

Implementing a National Antibiotic Stewardship Program in Telemedicine: Preliminary Insights of Implementing the AHRQ Safety Program for Telemedicine in Primary Care Practices

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PROGRAM OBJECTIVES

The Agency for Healthcare Research and Quality Safety Program for Telemedicine: Improving Antibiotic Use is a national quality improvement program with **four aims**:

1. Identify best practices in implementing interventions to improve antibiotic stewardship in telemedicine.
2. Determine how best to build teamwork and communication to enhance antibiotic stewardship in telemedicine.
3. Implement antibiotic stewardship across a national cohort of telemedicine practices.
4. Reduce inappropriate antibiotic prescribing among telemedicine practices.

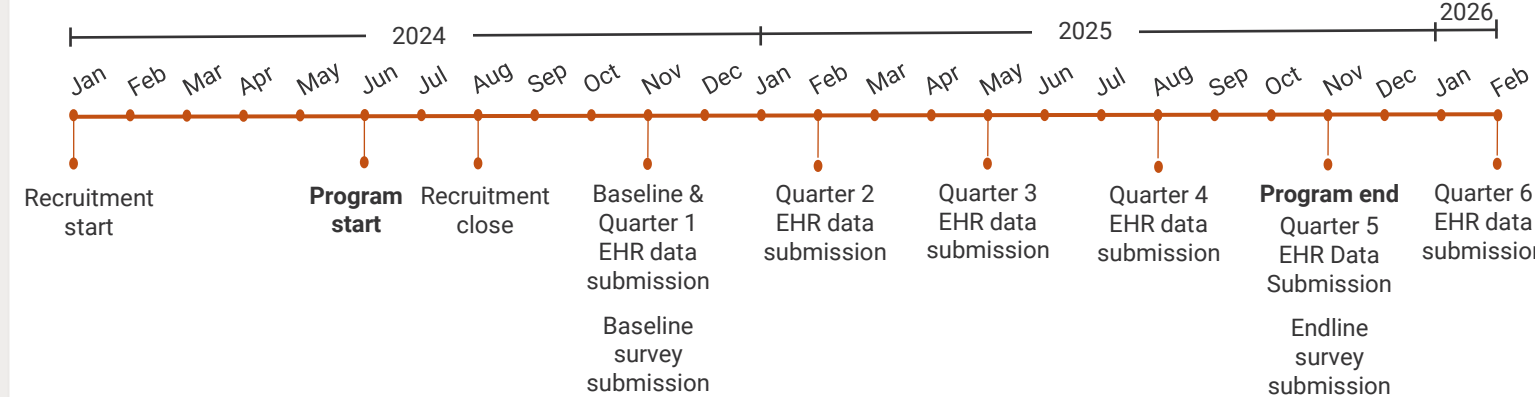
This work was accomplished by developing and implementing an educational bundle on antibiotic stewardship in a national cohort of ambulatory practices that used telemedicine.

BACKGROUND

- Approximately 30% of outpatient antibiotic prescriptions may be unnecessary (i.e., prescribing antibiotics for viral infections and non-first-line antibiotics for bacterial infections).¹
- An estimated 44% of antibiotics prescribed in outpatient settings are for acute respiratory conditions, and half of these are inappropriate.¹
- Inappropriate antibiotic prescribing contributes to:²
 - Patient harm through negative side effects
 - Antibiotic-resistant infections
 - Increased patient and healthcare costs
- Antibiotic stewardship programs have reduced inappropriate prescribing in outpatient settings^{3,4} but little is known about how to adapt stewardship programs to the unique challenges of the telemedicine environment.

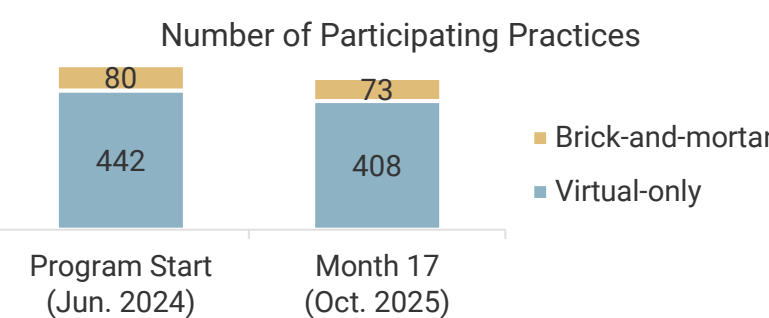
PROGRAM TIMELINE AND PARTICIPANTS

The program was implemented over **18 months**, from June 2024 through November 2025. Data collection occurred from November 2024 through February 2026.



Eligible practices (had to offer video-based telemedicine):

- Primary care practices (including internal medicine, family, and pediatrics)
- Virtual healthcare practices
- Community-based health clinics
- Urgent care clinics
- Student health clinics
- Outpatient specialty practices that provide primary care (e.g., gynecology)
- Retail clinics
- Employee health



- Brick-and-mortar practice:** A physical clinical site that provides care in-person and via telemedicine
- Virtual-only practice:** A clinician who delivers care via telemedicine only

PROGRAM IMPLEMENTATION STRATEGIES

Educational Resources

- Webinars**
- 18 webinars (~30-40 minutes each) on different topics related to antibiotics and their uses, the importance of stewardship, syndrome-specific webinars, and sustainability, offered live and as recordings

- Supplemental Materials**
- Additional materials to support education and implementation, such as—
 - practice discussion guides
 - patient communication/education guides
 - clinician one- and two-pagers
 - asynchronous patient portal scripts
 - antibiotic stewardship commitment poster
 - sustainability planning guidance

83% of respondents reported the webinar content was “very useful,” on average, through October 2025

83 supplemental materials produced

- Top downloaded resources:
- Antibiotic Stewardship Commitment Poster** (105 downloads)
 - Four Moments of Antibiotic Decision Making in Telemedicine Poster** (88 downloads)

Implementation Support

- Office Hours**
- 18 monthly virtual sessions for participants to ask educational and implementation questions

- Implementation Advisers**
- Quality improvement advisers assigned to provide one-on-one support to practices via monthly check-in calls and ongoing email/phone support over the 18 months

- Help Desk**
- Dedicated email inbox to field questions

Participants recommended **three** additional Office Hours topics: conjunctivitis, tick-borne illnesses, and antibiotic prophylaxis

The Help Desk responded to **250+** queries between June 2024 and October 2025

Data Collection

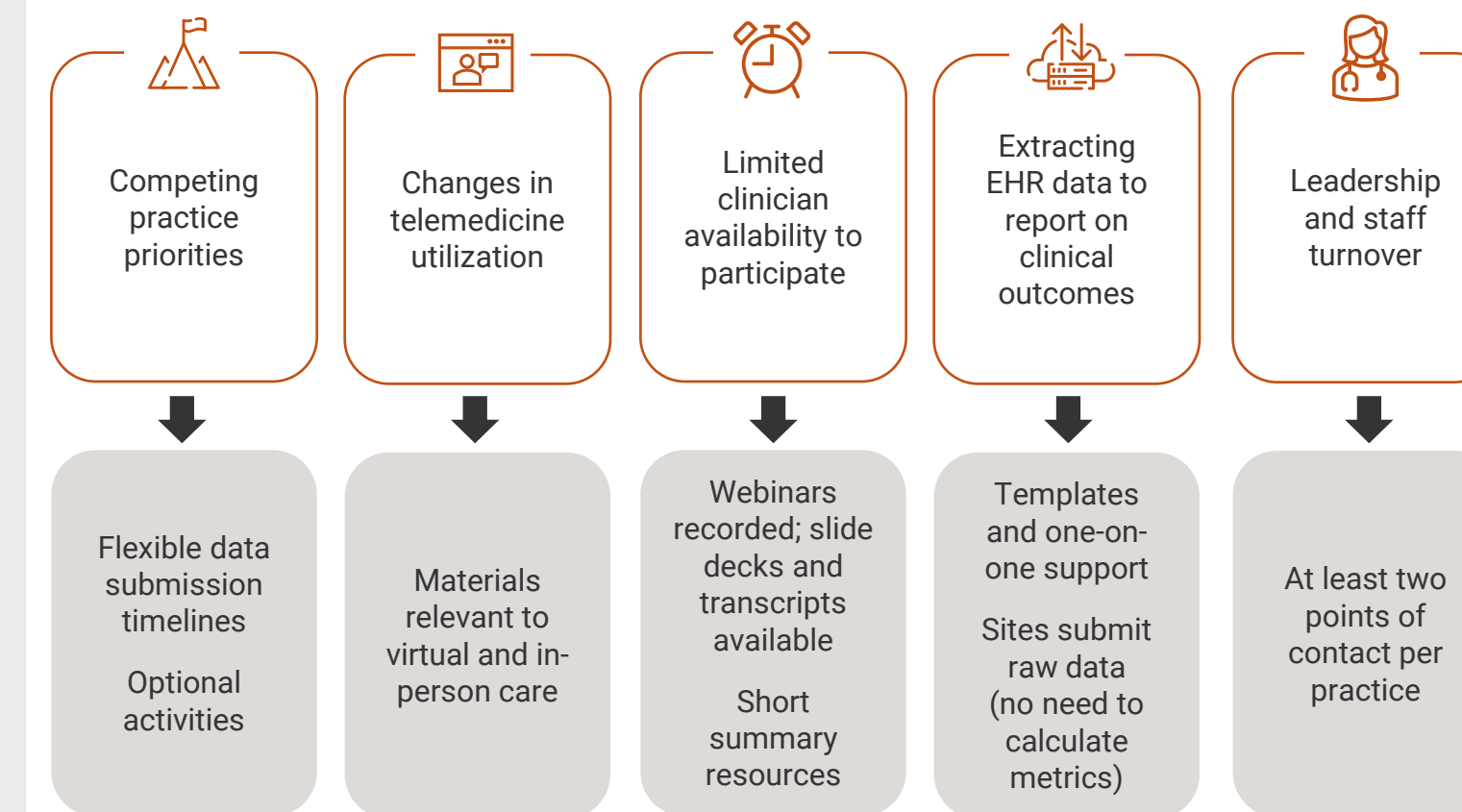
- Data Collection**
- Baseline and endline surveys on practice structure and patient safety culture
 - Electronic health record (EHR) data on antibiotic prescribing for respiratory tract infections (RTIs)
 - Participant experience survey
 - Optional endline interviews

- Benchmarking Reports**
- Quarterly practice-level reports showing antibiotic prescribing data over time compared to a program benchmark

92% of participating organizations submitted EHR data to track clinical outcomes each quarter, on average, from baseline through Quarter 4

EHR data represented a total of **420,037** telemedicine visits from baseline through Quarter 4

CHALLENGES AND MITIGATION STRATEGIES



LESSONS LEARNED

- Recruitment**
- Set clear program expectations** during recruitment to ensure recruited participants are committed
 - Develop pitch points that **address participants' concerns** and highlight program benefits
 - Offer incentives** to join (e.g., CMEs/MOC points, benchmarking reports)
- Implementation**
- Embed flexibility to **meet practices where they are** (e.g., flexible data submission timelines, optional activities)
 - Provide materials in different formats** and offer webinars live and asynchronously to meet different needs and learning styles
 - Tailor implementation support** to maintain engagement and problem solve (e.g., one-on-one check-ins, multiple channels for getting help)
- Data Collection**
- Outline data collection requirements early** so that practices have enough time to build the needed infrastructure and processes
 - Provide data collection support** to help overcome barriers (e.g., templates, FAQs, troubleshooting, meetings with IT staff)
 - Share data back with practices** (e.g., benchmarking reports) to increase engagement and buy-in

NEXT STEPS

Program implementation ended in November 2025. Data collection will continue through February 2026. Next steps include—

Program Assessment

Data analysis to determine changes in antibiotic prescribing and inappropriate prescribing for RTIs among participating practices

Educational Toolkit

Compilation of the program's educational resources into an online, publicly available toolkit for use in other health systems and telemedicine organizations

IMPLICATIONS FOR POLICY AND PRACTICE

This program represents a scalable model for implementing antibiotic stewardship in telemedicine settings. It can—

- ✓ Inform understanding of how to tailor, deliver, and sustain interventions in the virtual care environment
- ✓ Provide insights into implementation readiness, barriers, and facilitators for practices to participate in similar programs
- ✓ Inform strategies for improving care quality in virtual settings

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CONTACT AND LEARN MORE

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