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1837. Comparison of Antibiotic Use in Post-Acute and Long-Term Care Facilities Based on Proportion of Short Stay Residents Using a Long-Term Care Facility Database

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Session: 220. Antimicrobial Stewardship: Non-hospital Settings Saturday, October 6, 2018: 12:30 PM

Background. CMS requires participating long-term care facilities (LTCF) to have an antibiotic stewardship program (ASP). Common barriers encountered by LTCFC include lack of antibiotic use (AU) data and inability to benchmark use. We initiated a project that utilized a long-term care pharmacy (LTCPh) database to obtain and compare AU data across enrolled LTCF.

Methods. We partnered with a regional LTCPh that dispenses and reviews medications for 40 LTCF of which 32 agreed to participate. Prescriptions filled by the pharmacy were used to calculate antibiotic (AB) starts and days of therapy (DOT). Start and end dates were used to calculate DOT, if available. For those without an end date (<10%), duration was obtained by manual review of administration records. Bed-size and proportion of short-stay (Medicare-A) beds were estimated for each LTCF based on a cross-sectional evaluation of billing records at the LTCPh. Baseline resident-days (RD) during 2017 were obtained from each LTCF. The influence of short-stay residents on AB start rates and DOT was evaluated by grouping LTCF in three cohorts based on estimated proportion of short-stay residents.

Results. Data from 29 (90.6%) LTCF were included in the final analysis; 3 were excluded due to lack of RD data. Median bed-size was 57 (range 17–253). Overall, 13.9% of LTCF were in the short-stay category. Fifteen LTCF were estimated to have 5% to 20% of RD attributable to short-stay residents, six had <5% while eight had >20%. Antibiotic starts/1000 RD varied from 3.84 to 19.38 and DOT/1000 RD from 3.86 to 53.09, and showed strong correlation (Figure 1). The proportion of short-stay residents on AB start rates and DOT was evaluated by grouping LTCF in three cohorts based on estimated proportion of short-stay residents.

Conclusion. LTCPh can play an important role in supporting ASP in LTCF by providing AU data for benchmarking. Antibiotic use in LTCF is highly variable and may be influenced by the proportion of beds dedicated to short-stay residents amongst other factors.

Figure 1: Correlation Between Antibiotic Starts and Days of Therapy (DOT) in LTCF

1838. Digging Deeper: A Closer Look at Core Elements of Antibiotic Stewardship for Long-Term Care Facilities

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Background. The CDC encourages all long-term care facilities (LTCF) to develop antibiotic stewardship programs (ASP) consisting of seven core elements (CE). These CE include leadership commitment, accountability, drug expertise, action, tracking, reporting and education. However, account for only three essential sub-elements (SE): policy development, practice implementation and pharmacist involvement. Similarly, tracking has two major SE: antibiotic use and outcome measures. Typically, a multi-component CE is considered met if any of the SE is present. We evaluated application of a strict definition that requires all major SE to be present for the action and tracking CE to be considered met.

Methods. A group of consultant pharmacists (CP) was trained to evaluate and lead ASP in their LTCF. Baseline ASP evaluation was conducted by CP in 29 LTCF using the CDC CE checklist between November 2017 and January 2018. CE credits were assigned to LTCF ASP using conventional (any SE) and strict definitions (all SE required). Results were compared among LTGC ASP using both definitions.

Results. None of the LTGC has all seven CE regardless of the definition. A median of two CE (range 1–6) were present based on conventional definition (CD) and 1 (range 0–5) using the strict definition (SD). Less than a quarter of LTGC (n = 6, 20.6%) met five or more CE with the CD and only one (3.5%) using the SD. Interestingly, when utilizing the CD, all (100%) LTGC met at least one CE as compared with only 16 (55.1%) when using the SD. The action CE is most frequently met when using CD and least frequently met when using SD (Figure 1). CP reviewing a proportion of antibiotic orders as a part of their monthly drug regimen review was the most common action and was met by 89.7% of LTGC. Only 2 (6.9%) LTGC had stewardship policies and 4 (13.8%) had implemented at least one stewardship practice. Similarly, 20 (69.0%) LTGC had tracking based on the CD with a majority (55.2%) tracking outcome measures and some (41.4%) tracking antibiotic use. However, only a quarter (27.6%) of LTGC were tracking both outcomes and antibiotic use.

Conclusion. Many LTGC have some components of action and tracking CE in place but are missing important SE. Data on CE should be collected in a manner that makes it easier to identify these deficiencies during LTGC ASP evaluation.

Figure 1: Proportion of Long-Term Care Facilities Meeting Individual Core Elements Using Conventional and Strict Definitions

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1839. Expanding Antimicrobial Stewardship into the Community: Development of Patient and Provider Education Resources to Improve Antibiotic Awareness

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Background. Antibiotic stewardship programs are vital in the ambulatory setting to address the public health threat of antibiotic resistance. In 2016, the Centers

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for Disease Control and Prevention (CDC) released Core Elements of Outpatient Antibiotic Stewardship. These core elements were the basis for the development of the Carolinas HealthCare Outpatient Antimicrobial Stewardship Empowerment Network (CHOSEN), which collaborates with more than 150 Atrium Health ambulatory practices to improve antibiotic awareness across metropolitan, suburban and rural communities, touching approximately 1,060,000 patients.

**Methods.** Initial baseline research involved surveys with 190 patients and key informant interviews with four patients and 17 providers. A resource working group was formed during a follow-up strategic planning session involving more than 40 multidisciplinary stakeholders. Key concepts identified through patient and provider engagement were the focus for the development of stewardship education and resources with involvement from physicians, nurses and pharmacists, as well as representation from quality, marketing and patient experience.

**Results.** Identified opportunities were addressed with the design of a "Bacteria and Viruses" patient handout and symptoms checklists for over-the-counter recommendations for adults, teens and children—all with translation into an additional 11 languages; a commitment flyer for patient examination rooms; pediatric dosing guides for acetaminophen and ibuprofen; provider scripting; and two educational videos. Resources were introduced via a consumer webpage, a provider intranet site update, and media pitching featuring key providers in the community to coincide with the CDC’s National Antibiotic Awareness Week in November 2017. Additional focused provider and practice education sessions were held for ambulatory practice specialties of urgent care, family medicine, internal medicine and pediatrics.

**Conclusion.** Through multidisciplinary collaboration, CHOSEN developed a better understanding of patient and provider attitudes and experiences that led to the development of specific tools and a campaign to meet the identified needs for antibiotic awareness in the community.

**Key Findings Among Patients Surveyed and Identified Resource Opportunities**

- 53% incorrectly believed that antibiotics work well for treating infections from a virus such as the flu or common cold.
- 76% believed that some providers are more willing than others to write an order for an antibiotic.

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1840. Development of an Innovative Antibiotic Prescribing Dashboard to Enhance Antimicrobial Stewardship in the Ambulatory Care Setting

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**Session:** 221. Antimicrobial Stewardship: Outpatient Settings

**Saturday, October 6, 2018: 12:30 PM**

**Background.** The Carolinas HealthCare Outpatient Antimicrobial Stewardship Empowerment Network (CHOSEN) collaborates with more than 150 primary care ambulatory practices to improve antibiotic use in the Charlotte, NC area. CHOSEN aims for a 20% reduction in outpatient antibiotic prescribing over 2 years with a focus on acute respiratory conditions. Initial qualitative research of provider interviews aims for a 20% reduction in outpatient antimicrobial prescribing over 2 years. Initial qualitative research of provider interviews reveals the need for improved clinician reporting of antibiotic prescribing. Results. A dashboard was developed in Microsoft Power BI with means to view prescribing data by indication and antibiotics, comparing year-to-year and rolling 24-months. Dashboard capabilities include option to drill down to the practice and provider level. An overall CHOSEN target rate for 2018 was set at 41.9% based on a baseline prescribing rate of 45.7%. Final target rates for specialties, pediatrics, internal medicine and urgent care, were 40.8%, 38.7%, 40% and 47.2% respectively. Provider and practice leaders were educated on use of the dashboard, along with tips to address high prescribing. Data are updated monthly and highest prescribing groups are targeted for additional onsite education.

**Conclusion.** The development of an innovative antibiotic prescribing dashboard is achievable. CHOSEN successfully designed and applied a dashboard with focus on reduction of inappropriate antibiotic prescribing in an ambulatory care setting.

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