

Adult Vaccination Update

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Overview of Presentation

- ❑ **Non –influenza adult vaccination coverage**
 - Data source
 - Coverage by age group, race/ethnicity, target group status
 - Limitations
 - Conclusions
- ❑ **Information Sources**

Data Source

National Health Interview Survey, 2012

- ❑ Annual in-home survey of U.S. non-institutionalized civilian population
- ❑ Detailed health survey of one adult in each household sampled
- ❑ Provides national coverage estimates
- ❑ Final sample of adult component:
 - Response rate: 61%
 - N = 34,218

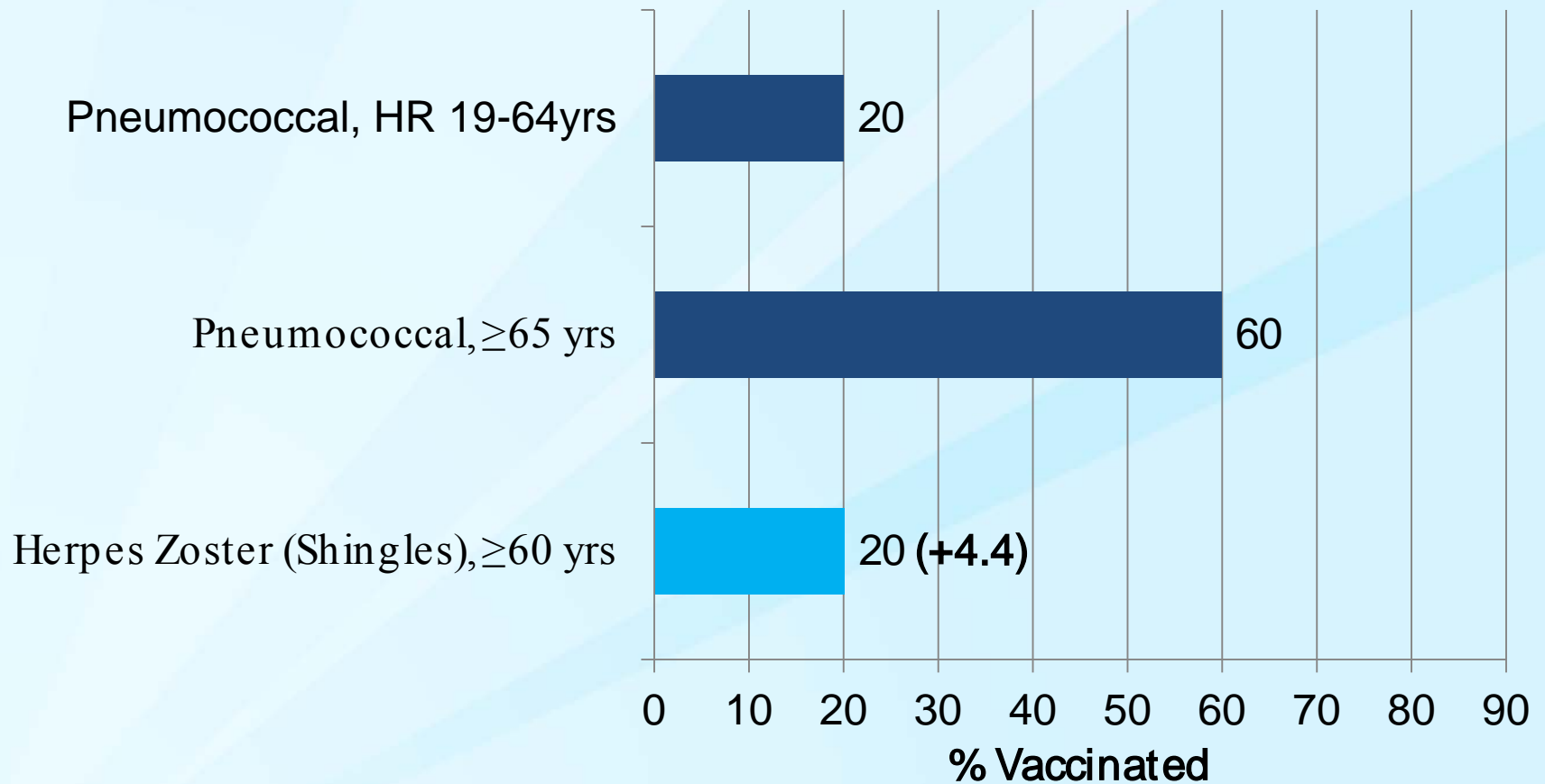
National Health Interview Survey, 2012 Vaccination Questions

- ❑ Influenza (not reported here)
- ❑ PPSV (or PCV13), Td/Tdap, HepA, HepB, Zoster, HPV
 - Proportion of pneumococcal vaccination by type not measured
 - Tdap vaccination of adults aged ≥ 65 years collected for the first time
- ❑ High-risk status
 - Limited information collected for Hep A and Hep B
 - Hep A (travel status & chronic liver disease)
 - Hep B (diabetes mellitus)
 - PPSV or PCV13
- ❑ Health Care Personnel (HCP)

Definition of High-Risk for Pneumococcal Disease

- ❑ Adults were considered at high risk for pneumococcal disease if they had been told by a doctor or other health care professional that they:
 - Ever had:
 - Diabetes Mellitus
 - Emphysema
 - Coronary Heart Disease, Angina, Heart Attack, or other Heart Condition
 - Lymphoma, Leukemia, or Blood Cancer
 - Had during the preceding 12 months:
 - Cancer Diagnosis (excluding non-melanoma skin cancer)
 - Asthma Episode or Attack
 - Chronic Bronchitis
 - Weak or Failing Kidneys
- ❑ **Or were Current Smokers**

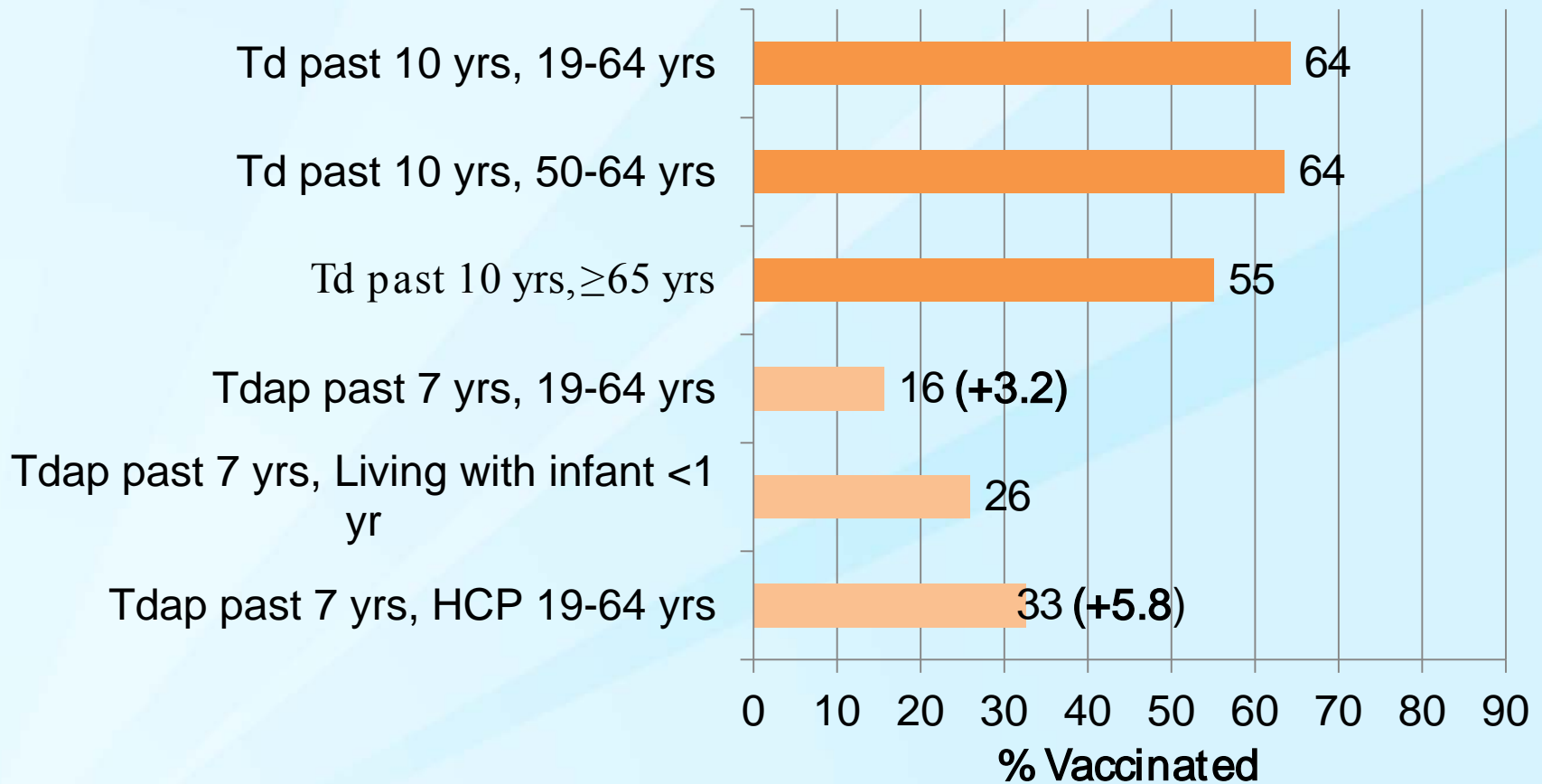
Adult Vaccination Coverage, Selected Vaccines by Age and High-risk Status, United States



HP2020 Targets: 60% PPV HR 19-64 years, 90% PPV ≥65 years, 30% Shingles

Data Source: 2012 NHIS

Adult Tetanus-containing Vaccination Coverage by Age and High-risk Status, United States



Data Source: 2012 NHIS

Potential for Bias in Tdap Estimates

- **34% of respondents were excluded**

Those:

- without a “yes” or “no” response for tetanus vaccination, past 10 years (5%)
 - without a response to tetanus vaccination during 2005-2012 (4%)
 - who reported tetanus vaccination but not told (21%) or did not know the vaccine type (4%)
- **Sensitivity analysis to assess magnitude of bias -- Tdap coverage could range from: 11% -39% (adults 19-64 years); 6%-31% (adults \geq 65 years)**

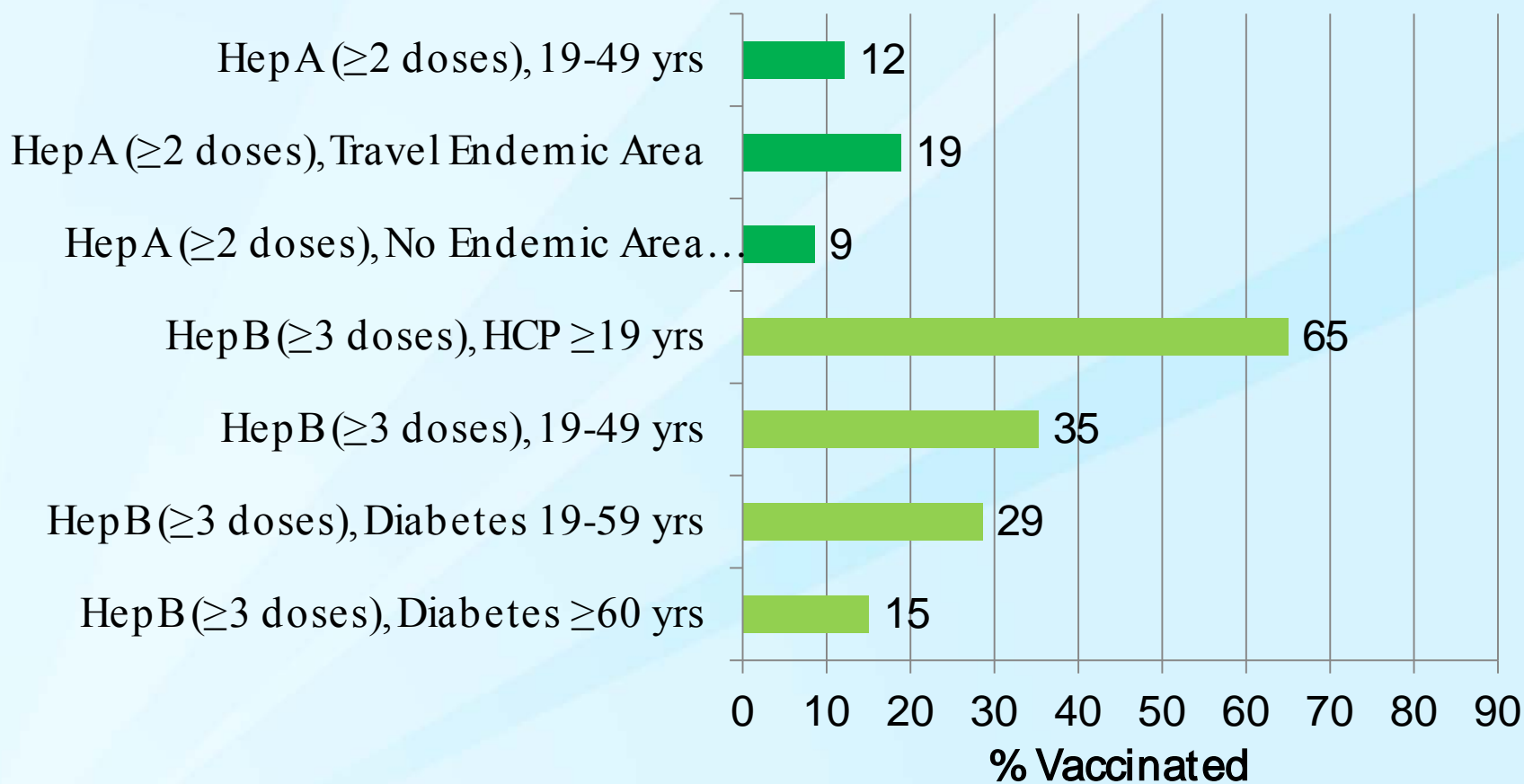
Proportion of adults ≥ 19 years of age who received Tdap vaccine

Group	Not Told (%)	Not Recall (%)	Tdap/Td+Tdap
Adults, ≥ 19 years, Overall	53	11	65
HCP, ≥ 19 years	33	9	76*
Non-HCP, ≥ 19 years	55	11	63

* $p < 0.05$ by T test for comparisons between HCP and non-HCP ≥ 19 years.

Data Source: 2012 NHIS

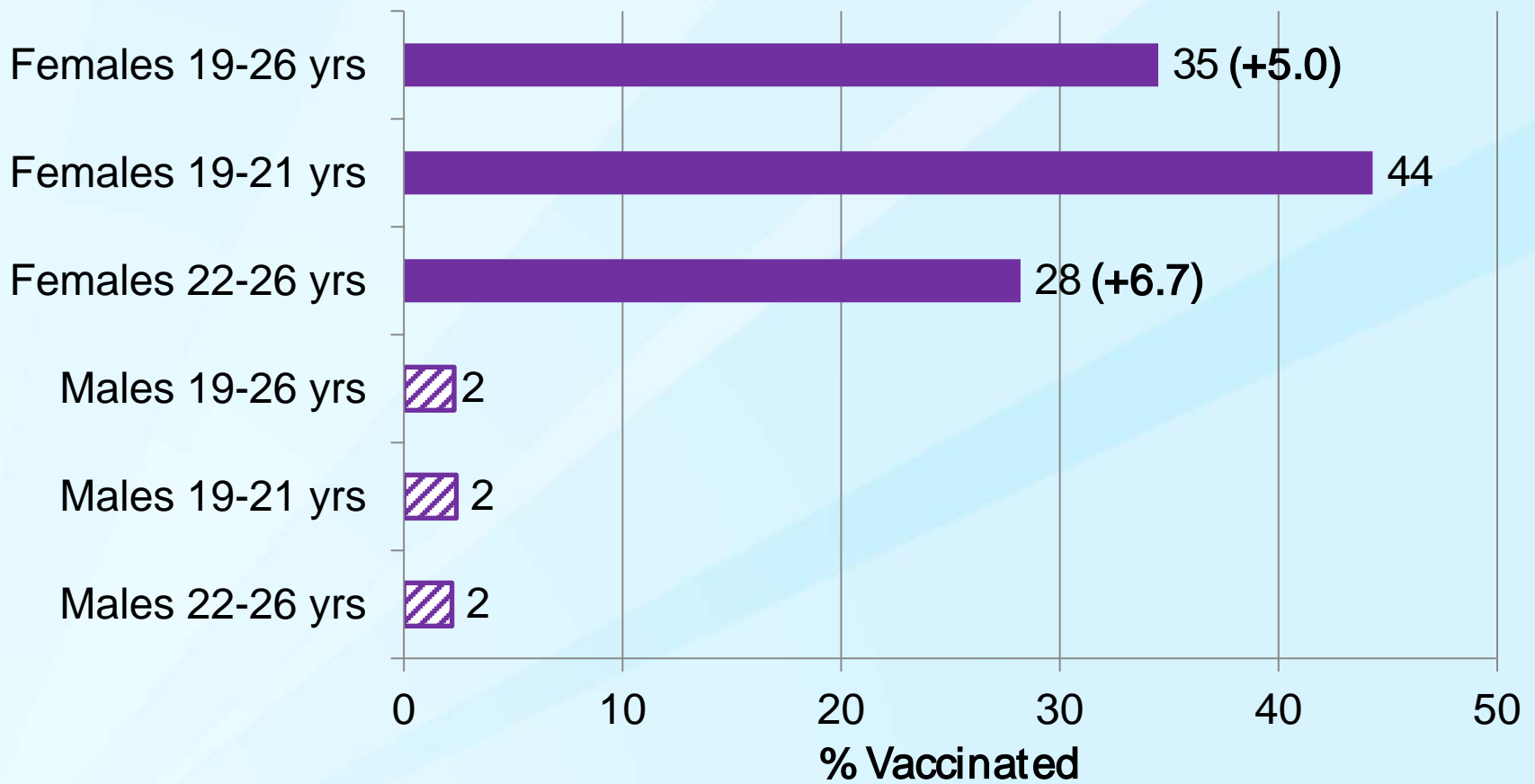
Hepatitis A and B Vaccination Coverage by Age and High-risk Status, United States



HP2020 Target: 90% HepB Healthcare Personnel (HCP)

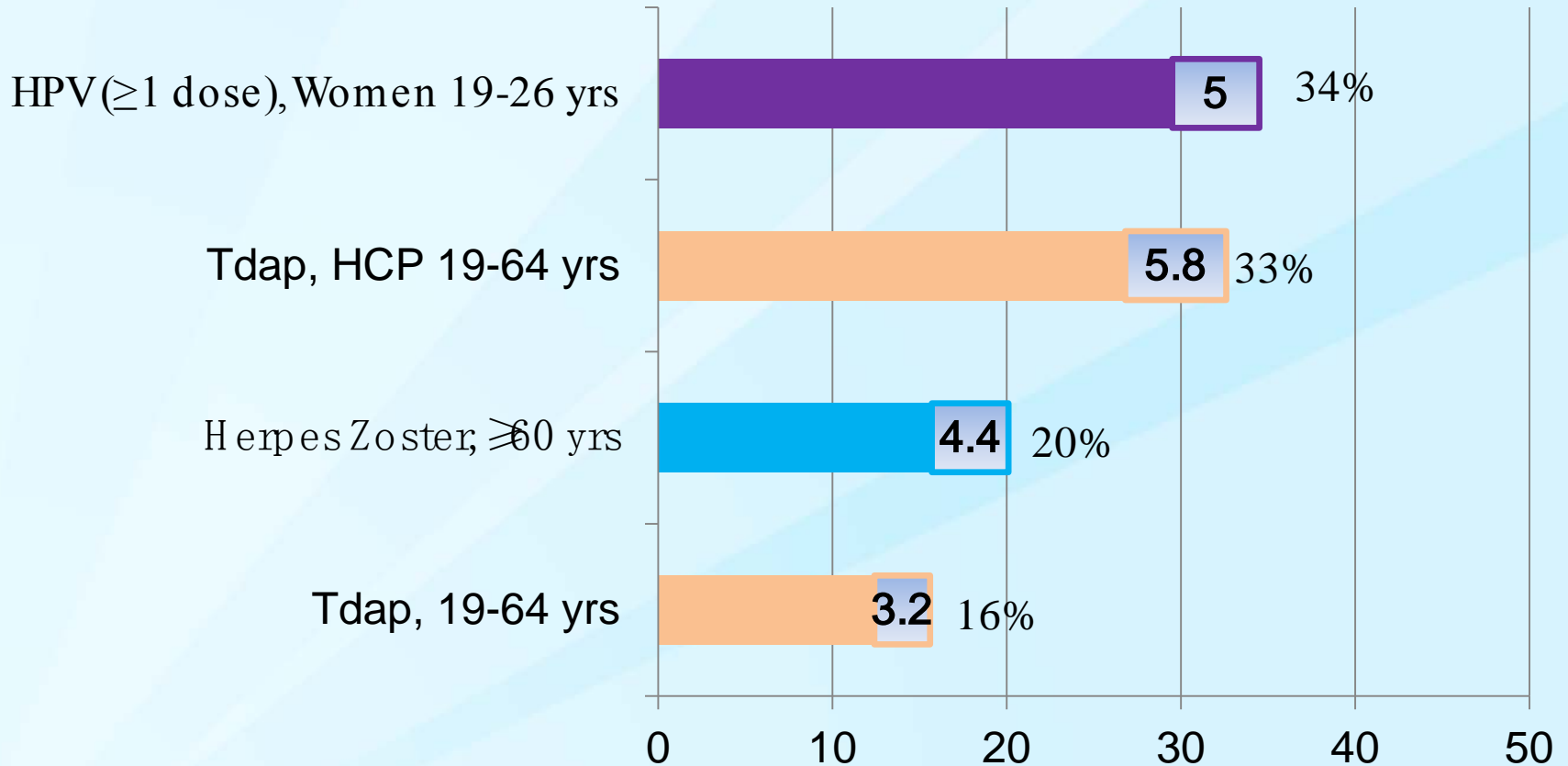
Data Source: 2012 NHIS

HPV Vaccination Coverage (≥ 1 dose ever), Adults 19-26 years of age by Sex, United States



Data Source: 2012 NHIS

Non-Influenza Adult Vaccination Coverage Rate Increases from 2011 to 2012



Data Source: NHIS 2011-2012

Racial/Ethnic Vaccination Disparities

Vaccination Group	% Vaccinated Whites	Disparity, Blacks	Disparity, Hispanics	Disparity, Asians
Pneumo., HR 19-64 yrs	21	-2	-8	-8
Pneumo., ≥65 yrs	64	-18	-21	-23
Tetanus, 19-49 yrs	70	-14	-16	-15
Tetanus, 50-64 yrs	68	-15	-15	-19
Tetanus, ≥65 yrs	58	-13	-13	-12
Tdap, ≥19 yrs	16	-6	-7	-1
Tdap, 19-64 yrs	18	-8	-9	-2
Tdap, ≥65 yrs	9	-3	-6	-5
HepA, 19-49 yrs	12	-1	-2	+7
HepB, 19-49 yrs	38	-3	-10	+2
Herpes Zoster, ≥60 yrs	23	-14	-14	-6
HPV, Females 19-26 yrs	42	-13	-24	-27
Tdap, HCP ≥19 yrs	33	-11	-8	+6
HepB, HCP ≥19 yrs	66	-4	-5	+7

Racial/Ethnic Vaccination Disparities

Compared with 2011, racial/ethnic differences persisted for all six and widened for Tdap, herpes zoster, and HPV:

- ❑ **Non-Hispanic blacks, Hispanics, and Non-Hispanic Asians generally had lower vaccination coverage than non-Hispanic whites for all vaccines routinely recommended for adults with these exceptions:**
 - PPSV/PCV13 19-64-HR -- Blacks had coverage similar to whites
 - Tdap 19+ – Asians had coverage similar to whites
 - Tdap 65+ -- Blacks had coverage similar to whites
 - Hep A – Blacks had coverage similar to and Asians had coverage higher than whites
 - Hep B – Asians had coverage similar to whites
- ❑ **Health Care Personnel (HCP) – Non-Hispanic black and Hispanic HCP had lower coverage for Tdap, but coverage similar to whites for HepB**

Limitations of Findings

- ❑ **NHIS excludes people in the military and people residing in institutions** – results apply to the civilian, non-institutionalized population
- ❑ **Response rate of 61% is low** and can result in sampling bias if the nonresponse is unequal among participants regarding vaccination
- ❑ **Self-report of vaccination subject to recall bias**
- ❑ **Tdap estimates: potential bias due to exclusions**
- ❑ **Age of vaccination not known for vaccines reported as “ever” received** – unclear if vaccination occurred as an adult or as part of child or adolescent programs

Conclusions

- ❑ **Overall coverage remains far below HP2020 targets**
 - 90% for 65+ years for pneumococcal vaccine
 - 60% for high risk 19-64 years for pneumococcal vaccine
 - 30% for 60+ years for Zoster vaccine
 - 90% for hepatitis B vaccine for healthcare personnel
- ❑ **Some improvement from 2011**
 - Modest increases for HPV (women, 19-26), Tdap (19-64 year olds), and herpes zoster (≥ 60 year olds) vaccines
 - No improvements for other vaccines
- ❑ **Racial and ethnic disparities remain**
- ❑ **Much remains to be done to increase vaccine utilization among adults and to eliminate disparities**

Collaborators

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For Additional Information:

ACIP Recommendations for Specific Vaccines

- ❑ <http://www.cdc.gov/vaccines/hcp/acip-recs/index.html>

Non-influenza Adult Vaccination Coverage

- ❑ http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6305a4.htm?s_cid=mm6305a4_w