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Vaccination Exemptions for School-Aged Children in Delaware

Anna Melnick, MPH, Meghan Gannon, PhD

Abstract

Background: Current awareness around childhood vaccinations and associated requirements for school entry has been heightened both nationally and internationally as governments work to find a balance between protecting their residents' health and personal freedoms. Scant research exists examining the characteristics of these vaccine exemptors, but as the percentage of students seeking these exemptions increases yearly, this yields an opportunity to identify trends and inform future policy.

Question: What are the associations between reason for exemption from mandated vaccinations and the demographics of race and gender for school-aged children in the state of Delaware?

Results: Drawing from school nurse vaccine exemption record data, we looked at student's reason for vaccine exemption and used chi square analyses to study the association with race, disease(s) of vaccine, and gender. White race and male gender were significantly associated with having a religious vaccine exemption, $X^2(1, N = 154) = 22.75, p = .000$ and $X^2(1, N = 154) = 8.71, p = .003$, respectively. The varicella vaccine was the most common disease when the reason for exemption was having had the disease, while the Tdap vaccine was the most common vaccine exemption for religious reasons.

Conclusion: The significant association of white race and religious vaccination exemptions implicates future policy that focuses on this proportion of exemptions, rather than prior exposure exemptions that do not impact herd immunity. While data was available for only one school district within the state of Delaware, the significance of the findings suggests further and broader inquiry is imperative in the on-going efforts to keep our populations safe from vaccine preventable diseases.