

Results. 22 patients with median age of 74 years old were identified, only three pediatric cases. The average time of acquired influenza was at 13th day of hospitalization. In 77% Influenza A was the only agent detected and 27% had respiratory co-infection. Thirteen (59%) were previously hospitalized in CCU, but only 2 (15%) due to respiratory problems. Nineteen patients (86%) presented comorbidity such as arterial hypertension (59%), chronic kidney disease (18%), and immunosuppression (18%). Half of them had a decompensation, mainly respiratory, associated to influenza infection. The observed lethality was 18%. Among all the influenza HAI, 59% occurred in unvaccinated patients, although 46% of them met criteria for vaccination recommendation.

Conclusion. HAI due to influenza occurred in chronic, older, and unvaccinated patients. Education about HAIs and continuing high vaccination coverage must be a priority.

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1265. Application of the ALERT Influenza Trigger for Enhanced Prevention Activities

Lisa Veach, MD, FACP, FSHEA¹; Julie Gibbons, BSN, RN¹; Katarina Smolka, BS² and Veena Ramachandran, MD¹; ¹UnityPoint Health, Des Moines, Iowa, ²Regis University, Denver, Colorado

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Friday, October 5, 2018: 12:30 PM

Background. Accurate prediction of the onset of increased influenza activity in a healthcare setting can allow for optimal use of enhanced prevention activities. The ALERT (Above Local Elevated Respiratory Illness Threshold) algorithm, described by Reich et al. (2015), utilizes historical weekly case counts of laboratory-confirmed influenza infections to set a trigger point of cases/week that anticipates elevated disease incidence. This can then be used in real-time, during subsequent influenza seasons, for initiation of enhanced prevention, including masking by nonvaccinated healthcare workers.

Methods. Historical data collected from UnityPoint Health-Des Moines (3-hospital, 800-bed system), between 2011 and 2014, was analyzed using the ALERT method (Reich et al. 2015) to set a threshold number of diagnosed influenza cases per week to predict the start of the influenza season. Each following year the threshold was re-analyzed, adding the most recent year's data to the historical data set. Our goal was to capture at least 80% of influenza cases within our "ALERT period," without prolonging the duration of heightened prevention efforts.

Results. For the initial year of real-time application (2015–2016), the threshold was defined as seven cases. In subsequent years, the threshold was 5. Compared with the 3 years prior, use of the ALERT method resulted in more accurate and consistent identification of the influenza season, including anticipating the increase in cases and defining the total duration of the season.

| | Threshold Trigger | Onset Date of Enhanced Prevention | Total Cases per Season | Percent of Cases Captured During Alert | Duration of Alert Period (Weeks) |
|--------------------------|-------------------|-----------------------------------|------------------------|--|----------------------------------|
| Influenza Season Metrics | | | | | |
| 2012–2013 | N/A | November 15, 2012 | 725 | 99% | 22 |
| 2013–2014 | N/A | December 30, 2013 | 255 | 77% | 9 |
| 2014–2015 | N/A | December 11, 2014 | 773 | 73% | 19 |
| ALERT Trigger Initiated | | | | | |
| 2015–2016 | 7 | February 22, 2016 | 250 | 87% | 13 |
| 2016–2017 | 5 | January 3, 2017 | 791 | 95% | 17 |
| 2017–2018 ^a | 5 | December 11, 2017 | 1,445 | 98% | 20 |

^aAs of April 28, 2018.

Conclusion. The ALERT method utilizes health system specific historical data to more precisely define the period of high influenza incidence allowing for focused utilization of enhanced measures to prevent transmission. This results in a safer environment, optimal use of resources and improved employee and patient satisfaction.

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1266. Multifaceted Infection Control Strategies to Control Multidrug-Resistant *Acinetobacter baumannii* in Adult Intensive Care Unit in a Tertiary Hospital in Eastern Region, Saudi Arabia

Ayman Gammal, American Board of Internal Medicine and Infectious Disease; Infection Prevention and Control, Ministry of National Guard Health Affairs Eastern Region - Al Ahsa, Al Ahsa, Saudi Arabia

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Background. Multidrug-resistant *Acinetobacter baumannii* (MDR-AB) has emerged globally as a significant pathogen in hospitals. During 2010, our hospital experienced an increase of MDR-AB in Adult intensive care unit (ICU). Our adult ICU is consists of 10 acute care beds. The hospital is a tertiary institution located in Eastern region of Saudi Arabia. Multidisciplinary team was formed to implement and determine the effect of multifaceted strategies in controlling MDR-AB.

Methods. Active surveillance culture (ASC) was initiated to determine the prevalence rate of MDR-AB per 1,000 patient-days (PD). Using ASC, which was done during admission in ICU, after 48 hours of admission and every week for all patients if there is a positive MDR-AB case, acquisition rate of MDR-AB was calculated per 1,000 PD.

Average daily colonization pressure was also monitored. In addition, a multifaceted infection control strategies were carried out. These include hand hygiene, contact isolation, cohorting of patients, Chlorhexidine bath, and environmental cleaning and disinfection. Compliance with hand hygiene was observed using direct observation method. We use the Fluorescent Gel Method for evaluating the thoroughness of disinfection and cleaning for environmental surfaces.

Results. Hand hygiene compliance of HCWs initially was 89%, in 2017 was increased to 98%. Daily Chlorhexidine bath was adopted for all patients in ICU. Initially, the compliance for thoroughness of disinfection and cleaning is 84.6% it was increased to 92% in 2013–2017. Prevalence rate of MDR-AB was 20.7/1,000 PD in 2010, it was decreased by 50% in 2011–2012. In 2017, declined to 0.9/1,000 PD. MDR-AB acquisition rate was 11.8/1,000 PD in 2010, it was decreased by 57% in 2011–2012. In 2017, dropped to 0.6/1,000 PD. Average daily colonization pressure was 0.21 in 2010. In 2011–2012, it was decreased by 31%. In 2017, it was reduced to 0.02. Death rate among MDR-AB patient in 2010 was 25.7%. It was decreased to 14% in 2011–2012. In 2017, an enormous drop to 0% was achieved.

Conclusion. Implementing these multifaceted strategies help in controlling MDR-AB in our hospital. The commitment and adherence of the HCW to all infection control strategies are essential in sustaining low prevalence rate and acquisition rate of MDR-AB.

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1267. Nonventilator Hospital Acquired Pneumonia (NV-HAP) Prevention Initiative in Colombia, Bogotá

Sandra Valderrama, Specialist in Infectious Diseases¹; Claudia Janneth Linares Miranda, NP²; Maria Juliana Soto, MD³; Estefania McKinley, MD³; Juan Pablo Morcillo, MD⁴; Juan Pablo Alarcon, MD⁵; Angela Patricia Gonzalez, NP¹ and Leidy Gamba, Nurse¹; ¹Infectious Diseases, Hospital Universitario San Ignacio, Bogotá, Colombia, ²Infectious Diseases, Hospital Universitario San Ignacio, Bogotá, Colombia, ³Pontificia Universidad Javeriana, Bogotá, Colombia, ⁴Pontificia Universidad Javeriana, Bogotá, Colombia

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Friday, October 5, 2018: 12:30 PM

Background. Pneumonia is the second most common healthcare-associated infection worldwide. Non ventilator – Hospital Acquired Pneumonia (NV-HAP) affects more people than VAP, has a comparable mortality rate (18.7% vs. 18.9%), and has higher total costs (\$156 million vs. \$86 million), respectively. The objective of this study was to describe the result of the implementation of a bundle of measures for the prevention of NV-HAP in adult patients in a University Hospital in Colombia.

Methods. Descriptive study. In a period of 2 years, a care bundle for prevention of NV-HAP was implemented in adult patients in a university hospital that consisted of: (1) identification of patients at risk (patients over 60 years of age, or with altered consciousness, or swallowing disorder, or patients with tracheostomy), (2) marking the patient with a sticker on the head of the bed, and (3) implementation of the following measures: head of the bed elevation to 30°–45°, oral care every 12 hours, chlorhexidine oral rinse decontamination every 12 hours and aspiration of secretions as needed. In the first 6 months, training was carried out for all staff, the monthly adherence to the strategy was measured.

Results. During 2016, 1,045 patients were included, with 10,011 observations, bundle adherence during the first year was 33%. in the second year, 1,400 patients were included, with 13,198 observations, the bundle adherence increased to 90% throughout the hospital. The rate of NV-HAP decreased from 4.2 (96 cases) to 3.4 (89 cases) per 1,000 patient-days, in the second year compared with the previous intervention year.

Conclusion. The strategy of prevention of NV-HAP decreased the cases of nosocomial pneumonia in a university hospital, through the education a high adherence to the strategy was achieved. Studies with a better design should be done to confirm the findings.

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1268. Transmissibility of *Candida auris* by Type of Inpatient Healthcare Facility

Prabasaj Paul, PhD, MPH¹; Kaitlin Forsberg, MPH²; Snigdha Vallabhaneni, MD, MPH³; Shawn R Lockhart, PhD³; Anastasia P. Litvitseva, PhD²; Janna L. Kerins, VMD, MPH⁴; Angela S. Tang, MPH⁵; Olufemi Jegede, MPH⁶; Patricia M. Barrett, MS⁷; Kathleen Ross, MPH⁷; Rachel Slayton, PhD, MPH¹ and John A. Jernigan, MD, MS¹; ¹Division of Healthcare Quality Promotion, Centers for Disease Control and Prevention, Atlanta, Georgia, ²Mycotic Diseases Branch, Centers for Disease Control and Prevention, Atlanta, Georgia, ³Centers for Disease Control and Prevention, Atlanta, Georgia, ⁴Epidemic Intelligence Service, Centers for Disease Control and Prevention, Atlanta, Georgia, ⁵Illinois Department of Public Health, Chicago, Illinois, ⁶Infectious Diseases, Detroit Medical Center/Wayne State University, Detroit, Michigan, ⁷New Jersey Department of Health, Trenton, New Jersey

Session: 139. Healthcare Epidemiology: Outbreaks

Friday, October 5, 2018: 12:30 PM

Background. *Candida auris* is a multidrug-resistant yeast causing outbreaks in healthcare settings. Stopping the spread of *C. auris* requires rapid identification of healthcare facilities at risk of higher transmission to help targeted implementation of infection control measures. We used data collected during public health investigations to quantify transmissibility of *C. auris* by type of healthcare facility.

Methods. In two states, 3,159 patient swabs were collected during 96 *C. auris* point prevalence surveys conducted at 36 inpatient healthcare facilities in November 2016

and April 2018. We estimated facility transmissibility and facility reproduction number (number infected by one index colonized patient per day, and per stay, respectively, at the facility) of *C. auris* based on estimated colonization pressure, a count of newly colonized patients between successive surveys at the same facility, and mean lengths of stay at facilities (estimated from CMS administrative data). The results were summarized by facility type: acute care hospital (ACH), long-term acute care hospital (LTACH) or ventilator unit at skilled nursing facility (VSNF), and were compared with previous estimates for transmissibility of carbapenem-resistant Enterobacteriaceae (CRE).

Results. Swabs were collected from 13 ACHs, 12 LTACHs, and 11 VSNFs. The *C. auris* facility reproduction number may exceed the critical value of 1 in both ACHs and VSNFs, and may exceed that for CRE in ACHs (table).

Conclusion. Transmissibility of *C. auris* is comparable to that of CRE. The transmissibility within VSNFs emphasizes their potential role as amplifiers in the outbreak. Understanding transmissibility by facility type helps evaluate the potential impact of interventions in various settings.

Table: Transmissibility of *C. auris* by Facility Type

| Facility Type | <i>C. auris</i> Transmissibility (per Day) (Median, IQR) | <i>C. auris</i> reproduction number (per Stay) (Median, IQR) | CRE Transmissibility ^a (per Day) (Mean, 95% CI) | CRE Reproduction Number ^a |
|---------------|--|--|--|--------------------------------------|
| ACH | 0.218 (0.215–0.221) | 1.05 (1.04–1.07) | 0.104 (0.079–0.138) | 0.50 |
| LTACH | 0.035 (0.019–0.045) | 0.73 (0.40–0.97) | 0.042 (0.036–0.049) | 1.61 |
| VSNF | 0.019 (0.014–0.023) | 1.05 (0.70–1.27) | – | – |

^aPrevious estimates (Poster 429, SHEA 2018), for comparison.

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1269. HIV Testing in a Large Community Health Center Serving a Multi-cultural Population: A Qualitative Study of Providers

Anthony James, BA, BS¹; Danelle Marable, MA²; Caroline Cubbison, MD¹; Andrew Tarbox, BA¹; Sarah Oo, MSW²; Kenneth Freedberg, MD, MSc^{1,3}; and Julie Levison, MD, MPH, MPH^{1,2,4}; ¹Massachusetts General Hospital, Boston, Massachusetts, ²Massachusetts General Hospital Chelsea HealthCare Center, Chelsea, Massachusetts, ³Harvard Medical School, Boston, Massachusetts, ⁴Harvard Medical School, Boston, Massachusetts

Session: 140. HIV: Diagnosis and Screening
Friday, October 5, 2018: 12:30 PM

Background. In the United States, 15% of people with HIV (PWH) do not know their serostatus, leading to both individual morbidity and HIV transmission to others. While CDC guidelines recommend HIV screening for all individuals aged 13–64 years, racial and ethnic minorities in the United States continue to present to care with advanced HIV infection.

Methods. Our objective was to assess providers' perspectives on barriers to and facilitators of HIV testing at an urban community health center serving a predominantly racial/ethnic minority population of low socio-economic status. Study staff conducted five focus groups from January 2017 to November 2017 with 74 health center staff: 20 adult medicine/primary care providers, 28 community health workers (CHWs), six urgent care physicians, six community health administrators, and 14 behavioral health providers. Each focus group ranged from six to 20 participants. In addition to exploring participants' views on HIV testing in this setting, we also explored potential interventions to improve HIV testing. Interviews were digitally recorded. Data were analyzed using a grounded theory approach. We used open coding to develop themes and compared themes among provider groups.

Results. The main facilitators of routine HIV testing were clinical training in HIV/hepatitis care and CHWs engaging patients in topics that intersect with HIV risk factors. Providers' perceptions of key barriers were patients' cultural perceptions of HIV (e.g. HIV-related stigma), patients' concerns about test confidentiality, competing medical and social issues, and provider lack of HIV knowledge. All groups agreed that HIV testing should occur through the primary care provider though acknowledged that patients may be seeking healthcare more frequently through mental health, urgent care, or social services than primary care. Primary care physicians wanted easier mechanisms to identify patients in need of HIV testing and assistance with offering the test to non-English language speaking patients.

Conclusion. Specific, focused efforts can lead to improved HIV testing in racial ethnic minorities in community health centers. Training to improve provider comfort, increasing CHW engagement, and a focus on patients' cultural beliefs may all have an impact.

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1270. Are HIV-Related Diagnostics Excessively Ordered? A Pilot Intervention Study to Improve Test Use in the Inpatient Setting

Daryush Tabatabai Asl, PharmD¹; Harminder Sikand, PharmD, FCSHP, FASHP, FCCP²; Eva Sullivan, PharmD³ and Nancy Crum-Cianflone, MD, MPH¹; ¹Pharmacy, Scripps Mercy Hospital - San Diego, San Diego, California, ²Pharmacy, Scripps Mercy Hospital, San Diego, California, ³Scripps Mercy Hospital, San Diego, California

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Friday, October 5, 2018: 12:30 PM

Background. Excessive ordering of HIV-related laboratory tests (CD4 counts, HIV RNA levels, and HIV genotypes) may result in increased healthcare costs, unneeded interventions (e.g., response to low CD4 in acute illness), and patient anxiety. Recent data have evaluated methods to reduce excessive testing in outpatients, but there are limited data in the inpatient setting. The purpose of this study was to evaluate if implementation of a pharmacist-driven intervention protocol based on published guidelines improved utilization of HIV-related diagnostics in the inpatient setting.

Methods. A pre-interventional study performed on HIV diagnostics usage over a 1-year period, followed by a 3-month post-interventional study at a large academic medical center to evaluate and improve HIV test ordering. Patients were included if ≥18 years old with suspected or documented HIV infection and CD4 count, HIV RNA level, or HIV genotype ordered. A pharmacist-driven intervention was undertaken in which ordered tests were evaluated and canceled if deemed inappropriate per pre-specified criteria based on CDC and DHHS guidelines, and clinicians were provided education on appropriate ordering. Results were tabulated and presented as descriptive statistics, and financial data were calculated based on in-hospital costs.

Results. In the pre-intervention arm, 87% (296/341) of total tests ordered did not meet criteria for appropriate ordering (160 unneeded CD4 counts, 126 RNA levels, and 10 genotypes). These tests resulted in excessive financial burden of \$24,600. Post-intervention, 63% (32/51) of HIV-related tests were canceled netting an initial savings of \$2,700. Most common cancellation reason was recent outpatient laboratories readily available. Post-intervention, HIV-related testing decreased over time, likely due to the intervention audit and feedback provided to clinicians.

Conclusion. A pharmacist-driven intervention reduced the number of unnecessary HIV-associated tests by 63% and offered significant cost savings. These data suggest the importance of evaluating the appropriateness of HIV-related diagnostic testing in the inpatient setting to improve test usage and reduce excessive healthcare costs.

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1271. Prevalence and Factors Associated With HIV Testing Among Sexually Experienced 18–49-Year-Old Hong Kong Residents

Yanping Zhao, PhD¹; William Parish, PhD²; Li-Gang Yang, MD³; Michael Emch, PhD⁴; King Man Ho, Dr⁵; Francois Yeung Fong, Dr⁶; Heidi Yin Hai Miu, MSc⁷; Joseph D. Tucker, MD, MA, PhD⁸ and William Chi Wai Wong, MD⁹; ¹The University of Hong Kong, Hong Kong, Hong Kong, ²University of Chicago, Chicago, Illinois, ³Division of STD Control, Guangdong Provincial Dermatology Hospital, Dermatology Hospital of Southern Medical University, No. 2 Lujing Road, Guangzhou, Guangdong Province, Guangzhou, China, ⁴206 Carolina Hall CB #3220 Chapel Hill, North Carolina 27599 USA, Chapel Hill, North Carolina, North Carolina, ⁵Social Hygiene Service, Department of Health, Hong Kong Government, Hong Kong S.A.R., China, Hong Kong, Hong Kong, ⁶Hong Kong Sexual Health Centre, Hong Kong S.A.R., China, Hong Kong, Hong Kong, ⁷Department of Family Medicine and Primary Care, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong, Hong Kong, ⁸Division of Infectious Diseases, University of North Carolina Project-China and University of North Carolina Chapel Hill, Chapel Hill, North Carolina

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Friday, October 5, 2018: 12:30 PM

Background. The main HIV transmission route in Hong Kong is sex, accounting for 78.0% of the total reported cases. The majority of HIV cases were identified among those 20 to 49 years of age. In this study, we explored the prevalence and factors associated with HIV testing among 18 to 49 years old residents in Hong Kong.

Methods. A population-based survey on sexual practice and health behavior was conducted in Hong Kong with a sample of 881 participants drawn from geospatial modeling, proportional to the district population sizes. Invitation letters were sent to selected households and interviewers were sent to recruit one subject per household. Once recruited, face-to-face interviews were carried out with a computer-assisted self-interview. The final data were weighted according to the 2011 Hong Kong census and factors identified through logistic regression.

Results. Among 881 participants, 81.6% reported having sex before, among whom, 19.5% (137) had ever taken HIV tests. The main reasons for the 75.5% of participants not taking HIV testing are they do not think they are at risk of HIV infection (59.1%) or think they are very healthy (29.4%). The main places for HIV testing among those tested were public hospital/clinic (39.7%), private clinic/hospital (34.7%), and another 22.0% was tested in antenatal check-up or Hong Kong Red Cross. Among the sexually experienced residents, factors associated with HIV testing include marital status and number of sexual partners. Compared with single participants, those cohabiting, married, or with marital history were about seven times more likely to be tested (aOR = 6.73, 95% CI 2.23–20.31). Those who had >1 sexual partners were about twice as likely to be tested (aOR = 1.84, 95% CI 1.05–3.25). Other factors such as condom use, sexual orientation, anal sex behaviors or sexually transmitted infections history were not associated with HIV testing.

Conclusion. HIV testing among Hong Kong residents is comparatively low. Though those with more than one sexual partner are more likely to be tested, those single, inconsistent condom users, or with risky behavior such as anal sex behaviors do not associate with higher HIV testing. More HIV testing campaign and awareness raising shall be targeted toward people with at-risk behaviors.

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