

Administration of Pneumococcal Vaccines in Immunocompromised Pediatric Patients: physician practices across subspecialties

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BACKGROUND: Immunocompromised patients are at increased risk for invasive infections including pneumococcal disease. As such, several national and international public health organizations have developed recommendations for vaccination with the 23-valent pneumococcal polysaccharide vaccine (PPSV23) in immunocompromised patients. Despite these recommendations, several studies have shown that administration of PPSV23 is not routinely carried out as part of the interdisciplinary management of immunocompromising conditions, especially inflammatory bowel disease (IBD).

HYPOTHESIS/OBJECTIVES: We hypothesize that the suboptimal rates of PPSV23 vaccination shown in pediatric IBD patients apply to the immunocompromised pediatric population as a whole. This project aims to assess provider practices involving PPSV23 vaccination in immunocompromised patients within the Lurie Children's network. Further, we seek to understand the barriers that providers face in carrying out indicated vaccines.

METHODS: An electronic survey was designed by this research team and approved by the Lurie Children's IRB. The survey was distributed to Lurie Children's attending providers holding a position within a subspecialty department that routinely cares for an immunocompromising condition listed in CDC recommendations for pediatric PPSV23 administration. This accounted for 187 subspecialist providers. Additionally, the survey was distributed to the 448 active Lurie Children's Community-Based Primary Care providers. Descriptive statistics were computed in Excel. Chi-square test for independence and Fisher's exact test were used to compare responses between groups.

RESULTS: 151 providers completed the survey, of which 64% were general pediatricians and 36% were subspecialists. 44% reported practicing for 21+ years, and 56% practiced <21 years. A significantly greater percentage of general pediatricians reported recommending PPSV23 for two of three CDC recommendation categories as compared to subspecialists ($p=0.016$, 0.040). Providers with 21+ years of experience reported following CDC recommendations significantly more frequently than those with <21 years of experience on only one category of recommendations ($p=0.044$). Self-reported awareness of PPSV23 indications was significantly greater in those practicing longer ($p=0.02$, 0.01), however there was no significant difference when grouped as generalists and subspecialists. Providers reported many barriers to PPSV23 administration, including vaccine availability, provider familiarity, and vaccine record-keeping; they are interested in better infrastructure for PPSV23 compliance.

CONCLUSIONS: There is a clinically relevant population of immunocompromised patients that is not receiving appropriate guidance about PPSV23. Lurie providers are interested in quality improvement efforts to improve PPSV23 vaccination rates.