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# Washington Sample Antibiotic Stewardship Policy for Long-Term Care Facilities

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Adapted from the Minnesota Department of Health’s “Sample Antibiotic Stewardship Policy for Long-Term Care Facilities”



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**PLEASE NOTE:** This policy is intended to offer guidance and may be edited to suit the individual facility's needs. It also does not replace clinical judgement.

## Background

Antibiotics are powerful tools for fighting and preventing infections. However, widespread use of antibiotics has resulted in an alarming increase in antibiotic-resistant infections and a subsequent need to rely on broad-spectrum antibiotics that might be more toxic and expensive. In addition to the development of antibiotic resistance, antibiotic use is associated with an increased risk of *Clostridium difficile* infection and adverse drug reactions. Since antibiotics are frequently over or inappropriately prescribed, a concerted effort to decrease or eliminate inappropriate use can make a big impact on resident safety and the reduction of adverse events. Antibiotic stewardship consists of coordinated interventions aimed at treating infections while promoting appropriate antibiotic use. The practice of antibiotic stewardship requires commitment, leadership, communication, and actions informed by best practice guidelines and defined protocols. In compliance with the current Centers for Medicare and Medicaid Services (CMS) Requirements of Participation for infection control in long-term care facilities, this Antibiotic Stewardship Policy outlines how \_\_\_ [facility] \_\_\_ will address this important health care issue.

## Policy

It is the policy of \_\_\_ [facility] \_\_\_ to **maintain an Antibiotic Stewardship Program (ASP) with the mission of promoting the appropriate use of antibiotics to treat infections and reduce possible adverse events associated with antibiotic use.** Components of this policy were developed by using evidence-based practice guidelines and are aligned with the *Core Elements of Antibiotic Stewardship for Nursing Homes*, published by Centers for Disease Control and Prevention (CDC)<sup>1</sup>, and the *State Operations Manual (Appendix PP): Guidance to Surveyors of Long Term Care Facilities*, published by CMS.<sup>2</sup>

The \_\_\_ [facility] \_\_\_ ASP will incorporate all seven core elements outlined by CDC. Details of each element are described in the “Procedure” section of this policy document. This Policy, including the Procedure section, will be reviewed yearly to ensure that all objectives and conditions are being met, to streamline procedures and algorithms, and to identify opportunities for enhancement of the ASP.

The seven core elements of the \_\_\_ [facility] \_\_\_ ASP are:

1. **Leadership Commitment:** We will dedicate time, financial, and technological ASP resources
2. **Accountability:** We will have physician, nursing, and pharmacy leads responsible for promoting and overseeing antibiotic stewardship activities
3. **Drug Expertise:** We will establish and maintain access to a consultant pharmacist(s) or other individual with antibiotic stewardship-specific drug expertise
4. **Action:** We will implement policies and practices to improve antibiotic use
5. **Tracking:** We will monitor antibiotic use and outcome(s) from antibiotic use
6. **Reporting:** We will provide regular feedback on antibiotic use and resistance to prescribing clinicians, nursing staff, and other relevant staff
7. **Education:** We will provide resources to clinicians, nursing staff, residents, and families about antibiotic resistance and appropriate antibiotic use

## Procedure

### 1. Administrative Leadership

- A. Administrative leadership will identify a physician, nursing, infection preventionist, and pharmacy lead to be responsible for program oversight and promotion – the Antibiotic Stewardship Team (AST).
  - i. Leadership will work with human resources to ensure that these responsibilities are written into the job descriptions of those selected
- B. A written leadership statement in support of antibiotic stewardship will be shared with all providers in the facility upon initial hire and annually thereafter
- C. Leadership will communicate annually with nursing staff and clinicians this commitment to antibiotic stewardship and the expectations of the nursing home regarding monitoring and enforcement of stewardship policies.
- D. Leadership will work with the human resources department and the antibiotic stewardship team to write stewardship into job descriptions

### 2. Accountability (Antibiotic Stewardship Team)

- A. Administrative leadership will work with the human resources department to ensure that antibiotic stewardship roles or responsibilities are added into the job descriptions of the following:
  - a. Director of Nursing
  - b. Medical Director
  - c. All prescribing providers
  - d. Infection Preventionist
  - e. CNAs, LPNs, RNs
  - f. Any leadership champion
- B. Team Role
  - i. Accountability for activities that support the antibiotic stewardship mission.
    - a. Define standards for antibiotic prescribing, communication, and other stewardship actions for staff and clinical providers credentialed to deliver care in the home
    - b. Communicate prescribing standards to staff and providers
  - ii. Utilize antibiotic-use and other data to ensure that Antibiotic Stewardship Policy procedures and other best practices are followed and refined as needed.
    - a. Compile and share report of antibiotic use, process measures, and outcomes monthly
    - b. Identify any necessary procedure changes based on monthly reports
    - c. Work with laboratory annually to obtain local/regional antibiogram

## PROCEDURE

- iii. Review the Antibiotic Stewardship Policy annually, as directed above.
- C. Members
  - i. The AST will include, at minimum, the Medical Director, the Director of Nursing, Infection Prevention (IP) Coordinator, and a consultant pharmacist.

### 3. Drug Expertise

A pharmacist must perform a medication regimen review (MRR) at least monthly, including review of the medical record. Reviewing and reporting unnecessary antibiotic use to the facility will be a part of this process.

The pharmacist will additionally educate providers to avoid treatment of asymptomatic bacteriuria as a part of the review and reporting process.

### 4. Antibiotic Stewardship Actions

- A. Background

Antibiotic stewardship actions are conducted to enable or to measure these key elements of care: knowing **when to be concerned about an infection** in a resident, **what clinical and historical information** to gather for the provider, **when to submit diagnostic specimens** to the laboratory, **how to quantify and assess appropriateness of antibiotics** prescribed, and **how to identify adverse outcomes** that might be associated with antibiotics.

Actions put into place by the AST will be monitored monthly (see Measuring Actions section on Page 5 of this document), discussed with leadership and appropriate consulting experts, and reviewed for necessary updates annually. Dates indicate when each action will be implemented as a mandatory part of this Antibiotic Stewardship Policy.

- B. Actions
  - i. **Prescription record keeping.** Dose, duration, route, and indication of every antibiotic prescription **MUST** be documented in the medical record for every resident, regardless of prior prescriptions or documentation elsewhere (e.g., in medical record of a discharging facility).
    - a. Notation of this information should be made on the day that an in-house prescription is written or on the day that a resident returns to the facility on an antibiotic prescribed elsewhere.
    - b. Records will be reviewed monthly to assess compliance with this requirement as well as prescription appropriateness for the individual resident, site, and type of infection.

## PROCEDURE

- ii. **Assessment of residents suspected of having an infection and provider communication.** Providers will utilize the Loeb Criteria when considering initiation of antibiotics (Appendix A) (4). Consistent with these criteria, the standardized Suspected UTI SBAR form should be used for all residents suspected of having a UTI. The completed form should be provided to, or information communicated with, the provider
- iii. **Antibiotic “time-out.”** At 72 hours after antibiotic initiation or first dose in the facility, each resident will be reassessed for consideration of antibiotic need, duration, selection, and de-escalation potential. At this time, laboratory testing results, response to therapy, resident condition, and facility needs (e.g., outbreak situation) will be considered. Completion of an antibiotic time-out must be recorded in the resident record.

**Implementation date:** \_\_\_\_\_

- iv. First-line treatment recommendations. There are no definitive practice guidelines that specifically address treatment of UTI in elderly patients in LTCF. Prescribers will base treatment recommendations on the following factors:
  - Likely UTI site (i.e., cystitis or pyelonephritis)
  - Facility-specific culture and antibiotic sensitivity data
  - Patient-specific factors including age, sex, prior antibiotic use, allergy history, concomitant drug therapy, renal function, and presence of urinary catheter

Although fluoroquinolone antibiotics have historically been extensively used to treat UTI, recent concerns include contributions to the emergence of bacterial resistance, the increasing prevalence of *C. difficile* infection, and potential toxicity, have led to recommendations to curb fluoroquinolone use.

**Implementation date:** \_\_\_\_\_

- v. Multi-drug resistant infections. The AST will design and utilize systems to 1) identify residents with multidrug-resistant organisms (MDROs) by review of microbiology culture results, 2) alert staff and providers, and 3) document in cases of inter-facility transfer.

**Implementation date:** \_\_\_\_\_

- vi. Interventions for syndrome-specific antibiotic use and antibiotic prophylaxis. The AST will identify actions to directly impact inappropriate antibiotic use for specific syndromes and for prophylactic indications.

**Implementation date:** \_\_\_\_\_

## PROCEDURE

### 5. Measuring Actions (Tracking)

#### A. Measurement/tracking objective

We will monitor antibiotic use, stewardship actions, and outcomes related to antibiotic use (excluding topical and ophthalmic antibiotics) in order to guide practice change and track ASP impact.

#### B. What will be measured/tracked

**Antibiotic use:** Antibiotic starts

**Stewardship actions:** Record-keeping protocol compliance, use of antibiotic time-outs

**Outcomes:** Clostridium difficile detection

i. Measurements to be initiated on \_\_\_\_\_

**Antibiotic use:** Days of therapy (DOT)

**Stewardship actions:** Record-keeping protocol compliance, use of antibiotic time-outs, compliance with urine culture specimen submission guidelines

**Outcomes:** Clostridium difficile infections, urinary tract infections, antibiotic costs

#### C. Measurement process

##### i. Antibiotic use

a. The antibiotic stewardship team will develop a protocol for tracking antibiotic use. The protocol will be included in Appendix E and will include tracking of specific key aspects of antibiotic use data for each resident.

b. Antibiotic use data will be compiled monthly and reviewed by the consulting pharmacist. Consulting pharmacist and the infection preventionist will interpret the monthly data, define any necessary action steps, and compile information for the Monthly ASP Tracking Report.

##### ii. Stewardship actions

a. \_\_\_ [responsible role] \_\_\_ will develop a system for measuring stewardship action. The measurement protocol will be included in Appendix E.

b. Data will be compiled monthly by \_\_\_ [responsible role] \_\_\_, who will interpret monthly data, define any necessary action steps, and compile information for the Monthly ASP Tracking Report.

##### iii. Outcomes

a. \_\_\_ [responsible role] \_\_\_ will develop a system for tracking outcomes. The outcomes tracking protocol will be included in Appendix E.

b. Outcomes data will be compiled monthly by \_\_\_ [responsible role] \_\_\_, who will interpret monthly data, define any necessary action steps, and compile information for the Monthly ASP Tracking Report.



## PROCEDURE

### 6. Reporting

A monthly report will be compiled and will include summaries of collected data; interpretation of data by consulting pharmacist, IP Coordinator, and other relevant individuals; and identified next action steps. The monthly report will be discussed at a full AST meeting, or Quality Assurance Performance Improvement meeting, and disseminated to administrative leadership identified in Procedure Section 1 of this document.

### 7. Education

\_\_\_ [facility] \_\_\_ will provide antibiotic stewardship education to staff, prescribing providers, residents, and families.

1. Staff and Prescribing Providers:
  - a. Education will occur upon hire as a part of orientation processes and annually thereafter
  - b. Education will additionally occur on a quarterly and as-needed basis

**Implementation date:** \_\_\_\_\_

2. Residents and Families:
  - a. Education will occur through antibiotic stewardship-themed handouts put into the resident's welcome or orientation packet
  - b. Copies of the Provider Commitment to Stewardship posters will be placed in multiple common areas of the facility

**Implementation date:** \_\_\_\_\_

- c. Residents and/or family members will be given a copy of an education pamphlet each time the treatment plan does not include an antibiotic

**Implementation date:** \_\_\_\_\_

## References

1. CDC. The Core Elements of Antibiotic Stewardship for Nursing Homes. Atlanta, GA: US Department of Health and Human Services, CDC; 2015. Available at: <http://www.cdc.gov/longtermcare/index.html>.
2. CMS. Pub. 100–07 State Operations Manual, Appendix PP, Guidance to Surveyors of Long Term Care Facilities. Washington D.C.: US Department of Health and Human Services, CMS; 2017. Available at: <https://www.cms.gov/files/document/appendix-pp-guidance-surveyor-long-term-care-facilities.pdf>.
3. Loeb et al. Development of Minimum Criteria for the Initiation of Antibiotics in Residents of Long-Term-Care Facilities: Results of a Consensus Conference. *Infection Control & Hospital Epidemiology* 2001;22(2):120-4.
4. Loeb et al. Effect of a multifaceted intervention on number of antimicrobial prescriptions for suspected urinary tract infections in residents of nursing homes: cluster randomised controlled trial. *British Medical Journal* 2005. doi:10.1136/bmj.38602.586343.55.
5. Minnesota Antimicrobial Stewardship Program Toolkit for Long-term Care Facilities. Appendix M: Prevention and Management of Clostridium difficile Infections in Long-term Care. <http://www.health.state.mn.us/divs/idepc/dtopics/antibioticresistance/asp/ltc/index.html>.

# Appendix A: Loeb Criteria for Initiating Antibiotics

From: Loeb et al. *Development of Minimum Criteria for the Initiation of Antibiotics in Residents of Long-Term-Care Facilities: Results of a Consensus Conference. Infection Control & Hospital Epidemiology* 2001;22(2):120-4.

<https://www.health.state.mn.us/diseases/antibioticresistance/hcp/lcabcxcard.pdf>

## Minimum Criteria for Initiation of Antibiotics in Long-Term Care Residents

### Suspected Urinary Tract Infection

#### NO indwelling catheter:

- Acute dysuria
- or
- Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature) *and at least one of the following:*
- New or worsening:
- Urgency
  - Frequency
  - Suprapubic pain
  - Gross hematuria
  - Costovertebral angle tenderness
  - Urinary incontinence

#### WITH indwelling catheter (Foley or suprapubic):

- *At least one of the following:*
  - Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature)
  - New costovertebral tenderness
  - Rigors
  - New onset of delirium

Note: Foul smelling or cloudy urine is not a valid indication for initiating antibiotics. Asymptomatic bacteriuria should not be treated with antibiotics.

### Suspected Skin and Soft-tissue Infection

- New or increasing purulent drainage at a wound, skin, or soft-tissue site
- or
- *At least 2 of the following:*
    - Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature)
    - Redness
    - Tenderness
    - Warmth
    - New or increasing swelling

Source: Loeb et al. *Development of Minimum Criteria for the Initiation of Antibiotics in Residents of Long-Term Care Facilities: Results of a Consensus Conference. Inf Control Hosp Epi.* 2001

### Suspected Lower Respiratory Tract Infection

- Fever >38.9°C [102°F] *and at least one of the following:*
    - Respiratory rate >25
    - Productive cough
- or
- Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature, but ≤38.9°C [102°F]) *and cough and at least one of the following:*
    - Pulse >100
    - Rigors
    - Delirium
    - Respiratory rate >25
- or
- Afebrile resident with COPD and >65 years *and new or increased cough with purulent sputum production*
- or
- Afebrile resident without COPD and new cough with purulent sputum production *and at least one of the following:*
    - Respiratory rate >25
    - Delirium
- or
- New infiltrate on chest X-ray thought to represent pneumonia *and at least one of the following:*
    - Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature)
    - Respiratory rate >25
    - Productive cough

Chest X-ray and complete cell count with differential is reasonable for residents with fever, cough, and at least one of the following: pulse >100, worsening mental status, rigors

### Fever with Unknown Focus of Infection

- Fever (>37.9°C [100°F] or a 1.5°C [2.4°F] increase above baseline temperature) *and at least one of the following:*
  - New onset delirium
  - Rigors

Note: fever + mental status changes that do not meet delirium criteria (e.g. reduced functional activities, withdrawal, loss of appetite) need to be investigated but empiric antibiotics are not needed.



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## Appendix B: Appropriate Use Criteria for Fluoroquinolones and Clindamycin

These Appropriate Use Criteria are guidelines that are intended to provide initial guidance for common outpatient infections and may not be entirely complete. Please utilize clinical judgement in the use of these and adapt them to meet your facility’s needs as possible

Consider adopting these as your facility’s guidelines for the proper use of clindamycin and fluoroquinolones. Share these with all providers within the facility (see IT resources tips for suggestions of how to share these).

	Appropriate Use	Inappropriate Use
<b>Clindamycin<sup>1,2</sup></b>	Treatment of skin infections in residents with a true allergic reaction† to penicillin	Upper respiratory tract infections  Allergy to clindamycin  Residents with a history of gastrointestinal disease, particularly colitis (unless no other option)
<b>Fluoroquinolones<sup>3,4,5</sup> (levofloxacin, moxifloxacin, ciprofloxacin)*</b>  <b>Always check resident’s creatinine clearance to ensure proper dosing!</b>	Pyelonephritis  A urine culture for a screening-tool-confirmed urinary tract infection showing resistance to all first-line therapies  Documented true allergic reactions† to first-line therapies for urinary tract infection or for community-acquired pneumonia	Asymptomatic bacteriuria  Allergy to fluoroquinolones  In conjunction with warfarin and tizanidine  Acute sinusitis, confirmed uncomplicated urinary tract infections, and acute bronchitis (unless there are no other options)  Residents with a history of QT-prolongation or Torsades de Pointes arrhythmia  Myasthenia gravis  Residents with central nervous system disorders such as convulsions and toxic psychoses  Use of ciprofloxacin for the treatment of pneumonia

**APPENDIX B: APPROPRIATE USE CRITERIA FOR FLUOROQUINOLONES AND CLINDAMYCIN**

Appropriate Use	Inappropriate Use
	<p>(continued from page 12)</p> <p>Use of moxifloxacin for the treatment of urinary tract infection</p> <p>Residents with pre-existing aortic aneurysm and/or dissection (unless there is no other option)</p> <p>Residents with risk factors for aortic aneurysm (unless there is no other option)</p> <p>Residents with a history of tendon disease/disorder related to previous fluoroquinolone treatment</p>

- \* Fluoroquinolones are associated with an increased risk of psychiatric adverse reactions, including toxic psychoses, hallucinations or paranoia, depression or suicidal thoughts, anxiety, agitation, restlessness or nervousness, confusion, delirium. Cases of attempted suicide have been reported. These reactions may occur following the first dose. **Seek out alternative options to a fluoroquinolone whenever possible.**
- † Fluroquinolones have been associated with hypoglycemia and hyperglycemia. Severe cases of hypoglycemia resulting in coma or death have been reported.
- ‡ Some resident-reported penicillin allergies do not represent true allergies. Please verify the resident’s allergy history. Beta-lactams have been demonstrated to provide superior clinical outcomes in some studies, so these drugs are preferred whenever possible<sup>6,7</sup>

## References

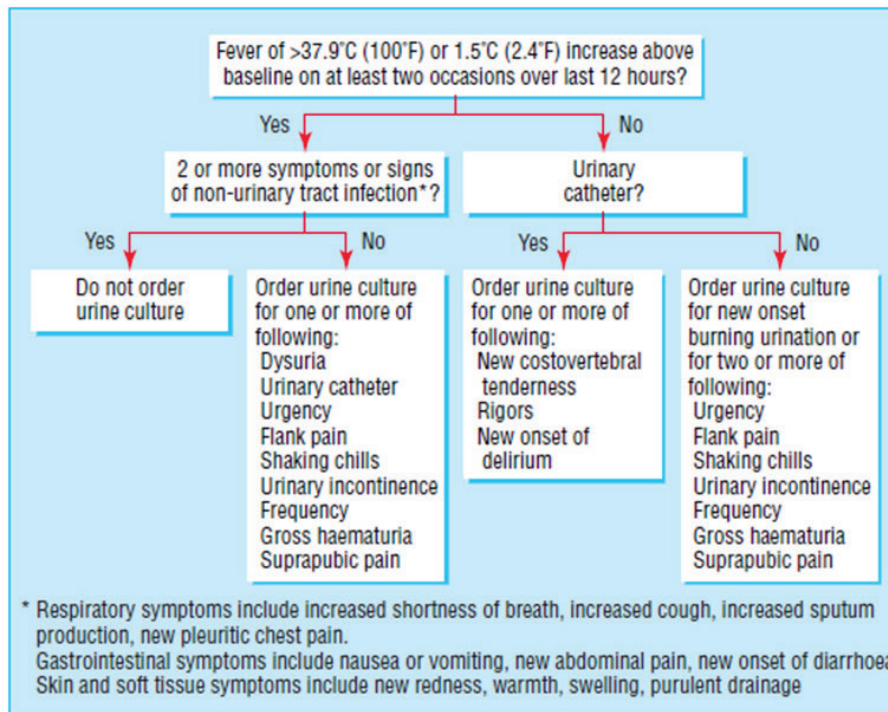
1. Clindamycin [package insert]. Pharmacia and Upjohn Company LLC; 2014
2. Stevens DL, Bisno AL, Chambers HF, Dellinger EP, Goldstein EJC, Gorbach SL, et al. Practice Guidelines for the Diagnosis and Management of Skin and Soft Tissue Infections: 2014 Update by the Infectious Diseases Society of America. *Clinical Infectious Diseases* [Internet]. 2014 Jul 15 [cited 2022 Nov 7];59(2):e10–52. Available from: <https://academic.oup.com/cid/article/59/2/e10/2895845>.
3. Cipro [package insert]. Wayne, NJ. Bayer HealthCare Pharmaceuticals; 2011
4. Center for Drug Evaluation and Research. FDA advises restricting use of fluoroquinolones for certain infections. US Food and Drug Administration [Internet]. 2016 May 12 [cited 2022 Nov 7]; Available from: <https://www.fda.gov/drugs/drug-safety-and-availability/fda-drug-safety-communication-fda-advises-restricting-fluoroquinolone-antibiotic-use-certain>.
5. Nicolle LE, Gupta K, Bradley SF, Colgan R, DeMuri GP, Drekonja D, et al. Clinical Practice Guideline for the Management of Asymptomatic Bacteriuria: 2019 Update by the Infectious Diseases Society of America. *Clinical Infectious Diseases* [Internet]. 2019 May 15 [cited 2022 Nov 7];68(10). Available from: <https://academic.oup.com/cid/article/68/10/e83/5407612>
6. Blumenthal KG, Ryan EE, Li Y, Lee H, Kuhlen JL, Shenoy ES. The Impact of a Reported Penicillin Allergy on Surgical Site Infection Risk. *Clinical Infectious Diseases* [Internet]. 2018 Feb 1 [cited 2022 Oct 27];66(3):329–36. Available from: <https://academic.oup.com/cid/article/66/3/329/4372047?searchresult=1>.
7. Huang K-HG, Cluzet V, Hamilton K, Fadugba O. The Impact of Reported Beta-Lactam Allergy in Hospitalized Patients With Hematologic Malignancies Requiring Antibiotics. *Clinical Infectious Diseases* [Internet]. 2018 Jul 1 [cited 2022 Oct 27];67(1):27–33. Available from: <https://academic.oup.com/cid/article/67/1/27/4810659?searchresult=1>.

# Appendix C: Criteria for Submission of Biologic Specimens for Laboratory Diagnostics

## Part 1: Urine Culture

From: Loeb et al. *Effect of a multifaceted intervention on number of antimicrobial prescriptions for suspected urinary tract infections in residents of nursing homes: cluster randomised controlled trial. British Medical Journal 2005. doi:10.1136/bmj.38602.586343.55*

This algorithm will be used to guide decisions about when to order a urine culture. It should be considered by providers in concert with information reported on the Suspected UTI SBAR form.

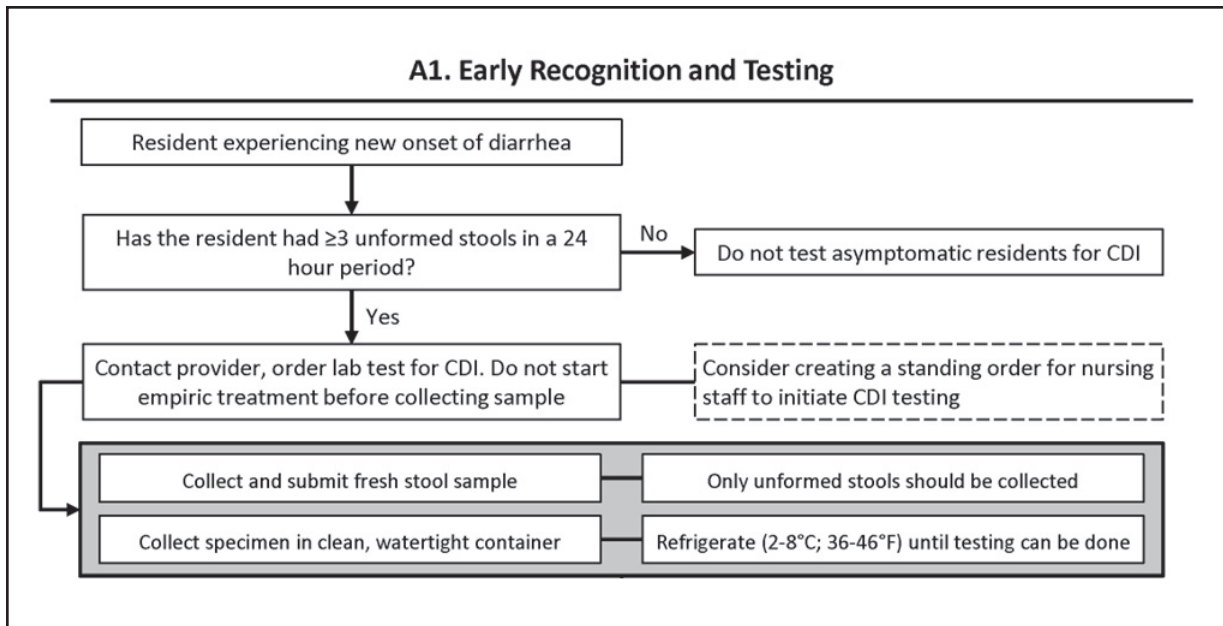


**APPENDIX C: CRITERIA FOR SUBMISSION OF BIOLOGIC SPECIMENS FOR LABORATORY DIAGNOSTICS**

**Part 2: Algorithm to guide *Clostridium difficile* diagnostics**

From: *Minnesota Antimicrobial Stewardship Program Toolkit for Long-term Care Facilities. Appendix M: Prevention and Management of Clostridium difficile Infections in Long-term Care.*  
<https://www.health.state.mn.us/diseases/antibioticresistance/hcp/asp/ltc/apxm.pdf>

This algorithm will be used to guide decisions about when to collect a stool sample. It should be considered by providers in concert with information reported on the SBAR form.





## Appendix D: Measurement Protocols

### Part 1: Antibiotic Use

#### Antibiotic Starts

- Measurement
  - The electronic health record system will be used to generate a list of all residents given an antibiotic prescription (“antibiotic start”) by a provider located in or outside of the facility.
  - A Microsoft Excel *Antibiotic Use Database* will be developed for antibiotic use tracking.
    - Each antibiotic start for a resident will be listed in a separate row. Some residents might be listed in more than one row, if they have had more than one course of antibiotics during the month.
    - Columns to be included in the database are:
      - Resident name
      - Antibiotic name
      - Indication for antibiotic
      - Route of administration
      - Dose of antibiotic
      - Prescribed length of antibiotic course (days)
      - Prescriber and prescribing facility
      - Antibiotic time-out occurred? (yes/no)
  - The medical record of each resident receiving an antibiotic that month will be reviewed and the appropriate information filled into the Excel database.
- Review and Reporting
  - The database will be reviewed by the consulting pharmacist once monthly to assess appropriateness of prescribing.
  - For the *Monthly ASP Tracking Report*, the following calculations will be completed and reported:
    - Total number of antibiotic starts
    - Number and percent of antibiotic starts by antibiotic name and class
    - Number and percent of antibiotic starts originating from facility providers and outside providers

## Part 2: Stewardship Actions

### Prescription Record-Keeping Compliance

- Measurement
  - The \_\_\_[facility]\_\_\_ Antibiotic Stewardship Policy requires that the dose, duration, and indication of every antibiotic prescription must be documented in the medical record for every resident, regardless of prior prescriptions or documentation elsewhere (e.g., in medical record of a discharging facility).
  - Each month, the Antibiotic Use Database will be reviewed to look for completeness of these data.
    - A new column will be added to the Microsoft Excel *Antibiotic Use Database*, titled, “Record Complete”
    - Each line of the database will be assessed to determine whether dose, duration, and indication were recorded. If none of these data are missing, the “Record Complete” cell is marked as “yes”
- Reporting
  - For the *Monthly ASP Tracking Report*, the following calculations will be completed and reported.
    - Number and percent of resident antibiotic starts with all of dose, duration, and indication recorded
    - Number and percent of antibiotic starts with dose recorded
    - Number and percent of antibiotic starts with duration recorded
    - Number and percent of antibiotic starts with indication recorded
    - Number and percent of resident records with complete dose, duration, indication information, by location of prescription (i.e., inside or outside of the facility)

### Use of Antibiotic Time-Outs

- Measurement
  - Data about the occurrence of antibiotic time-outs will be collected during compilation of the monthly Microsoft Excel *Antibiotic Use Database*.
- Reporting
  - For the *Monthly ASP Tracking Report*, the following calculations will be completed and reported.
    - Number and percent of antibiotic starts that were followed up by an antibiotic time-out
    - Number and percent of antibiotic starts that were followed up by an antibiotic time-out, by location of prescription (i.e., inside or outside of the facility)

### Part 3: Outcomes

#### *Clostridium difficile* Detection

##### ■ Measurement

- The electronic health record system will be used to generate a list of all residents with a positive *C. difficile* diagnostic test submitted by a provider located in or outside of the facility.
- A Microsoft Excel *C. difficile* Database will be developed for tracking.
  - Each resident diagnosed with *C. difficile* will be listed in a separate row.
  - Columns to be included in the database are:
    - Resident name
    - Date of specimen collection for positive *C. difficile* test
    - Room number when test positive
    - Presence of  $\geq 3$  loose stools within 24 hour period before test? (yes/no)
    - Received antibiotics within 30 days prior to positive test? (yes/no)
- The medical record of each resident with a positive *C. difficile* test that month will be reviewed and the appropriate information filled into the Excel database.

##### ■ Reporting

- For the *Monthly ASP Tracking Report*, the following calculations will be completed and reported.
  - Number of residents with a positive *C. difficile* diagnostic test
  - Number and percent of residents positive for *C. difficile* that had  $\geq 3$  loose stools within 24 hours prior to diagnostic test
  - Number and percent of residents positive for *C. difficile* that received antibiotics in 30 days before testing