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Individual and State-Level Factors Associated with Receipt of Multiple Recommended Adolescent Vaccines in the United States

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Disclosures

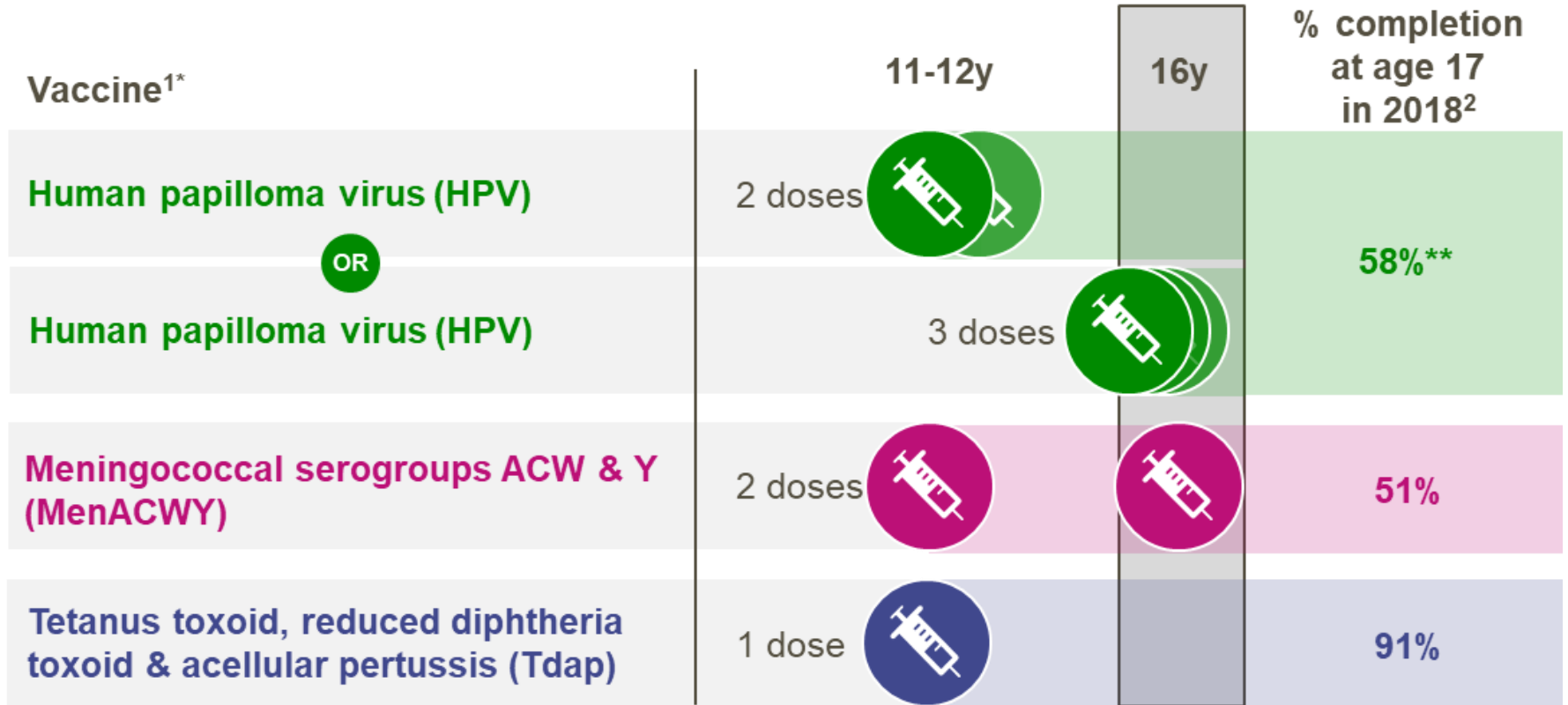
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Introduction

Vaccines recommended for US adolescents



¹CDC. <https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html> (accessed: 24-Aug 2020);

²CDC. <https://www.cdc.gov/mmwr/volumes/68/wr/mm6833a2.htm> (accessed: 24-Aug 2020). *adolescents 16-18 may also be vaccinated with MenB based on shared clinical decision making; **% up-to-date with either 2 or 3 doses, as appropriate; y, years

Objective and Methods

Objectives

1

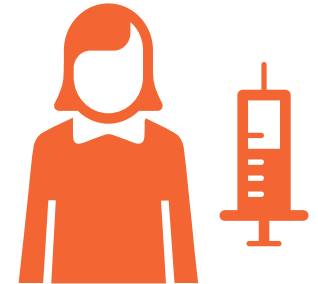
Estimate completion rates at age 17 years, nationally and by state
HPV (2 or 3 doses), **MenACWY** (2 doses), and **Tdap** (1 dose) vaccines

2

Identify individual- and state-level characteristics associated with completion

Data

– 2015-2018 National Immunization Survey-Teen



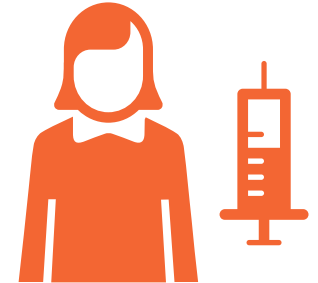
Methods

→ National and state rates adjusted by individual characteristics

- Sex, race/ethnicity, maternal education level, insurance status, health care use

→ Multilevel model included the following state-level variables¹⁻²:

- Health care expenditures per capita
- Number of active primary care physicians per 1,000 children
- Children (%) who had both a medical and dental preventive care visit in the past 12 months
- State-mandated MenACWY vaccination for children in elementary and secondary schools
- Children (%) with a medical home



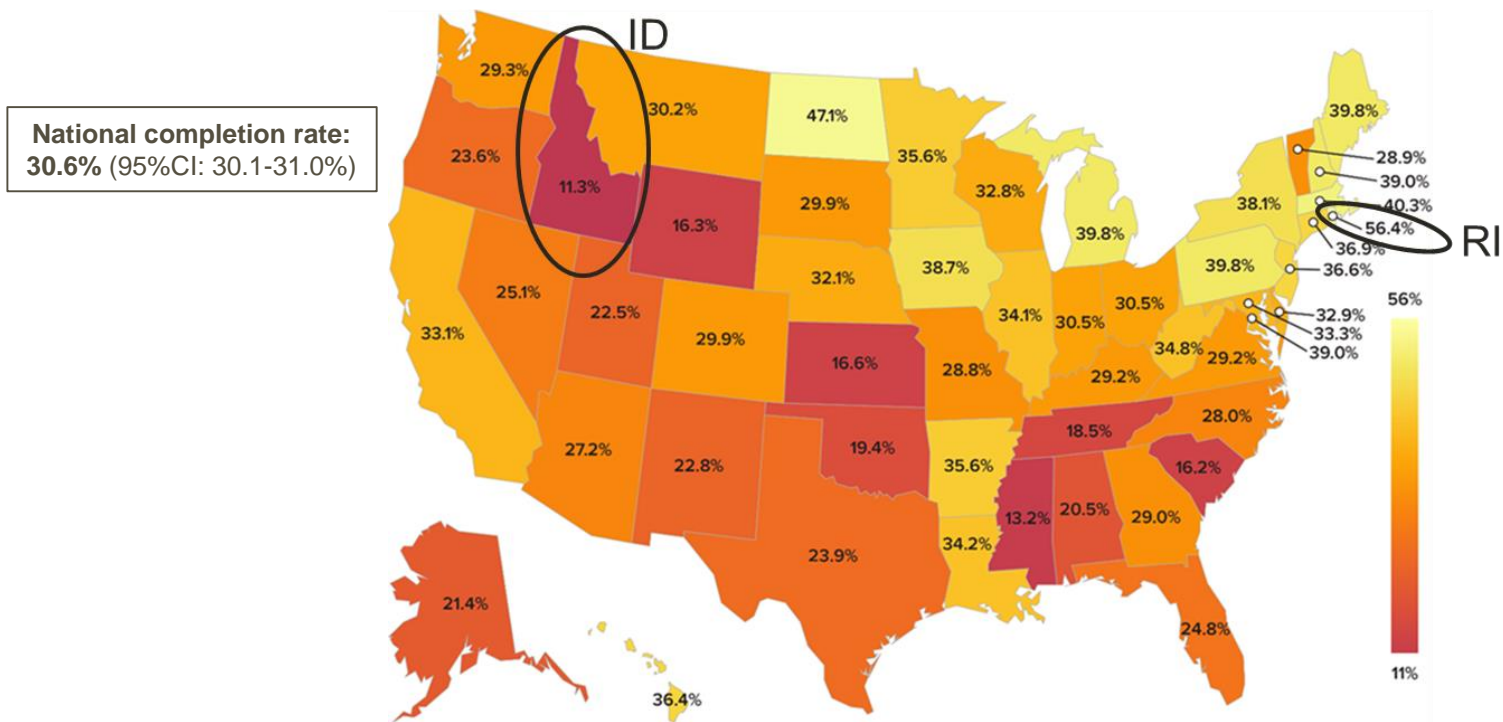
→ VPC and MOR to quantify effect of state of residence on likelihood of completion

¹KFF. State Health Facts. <https://www.kff.org/statedata/> (accessed 28-Aug 2020); ²IAC. <https://www.immunize.org/laws/> (accessed 28-Aug 2020).
MenACWY, quadrivalent meningococcal conjugate vaccine; **MOR**, median odds ratio; **VPC**, variance partition coefficient

Results

Recommended adolescent vaccine completion rates are suboptimal and highly variable across states

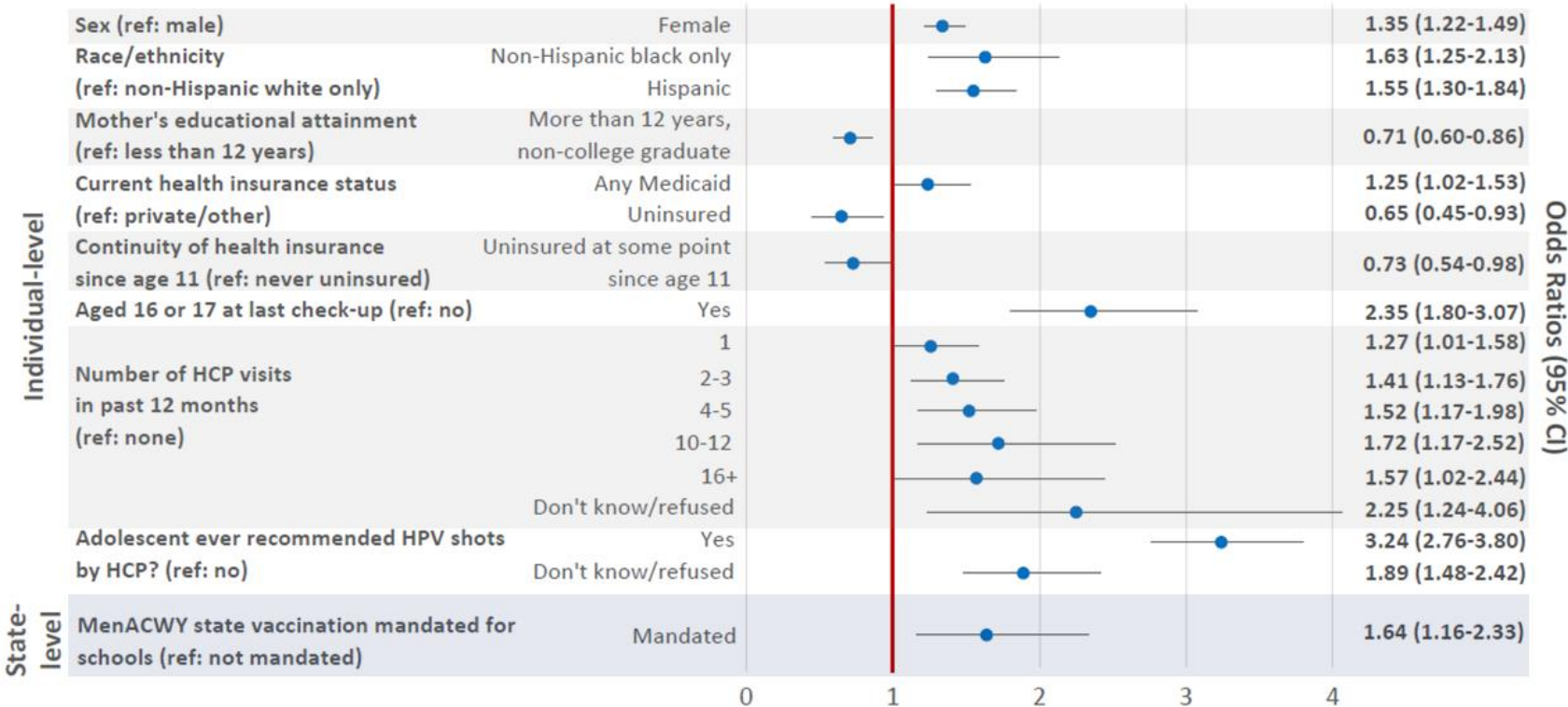
Model-Adjusted Completion Rates of HPV, MenACWY, and Tdap Vaccines by Age 17 Years, 2015-2018



CI, confidence interval; HPV, human papillomavirus vaccine; ID, Idaho; MenACWY, quadrivalent meningococcal conjugate vaccine; RI, Rhode Island; Tdap, tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis

Results

Characteristics associated with completion of HPV, MenACWY, and Tdap vaccines by age 17 years, 2015-2018



MOR: 1.39
VPC: 0.035

HCP, healthcare professional; HPV, human papillomavirus vaccine; MenACWY, quadrivalent meningococcal conjugate vaccine; MOR, median odds ratio; ref, reference; Tdap, tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis; VPC, variance partition coefficient

Conclusions

- Composite vaccination completion among US adolescents was lower than for individual vaccines, but demonstrated substantial variation across states
 - 2015-2018 national completion rate: 31% (Range: 11-56%)
- “Actionable” factors associated with completion:
 - Insurance coverage
 - Provider visits at age 16-17 years
 - Provider recommendations for HPV vaccines
 - State-mandated MenACWY vaccines

