Internet access (OR: 0.14; 95% CI: 0.062–0.305) as well as among adults who did not also get a seasonal influenza vaccine (OR: 0.05; 95% CI: 0.048–0.052). Time to vaccination was longer in rural areas (B=8.3, p< 0.0001) and communities with less Internet access (B=75.6, p< 0.001).

**Conclusion:** Results suggest that some social determinants may be influencing pneumococcal vaccine-seeking behavior among those deemed high-risk. A more formal framework must be assessed to determine the full impact of these factors across vaccines recommended in adults.

**Disclosures:** Justin Gatwood, PhD,MPH, AstraZeneca (Grant/Research Support)GlaxoSmithKline (Grant/Research Support)Merck & Co. (Grant/Research Support) Tracy Hagemann, PharmD, GSK (Grant/Research Support)Merck (Grant/Research Support)

36. Safety and Reactogenicity of the Adjuvanted Recombinant Zoster Vaccine after Allogeneic Hematopoietic Stem Cell Transplantation

**Emily Baumburin, MD, Natalie E. Iraguais, MSc, Br. P. Rauka, BS1; Monica M. Feeley, BA1; Camden P. Ray, PhD1; Vincent T. Ho, MD2; Nicolas C. Issa, MD1; Lindsey R. Baden, MD, MSc1; Brigham and Women’s Hospital, Boston, Massachusetts; Dana-Farber Cancer Institute, Boston, Massachusetts**

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

**Background:** Herpes zoster (HZ) is common after allogeneic hematopoietic stem cell transplantation (HCT) and associated with high morbidity. While antiviral prophylaxis reduces incidence, increased risk remains after discontinuation and vaccination strategies are needed. A non-live adjuvanted recombinant zoster vaccine (RZV) has been developed but not yet studied in this population.

**Methods:** In this single center prospective observational cohort study, allogeneic HCT patients ≥18 years old and 9–24 months from HCT were eligible to receive 3 doses of RZV separated by 8 weeks as part of revised institutional vaccination guidelines. The primary endpoint was safety and reactogenicity in the total vaccinated cohort (TVC). The secondary endpoints were incidence and severity of chronic graft versus host disease (cGVHD) in the TVC compared to historical controls and incidence rates of HZ in the TVC and modified total vaccinated cohort (mTVC).

**Results:** Of the 158 participants (mean age 55 years, 91 [58%] male) in the TVC, 150 (95%) received second vaccine. 92.1% had solicited reactions with 87.3% reporting solicited local and systemic AEs. Pain, fatigue, headache, myalgia, shivering and fever were reported more frequently in the TVC. Solicited AEs were more frequently reported in the RZV than Placebo group. Pain, fatigue, head ache, myalgia, shivering and fever were reported more frequently in the RZV 18–49 YOA than in the RZV ≥50 YOA (Figure 1. Solicited AEs were mostly mild/moderate and lasted ≤3 days and 3 grade 3 solicited AEs lasted ≤2 days (median duration)). Across studies, the percentage of adults reporting ≥1 unsolicited AE was similar between RZV (18–49 YOA: 37.4–80.6%; ≥50 YOA: 36.9–87.2%) and Placebo (18–49 YOA: 31.4–90.0%; ≥50 YOA: 30.1–89.4%) (Figure 2). Overall, the percentage of adults with ≥1 SAE (Figure 3), causally related SAEs, fatal SAEs and pIMDs was similar between RZV and Placebo and between age groups. Overall, no safety concern was identified.

**Figure 1. Percentage of participants with solicited local and systemic AEs, reported 6 weeks post-vaccination, overall/participant, pooled total vaccinated cohort**

**Table 1. Clinical trials with immunocompromised populations included in our analysis**

| Study | Age (years) | Vaccine | Reactogenicity | cGVHD | Other | Reference |
|-------|-------------|---------|----------------|-------|-------|-----------|
| 2017  | 18-65       | RZV     | No difference | No    | No    | 2017 Study|
| 2018  | 18-65       | RZV     | No difference | No    | No    | 2018 Study|
| 2019  | 18-65       | RZV     | No difference | No    | No    | 2019 Study|
| 2020  | 18-65       | RZV     | No difference | No    | No    | 2020 Study|

**Results:** 1587 (RZV) and 1529 (Placebo) adults were included in the pooled TVC. Solicited AEs were more frequently reported in the RZV than Placebo group. Pain, fatigue, headache, myalgia, shivering and fever were reported more frequently in the RZV 18–49 YOA than in the RZV ≥50 YOA (Figure 1). Solicited AEs were mostly mild/moderate and lasted ≤3 days and 3 grade 3 solicited AEs lasted ≤2 days (median duration). Across studies, the percentage of adults reporting ≥1 unsolicited AE was similar between RZV (18–49 YOA: 37.4–80.6%; ≥50 YOA: 36.9–87.2%) and Placebo (18–49 YOA: 31.4–90.0%; ≥50 YOA: 30.1–89.4%) (Figure 2). Overall, the percentage of adults with ≥1 SAE (Figure 3), causally related SAEs, fatal SAEs and pIMDs was similar between RZV and Placebo and between age groups. Overall, no safety concern was identified.

**Table 1. Percentage of participants with solicited local and systemic AEs, reported 6 weeks post-vaccination, overall/participant, pooled total vaccinated cohort**

**Figure 1. Percentage of participants with solicited local and systemic AEs, reported 6 weeks post-vaccination, overall/participant, pooled total vaccinated cohort**

**Disclosures:** Nicolas C. Issa, MD, AlCuris (Scientific Research Study Investigator)Astellas (Scientific Research Study Investigator)GSK (Scientific Research Study Investigator)Merck (Scientific Research Study Investigator)

37. Safety Profile of the Adjuvanted Recombinant Zoster Vaccine (RZV) in Immunocompromised Populations: an Overview of 6 Trials

**Marta Lopez Faqued, PhD1; Maribel Miranda Co, MD1; Adriana Bastidas, MD1; Pierre Beukenelaers, PhD1; Alemnew F. Dagniew, MD1; Juan Jose Fernandez Garcia, MSc1; Anne Schuind, MD2; Fernanda Tavares da Silva, MD1; GSK, Wavre, Belgium; Wavre, Brabant Wallon, Belgium; GSK, Wavre, Belgium; Wavre, Brabant Wallon, Belgium; GSK, Rockville, MD, United States, Rockville, Maryland; GSK, Rixensart, Belgium, Rixensart, Brabant Wallon, Belgium**

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

**Background:** Immunocompromised (IC) populations are at increased risk of herpes zoster (HZ) and its related complications. RZV demonstrated >68% efficacy against HZ in autologous hematopoietic stem cell transplant (HSCT) recipients ≥18 years of age (YOA). Here we present the safety data across 6 clinical trials in IC populations: autologous HSCT recipients, HIV-infected adults, renal transplant recipients, patients with solid tumor and patients with hematological malignancies.

**Methods:** All 6 studies (Table 1) enrolled IC adults ≥18 YOA in RZV and Placebo groups. Safety was evaluated in the total vaccinated cohort (TVC). Solicited adverse events (AEs) were collected for 7 days and unsolicited AEs for 30 days after each dose. Serious AEs (SAEs), and potential immune-mediated diseases (pIMDs) were collected from dose 1 until 1 year post-last dose or study end (for causally related [assessed by investigator] and fatal SAEs). Data are presented by age group: 18–49 YOA and ≥50 YOA. Reactogenicity data are pooled across the 6 studies and other safety data are presented by study.

**Table 1. Clinical trials with immunocompromised populations included in our analysis**

| Study | Age (years) | Vaccine | Reactogenicity | cGVHD | Other | Reference |
|-------|-------------|---------|----------------|-------|-------|-----------|
| 2017  | 18-65       | RZV     | No difference | No    | No    | 2017 Study|
| 2018  | 18-65       | RZV     | No difference | No    | No    | 2018 Study|
| 2019  | 18-65       | RZV     | No difference | No    | No    | 2019 Study|
| 2020  | 18-65       | RZV     | No difference | No    | No    | 2020 Study|

**Results:** 1587 (RZV) and 1529 (Placebo) adults were included in the pooled TVC. Solicited AEs were more frequently reported in the RZV than Placebo group. Pain, fatigue, headache, myalgia, shivering and fever were reported more frequently in the RZV 18–49 YOA than in the RZV ≥50 YOA (Figure 1). Solicited AEs were mostly mild/moderate and lasted ≤3 days and 3 grade 3 solicited AEs lasted ≤2 days (median duration). Across studies, the percentage of adults reporting ≥1 unsolicited AE was similar between RZV (18–49 YOA: 37.4–80.6%; ≥50 YOA: 36.9–87.2%) and Placebo (18–49 YOA: 31.4–90.0%; ≥50 YOA: 30.1–89.4%) (Figure 2). Overall, the percentage of adults with ≥1 SAE (Figure 3), causally related SAEs, fatal SAEs and pIMDs was similar between RZV and Placebo and between age groups. Overall, no safety concern was identified.

**Figure 1. Percentage of participants with solicited local and systemic AEs, reported 6 weeks post-vaccination, overall/participant, pooled total vaccinated cohort**

**Disclosures:** Justin Gatwood, PhD,MPH, AstraZeneca (Grant/Research Support)GlaxoSmithKline (Grant/Research Support)Merck & Co. (Grant/Research Support) Tracy Hagemann, PharmD, GSK (Grant/Research Support)Merck (Grant/Research Support)
Strategies to Improve Human Papillomavirus (HPV) Vaccination Rates Among Students at Johns Hopkins University

John Henneke, MD, MPH, Paul Auwaerter; Paul Auwaerter; Paul Auwaerter; 1Medical Logix, LLC, Collegeville, Pennsylvania; 1Johns Hopkins University, Baltimore, Maryland

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 US, there are more than:
  - 24,886 cases of HPV-associated cancer in females
  - 19,113 cases in males
- Uptake of the vaccine in the US 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 post-last dose per study (total vaccinated cohort)

Results:

- A well-coordinated campaign with extensive awareness efforts and focused clinical interventions can dramatically impact the number of HPV vaccinations on college campuses.
- disclosures:
  - Marta Lopez Lauqued, PhD, GSK group of companies (Employee) Marcela Miranda Co, MD, GSK group of companies (Employee) Adriana Bastidas, MD, GSK group of companies (Employee) Pierre Beukelaers, PhD, GSK group of companies (Employee) Alemnew F. Dagnew, MD, GSK group of companies (Shareholder, Former employee) Pierre Beukelaers, PhD, GSK (Employee) Juan Jose Fernandez Garcia, MSc, GSK group of companies (Consultant) Paul Auwaerter, Ph.D, GSK (Employee, Shareholder)

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

Disclosures: Marta Lopez Lauqued, PhD, GSK group of companies (Employee) Marcela Miranda Co, MD, GSK group of companies (Employee) Adriana Bastidas, MD, GSK group of companies (Employee) Pierre Beukelaers, PhD, GSK group of companies (Employee) Alemnew F. Dagnew, MD, GSK group of companies (Employee, Shareholder) Juan Jose Fernandez Garcia, MSc, GSK group of companies (Independent Contractor) Anne Schuind, MD, GSK (Employee, Other Financial or Material Support, own GSK stock options or restricted shares as part of remuneration) Fernanda Tavares da Silva, MD, GSK group of companies (Employee, Shareholder)

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

John P. Gentile, BS, MBA; Roanna Kessler, MD; Paul Auwaerter; Paul Auwaerter; 1Medical Logix, LLC, Collegeville, Pennsylvania; 1Johns Hopkins University, Baltimore, Maryland

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 post-last dose per study (total vaccinated cohort)

Results:

- A well-coordinated campaign with extensive awareness efforts and focused clinical interventions can dramatically impact the number of HPV vaccinations on college campuses.
- Disclosures: Marta Lopez Lauqued, PhD, GSK group of companies (Employee) Marcela Miranda Co, MD, GSK group of companies (Employee) Adriana Bastidas, MD, GSK group of companies (Employee) Pierre Beukelaers, PhD, GSK group of companies (Employee) Alemnew F. Dagnew, MD, GSK group of companies (Employee, Shareholder) Juan Jose Fernandez Garcia, MSc, GSK group of companies (Independent Contractor) Anne Schuind, MD, GSK (Employee, Other Financial or Material Support, own GSK stock options or restricted shares as part of remuneration) Fernanda Tavares da Silva, MD, GSK group of companies (Employee, Shareholder)

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.

Funding: GlaxoSmithKline Biologicals SA

Disclosures: Marta Lopez Lauqued, PhD, GSK group of companies (Employee) Marcela Miranda Co, MD, GSK group of companies (Employee) Adriana Bastidas, MD, GSK group of companies (Employee) Pierre Beukelaers, PhD, GSK group of companies (Employee) Alemnew F. Dagnew, MD, GSK group of companies (Employee, Shareholder) Juan Jose Fernandez Garcia, MSc, GSK group of companies (Independent Contractor) Anne Schuind, MD, GSK (Employee, Other Financial or Material Support, own GSK stock options or restricted shares as part of remuneration) Fernanda Tavares da Silva, MD, GSK group of companies (Employee, Shareholder)