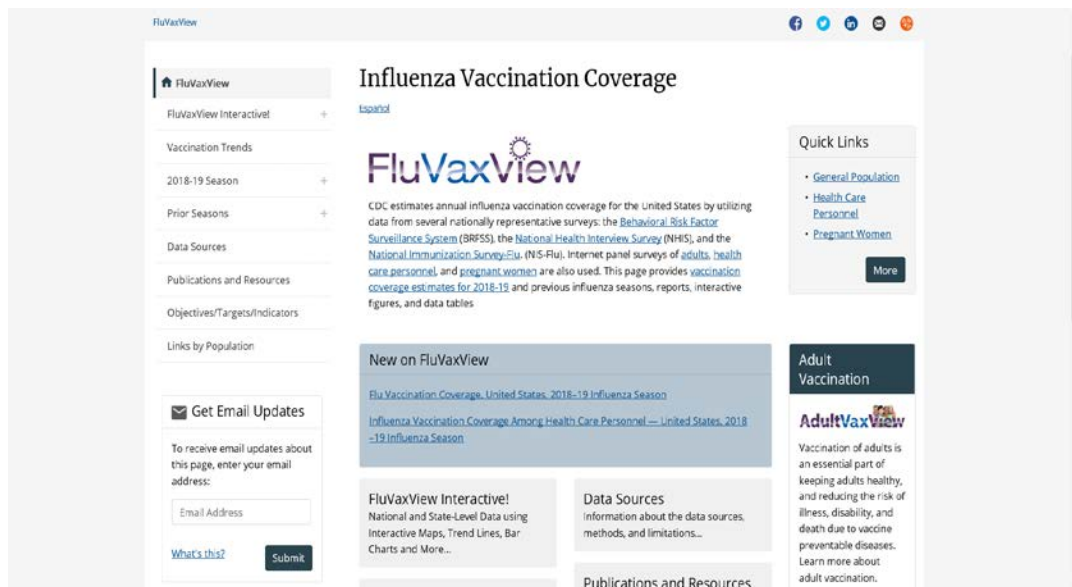


INFLUENZA VACCINATION COVERAGE ESTIMATES FOR THE 2018–19 SEASON: Summary of Online Report

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Influenza Summit Call
October 3, 2019



The screenshot displays the FluVaxView website interface. On the left is a navigation menu with items like 'FluVaxView', 'FluVaxView Interactivel', 'Vaccination Trends', '2018-19 Season', 'Prior Seasons', 'Data Sources', 'Publications and Resources', 'Objectives/Targets/Indicators', and 'Links by Population'. Below the menu is a 'Get Email Updates' form with an email address input field and a 'Submit' button. The main content area is titled 'Influenza Vaccination Coverage' and features the FluVaxView logo. Below the logo, it states: 'CDC estimates annual influenza vaccination coverage for the United States by utilizing data from several nationally representative surveys: the Behavioral Risk Factor Surveillance System (BRFSS), the National Health Interview Survey (NHIS), and the National Immunization Survey-Flu (NIS-Flu). Internet panel surveys of adults, health care personnel, and pregnant women are also used. This page provides vaccination coverage estimates for 2018-19 and previous influenza seasons, reports, interactive figures, and data tables.' To the right of the main content are three sidebars: 'Quick Links' with links for 'General Population', 'Health Care Personnel', and 'Pregnant Women'; 'New on FluVaxView' with links for 'Flu Vaccination Coverage, United States, 2018-19 Influenza Season' and 'Influenza Vaccination Coverage Among Health Care Personnel — United States, 2018-19 Influenza Season'; and 'Adult Vaccination' with the 'AdultVaxView' logo and text explaining the importance of adult vaccination.

Data Sources and Methods

- **National Immunization Survey-Flu (NIS-Flu)**
 - On-going, national list-assisted random-digit-dial cellular telephone survey of households with children
 - NIS-Child (19–35 months), NIS Teen (13–17 years), and NIS-Child Influenza Module (6–18 months and 3–12 years)
 - Parental report: Has child received flu vaccination since July 1, 2018? (month, year)
 - NIS-Flu interviews conducted October 2018–June 2019

Data Sources and Methods (2)

- **Behavioral Risk Factor Surveillance System (BRFSS)**
 - On-going state-based telephone survey of randomly selected persons ≥ 18 years among the non-institutionalized, U.S. population on health conditions and risk behaviors
 - Self report: Flu vaccination in the past 12 months (month, year)
 - Used interviews conducted September 2018–June 2019

Data Sources and Methods (3)

■ Analysis

- Kaplan-Meier survival analysis to determine cumulative monthly influenza vaccination coverage of one or more doses received from July 2018–May 2019
- Coverage estimates calculated for children (6 mos.–17 yrs.) from NIS-Flu and for adults (≥ 18 yrs.) from BRFSS
- Imputed month of vaccination if it was missing
- Weighted estimates calculated in SUDAAN to account for complex survey design
- T-tests ($p < 0.05$) to determine differences between groups and between the 2018–19 and 2017–18 seasons

Figure 1. Flu Vaccination Coverage of Children 6 months—17 years, United States, 2010–2019

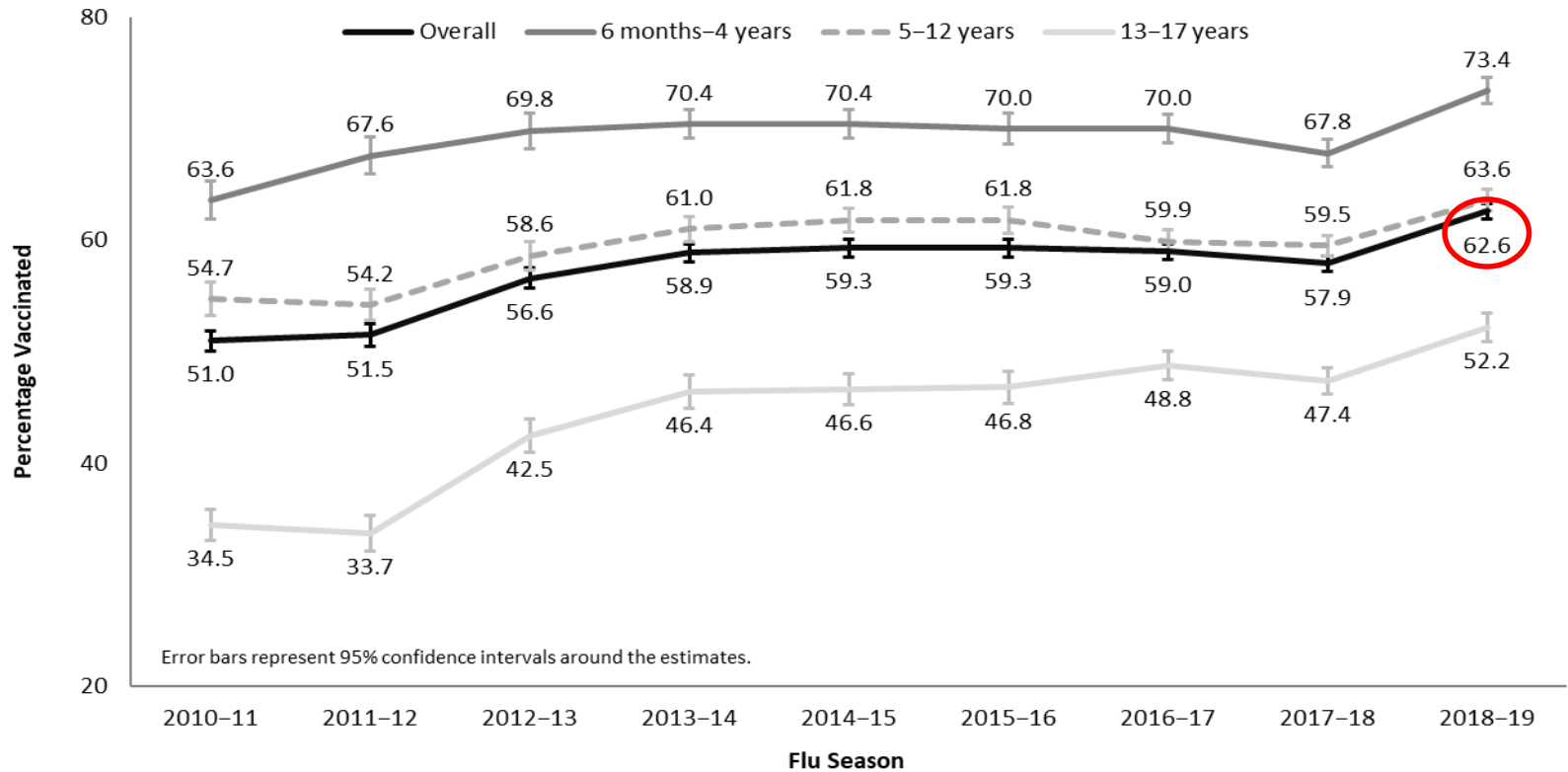
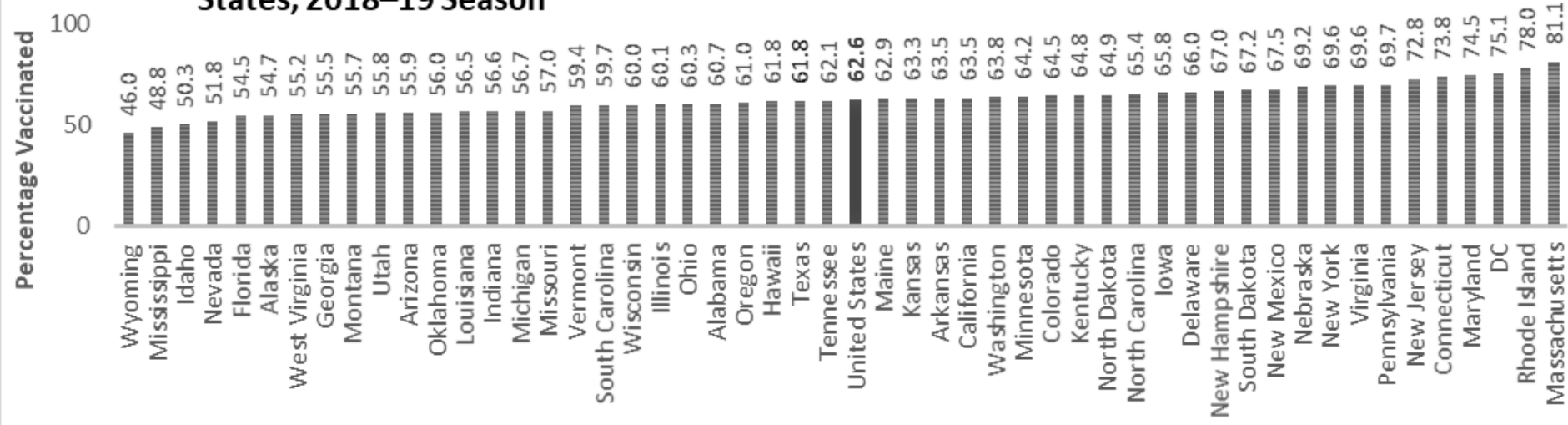


Figure 2. Flu Vaccination Coverage by State, Children 6 Months—17 Years, United States, 2018–19 Season



**Figure 3. Flu Vaccination Coverage of Adults 18 years and older,
United States, 2010–2019**

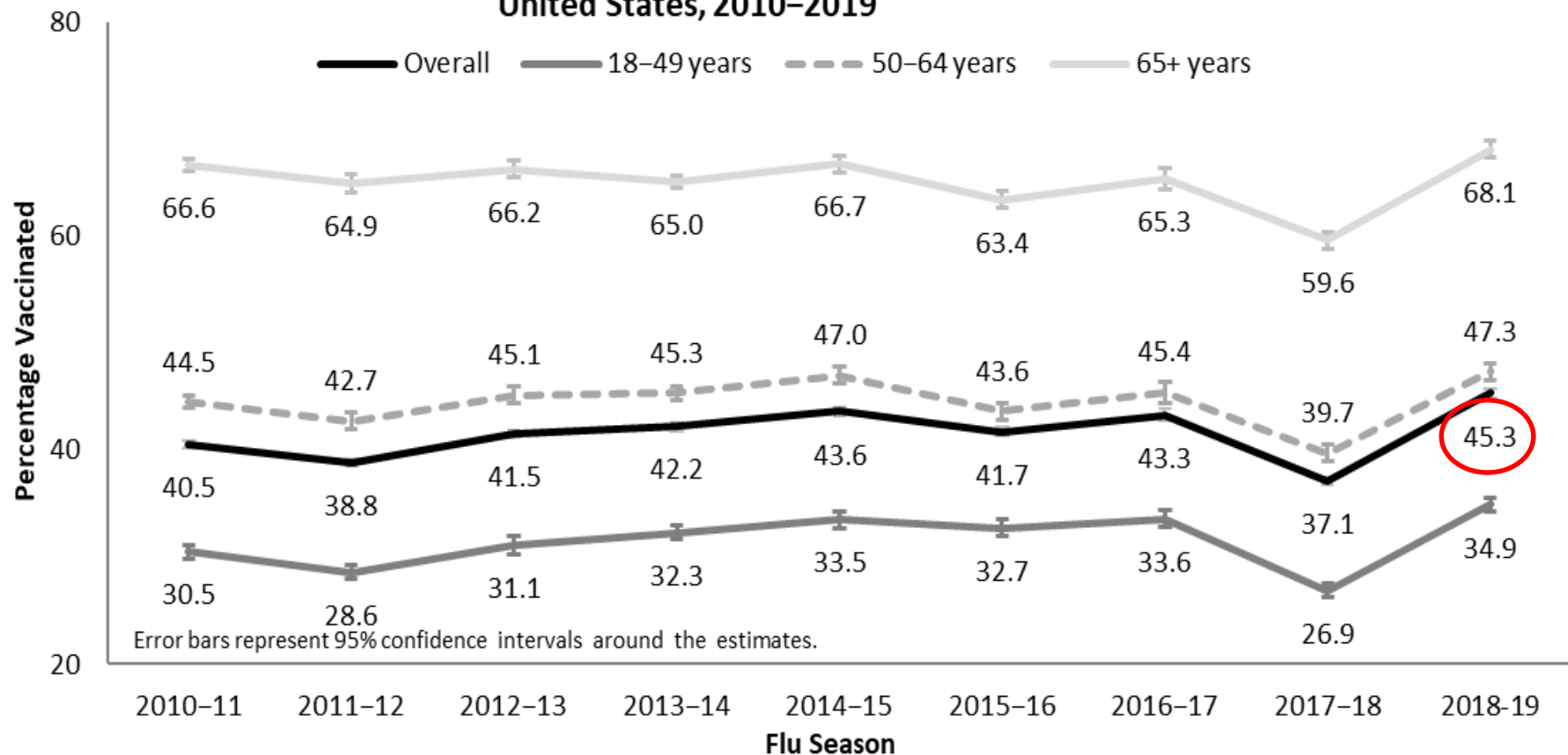
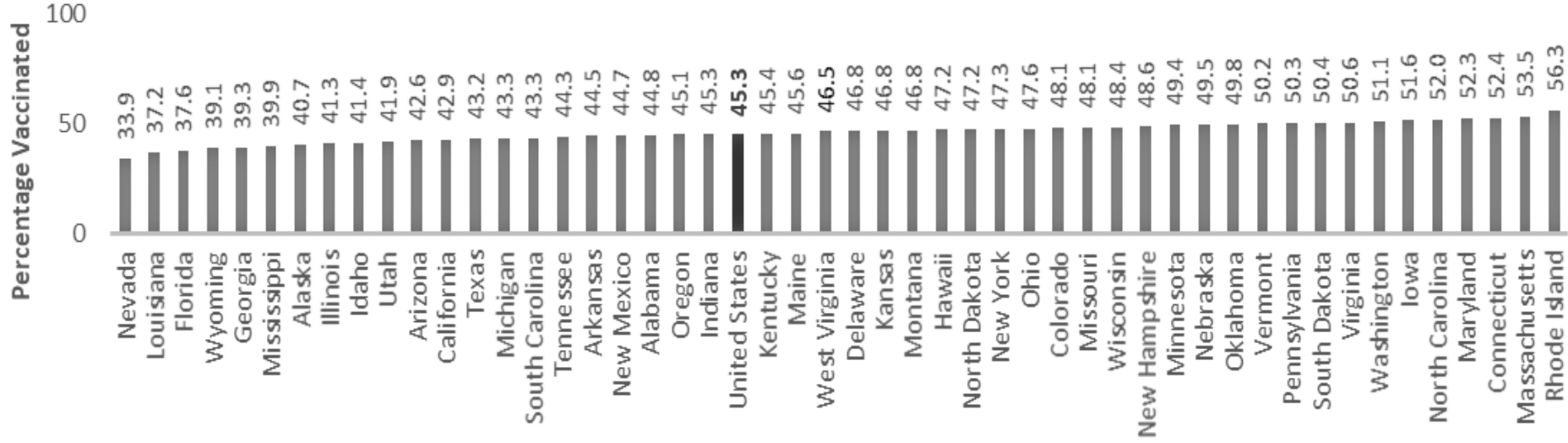


Figure 4. Flu Vaccination Coverage by State, Adults, United States, 2018–19 Season



Correlation Between by State Child and Adult Flu Vaccination Coverage Estimates,
United States, 2018–19 Season

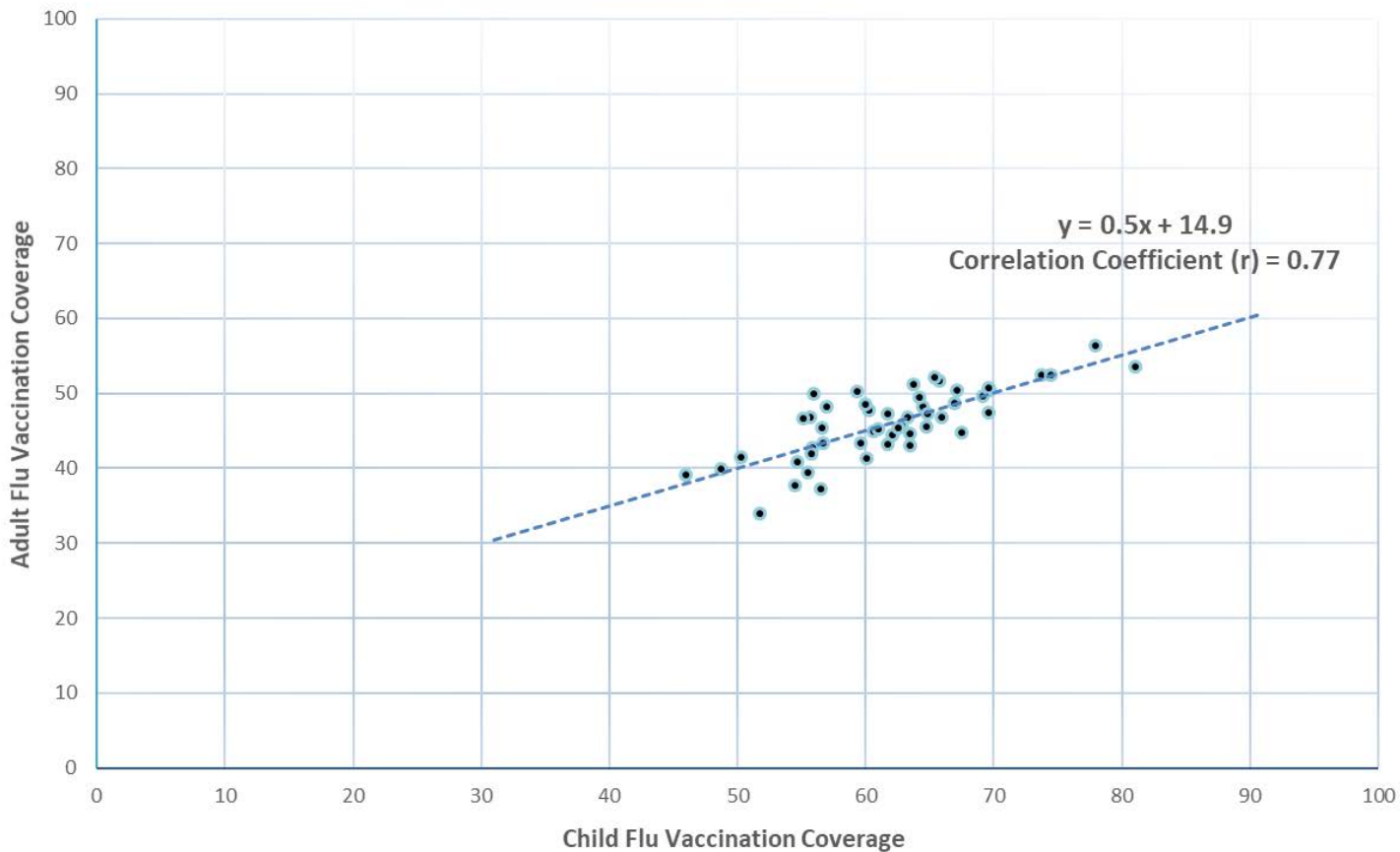
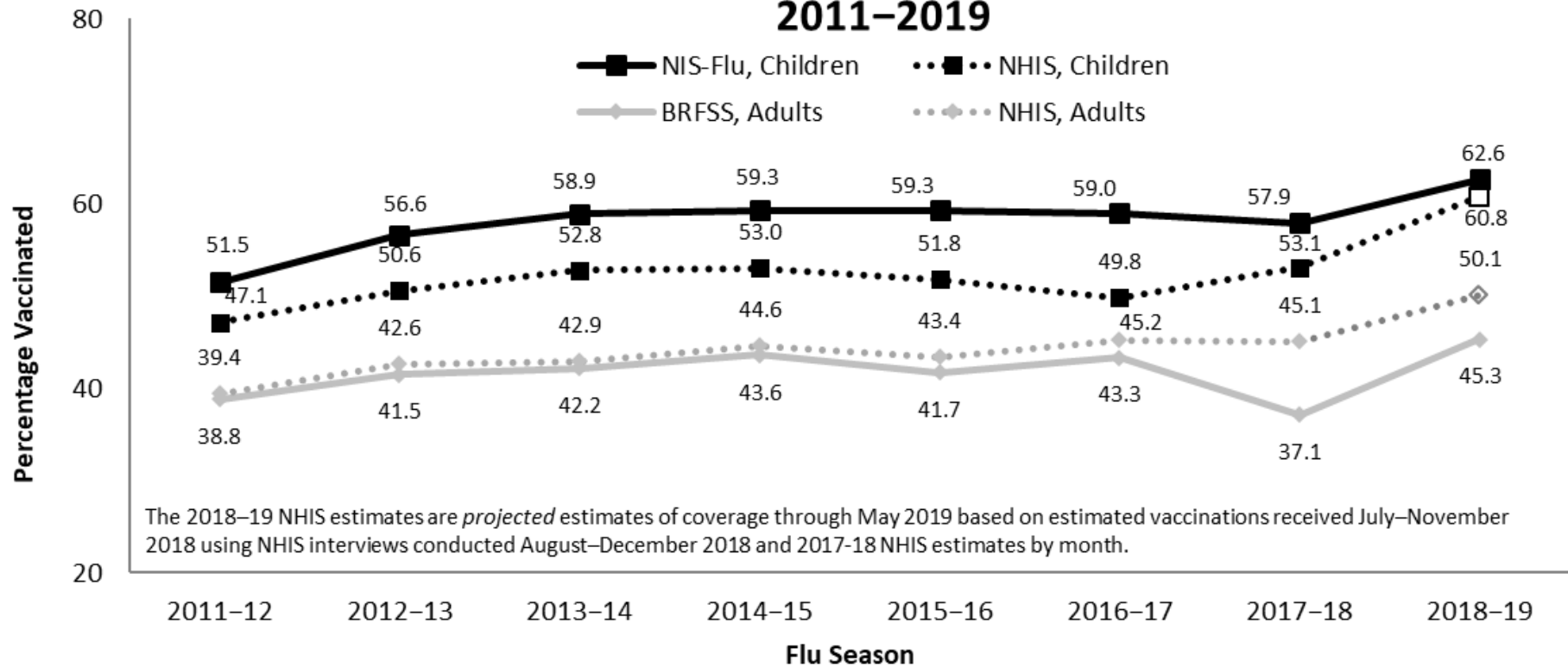


Figure 5. Flu Vaccination Coverage Comparisons, United States, 2011–2019



Limitations

- Most of these vaccination coverage data rely upon self-report and are not validated with medical records
 - Validity studies have shown that parental report (for children) may overestimate influenza vaccination coverage
 - Published studies of validity of self-report of adult influenza vaccination have shown mixed results
- Bias might remain after weighting adjustments
 - NIS-Flu and BRFSS are telephone surveys excluding households with no telephone service
 - Possible selection or nonresponse bias given low response rates

Additional Information Available:

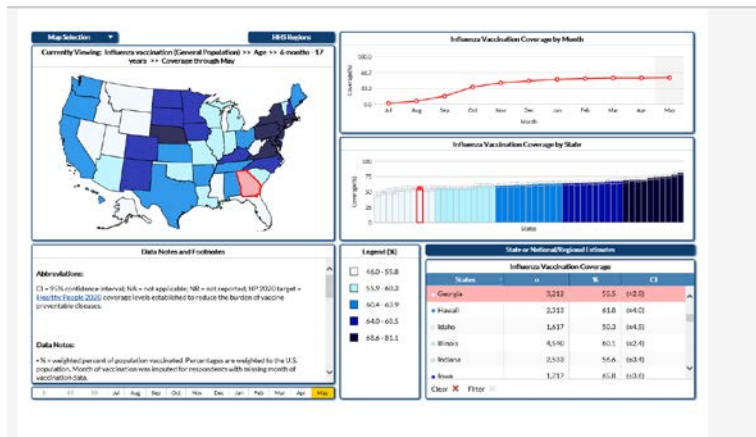
- More details of the methods and limitations can be found in the report at: <https://www.cdc.gov/flu/fluview/coverage-1819estimates.htm>
- Estimates of influenza vaccination coverage by the following groups are also available in the report or in the interactive application:
 - By race/ethnicity
 - By age group and race/ethnicity
 - By sex
 - Estimates for selected local areas and territories
 - Place of influenza vaccination for children
 - State-level estimates

Acknowledgements

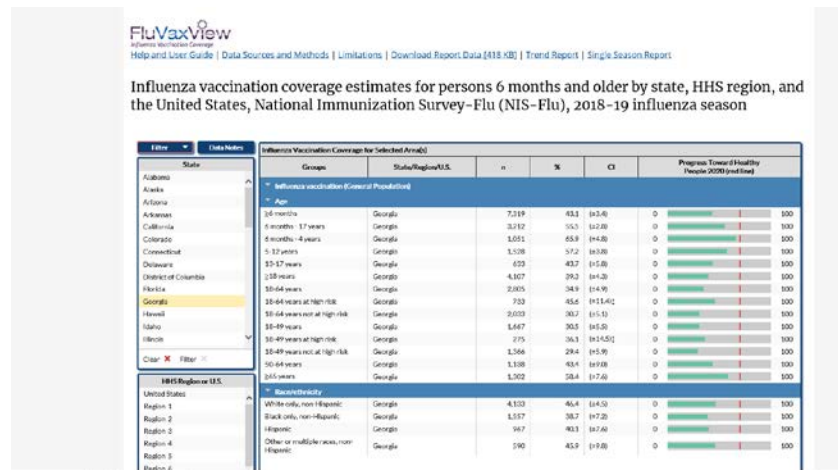
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For the online report as well as interactive webpages please visit:

<https://www.cdc.gov/flu/fluview/index.htm>



For more information, contact CDC
 1-800-CDC-INFO (232-4636)
 TTY: 1-888-232-6348 www.cdc.gov



The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

