Figure 2. Percentage of participants reporting ≥ 1 unsolicited AE 30 days post-vaccination per study (total vaccinated cohort).

Figure 3. Percentage of participants reporting ≥ 1 SAE from dose 1 until 1 year post-last dose per study (total vaccinated cohort).

Conclusion: Reactogenicity symptoms were more frequent after RZV than placebo, and in younger age groups but no safety concern was identified. Most of the reported AEs and SAEs were in the context of underlying diseases and therapies. Overall our data support a favorable benefit-risk profile of vaccination with RZV in IC adults.

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38. Strategies to Improve HPV Vaccination Rates Among Eligible Undergraduate and Graduate Students at Johns Hopkins University

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Session: P-2. Adult Vaccines

Background:

- Study Objectives: Increase HPV vaccination in students attending Johns Hopkins University and create a toolkit of strategies for use on other college campuses.
- HPV is the most common sexually transmitted infection in the US:
  - ≥ 5% of adults have genital HPV
  - 3% of adults have oral HPV
- Each year in the U.S., there are more than:
  - 24,886 cases of HPV-associated cancer in females
  - 19,113 cases in males
- Uptake of the vaccine in the U.S. has not been robust:
  - 1% of adolescents have > one dose, and 51.1% have completed the series.
  - 5% of adult females and 21.2% of adult males have at least one dose

Results: Study period (8/15/2018 – 5/31/2019) was compared to prior year as a historical control (8/15/2017 – 5/31/2018). During the study, 888 HPV vaccines were administered vs. 504 in the control period (76.1% increase). The difference between the number of vaccines given during these 2 years was statistically significant at p < 0.01. The increase was particularly notable among male students: 383 vaccinations vs. 120 (219.2% increase). About half of the students who completed the EMR form saw the marketing materials on campus: 1,579 out of 3,228 responses. Of the marketing materials, the greatest number of students noticed the yard signs (596). The most frequently cited reason that providers did not give the HPV vaccine during their visit was that the patient already completed the HPV vaccine series (1,603).

Conclusion: A well-coordinated campaign with extensive awareness efforts and focused clinical interventions can dramatically impact the number of HPV vaccinations on college campuses.

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39. Survey of Hepatitis B Vaccination Rates in Adult Patients with Diabetes at a Large Internal Medicine/Geriatrics Clinic

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Session: P-2. Adult Vaccines

Background: The Advisory Committee on Immunization Practices (ACIP) recommends immunization with hepatitis B vaccine (HBV) for diabetic adults aged 19–59 years and advises HBV at the discretion of the treating clinician for those 60 years or older. Current HBV rates are suboptimal. In one 2015 survey, only 24.4% of diabetic adults aged 19–59 years were immunized.

Methods: This is a single center, retrospective cohort of patients seen in an internal medicine/geriatrics clinic at Cleveland Clinic Main Campus between January 1, 2017 and December 31, 2017. Patients included were at least 19 years of age and had a diagnosis of diabetes mellitus (type I or type II) as determined by ICD-10 code. Patients with acute or chronic hepatitis B infection were excluded from the primary analysis. Data collected included demographics, HBV status, pneumococcal vaccination status, and risk factors for hepatitis B virus infection (chronic liver disease, end stage renal disease (ESRD)). Primary objective evaluated rate of HBV, defined as...
documented completion of 3-dose series or positive qualitative anti-HBs. Descriptive statistics included number (percentage) or mean ± standard deviation.

**Results:** A total of 3104 patients, aged 65 + 1.5 years, male (50.2%) or white (72.6%) with Type 1 diabetes (88.9%) were enrolled. Of these, 171 (5.5%) received one dose of HBV, with 62 (2.0%) completing the immunization series. There were 806 patients with hepatic B screening that received the HBV (19.0%) and 177 (5.7%) were HBsAg positive or anti-HBs seropositive, respectively. Overall, 221 (7.1%) patients received the 3-dose series or were anti-HBs positive. In comparison, 1719 (55.4%) patients received at least one dose of either pneumococcal vaccine. Comorbid liver diseases in FFR yielded higher rates of HBV immunity (3-dose series completion or anti-HBs positive) at 28.8% (46/160) and 57.8% (52/90) respectively.

**Conclusion:** We found low HBV rates for adults with diabetes despite ACIP recommendations, indicating that efforts are needed to improve vaccination coverage. Patients were more likely to have received immunization if comorbid conditions were present that conferred a higher risk of hepatitis B acquisition, however rates were still suboptimal.

**Disclosures:** All Authors: No reported disclosures

40. The Role of Health Literacy in Vaccine Disparities: Do Patients Understand the Vaccine Messages? Katherine Kricorian, n/a; Daniel Lopez, BS; Michelle Sea, BS; Tuyen Pham, BS; Rita Kigonya, BS; Ozlem Equils, MD; MiOra, Los Angeles, CA, Simi Valley, California; MiOra and Immunize Los Angeles Families Coalition, Los Angeles, CA, Encino, California

**Session:** P-2: Adult Vaccines

**Background:** Numerous public health campaigns are organized with the goal of improving immunization rates. However, vaccination uptake remains low among certain demographic minority groups including Hispanic patients. The level of health literacy (HL), ability to recognize the words used, may impact patients’ understanding of health-related messages and consequently health behavior and vaccination.

**Methods:** We conducted a HL survey among adult female attendees of a health fair in an underserved area of Los Angeles. Attendees visiting a youth education booth were surveyed using an electronic tool. Respondents were surveyed on their familiarity with and recognition of specific words including: measles, shingles, pertussis, hepatitis, meningitis, stroke, diabetes, pneumonia, and human papilloma virus (HPV).

**Comparisons were analyzed using chi-square tests.**

**Results:** Forty-three women (n=28 Hispanic; n=15 Non-Hispanic) completed the survey. The mean ages of Hispanic and non-Hispanic (predominantly Caucasian and Asian) respondents were 35.4±14 years and 29.9±12 years, respectively. A significantly lower percentage of Hispanic vs. non-Hispanic women reported recognition of words associated with vaccine-preventable diseases: "meningitis" (15% vs. 60%, p<.01), "hepatitis" (18% vs. 69%, p<.01), and "HPV" (33% vs. 67%, p<.05). Substantially lower recognition was also reported for "pneumonia," although this did not reach statistical significance (40% vs 77%, p=.06). The percentage reporting recognition of "diabetes" did not differ significantly between groups (68% vs 60%, p=.43).

**Conclusion:** Immunization campaigns often use words that patients may not understand, potentially impacting patients' relationship with the healthcare system and health behavior change. We found a lower level of recognition (health literacy) of words associated with vaccine-preventable diseases among Hispanic vs. non-Hispanic women attending a community health fair. These findings have implications for developing culturally-tailored communication tools and educational strategies using a language easily recognized by a specific community to help reduce racial disparities in vaccination uptake.

**Disclosures:** All Authors: No reported disclosures

41. Impact of the Development of a Perioperative Antibiotic Pathway on Antibiotic Duration of Therapy, C. difficile Infection Rates and Surgical Site Infections Rates in the Adult Facial Reconstruction Population Lindsay Donaldson, PharmD, AHHIVP; Leigh A. Kennedy, DO; Pennsylvania Hospital, Sarasota, Florida

**Session:** P-3. Antimicrobial Stewardship: Outcomes Assessment (clinical and economic)

**Background:** There is variability in the duration of peri-operative antibiotic prophylaxis for free flap reconstructions (FFRs) of the head and neck. Complications of FFRs such as surgical site infections (SSIs), can be devastating and lead to vessel thrombosis and flap loss. Infection rates for head and neck free flap reconstructions have been reported to be as high as 20–50% of cases. Despite recommendations from ASHP, IDSA and CDC, postoperative antibiotics are often prolonged at the clinicians discretion, with many clinicians administering >24 hours of prophylactic antibiotics in cases of FFRs.

**Methods:** The departments of infectious disease, otolaryngology and anti-microbial stewardship, developed a pathway for perioperative antibiotics for adult patients undergoing FFRs. Patients with criteria that put them at high risk for SSIs were given up to 72 hours of antibiotics. Patients without these risk factors, were allowed a maximum of 24 hours of antibiotics post-operatively.

**Next, dissemination and education of the pathway occurred. Our group then collected post-deployment data on antibiotic duration of therapy, C. difficile infections and SSIs in these patients. We collected data over a 6 month period (10/2018 to 3/31/2019) for patients undergoing FFRs who received ampicillin/subactam (n=33) and compared it to our baseline/pre-intervention data.**

**Perioperative Antibiotic Recommendations for Adult Facial Reconstructive Surgery Pathway**

**Results:** The mean duration of ampicillin-subactam usage decreased from 6.82 days to 4.24 days (p=0.0039). The hospital acquired C. difficile rate decreased from 6.06% to 0% (p=0.023). The rate of SSIs increased from 3.13% pre-intervention to 6.09%, but this did not reach statistical significance (p=0.6132). One patient in the pre-intervention group and one patient in the post intervention group required a return to the operating room due to SSIs.

**Conclusion:** In conclusion, through the development of a pathway for perioperative antibiotics for adult patients undergoing FFRs, the duration of postoperative antibiotic therapy decreased significantly. The rates of SSIs increased after the pathway was introduced, but this was not statistically significant. The rates of C. difficile infections decreased, but this did not reach statistical significance.

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42. A Pharmacist-Led Intervention to Decrease Anaerobic Coverage for Hospitalized Patients with Community-Acquired Pneumonia Maxx O. Enzmann, PharmD; Courtney M. Pagels, PharmD, BCIDP; Emily J. Perry, Pharm D; Justin Jones, PharmD, BCCCP, BCPS; Paul Carson, MD, FACP; Sanford Health, Fargo, North Dakota; Advocate Aurora Health, Lisle, Illinois; Sanford Medical Center-Fargo, Barnesville, Minnesota

**Session:** P-3. Antimicrobial Stewardship: Outcomes Assessment (clinical and economic)

**Background:** Community-acquired pneumonia (CAP) is frequently mis-categorized as aspiration pneumonia, prompting the addition of anaerobic coverage to the antibiotic regimen. In our institution, this usually takes the form of adding metronidazole to ceftriaxone. The 2019 American Thoracic Society and Infectious Diseases Society of America CAP guidelines recommend anaerobic coverage only for hospitalized patients with a suspected lung abscess or empyema. The objective of this study was to determine if a pharmacist-led workflow could increase adherence to the 2019 CAP guideline recommendations by limiting anaerobic coverage to those rare occasions.

**Methods:** The hospital antimicrobial stewardship committee approved a pharmacist workflow and guidance document which outlines criteria to evaluate appropriateness of anaerobic coverage for hospitalized patients with CAP and no other indication for antibiotics. If anaerobic coverage is not indicated, the pharmacist submits a standardized message to the treating provider via the electronic medical record, recommending discontinuation of metronidazole. This workflow was implemented on October 3, 2019. Metronidazole days of therapy (DOT) per 1000 patient days in quarters 1 through 4 of 2019 and quarter 1 of 2020 were collected as well as percent acceptance of documented pharmacist interventions from October 3, 2019 until March 31, 2020.