the frequency and route of transfer of each of the surrogate markers to the second mannequin or to the surrounding environment. **Results**: As shown in Fig. 1, wearing gloves alone or gloves plus gowns significantly reduced transfer of each of the surrogate markers by the hands of participants ($P < .05$ for each marker). However, wearing gloves or gloves plus gowns only modestly reduced transfer by stethoscopes despite cleaning of stethoscopes between exams by approximately half of the participants. Contamination of the clothing of participants was significantly reduced in the glove plus gown group versus the gloves only or no-barriers groups ($P < .05$). **Conclusion:** Barrier precautions are effective in reducing hand transfer of pathogens from patient to patient, but transfer may still occur via devices such as stethoscopes. Cover gowns reduce the risk for contamination of the clothing of personnel.

Funding: Proprietary Organization: The Center for Disease Control.

Disclosures: None

Doi:10.1017/ice.2020.575

Presentation Type:

Top Rated Posters

Validation of a Semiautomated Surveillance Algorithm for Deep Surgical Site Infections After Primary Hip or Knee Arthroplasty

Janneke Verberk, Department of Medical Microbiology and Infection Prevention, University Medical Center Utrecht, Utrecht, The Netherlands; Stephanie van Rooden, Julius Centre for Health Sciences and Primary Care, University Medical Centre Utrecht, Utrecht, The Netherlands; Mayke Koek, Department of Epidemiology and Surveillance, Centre for Infectious Diseases Control, National Institute of Public Health and the Environment, Bilthoven, The Netherlands; Titia Hopmans, Department of Epidemiology and Surveillance, Centre for Infectious Diseases Control, National Institute of Public Health and the Environment, Bilthoven, The Netherlands; Marc Bonten, Department of Medical Microbiology and Infection Prevention, University Medical Centre Utrecht, Utrecht, The Netherlands; Sabine de Greeff, Department of Epidemiology and Surveillance, Centre for Infectious Diseases Control, National Institute of Public Health and the Environment, Bilthoven, The Netherlands; Maaike van Mourik, University Medical Center Utrecht

Background: Surgical site infections (SSIs) complicate ~2% of primary total hip (THAs) or total knee arthroplasties (TKAs). Accurate and timely identification through surveillance is essential for targeted implementation and monitoring of preventive interventions. Electronic health records (EHR) facilitate (semi)-automated surveillance and enable upscaling. A validated algorithm is a prerequisite for broader implementation of semiautomated surveillance. **Objectives:** To validate a previously published algorithm for semiautomated surveillance of deep SSI after THA or TKA in 4 independent regional Dutch hospitals. The algorithm was developed and implemented in the University Medical Centre Utrecht and relies on retrospective routine care data. **Methods:** For this multicenter retrospective cohort study, the following data required for the algorithm were extracted from the EHR from all patients under THA and TKA surveillance: microbiology results, antibiotics, (re)admissions, and surgical procedures within the 120 days following the primary surgery. Patients were retrospectively classified with a low or high probability of having developed a deep SSI after THA or TKA, according to the algorithm. Sensitivity, positive predictive value (PPV), and workload reduction (defined as the proportion of manuals requiring review) were calculated compared to the traditional (manual) surveillance results, as reported to the national surveillance PREZIES. Discrepancy analyses were performed to understand algorithm results. **Results:** Data from 8,378 total THA and TKA surgeries (deep SSI n = 95, 1.1%) performed between 2012 and 2018 were extracted by 4 hospitals (Table 1). Sensitivity ranged across centers from 93.6% to 100%, with a PPV from 55.8% to 72.2%. In all hospitals, the algorithm resulted in >98% workload reduction. Cases missed by the algorithm could be explained by incomplete data extraction. **Conclusions:** This study shows that the surveillance algorithm performance is good in general Dutch hospitals. Broader implementation of this semiautomated surveillance for SSIs after THA or TKA may be possible in the near future and will result in a substantial workload reduction.

Table 1.

Table 1. Overview of Surveillance Data and Algorithm Performance per Hospital

	Time period	Number of THA/TKA surgeries	Deep SSI reference data, %	Sensitivity, % (95%CI)	PPV, % (95%CI)	Workload reduction, %
Hospital 1	2012-2015	2,395	26 (1.1%)	100.0 (86.8-100)	72.2 (54.8-85.8)	98.5
Hospital 2	2015-2016	1,601	23 (1.4%)	95.7 (78.0-99.9)	68.8 (40.0-83.3)	98.0
Hospital 3	2017-2018	1,029	15 (1.5%)	100.0 (78.2-100.0)	57.7 (36.9-76.7)	98.5
Hospital 4	2012-2017	3,353	31 (0.9%)	93.6 (78.6-99.2)	55.8 (41.3-69.5)	98.4

Abbreviations: THA=Total Hip Arthroplasty; TKA=Total Knee Arthroplasty; SSI=Surgical Site Infection; PPV=Positive Predictive Value, 95%CI= 95% Confidence Interval.

Funding: This work was supported by the Regional Healthcare Network Antibiotic Resistance Utrecht with a subsidy of the Dutch Ministry of Health, Welfare and Sport (grant number 326835).

Disclosures: None

Doi:10.1017/ice.2020.576

Presentation Type:

Top Rated Posters

Water Management and Monitoring Practices in Hospitals—United States, 2018

Matthew J. Stuckey, Centers for Disease Control and Prevention; Matthew Arduino, Centers for Disease Control and Prevention; Chris Edens, Centers for Disease Control and Prevention; Margaret NA Dudeck, Centers for Disease Control and Prevention; Daniel Pollock, Centers for Disease Control and Prevention; Ryan Fagan, Centers for Disease Control and Prevention

Background: Water management programs (WMPs) are needed to minimize the growth and transmission of opportunistic pathogens in healthcare facility water systems. In 2017, the Centers for Medicare & Medicaid Service (CMS) began requiring that certified hospitals in the United States have water management policies and procedures; in response, the National Healthcare Safety Network (NHSN) Annual Hospital Survey included new, voluntary questions on practices regarding water management and monitoring. Of 4,929 hospitals surveyed in 2017, 3,821 (77.5%) reported having a WMP. Of these 3,821 facilities, 86.9% reported regular monitoring of water temperature; 66.2% monitored disinfectant (eg,

https://doi.org/10.1017/ice.2020.577 Published online by Cambridge University Press

residual chlorine); 63.1% used specific tests for *Legionella*; and 35.6% performed heterotrophic plate counts (HPCs). We analyzed new, 2018 hospital survey data to assess further progress toward meeting CMS requirements for WMPs. **Methods:** We analyzed 2018 NHSN Annual Hospital Survey responses for facilities that reported on WMPs in 2017. Responses included information regarding risk assessments for *Legionella* and other waterborne pathogens as well as details regarding WMP teams and water-monitoring practices. WMP team members were categorized as administrative (hospital administrator, compliance officer, risk or quality management), epidemiology or infection control (epidemiologist or infection preventionist, other clinical), or environmental or facilities (consultant, facility manager or engineer, equipment or chemical supplier, maintenance). Statistical significance was assessed using the McNemar test, where appropriate. **Results:** Of hospitals reporting on WMPs in 2017, 4,087 of 4,929 (83%) responded again in 2018. The proportion of facilities that reported having a WMP increased from 3,258 of 4,087 (79.7%) in 2017 to 3,647 of 4,087 (89.2%) in 2018 ($P < .0001$). Of the 3,647 hospitals that reported having a WMP in 2018, 95.9% had conducted a risk assessment for waterborne pathogens; 67.3% of these facilities had most recently done so within 1 year of the survey. WMP teams had representation from environmental or facilities staff at 98.8% of hospitals, epidemiology or infection control staff at 89.8% of hospitals, and administrative staff at 71.7% of hospitals. Of facilities with WMPs in 2018, 90.5% reported regular monitoring of water temperature, 72.2% disinfectant, 67.4% tests for *Legionella*, and 48.8% HPCs. **Conclusions:** More hospitals reported having a WMP in 2018 than 2017. However, ~1 in 10 respondents lacked a WMP. Differences in water monitoring practices across facilities potentially reflect a lack of standardization in how WMPs are implemented. Some hospital WMPs do not incorporate routine monitoring of water temperature and disinfectant, which is a basic practice. CDC continues to develop tools, resources, and training to support facility WMP teams in meeting CMS requirements and protecting patients from water-associated pathogens.

Funding: None
Disclosures: None
Doi:10.1017/ice.2020.577

Presentation Type:
Late Breaker Poster

Communications and Screening for 2019 Novel Coronavirus at a Tertiary-Care Medical Center

Lorinda Sheeler, University of Iowa Hospitals & Clinics; Mary Kukla, University of Iowa Hospitals and Clinics; Oluchi Abosi, University of Iowa Hospitals & Clinics; Holly Meacham, University of Iowa Hospital and Clinics; Stephanie Holley, University of Iowa Hospital & Clinics; Jorge Salinas, University of Iowa Hospitals and Clinics

Background: In December of 2019, the World Health Organization reported a novel coronavirus (severe acute respiratory coronavirus virus 2 [SARS-CoV-2)]) causing severe respiratory illness originating in Wuhan, China. Since then, an increasing number of cases and the confirmation of human-to-human transmission has led to the need to develop a communication campaign at our institution. We describe the impact of the communication campaign on the number of calls received and describe patterns of calls during the early stages of our response to this emerging infection. **Methods:** The University of Iowa Hospitals & Clinics is an 811-bed academic medical center with >200 outpatient clinics. In response to the coronavirus disease 2019 (COVID-19) outbreak, we launched a communications campaign on January 17, 2020. Initial communications included email updates to staff and a dedicated COVID-19 webpage with up-to-date information. Subsequently, we developed an electronic screening tool to guide a risk assessment during patient check in. The screening tool identifies travel to China in the past 14 days and the presence of symptoms defined as fever >37.7°C plus cough or difficulty breathing. The screening tool was activated on January 24, 2020. In addition, university staff contacted each student whose primary residence record included Hubei Province, China. Students were provided with medical contact information, signs and symptoms to monitor for, and a thermometer. **Results:** During the first 5 days of the campaign, 3 calls were related to COVID-19. The number of calls increased to 18 in the 5 days following the implementation of the electronic screening tool. Of the 21 calls received to date, 8 calls (38%) were generated due to the electronic travel screen, 4 calls (19%) were due to a positive coronavirus result in a multiplex respiratory panel, 4 calls (19%) were related to provider assessment only (without an electronic screening trigger), and 2 calls (10%) sought additional information following the viewing of the web-based communication campaign. Moreover, 3 calls (14%) were for people without travel history but with respiratory symptoms and contact with a person with recent travel to China. Among those reporting symptoms after travel to China, mean time since arrival to the United States was 2.7 days (range, 0–11 days). **Conclusion:** The COVID-19 outbreak is evolving, and providing up to date information is challenging. Implementing an electronic screening tool helped providers assess patients and direct questions to infection prevention professionals. Analyzing the types of calls received helped tailor messaging to frontline staff.

Funding: None
Disclosures: None
Doi:10.1017/ice.2020.578

Presentation Type:
Late Breaker Poster

Effectiveness of Annual Flu Vaccination Until Week Four of the 2019–2020 Season

Pablo Chico-Sánchez, Alicante Institute for Health and Biomedical Research (ISABIAL), Epidemiology Unit, Preventive Medicine Department, General University Hospital of Alicante; Juan Gabriel Mora-Muriel, Alicante Institute for Health and Biomedical Research (ISABIAL), Epidemiology Unit, Preventive Medicine Department, General University Hospital of Alicante, Alicante, Spain; Paula Gras-Valentí, Alicante Institute for Health and Biomedical Research (ISABIAL), Epidemiology Unit, Preventive Medicine Department, General University Hospital of Alicante, Alicante, Spain; Natali J. Jimenez-Sepulveda, Alicante Institute for Health and Biomedical Research (ISABIAL), Epidemiology Unit, Preventive Medicine Department, General University Hospital of Alicante, Alicante, Spain; Natividad Algado-Sellés, Alicante Institute for Health and Biomedical Research (ISABIAL), Epidemiology Unit, Preventive Medicine Department, General University Hospital of Alicante, Alicante, Spain; Isel Gomez-Sotero, Alicante Institute for Health and Biomedical Research (ISABIAL), Epidemiology Unit, Preventiva Medicine Departamet, General University Hospital of Aliacante, Alicante, Spain; Victor Soler, Hospital General de Alicante; Ana Esclapez-Martinez, Hospital General de Alicante; Sandra Canovas-Javega, Alicante Institute for Health and