

**Presentation Type:**

Poster Presentation

**Development of a Skills-Based IPC Supervisor Course During the 2018-19 DRC Ebola Virus Disease Outbreak**

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**Background:** With >3,000 cases and 2,000 deaths, the current outbreak of Ebola virus disease (EVD) in the Democratic Republic of the Congo (DRC) is the second-largest reported EVD outbreak in history. Healthcare-associated transmission of EVD has been a persistent amplifier of transmission due, in part, to fragility of the healthcare system, lack of basic infection prevention and control (IPC) infrastructure, and large number of healthcare facilities (HCFs). A central component of the strategy to rapidly strengthen IPC in HCFs is the provision of IPC supervisors to oversee standardized risk assessments and improvements and provide mentorship to HCF staff. To support these activities, we designed skills based training for IPC supervisors. **Methods:** Staff recruited by the Ministry of Health (MoH) to strengthen IPC are part of an outbreak-specific cadre known as IPC supervisors. IPC supervisors, who originally lacked technical knowledge and mentoring experience, were trained to provide technical support and mentorship to staff at HCFs, with the objective of improving IPC-related processes and behaviors. A competency-based training course was designed by conducting informal assessments of IPC supervisors during daily tasks to identify areas for performance improvement. We developed competencies based on activities designated for IPC supervisors according to MoH guidelines. We planned an iterative training rollout to allow for continuous, real-time modifications based on lessons learned throughout the implementation phase. **Results:** Although IPC supervisors displayed technical knowledge of IPC recommendations, we observed large gaps in implementation. IPC supervisors frequently failed to recognize behaviors that are high-risk for infection transmission. In addition, IPC supervisors lacked the ability to develop prioritized action plans and to implement interventions aimed at rapidly improving IPC practices. The course, designed as an interactive, skills-based training, is rooted in instructional design

principles and addresses 4 key competencies: risk recognition and prioritization, IPC assessment completion, action plan development, and effective leadership and communication. The course will be pilot tested in the DRC to an audience of 25 IPC supervisors. **Conclusions:** In an outbreak setting, strong mentorship and problem-solving skills are needed to support effective implementation of IPC quality improvement. Trainings that are informed by field experiences and teach problem-solving, coaching, and communication skills are critical and can be developed rapidly. The strategy employed by the Ministry of Health to rapidly achieve IPC capacitation at HCFs might be adapted for use in future outbreaks.

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**Development of an Electronic Algorithm to Identify Inappropriate Antibiotic Prescribing for Pediatric Pharyngitis**

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**Background:** Antibiotic overuse contributes to antibiotic resistance and unnecessary adverse drug effects. Antibiotic stewardship interventions have primarily focused on acute-care settings. Most antibiotic use, however, occurs in outpatients with acute respiratory tract infections such as pharyngitis. The electronic health record (EHR) might provide an effective and efficient tool for outpatient antibiotic stewardship. We aimed to develop and validate an electronic algorithm to identify inappropriate antibiotic use for pediatric outpatients with pharyngitis. **Methods:** This study was conducted within the Children's Hospital of Philadelphia (CHOP) Care Network, including 31 pediatric primary care practices and 3 urgent care centers with a shared EHR serving >250,000 children. We used *International Classification of Diseases, Tenth Revision* (ICD-10) codes to identify encounters for pharyngitis at any CHOP practice from March 15, 2017, to March 14, 2018, excluding those with concurrent infections (eg, otitis media, sinusitis), immunocompromising conditions, or other comorbidities that might influence the need for antibiotics. We randomly selected 450 features for detailed chart abstraction assessing patient demographics as well as practice and prescriber characteristics. Appropriateness of antibiotic use based on chart review served as the gold standard for evaluating the electronic algorithm. Criteria for appropriate use included streptococcal testing, use of penicillin or amoxicillin (absent  $\beta$ -lactam allergy), and a 10-day duration of therapy. **Results:** In 450 patients, the median age was 8.4 years (IQR, 5.5–9.0)