Measuring vaccination coverage among kindergartners important to ensure high coverage in maintained in school-aged children

- **Annual vaccination coverage assessment by awardees**
  - Vaccination and exemption data collected by health department, school nurse, or other school personnel
  - Can be very resource intensive for schools and public health

- **Vaccination coverage and exemptions defined by state and local school requirements**
  - Dose requirements and regulations
  - Documentation

- **Census or sample of kindergarteners**

- **Public and private schools**
  - Home schooled children and in some cases private schools not included

- **Unable to measure a national estimate, report the median**
Median Estimated Vaccination Coverage and Exemptions among Kindergartners, United States, 2014-15

- **Measles, mumps, and rubella (MMR) vaccine (2 doses)**
  - 94.0%

- **Diphtheria, tetanus toxoid, and acellular pertussis (DTaP) vaccination (local requirements)**
  - 94.2%

- **Varicella vaccine (for 2 doses of among 41 awardees with a 2-dose requirement)**
  - 93.6%

- **Exemptions (one or more vaccines)**
  - Any exemption – 1.7%
  - Medical – 0.2%
  - Non-medical – 1.5%
Estimated Percentage of Children Enrolled in kindergarten who Have Been Exempted from Receiving One or More Vaccines* - United States, 2014-15 School Year

* Exemptions might not reflect a child's vaccination status. Children with an exemption who did not receive any vaccines are indistinguishable from those who have an exemption but are up-to-date for one or more vaccines.
Estimated Measles, Mumps, and Rubella (MMR) Vaccination Coverage among Kindergartners – United States, 2014-15 School Year
Estimated Percentage of Children Enrolled in Kindergarten who Have Been Exempted from Receiving One or More Vaccines *-
United States, 2014-15 School Year

*State collected exemption data using a sample.
† Texas was unable to report the number of children with a medical exemption and are not included in the median for any exemption.
Estimated Number of Children without Documented 2-Dose Vaccination for Measles and Number of Children Exempt to One or More Vaccines among Kindergartners in 37 States Reporting MMR Coverage and Exemptions—United States, 2014-15 School Year

*State used a sample for vaccination coverage and for exemptions.
† State used a sample for coverage and a census for exemptions.
Records Challenge: Undocumented Vaccination

- Difficult to tease apart unvaccinated children from children without documentation of vaccination

- Procedures to follow-up on children with conditional approvals to enter school vary by school district

- Resources at school level are scarce, especially school nurses

- Additional category to be added for 2015-2016 school year: conditional/provisional enrollment
## Methods Challenge: Census vs. Sample

<table>
<thead>
<tr>
<th></th>
<th>Census</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provides local data</td>
<td>No local data</td>
<td></td>
</tr>
<tr>
<td>Resource intensive for schools</td>
<td>Resource intensive for health departments</td>
<td></td>
</tr>
<tr>
<td>Can identify clusters of low coverage or high exemptions</td>
<td>May miss clusters of low coverage or high exemptions</td>
<td></td>
</tr>
<tr>
<td>Can sample to validate data collected by non-health staff</td>
<td>Limits opportunities to educate school staff</td>
<td></td>
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</tbody>
</table>
Policy Challenge: Family Education and Rights
Privacy Act (FERPA)

- FERPA restricts individual school records, including health records, from being shared.
  - Exception is in public health emergency or outbreak
  - National Act that is interpreted at state and local level

- Schools report aggregate data, unable to report individual data to public health
  - Public health unable to follow-up on kids missing vaccines

- Public health is unable to support data collection or validate data
  - Continues to drain resources from schools and school nurses
Opportunity: Using IISs

- Using immunization information system (IIS) data can
  - Streamline data collection
  - Provide accurate vaccination coverage data at the community, child, and possibly school levels

- High functioning IISs with near complete participation can produce reports for schools
  - Need to match student to IIS record

- Schools may be able to report vaccination records to the IIS
  - FERPA is a barrier

- IISs could produce validated certificate
Opportunity: Improving Data Quality

- Encouraging awardees to move from sample to census methodology for measuring exemptions
  - Need to address resources and policy barriers
  - Consider requirement to sample if barriers can be addressed

- Increase use of IIS to support school coverage assessments
Opportunity: Increase Vaccination Coverage

- School coverage assessment is an opportunity to identify unvaccinated children who were missed prior to school entry
  - Need for local data

- Data is only as good as it can be acted on
  - Outreach to schools with low coverage or high rates of exemptions
  - Following up on children who are missing vaccines
  - Support for state and local immunization programs
Acknowledgements

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- The 55 Immunization Programs which collected reported the vaccination and exemption data presented here.
Healthy People 2020

IID-10  Maintain vaccination coverage levels for children in kindergarten

- DTaP vaccine (4 or more doses)
- MMR vaccine (2 or more doses)
- Polio vaccine (3 or more doses)
- Hepatitis B vaccine (3 or more doses)
- Varicella vaccine (2 or more doses)
- Target - 95% (national)

Healthy People 2020

IID-19  Increase the number of States collecting kindergarten vaccination coverage data according to CDC minimum standards

- All age-appropriate ACIP recommendations must be followed, including 2 doses of varicella.
- Appropriate sampling methodology must be used.
- Data collected must be validated.
- Data collection should only be done by trained personnel.
- Data on vaccination history should come from a provider.
- Data should be collected by the appropriate date (December 31 of each year).
- Target – 51 (States and DC)

Estimated Diphtheria, Tetanus Toxoid and acellular Pertussis (DTaP) Vaccination Coverage among Kindergartners – United States, 2014-15 School Year

Awardee

- DTaP coverage < 95%
- DTaP coverage ≥ 95%
- Target
- Median DTaP Coverage (94.2%)
Estimated 2-Dose Varicella (VAR) Vaccination Coverage among Kindergartners in States with a 2-Dose Requirement – United States, 2014-15 School Year