

Sustainability Plan: AHRQ Toolkit To Improve Antibiotic Use in Telemedicine



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Introduction and Objectives of the Plan

The goal of this Sustainability Plan is to help telemedicine practices apply antibiotic stewardship principles and lessons in an ongoing way and to consider how new strategies and/or approaches could be implemented in an enduring manner. Intended to serve as a discussion tool and a template for action, the Sustainability Plan is designed to complement the [AHRQ Toolkit To Improve Antibiotic Use in Telemedicine](#) by—

- Guiding telemedicine clinicians, practices, and organizations in development of a Sustainability Plan tailored to their individual context.
- Identifying factors that support or drive sustainability.
- Providing strategies to incorporate practice changes in antibiotic prescribing.

The intended audience for this plan is the individual(s)/team that support antibiotic stewardship in the telemedicine practice or organization, which may include telemedicine organizational stewardship leads, quality improvement leads, or telemedicine organizational/practice managers, among others. This plan is designed to advance telemedicine practice/organizational-level sustainability. It also includes tips for individual clinicians, who can modify this plan for their own use.

This plan draws on elements from several published frameworks, highlighting four components of sustainability: Support From Executive Leadership and the Stewardship Team, Culture of Improvement and Staff Engagement, Hardwiring Change, and Audit and Feedback¹⁻¹¹ (Figure 1). Not all telemedicine practices have a stewardship team. Sustainability can be pursued in the absence of a stewardship team. There may also be opportunities to advocate for the creation of a stewardship team.

Figure 1. Components To Consider for Sustainability of the AHRQ Safety Program



The four components are interrelated. For example, regular collection and review of antibiotic prescribing data can be used by stewardship team leaders to advocate for resources and demonstrate to clinicians the impact of their efforts; senior executive leadership can support hardwiring change through adjustments in processes and policies; data feedback can support a culture of improvement, which can in turn sustain long-term data collection; and individual clinicians can participate in quality improvement efforts around antibiotic use.

Using the Sustainability Plan

While the Sustainability Plan is meant to be broadly applicable to different types of telemedicine practices, examples may vary in terms of applicability to each individual practice. Practices should leverage the information and tools that are most relevant and useful to their setting. This plan is not meant to be prescriptive but rather to offer ideas and directions to consider for sustaining improvements within the telemedicine practice.

Roadmap of the Plan

The Sustainability Plan is organized as follows:

- Each of the four components is described in greater detail, including a description of its contribution to sustainability, key items to consider, and illustrative activities.
- An appendix contains three additional resources:
 - A quick reference table of key considerations and example activities for each component.
 - A sustainability planning worksheet for telemedicine practices to plan their activities.
 - A tip sheet for clinicians to sustain antibiotic stewardship.

Using the Sustainability Plan as a tool for discussion and a template for action, telemedicine practices can ensure that the gains made through antibiotic stewardship activities are sustained and improved over time.

1. Support From Executive Leadership and the Stewardship Team

Description

The most successful sustainability efforts benefit from supportive telemedicine organizational-level executive leadership that prioritizes quality of care initiatives, provides support, and recognizes successes, and an antibiotic stewardship leader that can implement and guide clinicians. However, individual clinicians can sustain changes as well. For example, clinicians can learn about updated guidance around management of infectious syndromes and implement this guidance into their practice, learn how to track their own antibiotic prescribing, and monitor the impact of their activities over time. Actions that can be taken by senior executive(s), the stewardship team leader(s), and individual clinicians include:

Practice Roles

Senior executive: an individual within a telemedicine organization's leadership who holds decision-making authority

Antibiotic stewardship team leader: someone within an antibiotic stewardship team, at the telemedicine practice or organization level, who champions and leads antibiotic stewardship efforts

Clinicians and staff: may include physicians, nurse practitioners, physician assistants, pharmacists, nurses, medical assistants, technicians, and certified nurse assistants

- **Goal Setting.** Optimal outcomes are more likely to occur when clinicians and staff share common goals and are motivated to reach them. It is up to the antibiotic stewardship team in each telemedicine practice to ensure that staff and clinicians understand the importance of appropriate antibiotic prescribing and the potential harm caused by inappropriate antibiotic prescribing, and that senior leadership continue to support stewardship efforts. If no team is available, individual clinicians can set their own goals, which they can use to inform their own individual-level telemedicine practice change.
- **Decision-Making and Resource Allocation.** Sustaining antibiotic stewardship may require changes in telemedicine organizational policies or processes. Support from senior executives is key to provide additional support, support relevant organizational changes (e.g., changes in the electronic health record [EHR] or information technology), and direct resources to new initiatives. Stewardship teams or individual clinicians can raise these issues to practice leadership for consideration.
- **Overcoming Barriers.** Barriers to implementing changes may include cost concerns or resource bottlenecks (e.g., time/staff allocation to develop data queries and regularly pull data, or to develop antibiotic refresher training materials). Antibiotic stewardship team leadership or individual clinicians can work with senior executives to ensure time and staff allocation and to assist in overcoming barriers, and, if there is one, the antibiotic stewardship team leadership can help clinicians and staff overcome barriers they face in daily stewardship efforts.
- **Advocating for Stewardship.** An important aspect of sustaining change is demonstrating the impact of changes (e.g., reductions in prescribing rates or adverse events from unnecessary antibiotics). Antibiotic stewardship team leaders or individual clinicians can communicate the benefits of changes to senior executives and others, which can build the case for sustainability efforts.

Using these approaches, senior executives and the stewardship team can support antibiotic stewardship in sustainability in ways that embed change within the organizational structure.

Key Considerations and Example Activities

Key questions to consider:

- Does the telemedicine practice or organization already have an individual (or group) leading antibiotic stewardship? If not, who within the telemedicine practice or organization can lead this topic? Who will be responsible for continuing stewardship activities?
- Has a senior executive sponsor been identified? Who are key senior executives who need to be consulted or engaged on this topic?
- How and when will the senior executive be engaged?
- Do adequate resources exist to assist with frontline improvements in antibiotic stewardship?

Examples of leadership activities include:

- The senior executive and the antibiotic stewardship team should remain involved, providing support as needs change over time, attending team meetings, and receiving regular (e.g., quarterly) updates on ongoing activities of the stewardship program.
- The antibiotic stewardship team should include antibiotic prescribing metrics in reports to the senior executive on a regular, ongoing basis.
- The senior executive could assist by including support for antibiotic stewardship activities as they write protocols and job descriptions.

2. Culture of Improvement and Provider and Staff Engagement

Description

Building a culture of improvement and enhancing clinician and staff engagement are intertwined enterprises that support sustainability of change. Support from the antibiotic stewardship team and senior executive support (Section 1) is central to establishing and supporting a culture of improvement through appropriate goal setting and resource allocation. However, individual clinicians can help establish a culture of improvement by advocating for and participating in antibiotic stewardship using the [tip sheet](#) included in the [Toolkit To Improve Antibiotic Use in Telemedicine](#). In addition, creating an enabling environment and establishing expectations for safety and quality improvement can encourage clinicians and staff to engage in new and ongoing antibiotic stewardship activities. As individuals become more engaged in implementing and assessing changes, the culture of improvement can solidify and spread. Creating opportunities for clinicians to give feedback on what is and is not working and to provide input on new policies or processes can lead to more successful, sustainable interventions.

Leveraging Safety Program Resources. The root of improvement lies in the safety culture within the practice. To support building a culture of safety, several presentations in the AHRQ Safety Program for Telemedicine: Improving Antibiotic Use Toolkit focus on patient safety and

antibiotic decision making, in particular, [“Why Should You Focus on Improving Antibiotic Prescribing?”](#) and [“Communicating With Patients and Families Around Antibiotic Decisions in Telemedicine.”](#) Clinicians may want to periodically review these presentations as a refresher; practice leadership should also share these with new hires.

Defining Roles and Responsibilities. Clinicians and staff at all levels can have a role in sustaining quality improvement and antibiotic stewardship, as described in Table 1 below. The list of roles and responsibilities below is comprehensive, but not all roles need to be filled to ensure antibiotic stewardship. For example, in the absence of a formal antibiotic stewardship team, clinicians can still champion stewardship efforts.

Table 1. Roles and Responsibilities for Antibiotic Stewardship

Clinicians and Staff	These individuals can work to implement their own stewardship efforts by— • Recognizing antibiotic-related adverse events • Developing a system for recognizing these concerns • Identifying multidisciplinary solutions If a team leads antibiotic stewardship efforts within the practice, this team can help clinicians become self-stewards. Alternately, managers or antibiotic stewardship team leaders can work with individual clinicians to give them the resources and coaching needed to become self-stewards. The clinician “tip sheet” in the Appendix provides additional guidance on how clinicians can sustain antibiotic stewardship.
Administrators	Administrators should ensure practices are adherent to antibiotic stewardship-related regulatory requirements such as The Joint Commission Antimicrobial Stewardship in Ambulatory Healthcare requirement and assist telemedicine practices and clinicians with participation in the Centers for Medicare & Medicaid Services Merit-based Incentive Payment System (MIPS) or related programs, including obtaining needed data.¹²⁻¹³
Stewardship Team Leaders or Clinical Leads	Team leaders should be open to input and feedback and help find solutions if strategies don’t turn out to be a good fit. Team leaders should be able to motivate clinicians or staff to adjust their behavior when deviations from antibiotic recommendations occur—for example, when providers inappropriately prescribe antibiotics for a nonindicated condition. Team leaders should ensure new personnel have access to the educational toolkit and learn how to incorporate the principles into their daily practice.
Antibiotic Stewardship Team (if applicable)	The antibiotic stewardship team should regularly (e.g., monthly, every other month, or quarterly) meet and provide antibiotic usage data and education, as needed, to other clinicians and staff, and should work with team members in designing solutions. If a team has not been established in the course of the program, consider if your organization would support establishing such a team.

Key Considerations and Example Activities

Key questions to consider:

- Do clinicians know and understand their role in improving antibiotic use?
- Do clinicians feel concerns related to antibiotic use have been addressed?
- If an antibiotic stewardship team exists, does the antibiotic stewardship team understand its role in improving antibiotic use?
- What does the telemedicine practice require to engage in culture change? (Examples: time, money, training, etc.)
- Reflecting on past improvement initiatives—
 - What was required to accomplish changes? (Examples: formation of a team, time, clinician and staff buy-in and support, etc.)
 - Whose involvement was necessary to accomplish changes? (Examples: telemedicine practice leadership, medical directors, clinicians, staff, etc.)
 - How did the team overcome barriers?
 - Were there any unexpected pitfalls?
 - What factors were important in efforts that were unsuccessful or difficult to enact?

Example activities:

- Provide training or assure that everyone within the telemedicine practice/organization is clear on their role in sustaining antibiotic stewardship.
- Facilitate opportunities for all stakeholders to provide feedback and input on past initiatives and planned activities.
- Encourage discussion as a telemedicine practice around antibiotic decision making.

3. Hardwiring Change

Description

Practice changes made during the implementation period need to become embedded in clinicians' daily routines to ensure changes will be sustained. To accomplish this, clinicians can benefit from standardized guidance and organizational policies aligned to support stewardship.

Provide Standard Guidance to Providers. The [AHRQ Toolkit To Improve Antibiotic Use in Telemedicine](#), specifically the [Four Moments of Antibiotic Decision Making in Telemedicine](#), provides structured guidance that can be employed to aid in sustaining changes. Incorporating material from the educational presentations (e.g., clinical content, content on how to communicate with patients and families, etc.) into daily practice and telemedicine organizational guidance will facilitate the use of best practices in decision making and decrease variation across clinicians.

Embedding Change at the System Level. Hardwiring change may require altering or updating telemedicine practice/organizational policies and processes to incorporate best practices in antibiotic prescribing into regular routines. Implementing changes at the telemedicine practice or organizational level can reduce reliance on individual clinician and staff member behavior change and makes it easier for busy individual clinicians to take the desired action. Examples of

embedding change at the system level may include developing clinical decision supports for antibiotic prescribing, embedding scripts in EHRs for clinicians to use in asynchronous communication with patients, or adding virtual antibiotic commitment posters or screensavers as clinicians' default virtual visit background.

Key Considerations and Example Activities

Key questions to consider:

- What changes could make the desired clinician behavior (e.g., not prescribing antibiotics for non-indicated conditions, suggesting alternative treatments for symptom relief) the default?
- What changes in policies or processes are needed to embed desired changes into day-to-day activity?

Examples of activities to hardwire change include:

- Review communication strategies and offer skills training for communicating with patients and families in telehealth visits.
- Implement clinical decision support to nudge clinicians to prescribe antibiotics appropriately.
- Provide support to staff to participate in continuing medical education and maintenance of certification activities related to antibiotic stewardship and appropriate prescribing.

4. Audit and Feedback

Description

Collecting and sharing data on antibiotic prescribing is important for assessing implementation and sustainability and enhancing visibility and accountability for desired changes. Data can be analyzed to discern whether a change is leading to the intended outcomes and can identify areas that may require attention or intervention. Data can also serve to motivate clinicians, staff, and senior executives to continue sustaining antibiotic stewardship by highlighting what is going well and where the telemedicine practice has opportunities to improve. The practice will likely need access to a data analyst to perform this task.

Data Collection. While evaluating antibiotic stewardship interventions, the practice may wish to assess process and outcome measures. Process measures focus on how work is done, while outcome measures focus on results. Process measures can be used to understand the antibiotic stewardship activities implemented by the telemedicine practice. Outcome measures can demonstrate how well stewardship efforts are working. Table 2 below lists examples of process and outcome measures. When implementing a new intervention, it is useful to select realistic and feasible measures that are of interest to both clinicians and practice leadership.

Table 2. Examples of Process and Outcome Measures To Track

Example Process Measures	Example Outcome Measures
• Use of clinical decision support tool* • Proportion of clinicians or staff performing ongoing review of educational material* • Proportion of data feedback reports opened by clinicians*	• Antibiotic prescription • Adverse reactions • Return visits

*These measures are designed for use at the telemedicine practice/organization level; individual clinicians can adjust these metrics to track their own review of educational materials and data feedback reports.

The [EHR data collection tool](#) provided in the [Toolkit To Improve Antibiotic Use in Telemedicine](#) can be used by practices to track antibiotic prescribing for respiratory tract infections over telemedicine.

In addition to antibiotic-related measures, telemedicine practices may consider tracking trends in telemedicine utilization to see if trends warrant changes or interventions. For example, if there is an increase in telemedicine visits for a certain condition, consider asking for or providing staff education or another intervention on that topic.

Data Assessment. It is not enough to simply collect data. Integrating regular review of your data into telemedicine practice workflows is crucial to implementation and sustainability success. The stewardship team should periodically review antibiotic usage data (and associated costs to the practice, such as time taken by practice members, if feasible).¹⁴ It is anticipated that antibiotic use may initially decrease and, over time (after several years), will stabilize. Prescribing rates for “broad-spectrum” antibiotics (e.g., fluoroquinolones) are expected to remain stable or decrease, while prescribing rates of “narrow-spectrum” antibiotics (e.g., penicillin, amoxicillin) may increase or stay the same. While an observed increase in broad-spectrum antibiotic use may be appropriate, it warrants further exploration to understand why the increase was observed and if changes need to be made to prescribing practices.

Data Feedback. Share process and outcome measures with clinicians, staff, and administrators to underscore that their ongoing efforts are meaningful and making a difference to efficient visits through evidence-based clinical decisions. As possible, share individualized feedback with clinicians, as it can help clinicians identify successes and recognize ways to improve their antibiotic prescribing practices. Doing so demonstrates to clinicians that their clinical decisions are noticed and meaningful. Additionally, it is important to celebrate and share successes, which can help the team garner support for the program among clinicians and leadership. Individual clinicians can request feedback on their antibiotic stewardship performance with respect to desired outcomes and proactively review any data reports they receive to develop individual strategies to improve or sustain their performance.

Key Considerations and Example Activities

Key questions to consider:

- What processes are in place that support continued data collection on antibiotic use?
- How will data be shared with administration, clinicians, and staff?
- How can process measures be used to improve care delivery?
- What is the plan if data show worsening outcomes?
- What is the plan if outcomes improve?

Examples of activities related to data collection, assessment, and feedback include:

- Determine the impact of interventions on outcomes to adjust the interventions and make them more successful.
- Continue to collect and share data with clinicians and staff to maintain focus on antibiotic stewardship and provide individualized feedback including peer comparison.
- Examine outcomes when changes (internal or external) are implemented, examining what went well, what did not, and why.
- Celebrate and share successes (e.g., share team accomplishments via a newsletter or provide recognition at a meeting).

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