

## Action Steps and Strategies for Implementing Antimicrobial Stewardship in Long-term Care Facilities

This toolkit is designed to be used by any LTCF; all recommendations can be tailored to accommodate individual facilities' needs and resources. There is no "one-size-fits-all" approach for promoting antimicrobial stewardship in long-term care. Many of the action steps and strategies below may already be in place at the facility. Therefore, assessing existing processes for opportunities to incorporate antimicrobial stewardship is recommended (see Appendix C).

The term "providers" includes all licensed providers in the LTCF (e.g., MD, DO, NP, PA) regardless of employment status (e.g. full-time, part-time or casual status; on-call; external consultant; etc.).

Action Step	Strategies
Identify antimicrobial stewardship champions	<ul style="list-style-type: none"> <li>• A physician serves as an antimicrobial stewardship champion to promote adherence to clinical practice guidelines for antimicrobial prescribing</li> <li>• Nursing leadership serves as an antimicrobial stewardship champion to promote nursing assessment, documentation, and communication in antimicrobial stewardship activities</li> <li>• A coordinator is assigned to oversee antimicrobial stewardship activities</li> <li>• Senior leadership is supportive of antimicrobial stewardship activities</li> </ul>
Incorporate antimicrobial stewardship issues into a committee/workgroup (Antimicrobial Stewardship [AS] Team)	<ul style="list-style-type: none"> <li>• Identify a committee/workgroup to incorporate antimicrobial stewardship issues (AS Team). Members may include: antimicrobial stewardship champion(s), nursing leadership, antimicrobial stewardship coordinator, senior leadership, consulting/in-house pharmacist, quality improvement, infection preventionist, information technologist, etc.</li> <li>• AS Team develops and communicates roles and responsibilities about antimicrobial stewardship for facility stakeholders</li> <li>• AS Team members have dedicated time for antimicrobial stewardship activities                             <ul style="list-style-type: none"> <li>○ Explore quality improvement- and resident safety-related grant funding opportunities that could incorporate antimicrobial stewardship activities</li> </ul> </li> <li>• AS Team regularly reviews antimicrobial use summaries/reports</li> <li>• Engage the consulting or in-house pharmacist in antimicrobial stewardship activities, particularly antimicrobial measurement</li> <li>• Nursing leadership/nursing champion regularly communicates antimicrobial stewardship progress to nursing assistants and nurses. Progress may include improved shift change hand-offs, compliance with use of Situation – Background – Assessment – Request (SBAR) form, infection rates, communication and documentation of nursing assessments, etc.</li> <li>• Medical director/physician champion regularly communicates antimicrobial stewardship progress to licensed providers in the facility</li> </ul>

	<ul style="list-style-type: none"> <li>○ Consider communicating aggregate and/or individual antimicrobial use results to providers</li> <li>● Published clinical practice guidelines that support antimicrobial stewardship are reviewed by key antimicrobial stewardship stakeholders – at a minimum the medical director/antimicrobial stewardship physician champion, nursing leadership/director of nursing, infection preventionist, consulting/ in-house pharmacist. Consider the following: <ul style="list-style-type: none"> <li>○ Loeb M, Bentley DW, Bradley S, et al. Development of minimum criteria for initiation of antibiotics in long-term care residents: Results of a consensus conference. Infection Control and Hospital Epidemiology 2001; 22:120-4. Available at: <a href="http://www.jstor.org/stable/10.1086/501875">www.jstor.org/stable/10.1086/501875</a></li> <li>○ SHEA Position Paper. Nicolle LE, the SHEA Long-Term Care Committee. Urinary tract infections in long-term care facilities. Infection Control and Hospital Epidemiology 2001; 22:167-75. Available at: <a href="http://www.shea-online.org/assets/files/other_papers/utis_in_ltcf_2001.pdf">www.shea-online.org/assets/files/other_papers/utis_in_ltcf_2001.pdf</a></li> <li>○ SHEA Position Paper. Strausbaugh LJ, Crossley KB, Nurse BA, et al. Antimicrobial resistance in long-term care facilities. Infection Control and Hospital Epidemiology 1996; 17:129-40. Available at: <a href="http://www.shea-online.org/assets/files/position_papers/abxr-ltcf96.pdf">www.shea-online.org/assets/files/position_papers/abxr-ltcf96.pdf</a></li> <li>○ SHEA Position Paper. Nicolle LE, Bentley D, Garibaldi R, et al. Antimicrobial use in long-term care facilities. Infection Control and Hospital Epidemiology 1996; 17:119-28. Available at: <a href="http://www.shea-online.org/Assets/files/position_papers/Abx-LTCF96.pdf">www.shea-online.org/Assets/files/position_papers/Abx-LTCF96.pdf</a></li> <li>○ IDSA Guidelines. High KP, Bradley SF, Gravenstein S, et al. Clinical practice guideline for the evaluation of fever and infection in older adult residents of long-term care facilities: 2008 update by the Infectious Diseases Society of America. Clin Infect Dis 2009; 48:149-171. Available at: <a href="http://www.idsociety.org/Other_Guidelines/#sthash.ntlBYQdM.lkHRsefX">www.idsociety.org/Other_Guidelines/#sthash.ntlBYQdM.lkHRsefX</a></li> </ul> </li> </ul>
<p>Provide regular antimicrobial stewardship education and training to all healthcare personnel, including providers</p>	<ul style="list-style-type: none"> <li>● Provide education and training about antimicrobial stewardship to resident care staff, including providers <ul style="list-style-type: none"> <li>○ Consider including findings from antimicrobial stewardship assessments such as the Nursing and Provider Antibiotic Use Attitudes and Beliefs Surveys (Appendix D), Antimicrobial Use Assessment (Appendix E), Nursing Process Evaluation Tool (Appendix F)</li> </ul> </li> </ul>
<p>Provide education and training to nursing staff at all levels within the facility to promote the timely and accurate recognition, assessment, communication, and documentation of change</p>	<ul style="list-style-type: none"> <li>● Utilize tools to educate and train nursing staff at all levels within the facility to promote the timely and accurate recognition, assessment, communication, and documentation of change in a resident’s condition. Consider the following tools that provide cues and organize observations of resident changes: <ul style="list-style-type: none"> <li>○ Agency for Healthcare Research and Quality (AHRQ) Improving Patient Safety in Long-Term Care Facilities: Module 1. Detecting Change in a Resident's Condition. Available at:</li> </ul> </li> </ul>

<p>in a resident's condition</p>	<p><a href="http://www.ahrq.gov/professionals/systems/long-term-care/resources/facilities/ptsafety/lcmodule1.html">http://www.ahrq.gov/professionals/systems/long-term-care/resources/facilities/ptsafety/lcmodule1.html</a>  Module 2. Communicating Change in a Resident's Condition.  Available at: <a href="http://www.ahrq.gov/professionals/systems/long-term-care/resources/facilities/ptsafety/lcmodule2.html">http://www.ahrq.gov/professionals/systems/long-term-care/resources/facilities/ptsafety/lcmodule2.html</a></p> <ul style="list-style-type: none"> <li>○ INTERACT™ <i>Stop and Watch</i> Early Warning Tool for nursing assistants Available at: <a href="http://www.interact2.net/tools.html">http://www.interact2.net/tools.html</a></li> <li>○ Situation-Background-Assessment-Request (SBAR) Form for licensed nurses (Appendix G)</li> <li>○ AHRQ Concerned – Uncomfortable – Safety (CUS) Communication Tool (Appendix H)</li> <li>○ AHRQ Changes that Matter Tool (Appendix I)</li> </ul>
<p>Communicate antimicrobial stewardship messages to healthcare facility staff and resident family and visitors</p> <p>Develop and communicate policies and protocols based on clinical guidelines for antimicrobial stewardship, infection management, and diagnostic testing</p>	<p>Develop and communicate expectations to all healthcare personnel, including <u>all licensed providers in the facility</u> regardless of employment status (e.g. full-time, part-time or casual status; on-call; external consultant; etc.), regarding their roles in antimicrobial stewardship</p> <ul style="list-style-type: none"> <li>• Communicate antimicrobial stewardship messages to all facility staff (e.g. via staff meetings, newsletters, etc.)</li> <li>• Communicate antimicrobial stewardship messages to family/visitors (e.g. via brochures, newsletters, family council meetings)</li> <li>• Develop policies based on clinical practice standards for antimicrobial stewardship (e.g. the 5 Ds: right diagnosis, drug, dose, duration, and de-escalation)</li> <li>• Develop policies based on clinical practice guidelines for infection management including prescribing algorithms and clinical pathways (e.g., Loeb et al. (2001), SHEA/IDSA guidelines)</li> <li>• Develop standardized policies and protocols for ordering diagnostic tests (e.g., microbiology, imaging) based on clinical guidelines (e.g., High et al., 2008). For example, if UTI is suspected, ensure that clinical criteria (High et al., 2008) are met prior to ordering microbiology tests</li> <li>• Communicate policies and protocols for antimicrobial stewardship, infection management, and diagnostic testing to all licensed providers in the LTCF</li> </ul>
<p>Conduct surveillance for infections</p>	<ul style="list-style-type: none"> <li>• Conduct infection surveillance using standardized infection definitions (Stone ND, et al. Surveillance definitions of infections in LTCF: revisiting the McGeer criteria. <i>Infect Control Hosp Epidemiol.</i> 2012;33:965-77.) <ul style="list-style-type: none"> <li>○ Tips for Applying CDC's Infection Surveillance Guidance (Appendix J)</li> <li>○ Infection Surveillance Definition Worksheet (Appendix K)</li> <li>○ Infection Surveillance Linelist Template (Appendix L)</li> <li>○ Lee TB, Montgomery OG, Marx J, et al. Recommended practices for surveillance: Association for Professionals in Infection Control and Epidemiology (APIC), Inc. <i>Am J Infect Control</i> 2007;35:427-40.  Available at: <a href="http://www.ajicjournal.org/article/S0196-6553(07)00617-7/pdf">http://www.ajicjournal.org/article/S0196-6553(07)00617-7/pdf</a></li> </ul> </li> <li>• Infection prevention expertise is available in the facility</li> </ul>

<p>Evaluate the facility's process to assess, communicate, and document a resident's change in condition</p>	<ul style="list-style-type: none"> <li>• Perform process mapping to examine key opportunities to communicate clinical information pertinent to infections and antimicrobial stewardship. This method will demonstrate how antimicrobial stewardship components fit into existing care processes <ul style="list-style-type: none"> <li>○ Nursing Process Evaluation Tool (Appendix F)</li> </ul> </li> </ul>
<p>The facility sets the expectation that a change in a resident's condition is consistently communicated between nursing assistants and nursing through the use of a standardized process</p>	<ul style="list-style-type: none"> <li>• Implement a <u>standardized</u> process to communicate a change in a resident's condition between nursing assistants and nurses; use findings from process mapping to develop or revise processes <ul style="list-style-type: none"> <li>○ Standardized tools provide consistency when communicating a change in a resident's condition. <ul style="list-style-type: none"> <li>▪ INTERACT™ <i>Stop and Watch</i> Early Warning Tool for nursing assistants</li> <li>▪ AHRQ Concerned – Uncomfortable – Safety (CUS) Communication Tool (Appendix H)</li> <li>▪ AHRQ Changes that Matter Tool (Appendix I)</li> </ul> </li> <li>○ Provide education and training to staff on the standardized communication process</li> </ul> </li> </ul>
<p>The facility sets the expectation that a change in a resident's condition is consistently communicated between nursing and providers through the use of a standardized process</p>	<ul style="list-style-type: none"> <li>• Implement a <u>standardized</u> process to communicate a change in a resident's condition in a consistent manner between nursing and providers; use findings from process mapping to develop or revise processes <ul style="list-style-type: none"> <li>○ Consider Situation – Background – Assessment – Request (SBAR) Form (Appendix G) The standardized process should include review of all sources of resident information (e.g., electronic health record, 24-hour/daily report, shift change report/communication, stand-up meetings, wall boards, etc.) to ensure that clinically-relevant resident information is accessible to the end user (e.g., nurses, providers, etc.) for clinical decision-making</li> </ul> </li> <li>• Provide education and training to staff on the standardized communication process</li> <li>• Audit the implementation of the standardized communication process (e.g., are nursing staff using standardized communication tools?)</li> <li>• Audit the completeness and accuracy of the information included on the standardized communication tool (e.g., SBAR). For example, are nurses thoroughly and appropriately communicating the information required according to the standardized communication tool?</li> </ul>
<p>The facility sets the expectation that a change in a resident's condition is consistently documented</p>	<ul style="list-style-type: none"> <li>• Centrally document change in resident condition</li> <li>• Integrate tools for information gathering into the electronic health record when possible to provide consistency, care continuity and centrally documented information (e.g., a UTI monitor)</li> <li>• Information Technology support for antimicrobial stewardship activities is available in the facility to facilitate accessibility of clinical documentation; activities may include report generation, optimizing electronic health record for clinical documentation, etc.</li> </ul>

	<ul style="list-style-type: none"> <li>• Explore ways your electronic health record vendor can support antimicrobial stewardship activities</li> </ul>
Diagnostic testing results, including microbiology, are accessible in a timely manner for clinical decision-making and infection surveillance	<ul style="list-style-type: none"> <li>• Implement a process to ensure that diagnostic testing, including microbiology results, are accessible in a timely manner for clinical decision-making</li> <li>• Implement a process to ensure that diagnostic testing, including microbiology results, are accessible in a timely manner for infection surveillance</li> </ul>
All licensed providers in the facility follow clinical practice guidelines for infection management	<ul style="list-style-type: none"> <li>• Policies/protocols based on clinical practice guidelines for the initiation of antimicrobials (Loeb et al., 2001) are followed by all licensed providers in the facility regardless of employment status (e.g. full-time, part-time or casual status; on-call; external consultant; etc.) <ul style="list-style-type: none"> <li>○ Consider conducting antibiotic use assessment to monitor guideline adherence</li> </ul> </li> <li>• All licensed providers follow basic antimicrobial stewardship practices including the 5 Ds: right diagnosis, drug, dose, duration, de-escalation <ul style="list-style-type: none"> <li>○ Consider engaging consulting or in-house pharmacist</li> <li>○ Specifically ensure that all antimicrobial orders have the following elements documented: <ul style="list-style-type: none"> <li>▪ Diagnosis <ul style="list-style-type: none"> <li>• Treatment indication/ rationale (e.g., specific resident symptoms warranting antibiotics)</li> <li>• Treatment site (e.g., urinary tract, lower respiratory tract, etc.)</li> </ul> </li> <li>▪ Drug</li> <li>▪ Dose</li> <li>▪ Duration <ul style="list-style-type: none"> <li>• Antibiotic start date</li> <li>• Antibiotic end date</li> </ul> </li> <li>▪ Route/ de-escalation</li> </ul> </li> </ul> </li> <li>• Empirically prescribed antibiotics are reviewed by the provider in a timely manner and adjusted or discontinued based on microbiology results</li> <li>• All licensed providers in the facility follow clinical guidelines/recommendations for asymptomatic bacteriuria management (e.g., Infectious Diseases Society of America (IDSA) Guidelines for the Diagnosis and Treatment of Asymptomatic Bacteriuria in Adults 2005.) <ul style="list-style-type: none"> <li>○ Consider conducting antibiotic use assessment to monitor guideline adherence</li> </ul> </li> <li>• All licensed providers have access to a local antibiogram; consider whether the data are compiled from the facility, local hospital, healthcare system, region, etc.; as well as how often the data are updated (e.g., annually, quarterly, monthly, etc.)</li> </ul>
Measure antimicrobial use	<ul style="list-style-type: none"> <li>• Establish an antimicrobial utilization baseline <ul style="list-style-type: none"> <li>○ Antimicrobial Use Assessment (Appendix E)</li> </ul> </li> <li>• Assess antimicrobial use on a regular basis (e.g., monthly, quarterly, etc.)</li> </ul>

	<ul style="list-style-type: none"> <li>• Assess antimicrobial appropriateness on a regular basis (e.g., monthly, quarterly, etc.); this activity is most suitable for the consulting or in-house pharmacist. Assess prescribing trends by provider and facility-wide</li> <li>• Monitor compliance with prescribing expectations and clinical practice guidelines relevant to antimicrobial stewardship (e.g., monitor compliance with Loeb minimum criteria for initiation of antibiotics in LTC residents) <ul style="list-style-type: none"> <li>○ Antimicrobial Use Assessment (Appendix E)</li> </ul> </li> <li>• Develop antimicrobial use summaries/reports on a regular basis</li> </ul>
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List at least 2 long-term goals for antimicrobial stewardship at your facility

- 1.
- 2.

List at least 4 short-term goals for antimicrobial stewardship at your facility

- 1.
- 2.
- 3.
- 4.

List the 3 primary challenges / barriers to implementing / expanding antimicrobial stewardship strategies in your facility:

- 1.
- 2.
- 3.