

Antibiotic Stewardship Structure and Process in Wisconsin Nursing Homes: A Follow-up Telephone Survey

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ABSTRACT

Background: Public health advocacy for antibiotic stewardship in healthcare settings, including nursing homes (NHs), is increasing. However, our current understanding of the existing structure and process of antibiotic stewardship programs in NHs remains poorly understood.

Methods: A semi-structured phone survey was administered to 69 key informants in Wisconsin NHs that had previously completed a web-based structured survey. Questions focused on: 1) the individuals involved in the ASP and their tasks; 2) methods for tracking and reporting antibiotic utilization; 3) existing policies and procedures; 4) methods to improve antibiotic use; and 5) barriers and facilitators of ASP activities.

Results: 24 of 69 (35%) eligible WI NHs participated in the survey. The majority (83%) of NHs reported having an ASP. Individuals engaged in ASPs were director of nursing (DON; 75%), medical director (75%) and infection preventionist (IP; 71%). Consultant (46%) and on-site pharmacist (13%) involvement was less common and no facility reported involvement of an individual with ID expertise. 83% of NHs tracked antibiotic although most did not standardize or trend their data (46%). Most NHs (92%) engaged in education on appropriate antibiotic use targeting nursing staff (83%), providers (46%) and families (17%). 88% of NHs reported assessing appropriateness of antibiotics starts. Provider feedback was mostly performed by the IP or nursing staff although the medical director played a key role in this process (47%, n=19); the pharmacist played a lesser role. Tools to improve antibiotic use included: antibiograms (37%), interventions to improve nurse-provider communication (29%), antibiotic timeouts (12%), or provider report cards (8%). No facility reported use of formulary restriction, prior authorization, or decision-support integration.

Conclusion: Our study demonstrates structure and process of ASPs in WI NHs differ from hospitals. Nursing staff are highly engaged in NH ASP, but medical director and pharmacist ASP involvement is sub-optimal. WI NHs employ basic stewardship strategies but rarely use more advanced methods. Identifying more efficient and effective strategies to improve existing methods and implement more advanced methods is critically needed.

BACKGROUND

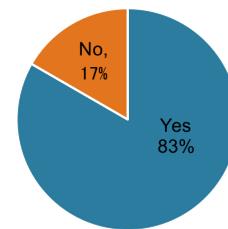
- The antibiotic prescribing process in nursing homes is complex and differs from the prescribing process in hospital and clinic settings.¹
- Nursing home residents that have a 40-70% likelihood of exposure to at least one course of antibiotics over 6 months.²
- There is increasing advocacy to improve the use of antibiotics through implementation of stewardship across the all levels of healthcare delivery.^{3,4}
- Knowledge of structure and process of antibiotic stewardship in nursing homes is limited compared to antibiotic stewardship in hospitals.^{5,6}

METHODS

- Contact persons at Wisconsin Nursing homes who had previously completed a web-based structured survey were contacted via phone to schedule a follow-up survey administered via telephone.
- A 61-question semi-structured survey was administered to key informants by a 45-minute telephone call.
- Questions focused on the following domains:
 - Roles of involved individuals and their responsibilities
 - Methods of tracking and reporting antibiotic utilization and outcomes
 - Existing policies and procedures
 - ASP policies and procedures
 - Specific antibiotic-improvement activities
- Telephone interviews were conducted from January to April 2016.

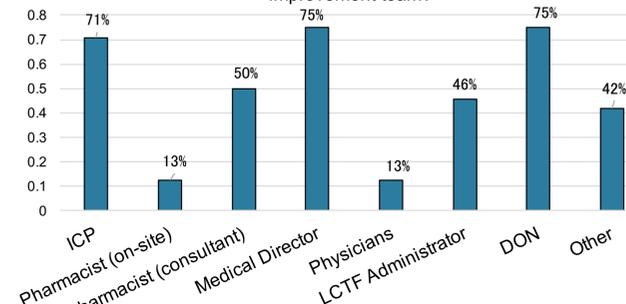
ANTIBIOTIC USE IMPROVEMENT TEAM

Does your facility have an Antibiotic Use Improvement Team?



Involvement of sub-specialists with infectious disease or ASP expertise was absent in all NHs.

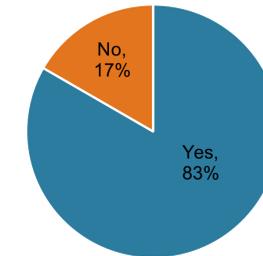
Which of the following individuals participate in your antibiotic use improvement team?



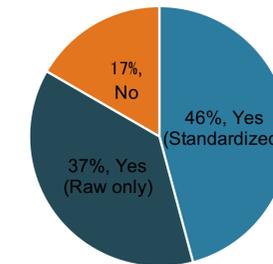
ICP = Infection control preventionist; DON = Director of Nursing

TRACKING AND REPORTING ANTIBIOTIC USE

Is antibiotic use tracked at your facility?

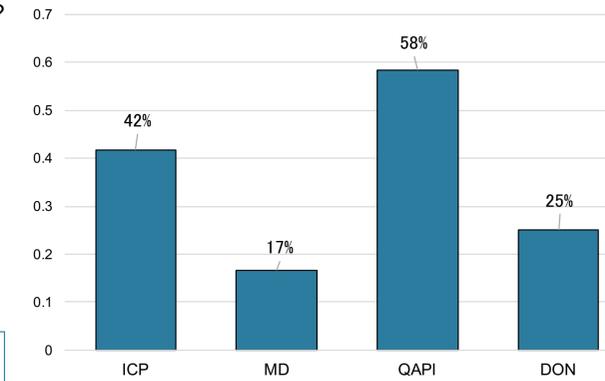


Is antibiotic use data trended at your facility?



The IP and/or DON were most commonly responsible for tracking and reporting of antibiotic utilization and outcomes; pharmacist and medical directors played a more limited role.

Who reviews antibiotic use data at your facility?

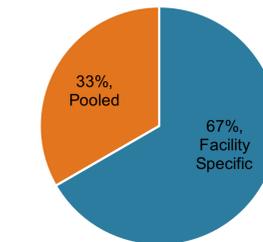


ICP = Infection control preventionist; MD = Medical Director; QAPI = Quality Assurance Performance Improvement Team; DON = Director of Nursing

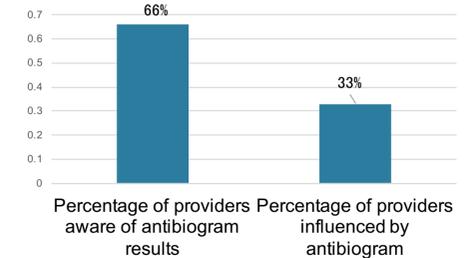
ANTIBIOGRAM USE

- 37% of NHs have antibiograms
- All antibiograms are updated annually
- Only 22% are available electronically

Percentage of antibiograms made with facility-specific vs not facility-specific culture data

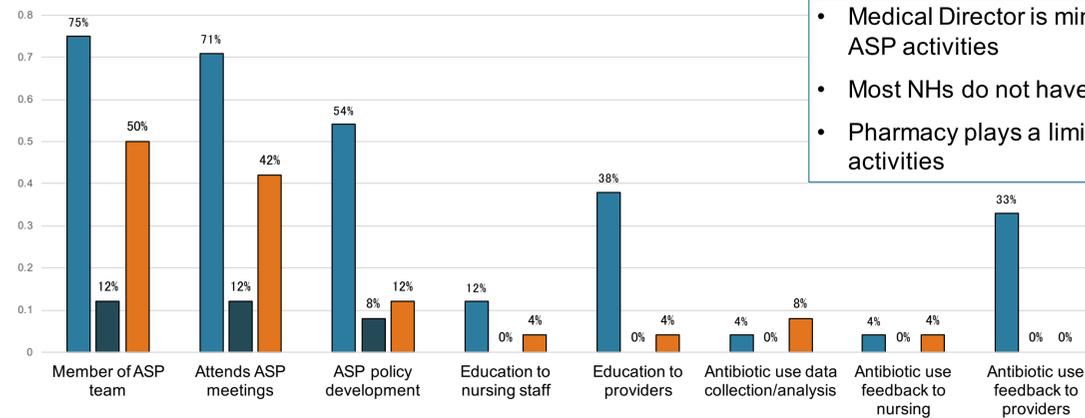


Does the antibiogram affect prescriber practices?



MEDICAL DIRECTOR & PHARMACIST INVOLVEMENT IN ASPs

Percentage of Medical Director, on-site Pharmacist, and Consultant Pharmacist involved in described ASP activities



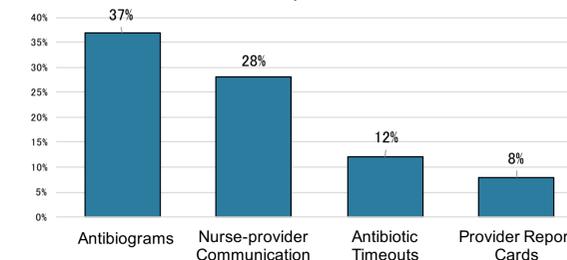
- Medical Director is minimally involved in daily ASP activities
- Most NHs do not have an on-site pharmacist
- Pharmacy plays a limited role in ASP activities

DON and ICP are most involved in daily ASP activities.

ADVANCED ASP ACTIVITIES

Formulary restriction, prior authorization, or decision-support integration into order sets were never done.

Percentage of NHs that employed advanced antibiotic use improvement methods



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