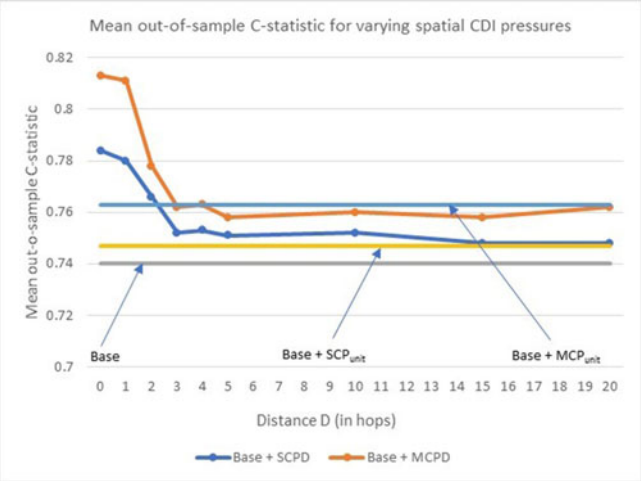

Fig. 1.

NHSN hospitals, whereas resistant GPPs including MRSA and VRE were significantly less frequent than in NHSN hospitals. **Conclusion:** Compared with American hospitals, GNPs that contribute to DA-HAIs in Saudi hospitals show more resistance. The higher resistance rates in *Klebsiella* and *Escherichia coli* are alarming and call for effective antimicrobial stewardship programs.

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Poster Presentation

Highly Local *Clostridioides difficile* Infection (CDI) Pressure as Risk Factors for CDI

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Background. Colonization pressure at the unit level is known to be a risk factor for *Clostridioides difficile* infections in hospitals. Because *C. difficile* colonization is not routinely detected in clinical practice, only patients identified as having *C. difficile* infection (CDI) are included in these pressure calculations. We used data from the University of Iowa Hospitals and Clinics (UIHC) to determine whether highly local CDI pressure, due to patients in nearby rooms, is more strongly correlated with CDI than unit-level CDI pressure. **Methods:** We designed a base logistic regression model using variables known to be risk factors for CDI: age, antibiotic/gastric acid suppressor use, low albumin, prior hospitalization, comorbidities. To the base model, we add 2 measures, *mean colonization pressure* (MCP) and *sum colonization pressure* (SCP) of CDI at the unit level to obtain new models. To the base model, we also added CDI colonization pressure by considering CDI cases at different distance thresholds from the focal patient. Distances between patient rooms were extracted from hospital floor plans. **Results:** Adding unit-level CDI colonization pressures to the base model improved performance. However, adding CDI colonization pressures due to roommates and due to patients at different distances improved the model much more (Table 1). The top (resp. bottom) row shows in-sample (resp. out-of-sample) C-statistics for the base model, the base model with unit-level MCP, the base model with roommate MCP, and the base model with MCP from patients are different distances added as separate features. C-statistics for the base model and the base model with unit CDI pressure (SCP and MCP) are compared in Fig. 1 with C-statistics from the base model with CDI pressure from patients at distances D = 0, 1, 2, 3, 4, 5, 10, 15, 20 hops (1 hop = 5–6 meters). **Conclusions:** Our results support the hypothesis that unit CDI colonization pressure is a risk factor for CDI. However, by incorporating spatially granular notions of distances between patients in our analysis, we were able to demonstrate that the true source of CDI pressure at the UIHC is almost exclusively attributable to roommates and patients in adjacent rooms.

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Poster Presentation

Hospital Infections by *Stenotrophomonas maltophilia*: Results in Five Years of Multicentric Study

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Background: *Stenotrophomonas maltophilia* is an emerging pathogen responsible for high morbidity and mortality rates. Hospital infections caused by this bacteria, especially in intensive care centers, are concerning for the health system, given that the microorganism is multidrug resistant to most antimicrobials available. **Objective:** Therefore, the present study is built from an analysis of the variables related to nosocomial infections caused by *S. maltophilia* in hospitals in Brazil, to display points of major concern. **Methods:** We used the data collected by the Infection Prevention and Control Service to clarify the incidence rate of *Stenotrophomonas maltophilia* in Brazilian hospitals as well as the gross lethality of these infections and the profiles of infected patients. We collected and analyzed epidemiological data from 10 hospitals in Brazil for the period July 2014 to June 2019 according to the CDC NHSN protocol. **Results:** In 5 years, 93 *Stenotrophomonas maltophilia* infections were diagnosed in the hospitals analyzed. Overall, 61 occurred in men (66%) and 32 occurred in women (34%). Furthermore, 47 cases (51%) occurred in adult ICUs; 19 cases (20%) followed zascular surgery; 9 (10%) cases occurred in the neonatal ICU; 7 (8%) cases were from the medical clinic; and 11 (12%) were from other clinics. The incidence rate was 1.2 cases for 10,000 hospitalizations, ranging from 0.0 to 2.8 (Fig. 1). Patients' ages ranged from 0 to 90 years, with a mean of 55 years (SD, 26 years) and a median of 64 years. Time between admission and diagnosis of infection was 1 to 102 days, with a mean of 24 days (SD, 21 days) and a median of 17 days. The gross lethality for *S. maltophilia* infection was 43 of 93 (46%) (95% CI, 35.8%–56.9%). The frequencies of specific infections were as follows (Fig. 2): pneumonia, 26 (28%); tracheobronchitism, 22 (24%); primary bloodstream infection, 18 (19%); skin and soft-tissue infection, 13 (14%); local infection, 7 (8%); vascular access infection, 3 (3%);

Hospital	Number of hospital acquired infections caused by *Stenotrophomonas maltophilia*	Percentage of all nosocomial infection microorganisms	Total of patients admitted at each hospital	Incidence rate of HAI caused by Stenotrophomonas maltophilia (#HAIs per 10.000 hospital admissions)
I	2	0.2%	53,284	0.4
II	12	1.0%	89,552	1.3
III	45	1.2%	161,721	2.8
IV	0	0.0%	74,367	0.0
V	0	0.0%	116,551	0.0
VI	7	0.4%	46,627	1.5
VII	0	0.0%	56,984	0.0
VIII	15	1.0%	80,220	1.9
IX	4	0.7%	28,380	1.4
X	8	0.3%	76,843	1.0
Total	**93**	**0.5%**	**784,529**	**1.2**

Fig. 1.

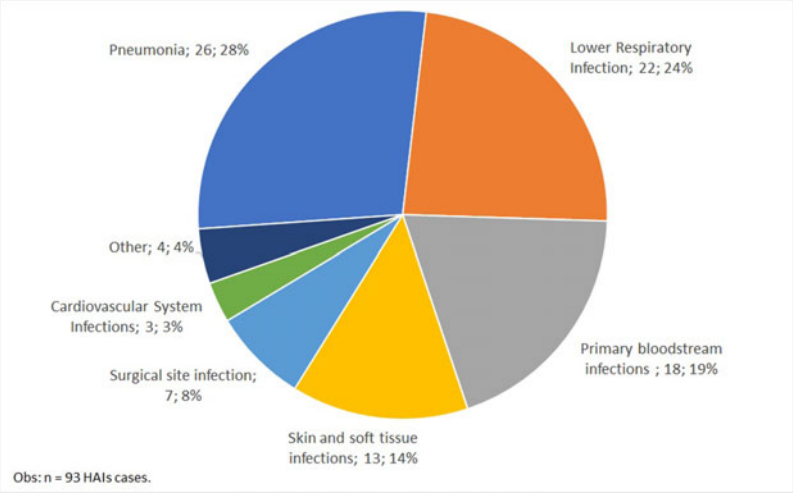

Fig. 2.

urinary tract infection, 2 (2%); gastrointestinal infection, 1 (1%); and eye, nose, throat, and mouth infections, 1 (1%). **Conclusions:** *Stenotrophomonas maltophilia* infection is a rare and highly lethal event that usually occurs after 2 weeks of hospitalization. The most affected region is the respiratory tract, with a higher incidence in patients aged >60 years or in the ICU. Early and accurate investigations of multiresistant microorganisms in a hospital setting are needed to reduce patient morbidity and mortality.

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Poster Presentation

Hospital Outbreak of Respiratory Syncytial Virus in Neonatal Intensive Care Unit: The Risk of Admitting External Patients

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Background: Acute viral bronchiolitis caused by respiratory syncytial virus (RSV) may be a manifestation of high severity in neonatal-ICU (NICU) patients, with high risk of in-hospital cross transmission and outbreaks. During the epidemic seasonal period, intense viral circulation occurs in community; thus, transmission in the NICU is difficult to control. **Objective:** We describe an outbreak that occurred in a NICU in a public hospital in São Paulo state, Brazil. We also discuss the role of admitting external newborns with community-acquired virus in the incidence of these outbreaks in the NICU. **Methods:** In 2017 in Campinas, an RSV epidemic occurred during the seasonal period, resulting in a outbreak at the Campinas maternity hospital. A retrospective investigation was performed, and patients were analyzed for clinical and epidemiological characteristics and for risk factors for poor prognosis. We included neonates admitted in NICU with positive nasal lavage for RSV from April to July 2017. Statistical analysis were performed with χ^2 test for the categorical variables and the Student *t* test for the continuous variables comparing the newborn group from the community (external) with infected newborns in the hospital (internal). $P < .05$ was considered significant. **Results:** Of 44 neonates with RSV during this period, 32 were external and 12 were internal (Fig. 1). The mean gestational age of the external neonates was 38 weeks and 2 days, whereas the mean gestational age of the internal neonates was 29 weeks and 1 day ($P < .001$). The hospitalization time was higher in the internal group ($P < .001$). Table 1. One death associated with infection occurred in the internal group. Community neonates (external group) were mostly term-born, with no comorbidities, and they had a more favorable clinical course. In the literature, neonates infected with RSV at the hospital have several risk factors for poor prognosis, with a 13.5% mortality rate. **Discussion:** RSV outbreaks have great relevance in hospital settings, especially in the NICU, where there are a large number of vulnerable patients and a high