheelchair and stretcher storage. In addition to wheelchair storage, a holding area shall be provided for stretchers within the clinical area, away from traffic and under staff control.

2.5 Support Areas for Staff

Facilities for on-call medical staff shall be provided.

3 Administrative and Public Areas

Administrative and public areas shall conform to the standards in Section 3.1-4, with the following additions.

3.1 Public Areas

3.1.1 Entrances

3.1.1.1 Entrances shall be well marked, illuminated, and covered to permit protected transfer of patients from ambulance and/or automobile.

3.1.1.2 The urgent care entrance shall have vision panels to minimize conflict between incoming and outgoing traffic and to allow for observation of the unloading area from the control station.

3.1.1.3 Accessibility

- (1) Convenient access to wheelchairs and stretchers shall be provided at the urgent care entrance.
- (2) If a platform is provided for ambulance use, a ramp for wheelchairs and stretchers shall be provided in addition to steps.

3.1.2 Lobby and Waiting Areas

These shall satisfy the following requirements:

3.1.2.1 Reception

Reception and information functions may be combined or separate. These areas shall meet the following requirements:

- (1) These areas shall provide direct visual control of the urgent care entrance and access to the treatment area and the lobby. Urgent care entrance control functions shall include observation of arriving vehicles.
- (2) Control stations normally include a triage function and shall be in direct communication with medical staff.
- (3) A public toilet with hand-washing stations shall be provided.
- (4) A convenient telephone shall be provided.

3.1.2.2 Waiting area(s)

- (1) Urgent care waiting area
 - (a) This shall include provisions for wheelchairs.
 - (b) This shall be separate from the area provided for scheduled outpatient service.
- (2) Diagnostic imaging waiting area. If the urgent care facility ICRA determines that the diagnostic imaging waiting area requires special consideration to reduce the risk of airborne infection transmission, public waiting areas shall be designed, ventilated, and maintained with available technologies such as enhanced general ventilation and air disinfection techniques similar to inpatient requirements for airborne infection isolation rooms. See the CDC “Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health Care Settings” (full reference at 1.1-7.5.1).

3.1.3 Interview Facilities

Initial interviews may be conducted at the triage reception/control area.

3.1.3.1 Facilities for conducting interviews on means of reimbursement, social services, and personal data shall include provisions for acoustical privacy.

3.1.3.2 These facilities shall be permitted to be separate from the reception area but must be convenient to the urgent care service waiting area.

3.2 Administrative Areas

3.2.1 Offices

For standards concerning general and individual offices, see Section 3.1-4.2.2.

3.2.2 Multipurpose Rooms

Multipurpose room(s) shall be provided for staff conferences. This room may also serve for consultation.

3.2.3 Storage

For standards concerning general storage, see Section 3.1-4.2.4.

3.2.4 Support Areas for Staff

For standards concerning special storage for staff, see Section 3.1-4.2.5.

4 Construction Standards

4.1 General Standards for Details and Finishes

4.1.1 Doors to Patient Care Rooms

4.1.1.1 Door(s) to urgent care patient care rooms serving stretcher-borne patients shall not be less than 4 feet (1.22 meters) wide.

4.1.1.2 All other doors to patient service areas shall be not less than 3 feet (91.44 centimeters) wide.

5 Building Systems

5.1 Plumbing

See Section 3.1-7.1 for applicable plumbing standards.

5.2 Heating, Ventilating and Air-Conditioning Systems

See Section 3.1-7.2 for applicable mechanical standards.

5.3 Electrical Systems

See Section 3.1-7.3 for applicable electrical standards.

3.6 Freestanding Birthing Centers

The freestanding birthing center is “any health facility, place, or institution that is not a hospital and where births are planned to occur away from the mother’s usual place of residence” (American Public Health Association, 1982).

*1 General Considerations

1.1 Applicability

All standards set forth in Sections 1 through 5 of Chapter 3.1 (General Considerations, Diagnostic and Treatment Locations, Service Areas, Administrative and Public Areas, and Construction Standards) shall be met for new construction of birthing centers, with modifications described in this chapter.

1.2 Site

1.2.1 Parking

Parking spaces for clients and families shall be provided at a rate of no fewer than two for each birth room. In addition, one space shall be provided for each of the maximum number of staff persons on duty at any given time. Adjustments, as described in Section 3.1-1.7.2, shall be permitted where public parking, public transportation, etc., reduce the need for on-site parking.

2 Clinical Facilities

The following elements shall be provided for clinical services as needed to satisfy the functional program:

2.1 Birthing Rooms

2.1.1 Number

A minimum of two birthing rooms shall be provided.

2.1.2 Layout

The plan for each birthing room shall be such that it will permit unimpeded emergency transfer by stretcher.

2.1.3 Space Requirements

Birthing rooms shall be adequate in size to accommodate one patient, her family, and attending staff.

2.1.3.1 Area and dimensions

- (1) New construction. A minimum clear floor area of 160 square feet (48.76 square meters) shall be provided with a minimum dimension of 11 feet (3.35 meters), excluding vestibule, toilet, closet, and fixed casework.
- (2) Renovation. A minimum floor area of 120 square feet (11.15 square meters), excluding vestibule, toilet, and closets, with a minimum dimension of 10 feet (3.05 meters) shall be provided.

2.1.3.2 Clearances. Room arrangement shall permit a minimum clearance of 3 feet (91.44 centimeters) at each side, head, and foot of the bed.

2.1.4 Oxygen, Vacuum, and Medical Air

Birthing rooms shall have available oxygen, vacuum, and medical air per Table 2.1-5, LDRP rooms.

2.1.5 Communication

Each birthing room shall be equipped with a system for communicating to other parts of the center and to an outside telephone line.

2.1.6 Equipment and Supply Storage

2.1.6.1 Each birthing room shall have storage space sufficient to accommodate belongings of occupants, bedding, equipment, and supplies needed for a family-centered childbirth.

2.1.6.2 An area for equipment and supplies for routine and remedial newborn care, separate from the equipment supplies for maternal care, shall be provided in each birthing room.

2.1.6.3 Medicine, syringes, specimen containers, and instrument packs shall be contained in storage areas not accessible to children.

2.2 Support Areas for Birthing Rooms

2.2.1 Scrub Areas

Hand-washing stations with hands-free faucets shall be conveniently accessible to the birthing rooms.

2.2.2 Clean Storage

A separate area for storing clean and sterile supplies shall be provided.

2.2.3 Soiled Holding

2.2.3.1 Provisions shall be made for separate collection, storage, and disposal of soiled materials.

2.2.3.2 Fluid waste may be disposed of in the toilet adjacent to the birth room.

2.2.4 Equipment and Supply Storage

2.2.4.1 Storage for drugs and biologicals. An area for locked storage of drugs and refrigeration of biologicals (separate from the nourishment area refrigerator) shall be provided.

2.2.4.2 Emergency equipment. An area for maternal and newborn emergency equipment and supplies (carts or trays) shall be designated out of the direct line of traffic and conveniently accessible to the birthing rooms.

2.3 Support Areas for Staff

A secure storage space for personal effects, toilet, shower, change, and lounge area sufficient to accommodate staff needs shall be provided.

2.4 Support Areas for Patients

Toilet, hand-washing station, and bath/shower facilities with appropriately placed grab bars shall be adjacent to each birthing room. Bath/shower facilities shall not be shared by more than two birthing rooms.

3 Service Areas

3.1 Sterilizing Facilities

Sterile supplies may be prepackaged disposables or processed off-site. If instruments and supplies are sterilized on-site, an area for accommodation of sterilizing equipment appropriate to the volume of the birth center shall be provided.

3.2 Laundry Facilities

Laundry may be done on- or off-site.

3.2.1 Soiled Holding Area

Soiled laundry shall be held in the soiled holding area until deposited in the washer.

3.2.2 Laundry Equipment

If laundry is done on-site, an area for laundry equipment with counter and storage space shelving shall be provided. Depending on the size and occupancy of the center, use of ordinary household laundry equipment shall be permitted.

4 Administrative and Public Areas

4.1 Public Areas

These shall include the areas listed in this section.

4.1.1 General

4.1.1.1 Provisions for the disabled. See Section 1.1-4.

4.1.1.2 Childproof electrical outlets. These shall be used in public areas of the freestanding birthing center.

4.1.2 Entrance

4.1.2.1 The entrance to the birthing center shall be at ground level, well marked and illuminated.

4.1.2.2 Provisions shall be made for emergency vehicle access.

4.1.3 Reception

A reception area with facility to accommodate outdoor wear shall be provided.

4.1.4 Family Room

A family room with a designated play area for children shall be provided.

4.1.5 Toilet and Hand-Washing Stations

Convenient access to toilet and hand-washing stations shall be provided.

4.1.6 Nourishment Area

A nourishment area shall be provided where families can store and serve light refreshment of their dietary and cultural preferences. The area shall include a sink

3.6 FREESTANDING BIRTHING CENTERS

and counter space, range, oven or microwave, refrigerator, cooking utensils, disposable tableware or dishwasher, storage space, and seating area.

4.1.7 Telephone

Convenient access to telephone service shall be provided.

4.1.8 Provisions for Drinking Water

Convenient access to provisions for drinking water shall be provided.

4.2 Administrative Areas

4.2.1 Records

Space for performing administrative functions, charting, and secure record storage shall be provided.

3.7 Outpatient Surgical Facilities

Appendix material, which appears in shaded boxes at the bottom of the page, is advisory only.

1 General Considerations

* 1.1 Applicability

The general standards set forth in Sections 1 through 5 of Chapter 3.1 (General Considerations, Diagnostic and Treatment Locations, Service Areas, Administrative and Public Areas, and Construction Standards) shall apply to outpatient surgical facilities, with additions and modifications described herein.

1.2 Functional Program

* 1.2.1 Facility Requirements

Outpatient surgery is performed without anticipation of overnight patient care. The functional program shall describe in detail staffing, patient types, hours of operation, function and space relationships, transfer provisions, and availability of off-site services.

1.2.2 Size

The extent (number and types) of the diagnostic, clinical, and administrative facilities to be provided will be determined by the services contemplated and the estimated patient load as described in the functional program. Provisions shall be made for medical and nursing assessment, nursing care, preoperative testing, and physical examination for outpatient surgeries.

1.3 Environment of Care

1.3.1 Patient Privacy

Visual and acoustical privacy shall be provided by design and include the registration, preparation, examination, treatment, and recovery areas. See Section 1.1-6.

1.4 Shared Services

If the outpatient surgical facility is part of an acute care hospital or other medical facility, services may be shared to minimize duplication as appropriate.

1.4.1 Where outpatient surgical services are provided within the same area or suite as inpatient surgery, additional space shall be provided as needed.

1.4.2 If inpatient and outpatient procedures are performed in the same room(s), the functional program shall describe in detail scheduling and techniques used to separate inpatients and outpatients.

1.5 Facility Access and Layout

1.5.1 Facility Access

The outpatient surgical facility shall be designed to facilitate movement of patients and personnel into, through, and out of defined areas within the surgical suite. Signs shall be provided at all entrances to restricted areas and shall clearly indicate the surgical attire required.

* 1.5.2 Layout

The outpatient surgical facility shall be divided into three designated areas—unrestricted, semi-restricted, and restricted—that are defined by the physical activities performed in each area.

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A1.1 Outpatient “surgical” facilities include centers that perform both invasive and noninvasive procedures. The distinction between centers is better defined by the type of anesthesia used during the procedures.

A1.2.1 Even though most outpatient procedures do not require an overnight stay, some require extended patient observation for up to “23 hours and 59 minutes” of care.

a. This extended care possibility should be addressed in a recovery care center that provides facilities for adequate sleeping, bathroom, and nutrition services for the patient.

b. Recovery care centers should have adequate waiting areas for family, including children and adolescents, and privacy (noise barriers and sight barriers) for meetings between physicians and other professionals with family. The areas should be large enough for translators or have available translation equipment.

c. A key element to housing patients is the communication system and the ability to obtain additional assistance as necessary.

1.6 Site

1.6.1 Parking

Four spaces shall be provided for each room routinely used for surgical procedures plus one space for each staff member. Additional parking spaces convenient to the entrance for pickup of patients after recovery shall be provided.

*2 Diagnostic and Treatment Locations

2.1 Diagnostic Facilities

Facilities for diagnostic services shall be provided on or off-site for pre-admission tests as required by the functional program.

2.2 Examination Room(s)

If patients will be admitted without recent and thorough examination, at least one room, ensuring both visual and acoustical privacy, shall be provided for examination and testing of patients prior to surgery. This may be an examination room or treatment room as described in Sections 3.1-2.1.1 and 3.1-2.1.3.

2.3 Operating Rooms (Ambulatory)

Note: When invasive procedures need to be performed on persons who are known or suspected of having airborne infectious disease, these procedures are ideally performed in a room meeting airborne infection isolation ventilation requirements or in a space using local exhaust ventilation. If the procedure must be performed in the operating suite, follow recommendations outlined in the CDC “Guidelines for Environmental Infection Control” or the CDC “Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health Care Facilities.”

*2.3.1 Size and Location

The size and location of the operating rooms shall depend on the level of care and equipment specified in the functional program. Operating rooms shall be as defined by the American College of Surgeons.

2.3.1.1 Class A operating rooms (minor surgical procedure rooms)

- (1) Area and dimensions. These operating rooms shall have a minimum floor area of 150 square

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A1.5.2 Outpatient Surgical Facility Layout

a. The unrestricted area includes a central control point established to monitor the entrance of patients, personnel, and materials into the restricted areas. Street clothes are permitted in this area, and traffic is not limited.

b. The semi-restricted area includes the peripheral support areas of the surgical suite and has storage areas for clean and sterile supplies, work areas for storage and processing of instruments, and corridors leading to the restricted areas of the surgical suite. Traffic in this area is limited to authorized personnel and patients. Personnel are required to wear surgical attire and cover all head and facial hair.

c. The restricted area includes operating and procedure rooms, the clean core, and scrub sink areas. Surgical attire and hair coverings are required. Masks are required where open sterile supplies or scrubbed persons may be located.

A2 Provisions should be made to separate pediatric from adult patients. Separate areas should include pre- and postoperative care areas and should allow for parental presence.

A2.3.1 American College of Surgeons Surgical Facility Classes

a. Class A—Provides for minor surgical procedures performed under topical and local infiltration blocks with or without oral or intramuscular preoperative sedation. Excluded are spinal, epidural axillary, stellate ganglion blocks, regional blocks (such as interscalene), supraclavicular, infraclavicular, and intravenous regional anesthesia. These methods are appropriate for Class B and C facilities.

b. Class B—Provides for minor or major surgical procedures performed in conjunction with oral, parenteral, or intravenous sedation or under analgesic or dissociative drugs.

c. Class C—Provides for major surgical procedures that require general or regional block anesthesia and support of vital bodily functions.

Note: Those facilities meeting the guidelines for Class B procedures automatically qualify for Class A procedures, and those facilities meeting the guidelines for Class C automatically qualify for Classes A and B.

feet (45.72 square meters) with a minimum clear dimension of 12 feet (3.65 meters). This square footage and minimum dimensions shall exclude vestibule and fixed casework.

- (2) Clearances. There shall be a minimum clear distance of 3 feet 6 inches (1.07 meters) at each side, the head, and the foot of the operating table.
- (3) Location. These minor surgical procedure rooms may be located within the restricted corridors of the surgical suite or in an unrestricted corridor adjacent to the surgical suite.

2.3.1.2 Class B operating rooms (intermediate surgical procedure rooms)

- (1) Area and dimensions. These operating rooms shall have a minimum floor area of 250 square feet (23.23 square meters) with a minimum clear dimension of 15 feet (4.57 meters). This square footage and minimum dimension shall exclude vestibule and fixed casework.
- (2) Clearances. Room arrangement shall permit a minimum clearance of 3 feet 6 inches (1.07 meters) at each side, the head, and the foot of the operating table.
- (3) Location. These intermediate surgical procedure rooms shall be located within the restricted corridors of the surgical suite.

2.3.1.3 Class C operating rooms (major surgical procedure rooms)

- (1) Area and dimensions. These operating rooms shall have a minimum clear area of 400 square feet (37.16 square meters) and a minimum dimension of 18 feet (5.49 meters). This square footage and minimum dimension shall exclude vestibule and fixed casework.
- (2) Clearances. Room arrangement shall permit a minimum clearance of 4 feet (1.22 meters) at each side, the head, and the foot of the operating table.
- (3) Location. These major surgical procedure rooms shall be located within the restricted corridors of the surgical suite.

2.3.2 Emergency Communication System

All operating rooms shall be equipped with an emergency communication system connected with the control station.

*2.3.3 Image Viewer

- | There shall be at least one medical image viewer in each room.

2.3.4 Mechanical System and Medical Gas Requirements

See Tables 2.1-2 and 3.1-2 for mechanical system and medical gas requirements.

2.4 Recovery Areas

2.4.1 Post-Anesthesia Recovery Room(s)

Room(s) for post-anesthesia recovery in outpatient surgical facilities shall be provided in accordance with the functional program.

2.4.1.1 General

- (1) The recovery area shall be accessible directly from the semi-restricted area.
- (2) A nurse utility/control station shall be provided with visualization of patients in acute recovery positions.
- (3) Clearances noted around gurneys are between the normal use position of the gurney and any adjacent fixed surface, or between adjacent gurneys.
- (4) If pediatric surgery is part of the program, separation from the adult section and space for parents shall be provided. Sound attenuation of the area and the ability to view the patient from the nursing station shall be considered.

2.4.1.2 Minimum requirements. The minimum requirements for post-anesthesia recovery position(s) are as follows:

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A2.3.3 For surgeries dependent upon medical imaging, such as many orthopedic procedures, medical image viewers should be provided in each operating room.

3.7 OUTPATIENT SURGICAL FACILITIES

- *(1) Number. A minimum of one recovery station per operating room shall be provided.
- (2) Area and clearances. Each post-anesthetic care unit (PACU) shall provide a minimum clear floor area of 80 square feet (7.43 square meters) for each patient station with a space for additional equipment described in the functional program and for clearance of at least 5 feet (1.52 meters) between patient stretchers and 4 feet (1.22 meters) between patient stretchers and adjacent walls (at the stretcher's sides and foot).
- (3) Patient privacy. Provisions for patient privacy such as cubicle curtains shall be made.
- (4) Hand-washing stations. Hand-washing stations with hands-free or wrist blade-operable controls shall be available, with at least one station for every four stretchers or portion thereof, and uniformly distributed to provide equal access from each patient position.

2.4.1.3 Support areas for post-anesthesia recovery rooms

- (1) Facility requirements. The recovery areas shall include provisions for staff hand-washing station, medication preparation and dispensing, supply storage, soiled linen and waste holding, and charting and dictation.
- (2) Equipment storage. The recovery areas shall include dedicated space as needed to keep equipment (warming cabinet, ice machine, crash cart, etc.) out of required circulation clearances.

2.4.2 Phase II Recovery

2.4.2.1 General

- (1) A Phase II or stepdown recovery room shall be provided.

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2.4.1.2 (1) In the absence of a functional program, recovery positions should be considered at a ratio of one per Class A operating room, two per Class B operating room, and three per Class C operating room. Up to half the total recovery positions may be provided in the Phase II recovery area.

- (2) In Phase II or stepdown units, a nurse utility/control station with visualization of patients is not required.

2.4.2.2 Space requirements. The design shall provide a minimum of 50 square feet (4.65 square meters) for each patient in a lounge chair with space for additional equipment described in the functional program and for clearance of 4 feet (1.22 meters) between the sides of the lounge chairs and the foot of the lounge chairs.

2.4.2.3 Patient privacy. Provisions for patient privacy such as cubicle curtains shall be made.

2.4.2.4 Facility requirements. The step-down room shall contain hand-washing station(s), storage space for supplies and equipment, clinical work space, space for family members, and nourishment facilities.

2.4.2.5 Patient toilet room. A patient toilet room shall be provided in the Phase II recovery area for the exclusive use of patients. In facilities with two or fewer operating rooms and an outpatient surgery change area adjacent to the recovery area, the toilet required by Section 3.7-2.6.11 shall be permitted to meet this requirement.

2.5 Support Areas for Surgical Service Areas

The following shall be provided in surgical service areas:

2.5.1 Control Station

A control station shall be located to permit visual surveillance of all traffic entering the restricted corridor (access to operating rooms and other ancillary clean/sterile areas).

2.5.2 Scrub Facilities

- (1) Station(s) shall be provided near the entrance to each operating room and may service two operating rooms if needed.
- (2) Scrub facilities shall be arranged to minimize splatter on nearby personnel or supply carts.

2.5.3 Drug Distribution Station

A drug distribution station shall be provided.

- (1) Provisions shall be made for storage and preparation of medications administered to patients.
- (2) A refrigerator for pharmaceuticals and double-locked storage for controlled substances shall be provided.
- (3) Convenient access to hand-washing stations shall be provided.

2.5.4 Soiled Workroom

A soiled workroom shall be provided. This may be the same workroom described in Section 3.7-3.1.2.1.

- (1) The soiled workroom shall contain a clinical sink or equivalent flushing-type fixture, a work counter, a hand-washing station, and waste receptacle(s).
- (2) The soiled workroom shall be located within the semi-restricted area.

2.5.5 Sterilizing Facilities

Space shall be provided for a high-speed sterilizer or other sterilizing equipment for immediate or emergency use, as called for in the functional program.

- (1) This space shall be located in the restricted area.
- (2) The space shall include a separate area for cleaning and decontamination of instruments prior to sterilization.

2.5.6 Fluid Waste Disposal Facilities

- (1) These shall be convenient to the general operating rooms and post-anesthesia recovery positions.
- (2) A clinical sink or equivalent equipment in a soiled workroom shall meet this requirement in the operating room area, and a toilet equipped with bedpan-cleaning device or a separate clinical sink shall meet the requirement in the recovery area.

2.5.7 Equipment and Supply Storage

2.5.7.1 Anesthesia equipment and supply storage. Provisions shall be provided for cleaning, testing, and storing anesthesia equipment and supplies, as defined by the functional program. This space shall be located within the semi-restricted area.

2.5.7.2 Medical gas storage. Provisions shall be made for the medical gas(es) used in the facility. Adequate space for supply and storage, including space for reserve cylinders, shall be provided.

2.5.7.3 General equipment and supply storage. Equipment storage room(s) shall be provided for equipment and supplies used in the surgical suite.

- (1) Area. The combined area of equipment and supply storage room(s) shall have a minimum floor area of 50 square feet (15.24 square meters) for each operating room(s) up to two and an additional 25 square feet (7.62 square meters) per additional operating room.
- (2) Location. Equipment storage room(s) shall be located within the semi-restricted area.

2.5.7.4 A stretcher storage area. A stretcher storage area shall be convenient for use and out of the direct line of traffic.

2.5.7.5 Wheelchair storage. Space shall be provided for temporary storage of wheelchairs.

2.5.7.6 Emergency equipment/supply storage. Provisions shall be made for convenient access to and use of emergency resuscitation equipment and supplies (crash cart(s) and/or anesthesia carts) at both the surgical and recovery areas.

2.5.8 Housekeeping Room

A housekeeping room containing a floor receptor or service sink and storage space for housekeeping supplies and equipment shall be provided exclusively for the surgical suite.

2.6 Support Areas for Surgical Staff

2.6.1 Staff Lounge and Toilet Facilities

These shall be provided in facilities having three or more operating rooms. The toilet room shall be near the recovery area.

2.6.2 Staff Clothing Change Area(s)

Appropriate change area(s) shall be provided for male and female staff working within the surgical suite (unisex changing room shall be permitted).

3.7 OUTPATIENT SURGICAL FACILITIES

- (1) The area(s) shall contain lockers, toilet(s), hand-washing station(s), and space for donning scrub attire.
- (2) These area(s) shall be arranged to encourage a one-way traffic pattern so that personnel entering from outside the surgical suite can change and move directly into the surgical suite.

2.6.3 Staff Shower

At least one staff shower shall be provided that is conveniently accessible to the surgical suite and recovery areas.

2.7 Support Areas for Patients

2.7.1 Outpatient Surgery Change Area(s)

A separate area shall be provided for outpatients to change from street clothing into hospital gowns and to prepare for surgery.

2.7.1.1 This area shall include lockers, toilet(s), clothing change or gowning area(s), and space for administering medications.

2.7.1.2 Provisions shall be made for securing patients' personal effects.

3 Service Areas

3.1 Sterilizing Facilities

A system for sterilizing equipment and supplies shall be provided.

3.1.1 General

3.1.1.1 When sterilization is provided off site, a room for the adequate handling (receiving and distribution) and on-site storage of sterile supplies shall be provided that conforms to Section 3.7-3.1.2.3.

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A3.1.2.2 This room is exclusively for the inspection, assembly, and packaging of medical/surgical supplies and equipment for sterilization. The area should contain worktables or counters and storage facilities for backup supplies and instrumentation. An area for a drying cabinet or equipment may be required. The area should be spacious enough to hold sterilizer carts, if used, for loading or prepared supplies for sterilization.

3.1.1.2 Provisions shall be made for sanitizing clean and soiled carts and/or vehicles consistent with the needs of the particular transportation system.

3.1.2 On-Site Facilities

If on-site processing facilities are provided, they shall include the following:

3.1.2.1 Soiled workroom. This room (or soiled holding room that is part of a system for the collection and disposal of soiled material) is for the exclusive use of the surgical suite.

- (1) The soiled workroom shall be located in the semi-restricted area.
- (2) The soiled workroom shall contain a flushing-rim clinical sink or equivalent flushing-rim fixture, a hand-washing station, a work counter, and space for waste receptacles and soiled linen receptacles. Rooms used only for temporary holding of soiled material may omit the flushing-rim clinical sink and work counters. However, if the flushing-rim clinical sink is omitted, other provisions for disposal of liquid waste shall be provided.
- (3) The room shall not have direct connection with operating rooms. Soiled and clean workrooms or holding rooms shall be separated. A self closing door or pass-through opening for decontaminated instruments is permitted between soiled and clean workrooms.

***3.1.2.2** Clean assembly/workroom. This room shall contain sterilization equipment.

- (1) This room shall contain a hand-washing station, workspace, and equipment for terminal sterilizing of medical and surgical equipment and supplies.
- (2) Clean and soiled work areas shall be physically separated.
- (3) Access to this room shall be restricted.
- (4) The clean assembly room shall have adequate space for the designated number of work areas as defined in the functional program, as well as space for storage of clean supplies, sterilizer carriages (if used), and instrumentation.

3.1.2.3 Storage for clean/sterile supplies

- (1) Storage for packs, etc., shall include provisions for ventilation, humidity, and temperature control.
- (2) The clean and sterile supply room shall have a minimum floor area of 100 square feet (30.48 square meters) or 50 square feet (15.24 square meters) per operating room, whichever is greater.

4 Administrative and Public Areas

The following shall be provided:

4.1 Public Areas***4.1.1 Entrance**

A covered entrance shall be provided for pickup of patients after surgery.

4.2 Administrative Areas**4.2.1 Interview Space**

Interview space(s) for private interviews relating to admission shall be provided. This may be the same room required under Section 3.7-4.2.4.

4.2.2 Offices

General and individual office(s) for business transactions, records, and administrative and professional staff shall be provided.

4.2.2.1 These shall be separate from public and patient areas with provisions for confidentiality of records.

4.2.2.2 Enclosed office spaces shall be provided in accordance with the functional program.

4.2.3 Medical Records

A medical records area where medical documents can be secured shall be provided.

4.2.4 Multipurpose or Consultation Room(s)**4.2.5 General Storage**

General administrative storage facilities shall be provided.

4.2.6 Support Areas for Staff

Special storage, including locking drawers and/or cabinets, for the personal effects of administrative staff.

5 Construction Standards**5.1 Design and Construction, including Fire-Resistant Standards**

5.1.1 The outpatient surgical facility, whether freestanding or adjacent to a separate occupancy, shall comply with the New Ambulatory Health Care Occupancies section of NFPA 101 and with the standards herein.

5.1.2 Separation for hazardous areas and smoke separation shall conform to NFPA 101.

5.1.3 Flammable anesthetics shall not be used in outpatient surgical facilities.

5.2 General Standards for Details and Finishes

In addition to the standards in Section 3.1-5.2, the guidelines in this section shall be met.

5.2.1 Details

Details shall conform to the following guidelines:

5.2.1.1 Corridor width

- (1) Minimum public corridor width shall be 5 feet (1.52 meters), except that corridors in the operating room section, where patients are transported on stretchers or beds, shall be 8 feet (2.44 meters) wide.
- (2) Passages and corridors used exclusively for staff access shall be a minimum of 3 feet 8 inches (1.12 meters) in clear width.

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A4.1.1 Such roof overhang or canopy should extend as far as practicable to the face of the driveway or curb of the passenger access door of the transport vehicle. Vehicles in the loading area should not block or restrict movement of other vehicles in the drive or parking areas immediately adjacent to the facility.

3.7 OUTPATIENT SURGICAL FACILITIES

5.2.1.2 Exits. The outpatient surgical facility shall have not fewer than two exits to the exterior. Exits shall conform to NFPA 101.

5.2.1.3 Door width

- (1) Doors serving occupiable spaces shall have a minimum nominal width of 3 feet (91.44 centimeters).
- (2) Doors requiring gurney/stretchers access shall have a nominal width of 3 feet 8 inches (1.12 meters).

5.2.1.4 Toilet rooms. Toilet rooms for patient use in surgery and recovery areas shall comply with the following:

- (1) These toilet rooms shall be equipped with doors and hardware that permit access from the outside in emergencies.
- (2) When such rooms have only one opening or are small, the doors shall open outward or be otherwise designed to open without pressing against a patient who may have collapsed within the room.

5.2.2 Finishes

Finishes shall conform to the following guidelines:

5.2.2.1 General. Finishes shall comply with NFPA 101.

5.2.2.2 Ceilings. Ceiling finishes shall be appropriate for the areas in which they are located and shall be as follows:

- (1) Semi-restricted areas
 - (a) Ceiling finishes in semi-restricted areas such as clean corridors, central sterile supply spaces, specialized radiographic rooms, and Class A operating rooms shall be smooth, scrubable, nonabsorptive, nonperforated, capable of withstanding cleaning with chemicals, and without crevices that can harbor mold and bacteria growth.
 - (b) If a lay-in ceiling is used, it shall be gasketed or clipped down to prevent the passage of particles from the cavity above the ceiling plane into the semi-restricted environment.

(c) Perforated, tegular, serrated, or highly textured tiles shall not be used.

- (2) Restricted areas. Ceilings in restricted areas such as operating rooms shall be monolithic, scrubable, and capable of withstanding chemicals. Cracks or perforations in these ceilings are not allowed.
- (3) Mechanical and electrical rooms. Suspended ceilings may be omitted in mechanical and electrical rooms/spaces unless required for fire safety purposes.

5.2.2.3 Floors. Floor finishes shall be appropriate for the areas in which they are located and shall be as follows:

- (1) Floor finishes shall be cleanable.
- (2) Floor finishes in areas such as clean corridors, central sterile supply spaces, specialized radiographic rooms, and Class A operating rooms shall be washable, smooth, and able to withstand chemical cleaning.
- (3) Floor finishes in areas such as operating rooms, delivery rooms, and trauma rooms shall be scrubable, able to withstand chemical cleaning, and monolithic, with an integral base.
- (4) All floor surfaces in clinical areas shall be constructed of materials that allow the easy movement of all required wheeled equipment.

5.2.2.4 Walls. Wall finishes shall be appropriate for the areas in which they are located and shall be as follows:

- (1) Wall finishes shall be cleanable.
- (2) Wall finishes in areas such as clean corridors, central sterile supply spaces, specialized radiographic rooms, and minor surgical procedure rooms shall be washable, smooth, and able to withstand chemical cleaning.
- (3) Wall finishes in areas such as operating rooms, delivery rooms, and trauma rooms shall be scrubable, able to withstand chemical cleaning, and monolithic. See also Section 3.8-4.1.2.2.

6 Building Systems

6.1 Plumbing

See Section 3.1-7.1.

6.1.1 Medical Gas Systems

Flammable anesthetics shall not be used in outpatient surgical facilities.

6.2 Heating, Ventilating, and Air-Conditioning Systems

6.2.1 General

Heating, ventilating, and air-conditioning (HVAC) systems shall be as described for similar areas in Section 3.1-7.2 and Table 2.1-2, with the following exceptions:

6.2.1.1 The recovery lounge need not be considered a sensitive area.

6.2.1.2 Outpatient operating rooms shall be permitted to meet the standards for emergency trauma rooms.

6.2.2 Filters

See Table 3.1-1 for filter efficiency standards.

6.3 Electrical Systems

See Section 3.1-7.3.

6.4 Electronic Safety and Security

6.4.1 Fire Alarm System

A manually operated, electrically supervised fire alarm system shall be installed in each facility as described in NFPA 101.

3.8 Office Surgical Facilities

An office surgical facility is an outpatient facility that has within it physician office(s) and space(s) for the performance of invasive procedures.

1 General Considerations

1.1 Applicability

Facilities that may have more than three patients rendered incapable of self-preservation without assistance from others shall meet requirements of Chapter 3.7.

1.2 Size

The number and type of diagnostic, clinical, and administrative facilities to be provided shall be determined by the services contemplated and the estimated patient load as described in the functional program.

2 Diagnostic and Treatment Locations

2.1 Operating Rooms

Operating rooms shall meet requirements as described in Section 3.7-2.3.

2.2 Recovery Areas

2.2.1 Location

Post-operative recovery shall be conducted in the operating room or in a specifically designated space. An operating room shall be used by no more than one post-operative patient at a time.

2.2.2 Facility Requirements

If the recovery area is located in a specifically designated space, the following requirements shall be met:

2.2.2.1 The recovery station shall be located in direct view of a nurse station.

2.2.2.2 Cubicle curtains or other provisions for privacy during post-operative care shall be provided.

2.3 Support Areas for Operating Rooms

The following shall be immediately accessible to the operating room(s):

2.3.1 Scrub Facilities

2.3.1.1 Hands-free scrub station(s) shall be provided outside of but near the entrance to each operating room.

2.3.1.2 One scrub station shall be permitted to service two operating rooms if needed.

2.3.1.3 Scrub station(s) shall be arranged to minimize incidental splatter on nearby personnel or supply carts.

2.3.1.4 The scrub station shall be permitted to meet the hand-washing station requirements of immediately adjacent area(s).

2.3.2 Drug Distribution Station

Provisions shall be made for storage and preparation of medications administered to patients.

2.3.2.1 A refrigerator for pharmaceuticals and double-locked storage for controlled substances shall be provided.

2.3.2.2 Convenient access to hand-washing stations shall be provided.

2.3.3 Clean Storage

A clean storage area, including space for preparing instruments and supplies for surgery, shall be provided.

2.3.4 Soiled Storage/Workroom

A soiled handling/storage area, including provision for disposal of fluid waste, shall be provided.

2.3.5 Equipment and Supply Storage

2.3.5.1 Medical gas supply

2.3.5.2 Crash cart. Space for crash cart, including outlets for battery charging, shall be provided.

2.4 Support Areas for Staff

A staff clothing change area shall be provided.

3 Service Areas**3.1 Sterilizing Facilities**

A system for sterilizing equipment and supplies shall be provided.

3.1.1 General

3.1.1.1 When sterilization is provided off site, adequate handling (receiving and distribution) and on-site storage of sterile supplies must be accommodated and shall meet the minimum requirements for on-site facilities.

3.1.1.2 Provisions shall be made for the cleaning and sanitizing of clean and soiled carts and vehicles transporting supplies.

3.1.2 On-Site Facilities

If on-site processing facilities are provided, they shall include the following:

3.1.2.1 Soiled workroom

- (1) This room shall be physically separated from all other areas of the facility.
- (2) Workspace shall be provided to handle the cleaning and the gross cleaning, debridement, and disinfection of all medical/surgical instruments and equipment. The soiled workroom shall contain work surfaces(s), sink(s), and washer/sterilizer decontaminators, flush-type devices(s), or other decontamination equipment as appropriate to the functional program.

3.1.2.2 Clean/assembly workroom

- (1) This workroom shall have a hand-washing station.
- (2) This room shall contain appropriate and sufficient work space and equipment for terminal sterilizing of medical and surgical equipment and supplies.
- (3) Clean and soiled work areas shall be physically separated.

- (4) The clean assembly room shall have adequate space for the designated number of work areas as defined in the functional program.

3.1.2.3 Storage for clean/sterile supplies

- (1) Storage for packs, etc., shall include provisions for ventilation, humidity, and temperature control.
- (2) A system for sterilizing equipment and supplies shall be provided. When sterilization is provided off site, adequate handling and on-site storage of sterile supplies shall be provided.
- (3) Provision shall be made for cleaning and sanitizing of carts and vehicles used for transporting supplies.

3.1.2.4 Soiled holding area

- (1) Space shall be provided for handling and storage of soiled materials and equipment separate from areas designated for storage of clean and sterile materials and equipment.
- (2) Appropriate receptacles for biohazardous waste shall be provided, and these shall be placed in the designated soiled holding area.

4 Construction Standards**4.1 General Standards for Details and Finishes****4.1.1 Details****4.1.1.1 Corridor width**

- (1) Items such as provisions for drinking water, telephone booths, vending machines, etc., shall not restrict corridor traffic or reduce the corridor width below the required minimum.
- (2) Out-of-traffic storage space for portable equipment shall be provided to maintain required egress and/or functional corridor width.

4.1.1.2 Door width

- (1) The minimum nominal door width for patient use shall be 3 feet (0.91 meter) except that doors

3.8 OFFICE SURGICAL FACILITIES

requiring gurney/stretchers access (as defined by the functional program) shall have a nominal width of 44 inches (1.11 meters).

- (2) Toilet room doors for patient use shall open outward or be equipped with hardware that permits access from the outside in emergencies.

4.1.2 Finishes

4.1.2.1 Ceilings

- (1) Ceiling finishes in general areas are optional and may be omitted in mechanical and electrical rooms/spaces unless required for fire-resistive purposes.
- (2) Ceiling finishes in operating rooms shall conform with Section 3.7-5.2.2.2.

4.1.2.2 Walls. Wall finishes in operating room(s) shall be scrubbable, able to withstand harsh chemical cleaning, and monolithic.

4.1.2.3 Floors. Wall bases in operating rooms and areas frequently subjected to wet cleaning shall be monolithic and coved directly up from the floor, tightly sealed to the wall, and constructed without voids. Seam welds in sheet flooring shall utilize manufacturer's weld product recommendations. Vinyl composition tile (VCT) or similar products shall not be permitted in these areas.

4.1.2.4 Penetrations. Floor and wall areas penetrated by pipes, ducts, and conduits shall be tightly sealed to minimize entry of rodents and insects.

3.9 Gastrointestinal Endoscopy Facilities

Appendix material, which appears in shaded boxes at the bottom of the page, is advisory only.

1 General Considerations

1.1 Applicability

All standards set forth in Section 3.1-7 shall be met for new construction of endoscopy suites, with modifications described in this chapter.

1.2 Functional Program

1.2.1 Facility Requirements

Endoscopy is performed without anticipation of overnight patient care. The functional program shall describe in detail staffing, patient types, hours of operation, function and space relationships, transfer provisions, and availability of off-site services.

1.2.2 Size

The extent (number and types) of the diagnostic, clinical, and administrative facilities to be provided shall be determined by the services contemplated and the estimated patient load as described in the functional program. Provisions shall be made for patient examination, interview, preparation, testing, and obtaining vital signs of patients for endoscopic procedures.

*1.3 Environment of Care

1.4 Shared Services

If the endoscopy suite is part of an acute care hospital or other medical facility, services may be shared to minimize duplication as appropriate.

1.4.1 Where endoscopy services are provided within the same area or suite as surgical services, additional space shall be provided as needed.

1.4.2 If inpatient and outpatient procedures are performed in the same room(s), the functional program shall describe in detail scheduling and techniques used to separate inpatients and outpatients.

1.5 Facility Layout and Circulation

1.5.1 Layout

The endoscopy suite may be divided into three major functional areas: the procedure room(s), instrument processing room(s), and patient holding/preparation and recovery room or area.

1.5.2 Circulation and Restricted Access

The endoscopy suite shall be designed to facilitate movement of patients and personnel into, through, and out of defined areas within the procedure suite. Signs shall be provided at all entrances to restricted areas and shall clearly indicate the proper attire required.

1.6 Site

1.6.1 Parking

Four spaces shall be provided for each room routinely used for endoscopy procedures plus one space for each staff member. Additional parking spaces shall be provided convenient to the entrance for pickup of patients after recovery.

2 Diagnostic and Treatment Locations

2.1 Diagnostic Facilities

Facilities for diagnostic services shall be provided on- or off-site for pre-admission tests as required by the functional program.

2.2 Examination Room(s)

If patients will be admitted without recent and thorough examination, at least one room shall be provided for examination and testing of patients prior to their procedures, ensuring both visual and acoustical privacy. This may be an examination room or treatment room as described in Sections 3.1-2.1.1 and 3.1-2.1.3.

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A1.3 Visual and acoustical privacy should be provided by design and include the registration, preparation, examination, treatment, and recovery areas.

2.3 Procedure Suite

Note: When procedures are to be performed on persons who are known to have or suspected of having airborne infectious diseases, these procedures shall be performed only in a room meeting airborne infection isolation ventilation requirements or in a space using local exhaust ventilation. See also the CDC “Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Facilities.”

2.3.1 Procedure Room(s)

2.3.1.1 Space requirements

- (1) Area. Each procedure room shall have a minimum clear floor area of 200 square feet (15 square meters), excluding vestibule, toilet, closet, fixed cabinets, and built-in shelves.
- (2) Clearances. Room arrangement shall permit a minimum clearance of 3 feet, 6 inches (1.07 meters) at each side, head, and foot of the stretcher/table.

2.3.1.2 Privacy. Procedure rooms shall be designed for visual and acoustical privacy for the patient.

2.3.1.3 Medical gases. Station outlets for oxygen and vacuum (suction) shall be available in the procedure room. See Table 3.1-2.

2.3.1.4 Hand-washing station. A separate dedicated hand-washing station with hands-free controls shall be available in the suite.

2.3.1.5 Patient toilet room. Direct access may be provided to a patient toilet room. (See also Section 3.9-2.3.3.3.)

2.3.1.6 Communication system. A system for emergency communication shall be provided.

2.3.1.7 Floors. Floor covering in the procedure suite shall be monolithic and joint free.

2.3.2 Patient Holding/Prep/Recovery Area

2.3.2.1 General

- (1) This area shall meet the size requirements of a stepdown recovery area, Section 3.7-2.4.2.1.

- (2) The following shall be provided in this area:

2.3.2.2 Patient positions

- (1) Area and dimensions. A minimum clear floor area of 80 square feet (7.43 square meters) shall be provided for each patient station with a space for additional equipment described in the functional program and for clearance of at least 5 feet (1.52 meters) between patient stretchers and 4 feet (1.22 meters) between patient stretchers and adjacent walls (at the stretcher’s sides and foot).
- (2) Patient privacy. Provisions for patient privacy such as cubicle curtains shall be provided.
- (3) Medical gases. Oxygen and suction per Table 3.1-2 shall be provided for each patient cubicle.

2.3.3 Support Areas for the Procedure Suite

2.3.3.1 Nurse station. Nurse control and charting area that provides view of patient positions shall be provided.

2.3.3.2 Medication station. Provisions shall be made for storage and preparation of medications administered to patients.

- (1) A refrigerator for pharmaceuticals and double-locked storage for controlled substances shall be provided.
- (2) Convenient access to hand-washing stations shall be provided.

2.3.3.3 Toilet facilities. These shall be permitted to be accessible from patient holding or directly from procedure room(s) or both.

2.3.3.4 Clean utility space. A clean utility room or area shall be provided.

2.3.3.5 Equipment storage. The following shall be provided:

- (1) Stretcher storage area(s). Such areas shall be convenient for use and out of the direct line of traffic.
- (2) Wheelchair storage. Space for temporary storage of wheelchairs shall be provided.

2.3.3.6 Housekeeping closet. A janitor/housekeeping closet shall be provided.

2.4 Support Areas for Staff

2.4.1 Staff Clothing Change Areas

Appropriate change areas shall be provided for staff working within the procedure suite. These shall include the following:

2.4.1.1 Hand-washing stations

2.4.1.2 Toilets

2.4.1.3 Lockers and space for changing clothes

2.4.1.4 Staff shower. At least one shower shall be conveniently accessible to the procedure suite and patient holding/prep/recovery areas.

2.4.2 Lounge and Toilet Facilities

These shall be provided in facilities having three or more procedure rooms.

2.5 Support Areas for Patients

2.5.1 Patient Change Areas

A separate area shall be provided for patients to change from street clothing into hospital gowns and to prepare for procedures.

2.5.1.1 This area shall include lockers, toilet(s), clothing change or gowning area(s), and space for administering medications.

2.5.1.2 Provisions shall be made for securing patients' personal effects.

3 Service Areas

3.1 Clean Storage and Soiled Holding Areas

3.1.1 General

3.1.1.1 Adequate space shall be provided for the storage and holding of clean and soiled materials.

3.1.1.2 Such areas shall be separated from unrelated activities and controlled to prohibit public contact.

3.1.2 Clean/Sterile Supplies

Storage for packs, etc., shall include provisions for ventilation, humidity, and temperature control.

3.1.3 Soiled Holding/Workroom

3.1.3.1 This room shall be physically separated from all other areas of the department.

3.1.3.2 The soiled workroom shall contain work surface(s), sink(s), flush-type device(s), and holding areas for trash, linen, and other contaminated waste.

3.2 Instrument Processing Room(s)

3.2.1 Processing Rooms

Dedicated processing room(s) for cleaning and decontaminating instruments shall be provided.

3.2.1.1 Number. Processing room(s) shall be permitted to serve multiple procedure rooms.

3.2.1.2 Size. The size of the processing room(s) shall be dictated by the amount of equipment to be processed.

3.2.1.3 Layout. The cleaning area shall allow for flow of instruments from the contaminated area to the clean assembly area and then to storage. A physical barrier shall be provided to prevent droplet contamination on the clean side. Clean equipment rooms, including storage, should protect the clean equipment from contamination.

3.2.2 Decontamination Area

The decontamination area shall be equipped with the following:

***3.2.2.1** Utility sink(s). Sink(s) shall be provided as appropriate to the method of decontamination used.

3.2.2.2 Hand-washing station. One freestanding hand-washing station shall be provided.

3.2.2.3 Work counter space(s).

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A3.2.2.1 This may require soaking sink(s), rinse sink(s), automated cleaning device(s), or a combination.

3.9 GASTROINTESTINAL ENDOSCOPY FACILITIES

3.2.2.4 Equipment accommodations. Space and utility connections for automatic endoscope reprocessor, sonic cleaner, and sterilizers (where required by the functional program).

3.2.2.5 Ventilation system. See Table 2.1-2.

3.2.2.6 Medical gases. Provision for vacuum and/or compressed air, as appropriate to cleaning methods used.

3.2.2.7 Floors. Floor covering, monolithic and joint free with 6-inch (15.24-centimeter) integral cove base.

3.3 Equipment and Supply Storage

3.3.1 Equipment and Supplies for Endoscopy Procedures

Storage room(s) for equipment and supplies used in the procedure suite shall be provided.

3.3.2 Anesthesia Equipment and Supply Storage

Provisions shall be made for cleaning, testing, and storing anesthesia equipment and supplies.

3.3.3 Medical Gas Storage

Provisions shall be made for the medical gas(es) used in the facility. Adequate space for supply and storage, including space for reserve cylinders, shall be provided.

3.3.4 Resuscitation Equipment and Supply Storage

Provisions for convenient access to and use of emergency resuscitation equipment and supplies (crash cart(s) and/or anesthesia carts) shall be provided at both procedure and recovery areas.

3.4 Fluid Waste Disposal Facilities

Fluid waste disposal facilities shall be provided.

3.4.1 Location

These shall be convenient to the procedure rooms and recovery positions.

3.4.1.1 In the procedure area, a clinical sink or equivalent equipment in a soiled workroom shall meet this requirement.

3.4.1.2 In the recovery area, a toilet equipped with bedpan-cleaning device or a separate clinical sink shall meet this requirement.

3.5 Housekeeping Room

Space containing a floor receptor or service sink and storage space for housekeeping supplies and equipment shall be provided.

4 Administrative and Public Areas

4.1 Public Areas

4.1.1 Entrance

A covered entrance for pickup of patients after procedure shall be provided.

4.1.1.1 A roof overhang or canopy shall extend, at a minimum, to the face of the driveway or curb of the passenger access door of the transport vehicle.

4.1.1.2 Vehicles in the loading area shall not block or restrict movement of other vehicles in the drive or parking areas immediately adjacent to the facility.

4.2 Administrative Areas

4.2.1 Interview Space

Space(s) for private interviews relating to admission shall be provided. This may be the same room required under Section 3.9-4.2.4 (Multipurpose Rooms).

4.2.2 Offices

General and individual office(s) shall be provided for business transactions, records, and administrative and professional staff.

4.2.2.1 Provisions for confidentiality of records shall be made.

4.2.2.2 Enclosed office spaces shall be provided, consistent with need identified in the functional program.

4.2.3 Medical Records Area

A medical records area where medical documents can be secured shall be provided.

4.2.4 Multipurpose Rooms

Multipurpose or consultation room(s) shall be provided.

4.2.5 General Storage

General storage facilities shall be provided.

5 Construction Standards

5.1 Design and Construction, including Fire-Resistant Standards

5.1.1 The separate endoscopy facility or section shall comply with the “New Ambulatory Health Care Occupancies” section of NFPA 101 and requirements described herein.

5.1.2 Flammable anesthetics shall not be used in out-patient endoscopy facilities.

5.2 General Standards for Details and Finishes

All details and finishes shall meet the standards in Section 3.1-5.2 except as modified below.

5.2.1 Details

5.2.1.1 Corridor width

- (1) Minimum public corridor width shall be 5 feet (1.52 meters), except that corridors where patients are transported on stretchers or beds shall be 8 feet (2.44 meters) wide.
- (2) Passages and corridors used exclusively for staff access may be 3 feet 8 inches (1.12 meters) in clear width.

5.2.1.2 Doors

- (1) Door width
 - (a) Doors serving occupiable spaces shall have a minimum nominal width of 3 feet (91.44 centimeters).
 - (b) Doors requiring gurney/stretchers access shall have a nominal width of 3 feet 8 inches (1.12 meters).
- (2) Toilet room doors
 - (a) Toilet rooms in procedure and recovery areas for patient use shall be equipped with doors and hardware that permit access from the outside in emergencies.

- (b) When such rooms have only one opening or are small, the doors shall open outward or be otherwise designed to open without pressing against a patient who may have collapsed within the room.

5.2.2 Finishes

5.2.2.1 Floors. Floor finishes shall be appropriate for the areas in which they are located and shall be as follows:

- (1) Floor finishes shall be cleanable.
- (2) Floor finishes in areas such as clean corridors and patient care areas shall be washable, smooth, and capable of withstanding chemical cleaning.
- (3) Floor finishes in areas such as procedure rooms and the decontamination room shall be scrubbable, capable of withstanding chemical cleaning, and monolithic with an integral base.

5.2.2.2 Walls. Wall finishes shall be appropriate for the areas in which they are located and shall be as follows:

- (1) Wall finishes shall be cleanable.
- (2) Wall finishes in areas such as clean corridors, central sterile supply spaces, specialized radiographic rooms, and endoscopic procedure rooms shall be washable, smooth, and capable of withstanding chemical cleaning.
- (3) Wall finishes in areas such as procedure rooms shall be scrubbable, capable of withstanding chemical cleaning, and monolithic.

5.2.2.3 Ceilings. Ceiling finishes shall be appropriate for the areas in which they are located and shall be as follows:

- (1) Ceiling finishes in general areas are optional and may be omitted in mechanical and electrical rooms/spaces unless required for fire-resistive purposes.
- (2) Ceiling finishes in procedure rooms, the decontamination room, and other semirestricted areas shall be capable of withstanding cleaning with chemicals and without crevices that can harbor

mold and bacteria growth. If a lay-in ceiling is provided, it shall be gasketed or clipped down to prevent the passage of particles from the cavity above the ceiling plane into the semirestricted environment. Perforated, tegular, serrated, cut, or highly textured tiles shall not be used.

6 Building Systems

6.1 Plumbing

See Section 3.1-7.1.

6.2 Heating, Ventilating, and Air-Conditioning Systems

Heating, ventilation, and air conditioning shall be as described for similar areas in Section 3.1-7.2 and Table 2.1-2, except that the recovery lounge need not be considered a sensitive area.

6.3 Electrical Systems

See Section 3.1-7.3.

6.4 Electronic Safety and Security

6.4.1 Fire Alarm System

A manually operated, electrically supervised fire alarm system shall be installed in each facility as described in NFPA 101.

3.10 Renal Dialysis (Acute and Chronic) Centers

Appendix material, which appears in shaded boxes at the bottom of the page, is advisory only.

1 General

1.1 Functional Program

1.1.1 Number of Stations

The number of dialysis stations shall be based upon the functional program and may include several work shifts per day.

1.1.2 Facility Size

Space and equipment shall be provided as necessary to accommodate the functional program, which may include outpatient dialysis, home treatment support, and dialyzer reuse services.

1.2 Site

The location shall offer convenient access for outpatients. Accessibility to the renal dialysis center from parking and public transportation shall be a consideration.

2 Diagnostic and Treatment Areas

2.1 Examination Room

An examination room with hand-washing stations and writing surface shall be provided with at least 100 square feet (9.29 square meters).

2.2 Treatment Area(s)

2.2.1 Layout

2.2.1.1 The treatment area shall be permitted to be an open area and shall be separate from administrative and waiting areas.

2.2.1.2 The open treatment area shall be designed to provide privacy for each patient.

2.2.2 Space Requirements

2.2.2.1 Individual patient treatment areas shall contain at least 80 square feet (7.44 square meters).

2.2.2.2 There shall be at least a 4-foot (1.22-meter) space between beds and/or lounge chairs.

2.2.3 Nurse Station(s)

Nurse station(s) shall be located within the dialysis treatment area and designed to provide visual observation of all patient stations.

2.2.4 Hand-Washing Stations

2.2.4.1 These shall be convenient to the nurse station and patient treatment areas.

2.2.4.2 There shall be at least one hand-washing station serving no more than four patient stations. These shall be uniformly distributed to provide equal access from each patient station.

2.3 Special Treatment Area(s)

2.3.1 Airborne Infection Isolation Room(s)

2.3.1.1 The number of and need for required airborne infection isolation rooms shall be determined by an ICRA.

2.3.1.2 Where required, the airborne infection isolation room(s) shall comply with the requirements of Section 2.1-3.2.2.

2.3.2 Bloodborne Infection Isolation Room(s)

Facilities that dialyze patients with known bloodborne pathogens shall have at least one separate room to use for those patients.

2.3.3 Home Training Room

If home training is provided at the center, the following requirements shall be met:

2.3.3.1 A private treatment area of at least 120 square feet (11.15 square meters) shall be provided for patients who are being trained to use dialysis equipment at home.

2.3.3.2 This room shall contain counter, hand-washing stations, and a separate drain for fluid disposal.

2.4 Support Areas for the Renal Dialysis Treatment Center

2.4.1 Medication Station

If required by the functional program, there shall be a medication dispensing station for the dialysis center.

2.4.1.1 A work counter and hand-washing stations shall be included in this area.

2.4.1.2 Provisions shall be made for the controlled storage, preparation, distribution, and refrigeration of medications.

2.4.2 Nourishment Station

If a nourishment station for the dialysis service is provided, it shall contain a sink, a work counter, a refrigerator, storage cabinets, and equipment for serving nourishment as required.

2.4.3 Clean Workroom or Clean Supply Room

A clean workroom and/or clean supply room shall be provided. Such rooms shall be separated from the soiled workroom and have no direct connection to it.

2.4.3.1 Clean workroom. If the room is used for preparing patient care items, it shall contain a work counter, a hand-washing station, and storage facilities for clean and sterile supplies.

2.4.3.2 Clean supply room. If the room is used only for storage and holding as part of a system for distribution of clean and sterile materials, the work counter and hand-washing station may be omitted.

2.4.4 Soiled Workroom

A soiled workroom shall be provided. It shall contain a flushing-rim sink, hand-washing station, work counter, storage cabinets, waste receptacles, and a soiled linen receptacle.

2.4.5 Housekeeping Room

A housekeeping closet shall be provided. The closet shall contain a floor receptor or service sink and storage space for housekeeping supplies and equipment.

2.5 Support Areas for Staff

Appropriate area(s) shall be available for staff clothing change and lounge functions. Clothing change area(s) shall contain lockers, shower, toilet, and hand-washing stations.

2.6 Support Areas for Patients

2.6.1 Patient Toilet

A patient toilet with hand-washing station shall be provided. It shall be equipped with an emergency call station.

2.6.2 Patient Storage Space

Storage for patients' belongings shall be provided.

3 Service Areas

3.1 Reprocessing Room

If dialyzers are reused, a reprocessing room shall be provided and sized to perform the functions required.

3.1.1 Layout

The room shall include one-way flow of materials from soiled to clean.

3.1.2 Facility Requirements

The room shall have provisions for refrigeration for temporary storage of dialyzers, decontamination/cleaning areas, sinks, processors, computer processors and label printers, a packaging area, and dialyzer storage cabinets.

3.1.3 Ventilation Requirements

Engineering controls shall be required to provide negative pressure relative to adjoining spaces and 100 percent exhaust to outside.

3.2 Equipment and Supply Storage

3.2.1 Locations

3.2.1.1 Supply areas or supply carts shall be provided.

3.2.1.2 Storage space out of the direct line of traffic shall be available for wheelchairs and stretchers, if stretchers are provided.

3.2.2 Clean Linen Storage

If blankets or other linen is used, a clean linen storage area shall be provided.

3.2.2.1 Location of the clean linen storage area within the clean workroom, a separate closet, or an approved distribution system shall be permitted.

3.2.2.2 If a closed cart system is used, storage in an alcove shall be permitted. It must be out of the path of normal traffic and under staff control.

3.2.3 Dialysis Solutions Preparation Room

Each facility using a central batch delivery system shall provide, either on the premises or through written arrangements, individual delivery systems for the treatment of any patient requiring special dialysis solutions. The mixing area shall include a sink, storage space, and holding tanks.

3.3 Equipment Repair Room

If required by the functional program, an equipment repair and breakdown room shall be equipped with a hand-washing station, deep service sink, work counter, and storage cabinet.

4 Administrative and Public Areas

4.1 Public Areas

A waiting room, toilet room with hand-washing stations, provisions for drinking water, public telephone, and seating accommodations for waiting periods shall be available or accessible to the dialysis center.

4.2 Administrative Areas

Office and clinical work space shall be available for administrative services.

5 Building Systems

5.1 Plumbing

*5.1.1 Piping

All dialysis system piping shall be readily accessible for inspection and maintenance. Design consideration shall be given to the disposal of liquid waste from the dialyzing process to prevent odor and backflow.

5.1.2 Plumbing

In new construction and renovation where hemodialysis or hemoperfusion are routinely performed, hand-washing stations shall have a separate water supply and drainage facility that does not interfere with hemodialysis piping. See Section 3.1-7.1.2.2 (2).

5.1.3 Water Treatment Equipment Room

The water treatment equipment shall be located in an enclosed room.

5.2 Heating, Ventilating and Air-Conditioning Systems

5.2.1 Reprocessing Room Ventilation Requirements

Engineering controls shall be required to provide negative pressure relative to adjoining spaces and 100 percent exhaust to outside.

APPENDIX

A5.1.1 All installed reverse osmosis water and dialysis solution piping should be accessible.

3.11 Psychiatric Outpatient Centers

Appendix material, which appears in shaded boxes at the bottom of the page, is advisory only.

The psychiatric outpatient center provides community outpatient psychiatric services.

1 General Considerations

1.1 Applicability

All standards set forth in Sections 1 through 5 of Chapter 3.1 (General Considerations, Diagnostic and Treatment Locations, Service Areas, Administrative and Public Areas, and Construction Standards) shall be met for psychiatric outpatient centers with the additions and modifications described herein. In no way are these standards to be interpreted to inhibit placing small neighborhood psychiatric outpatient centers (i.e., units with four or fewer employees) into existing commercial and residential facilities.

1.2 Functional Program

The number and type of diagnostic, clinical, and administrative areas shall be sufficient to support the services and estimated patient load described in the functional program.

1.3 Site

1.3.1 Parking

Parking spaces for patients and family shall be provided to meet the functional program.

2 Diagnostic and Treatment Areas

Facilities shall be provided only for those services specified in the functional program. Facilities provided shall meet the requirements of the specific diagnostic and clinical services as well as the standards set forth in Sections 3.1-7.1 and 3.1-7.2. Following are areas that shall be strongly considered for inclusion in any psychiatric outpatient center:

2.1 Consultation Room(s)

2.2 Group Rooms

2.2.1 Small Group Room(s)

2.2.2 Large Group Room(s)

These may also be used for activities.

2.3 Observation Room(s)

See Section 3.1-2.1.4.

2.4 Support Areas for the Psychiatric Outpatient Center

2.4.1 Nurse Station(s)

See Section 3.1-2.1.7.1.

2.4.2 Drug Distribution Station

See Section 3.1-2.1.7.2.

2.4.3 Multipurpose Rooms

Multiuse room(s) shall be provided for conferences, meetings, and health education.

2.4.3.1 One room may be primarily for staff use but also available for public access as needed.

2.4.3.2 If the program so indicates, these functions may take place in group room(s).

2.4.4 Nourishment Area(s)

Location of kitchenette(s) by the large group room(s) shall be permitted.

2.4.5 Clean Storage

See Section 3.1-2.1.7.4.

2.4.6 Soiled Holding

See Section 3.1-2.1.7.5.

2.4.7 Storage Areas

Wheelchair storage space shall be provided. See Section 3.1-2.1.7.6.

2.5 Support Areas for Staff

2.5.1 Staff Toilet and Lounge

2.5.1.1 Staff toilet and lounge shall be provided in addition to and separate from public and patient facilities.

*2.5.1.2 Centralized staff facilities are not required in small centers..

3 Administrative and Public Areas

3.1 Public Areas

3.1.1 Layout

Public areas shall be situated for convenient access and designed to promote prompt accommodation of patient needs, with consideration for personal dignity.

3.1.2 Entrances

3.1.2.1 Entrances shall be well marked, at grade level, and secured at least at the psychiatric outpatient unit.

3.1.2.2 Where entrance lobby and/or elevators are shared with other tenants, travel to the psychiatric outpatient unit shall be direct and accessible to the disabled. Except for passage through common doors, lobbies, or elevator stations, patients shall not be required to go through other occupied areas or outpatient service areas.

3.1.2.3 Entrance shall be convenient to parking and available via public transportation.

3.1.3 Reception

3.1.3.1 A reception and information counter or desk shall be located to provide visual control of the entrance to the psychiatric outpatient unit and shall be immediately apparent from that entrance.

3.1.3.2 A control counter shall have access to patient files and records for scheduling of services; this shall be permitted to be part of the reception, information, and waiting room control.

3.1.4 Waiting Area

3.1.4.1 The waiting area for patients and escorts shall be under staff control.

3.1.4.2 The seating shall contain no fewer than two spaces for each consultation room and no fewer than 1.5 spaces for the combined projected capacity at one time of the group rooms.

3.1.4.3 Where the psychiatric outpatient unit has a formal pediatrics service, a separate, controlled area for pediatric patients shall be provided.

3.1.4.4 The waiting area shall accommodate wheelchairs.

3.1.5 Public Toilet

Toilet(s) for public use shall be immediately accessible to the waiting area. In smaller units, the toilet may be unisex.

3.1.6 Drinking Water

Provisions for drinking water shall be available for waiting patients. In shared facilities, provisions for drinking water may be outside the outpatient area if convenient for use.

3.2 Administrative Areas

Each psychiatric outpatient center shall make provisions to support administrative activities, filing, and clerical work as appropriate. (See also Section 3.1-4.2.) Administrative areas shall include the following:

3.2.1 Interview Spaces

Space(s) for private interviews related to social service, credit, and so on shall be provided. Interviews may take place in an office or consultation room if the program so indicates.

3.2.2 Office Space

3.2.2.1 Office(s), separate and enclosed, with provisions for privacy, shall be provided.

3.2.2.2 Clerical space or rooms for typing and clerical work shall be separated from public areas to ensure confidentiality.

3.2.3 Patient Records

Records room(s) shall be provided with filing and storage for the safe and secure storage of patient records with provisions for ready retrieval.

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| **A2.5.1.2** In small centers, staff may utilize shared toilet facilities.

3.2.4 Office Supply Storage

Office supply storage (closets or cabinets) shall be provided within or convenient to administrative services.

4 Construction Standards

4.1 Applicable Standards

The standards set forth in Section 3.1-5.2 shall be met with the additions and modifications described herein:

4.2 Security

4.2.1 The level of patient safety and security shall be set by the owner in the functional program.

4.2.2 Observation of all public areas, including corridors, shall be possible.

4.2.2.1 This can be accomplished by electronic surveillance if it is not obtrusive.

4.2.2.2 Niches and hidden areas in corridors shall be prohibited.

4.3 Details

4.3.1 Tamper Resistance and Suicide Prevention

4.3.1.1 If the functional program determines suicide or staff safety risks are present, ceilings, walls, floors, windows, etc., shall be tamper-resistant in patient treatment areas. In addition, any rods, doors, grab bars, handrails, etc., shall be constructed so they do not allow attempts at suicide and cannot be used as weapons.

4.3.1.2 Cubicle curtains and draperies shall not be used where a risk assessment in the functional program clearly identifies them as a potential risk.

3.12 Mobile, Transportable, and Relocatable Units

Appendix material, which appears in shaded boxes at the bottom of the page, is advisory only.

1 General Considerations

1.1 Applicability

1.1.1 Unit Types

This section applies to mobile, transportable, and relocatable structures, as defined below. The size of these units limits occupancy, thereby minimizing hazards and allowing for less stringent standards. Needed community services can therefore be provided at an affordable cost.

1.1.1.1 Mobile unit. A mobile unit is any pre-manufactured structure, trailer, or self-propelled unit equipped with a chassis on wheels and intended to provide shared medical services to the community on a temporary basis.

- (1) These units are typically no larger than 8 feet wide by 48 feet long (2.44 meters by 14.63 meters).
- (2) Some units are equipped with expanding walls.
- (3) Typically these units are designed to be moved on a daily basis.

1.1.1.2 Transportable unit. A transportable unit is any pre-manufactured structure or trailer equipped with a chassis on wheels that is intended to provide shared medical services to the community on an extended temporary basis.

- (1) The units are typically no larger than 12 feet wide by 60 feet long (3.66 meters by 18.29 meters).
- (2) The units are designed to be moved periodically, depending on need.

1.1.1.3 Relocatable unit. A relocatable unit is any structure not on wheels that is built to be relocated at any time and to provide medical services. These structures vary in size.

*1.1.2 Standards

1.1.2.1 Meeting all provisions of Sections 2 through 5 of Chapter 3.1 (Diagnostic and Treatment Locations, Service Areas, Administrative and Public Areas, and Construction Standards) for general outpatient facilities is desirable, but limited size and resources may preclude satisfying any but the basic minimums described.

1.1.2.2 The classifications of these facilities shall be Business Occupancy as listed in the building codes and NFPA 101, Life Safety Code.

1.1.3 Maximum Size

These facilities shall be defined as space and equipment for services provided by four or fewer workers at any one time.

1.2 Site

1.2.1 Location

1.2.1.1 Access for the unit to arrive shall be taken into consideration for site planning. Turning radius of the vehicles, slopes of the approach (6 percent maximum), and existing conditions shall be addressed.

1.2.1.2 Consideration shall be given to location of the unit so that diesel exhaust of the tractor and/or unit generator is kept away from the fresh air intake of the facility.

1.2.2 Facility Access

Each site shall provide access to the unit for wheelchair/stretcher patients.

1.2.3 Environmental Standards

All mobile, transportable, and relocatable units shall be sited in full compliance with such federal, state, and

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A1.1.2 When invasive procedures are performed in mobile, relocatable, or transportable units, the standard of care and the environment of care should be at least as safe as a hospital or outpatient facility in which similar procedures are performed.

3.12 MOBILE, TRANSPORTABLE, AND RELOCATABLE UNITS

local environmental laws and regulations as may apply; for example, those listed in Section 1.3-4.

*1.2.4 Utility Requirements

1.2.4.1 Sites shall be provided with properly sized power, including emergency power, water, waste, telephone, and fire alarm connections, as required by local and state building codes.

1.2.4.2 Adequate protection shall be provided for utility hook-ups, cables, and wires by concealing them in conduits, burying them underground, or installing them overhead.

1.2.5 Foundation

***1.2.5.1** Sites shall have level concrete pads or piers and be designed for the structural loads of the facility. Construction of pads shall meet local, state, and seismic codes.

1.2.5.2 Each facility shall provide a means of preventing unit movement, either by blocking the wheels or by providing pad anchors.

1.2.6 Parking and Drop-off Zones

Sites shall provide hazard-free drop-off zones and adequate parking for patients. (See also 3.12-3.1.1.)

1.2.7 MRI Unit Site Considerations

1.2.7.1 Gauss fields of various strengths generated by magnetic resonance imaging (MRI) units shall be considered; both for the environmental effects on (interference with) the integrity of the scan, and for the potentially adverse effects of the field on adjacent electrical and/or magnetic devices and materials. Radio frequency interference shall be considered when planning a site.

1.2.7.2 Sites utilizing MRI systems shall consider providing adequate access for cryogen-servicing of the magnet. Cryogen dewars are of substantial weight and size.

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A1.2.4 It is recommended that each site requiring water and waste services to the unit provide a means of freeze protection in geographic areas where freezing temperatures occur.

A1.2.5.1 Concrete-filled steel pipe bollards are recommended for protection of the facility and the unit.

2 Diagnostic and Treatment Locations

2.1 Mobile Units

2.1.1 Hand-Washing Stations

2.1.1.1 Noninvasive procedure locations. Mobile units where noninvasive procedures are performed shall be provided with hand-washing stations unless each site can provide hand-washing stations within 25 feet (7.47 meters) of the unit.

2.1.1.2 Invasive procedure locations. When invasive procedures are performed in a mobile unit, all units shall be provided with hand-washing stations.

2.2 Transportable Units

Transportable units shall be provided with hand-washing stations.

2.3 Relocatable Units

2.3.1 Seismic and Structural Requirements

2.3.1.1 Seismic force resistance for relocatable units shall comply with Section 1.1-5 and shall be given an importance factor of one when applied to the seismic design formulas.

2.3.1.2 These units shall meet the structural requirements of local and state building codes.

2.3.2 Hand-Washing Stations

Relocatable units shall be provided with hand-washing stations.

2.4 Support Areas for Mobile, Transportable, and Relocatable Facilities

2.4.1 Cryogenic Equipment and Supply Storage

Storage for dewars, which are of substantial weight and size, shall be included in space planning.

3 Administrative and Public Areas

3.1 Public Areas

*3.1.1 Entrance

Patient protection from the elements during transport to and from the mobile unit shall be provided.

3.1.1.1 Use of means other than covered walkways shall be permitted to protect patients from the elements.

3.1.1.2 Snow shall be kept clear of pathways to and from the mobile unit. Effective means of abating ice shall be used when conditions exist.

3.1.2 Public Waiting Area

The facility shall provide waiting space for patient privacy as close to the unit docking area as possible.

3.1.3 Toilets

The facility shall provide patient/staff toilets as close to the unit docking area as possible.

4 Construction Standards

4.1 Design and Construction Standards

4.1.1 Applicable Codes

Existing facilities shall comply with applicable requirements of the Existing Business Occupancies chapter of NFPA 101, Life Safety Code. Where patients incapable of self-preservation are receiving inhalation anesthesia, the Existing Ambulatory Health Care Occupancies chapter of NFPA 101 shall apply.

4.1.2 Radiation Protection

Radiation protection for x-ray and gamma ray installations shall be in accordance with NCRP reports 49 and 91 in addition to all applicable local and state requirements.

4.2 General Standards for Details and Finishes for Unit Construction

Requirements below apply to all units unless otherwise noted:

4.2.1 Details

4.2.1.1 Doors

- (1) Horizontal sliding doors and power-operated doors shall comply with NFPA 101.
- (2) Units shall be permitted a single means of egress as permitted by NFPA 101.
- (3) All glazing in doors shall be safety or wire glass.

4.2.1.2 Stairs

- (1) Stairs for mobile and transportable units shall be in accordance with Table 3.12-1.
- (2) There shall be no variation exceeding 3/16 inch (4.76 millimeters) in depth of adjacent treads or in the height of adjacent risers, and the tolerance between the largest and smallest tread shall not exceed 3/8 inch (9.52 millimeters) in any flight.

Exception: Where the bottom riser adjoins a public way, walk, or driveway having an established grade and serving as a landing, a variation in height of not more than 3 inches (7.62 centimeters) in every 3 feet (91.44 centimeters) and fraction of thereafter is permitted. Adjustable legs at the bottom of the stair assembly shall be permitted to allow for grade differences.

- (3) Stairs and landings for relocatable units shall comply with NFPA 101.
- (4) Handrails shall be provided on at least one side.
- (5) Handrails shall be installed and constructed in accordance with NFPA 101, with the following exception: Provided the distance from grade to unit floor height is not greater than 4 feet 5 inches (1.35 meters), one intermediate handrail with a clear distance between rails of 19 inches (48.26 centimeters) maximum shall be permitted. (This exception is not applicable to existing units having a floor height of 5 feet 3 inches, or 1.60 meters, maximum.)

4.2.2 Finishes

4.2.2.1 Interior finish materials

- (1) Interior finish materials shall be class A as defined in NFPA 101.

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A3.1.1 It is recommended that each site provide a covered walkway or enclosure to ensure patient safety from the outside elements. Protecting the patient from dust and wind also needs to be considered.

3.12 MOBILE, TRANSPORTABLE, AND RELOCATABLE UNITS

- (2) Textile materials having a napped, tufted, looped, woven, nonwoven, or similar surface shall be permitted on walls and ceilings provided such materials have a class A rating and rooms or areas are protected by automatic extinguishment or sprinkler system.
- (3) Fire-retardant coatings shall be permitted in accordance with NFPA 101.
- (4) Curtains and draperies shall be noncombustible or flame retardant and shall pass both the large- and small-scale tests required by NFPA 101.

5 Building Systems

5.1 Plumbing

5.1.1 Plumbing and Other Piping Systems

Plumbing and other piping systems shall be installed in accordance with applicable model plumbing codes, unless specified herein.

5.1.1.1 Plumbing vents

- (1) Mobile units. Venting through the roof shall not be required for mobile units requiring sinks. Waste lines shall be permitted to be vented through the sidewalls or other acceptable locations.
- (2) Transportable and relocatable units. These shall be vented through the roof per model plumbing codes.

5.1.1.2 Water supply connection. Backflow prevention shall be installed at the point of water connection on the unit.

5.1.1.3 Waste connection. All waste lines shall be designed and constructed to discharge into the facility sanitary sewage system.

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A5.3.1.3 Data processing and/or automated laboratory or diagnostic equipment, if provided, may require safeguards from power line disturbances.

5.1.2 Medical Gas and Vacuum Systems

Medical gases and suction systems, if installed, shall be in accordance with NFPA 99.

5.2 Heating, Ventilating, and Air-Conditioning Systems

5.2.1 Standards

5.2.1.1 Air-conditioning, heating, ventilating, ductwork, and related equipment shall be installed in accordance with NFPA 90B, Standard for the Installation of Warm Air Heating and Air Conditioning Systems.

5.2.1.2 All other requirements for heating and ventilation systems shall comply with Section 3.1-7.2.

5.3 Electrical Systems

5.3.1 General

5.3.1.1 Applicable standards

- (1) All electrical material and equipment, including conductors, controls, and signaling devices, shall be installed in compliance with applicable sections of NFPA 70 and NFPA 99.
- (2) All electrical material and equipment shall be listed as complying with available standards of listing agencies or other similar established standards where such standards are required.

5.3.1.2 Testing and documentation. The electrical installations, including alarm, nurse call, and communication systems, shall be tested to demonstrate that equipment installation and operation is appropriate and functional. A written record of performance tests on special electrical systems and equipment shall show compliance with applicable codes and standards.

*5.3.1.3 Power disturbance safeguards

5.3.2 Electrical Distribution and Transmission

5.3.2.1 Switchboards

- (1) Location
 - (a) Main switchboards shall be located in an area separate from plumbing and mechanical

equipment and shall be accessible to authorized persons only.

- (b) Switchboards shall be convenient for use and readily accessible for maintenance but away from traffic lanes.
- (c) Switchboards shall be located in dry, ventilated spaces free of corrosive or explosive fumes, gases, or any flammable material.

- (2) Overload protective devices. These shall operate properly in ambient room temperatures.

5.3.2.2 Panelboards

Panelboards serving normal lighting and appliance circuits shall be located on the same level as the circuits they serve.

5.3.3 Power Generating and Storing Equipment

5.3.3.1 Emergency electrical service. Emergency lighting and power shall be provided for in accordance with NFPA 99, NFPA 101, and NFPA 110.

5.3.4 Lighting

5.3.4.1 General

- (1) Lighting shall be engineered to the specific application.
- (2) Recommended lighting levels for health care facilities developed by the Illuminating Engineering Society of North America (IES) shall be considered. Refer to IES publication RP-29, *Lighting for Hospitals and Health Care Facilities*.
- (3) Consideration shall be given to the special needs of the elderly. Excessive contrast in lighting levels that makes effective sight adaptation difficult shall be minimized. Refer to IES publication, RP-28, *Lighting and the Visual Environment for Senior Living*.
- (4) Approaches to buildings and parking lots and all occupied spaces shall have lighting fixtures that can be illuminated as necessary.

5.3.4.2 Lighting for examination, treatment and trauma rooms. A portable or fixed examination light

shall be provided for examination, treatment, and trauma rooms.

5.3.5 Receptacles (Convenience Outlets)

5.3.5.1 Duplex grounded-type receptacles (convenience outlets) shall be installed in all areas in sufficient quantities for tasks to be performed as needed.

5.3.5.2 Each examination and work table shall have access to a minimum of two duplex receptacles.

5.3.6 Equipment

5.3.6.1 X-ray equipment. Fixed and mobile x-ray equipment installations shall conform to articles 517 and 660 of NFPA 70.

5.3.6.2 Inhalation anesthetizing locations. At inhalation anesthetizing locations, all electrical equipment and devices, receptacles, and wiring shall comply with applicable sections of NFPA 99 and NFPA 70.

5.4 Telecommunications and Information Systems

5.4.1 Locations for terminating telecommunications and information system devices shall be located on the unit that the devices serve and shall be accessible to authorized personnel only.

5.4.2 Special air conditioning and voltage regulation shall be provided when recommended by the manufacturer.

5.5 Electronic Safety and Security

5.5.1 Fire Alarm System

5.5.1.1 The fire alarm system shall be as described in NFPA 101 and, where applicable, NFPA 72.

5.5.1.2 Fire protection equipment

- (1) Manual fire extinguishers shall be provided in accordance with NFPA 101.
- (2) Fire detection, alarm, and communications capabilities shall be installed and connected to facility central alarm system on all new units in accordance with NFPA 101.

3.12 MOBILE, TRANSPORTABLE, AND RELOCATABLE UNITS

Table 3.12-1
Stair Requirements for Mobile and Transportable Units

	<i>New Units</i>	<i>Existing Units</i>
Minimum width clear of all obstructions, except projections not exceeding 3 1/2 inches (8.89 centimeters) at or below handrail height on each side	2 feet 10 inches (86.36 centimeters)	2 feet 3 inches (68.58 centimeters)
Minimum headroom	6 feet 8 inches (2.03 meters)	6 feet 8 inches (2.03 meters)
Maximum height of risers	9 inches (22.86 centimeters)	9 inches (22.86 centimeters)
Minimum height of risers	4 inches (10.16 centimeters)	4 inches (10.16 centimeters)
Minimum tread depth	9 inches (22.86 centimeters)	7 inches (17.78 centimeters)
Doors opening immediately onto stairs without a landing	No	Yes