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 suchas 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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Background: The prioritization of U.S. health care personnel (HCP) for early receipt of messenger RNA (mRNA) vaccines against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) allowed for the evaluation of the effectiveness of these vaccines in a real-world setting among a high-risk population. The purpose of this study was to summarize the sociodemographic characteristics of HCP in Oregon eligible to receive COVID-19 vaccination and estimate vaccine effectiveness (VE) of a mRNA COVID-19 vaccine booster dose. **Methods:** We conducted a case-control study involving HCP from 5 hospitals in Oregon. Cases were defined as those with a positive antigen test or nucleic acid amplification test (NAAT) for SARS-CoV-2. Controls were defined as those with a negative antigen test or NAAT result and were matched to cases by site and within a 2-week interval of test date. Using conditional logistic regression with adjustment for age, sex, race and ethnicity, educational level, underlying conditions, and reported exposure to COVID-19, we estimated VE for a 3rd COVID-19 vaccine booster dose (with the 3rd dose more than 150 days after the 2nd dose). VE was estimated using the screening method as 1-odds ratio x 100%. **Results:** Among 865 HCP, 374 (43%) were included as case-participants and 491 (57%) as control-participants. Overall, the adjusted VE of a booster dose was 62.6% (95% CI: 37.6%, 77.6%), compared to vaccination with 2 mRNA doses. Logistic regression analysis indicated that HCP with a college degree (vs. no degree, OR: 3.26, 95% CI: 1.96, 5.45), private insurance (vs. government/military, OR: 3.32, 95% CI: 1.28, 8.59), and an income level \$200K+ (vs. <\$50K, OR: 3.25, 95% CI: 1.60, 6.60) were more likely to have received the booster vaccine. **Conclusions:** The mRNA COVID-19 booster vaccines conferred approximately 63% protection against COVID-19 among Oregon HCP and were found to be effective under real-world conditions. These findings indicate moderate initial protection against SARS-CoV-2 infection and encourage remaining up-to-date with subsequent COVID-19 vaccines. The identification of sociodemographic characteristics of HCP who are more likely to have received a booster vaccine provides insight into those at higher risk for adverse COVID-19 outcomes due to lower vaccine coverage. While understanding these characteristics is valuable for directing ongoing vaccination efforts towards these populations, further research is needed to understand the mechanisms that contribute to variations in vaccine uptake.

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Clinical algorithm as a substitute for Ct values to predict need for isolation: can it deliver?

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Background: Many practitioners relied on SARS-CoV-2 RT-PCR cycle thresholds (Ct) to remove COVID-specific isolation given data correlating Ct values with the ability to culture live virus. Standardly, Ct values of 28-32 were used to remove isolation. However, many labs stopped reporting these values given lack of clinical validation based on a joint IDSA/AMP statement. VA Boston Healthcare System (VABHS) developed and implemented a clinical algorithm to replace Ct values to determine a need for isolation. We aimed to compare our algorithm performance to the unreported Ct results. **Methods:** We conducted a retrospective cohort study of COVID-19 PCR positive patients at VABHS between 10/1/23 and 3/31/24. During this time, VABHS required COVID-19 PCR testing (either via Cepheid Xpert Xpress CoV-2 plus or Cepheid Xpress Sars-CoV-2/flu/RSV plus) for admission regardless of symptoms. Included were all patients for whom Infectious Diseases (ID) was contacted to take off isolation using our algorithm (Fig 1). Ct values were later obtained from the lab as part of IRB-approved research to determine sensitivity of the algorithm to correctly classify isolation requirements. Ct values of 28 and 30 were used as the gold standard test for determining need for isolation. **Results:** ID was contacted to determine isolation requirements for 56 patients for whom the algorithm was applied and Ct values were later available for review. Using a Ct threshold of 28, 44 patients (78.6%) were admitted with appropriate isolation classification via the algorithm; 34 patients off isolation and 10 requiring isolation. Incorrect algorithm classification occurred for 10 patients who were isolated when not required due to lack of additional data; 2 patients who required isolation were not isolated. The algorithm failed in these 2 patients at the use of antibody results for determining time from infection; mean Ct value was 25.6 (range 23.6- 27.6). Both patients had COVID within the last 30 days and positive antibody testing. The true positive rate/sensitivity for algorithm driven isolation was 83.3% (51.6-97.9%) and the true negative rate/specificity for algorithm driven removal of isolation was 77.3% (62.1-88.5%). When the Ct threshold is modified to 30, the sensitivity and specificity of the algorithm were 78.6% (49.2-95.3%) and 78.6% (63.2-89.7%) (table 1). No transmissions occurred using the algorithm during this study period. **Conclusions:** Strategic use of an algorithm using history, antigen and antibody results was moderately accurate compared to Ct values for assessing isolation requirements. No known transmissions occurred with use of the algorithm in lieu of Ct values.

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Figure 1: Clinical algorithm used to determine need for isolation

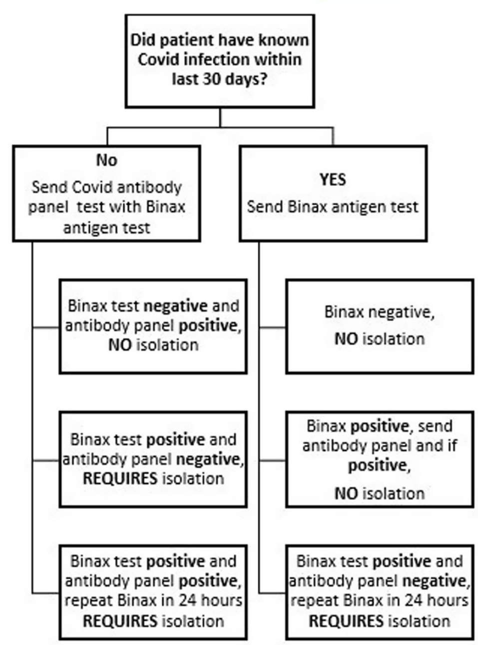

Table 1 Algorithm driven isolation and removal

CT VALUE	ALGORITHM DRIVEN ISOLATION	ALGORITHM REMOVAL ISOLATION	SENSITIVITY	SPECIFICITY
<28	10	3	76.9% (46.1-94.9%)	77.2 (62.1-85.5%)
>=28	10	34		
<30	9	4	69.2% (38.6-90.9%)	75% (59.7-86.8%)
>=30	11	33		