Antibiotic Stewardship Program Survey
Allegheny County Health Department
Spring 2017

During the spring of 2017, the Allegheny County Health Department (ACHD) surveyed acute care and long-term care facilities in Allegheny County to determine the existence and components of antibiotic stewardship programs (ASPs). The survey results are summarized below.

Acute Care Hospitals

Of the 26 acute care hospitals surveyed, 18 (69%) completed the survey and of these, 16 (89%) have an ASP. One additional facility reported carrying out components of an ASP but did not have a formal program. All ASPs involved a pharmacist and almost all involved an ID physician and/or an infection preventionist. Almost half of ASPs have been in existence for more than 3 years. Table 1 shows the antibiotic restriction methods reported by hospitals.

Table 1. Antibiotic restriction methods

Restriction method	N=16 n (%)
ID consult requirement	13 (81.3)
Retrospective approach: audit within 24 – 72 hours of antibiotic order	13 (81.3)
Prospective approach: antibiotic dispensed after approval	10 (62.5)
Automatic stop orders	8 (50.0)
Electronic Health Record (EHR) warnings	7 (43.8)
Automatic pharmacy renal dosing program	1 (6.3)

C. difficile infection rates and/or antibiotic usage rates are used to measure effectiveness by 88% of facilities (Table 2). Additional effectiveness measures used by hospitals are shown below.

Table 2. Antibiotic stewardship effectiveness measures

Effectiveness measure	N=16 n (%)
C. difficile infection rates	14(87.5)
Antibiotic usage rates	14(87.5)
Total antibiotic expenditures	11 (68.8)
Antibiotic resistance patterns	10 (62.5)

The CDC Antibiotic Stewardship Program Core Elements are used by 81% of responding facilities (Table 3). Adherence to specific stewardship standards is shown in Table 3.

Table 3. Antibiotic stewardship standards

Antimicrobial stewardship standard	N=16 n (%)
Leadership commitment establishing antimicrobial stewardship as an organizational priority	13 (81.3)
An antimicrobial stewardship team	14 (87.5)
Ensuring that the antimicrobial stewardship program uses organization-approved multidisciplinary protocols	14 (87.5)
Ensuring that the antimicrobial stewardship program includes the CDC core elements	13 (81.3)
Hospital collects, analyzes, and reports data on its antimicrobial stewardship program	13 (81.3)
Staff education on antimicrobial stewardship	10 (62.5)
Patient education regarding the appropriate use of antibiotics	9 (56.3)

Newsletters/written guidelines are used by 63% of facilities for provider education (Table 4). Only 44% of facilities report using review of prescribing practices as an education method.

Table 4. Methods for educating staff on appropriate antibiotic use

Education method	N=16 n (%)
Newsletter/Written guidelines	10 (62.5)
Personalized review of prescribing practices	7 (43.8)
Grand Rounds for house staff	6 (37.5)
Email alerts	5 (31.3)
Education within the computerized physician order system (CPOE)	4(25.0)
Conference presentations	4 (25.0)
Webinars	1 (6.3)

Staffing constraints was listed by 78% of facilities as a barrier to stewardship. Additional barriers are listed below.

Table 5. Barriers to antibiotic stewardship

Barrier	N=18 n (%)
Staffing constraints	14 (77.7)
Inadequate information technology support	10 (55.5)
Lack of funding	8 (44.4)
Insufficient physician/prescriber support of antimicrobial stewardship	8 (44.4)
Lack of education	5 (27.7)
Insufficient administration support of antimicrobial stewardship	1 (5.5)
Not high on the list of clinical priorities	1 (5.5)

Long-Term Care Facilities
Of the 65 long-term care facilities (LTCF) surveyed, 32 (49%) completed the survey and of these,15 (47%) have an ASP. Only 10 LTCFs responded to questions about stewardship practices (Table 6).

Table 6. Long-term care facility antibiotic stewardship standards

Standard	N=10 n (%)
Monitor Rates of C. difficile infection	9 (90)
Pharmacist Review of antibiotic courses for appropriateness of administration and/or indication	9 (90)
Antibiotic Review process	8 (80)
Educational resources and materials for clinicians about antibiotic resistance and opportunity for improving antibiotic use	8 (80)
Antimicrobial stewardship program team	7 (70)
Process of communicating or receiving antibiotic use information when residents are transferred to/from other healthcare facilities	7 (70)
Educational resources and materials for patients and families about antibiotic resistance and opportunity for improving antibiotic use	5 (50)
Facility-specific treatment protocols for select infections	4 (40)
Measurement of adherence to antibiotic stewardship policies	1 (10)

Insufficient guidance for developing a program and lack of clinical staff support were the most common barriers cited by LTCFs (Table 7).

Table 7. Long-term care facility antibiotic stewardship barriers

Challenges	N=25 n (%)
Insufficient guidance to start stewardship program	7 (28)
Insufficient clinical staff support	6 (24)
No current challenges	5 (20)
Family understanding	4 (16)
Lack of funding	3 (12)
Inadequate information technology support	2 (8)
Insufficient leadership/administration support	1 (4)

Summary
Almost all acute care hospitals in Allegheny County that responded to the survey have an ASP. Most have multiple restriction methods in place and have measures for assessing stewardship activities, but they cite lack of staffing, funding and IT support as barriers to stewardship. Less than half of the LTCF respondents had an ASP program in March 2017; however, all are required by the Centers for Medicare and Medicaid Services to have an antibiotic stewardship program that includes antibiotic use protocols and a system to monitor antibiotic use by November 2017.

Recommendations
1. Hospitals and LCTFs should continue to develop ASPs by incorporating core elements of successful programs recommended by CDC:
https://www.cdc.gov/getsmart/healthcare/implementation/core-elements.html
https://www.cdc.gov/longtermcare/prevention/antibiotic-stewardship.html

2. Stewardship teams should consider consulting other facilities to learn about success stories:
https://www.cdc.gov/getsmart/healthcare/programs.html

3. Consider using toolkits and resource guides as needed:
https://www.shea-online.org/index.php/component/content/article?id=381:antimicrobial-stewardship-implementation-tools-resources
https://www.ahrq.gov/nhguide/index.html
http://www.managedhealthcareconnect.com/article/antibiotic-stewardship-programs-long-term-care-facilities