

HPV and Meningococcal Vaccine Uptake among Teens: A cross-sectional examination from the National Immunization Survey - Teen 2020



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BACKGROUND

- Vaccination against both Human papillomavirus (HPV) and meningococcal disease is recommended for all adolescents aged 11-12 years in the United States.¹
- Meningococcal conjugate vaccines became recommended for preteens in 2005.²
- Quadrivalent HPV vaccines were first recommended for adolescent females in 2007 and males in 2011.^{3,4}
- The National Immunization Survey expanded in 2006 to include the NIS-Teen which was designed to gather more information about adolescent immunizations, including the HPV and meningococcal vaccinations.⁵

OBJECTIVES

- Our primary aim was to analyze trends in vaccination for both HPV and meningococcal disease and determine factors associated with increased likelihood of dual vaccine uptake.
- Our secondary aim was to assess if state of residence influenced likelihood of dual vaccination.
- We anticipate differences in individual and dual vaccination status based on teen demographics and that teens living in states with vaccine mandates will exhibit higher rates of dual vaccination against both HPV and meningococcus compared to states without any mandates.

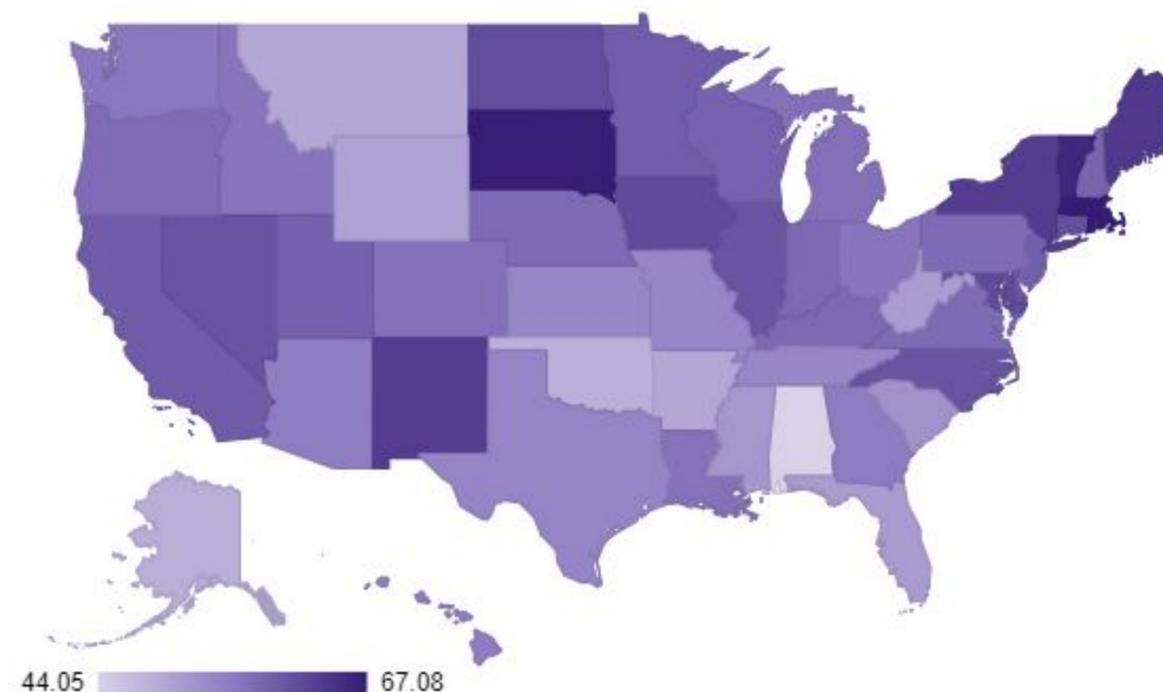
METHODS

- We analyzed data on 31,083 adolescents aged 13-17 years from the National Immunization Survey - Teen 2020.
- Bivariate and multivariate logistic regression models were constructed to determine dual vaccination rates and associations between vaccination status and sociodemographic characteristics.

RESULTS

- Teens were 2.03 (95%CI: 1.98-2.09) times more likely to be vaccinated against meningococcal disease compared to HPV.
- Teens vaccinated against HPV were 1.21 (1.15-1.27) times more likely to be dually vaccinated than teens who were vaccinated against meningococcal disease.
- Among teens living in the South relative to the Northeast, the likelihood for being vaccinated against only HPV increased by a factor of 1.30 (1.07-1.58) and against only meningococcal disease increased by a factor of 1.17 (1.03-1.33).
- Relative to those living in the Northeast, the risk for being unvaccinated rather than dually vaccinated increased by a factor of 1.51 (1.25-1.83) for those living in the Midwest, 1.62 (1.30-2.03) for those living in the West, and 1.80 (1.50-2.15) for those living in the South.
- States with the highest rate of dual vaccination against both HPV and meningococcal disease were Rhode Island (67.08%), Massachusetts (66.89%), South Dakota (66.76%), Vermont (65.61%) and Maine (63.48%).
- The states with the lowest rate of dual vaccination were Alabama (44.05%), Oklahoma (48.53%), Alaska (48.8%), Arkansas (49.78%) and Montana (49.81%).
- We also found associations in vaccination status between sex, race/ethnicity and income-to-poverty ratio.

Dual HPV and Meningococcal Vaccination Status by State (%)



CONCLUSION

- Dual vaccination against HPV and meningococcal disease among adolescents in the United States is associated with many factors including state legislation, physician recommendation, sex and census region.
- Although administration of both vaccines is recommended by the Advisory Committee on Immunization Practices (ACIP) to all adolescents aged 11-12 years, meningococcal vaccination is two-times more likely than HPV vaccination.

SIGNIFICANCE OF FINDINGS

- Given the retained efficacy and the guidance that both MenACWY and HPV vaccination series begin at ages 11-12 years, we recommend that primary care physicians encourage their patients to receive both of these vaccinations simultaneously.
- Given the similarities in disease prevalence, spread, and ACIP recommendations, HPV vaccine mandates may help reduce disease burden in the United States.
- Increased vaccination at a societal level will increase protection against preventable diseases that cause significant burden to adolescents and young adults.

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