Antibiotics are one of the most frequently prescribed medications in nursing facilities, and overuse of antibiotics is a serious problem—between 30% and 75% of antibiotics prescribed in nursing homes are unnecessary (D’Agata and Mitchell 2008). Overuse of antibiotics increases the risk that facility personnel will develop resistance, and increased resistance can lead to more serious illness and increased mortality. Resistance can be transmitted from patient to patient through food, water, and air, and patients in nursing facilities are at higher risk of acquiring and transmitting resistant infections due to their complex health status, frequent exposure to antibiotics, and underlying conditions. Antibiotic resistance is a significant public health concern that has implications for both health care quality and the economic viability of the nursing home industry.

Introduction

The Guide is available on AHRQ’s website by the end of November, 2016. The Guide is now freely accessible at: NHGUIDE.AIRPROJECTS.ORG.

Process Evaluation of the Guide to Nursing Home Antimicrobial Stewardship

Elizabeth Frentzel, MPH1; Rikki Mangrum, MLS2; Tamika Cowans, MPP3; Mona Kilany, PhD4; Diane Barber1; Denise Mitchell1; Deborah Perfetto, PharmD5

American Institutes for Research
Agency for Healthcare Research and Quality

The Guide contains six sections:

1. Overview: Provides information about antimicrobial stewardship and how the Guide can help nursing homes.
2. Using the Guide: Provides guidance on choosing toolkits appropriate for a nursing home, including which toolkits support QAPI or infection control goals and providing feedback to prescribing clinicians.
3. Design:
   - Evaluation methods included
   - Cognitive interviewing with facility providers, patients, and family members to test tools and components of the Guide
   - Pilot test in three nursing facilities, followed by additional refinements to the Guide
   - Field test consisting of a pre-post analysis (90-day to 150-day exposure to the Guide) in nine nursing facilities
   - Semi-structured interviews with staff to collect additional assistance phone calls, in search of fidelity of implementation
   - Medical chart, minutes data on (MDS), and infection control log data abstraction and analysis to assess impact on antibiotic prescribing.
   - Cost analysis to assess potential savings, with consideration of antibiotic drug costs, Guide implementation costs, and cost of treatment due to adverse events.
4. The Guide:
   - The Guide consists of six sections:
     - Section 1: Overview
     - Section 2: Using the Guide
     - Section 3: Design
     - Section 4: The Guide
     - Section 5: Results
     - Section 6: Discussion and Implications
5. Results:
   - Table 1: Characteristics of nursing facilities (n=18)
   - Table 2: Characteristics of interview participants
   - Table 3: Antibiotic diagnostic procedures
6. Discussion and Implications:
   - Nursing homes are aware of antimicrobial stewardship and of pooling CMA rates for establishing program goals.
   - Efforts are being made to implement the Guide as a valuable resource for right adoption of stewardship strategies.
   - Observations, commentaries, and light on implementation is provided for all nursing homes.
   - Opportunities for feedback and advice on how to assess progress are more engaged.
   - Results reveal that information is used to improve outcomes.
   - Discussions, commentaries, and light on implementation is provided for all nursing homes.
   - Nursing homes may be able to use concrete input to frame the tools to remain committed to stewardship.
   - Track and report progress to staff and prescribing clinicians to improve consistency of implementation.
   - Implications for future research and practice are provided.

Limitations

• Small purposive sampling size (9 homes).
• Different sites used different toolkits, although all used a toolkit relevant to communication and decisionmaking.

Acknowledgements

This project was supported by the10 Agency for Healthcare Research and Quality (AHRQ), US Department of Health and Human Services. The opinions expressed in the information on these tools need not reflect the official position of AHRQ or the US Department of Health and Human Services.

Citations