



U.S. Department of Health and Human Services



Agency for Healthcare Research and Quality

Advancing Excellence in Health Care • [www.ahrq.gov](http://www.ahrq.gov)

# Update on AHRQ's Antibiotic Stewardship Activities

Melissa A. Miller, M.D., M.S.

Medical Officer

Division of Healthcare-Associated Infections

Center for Quality Improvement and Patient Safety

Agency for Healthcare Research and Quality

September 13, 2017



# AHRQ's CARB Activities – Part of Patient Safety and HAI Programs

---

- AHRQ role: Help clinicians and health care organizations improve the care delivered to patients
- Patient Safety: a central part of AHRQ's role – prevent harm to patients.
  - ▶ Antibiotic stewardship is a patient safety issue.
- CARB: AHRQ is active in all 3 domains
  - ▶ Antibiotic stewardship (AS)
  - ▶ Prevention of transmission of resistant bacteria
  - ▶ Prevention of healthcare-associated infections (HAIs) in the first place



# Antibiotic Stewardship: From Research to Implementation

---

- Support **research** to develop improved **methods** for conducting antibiotic stewardship: **what to do**
- Support **research** to develop effective **implementation strategies** for conducting antibiotic stewardship (implementation science): **how to do it**
- **Translate** research findings into **tools** for implementing antibiotic stewardship
- **Promote implementation** of antibiotic stewardship with effective methods, strategies, and tools



# Research: FOAs

---

- New CARB FOAs published August 2016
  - ▶ To stimulate investigator-initiated research in all 3 domains of CARB
  - ▶ All settings – acute care, long-term care, and ambulatory care
  - ▶ Two mechanisms
    - R01 – large research grants
    - R18 – demonstration and dissemination grants



# Research for Improving Antibiotic Stewardship

---

- Updates on currently funded projects
  - ▶ Utilizing diagnostic stewardship to address antibiotic overuse in pediatric intensive care units
  - ▶ Examining influences on physician and nurse decisions about antibiotics in nursing homes
  - ▶ Evaluating and improving antibiotic use in ambulatory settings
  - ▶ Evaluating antibiotic use and appropriateness in dental practices



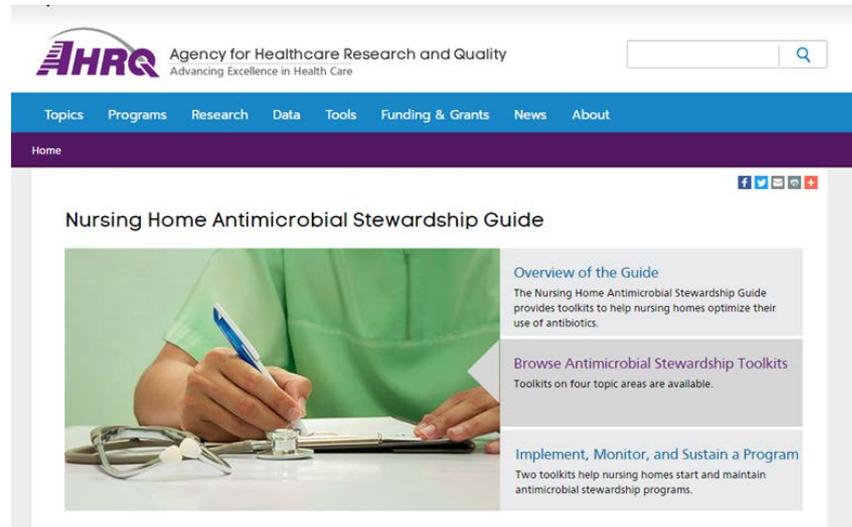
# Research for Improving AS Implementation Strategies

---

- Updates on currently funded projects
  - ▶ Comparing AS approaches between acute care hospitals and effect on antibiotic use
  - ▶ Improving antibiotic prescribing in nursing homes through a multicomponent intervention

# Translating Research into Tools

- Nursing Home Antimicrobial Stewardship Guide
  - ▶ Based on 4 AHRQ-supported research studies
  - ▶ Wide dissemination in progress
    - ID Week, October 2016
    - AMDA – The Society for Post-Acute and Long-Term Care Medicine, March 2017
    - Dissemination with CDC and CMS

A screenshot of the AHRQ website. The header includes the AHRQ logo and the text 'Agency for Healthcare Research and Quality Advancing Excellence in Health Care'. Below the header is a navigation menu with links for Topics, Programs, Research, Data, Tools, Funding & Grants, News, and About. A search bar is located in the top right corner. The main content area features the title 'Nursing Home Antimicrobial Stewardship Guide' and a large image of a person in green scrubs writing on a clipboard. To the right of the image are three sections: 'Overview of the Guide', 'Browse Antimicrobial Stewardship Toolkits', and 'Implement, Monitor, and Sustain a Program'.

Agency for Healthcare Research and Quality  
Advancing Excellence in Health Care

Topics Programs Research Data Tools Funding & Grants News About

Home

Nursing Home Antimicrobial Stewardship Guide

**Overview of the Guide**  
The Nursing Home Antimicrobial Stewardship Guide provides toolkits to help nursing homes optimize their use of antibiotics.

**Browse Antimicrobial Stewardship Toolkits**  
Toolkits on four topic areas are available.

**Implement, Monitor, and Sustain a Program**  
Two toolkits help nursing homes start and maintain antimicrobial stewardship programs.



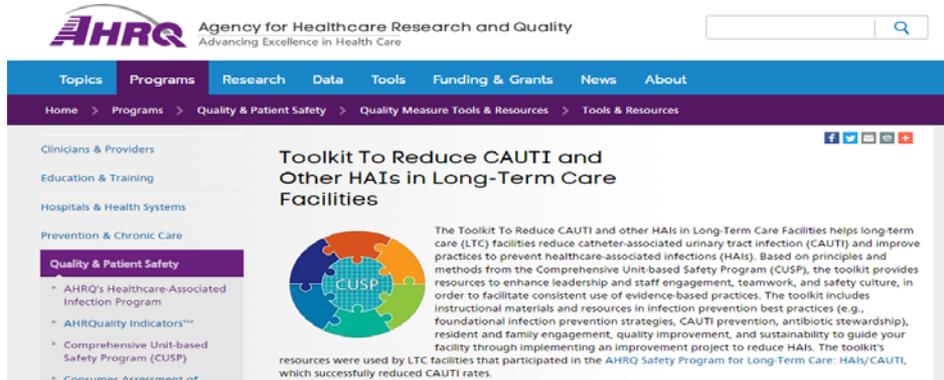
# Promoting Broad Implementation

---

- AHRQ Safety Program for Improving Antibiotic Use
  - ▶ Apply the Comprehensive Unit-based Safety Program (CUSP) to Antibiotic Stewardship – change the culture of prescribing
  - ▶ Launched September 2016
  - ▶ First cohort kickoff April 2017 – integrated delivery systems (IDS)
    - 10 sites each from 3 IDS
    - Include acute care, long-term care, ambulatory care settings
  - ▶ Actively recruiting for acute care cohort – December 2017
  - ▶ To follow: long-term care (2018) and ambulatory care (2019)
  - ▶ Up to 500 sites in each setting-specific cohort

# Promoting Broad Implementation

- AHRQ Safety Program for Long-term Care: HAIs/CAUTIs – nationwide CUSP project
  - ▶ Significantly reduced CAUTI
  - ▶ Specific resources to support antibiotic and diagnostic stewardship – reduce “culture of culturing”



The screenshot shows the AHRQ website interface. At the top is the AHRQ logo and the text 'Agency for Healthcare Research and Quality Advancing Excellence in Health Care'. Below this is a navigation bar with tabs for Topics, Programs, Research, Data, Tools, Funding & Grants, News, and About. A search bar is located to the right of the navigation bar. The main content area features a sidebar on the left with categories like Clinicians & Providers, Education & Training, Hospitals & Health Systems, Prevention & Chronic Care, and Quality & Patient Safety. The main content area displays the title 'Toolkit To Reduce CAUTI and Other HAIs in Long-Term Care Facilities' with a CUSP logo. Below the title is a paragraph of text: 'The Toolkit To Reduce CAUTI and other HAIs in Long-Term Care Facilities helps long-term care (LTC) facilities reduce catheter-associated urinary tract infection (CAUTI) and improve practices to prevent healthcare-associated infections (HAIs). Based on principles and methods from the Comprehensive Unit-based Safety Program (CUSP), the toolkit provides resources to enhance leadership and staff engagement, teamwork, and safety culture, in order to facilitate consistent use of evidence-based practices. The toolkit includes instructional materials and resources in infection prevention best practices (e.g., foundational infection prevention strategies, CAUTI prevention, antibiotic stewardship), resident and family engagement, quality improvement, and sustainability to guide your facility through implementing an improvement project to reduce HAIs. The toolkit's resources were used by LTC facilities that participated in the AHRQ Safety Program for Long-Term Care: HAIs/CAUTI, which successfully reduced CAUTI rates.'





# PACCARB Recommendations

---

- Coordination across agencies
  - ▶ CDC and CMS input into implementation projects, participation on Technical Expert Panels
  - ▶ CUSP Antibiotic Stewardship Project consistent with CDC Core Elements
  - ▶ Monthly coordination calls between CMS (QIN-QIOs, HIINs) and AHRQ regarding implementation projects
- Partnerships
  - ▶ Implementation projects have strength of partnerships with national experts in antibiotic stewardship and implementation
  - ▶ AS project's partnerships with integrated delivery systems – learning with the private sector



# PACCARB Recommendations

---

- Promote culture of antibiotic stewardship for providers and professionals
  - ▶ CUSP engages all front-line staff, not just prescribers
    - Explicit focus on behavioral aspects of practice
    - “Culture of culturing”
    - Communication around issues of antibiotic prescribing
- Ensure development of evidence-based ASPs
  - ▶ Support generation of new evidence in research portfolio
  - ▶ Translation of research into toolkits (e.g., NH AS guide)
  - ▶ AS national project
    - Utilizes evidence-based Core Elements
    - Evidence reviews completed for AS in all three settings regarding AS interventions,
      - Utilize human factors engineering framework to allow for readers’ ease of implementation
      - Being published for wide dissemination



# PACCARB Recommendations

---

- Increase attention to AS in outpatient settings
  - ▶ Research funding supports several outpatient projects
  - ▶ AS national implementation project includes a cohort specifically focused on outpatient setting, will also help explore ways to monitor AS in this setting
- Research recommendations
  - ▶ Published new CARB FOAs encouraging applications focused on AS, prevention of transmission of antibiotic-resistant organisms, as well as HAI prevention
  - ▶ Encourage and support research on improved methods for performing antibiotic stewardship and influencing prescriber behavior
  - ▶ All 3 healthcare settings—acute care, long-term care, ambulatory care
  - ▶ Translation of research into tools