

## MEASURE CIS-CH: CHILDHOOD IMMUNIZATION STATUS

National Committee for Quality Assurance

### A. DESCRIPTION

Percentage of children age 2 who had four diphtheria, tetanus and acellular pertussis (DTaP); three polio (IPV); one measles, mumps and rubella (MMR); three haemophilus influenza type B (HiB); three hepatitis B (Hep B), one chicken pox (VZV); four pneumococcal conjugate (PCV); one hepatitis A (HepA); two or three rotavirus (RV); and two influenza (flu) vaccines by their second birthday. The measure calculates a rate for each vaccine and nine separate combination rates.

Data Collection Method: Administrative, Hybrid, or EHR

#### Guidance for Reporting:

- States should report a separate rate for each vaccine, as well as 9 combination rates.
- When no sampling methods are involved, claims or registry data may be used together or alone to obtain immunization records for the entire eligible population (all children who turned age 2 during the reporting year).
- If the state uses the hybrid method in which immunization data are obtained for a sample of the eligible population, any immunizations missing from claims or registry data must be sought from medical records.
- If immunization registry data are used to calculate this measure, select “Immunization Registry” as an Administrative data source in the Data Source section of the web-based reporting system. States can select “Immunization Registry” in addition to other data sources used to calculate the measure. If use of immunization registry data varies by reporting unit, describe the data source used by each reporting unit in the “Additional Notes/Comments on Measures” section.
- For states reporting a Child Core Set measure that is also a Promoting Interoperability (PI) measure, indicate whether any information was extracted from electronic health records. Please report this information in the “Additional Notes/Comments on Measure” field.
- The 14-Day Rule specifies that the vaccinations (with the exception of MMR) must be given 14 days apart to avoid double counting events when either the administrative or hybrid method is used to calculate the numerator. This rule does not apply to the MMR vaccine. More information on the 14-Day Rule can be found in the HEDIS Volume 2 General Guidelines.
- Include all paid, suspended, pending, and denied claims.
- Beneficiaries in hospice are excluded from the eligible population. If a state reports this measure using the Hybrid method, and a beneficiary is found to be in hospice or using hospice services during medical record review, the beneficiary is removed from the sample and replaced by a beneficiary from the oversample. For additional information, refer to the hospice exclusion guidance in Section II. Data Collection and Reporting of the Child Core Set.
- The electronic specification for FFY 2021 is located on the eCQI resource center at <https://ecqi.healthit.gov/ecqm/ep/2020/cms117v8>.

The following coding systems are used in this measure: CPT, CVX, HCPCS, ICD-9-CM, ICD-9-PCS, ICD-10-CM, ICD-10-PCS, SNOMED, and UB. Refer to the Acknowledgments section at the beginning of the manual for copyright information.

## B. ELIGIBLE POPULATION

Age	Children who turn age 2 during the measurement year.
Continuous enrollment	12 months prior to the child's second birthday.
Allowable gap	No more than one gap in enrollment of up to 45 days during the 12 months prior to the beneficiary's second birthday. To determine continuous enrollment for a beneficiary for whom enrollment is verified monthly, the beneficiary may not have more than a 1-month gap in coverage (e.g., a beneficiary whose coverage lapses for 2 months [60 days] is not continuously enrolled).
Anchor date	Enrolled on the child's second birthday.
Benefit	Medical.
Event/diagnosis	None.

## C. ADMINISTRATIVE SPECIFICATION

### Denominator

The eligible population as defined above.

### Numerators

For MMR, hepatitis B, VZV, and hepatitis A, count any of the following:

- Evidence of the antigen or combination vaccine, or
- Documented history of the illness, or
- A seropositive test result for each antigen

For DTaP, IPV, HiB, pneumococcal conjugate, rotavirus, and influenza, count only:

- Evidence of the antigen or combination vaccine

For combination vaccinations that require more than one antigen (DTaP and MMR), the state must find evidence of all the antigens.

### DTaP

At least four DTaP vaccinations (DTaP Immunization Value Set; DTaP Vaccine Procedure Value Set), with different dates of service on or before the child's second birthday. Do not count a vaccination administered prior to 42 days after birth.

### IPV

At least three IPV vaccinations (Inactivated Polio Vaccine (IPV) Immunization Value Set; Inactivated Polio Vaccine (IPV) Procedure Value Set), with different dates of service on or before the child's second birthday. Do not count a vaccination administered prior to 42 days after birth.

## MMR

Any of the following meet criteria:

- At least one MMR vaccination (Measles, Mumps and Rubella (MMR) Immunization Value Set; Measles, Mumps, and Rubella (MMR) Vaccine Procedure Value Set) on or between the child's first and second birthdays
- At least one measles and rubella vaccination (Measles Rubella Immunization Value Set; Measles Rubella Vaccine Procedure Value Set) on or between the child's first and second birthdays and one of the following:
  - At least one mumps vaccination (Mumps Immunization Value Set; Mumps Vaccine Procedure Value Set) on or between the child's first and second birthdays
  - History of mumps illness (Mumps Value Set) any time on or before the child's second birthday
- Any combination of codes from the table below that indicates evidence of all three antigens (on the same or different date of service)

<b>Measles (any of the following)</b>	<b>Mumps (any of the following)</b>	<b>Rubella (any of the following)</b>
<ul style="list-style-type: none"> <li>• At least one measles vaccination (<u>Measles Immunization Value Set</u>; <u>Measles Vaccine Procedure Value Set</u>) administered on or between the child's first and second birthdays</li> </ul>	<ul style="list-style-type: none"> <li>• At least one mumps vaccination (<u>Mumps Immunization Value Set</u>; <u>Mumps Vaccine Procedure Value Set</u>) administered on or between the child's first and second birthdays</li> </ul>	<ul style="list-style-type: none"> <li>• At least one rubella vaccination (<u>Rubella Immunization Value Set</u>; <u>Rubella Vaccine Procedure Value Set</u>) administered on or between the child's first and second birthdays</li> </ul>
<ul style="list-style-type: none"> <li>• History of measles (<u>Measles Value Set</u>) illness anytime on or before the child's second birthday</li> </ul>	<ul style="list-style-type: none"> <li>• History of mumps (<u>Mumps Value Set</u>) illness anytime on or before the child's second birthday</li> </ul>	<ul style="list-style-type: none"> <li>• History of rubella (<u>Rubella Value Set</u>) illness anytime on or before the child's second birthday</li> </ul>

Note: The "14-day rule" does not apply to MMR.

## HiB

At least three HiB vaccinations (Haemophilus Influenzae Type B (HiB) Immunization Value Set; Haemophilus Influenzae Type B (HiB) Vaccine Procedure Value Set), with different dates of service on or before the child's second birthday. Do not count a vaccination administered prior to 42 days after birth.

## Hepatitis B

Any of the following on or before the child's second birthday meet criteria:

- At least three hepatitis B vaccinations (Hepatitis B Immunization Value Set; Hepatitis B Vaccine Procedure Value Set), with different dates of service
  - One of the three vaccinations can be a newborn hepatitis B vaccination (Newborn Hepatitis B Vaccine Administered Value Set) during the eight-day period that begins on the date of birth and ends seven days after the date of birth. For example, if the child's date of birth is December 1, the newborn hepatitis B vaccination must be on or between December 1 and December 8.

- History of hepatitis illness (Hepatitis B Value Set)

#### VZV

Either of the following meets criteria:

- At least one VZV vaccination (Varicella Zoster (VZV) Immunization Value Set; Varicella Zoster (VZV) Vaccine Procedure Value Set), with a date of service on or between the child's first and second birthdays
- History of varicella zoster (e.g., chicken pox) illness (Varicella Zoster Value Set) on or before the child's second birthday

#### Pneumococcal Conjugate

At least four pneumococcal conjugate vaccinations (Pneumococcal Conjugate Immunization Value Set; Pneumococcal Conjugate Vaccine Procedure Value Set), with different dates of service on or before the child's second birthday. Do not count a vaccination administered prior to 42 days after birth.

#### Hepatitis A

Either of the following meets criteria:

- At least one hepatitis A vaccination (Hepatitis A Immunization Value Set; Hepatitis A Vaccine Procedure Value Set), with a date of service on or between the child's first and second birthdays
- History of hepatitis A illness (Hepatitis A Value Set) on or before the child's second birthday

#### Rotavirus

Any of the following on or before the child's second birthday meet criteria. Do not count a vaccination administered prior to 42 days after birth:

- At least two doses of the two-dose rotavirus vaccine (Rotavirus (2 Dose Schedule) Immunization Value Set; Rotavirus Vaccine (2 Dose Schedule) Procedure Value Set) on different dates of service
- At least three doses of the three-dose rotavirus vaccine (Rotavirus (3 Dose Schedule) Immunization Value Set; Rotavirus Vaccine (3 Dose Schedule) Procedure Value Set) on different dates of service
- At least one dose of the two-dose rotavirus vaccine (Rotavirus (2 Dose Schedule) Immunization Value Set; Rotavirus Vaccine (2 Dose Schedule) Procedure Value Set) and at least two doses of the three-dose rotavirus vaccine (Rotavirus (3 Dose Schedule) Immunization Value Set; Rotavirus Vaccine (3 Dose Schedule) Procedure Value Set), all on different dates of service

#### Influenza

- At least two influenza vaccinations (Influenza Immunization Value Set; Influenza Vaccine Procedure Value Set), with different dates of service on or before the child's second birthday. Do not count a vaccination administered prior to 6 months (180 days) after birth.
  - One of the two vaccinations can be a Live Attenuated Influenza Vaccine (LAIV) (Influenza Virus LAIV Immunization Value Set; Influenza Virus LAIV Vaccine Procedure Value Set) administered on the child's second birthday. Do not count an LAIV vaccination administered before the child's second birthday.

## Combination rates

Calculate the following rates for Combination 2–Combination 10.

**Combination Vaccinations for Childhood Immunization Status**

Combination	DTaP	IPV	MMR	HiB	Hep B	VZV	PCV	Hep A	RV	Influenza
Combination 2	x	x	x	x	x	x				
Combination 3	x	x	x	x	x	x	x			
Combination 4	x	x	x	x	x	x	x	x		
Combination 5	x	x	x	x	x	x	x		x	
Combination 6	x	x	x	x	x	x	x			x
Combination 7	x	x	x	x	x	x	x	x	x	
Combination 8	x	x	x	x	x	x	x	x		x
Combination 9	x	x	x	x	x	x	x		x	x
Combination 10	x	x	x	x	x	x	x	x	x	x

**Exclusions (optional)**

Exclude children who had a contraindication for a specific vaccine from the denominator for all antigen rates and the combination rates. The denominator for all rates must be the same.

Exclude contraindicated children only if administrative data do not indicate that the contraindicated immunization was rendered in its entirety.

Any of the following on or before the child's second birthday meet optional exclusion criteria:

Any vaccine:

- Anaphylactic reaction to the vaccine or its components (Anaphylactic Reaction Due To Vaccination Value Set)

DTaP:

- Encephalopathy (Encephalopathy Due To Vaccination Value Set) with a vaccine adverse-effect code (Vaccine Causing Adverse Effect Value Set)

MMR, VZV, and Influenza:

- Immunodeficiency (Disorders of the Immune System Value Set)
- HIV (HIV Value Set; HIV Type 2 Value Set)
- Lymphoreticular cancer, multiple myeloma, or leukemia (Malignant Neoplasm of Lymphatic Tissue Value Set)
- Anaphylactic reaction to neomycin

Rotavirus:

- Severe combined immunodeficiency (Severe Combined Immunodeficiency Value Set)
- History of intussusception (Intussusception Value Set)

IPV:

- Anaphylactic reaction to streptomycin, polymyxin B or neomycin

Hepatitis B:

- Anaphylactic reaction to common baker's yeast

## **D. HYBRID SPECIFICATION**

### **Denominator**

A systematic sample drawn from the eligible population. Refer to the sampling guidance under Section II. Data Collection and Reporting of the Child Core Set for additional information.

### **Numerators**

For MMR, hepatitis B, VZV, and hepatitis A, count any of the following:

- Evidence of the antigen or combination vaccine
- Documented history of the illness
- A seropositive test result

For DTaP, HiB, IPV, pneumococcal conjugate, rotavirus, and influenza, count only:

- Evidence of the antigen or combination vaccine

For combination vaccinations that require more than one antigen (DTaP and MMR), the state must find evidence of all the antigens.

### **Administrative Data**

Refer to Administrative Specification to identify positive numerator hits from the administrative data.

### **Medical Record Review**

For immunization evidence obtained from the medical record, count children where there is evidence that the antigen was rendered from one of the following:

- A note indicating the name of the specific antigen and the date of the immunization
- A certificate of immunization prepared by an authorized health care provider or agency including the specific dates and types of immunizations administered

For documented history of illness or a seropositive test result, there must be a note indicating the date of the event, which must have occurred by the child's second birthday.

Notes in the medical record indicating that the child received the immunization "at delivery" or "in the hospital" may be counted toward the numerator only for immunizations that do not have minimum age restrictions (e.g., before 42 days after birth). A note that the "child is up to date" with all immunizations but which does not list the dates of all immunizations and the names of the immunization agents does not constitute sufficient evidence of immunization for HEDIS reporting.

Immunizations documented using a generic header or "DTaP/DTP/DT" can be counted as evidence of DTaP. The burden on states to substantiate the DTaP antigen is excessive compared to a risk associated with data integrity.

Immunizations documented using a generic header (e.g., polio vaccine) or “IPV/OPV” can be counted as evidence of IPV. The burden on states to substantiate the IPV antigen is excessive compared to a risk associated with data integrity.

For rotavirus, if documentation does not indicate whether the two-dose schedule or three-dose schedule was used, assume a three-dose schedule and find evidence that three doses were administered.

**Exclusion (optional)**

Refer to Administrative Specification for exclusion criteria. The exclusion must have occurred by the child’s second birthday.

**E. ADDITIONAL NOTES**

This measure follows the Centers for Disease Control and Prevention (CDC) and Advisory Committee on Immunization Practices (ACIP) guidelines for immunizations.