

wards. Nonestablished practices (staff resistance) were related to the time taken to don full PPE and reluctance to arrange for an isolation bed due to increased workload and unavailability of isolation beds. A shift was noted in the control chart for *HO-Clostridium difficile* after the implementation of the CDI bundle in May 2019. **Conclusions:** The categorization of practices into established and nonestablished practices can help to identify barriers that may interfere with successful implementation of an infection prevention bundle.

Funding: None

Disclosures: None

Doi:10.1017/ice.2020.698

Presentation Type:

Poster Presentation

Cluster of Infections Associated With Contaminated Stem-Cell Products

Kelsey OYong, Los Angeles County Department of Public Health

Background: The unapproved and unregulated use of umbilical stem-cell products has been identified as a possible source of adverse events and infection. In 2018, a national outbreak of multiple bacterial infections was associated with use of umbilical stem cells products. From December 2018 through March 2019, the Los Angeles County Department of Public Health (LACDPH) identified 4 cases of bacterial infection in patients that had received therapies using umbilical stem-cell products. Although 2 cases were associated with the national outbreak of a single company's product, 2 additional cases of *Enterobacter cloacae* were instead associated with a second stem-cell distributor. **Methods:** In December 2018, LACDPH staff received notification from a hospital infectious disease physician of 2 cases of *E. cloacae* infection in patients of a freestanding ambulatory surgery center following allogenic umbilical cord stem-cell injections on the same day in August 2018. LACDPH reviewed the medical records of these patients and conducted an on-site visit to the ambulatory surgery center, which included observation of infection prevention practices, interview of staff, and review of logs. The 2 isolates from each patient were sent to the CDC laboratory for relatedness testing. **Results:** The 2 case patients received products via intra-articular injection from different lot and donor numbers for lumbar spine pain. In addition to the stem-cell product, both patients also received antibiotics and pain medications during their procedures, though from different vials. Both patients were seen by the same surgeon, anesthesiologist, and nurse during their procedures. No additional cases occurred. The case patients were hospitalized for 12 and 27 days, respectively. Whole-genome sequencing indicated that the isolates from the 2 patients were related. No major gaps in infection prevention practices were identified at the surgery center. **Conclusion:** This report describes a cluster of 2 *E. cloacae* infections in patients who had received unapproved-use stem-cell products via spinal injection. Given molecular laboratory results and infection prevention observations, we hypothesize that the stem-cell products used on these 2 cases were likely contaminated before distribution. This cluster demonstrates that contamination of stem-cell products extends beyond the single outbreak previously described and points to the systematic inability to ensure the safety of unapproved use of umbilical stem-cell products.

Funding: None

Disclosures: None

Doi:10.1017/ice.2020.699

Presentation Type:

Poster Presentation

Cobweb Chart for Infection Rates, Infectometer, and Outbreak Alert System: Real-Time Systems for Summarizing Nosocomial Data

Braulio Couto, Centro Universitário de Belo Horizonte – UniBH;
Carlos Starling, Vera Cruz Hospital

Background: Reporting nosocomial surveillance data can be difficult because the quantity of statistics, graphics, tables, and numeric data may confuse people. Another issue related to feedback regarding healthcare infections rate is that gaps exist between collecting data, the analysis, and implementation of actions based on the information produced. Even when a statistical process control chart (SPC) is used, it is interpreted retrospectively. Here, we present 3 epidemiological tools: (1) a cobweb chart for infection rates, (2) the infectometer, and (3) an outbreak alert system. **Methods:** For the cobweb chart, the first step is to choose how many and which infection rates will be summarized. Thereafter, all infection rates, respective benchmarks, endemic level, and actual values are placed in a spreadsheet. Although each infection rate has different units (eg, %, rates per 100 discharges, and/or rates per 1,000 denominator days), when we compare the respective endemic level and actual rate with the benchmark, dimensionless quantities are generated for each indicator, making it possible to build the cobweb graph. Using the infectometer for calculations, we (1) built an SPC chart for each infection or microorganism; (2) estimated the average month and standard deviation of the infection cases, excluding outlier data, and (3) calculated the monthly expected incidence, assuming that nosocomial infection occurrence follows a normal distribution. If the supposition of normal distribution fails, a percentile method is used. The outbreak alert system predicts outbreaks using the infectometer parameters, the last month's observed infection cases, and a Poisson model for predicting the chance of new cases of each infection above monthly expected incidence. **Results:** With the adapted radar chart, we can report many infection rates in only 1 chart (Fig. 1). The SPC charts for infection rates, stratified by all the types of healthcare infections or by microorganism, can be built, and the infectometer can then be produced, showing weekly and monthly expected cases of an endemic condition. The outbreak alert system is presented as a speedometer that is analyzed at the beginning of each month (Fig. 2). **Conclusions:** The idea behind the cobweb chart for infection rate method is to report all infection rates in only 1 graph. With the infectometer, it is not necessary to wait until the end

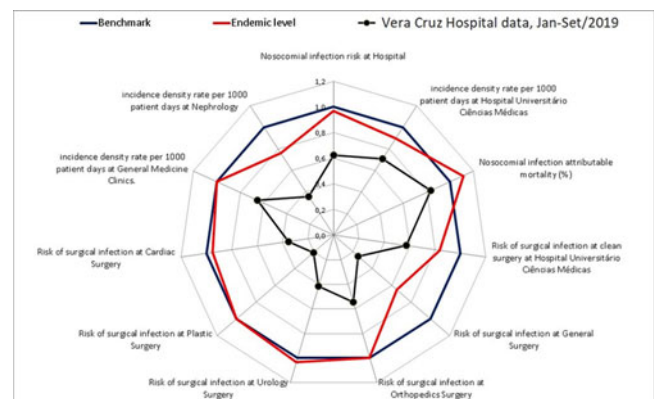


Fig. 1.