

Proposed Changes to Existing Measure for HEDIS^{®1} Measurement Year 2021: Childhood Immunization Status (CIS)

NCQA seeks comments on the proposed removal of eight of the nine combination rates in the *Childhood Immunization Status (CIS)* measure.

The Advisory Committee on Immunization Practices (ACIP) recommends 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 (HepB), one chicken pox (VZV); four pneumococcal conjugate (PCV); one hepatitis A (HepA); two or three rotavirus (RV); and two influenza (flu) vaccines by age 18 months.

CIS assesses receipt of these ACIP-recommended vaccines by the second birthday and includes a rate for each type of vaccine and the following combination rates:

- Combination 2: DTaP, IPV, MMR, HiB, HepB, VZV.
- Combination 3: DTaP, IPV, MMR, HiB, HepB, VZV, PCV.
- Combination 4: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, HepA.
- Combination 5: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, RV.
- Combination 6: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, flu.
- Combination 7: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, HepA, RV.
- Combination 8: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, HepA, flu.
- Combination 9: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, RV flu.
- Combination 10: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, HepA, RV, flu.

New combination rates were added to the measure as new vaccines were recommended for children over time. All vaccines in the measure have been recommended by ACIP since at least 2010 and many combination rates may no longer be useful.

NCQA seeks feedback on a proposal to remove Combination rates 2–9 and retain Combination rate 10, assessing receipt of all 10 recommended vaccines, for HEDIS Measurement Year (MY) 2021.

Supporting documents for this measure include the draft measure specifications for MY 2021 and performance data for MY 2019.

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Childhood Immunization Status (CIS)

SUMMARY OF CHANGES TO HEDIS MY 2021

- **Removed Combination Rates 2-9.**

Description

The percentage of children 2 years of age 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 (HepB), 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 a~~ combination rates.

Eligible Population

Note: Members in hospice are excluded from the eligible population. If an organization reports this measure using the Hybrid method, and a member is found to be in hospice or using hospice services during medical record review, the member is removed from the sample and replaced by a member from the oversample. Refer to General Guideline 17: Members in Hospice.

Product lines	Commercial, Medicaid (report each product line separately).
Age	Children who turn 2 years of age 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 child's second birthday. To determine continuous enrollment for a Medicaid beneficiary for whom enrollment is verified monthly, the member may not have more than a 1-month gap in coverage (e.g., a member 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.

Administrative Specification

Denominator	The eligible population.
Numerators	For MMR, hepatitis B, VZV and hepatitis A, count any of the following: <ul style="list-style-type: none"> • 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 organization 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).

Measles (any of the following)	Mumps (any of the following)	Rubella (any of the following)
<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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.
<ul style="list-style-type: none"> • History of measles (<u>Measles Value Set</u>) illness anytime on or before the child’s second birthday. 	<ul style="list-style-type: none"> • History of mumps (<u>Mumps Value Set</u>) illness anytime on or before the child’s second birthday. 	<ul style="list-style-type: none"> • History of rubella (<u>Rubella Value Set</u>) illness anytime on or before the child’s second birthday.

Note: *General Guideline 35: Collecting Data for Measures With Multiple Numerator Events (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 member'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.

- Influenza**
- 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.
 - 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 an LAIV vaccination (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

Members who are numerator compliant for all indicators. ~~Calculate the following rates for Combination 2–Combination 10.~~

~~Combination Vaccinations for Childhood Immunization Status~~

Combination	DTaP	IPV	MMR	HiB	HepB	VZV	PCV	HepA	RV	Influenza
Combination 2	✓	✓	✓	✓	✓	✓				
Combination 3	✓	✓	✓	✓	✓	✓	✓			
Combination 4	✓	✓	✓	✓	✓	✓	✓	✓		
Combination 5	✓	✓	✓	✓	✓	✓	✓		✓	
Combination 6	✓	✓	✓	✓	✓	✓	✓			✓
Combination 7	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Combination 8	✓	✓	✓	✓	✓	✓	✓	✓		✓
Combination 9	✓	✓	✓	✓	✓	✓	✓		✓	✓
Combination 10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Exclusion (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 particular vaccine

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

Hybrid Specification

Denominator	A systematic sample drawn from the eligible population for each product line. Organizations may reduce the sample size using the current year's administrative rate for the lowest rate or the prior year's audited, product line-specific results for the lowest rate. Refer to the <i>Guidelines for Calculations and Sampling</i> for information on reducing sample size.
Numerators	<p>For MMR, hepatitis B, VZV and hepatitis A, count any of the following:</p> <ul style="list-style-type: none"> • Evidence of the antigen or combination vaccine. • Documented history of the illness. • A seropositive test result. <p>For DTaP, HiB, IPV, pneumococcal conjugate, rotavirus and influenza, count <i>only</i>:</p> <ul style="list-style-type: none"> • Evidence of the antigen or combination vaccine. <p>For combination vaccinations that require more than one antigen (DTaP and MMR), the organization must find evidence of all the antigens.</p>
Administrative	Refer to <i>Administrative Specification</i> to identify positive numerator hits from the administrative data.
Medical record	<p>For immunization evidence obtained from the medical record, count members where there is evidence that the antigen was rendered from one of the following:</p> <ul style="list-style-type: none"> • 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. <p>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 member's second birthday.</p>

Notes in the medical record indicating that the member 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 “member 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 organizations 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 organizations 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 member’s second birthday.

Note

- *This measure follows the CDC and ACIP guidelines for immunizations.*

Data Elements for Reporting

Organizations that submit HEDIS data to NCQA must provide the following data elements.

Table CIS-1/2: Data Elements for Childhood Immunization Status

	Administrative	Hybrid
Measurement year	✓	✓
Data collection methodology (Administrative or Hybrid)	✓	✓
Eligible population	✓	✓
Number of numerator events by administrative data in eligible population (before exclusions)		Each of the 19 11 rates
Current year's administrative rate (before exclusions)		Each of the 19 11 rates
Minimum required sample size (MRSS)		✓
Oversampling rate		✓
Number of oversample records		✓
Number of medical records excluded because of valid data errors		✓
Number of administrative data records excluded		✓
Number of medical record data records excluded		✓
Number of employee/dependent medical records excluded		✓
Records added from the oversample list		✓
Denominator		✓
Numerator events by administrative data	Each of the 19 11 rates	Each of the 19 11 rates
Numerator events by medical records		Each of the 19 11 rates
Numerator events by supplemental data	Each of the 19 11 rates	Each of the 19 11 rates
Reported rate	Each of the 19 11 rates	Each of the 19 11 rates

HEDIS Health Plan Performance Rates: Childhood Immunization Status (CIS)**Table 1. HEDIS CIS Measure Performance—Commercial Plans, Measurement Year 2019**

Indicator*	Number of Plans Reporting	Average Denominator	Performance Rates (%)						
			Mean	Standard Deviation	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile
DTaP	387	634	83.5	10.2	68.6	81.3	86.4	89.7	91.7
Hepatitis A	386	636	88.3	5.5	82.0	86.2	89.3	91.9	93.7
Hepatitis B	387	634	81.8	17.2	53.9	79.9	87.6	91.6	94.7
HiB	387	634	89.2	8.3	77.0	87.8	91.7	94.1	95.9
Influenza	386	636	68.7	11.0	54.6	62.0	70.0	75.9	81.2
IPV	387	634	88.6	9.3	75.3	87.1	91.5	93.9	96.1
MMR	387	634	91.8	4.3	87.1	89.9	92.5	94.6	95.9
Pneumococcal Conjugate	387	634	83.8	10.2	69.9	81.8	86.4	90.1	92.7
Rotavirus	386	636	80.6	9.8	66.8	77.6	82.7	86.7	89.7
VZV	387	634	91.1	4.5	85.9	89.3	91.7	94.0	95.3
Combination 2	375	625	76.3	15.1	59.8	74.2	80.8	85.2	88.4
Combination 3	379	628	74.5	15.3	53.0	71.3	78.9	83.7	87.3
Combination 4	381	635	71.9	15.5	50.5	67.6	76.4	81.6	85.5
Combination 5	382	635	69.4	15.3	48.7	65.5	73.2	79.3	83.7
Combination 6	383	636	58.4	15.3	36.5	52.1	61.7	69.1	74.4
Combination 7	383	636	67.5	15.4	46.8	63.2	71.4	77.6	82.0
Combination 8	382	637	57.2	15.0	36.2	50.7	60.5	67.9	73.2
Combination 9	382	637	55.8	14.7	37.9	49.1	58.1	65.6	71.9
Combination 10	385	637	54.4	15.0	34.1	47.5	56.0	64.6	70.7

*Indicator Key

- Combination 2: DTaP, IPV, MMR, HiB, HepB, and VZV
- Combination 3: DTaP, IPV, MMR, HiB, HepB, VZV, and PCV
- Combination 4: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, and HepA
- Combination 5: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, and RV
- Combination 6: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, and flu
- Combination 7: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, HepA, and RV
- Combination 8: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, HepA, and flu
- Combination 9: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, RV and flu
- Combination 10: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, HepA, RV and flu

Table 2. HEDIS CIS Measure Performance—Medicaid Plans, Measurement Year 2019

Indicator*	Number of Plans Reporting	Average Denominator	Performance Rates (%)						
			Mean	Standard Deviation	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile
DTaP	241	517	77.2	6.8	68.6	73.2	77.6	81.7	85.1
Hepatitis A	241	517	85.3	5.6	77.6	82.7	85.6	89.3	91.2
Hepatitis B	241	517	88.1	6.8	80.5	86.1	89.8	92.5	93.8
HiB	241	517	87.4	5.8	80.5	84.7	88.1	91.0	93.2
Influenza	241	517	49.9	11.5	35.8	40.9	49.9	58.4	65.2
IPV	241	517	88.7	5.2	82.5	86.6	89.8	91.8	93.8
MMR	241	517	88.9	4.4	83.1	87.3	89.1	91.7	93.7
Pneumococcal Conjugate	241	517	77.4	7.1	68.7	73.5	78.1	82.2	85.4
Rotavirus	241	517	71.2	8.6	62.5	67.4	72.0	76.4	79.8
VZV	241	517	88.4	4.4	83.0	86.4	88.8	91.4	93.2
Combination 2	216	523	73.5	7.6	64.5	70.3	74.1	77.9	82.2
Combination 3	216	523	70.3	7.9	61.1	66.7	71.1	75.2	79.5
Combination 4	216	523	68.4	7.9	58.9	64.8	69.0	73.7	77.6
Combination 5	216	523	60.8	8.7	50.6	56.7	61.3	66.1	70.8
Combination 6	216	523	42.9	10.1	31.4	34.7	43.1	49.2	57.8
Combination 7	216	523	59.4	8.7	48.9	55.7	59.6	64.5	68.8
Combination 8	216	523	42.2	10.0	30.4	34.4	42.0	48.8	56.7
Combination 9	216	523	38.3	9.6	27.3	30.7	37.6	44.4	52.3
Combination 10	241	517	38.2	10.3	26.5	30.7	37.5	44.9	52.1

*Indicator Key

- Combination 2: DTaP, IPV, MMR, HiB, HepB, and VZV
- Combination 3: DTaP, IPV, MMR, HiB, HepB, VZV, and PCV
- Combination 4: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, and HepA
- Combination 5: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, and RV

- Combination 6: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, and flu
- Combination 7: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, HepA, and RV
- Combination 8: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, HepA, and flu
- Combination 9: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, RV and flu
- Combination 10: DTaP, IPV, MMR, HiB, HepB, VZV, PCV, HepA, RV and flu