

Adolescent Vaccination in the United States

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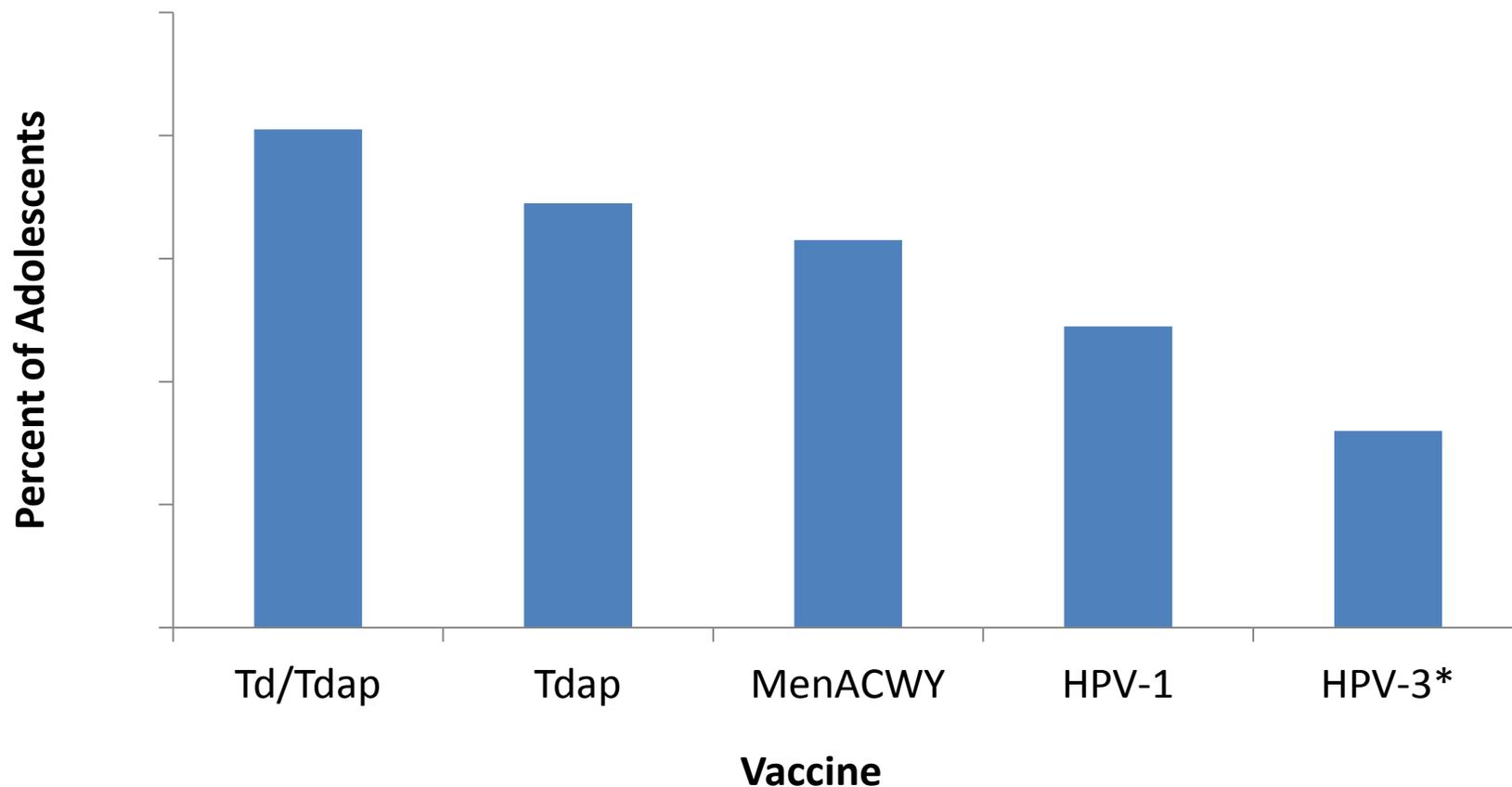
Outline

- Recommended vaccination schedule
- Current vaccination coverage levels
- Challenges
- Strategies to improve coverage
- Available educational materials

Vaccines Recommended for Adolescents

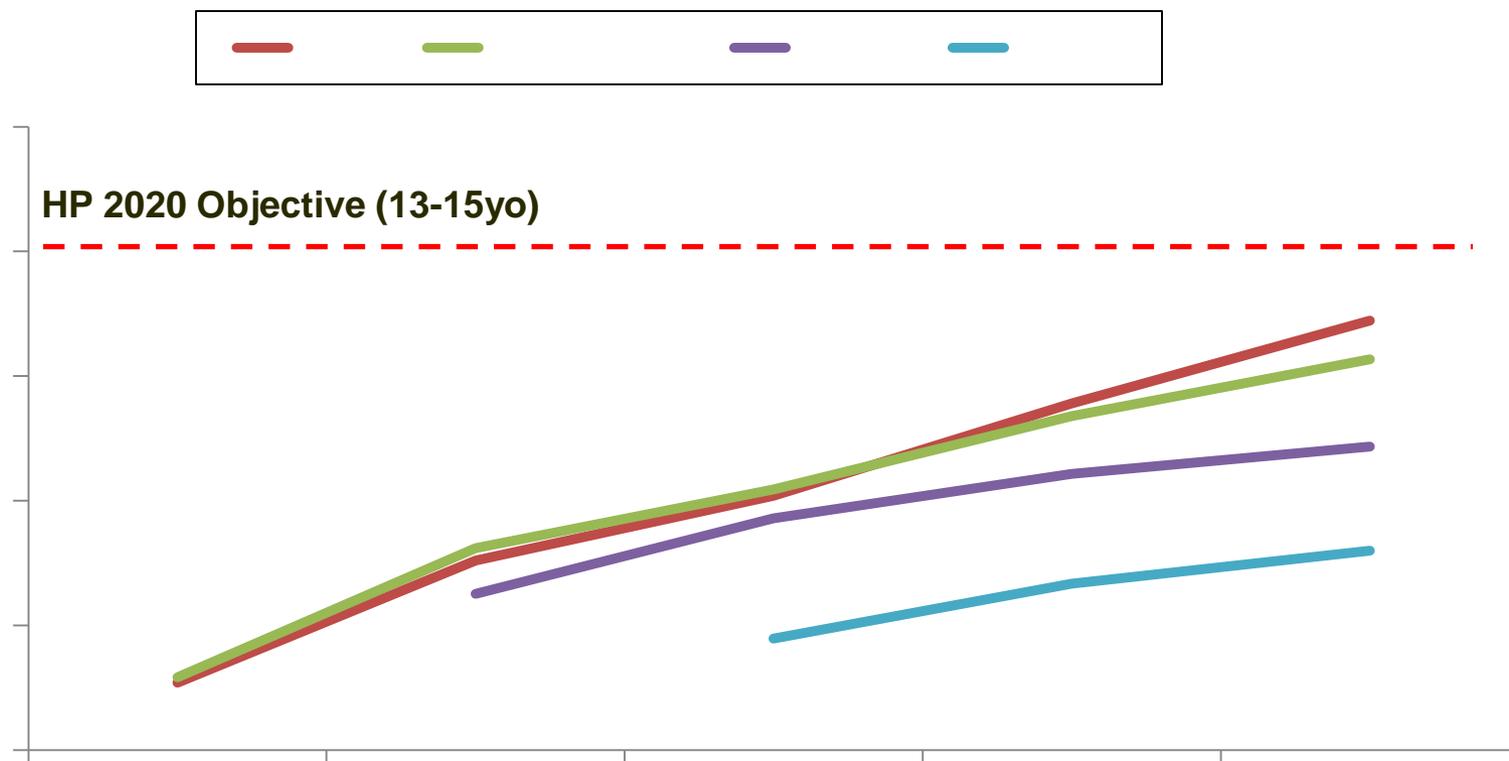
- Tdap (tetanus toxoid, diphtheria toxoid, and acellular pertussis)
 - 1 dose at age 11 or 12 years
- MenACWY (meningococcal conjugate vaccine)
 - 1 dose at age 11 or 12 years
 - Booster dose at age 16 years
- HPV (human papillomavirus vaccine)
 - 3 dose series
 - Series should be started at age 11 or 12 years
- Influenza vaccine
 - Annually

Estimated vaccination coverage among adolescents aged 13-17 years, NIS-Teen 2010



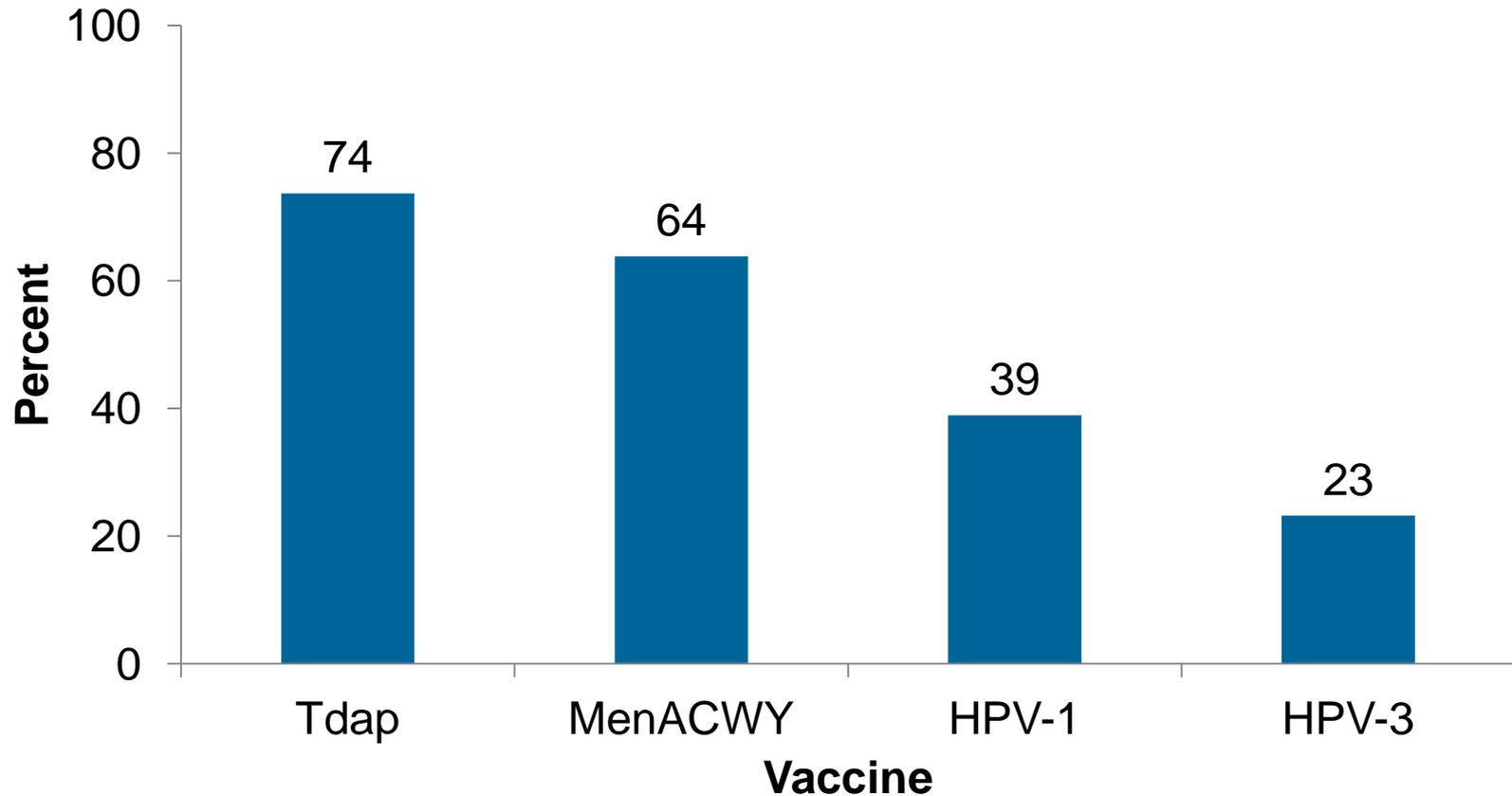
*Among females that initiated the series at least 24 weeks prior to the interview date, 70% received all 3 doses.

Estimated vaccination coverage among adolescents aged 13-17 years – NIS-Teen 2006-2010



*2006: HPV-1 was not reported; 2007: HPV-3 was not reported

Estimated vaccination coverage levels among adolescents aged 13 years*, NIS-Teen 2010



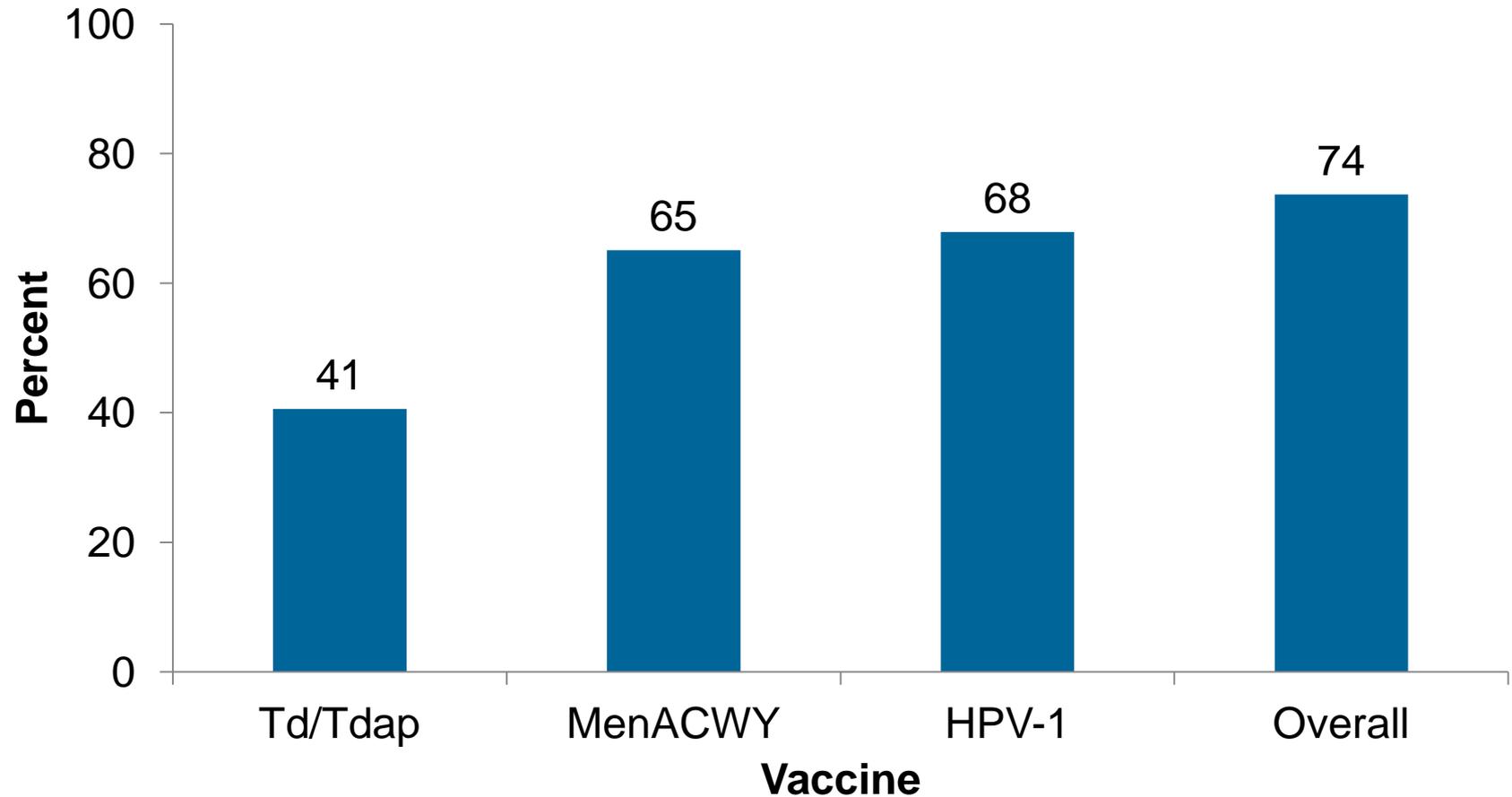
*Age at time of interview.

Source: http://www.cdc.gov/vaccines/stats-surv/nisteen/data/tables_2010.htm

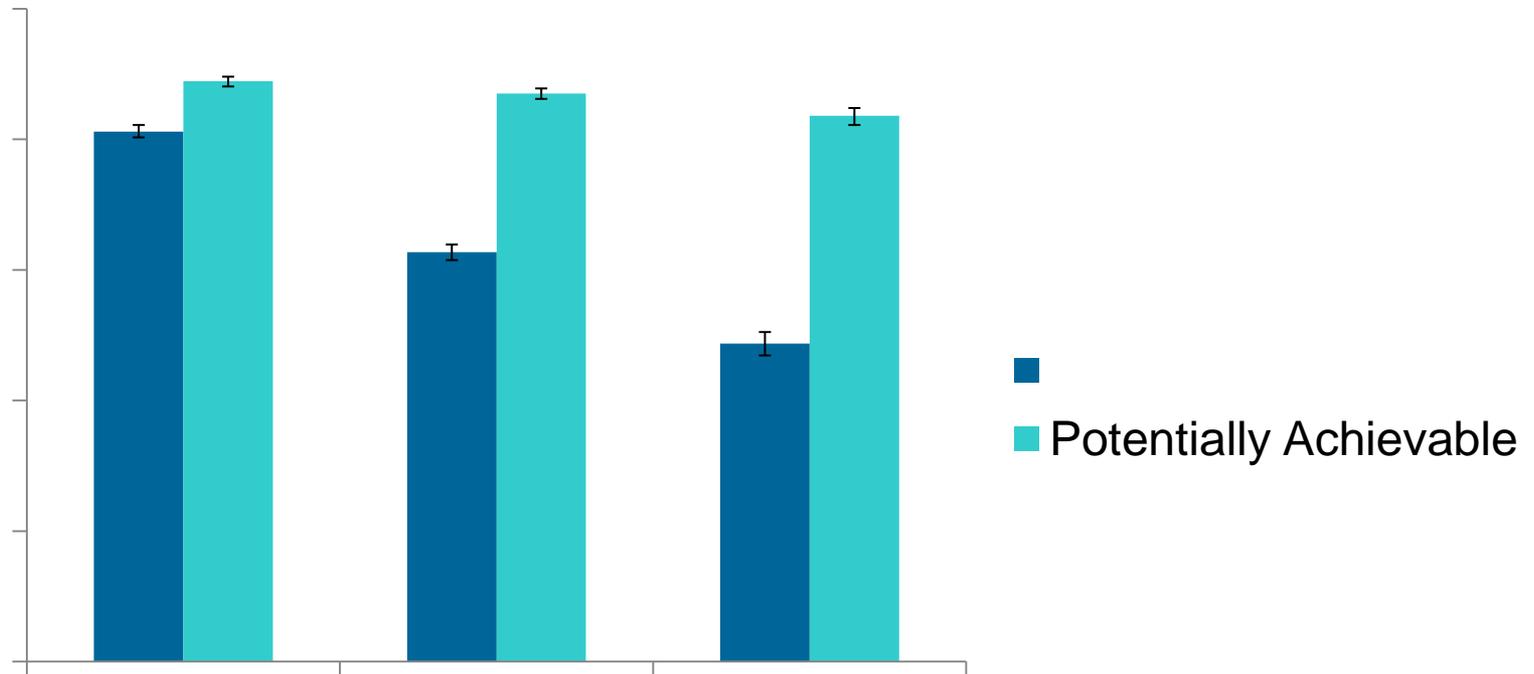
Challenges

- Parental knowledge of adolescent vaccine recommendations is low
- Adolescents make few preventive health care visits
 - Fewer opportunities to vaccinate
- Providers do not administer all indicated vaccines during the same visit
 - “Missed opportunities”
- Providers offer a weaker recommendation for HPV vaccine
 - Association with age of the adolescent
 - Vaccine introduced as ‘optional’
 - Interpret questions about HPV vaccine as refusal

Percent of unvaccinated adolescents aged 13-17 years with 1 or more missed opportunities by vaccine: NIS-Teen 2010



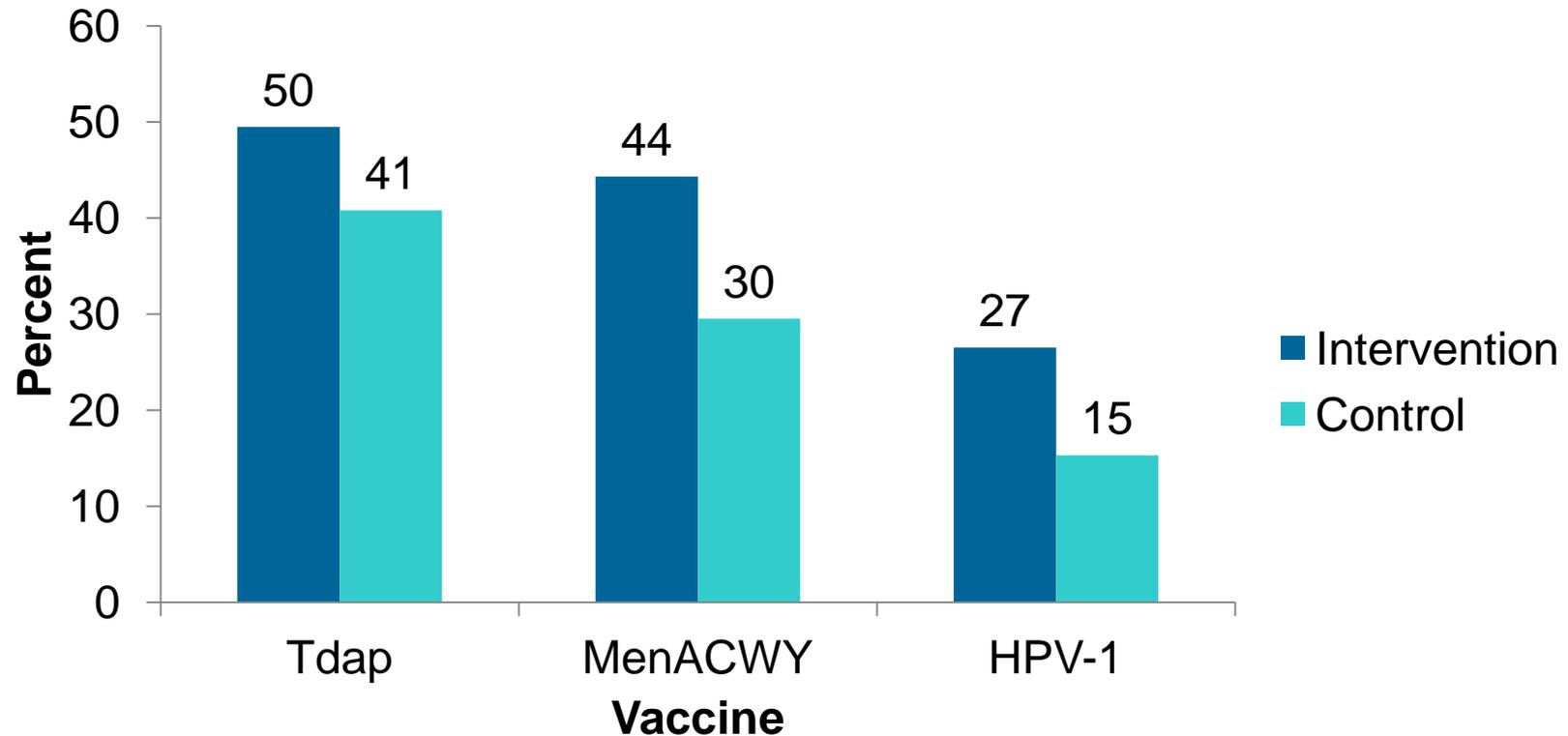
Actual and potentially achievable vaccination coverage if missed opportunities were eliminated: NIS-Teen 2010



Strategies to improve coverage

- Educate parents about recommended vaccines and the need for annual check-ups
- Conduct reminder/recall
 - Notices can be by mail, phone, email, text message
- Provider education emphasizing:
 - Strong recommendations
 - Assess vaccination status at every visit, including sick visits
 - Administer all indicated vaccines at the same visit
- Implement provider reminders/prompts
 - Incorporate prompts into Electronic Health Records
 - Nurse prompts: flag charts when vaccines are needed so provider sees this when s/he enters the room

Vaccination rates among adolescents 6-months following a reminder/recall intervention



Source: Suh et al. *Pediatrics*.(2012) DOI: 10.1542/peds.2011-1714.

*All comparisons statistically significant $P < .05$.

Summary

- Adolescent vaccination coverage levels are increasing but remain low, especially for HPV
- Missed vaccination opportunities are common
 - Identifying and addressing barriers to administering all indicated vaccines during the same visit will be critical to improving coverage
- Activities health systems can implement to help increase adolescent vaccination coverage levels
 - Disseminate educational information to parents of adolescents to increase awareness of recommended vaccines
 - Implement reminder/recall activities so parents are aware of vaccines that are due/overdue
 - Work with providers to implement prompts within their practice to help them identify adolescent patients due for vaccination

