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Cost-Effectiveness of Recombinant Zoster Vaccine for Vaccinating Immunocompromised Adults Against Herpes Zoster in the United States

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access and awareness (1). We aim to report a successful campaign by establishing a multidisciplinary Flu Team during ongoing COVID-19 pandemic.

Methods. A multidisciplinary Flu team taskforce was assembled representing all stakeholders to include: Occupational Health, Nursing, Operations, Informatics, Pharmacists and Administrative staff in July 2020. A pivot was made to switch location from previous year visits to an established vaccine center (ballroom) to a mobile campaign. From July to November 1st, the team met on a regular basis with 90 stakeholders to launch and monitor the ongoing immunizations. Electronic medical record (EPIC) tools such as One Click and Express Lane facilitated nursing check-in, documentation and immunization at one stop and eliminated previously used registration by other staff. EPIC Clarity feature facilitated reporting of compliance for managers and leadership. Ongoing education and awareness of immunization were ongoing through various platforms of communication such as huddles, phone screens, elevators, lounges, virtual grand rounds and corporate intranet communication and website videos.

Results. Of the 3578 healthcare workers, 3,399 were immunized (95%) from September 2020 until the end of October 2020. There were 86 (2.4%) employees exempted during this period due to medical reasons or excused leaves (e.g. military, maternity), Figure 1. Compliance differed among functions, 95.86% physicians, 97.2% clinical and nursing, 92% academics, 94.96% finance, 91.15% human resources, 92.1% informatics, 60% legal, 80.6% operations. Only 93 (2.6%) were non-compliant.

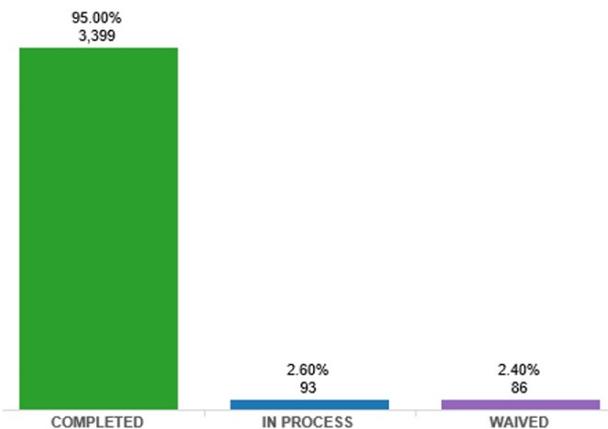
Employee Flu Immunization

TABLE 1. SUMMARY OF EMPLOYEE VACCINATION

Vaccination status	No. of employees	%
Vaccinated	3399	95.00
Religious exemption granted	-	-
Exemption	86	2.40
Overall compliant (vaccinated and exempted)	3485	97.40
Noncompliant	93	2.60

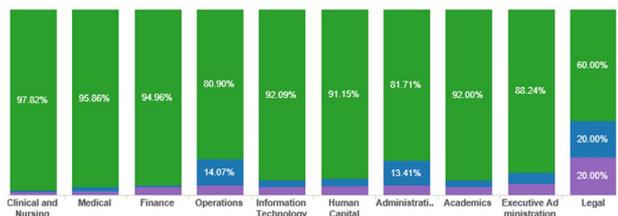
Hospital Overall Compliance in 2020

FIGURE 1. HOSPITAL OVERALL COMPLIANCE IN 2020



Compliance by Function in 2020

FIGURE 2. COMPLIANCE BY FUNCTION IN 2020



Conclusion. Influenza illness adds an additional burden to the healthcare workforce during COVID-19. A multidisciplinary and collaborative team of teams approach delivered higher compliance for flu immunization than reported in the Middle East and enhanced by the use of state of the art technology. Convenience, educational awareness, free and safe access supported further the compliance with vaccination. To our knowledge, our 2020 flu campaign is the first successful experience reported in the Middle East during the current pandemic.

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20. Cost-Effectiveness of Recombinant Zoster Vaccine for Vaccinating Immunocompromised Adults Against Herpes Zoster in the United States

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Session: P-02. Adult Vaccines

Background. Individuals who are immunocompromised (IC) due to disease or therapy are at increased risk of herpes zoster (HZ), with HZ cases in IC populations also resulting in increased health care resource use and costs as compared with the immunocompetent population. This study assesses the cost-effectiveness of recombinant zoster vaccine (RZV) versus no vaccine for the prevention of HZ in IC adults aged ≥ 18 years in the United States (US).

Methods. A Markov model with a one-year cycle length was developed to follow a hypothetical cohort of one million IC individuals for a 30-year time horizon. The model estimates health and cost outcomes associated with RZV versus no vaccine. The base-case analysis considered hematopoietic stem cell transplant (HSCT) recipients who were assumed to remain IC for five years post-transplant. Second-dose compliance was assumed to be 100%, with efficacy and waning inputs based on clinical trial data. Epidemiological, cost, and utility inputs were obtained from standard US sources and published literature. Costs and quality-adjusted life-years (QALYs) were discounted at 3% per year. Sensitivity, threshold, and scenario analyses were conducted, including scenarios of four other IC conditions.

Results. In the modeled hypothetical cohort of one million HSCT recipients, RZV resulted in 116,790 fewer HZ cases and 21,446 fewer postherpetic neuralgia cases versus no vaccine, 5,545 fewer QALYs lost and a societal cost-savings of \$5.4 million. The number needed to vaccinate to prevent one HZ case was estimated to be 9. HSCT population results were shown to be robust in sensitivity and threshold analyses. In scenario analyses, RZV was cost saving for renal transplant recipients. Incremental cost-effectiveness ratios for other IC populations were \$33,268 per QALY gained for human immunodeficiency virus, \$67,682 for breast cancer, and \$95,972 for Hodgkin lymphoma.

Conclusion. Results suggest that RZV is a cost-effective option for vaccinating US IC adults for the prevention of HZ and associated complications.

Disclosures. Desmond Curran, PhD, The GSK group of companies (Employee, Shareholder) Ahmed Salem, MSc, The GSK group of companies (Employee) Stéphane Lorenc, NA, GSK group of companies (Consultant) Brandon Patterson, PharmD, PhD, GSK group of companies (Shareholder) Justin Carrico, BS, GSK group of companies (Consultant) RTI Health Solutions (Employee) Katherine A. Hicks, MS, BSPH, GSK group of companies (Consultant) RTI Health Solutions (Employee) Elizabeth M. La, PhD, The GSK group of companies (Employee, Shareholder) Sara Poston, PharmD, The GSK group of companies (Employee, Shareholder) Christopher F. Carpenter, MD, MHSA, GSK group of companies (Consultant)

21. Systematic Review and Meta-Analysis of Pneumococcal Vaccine Effectiveness against Invasive Pneumococcal Disease among Adults

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Session: P-02. Adult Vaccines

Background. Two new pneumococcal conjugate vaccines (PCVs), PCV15 and PCV20, are anticipated to be licensed for use in U.S. adults in 2021. To help inform the U.S. Advisory Committee on Immunization Practices' discussions on pneumococcal vaccine use among adults, we conducted a systematic review and meta-analysis. We specifically looked at efficacy or effectiveness of PCV13 and pneumococcal polysaccharide vaccine (PPSV23) against invasive pneumococcal disease (IPD) in adults.

Methods. We conducted a search of English literature published from 1998 – February 2021 on PCV13 and PPSV23 efficacy or effectiveness studies using eight major databases. Studies targeting adults with immunocompromising conditions were excluded. Title and abstract screening of identified studies and data abstraction were performed by two reviewers. Results were stratified by vaccine product, outcome evaluated (vaccine type (VT) or all IPD), study design, and effect measure. Random effects models were used to pool estimates by stratum.

Results. Of 3,422 citations reviewed, we identified 26 IPD studies; 4 on PCV13, 22 on PPSV23, 18 with all IPD, and 17 with VT-IPD (Table) as an outcome. Only one randomized-controlled trial (RCT) was identified for PCV13 with an efficacy of 52% (95% CI: 22%, 77%) against all IPD and 75% (95% CI: 41%, 91%) against VT-IPD. A pooled vaccine effectiveness (VE) estimate from three observational studies evaluating PCV13 was 56% (95% CI: 32%, 71%; I² = 12.8) against VT-IPD.

Two RCTs evaluating PPSV23 reported efficacies against all IPD ranging between 79-86%; an additional RCT reported no IPD cases during RCT. Vaccine effectiveness estimates from 14 observational studies evaluating PPSV23 ranged between 29-76%