

Fig. 1.

Table 2 Clinical comparison between internal and external NB, infected by RSV during the outbreak at Campinas Maternity, 2017.

Features	NB external% (N)	NB internal% (N)	р	
Premature (<37 weeks)	13.3% (4)	91.6% (11)	< 0.001	
Comorbidities	3.13% (1)	100% (12)	< 0.001	
Upper Respiratory Symptoms	93.75% (30)	8.3% (1)	<0.001	
Low Respiratory Symptoms	62.5% (20)	75% (9)	0.29	
Mechanical Ventilation (VM)	37.50% (12)	58.33% (7)	0.18	
Asymptomatic	0	25% (3)	0.03	
Length of hospitalization days - Mean (change)	11.3 (3-49)	81.4 (21-150)	<0.001	
Time of VM days Mean (range)	1.9 (0-8)	17.2 (11-59)	<0.001	

## Fig. 2.

risk of in-hospital cross transmission. Neonates infected with RSV at the hospital have several risk factors for poor prognosis, including high mortality. Therefore, it is important to discuss the exposure of this population to community-based infectious agents, mainly viral, and the risk of accepting patients from the community to be admitted to the NICU.

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# **Presentation Type:**

Poster Presentation

Hospital Policies Related to Transmission of Methicillin-Resistant *Staphylococcus aureus* (MRSA)

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**Background:** MRSA continues to spread in hospitals, despite modest recent success. Gaps exist regarding how hospital policies impact MRSA transmission in hospitals. Characterization of the policy environment has been useful in approaching other public health issues including control of alcohol, firearms, tobacco, and traffic safety. **Objective:** Our goal was to describe measurable and modifiable policy components designed to prevent MRSA in hospital settings. **Methods:** We examined 4 types of hospital policies from 5 metropolitan hospitals in Minnesota: hand hygiene, multidrug-resistant organism (MDRO)

and isolation, healthcare personnel influenza vaccination, and whistleblower (corporate compliance). We developed a tool to systematically evaluate policies for each topic that included 19-23 instructional and implementation elements guided by regulatory and clinical practice guidelines: purpose, expectations, education and training, monitoring, enforcement, corrective actions, responsibilities, and corrective actions. Each policy element was evaluated for its presence (yes or no) and thoroughness (nonexistent = 0, cursory = 1, thorough = 2). Results: All hospitals had hand hygiene and MDRO and isolation policies; 3 of 5 had influenza and whistleblower policies. The policies varied in comprehensiveness and thoroughness across hospitals and topics. Most policies included purpose and policy statements with a statement of organizational rules (14 of 16 and 16 of 16, respectively) with mean thoroughness scores of 1.04 and 1.20, respectively. Most policies lacked consequences for noncompliance (6 of 16), accountability (6 of 16), and monitoring and enforcement of policy expectations (5 of 16). When included, the policy components scored low for thoroughness, and 50% of policies (8 of 16; range, 20% for hand hygiene and 100% for influenza vaccination) specified expectations for educating staff about the policy topic, with a mean thoroughness score of 0.75. Responsibilities for policy expectations were lacking: responsibilities for product needs and availability (3 of 13), training and education (1 of 16); and monitoring compliance with skills and techniques (4 of 16). Of the 4 policy types, influenza vaccination was the most complete. All influenza policies had  $\geq$ 50% of categories completed versus hand hygiene (26%), MDRO (17%), and whistleblower (26%). The hand hygiene policies scored highest for thoroughness; 48% of policy

elements scored >1.0 versus MDRO (22%), influenza (25%), and whistleblower (11%). **Conclusions:** We developed a systematic method to quantitatively evaluate hospital policies. Our review of hospital policies most commonly contained thorough instructional elements such as organizational requirements and protocols and procedures. Policies often lacked implementation elements such as expectations for monitoring, enforcement, responsibilities, accountabilities, and staff training and education. As we begin to characterize policy, endogenous in nature, as a potential exposure, it is important that we develop rigorous measurement. We have provided a first step in developing such an approach.

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# **Presentation Type:**

### Poster Presentation Hospital Preparedness for a Community Measles Outbreak in Ribeirao Preto, Brazil

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Background: Measles was considered eradicated in Brazil in 2016, but the virus reemerged in the country in 2018, causing large outbreaks. Ribeirao Preto has been measles free since 1997, but the outbreak in Sao Paulo City, 180 miles away in June 2019, alerted us to the possibility of measles patients coming to our emergency room (ER). The preparedness challenge was considerable: most healthcare workers (HCWs) had never seen a measles case before, and confirmatory measles laboratory tests were not readily available to us. Objective: To describe the hospital preparedness for the coming community measles outbreak. Methods: Hospital São Francisco is a 170-bed, general, tertiary-care hospital with 10,000 ER visits monthly. Measles preparedness consisted of measles training classes for HCWs, and flow charts with pictures and measles information in every ER office, also sent to HCW cell phones. We also designated areas for suspected measles patients for prompt medical evaluation; and we implemented mass measles vaccination for all hospital HCWs regardless of vaccination status, excluding pregnant or immunosuppressed HCWs. We considered a measles suspected case any person with fever, 1 of 3 symptoms (cough, coryza or conjunctivitis), and a generalized maculopapular rash with headto-toe distribution. All contacts for suspected cases were recommended to obtain a measles vaccination. Detection of viral RNA in a biological sample and or a positive IgM result in serum was used to confirm a clinically suspected case. The study period spanned July 2019 to September 2019. Results: Measles training occurred for 3 weeks in July-August and reached 200 HCWs. The measles vaccination was offered July 23 to August 15; 1,362 HCWs were already vaccinated (93% of target population). In total, 35 clinical suspected measles cases were seen in the ER, and 3 of these were HCWs who had received the measles vaccine in their incubation period. Also, 3 patients were admitted to the hospital and 1 to the intensive care unit; there were no deaths. Overall, 8 patients had laboratory-confirmed measles, and 1,343 community contacts of these patients were vaccinated. We did not detect measles transmission to inpatients or to other HCWs after mass

vaccination began. In the same period, Sao Paulo state had >7,000 laboratory-confirmed measles cases and 12 deaths. **Conclusions:** Community measles outbreaks are a challenge for the hospital infection control team, and they can potentially disrupt the daily activities in the hospital. We were able to adequately prepare for the largest state outbreak in 20 years without secondary cases or deaths.

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### **Presentation Type:**

Poster Presentation

Hospital-Acquired Bloodstream Infections With MRSA and VRE: Standardized Admission Screening Did Not Impact Rates Jennifer Ellison, Infection Prevention & Control, Alberta Health Services; Blanda Chow, Infection Prevention & Control, Alberta Health Services; Andrea Howatt, Infection Prevention & Control, Alberta Health Services; Ted Pfister, Infection Prevention & Control, Alberta Health Services; Kathryn Bush, Infection Prevention & Control, Alberta Health Services

Background: Bloodstream infections (BSIs) are an important cause of morbidity and mortality in severely ill patients, contributing to increased length of stay and a higher cost of care. Surveillance of hospital-acquired (HA) BSI is considered a measure of quality of care and has been performed provincially in Alberta since 2011. Prior to October 2015, a nonstandardized, risk-factor-based VRE screening process was used. Screening practices for antibiotic-resistant organisms (AROs) were aligned in October 2015 with a provincially standardized admission screening tool to allow for early initiation of contact precautions for patients colonized or infected with MRSA or VRE. In this data review, we sought to determine whether this admission screening change influenced ARO infections through review of HA-BSI rates. Methods: Prospectively, we reviewed reports of all patients admitted to Alberta Health Services/Covenant Health acute-care and acute-/tertiary-care rehabilitation facilities who met inclusion criteria: (1) positive blood culture identified with MRSA or VRE; (2) new episode for the patient; and (3) positive result occurred on or after calendar day 3 of admission. Data are presented as quarterly rates. Screening practices for MRSA and VRE were standardized provincially in October 2015 to include screening for MRSA on admission for patients who had an inpatient admission, received hemodialysis, or was an inmate in a correctional facility in the past 6 months. We also screened for VRE patients admitted to a solid-organ transplant unit or a hematology unit, regardless of risk factors. Results: We detected no changes in the quarterly rates of HA-BSI with MRSA or VRE after admission screening was standardized. Prior to standardized screening, MRSA BSI rates ranged from 0.12 to 0.25 per 10,000 patient days, with an overall rate of 0.18 per 10,000 patient days. After standardization, rates ranged from 0.09 to 0.30 per 10,000 patient days, with an overall rate of 0.17 per 10,000 patient days (P = .46). VRE BSI rates prior to standardization ranged from 0.03 to 0.13 per 10,000 patient days, with an overall rate of 0.08 per 10,000 patient days, which increased slightly to 0.09 per 10,000 patient days after standardized screening, ranging between 0.04 and 0.16 per 10,000 patient days (P = .61). Conclusions: Following the implementation of standardized admission screening and the early initiation of contact precautions, no significant changes were observed in rates of either HA-BSI with MRSA or VRE. Further investigation is required to identify the most effective strategies to reduce HA-BSIs caused by MRSA and VRE.