

**REPORT ON VACCINATION OF TEXAS 2-YEAR-OLDS**  
**NATIONAL IMMUNIZATION**  
**SURVEY-CHILD 2018**



**TEXAS**  
Health and Human  
Services

Texas Department of State  
Health Services

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## Helpful Websites

### DSHS Immunization Unit

[dshs.texas.gov/immunize/](https://dshs.texas.gov/immunize/)

Overview of resources available from the DSHS Immunization Unit.

### Immunization data

[dshs.texas.gov/immunize/coverage/](https://dshs.texas.gov/immunize/coverage/)

Data on vaccination coverage (what percentage of people are vaccinated) from a variety of sources.

### Keep track of your shot records

[dshs.texas.gov/immunize/immtrac/](https://dshs.texas.gov/immunize/immtrac/)

Keeping up with vaccine records is now easier than ever, thanks to ImmTrac2, the Texas Immunization Registry.

### Every Dose Matters –

### Immunization Information

[dshs.texas.gov/immunize/public](https://dshs.texas.gov/immunize/public)

Learn how vaccines keep children safe from 16 harmful diseases and why they need every dose, on schedule.

### Low-cost Vaccines for Children

[dshs.texas.gov/immunize/tvfc/](https://dshs.texas.gov/immunize/tvfc/)

The Texas Vaccines for Children program provides vaccines through over 3,000 healthcare partners statewide.

### CDC ChildVaxView

[cdc.gov/vaccines/imz-managers/coverage/childvaxview/](https://cdc.gov/vaccines/imz-managers/coverage/childvaxview/)

Explore national vaccine coverage for 2-year-olds and learn more about what vaccines young children need.

### Vaccine Safety – Get the Facts

[cdc.gov/vaccinesafety/](https://cdc.gov/vaccinesafety/)

Read the latest data on vaccine safety, including the Measles, Mumps and Rubella (MMR) vaccine.

### Toolkit for pediatricians

[aap.org/en-us/advocacy-and-policy/aap-health-initiatives/immunizations/](https://aap.org/en-us/advocacy-and-policy/aap-health-initiatives/immunizations/)

Information and tools for pediatricians from the American Academy of Pediatrics.

### Vaccine Education Center

[chop.edu/centers-programs/vaccine-education-center/](https://chop.edu/centers-programs/vaccine-education-center/)

The Children’s Hospital of Philadelphia has extensive educational resources for parents and providers on vaccines for kids in the first two years of life.

## Background

The NIS-Child is a national survey conducted annually by the Centers for Disease Control and Prevention to assess immunization levels among pre-school children (at 2 years of age for most immunizations). The NIS is the only population-based survey to provide national, state, local area, and territorial estimates of vaccination coverage among children in the United States.



This study collects data by administering telephone surveys to randomly selected households.

To ensure the accuracy and precision of the vaccination coverage estimates, immunization data for surveyed children are also collected through a mail survey of their pediatricians, family physicians, and other health care providers. The parents and guardians of eligible children are asked during the telephone interview for consent to contact the children's vaccination providers. Types of immunizations, dates of administration, and additional data about facility characteristics are requested from the immunization providers who were identified during the household telephone surveys.

Data are weighted to be representative of the general population of children 24 months of age, and are adjusted to account for multiple phone lines, mixed telephone lines (i.e., landline and cellular), household nonresponse, and the exclusion of phoneless households.

The NIS provides national and state estimates of vaccination coverage, including new vaccines as they are licensed and recommended for use. Survey year 2018 was the first year that influenza vaccination coverage was included. The NIS also tracks progress towards **Healthy People 2020 goals**.

## Methodology

CDC changed the way that NIS results are reported starting with the 2018 survey (published **October 2019**). In the past, results were reported for children 19-35 months of age at the time of the survey. Now, coverage for most vaccines is estimated at 24 months of age, by birth year, using Kaplan-Meier analysis. For example, "90 percent vaccination coverage for 1+MMR among children born in 2015 -2016" means that for all children born in either 2015 or 2016, by the last day those children were 2 years old 90 percent of them had received at least one dose of MMR vaccine.

Coverage for certain vaccines (Hepatitis B birth dose and Rotavirus) is reported at younger ages because they should be completed before 24 months. The Hepatitis B birth dose should be given within the first three days of life and the rotavirus series should be completed by 8 months of age.

Coverage estimates for children born in 2016 are considered preliminary, because some children had not yet reached 24 months of age at the time of the most recent survey. Results from both the 2017 and 2018 NIS surveys were used to estimate coverage for those born in 2016.

NIS results are published annually for each CDC-grant-funded state and local immunization program, which in Texas includes the City of Houston and Bexar County. For the 2018 survey year, Texas also requested inclusion of local data from Hidalgo County and Tarrant County. Coverage rates produced by NIS are point estimates. Because a random sample of telephone numbers is taken, these rates have a statistical margin of error which is reported as the 95% confidence interval (CI). The CI reflects the expected range that the true rate would fall into 95% of the time if the survey were repeated many times. Local area coverage estimates have larger CI's than national or state estimates because fewer people complete the survey, so the estimate is based on a smaller sample.

This year, new estimates of vaccination coverage at 24 months of age were also provided by CDC starting with birth year 2011. These estimates will differ slightly from prior years' NIS-Child results generated using the previous 19- to 35-month-old methodology. However, this retrospective data allows evaluation of time trends using comparable methodology.

Detailed methodology for the survey can be found on the [CDC's NIS website](#).



## Vaccines Included in Survey

Coverage for the following vaccines which are routinely recommended for children by 24 months of age was measured in the NIS-Child survey:

- Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP/DT/DTP)
- Poliovirus vaccine (Polio)
- Measles or Measles-Mumps-Rubella vaccine (MMR)
- *Haemophilus influenzae* type b vaccine (Hib)
- Hepatitis B vaccine (HepB)
- Varicella vaccine (Var)
- Pneumococcal conjugate vaccine (PCV)
- 4:3:1:3\*:3:1:4 series
- Rotavirus vaccine (Rota)
- Hepatitis A vaccine (HepA)
- Influenza vaccine (Flu)

A new measure was added to the 2018 NIS-Child to assess coverage for at least two doses of influenza vaccine (2+ Flu) received by 24 months of age. The Advisory Committee on Immunization Practices (ACIP) recommends influenza vaccination for all people six months of age and older. For children under nine years of age, the first time a child receives a flu vaccine, a booster dose should be given four weeks later.

The 4:3:1:3\*:3:1:4 series reflects combined coverage for a series of seven key childhood vaccinations. These immunizations should be completed by two years of age as recommended by the ACIP. Coverage for the entire series is generally lower than coverage for each individual vaccine in the series because children must have received all doses of all vaccines to be counted as covered for the entire series.

The 4:3:1:3\*:3:1:4 series includes the following doses and vaccines:

- ≥4 doses of DTaP
- ≥3 doses of Polio
- ≥1 dose of MMR
- ≥3\* doses of Hib (\*3 or 4 depending on the product)
- ≥3 doses of HepB
- ≥1 dose of Var
- ≥4 doses of PCV

## Measuring HP2020 Childhood Immunization Goals

The NIS-Child can be used to assess progress toward childhood immunization goals set by the HP2020 initiative. The HP2020 goals for vaccination coverage by 19-35 months of age is 80 percent for the 4:3:1:3:3:1:4 series and for either  $\geq 2$  or  $\geq 3$  doses of rotavirus vaccine (depending on type). Although NIS results are now reported as of the time a child reaches 24 months of age, HP2020 vaccination goals are still defined at 19-35 months of age.

The HP2020 goals for the HepB birth dose and  $\geq 2$  doses of HepA by 19-35 months of age are **85 percent**.

The HP2020 goals for vaccination by 19-35 months of age are **90 percent** for:

- $\geq 4$  doses of DTaP
- $\geq 3$  or  $\geq 4$  doses of Hib (depending on type of vaccine)
- $\geq 3$  doses of Polio
- $\geq 1$  dose of MMR
- $\geq 3$  doses of HepB
- $\geq 1$  dose of Var
- $\geq 4$  dose of PCV

# Childhood Vaccination Coverage Results

## United States and Texas Results

- Vaccination coverage in Texas was significantly higher for 2+Flu among children born in 2015-2016 compared to those born in 2013-2014 (Table 1).

*Table 1. Estimated Vaccination Coverage<sup>a</sup> for Selected Vaccines, Among Children Born in 2015 and 2016<sup>b</sup> Compared to Children Born 2013-2014, NIS-Child Survey 2018.*

Vaccine	U.S. Children Born 2015-2016 <sup>b</sup>	Texas Children Born 2013-2014	Texas Children Born 2015-2016 <sup>b</sup>	Texas Percentage Point Difference
≥4 doses diphtheria, tetanus, acellular pertussis ( <b>4+DTaP</b> )	80.3%	78.6%	79.1%	+0.5%
≥3 doses inactivated poliovirus ( <b>3+Polio</b> )	92.7%	90.5%	91.2%	+0.7%
≥1 dose measles, mumps, rubella ( <b>1+MMR</b> )	90.4%	89.3%	90.3%	+1.0%
Haemophilus influenzae full series ( <b>Hib-FS</b> ) <sup>c</sup>	79.6%	77.7%	78.8%	+1.1%
1 dose Hepatitis B in first 3 days of life ( <b>HepB birth dose</b> )	75.0%	76.6%	79.4% <sup>g</sup>	+2.8%
≥3 doses Hepatitis B ( <b>3+HepB</b> )	91.0%	88.3%	89.2%	+0.9%
≥1 dose varicella ( <b>1+ Var</b> )	90.0%	89.4%	90.0%	+0.6%
≥4 doses pneumococcal conjugate ( <b>4+PCV</b> )	81.0%	80.8%	81.5%	+0.7%
≥ 1 dose Hepatitis A ( <b>1+Hep A</b> )	84.7%	87.4%	89.7% <sup>g</sup>	+2.3%
Rotavirus full series by 8 months of age ( <b>Rota</b> ) <sup>d</sup>	73.6%	71.7%	74.1%	+2.4%
≥2 doses influenza ( <b>2+ Flu</b> ) <sup>e</sup>	56.6%	44.9%	54.8%	+9.9% <sup>h</sup>
7-vaccine series ( <b>4:3:1:3:3:1:4</b> ) <sup>f</sup>	68.5%	66.4%	67.3%	+0.9%

<sup>a</sup> Coverage estimates are at 24 months of age unless otherwise noted (i.e. rotavirus vaccination coverage assessed at 8 months)

<sup>b</sup> Data for the 2016 birth year are considered preliminary and are based on survey years 2017 and 2018

<sup>c</sup> Full series (FS) of either 3 or 4 doses of *Hib* conjugate vaccine, depending on vaccine type

<sup>d</sup> Either ≥2 or ≥3 doses of rotavirus vaccine, depending on product used, by 8 months of age

<sup>e</sup> Flu doses must be at least 24 days apart (four weeks, with a four-day grace period)

<sup>f</sup> 4:3:1:3:3:1:4 includes 4+ DTaP (diphtheria, tetanus and acellular pertussis), 3+ polio, 1+ MMR (measles, mumps and rubella), 3 or 4 doses Hib, depending on vaccine type, 3+ Hep B, 1+ varicella, and 4+ PCV

<sup>g</sup> Statistically significantly higher coverage than U.S. average for same birth cohort (p<0.05)

<sup>h</sup> Statistically significant difference from zero (p<0.05)

- While Texas coverage was similar to the U.S. average for many vaccines, coverage in Texas was significantly higher than the national average for the Hep B birth dose and 1+ Hep A by 24 months of age (Tables 1 & 2).

*Table 2. NIS-Child 2018 Estimated Vaccination Coverage<sup>a</sup> and 95% Confidence Intervals (CI's) in Texas and U.S., for children born in 2015 and 2016.<sup>b</sup>*

Vaccine	U.S. Coverage Estimate (%)	U.S. 95% Confidence Interval	TX Coverage Estimate (%)	TX 95% Confidence Interval
4+DTaP	80.3	79.0–81.5	79.1	76.8–81.3
3+Polio	92.7	92.0–93.4	91.2	89.5–92.7
1+MMR	90.4	89.5–91.2	90.3	88.6–91.9
Hib-FS <sup>c</sup>	79.6	78.3–80.9	78.8	76.5–81.1
HepB birth dose	75.0	73.7–76.2	79.4 <sup>e</sup>	77.1–81.6
3+HepB	91.0	90.2–91.9	89.2	87.4–90.9
1+Var	90.0	89.1–90.9	90.0	88.2–91.6
4+PCV	81.0	79.8–82.3	81.5	79.3–83.7
1+HepA	84.7	83.6–85.8	89.7 <sup>e</sup>	88.0–91.4
Rota	73.6	72.2–74.9	74.1	71.6–76.4
2+Flu	56.6	55.2–58.0	54.8	52.1–57.5
4:3:1:3 <sup>c</sup> :3:1:4 <sup>d</sup>	68.5	67.1–69.9	67.3	64.6–69.9

<sup>a</sup> Coverage estimates are at 24 months of age unless otherwise noted (i.e. rotavirus vaccination coverage assessed at 8 months)

<sup>b</sup> Data for the 2016 birth year are considered preliminary and come from survey years 2017 and 2018

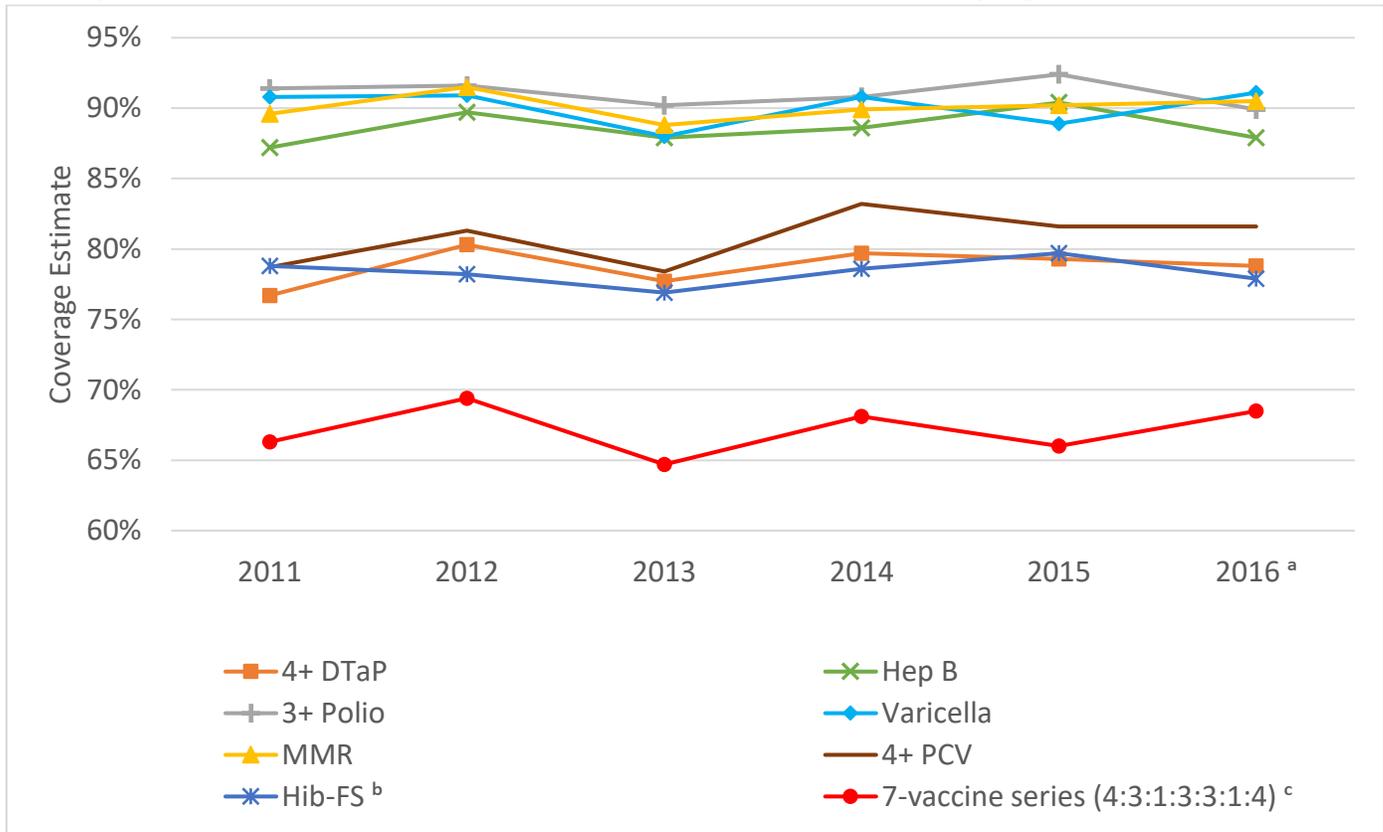
<sup>c</sup> Full series (FS) of either 3 or 4 doses of *Hib* conjugate vaccine, depending on vaccine type

<sup>d</sup> 4:3:1:3:3:1:4 includes 4+ DTaP, 3+ polio, 1+ MMR, 3 or 4 doses Hib depending on product, 3+ Hep B, 1+ varicella and 4+ PCV

<sup>e</sup> Statistically significant difference between coverage in TX vs U.S. (p<0.05)

- Coverage for most of the vaccines that make up the 4:3:1:3:3:1:4 series has been stable for the past several years (Figure 1). The 4:3:1:3:3:1:4 series should be completed by 2 years of age, and coverage for this series indicates the level of overall compliance with the ACIP-recommended vaccination schedule.

Figure 1. NIS-Child 2018 Vaccination Coverage Estimates in Texas for DTaP, Polio, MMR, Hib-FS, Hep B, Varicella, PCV, and 4:3:1:3:3:1:4 Series at 24 Months of Age, Birth Year 2011-2016<sup>a</sup>.



<sup>a</sup> Data for the 2016 birth year are considered preliminary and come from survey years 2017 and 2018

<sup>b</sup> Full series (FS) of either 3 or 4 doses of *Hib* conjugate vaccine, depending on vaccine type

<sup>c</sup> 4:3:1:3:3:1:4 includes 4+ DTaP, 3+ polio, 1+ MMR, 3 or 4 doses Hib depending on product, 3+ Hep B, 1+ varicella and 4+ PCV

Figure 2. NIS-Child 2018 Vaccination Coverage Estimates and 95% Confidence Intervals (CI's) in Texas and U.S., for children born in 2015 and 2016.

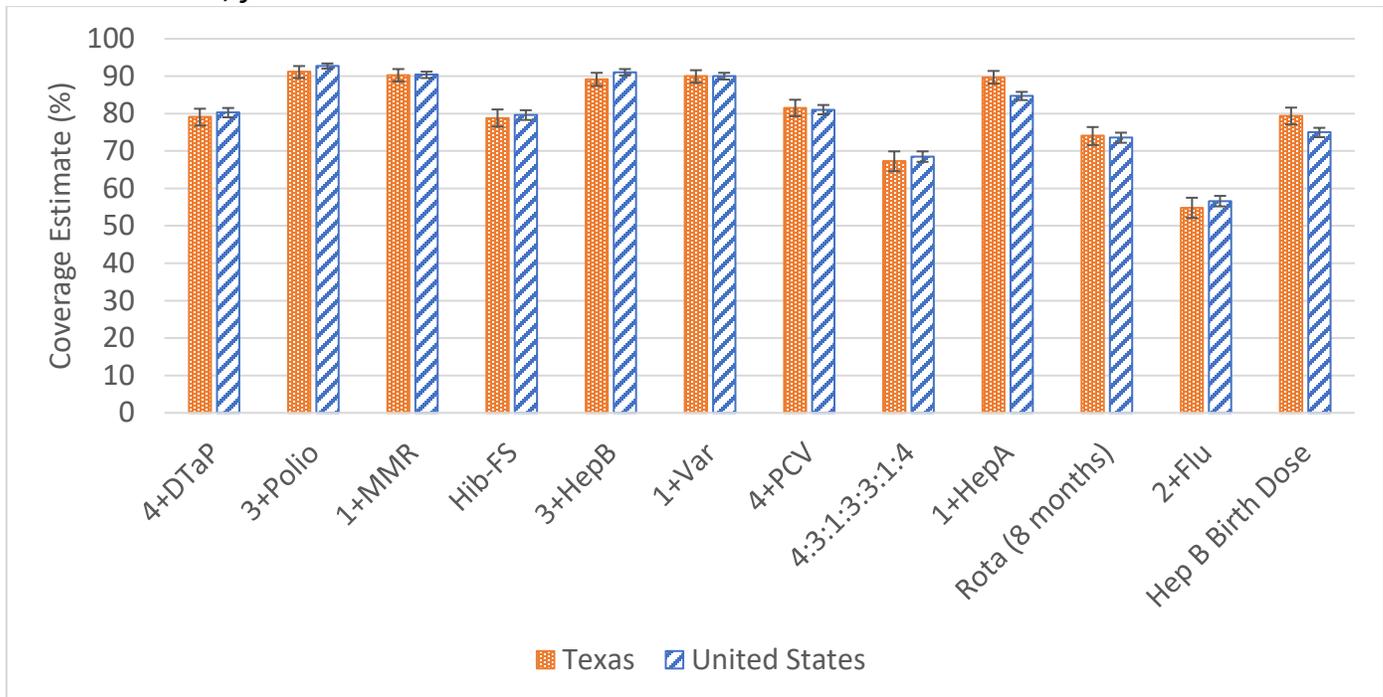


Figure 3. NIS-Child 2018 Vaccination Coverage Estimates for Selected Vaccines and 4:3:1:3:3:1:4 Series, for Texas Children Born 2011-2016 by Birth Year.

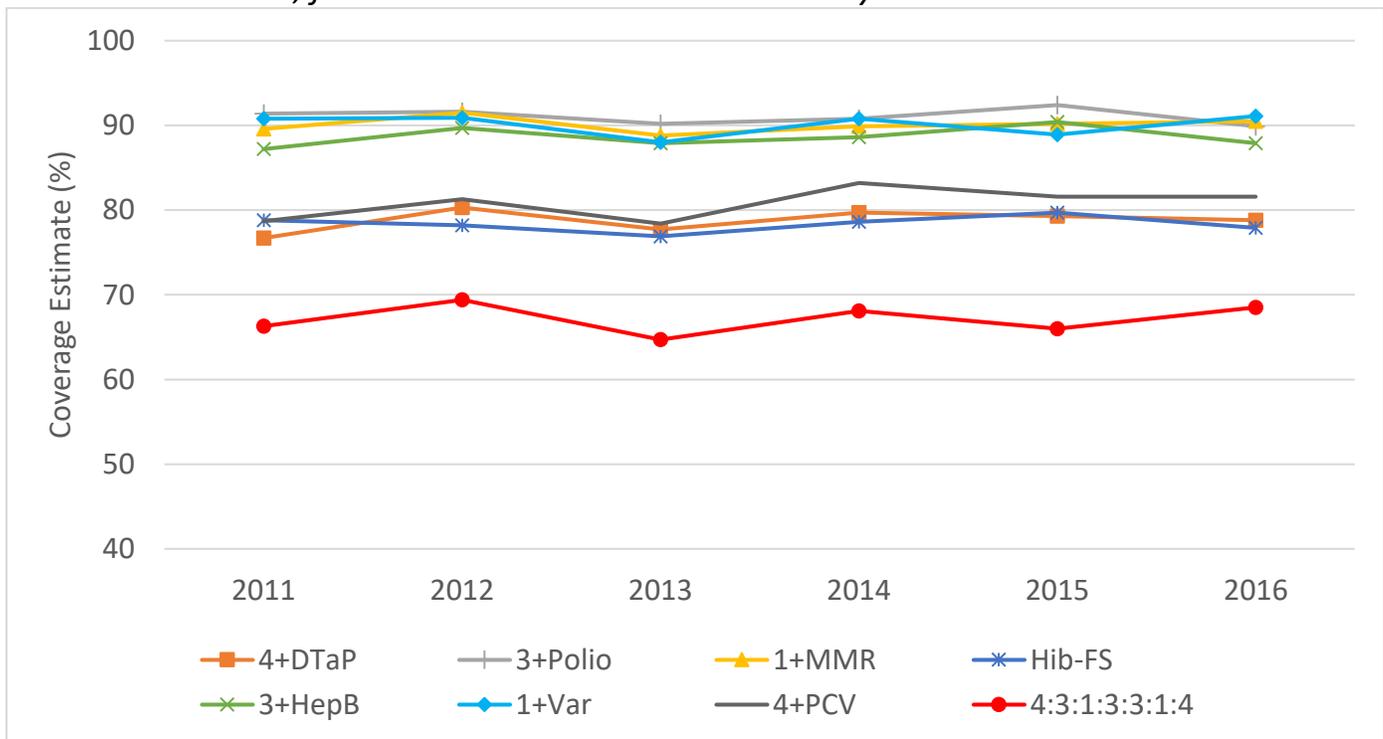
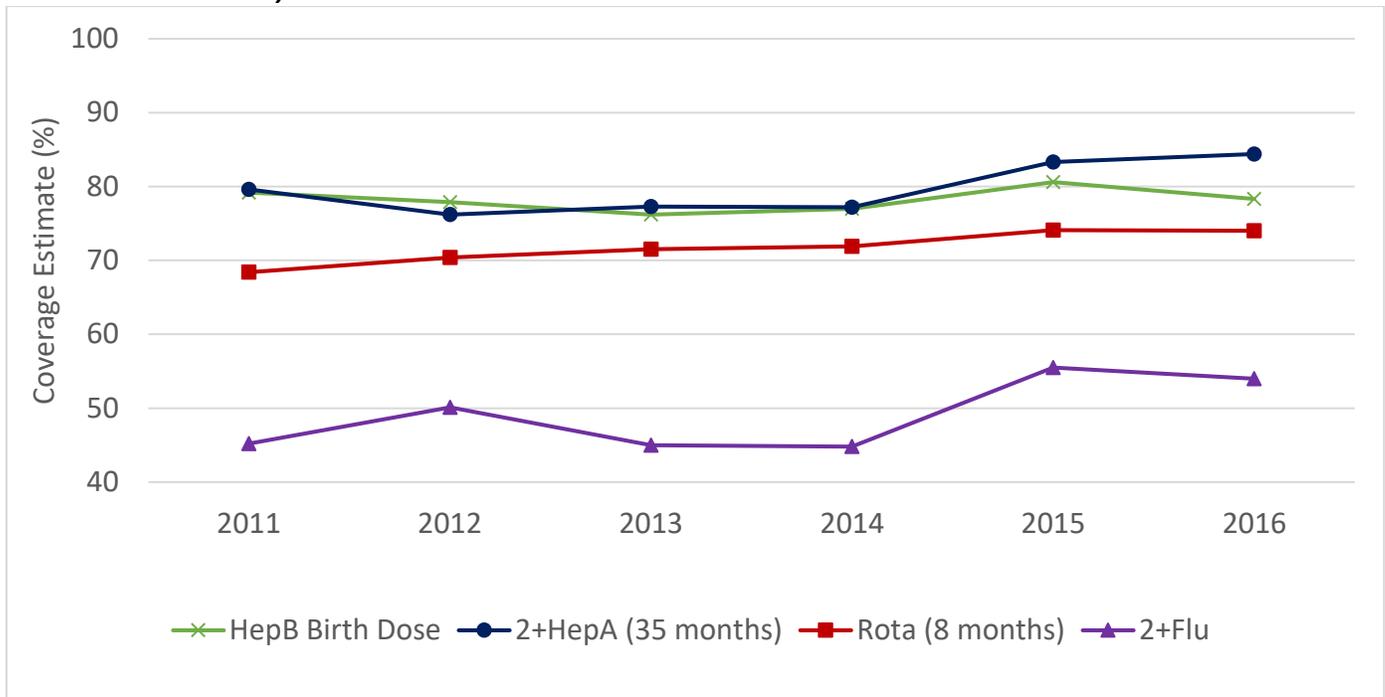


Figure 4. NIS-Child Vaccination Coverage Estimates for Selected Vaccines, for Texas Children Born 2011-2016 by Birth Year.



Note: Rotavirus coverage showed a significant average annual increase from birth year 2011 to 2016.

## HP2020 Goals for Early Childhood Vaccines

Progress toward HP2020 goals are designated as follows:

- “Exceeds” if the coverage estimate and CI are all higher than the coverage goal
- “Meets” if the coverage estimate is higher than the goal but the CI includes the goal
- “Does not meet” if the coverage estimate is lower than the goal

Based on coverage estimates alone, the U.S. and Texas met or exceeded HP2020 goals of 90 percent coverage for Polio, MMR and Varicella vaccination. The U.S. exceeded the goal of 90 percent coverage for HepB vaccination, but Texas did not meet that goal. Among vaccines where coverage meets but does not exceed the goal, 90 percent remains within the CI for the estimated coverage, as shown in Table 3. This indicates that the true coverage could be just above or just below the goal, so there continues to be room for improvement. HP2020 goals were not met in Texas for DTaP, Hib-FS, HepB birth dose, 3+HepB, PCV, HepA, Rota or the 4:3:1:3:3:1:4 series.

Table 3. HP2020 Goals<sup>a</sup> Compared with NIS-Child 2018 Vaccination Coverage Estimates for Children Born 2015-2016<sup>b</sup>.

Vaccine	HP2020 Coverage Goal	U.S. Coverage (Estimate and 95% CI)	U.S. Outcome	Texas Coverage (Estimate and 95% CI)	Texas Outcome
4+DTaP	90%	80.3 (79.0-81.5)	Does not meet	79.1 (76.8-81.3)	Does not meet
3+Polio	90%	92.7 (92.0-93.4)	Exceeds	91.2 (89.5-92.7)	Meets
1+MMR	90%	90.4 (89.5-91.2)	Meets	90.3 (88.6-91.9)	Meets
Hib-FS	90%	79.6 (78.3-80.9)	Does not meet	78.8 (76.5-81.1)	Does not meet
3+HepB	90%	91.0 (90.2-91.9)	Exceeds	89.2 (87.4-90.9)	Does not meet
1+Var	90%	90.0 (89.1-90.9)	Meets	90.0 (88.2-91.6)	Meets
4+PCV	90%	81.0 (79.8-82.3)	Does not meet	81.5 (79.3-83.7)	Does not meet
HepB birth dose	85%	75.0 (73.7-76.2)	Does not meet	79.4 (77.1-81.6)	Does not meet
2+HepA	85%	76.6 (74.7-78.4)	Does not meet	84.0 (80.0-87.6)	Meets
Rota	80%	73.6 (72.2-74.9)	Does not meet	74.1 (71.6-76.4)	Does not meet
4:3:1:3:3:1:4	80%	68.5 (67.1-69.9)	Does not meet	67.3 (64.6-69.9)	Does not meet

<sup>a</sup> HP2020 goals are for children to receive all vaccinations listed by 19-35 months of age, except for the HepB Birth Dose which should be completed within the first three days of life. NIS-Child coverage estimates are calculated at 24 months of age except for the HepB Birth Dose within the first three days of life, Rota by 8 months of age, and 2+HepA by 35 months of age.

<sup>b</sup> Coverage estimates for children born in 2016 are preliminary and come from survey years 2017 and 2018.

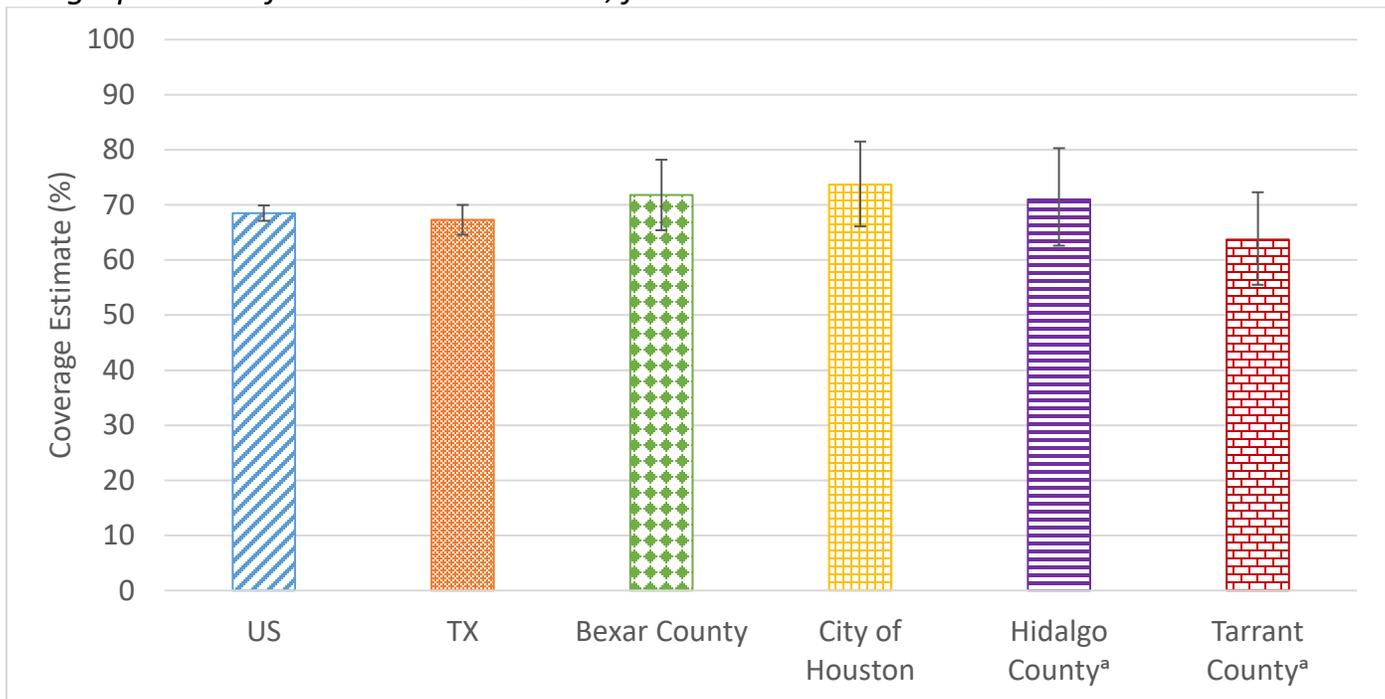
## Local Coverage for Select Areas in Texas

### Overview

The 2018 NIS-Child survey included coverage estimates for five local areas in Texas.

- The City of Houston and Bexar County are included in the survey each year, and Hidalgo and Tarrant Counties were surveyed this year only.
- Vaccination coverage rates for each of these local areas are summarized in Figures 5-8. Additional details follow on each local area's vaccination coverage.

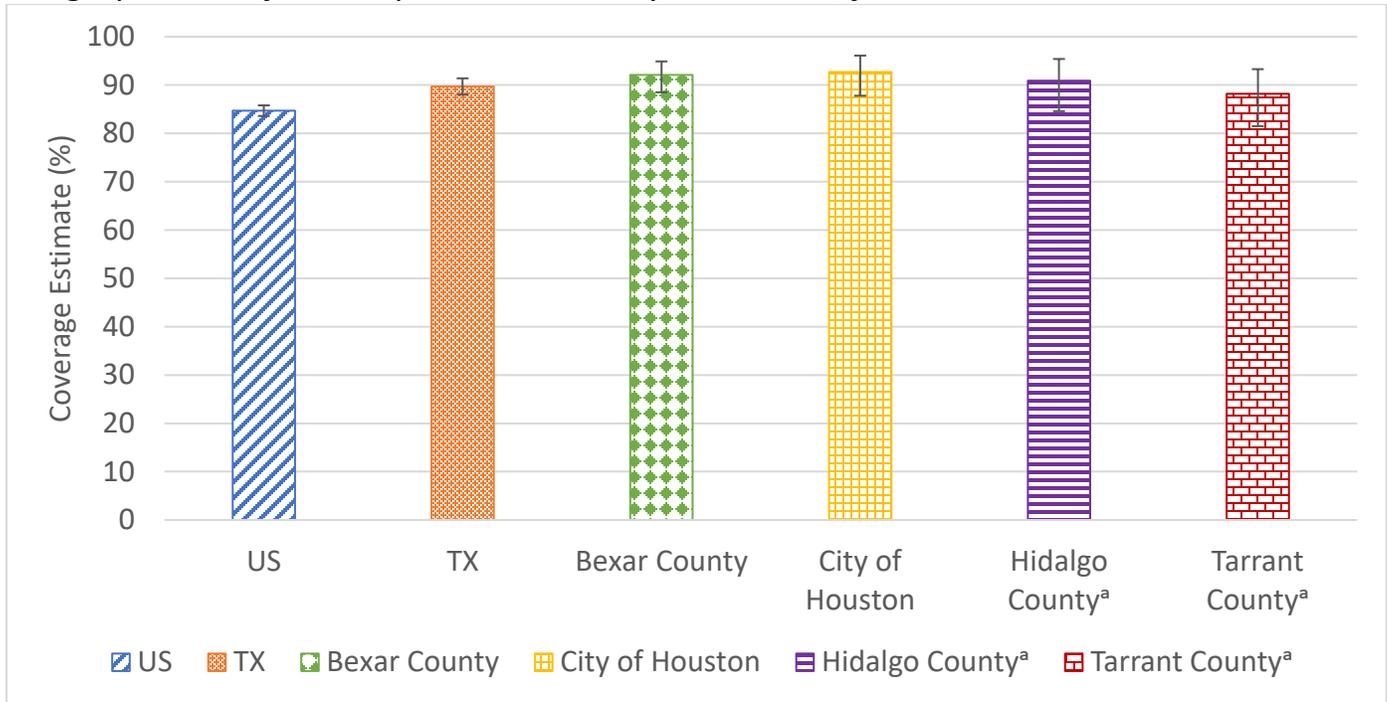
*Figure 5. NIS-Child 2018 Vaccination Coverage Estimates and 95% Confidence Intervals (CI's) by Geographic Area for 4:3:1:3:3:1:4 Series, for Children Born in 2015 and 2016.*



<sup>a</sup>Hidalgo and Tarrant Counties were sampled in 2018 only; all other areas of Texas were sampled in 2016, 2017, and 2018

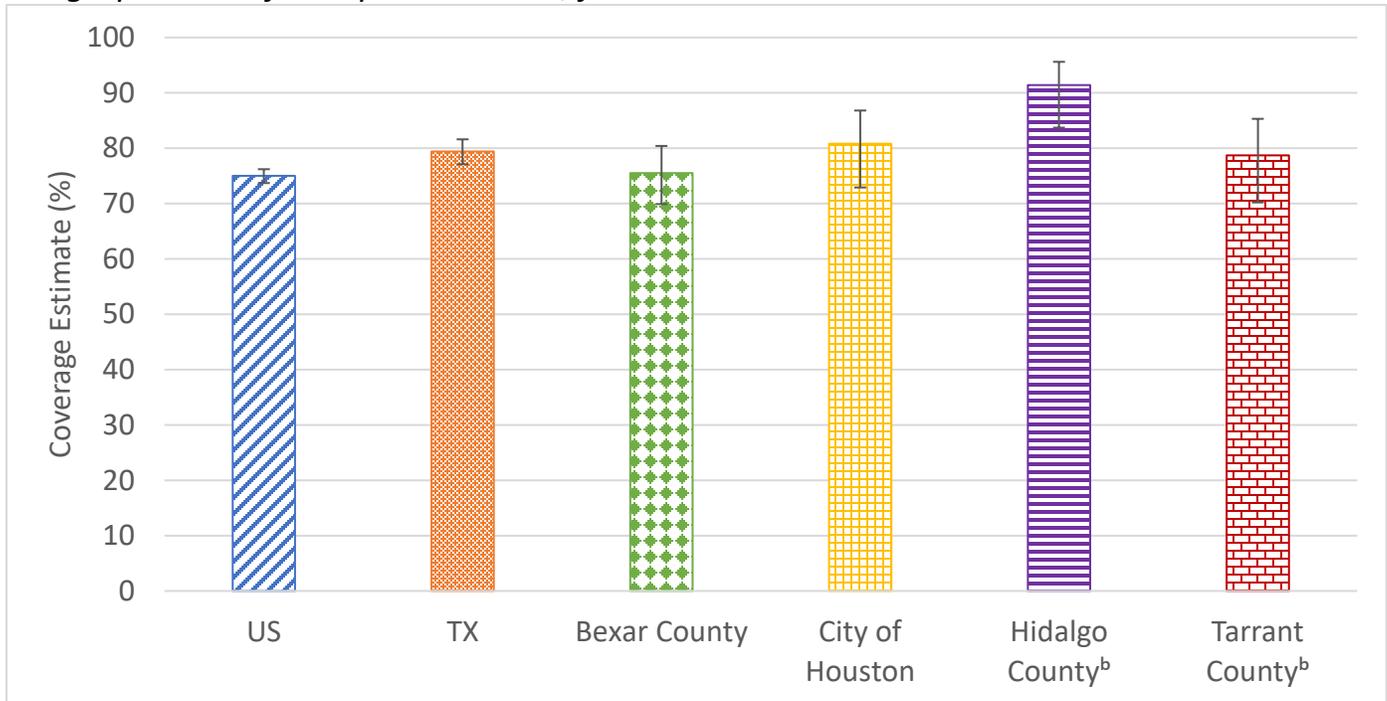
Note: No statistically significant differences in coverage between areas

**Figure 6. NIS-Child Vaccination Coverage Estimates and 95% Confidence Intervals (CI's) by Geographic Area for 1+HepA Vaccination by 24 Months, for Children Born in 2015 and 2016.<sup>a</sup>**



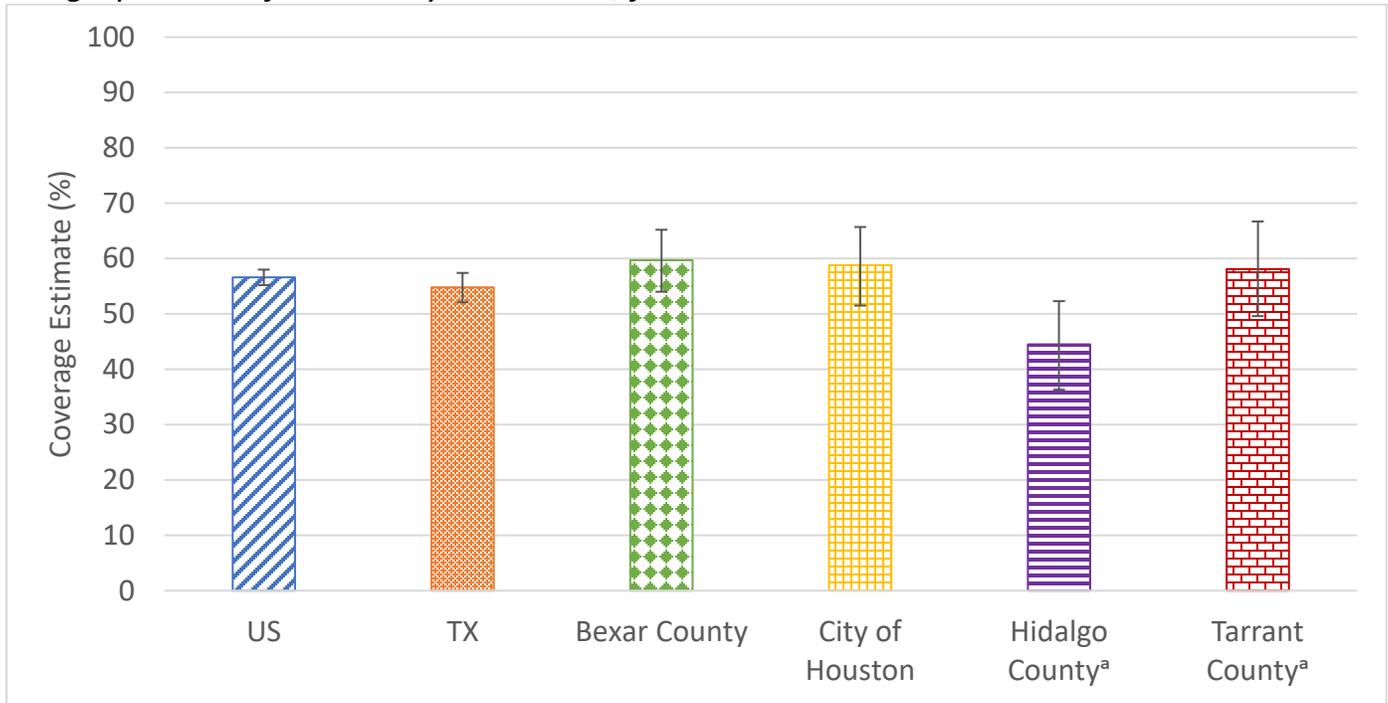
<sup>a</sup>Hidalgo and Tarrant Counties were sampled in 2018 only; all other areas of Texas were sampled in 2016, 2017, and 2018  
 Note: Texas, City of Houston and Bexar County 1+HepA coverage significantly higher than U.S. ( $p < 0.05$ )

**Figure 7. NIS-Child Vaccination Coverage Estimates and 95% Confidence Intervals (CI's) by Geographic Area for HepB Birth Dose, for Children Born in 2015 and 2016.<sup>a</sup>**



<sup>a</sup>Hidalgo and Tarrant Counties were sampled in 2018 only; all other areas of Texas were sampled in 2016, 2017, and 2018  
 Note: Texas and Hidalgo County HepB Birth Dose coverage significantly higher than U.S., and Hidalgo County coverage significantly higher than Texas overall ( $p < 0.05$ )

**Figure 8. NIS-Child Vaccination Coverage Estimates and 95% Confidence Intervals (CI's) by Geographic Area for 2+Flu by 24 Months, for Children Born in 2015 and 2016.<sup>a</sup>**



<sup>a</sup>Hidalgo and Tarrant Counties were sampled in 2018 only; all other areas of Texas were sampled in 2016, 2017, and 2018

Note: Hidalgo County 2+Flu coverage significantly lower than U.S. ( $p < 0.05$ )

## City of Houston

- Vaccination coverage in the City of Houston was significantly higher for 2+Flu among children born in 2015-2016 compared to those born in 2013-2014 (Table 4).
- Houston vaccination coverage was similar to overall Texas coverage for many vaccines. Coverage in Houston was significantly higher than the national average for children receiving 1+HepA by 24 months of age (Figure 9).
- Most vaccination coverage rates have remained steady across children born 2011 to 2016 (Figures 10 & 11). Varicella vaccination coverage in Houston showed a significant average annual increase over that period (Figure 10).

*Table 4. Estimated Vaccination Coverage<sup>a</sup> for Selected Vaccines, Among Children Born in 2015 and 2016<sup>b</sup> Compared to Children Born 2013-2014, City of Houston NIS-Child Survey 2018.*

Vaccine	Texas Children born 2015-2016 <sup>b</sup>	City of Houston Children born 2013-2014	City of Houston Children born 2015-2016 <sup>b</sup>	City of Houston Percentage point difference
4+DTaP	79.1%	81.1	81.6	+0.5
3+Polio	91.2%	91.6	93.3	+1.7
1+MMR	90.3%	91.3	93.2	+2.0
Hib-FS <sup>c</sup>	78.8%	80.3	81.2	+0.8
Hep B Birth Dose	79.4%	80.9	80.8	-0.2
3+HepB	89.2%	89.2	92.3	+3.1
1+Var	90.0%	91.1	93.7	+2.6
4+PCV	81.5%	85.3	83.3	-2.0
1+HepA	89.7%	88.9	92.7	+3.8
Rota <sup>d</sup>	74.1%	75.2	76.0	+0.8
2+ Flu <sup>e</sup>	54.8%	48.5	58.8	+10.3 <sup>g</sup>
4:3:1:3 <sup>b</sup> :3:1:4 <sup>f</sup>	67.3%	70.1	73.7	+3.6

<sup>a</sup> Coverage estimates are at 24 months unless otherwise noted (i.e. rotavirus vaccination coverage assessed at 8 months)

<sup>b</sup> Data for the 2016 birth year are considered preliminary and are based on survey years 2017 and 2018

<sup>c</sup> Full series (FS) of either 3 or 4 doses of *Hib* conjugate vaccine, depending on vaccine type

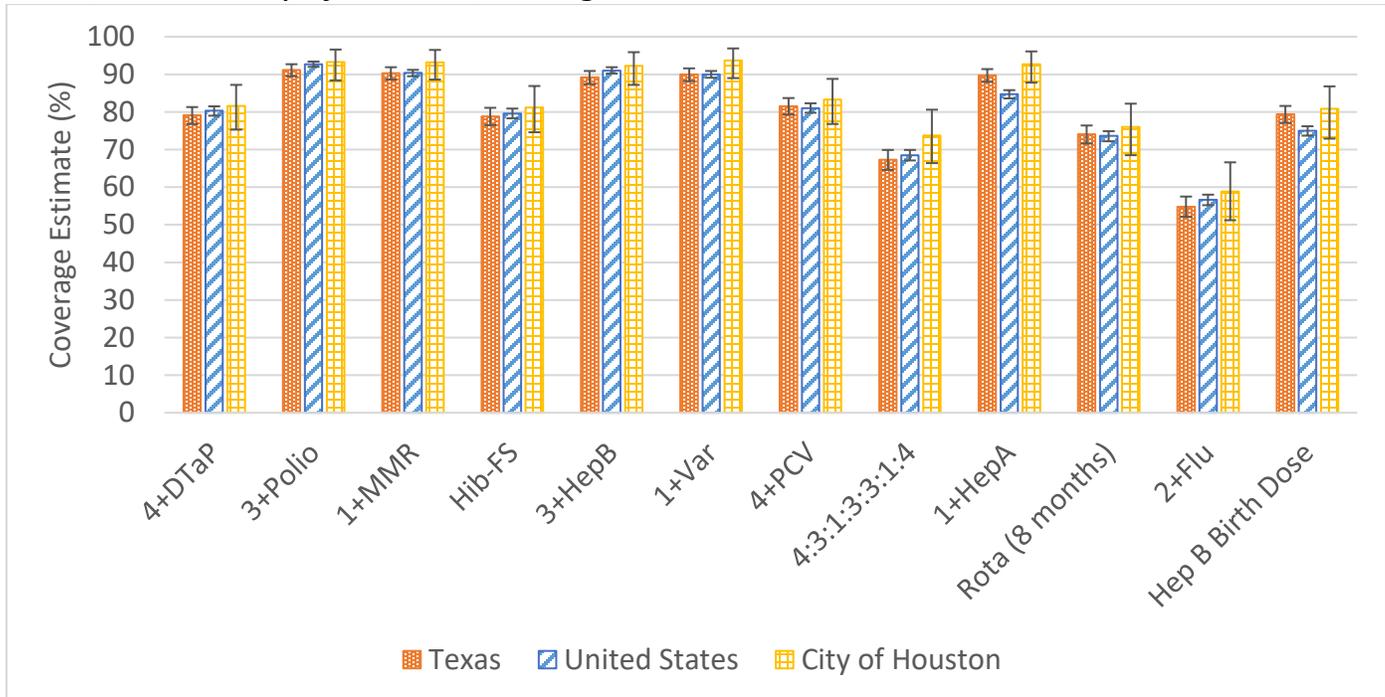
<sup>d</sup> Either ≥2 or ≥3 doses of rotavirus vaccine, depending on product used, by 8 months of age

<sup>e</sup> Doses must be at least 24 days apart (four weeks, with a four-day grace period)

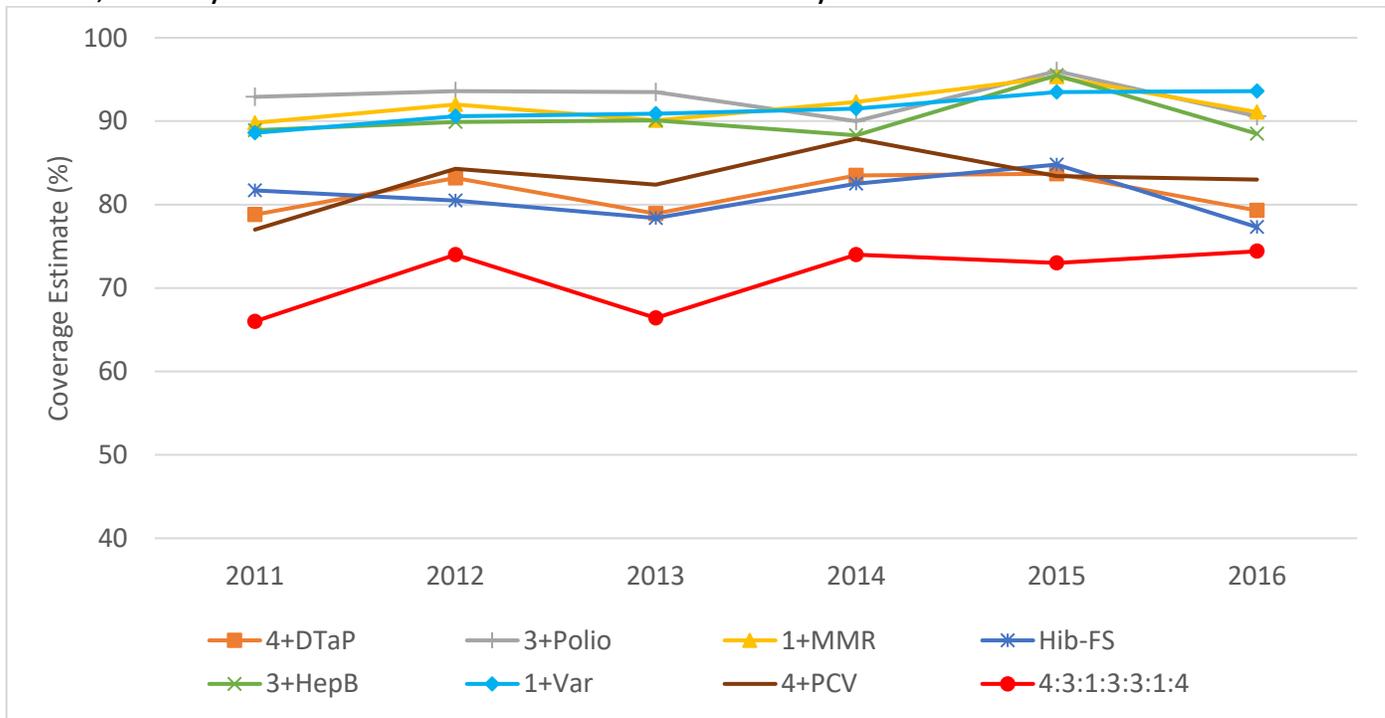
<sup>f</sup> 4:3:1:3:3:1:4 includes 4+ DTaP, 3+ polio, 1+ MMR, 3 or 4 doses Hib, depending on vaccine type, 3+ Hep B, 1+ varicella, and 4+ PCV

<sup>g</sup> Statistically significant difference from zero (p<0.05)

**Figure 9. NIS-Child Vaccination Coverage Estimates and 95% Confidence Intervals (CI's) in Texas, U.S. and City of Houston, Among Children Born in 2015 and 2016.**

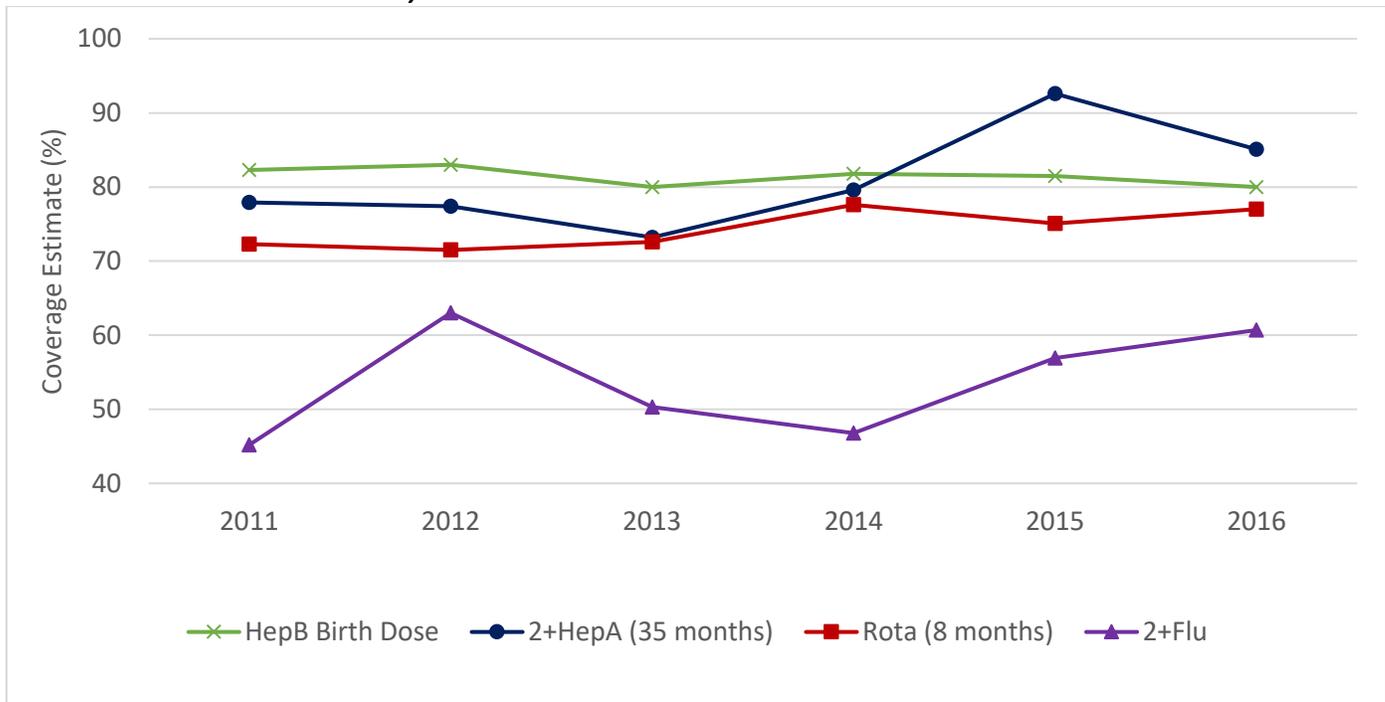


**Figure 10. NIS-Child Vaccination Coverage Estimates for Selected Vaccines and 4:3:1:3:3:1:4 Series, for City of Houston Children Born 2011-2016 by Birth Year**



Note: Statistically significant average annual increase in Varicella coverage from birth year 2011 to 2016.

Figure 11. NIS-Child Vaccination Coverage Estimates for Selected Vaccines, for City of Houston Children Born 2011-2016 by Birth Year.



## Bexar County

- Vaccination coverage in Bexar County increased significantly for many vaccines (DTaP, Polio, MMR, Hib-FS, Var, Rota, Flu and the 4:3:1:3:3:1:4 series) among children born in 2015-2016 compared to those born in 2013-2014 (Table 5).
- Bexar County vaccination coverage was significantly higher than the national average for 1+ HepA dose received by 24 months of age (Figure 12).
- Most vaccination coverage rates remained steady across children born 2011 to 2016 (Figures 12 & 13). Coverage in Bexar County for 2+Flu showed a significant average annual increase over that period (Figure 13).

*Table 5. Estimated Vaccination Coverage<sup>a</sup> for Selected Vaccines, Among Children Born in 2015 and 2016<sup>b</sup> Compared to Children Born 2013-2014, Bexar County NIS-Child Survey 2018.*

Vaccine	Texas Children born 2015-2016 <sup>b</sup>	Bexar County Children born 2013-2014	Bexar County Children born 2015-2016 <sup>b</sup>	Bexar County Percentage point difference
4+DTaP	79.1%	72.6	82.1	+9.6 <sup>g</sup>
3+Polio	91.2%	87.9	94.8	+6.9 <sup>g</sup>
1+MMR	90.3%	87.9	94.2	+6.3 <sup>g</sup>
Hib-FS <sup>c</sup>	78.8%	74.1	83.4	+9.3 <sup>g</sup>
Hep B Birth Dose	79.4%	72.3	75.5	+3.2
3+HepB	89.2%	88.3	91.9	+3.6
1+Var	90.0%	88.6	93.8	+5.2 <sup>g</sup>
4+PCV	81.5%	77.3	82.3	+5.0
1+HepA	89.7%	88.0	92.1	+4.1
Rota <sup>d</sup>	74.1%	67.4	75.7	+8.3 <sup>g</sup>
2+ Flu <sup>e</sup>	54.8%	47.0	59.7	+12.7 <sup>g</sup>
4:3:1:3 <sup>b</sup> :3:1:4 <sup>f</sup>	67.3%	60.5	71.8	+11.3 <sup>g</sup>

<sup>a</sup> Coverage estimates are at 24 months unless otherwise noted (i.e. rotavirus vaccination coverage assessed at 8 months)

<sup>b</sup> Data for the 2016 birth year are considered preliminary and are based on survey years 2017 and 2018

<sup>c</sup> Full series (FS) of either 3 or 4 doses of *Hib* conjugate vaccine, depending on vaccine type

<sup>d</sup> Either ≥2 or ≥3 doses of rotavirus vaccine, depending on product used, by 8 months of age

<sup>e</sup> Doses must be at least 24 days apart (four weeks, with a four-day grace period)

<sup>f</sup> 4:3:1:3:3:1:4 includes 4+ DTaP, 3+ polio, 1+ MMR, 3 or 4 doses Hib, depending on vaccine type, 3+ Hep B, 1+ varicella, and 4+ PCV

<sup>g</sup> Statistically significant difference from zero (p<0.05)

Figure 12. NIS-Child Vaccination Coverage Estimates and 95% Confidence Intervals (CI's) in Texas, U.S. and Bexar County, Among Children Born in 2015 and 2016.

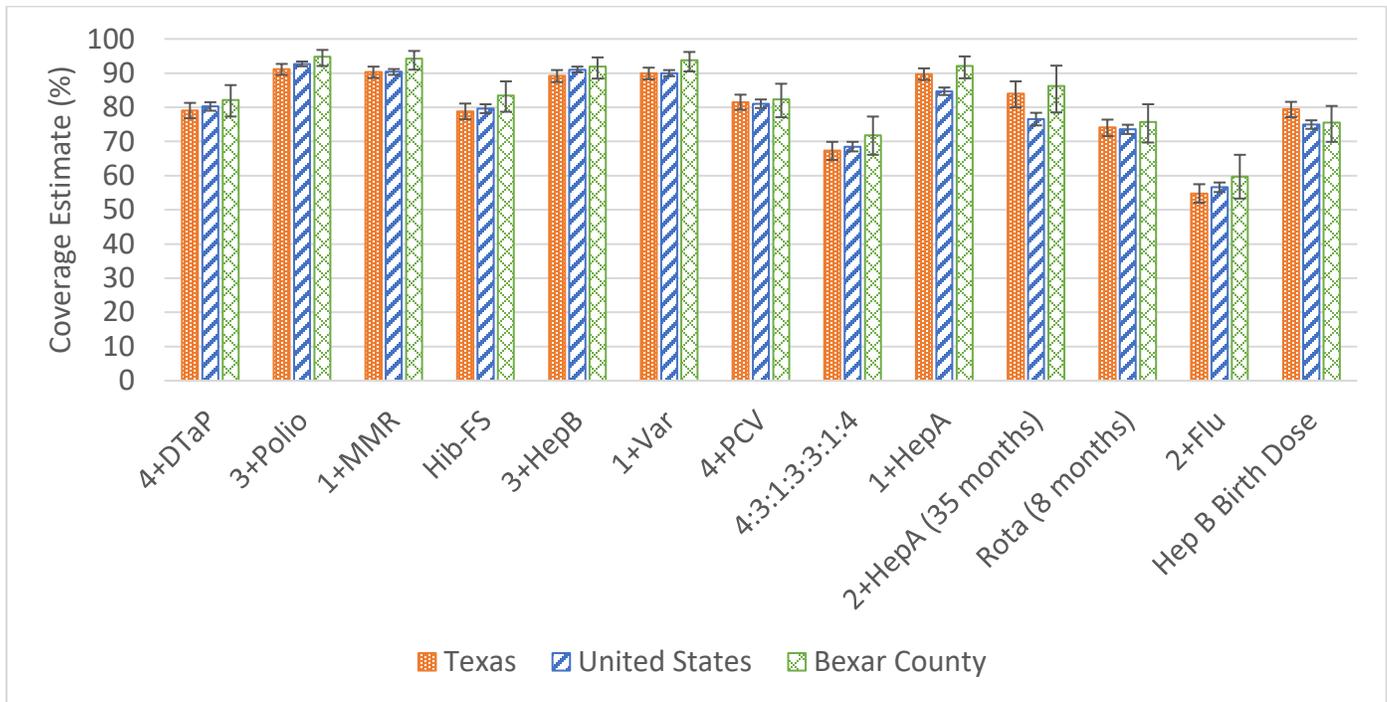


Figure 13. NIS-Child Vaccination Coverage Estimates for Selected Vaccines and 4:3:1:3:3:1:4 Series, for Bexar County Children Born 2011-2016<sup>a</sup> by Birth Year.

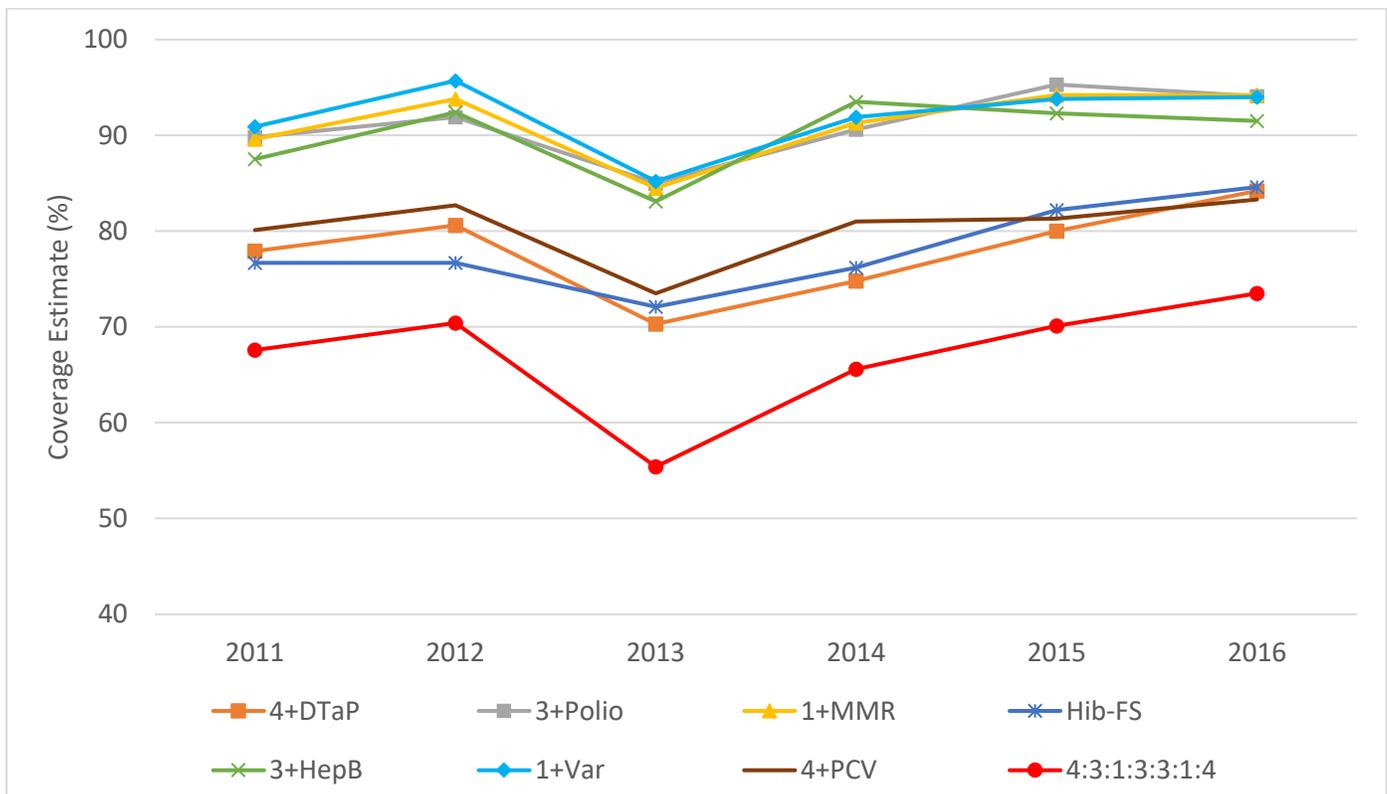
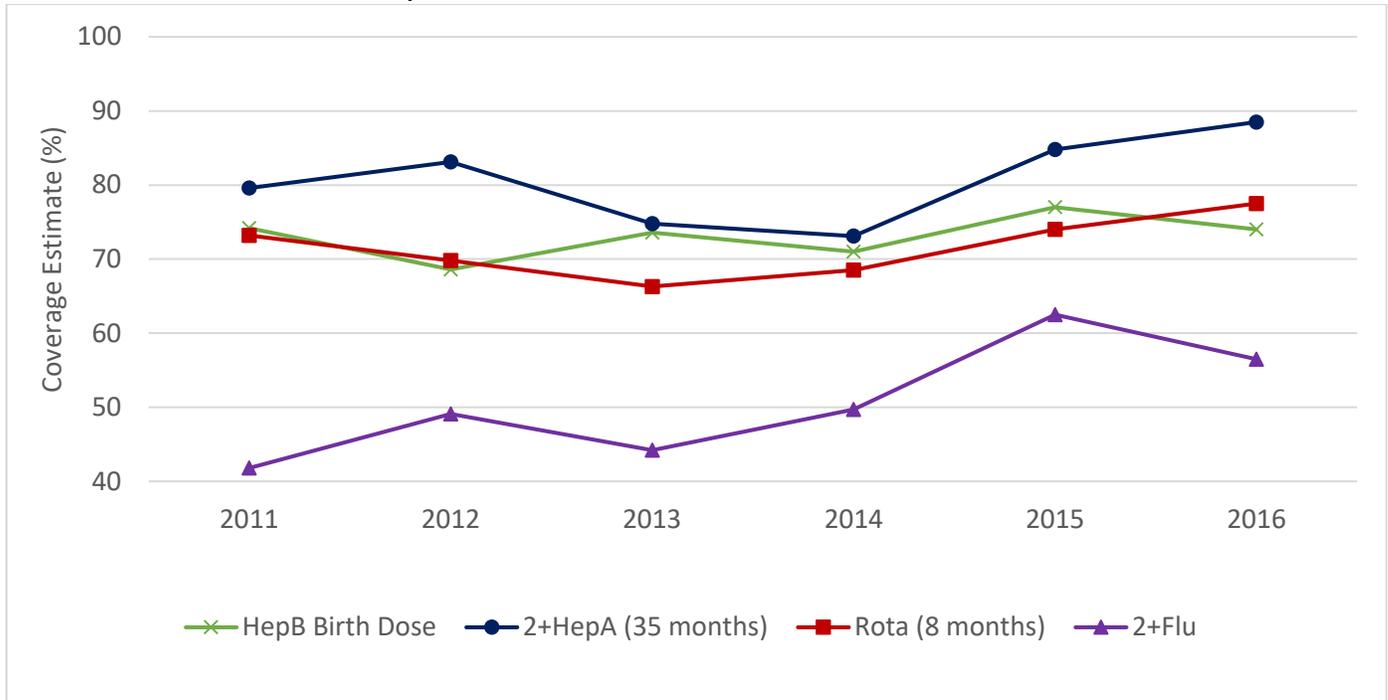


Figure 14. NIS-Child Vaccination Coverage Estimates for Selected Vaccines, for Bexar County Children Born 2011-2016 by Birth Year.



Note: Statistically significant average annual increase in 2+ Flu coverage from birth year 2011 to 2016.

## Hidalgo and Tarrant Counties

- Coverage in Hidalgo County for the Hep B birth dose (91.4 percent) was significantly higher than coverage in Texas and the U.S. average (Table 6 and Figure 15).
- Vaccination coverage for 2+Flu was 44.5 percent in Hidalgo County, which was significantly lower than the national average (Figure 15).
- Vaccination coverage in Tarrant County for the vaccines evaluated was not significantly different from the statewide average (Table 6).

*Table 6. Estimated Vaccination Coverage<sup>a</sup> and 95% Confidence Intervals (CI's) in Texas, Hidalgo County and Tarrant County, Among Children Born in 2015 and 2016<sup>b</sup>, NIS-Child 2018.*

Vaccine	Texas	Hidalgo County	Tarrant County
	Coverage Estimate and CI	Coverage Estimate and CI	Coverage Estimate and CI
4+DTaP	79.1 (76.8-81.3)	77.8 (70.1-84.7)	75.5 (67.7-82.7)
1+MMR	90.3 (88.6-91.9)	87.8 (80.9-93.0)	89.3 (82.6-94.3)
HepB birth dose	79.4 (77.1-81.6)	91.4 (83.7-95.6) <sup>g</sup>	78.7 (70.2-85.3)
1+HepA	89.7 (88.0-91.4)	90.9 (84.6-95.4)	88.2 (81.5-93.3)
Rota <sup>d</sup>	74.1 (71.6-76.4)	70.8 (61.4-78.7)	69.5 (60.7-77.1)
2+Flu <sup>e</sup>	54.8 (52.1-57.5)	44.5 (36.1-53.8)	58.1 (49.9-66.7)
4:3:1:3 <sup>c</sup> :3:1:4 <sup>f</sup>	67.3 (64.6-69.9)	71.0 (62.8-78.8)	63.7 (55.2-72.3)

<sup>a</sup> Coverage estimates are at 24 months unless otherwise noted (i.e. rotavirus vaccination coverage assessed at 8 months)

<sup>b</sup> Data for the 2016 birth year are considered preliminary and are based on survey years 2017 and 2018

<sup>c</sup> Full series (FS) of either 3 or 4 doses of *Hib* conjugate vaccine, depending on vaccine type

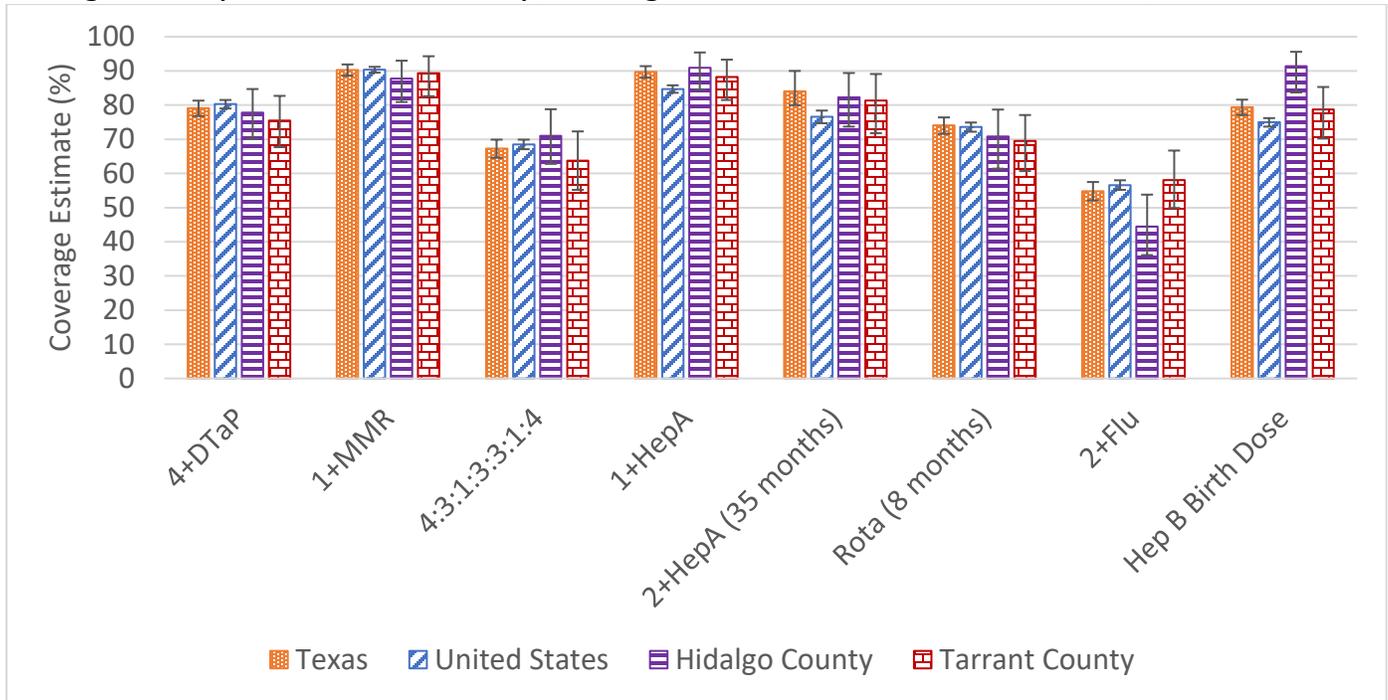
<sup>d</sup> Either ≥2 or ≥3 doses of rotavirus vaccine, depending on product used, by 8 months of age

<sup>e</sup> Doses must be at least 24 days apart (four weeks, with a four-day grace period)

<sup>f</sup> 4:3:1:3:3:1:4 includes 4+ DTaP, 3+ polio, 1+ MMR, 3 or 4 doses Hib, depending on vaccine type, 3+ Hep B, 1+ varicella, and 4+ PCV

<sup>g</sup> Statistically significant difference from Texas coverage (p<0.05)

Figure 15. Vaccination Coverage Estimates and 95% Confidence Intervals (CI's) in Texas, Hidalgo County and Tarrant County, Among Children Born in 2015 and 2016, NIS-Child 2018.



## Conclusion

Vaccines are considered one of the most successful achievements in public health with tremendous results in reducing, or in some cases eliminating, diseases in the United States. Attaining and maintaining high vaccination coverage levels is important because a highly vaccinated population reduces the incidence of communicable disease and safeguards the health of Texans. The data from NIS-Child provide valuable information about Texas' progress towards reaching vaccination coverage goals.

Texas DSHS Immunization Unit makes childhood vaccination a priority to protect our state from vaccine preventable diseases.

- The Vaccine Operations Group, in coordination with the Vaccine Management Group and regional and local health departments, manages the Texas Vaccines for Children (TVFC) program. This program ensures availability and reliability of vaccines for Texas children including those who do not have health insurance, are underinsured or are eligible for Medicaid. Program activities include ensuring TVFC eligible children are receiving the recommended vaccines, identifying missed opportunities for vaccination and helping TVFC providers improve their immunization rates.
- Texas' immunization registry, ImmTrac2, was upgraded in 2017 to better serve the needs of Texans. Parents are encouraged to use ImmTrac2 to keep track of their child's immunizations, which is particularly helpful for school and childcare enrollment. ImmTrac2 obtains and securely stores immunization records from healthcare providers for children whose parents have given consent to include them in the registry.
- The Public Information, Education, and Training Group provides printed materials, develops messaging for outreach campaigns, and offers training for providers, schools, health departments, and other stakeholders on various immunization topics.
- The Assessment, Compliance, and Evaluation Group oversees immunization requirements for school attendance which includes monitoring compliance for vaccines required for enrollment in Texas schools and childcare facilities.

The results from the 2018 NIS-Child survey shows that coverage for most vaccinations of young children have remained mostly stable in recent years. However, the results also illustrate the ongoing need for Texas to increase vaccination coverage to reach national goals. The Texas DSHS Immunization Unit remains dedicated to its goal of eliminating the spread of vaccine preventable diseases by increasing vaccination coverage among Texans, raising awareness of the diseases that vaccines prevent, and educating the public about vaccine safety.

## General Informational Page

### Our Goals

The goals of the DSHS Immunization Unit are to eliminate the spread of vaccine preventable diseases by increasing vaccine coverage for Texans, raising awareness of the diseases that vaccines prevent, and educating the public about vaccine safety. We do this through administration of the Texas Immunization Registry (ImmTrac2) which provides access to immunization records, establishment of school immunization rules, and administration of the Texas Vaccines for Children and Adult Safety Net programs, which provide low-cost vaccines to eligible children and adults.



**TEXAS**  
Health and Human Services

**Texas Department of State  
Health Services**

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DSHS Immunization Unit

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