

to be a difference in the types of CLABSIs, organisms or patient demographics in the pre and post-toolkit groups although there were more CLABSIs in transplant patients post-toolkit suggesting a complex patient population. A comprehensive toolkit can aide in implementation of a multi-faceted prevention bundle, provide a structure for accountability and help improve patient outcomes.

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Table 1

	Pre-Toolkit	Post-Toolkit	Change
Daily CHG Treatment (% compliance)	78%	84%	6% increase
Daily Review of Line Necessity	78%	85%	7% increase
Hand Hygiene	80%	81%	1% increase
Device Utilization Ratio	0.19	0.19	No change

Table 2

	Pre-Toolkit	Post-Toolkit
CLABSI Number and (Rate/1000 central line days)	97/65876 (1.47)	61/64510 (0.95)
Preventable CLABSI	70 (72%)	42 (69%)
Definition based	16 (16%)	8 (13%)
End-of-life	11 (11%)	11 (18%)
Organism (%)		
Staph spp	30%	21%
Strep spp	2%	0
Enterococcus spp	23%	30%
GNB	11%	16%
Candida spp	23%	26%
Hemodialysis Line Present	36 (37%)	19 (31%)
Transplant Recipient	3 (3%)	9 (15%)
Patient Race		
White	70(72%)	40 (66%)
African American/Black	20 (21%)	17 (28%)
Other	7 (7.5%)	4(8%)

Presentation Type:

Poster Presentation

Subject Category: CLABSI

Hospital-Onset Bloodstream Infection Varies by Hospital Location Type

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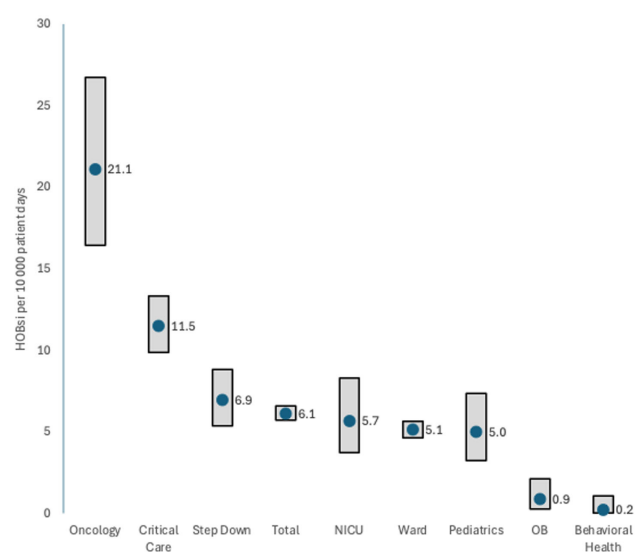
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Objectives: To characterize the incidence and contributing factors related to hospital-onset bloodstream infection (HOBsi) in a nine hospital health-care system. **Background:** Bloodstream infections that develop during hospitalization are critical measures of healthcare quality. Though these events are measured in part through CMS reports of central line-associated bloodstream infections (CLABSIs) and MRSA bloodstream infections. A newer metric has been introduced by National Healthcare Safety Network (NHSN) to measure any case of bloodstream infection with onset on or after hospital day four. There is no established benchmark rate for HOBsi and its clinical understanding remains complex. **Methods:** Positive blood cultures obtained on or after hospital day four from nine hospitals across northeast and central Pennsylvania were included in this study, spanning July 2021 to June 2024. Cases were classified based on NHSN criteria: primary bloodstream infections (BSIs), CLABSIs, mucosal barrier injury-related infections, and secondary bacteremia with identified sources (e.g., pneumonia, urinary tract infections, gastrointestinal infection or surgical site infection). **Results:** A total of 739 HOBsi cases occurred

in 1,186,510 patient days over three years, for a rate of 6.13 (95% confidence interval 5.69 to 6.59). The rates varied significantly by hospital unit type ($p=0.002$) (Figure). Oncology wards had the highest HOB rate (21.1 infections per 10,000 patient days), followed by critical care units at 11.5. Behavioral health and obstetric wards had the lowest HOB rates. When location type was considered, the rates between hospital campuses were not significantly different. In multivariate regression, the central-line device use ratio further influenced the HOBsi rate ($p=0.002$). Primary BSIs accounted for 49.3% of cases, while 22.1% met the criteria for CLABSI. When NHSN-defined source was found (secondary BSIs), pneumonia was the most common source (6.5%), followed by urinary tract infections (5.5%), gastrointestinal tract infections (3.5%), surgical site infections (3%), and other sources (6%). Mucosal barrier injury-related HOBsi comprised 4.2% of cases. **Conclusion:** This quality measure significantly expands the scope of infection events over CLABSI. HOBsi is closely associated with the hospital location type. Device use may further stratify for severity. This study establishes some initial benchmarks. Understanding the likely source of bacteremia will be important in finding ways to target strategies to reduce HOBsi.

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The Unintended Burden of the Use of Transmission-Based Precautions for Suspected COVID-19 Patients in the Ambulatory Setting

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Background: Implementation of transmission-based precautions has predominantly been performed in inpatient acute care settings. Limited guidance is available on applying these precautions in ambulatory clinics, especially for patients with suspected or confirmed COVID-19. This timed analysis of empiric isolation precautions for COVID-19 in walk-in clinics (WIC) aimed to identify unintended impacts that are underappreciated with inpatient use. **Methods:** An observational analysis at four WIC sites in an academic hospital network was conducted in July-October 2024. Patients who screened positive at check-in with cough, sore throat, congestion, or recent COVID-19 positive testing triggered an electronic notification on the need for airborne and contact isolation precautions with eye protection. A timed evaluation of healthcare personnel (HCP) to don and doff personal protective equipment (PPE) upon patient room entry

and exit was performed by two observers using a standardized process with a stopwatch. HCP were surveyed regarding attitudes and barriers using a 5-point Likert scale on REDCap. **Results:** Sixty patient encounters requiring COVID-19 isolation were observed, representing 30.4% of the total WIC patients seen during the observation periods (N=197 over 36.5 hours). Cough and sore throat were the most common symptoms triggering isolation (both 55%). The mean time to don and doff PPE per room entry and exit was 1.58 and 0.57 minutes, respectively (2.16 minutes per don and doff cycle; Table 1). HCP performed donning and doffing an average of 1.8 times (range 1-4) per patient. Extrapolated to a 12-hour shift, this adds 1.3 hours to daily activities and encompasses 35 sets of PPE (e.g. gowns, gloves, eye protection, respirators), contributing to WIC waste volumes (Table 2). HCP survey respondents (N=26/49) indicated a majority strong agreement that PPE increased the time required, burden to HCP, and waste. **Conclusions:** Multiple workflow, resource, and HCP burdens of using full COVID-19 isolation precautions for WIC patients suggest that refining isolation criteria for ambulatory settings may help preserve clinic efficiency and limit waste. This pilot occurred during a period with low COVID-19 and influenza-like illness incidence, underscoring the challenges of scaling empiric transmission-based precautions to high-volume clinics during surges of respiratory virus season. Further studies are needed to evaluate the impacts of eliminating the gown and gloves components of PPE for COVID-19 in ambulatory settings, which may be unnecessary given the lower likelihood of transmission by non-airborne routes, short duration of outpatient clinic encounters which limits environmental contamination with SARS-CoV-2 virus, and lack of aerosol-generating procedures.

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Table 1. Use of PPE for potential or confirmed COVID-19 cases in WICs

WIC	Pts requiring isolation	Avg. time to don PPE (min)	Avg. time to doff PPE (min)	Avg. time to don and doff PPE (min)	Don/Doff events total	Avg. number of times PPE donned and doffed per pt
A	21	1.62	0.75	2.38	37	1.76
B	11	1.23	0.37	1.60	16	1.45
C	8	1.49	0.42	1.92	25	3.13
D	20	1.81	0.58	2.39	30	1.50
Overall	60	1.58	0.57	2.16	108	1.80

PPE, personal protective equipment. Times are reported to don and/or doff PPE per instance of entering and/or exiting a room by a single provider. Individual room entries and exits for the same patient, whether by the same or different healthcare personnel, were recorded.

Table 2. Impacts of isolation precautions for suspected or confirmed COVID-19 at WICs scaled for average and peak patient volumes and respiratory viral incidence trends

WIC	Avg. Encounters 2021-2024		Hours added monthly		PPE units added monthly		Cost of PPE added monthly (\$3.95 per unit), low vs. high resp virus incidence
	Daily	Monthly	Low resp virus incidence (30%)	High resp virus incidence (50%)	Low resp virus incidence (30%)	High resp virus incidence (50%)	
A	53.4	1,602					
B	43.4	1,302					
C	60.5	1,815					
D	86.3	2,589					
Selected WIC avg. (4)	60.9	1,827	35.6	59.4	986.6	1,644.3	\$3,897 \$6,495
Selected WICs total (4)	243.6	7,308	142.5	237.5	3,946.3	6,577.2	\$15,588 \$25,980
All WIC avg. (12)*	607.2	18,216	355.2	592.0	9,835.2	16,394.4	\$38,849 \$64,758

Data averages from 1/2021-10/2024. Low incidence period of respiratory viral illnesses used 30% as observed during pilot data collection period. High incidence period estimated at 50% for data projections, assuming stable clinic volumes. *Data from four selected WICs were extrapolated to all 12 WICs across the hospital network enterprise.

Presentation Type:

Poster Presentation

Subject Category: COVID-19

Enhancing Infection Prevention Capacity among Health Workers at Faith-Based Health Facilities using a Champion-Led Training Approach

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During the COVID-19 pandemic, Uganda's healthcare system was significantly strained resulting in economic losses and increased morbidity and mortality. Implementing rigorous Infection Prevention and Control (IPC) interventions were crucial to safeguard patients and healthcare workers from nosocomial infections and ensure continuity of essential services. Although faith-based health facilities contribute to 15% of Uganda's healthcare system, most IPC programs have predominantly focused on public health facilities. This study describes a champion-led cascade model for IPC capacity building designed to strengthen IPC at Private Not-for-Profit health facilities bolstering responses to pandemics like COVID-19 and Ebola. Between October 2020 to May 2021, a Champion-led cascade model was implemented in 213 faith-based health facilities in Uganda. We identified health workers from each health facility to participate in a 3-day IPC Training of Trainers (ToT) based on Uganda's National IPC training package. The training focused on improving knowledge, and practices in establishing IPC leadership at health facilities, developing guidelines, environmental cleaning, hand hygiene, use of personal protective equipment (PPE), screening and isolation, waste management. The trainees underwent a pre and posttest evaluation and were considered to have passed as national trainers if they obtained at least 70% in the post-test evaluation. They were then assigned to champion IPC improvement at one health facility each through monthly mentorship visits. The Mentorship focused on improving IPC practices such as environmental hygiene, waste management, use of PPE, screening and isolation. Monthly facility IPC assessments were conducted using a digitalized Ministry of health assessment tool. Facilities with low scores were consecutively profiled for targeted quality improvement. We analyzed improvement in IPC knowledge of the champions, frequency of mentored health workers and improvements in IPC capacity at end line versus baseline using Stata 14.0. A total of 240 champions were trained and they cascaded IPC mentorship to 213 faith-based health facilities (Hospitals=17%, primary healthcare facilities=83%). The champions' average knowledge improved from 36% at pre-test to 70% at post-test, reflecting a 34% improvement. Overall, 2,963 healthcare workers (1,727 females) were trained in 8 months. Average IPC performance at health facilities improved from 38.6% (SD=12.3) at baseline to 51.3% (SD=10.4) ($p < 0.05$). IPC improvements were registered in availability of screening and isolation facilities from 6.8% to 8.4% (SD=3.1) at end line, and PPE use from 3.5% to 4% (SD=1.5). Availability of water remained low (1.6% at baseline versus 1.66% at end line). The champion-led cascade approach facilitated expansion of IPC mentorship to health workers and enhanced IPC capacities in faith-based facilities across the country.

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Effectiveness of a mRNA Vaccine Booster Dose Against COVID-19 Among Oregon Healthcare Personnel, January 2021-June 2023

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