193. Duration of Antimicrobial Therapy: The Impact of Defaults

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Background. Default durations imbedded in the electronic prescription (e-script) order entry process may be interpreted by providers as duration recommendations. This process could lead to inappropriately long durations of therapy for antibiotics, especially at hospital discharge when patients have received inpatient antibiotics.

Methods. Default durations of 7 or 10 days for fluoroquinolones (FQ) were removed from inpatient and outpatient e-scripts from Duke University Health System (DUHS) hospitals (one academic, two community) and clinics (N = 86) on December 19, 2017. We evaluated the impact on FQ duration by comparing mean duration and percent of 10 day durations in the 12 months pre-default duration removal (DDR) and 3 months post-DDR. All inpatient or outpatient encounters with an FQ e-script with days duration less than 31 days were included. FQ durations were captured in days duration fields or calculated from sig and quantity fields. We used descriptive statistics to compare FQ duration pre- and post-DDR using a chi-squared test.

Results. A total of 35,765 FQ e-scripts and 276,056 FQ e-script days of therapy were included pre-DDR. The post-DDR included 9,526 FQ e-scripts and 71,028 FQ e-script days of therapy. Mean (standard deviation) durations in the pre- and post-periods were 7.78 (4.35) and 7.55 (3.99), respectively (P < 0.001). Common discharge durations in both time periods across all settings were 5, 7, and 10 days. The 10-day default duration was the most common in the pre-DDR with 11,000 e-scripts (31%), and declined by 16% (2,475 e-scripts, 26%) in the post-DDR period. The academic center realized the greatest shift away from 10-day default duration (Table 1).

Conclusion. Removal of default e-script durations, a novel and minimally resource intensive strategy, reduced prescribed duration of FQ therapy.

Table 1: Ten-day Durations for Fluoroquinolone E-scripts Pre- and Post-DDR

| Practice Setting          | Pre-DDR N (%) 10 day E-scripts | Post-DDR N (%) 10 day E-scripts | % Change Post-Pre-DDR |
|--------------------------|--------------------------------|---------------------------------|-----------------------|
| Academic Medical Center  | 771 (20)                      | 125 (11)                       | -82                   |
| Community hospital       | 452 (20)                      | 90 (15)                        | -73                   |
| Community hospital       | 514 (24)                      | 126 (21)                       | -16                   |
| Outpatient               | 9,263 (34)                    | 2,134 (30)                     | -12                   |
| Total                    | 11,000 (31)                   | 2,475 (26)                     | -16                   |

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194. Mandatory Antimicrobial Duration at the Time of Computerized Physician Order Entry: What's the Harm?

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Background. Mandatory documentation of antimicrobial duration in the electronic medical record is recommended by national organizations as a core element for antimicrobial stewardship programs (ASP). Published literature evaluating the safety of mandatory antimicrobial order durations is limited. Children’s Mercy Kansas City (CM), a free-standing pediatric hospital, implemented mandatory stop dates for all systemic antimicrobial orders on February 14, 2017. Antimicrobials, with an ordered stop date within 24 hours, are generated on a daily discontinuation (DC) report.

Clinical pharmacists are responsible for daily review of the DC report and intervening when ordered stop dates do not align with treatment plans. ASP serves as a “double-check” by also reviewing the DC report and only intervening when orders would unintentionally discontinue. This study sought to evaluate the safety of mandatory stop dates in a pediatric institution.

Methods. A retrospective evaluation of mandatory stop dates was completed at CM from February 14, 2017 to March 31, 2018. Antimicrobial orders were identified from the DC reports. ASP recorded interventions performed to avoid unintentional antimicrobial discontinuation, and actual unintentional discontinuations were identified through ASP and internal event reports.

Results. A total of 4,905 antimicrobial orders were reviewed on the DC report with a median of 12 orders per day [IQR 9–15]. ASP intervention occurred on 350 orders with a median monthly intervention rate of 7.1% [IQR 5.4–7.8]. Since implementation, the monthly ASP intervention rate has declined (Figure 1). ASP intervention rates were significantly higher on weekends than weekdays (10.8% vs. 6.8%, P < 0.001). ASP interventions occurred on a variety of indications ranging from prophylaxis to meningitis (Figure 2). Four orders had unintentional discontinuations resulting in missed doses of antibiotics but no negative clinical outcomes.

Conclusion. Mandatory antimicrobial durations at the point of order entry can be safely implemented with clinical pharmacy involvement and a “double-check” ASP process. Our findings suggest unintentional discontinuation of antimicrobial agents may occur without a structured double-check procedure.
months (April–May) and again in October. In November, both groups received feedback reports. Antibiotic prescribing rates for all three conditions were tracked for both groups for the baseline period (January to March) and throughout the study duration.

**Results.** During the baseline period, antibiotic prescribing rates for the three conditions combined was 71% for Group A and 69% for Group B. Antibiotic prescribing rates for both groups throughout the baseline and study periods are displayed in Figure 1. For Group A, prescribing rates declined from 71% (baseline) to 66% in May and for Group B declined from 69% (baseline) to 55%. During June–September, the monthly prescribing rate remained 66–69% for Group A and 56–57% for Group B. In November, following the additional individualized feedback report provided to both groups, the prescribing rate was 63% for Group A and 46% for Group B.

**Conclusion.** Individualized prescribing feedback reports coupled with education to telemedicine providers was more effective than education alone in reducing unnecessary antibiotic prescriptions for ARTIs. These findings should be used to promote antibiotic stewardship across telemedicine and other care settings.

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196. Public Health Can Play a Role Implementing a Successful Outpatient Antimicrobial Stewardship in Primary and Urgent Care
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**Session:** 51. Antimicrobial Stewardship: Interventions to Improve Outcomes
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**Background.** An estimated 30% of outpatient antibiotic prescriptions are unnecessary. Antimicrobial stewardship programs (ASP) are associated with decreased antibiotic prescribing and improved patterns of antimicrobial resistance. The objective of Targeting Appropriate Prescribing in Outpatient settings (TAP OUT) is to study how public health jurisdictions may assist implementation of ASP in primary and urgent care and to measure the impact on reducing inappropriate antibiotic prescribing.

**Methods.** Los Angeles County Department of Public Health (DPH) partnered with an outpatient medical group to implement an ASP in 2017. The TAP OUT ASP included public commitment, communication skills training, clinical treatment education, and prescribing audits. Implementation characteristics were collected via key informant interviews and provider surveys and were analyzed following the Consolidated Framework for Implementation Research. Historical (November 2016–March 2017) and intervention (November 2017–March 2018) period prescribing data from electronic health records were compared with calculating antibiotic prescribing rates for uncomplicated acute upper respiratory infection (URI) encounters.

**Results.** Twenty primary care and three urgent care clinics, representing 208 providers, participated in TAP OUT. The baseline inappropriate antibiotic prescribing rate for URI was 15.5% amongst all prescribers (range: 0–100%). During the intervention period, the inappropriate prescribing rate decreased to 7.6% (51% reduction, \( P < 0.0001 \)) (Figure 1). Several key implementation elements were identified, such as leadership buy-in and on-site peer champions. Visible and recurring prescribing reminders were useful. To improve adoption, the ASP was integrated into existing workflow. Costs were limited and related to information technology resources to analyze prescribing data and create feedback reports.

**Conclusion.** The TAP OUT program met all of the Centers for Disease Control and Prevention (CDC) Core Elements of Outpatient Stewardship and was associated with a decrease in inappropriately prescribed antibiotics with low implementation costs. DPH will develop a TAP OUT implementation guide and work with local providers to develop ASPs.

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197. Implementation of a Prospective, Pharmacist-Led Methicillin-Resistant Staphylococcus aureus Nasal PCR Screening Pilot Protocol to Reduce Overutilization of Vancomycin

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**Session:** 51. Antimicrobial Stewardship: Interventions to Improve Outcomes
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**Background.** The methicillin-resistant Staphylococcus aureus (MRSA) nasal polymerase chain reaction (PCR) has a negative predictive value of 95.2–99.2% for MRSA pneumonia. Negative MRSA nasal PCR results can be used as an effective tool to discontinue unnecessary empiric vancomycin therapy.

**Methods.** This single-center, pre–post quasi experimental pilot study evaluated the impact of a pharmacist-led MRSA nasal PCR screening protocol on vancomycin days of therapy (DOT) in patients with pneumonia. All adult patients with IV vancomycin ordered for pneumonia admitted to non-intensive care units were included. Patients who received nasal mupirocin, transitioned to hospice during admission, or had another indication requiring vancomycin were excluded. Pharmacists ordered an MRSA nasal PCR, per protocol, upon order verification. Negative results were used to recommend vancomycin discontinuation when appropriate. Prospective data were compared with a random retrospective cohort during a similar time frame the previous year. The primary outcome was vancomycin DOT before and after protocol implementation. Secondary outcomes included length of stay, quantity of vancomycin levels obtained, in-hospital mortality, acute kidney injury incidence, adherence to the protocol, and need for antimicrobial escalation.

**Results.** A total of 130 patients were included (\( n = 65 \), pre-intervention; \( n = 65 \), post-intervention). No statistically significant differences were observed in the demographics between the two groups. The median reduction in vancomycin DOT was 1.4 days (2.9 days [IQR 1.8–4.1] vs. 1.5 days [IQR 0.7–2.3]; \( P = 0.001 \)). The percentage of IV vancomycin ordered for pneumonia was reduced by 5.2% (19.6% vs. 14.4%; \( P = 0.036 \)). The protocol also resulted in a decreased median number of serum vancomycin levels (\( P < 0.001 \)). No statistically significant differences were observed in the secondary outcomes, and there were no adverse clinical outcomes. Protocol adherence was 67.9% overall.

**Conclusion.** Implementation of a pharmacist-led MRSA surveillance protocol significantly reduced vancomycin days of therapy, reduced serum vancomycin levels, and had no unintended adverse consequences for respiratory tract infections. Results from this pilot project will be used to expand this protocol systemwide.

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198. Pharmacist-Led Antimicrobial Prompting During Interdisciplinary Team Rounds as a Novel Antimicrobial Stewardship Intervention

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**Background.** Overutilization of Vancomycin