NATIONAL QUALITY FORUM
Driving measurable health improvements together

**Measure Information**

This document contains the information submitted by measure developers/stewards, but is organized according to NQF's measure evaluation criteria and process. The item numbers refer to those in the submission form but may be in a slightly different order here. In general, the item numbers also reference the related criteria (e.g., item 1b.1 relates to sub criterion 1b).

## Brief Measure Information

**NQF #:** 0038

**Corresponding Measures:**

**Measure Title:** Childhood Immunization Status (CIS)

**Measure Steward:** National Committee for Quality Assurance

**sp.02. Brief Description of Measure:** 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. The Childhood Immunization Status measure includes an indicator for each individual vaccine. In addition to the individual indicators, NCQA uses various combination rates in its quality measurement programs. However, given the burden of testing needs and the magnitude of data that would need to be generated for NQF endorsement if combination rates were submitted, NCQA has opted to submit the measure with only the individual indicators that form the foundation of the measure.

**1b.01. Developer Rationale:** Vaccines are critical tools for avoiding preventable illnesses in both the child and general population. By encouraging vaccination of children, the measure protects these most vulnerable individuals from avoidable morbidity and mortality while building important herd immunity and reducing medical costs.

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**sp.12. Numerator Statement:** Children who received the recommended vaccines by their second birthday.

**sp.14. Denominator Statement:** Children who turn 2 years of age during the measurement year.

**sp.16. Denominator Exclusions:** Exclude children who were in hospice, had a contraindication for a specific vaccine, or have immunodeficiencies.

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**Measure Type:** Process

**sp.28. Data Source:**

Claims

Paper Medical Records

**sp.07. Level of Analysis:**

Health Plan

**IF Endorsement Maintenance – Original Endorsement Date:** 2009-08-10 12:00 AM

**Most Recent Endorsement Date:** 1/17/2017 12:00:00 AM

**IF this measure is included in a composite, NQF Composite#/title:**

**IF this measure is paired/grouped, NQF#/title:**

**sp.03. IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret results?:**

# 1. Importance to Measure and Report

Extent to which the specific measure focus is evidence-based, important to making significant gains in healthcare quality, and improving health outcomes for a specific high-priority (high-impact) aspect of healthcare where there is variation in or overall less-than-optimal performance. Measures must be judged to meet all sub criteria to pass this criterion and be evaluated against the remaining criteria

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**1ma.01. Indicate whether there is new evidence about the measure since the most recent maintenance evaluation. If yes, please briefly summarize the new evidence, and ensure you have updated entries in the Evidence section as needed.**

**[Response Begins]**

Yes

**[Yes Please Explain]**

- Year has been updated for the most recent recommended immunization schedule (2022).

**[Response Ends]**

Please separate added or updated information from the most recent measure evaluation within each question response in the Importance to Measure and Report: Evidence section. For example:

**Current Submission:**

Updated evidence information here.

**Previous (Year) Submission:**

Evidence from the previous submission here.

**1a.01. Provide a logic model.**

*Briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient's health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.*

**[Response Begins]**

Children 2 years of age or younger >> receiving the recommended vaccinations >> children become protected from potentially life-threatening diseases.

**[Response Ends]**

**1a.02. Select the type of source for the systematic review of the body of evidence that supports the performance measure.**

*A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data.*

**[Response Begins]**

Clinical Practice Guideline recommendation (with evidence review)

**[Response Ends]**

If the evidence is not based on a systematic review, skip to the end of the section and do not complete the repeatable question group below. If you wish to include more than one systematic review, add additional tables by clicking "Add" after the final question in the group.

**Evidence - Systematic Reviews Table (Repeatable)**

Group 1 - Evidence - Systematic Reviews Table

**1a.03. Provide the title, author, date, citation (including page number) and URL for the systematic review.**

**[Response Begins]**

**Current Submission:**

Centers for Disease Control and Prevention. Child and Adolescent Immunization Schedule Recommendations for Ages 18 Years or Younger – United States. 2022. https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html

We have updated the citation of the clinical practice guideline to reflect the most recent recommended immunization schedule (2022). The year was updated for the recommended immunization schedule; however, this update does not impact the current measure. There were no changes in clinical recommendations, and the measure continues to be aligned to the guideline.

**Previous Submission:**

Centers for Disease Control and Prevention. Recommended Immunization Schedule for Person Aged 0 Through 6 years - United States. 2011 http://www.cdc.gov/vaccines/recs/schedules/downloads/child/0-6yrs-schedule-pr.pdf

Centers for Disease Control and Prevention. Recommended Immunization Schedule for Persons Aged 0 through 18 Years. United States, 2015. http://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html

We have updated the citation of the clinical practice guideline to reflect the most recent recommended immunization schedule (2016). However, this update does not impact the current measure, which is aligned to the guideline.

**[Response Ends]**

**1a.04. Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the systematic review.**

**[Response Begins]**

**Current Submission:**

**Child and Adolescent Immunization Schedule (CDC 2022):**

**Hepatitis A vaccinations (2 doses)**

- 2-dose series (minimum interval: 6 months) at age 12–23 months

**Hepatitis B series (3 doses)**

- 3-dose series at age 0, 1–2, 6–18 months
- Minimum age for the final (3rd or 4th ) dose: 24 weeks

**DTaP vaccinations (4 doses)**

- 5-dose series at age 2, 4, 6, 15–18 months, 4–6 years

**Hib vaccinations (2 doses)**

**ActHIB®, Hiberix®, Pentacel®, or Vaxelis®:** 4-dose series (3 dose primary series at age 2, 4, and 6 months, followed by a booster dose* at age 12–15 months)

**PedvaxHIB®:** 3-dose series (2-dose primary series at age 2 and 4 months, followed by a booster dose at age 12–15 months)

**IPV vaccinations (3 doses)**

- 4-dose series at ages 2, 4, 6–18 months, 4–6 years; administer the final dose on or after age 4 years and at least 6 months after the previous dose.
- 4 or more doses of IPV can be administered before age 4 years when a combination vaccine containing IPV is used. However, a dose is still recommended on or after age 4 years and at least 6 months after the previous dose.

**MMR vaccination (1 dose)**

- 2-dose series at age 12–15 months, age 4–6 years
- MMR or MMRV may be administered

**Pneumococcal conjugate vaccinations (4 doses)**

- 4-dose series at age 2, 4, 6, 12–15 months

**Varicella vaccination (1 dose)**

- 2-dose series at age 12–15 months, 4–6 years
- VAR or MMRV may be administered*
- Dose 2 may be administered as early as 3 months after dose 1 (a dose inadvertently administered after at least 4weeks may be counted as valid)

  *Note: For dose 1 in children age 12–47 months, it is recommended to administer MMR and varicella vaccines separately. MMRV may be used if parents or caregivers express a preference.

**Rotavirus vaccinations (3 doses)**

- **Rotarix®:** 2-dose series at age 2 and 4 months
- **RotaTeq®:** 3-dose series at age 2, 4, and 6 months
- If any dose in the series is either RotaTeq® or unknown, default to 3-dose series.

**Influenza (flu) vaccinations**

Use any influenza vaccine appropriate for age and health status annually:

- 2 doses, separated by at least 4 weeks, for **children age 6 months–8 years** who have received fewer than 2 influenza vaccine doses before July 1, 2021, or whose influenza vaccination history is unknown (administer dose 2 even if the child turns 9 between receipt of dose 1 and dose 2)
- 1 dose for **children age 6 months–8 years** who have received at least 2 influenza vaccine doses before July 1, 2021

Previous Submission:

Immunization Schedule for infants and toddlers (by 24 months) (CDC, 2010):

Hepatitis B series (3 doses)

- Administer to all newborns before hospital discharge
- The HepB series should be completed: the second dose should be administered at age 1 – 2 months. The final dose should be administered at 24 weeks.

DTaP vaccinations (4 doses)

- Minimum age for vaccine to be administered is 6 weeks.

- The fourth dose may be administered as early as 12 months, provided 6 months have elapsed since the third dose.
- Administer final dose in the series at age 4 through 6 years

Hib vaccinations (2 doses)

- Minimum age for vaccine to be administered is 6 weeks
- Administered at age 2 and 4 months, a dose at 6 months is not required.
- The combination DTap/Hib should not be used for primary immunization but can be used as boosters following any Hib vaccine in children aged greater than 12 months.

IPV vaccinations (3 doses)

- Minimum age for vaccine is 6 weeks.
- First dose administered at 2 months, second dose at 4 months and third dose between 6 months and 18 months.

MMR vaccination (1 dose)

- Minimum age for vaccine is 12 months.

Pneumococcal conjugate vaccinations (4 doses)

- Minimum age for vaccine 6 weeks for pneumococcal conjugate vaccine
- Administer at ages 2 mos., 4 mos, 6 mos., 12-15 mos.
- Administer at ages 24 – 59 months in certain high risk groups.

Varicella vaccination (1 dose)

- Minimum age is 12 months. First does should be administered between 12 and 15 months.

Hepatitis A vaccinations (2 doses)

- Minimum age is 12 months. Recommended for all children between 12 – 23 months. The second dose in the series should be administered at least 6 months after the first.

Rotavirus vaccinations (3 doses)

- Minimum age of 6 weeks. Administer the first dose at age 6 – 14 weeks. Do not start the series later than age 15 weeks. Administer the final dose in the series by age 32 weeks. Do not administer a dose later than age 32 weeks. Intervals between doses may be as short as 4 weeks.

Influenza (flu) vaccinations

- Vaccinate all children 6 mos and older
- Give 2 doses to first-time vaccines age 6 mos through 8 years, spaced 4 weeks apart
- For TIV, give 0.25 mL dose to children 6-35 mos

The HEDIS specifications allow a grace period by measuring compliance with these recommendations between birth and age two.

**[Response Ends]**

**1a.05. Provide the grade assigned to the evidence associated with the recommendation, and include the definition of the grade.**

**[Response Begins]**

**Current Submission:**

ACIP's recommendations for the use of each vaccine are developed after in-depth reviews of vaccine-related data, including the epidemiology and societal impacts of the vaccine-preventable disease, vaccine efficacy and effectiveness, vaccine safety, quality of evidence, feasibility of program implementation, and economic analyses of immunization policy. An Evidence to Recommendation (EtR) framework is used to summarize these key factors. However, we did not find an overall or summary rating of the evidence at the vaccine level. Rather, ACIP includes links to Evidence to Recommendation findings that detail out the rating of evidence for each question asked in the framework.

**Previous Submission:**

The Recommended Immunization Schedule for Persons Aged 0-6 years in the United States (2010) is approved by the Advisory Committee on Immunization Practices.

**[Response Ends]**

**1a.06. Provide all other grades and definitions from the evidence grading system.**

**[Response Begins]**

We did not find an overall or summary rating of the evidence at the vaccine level.

**[Response Ends]**

**1a.07. Provide the grade assigned to the recommendation, with definition of the grade.**

**[Response Begins]**

We did not find an overall or summary rating of the evidence at the vaccine level.

**[Response Ends]**

**1a.08. Provide all other grades and definitions from the recommendation grading system.**

**[Response Begins]**

We did not find an overall or summary rating of the evidence at the vaccine level.

**[Response Ends]**

**1a.09. Detail the quantity (how many studies) and quality (the type of studies) of the evidence.**

**[Response Begins]**

Descriptions of the evidence on which each vaccine recommendation is made are below.

**DtaP:**

In February 2009, the ACIP Pertussis Vaccines Work Group was formed to review and revise previously published vaccine recommendations for DTaP, DT, Td, TT, and Tdap because of:

1. the availability of new licensed DTaP vaccine products since 1997;
2. multiple ACIP updates to the adolescent and adult Tdap recommendations;
3. new U.S. Food and Drug Administration (FDA) age indications for both Tdap vaccine products;
4. the need to incorporate pertussis, tetanus, and diphtheria vaccine recommendations into a single document;
5. new data on Tdap coverage, impact, and vaccine effectiveness; and
6. the discontinuation of TT vaccine manufacturing and availability in the United States. Issues reviewed and considered by the work group included epidemiology of pertussis, tetanus, and diphtheria in the United

States; use of Tdap vaccine among persons aged ≥65 years, children aged 7–10 years, health care personnel, and women during pregnancy; minimum interval between the last tetanus toxoid–containing vaccine and receipt of Tdap; effectiveness of Tdap vaccine; and vaccine safety. Recommendation options were developed and discussed by the work group. The work group evaluated the available published and unpublished data and evidence regarding pertussis disease epidemiology in the United States, decision analyses, cost-effectiveness, programmatic considerations, vaccine immunogenicity, vaccine safety, and postlicensure Tdap vaccine effectiveness. When evidence was lacking, the recommendations incorporated expert opinion of the work group members (6,8–10).

A summary of the data reviewed, work group discussions, and proposed changes to recommendations were developed. During the preparation of this summary report, nonsystematic literature searches for specific topics were conducted in PubMed and Google Scholar for published literature in English available in print or online to provide more updated data and information since publication of any ACIP vaccine recommendations for DTaP, DT, Td, TT, and Tdap published in MMWR; a document containing the literature search topics, search terms, search period, and references selected is available at https://stacks.cdc.gov/view/cdc/52823.

One month after receiving 3 doses of Infanrix at ages 2, 4, and 6 months, ≥83% of children had a fourfold or greater antibody response to PT, FHA, and PRN. All children developed diphtheria antitoxin titers of ≥0.1 IU/mL and tetanus antitoxin titers of ≥0.01 IU/mL (i.e., indications of immunity against these diseases). Whether the first 3 doses were Infanrix or DTP, >80% of children aged 15–20 months had a fourfold or greater rise in serum antibody to each of the pertussis vaccine antigens after a fourth dose of Infanrix. Immunogenicity data on the fifth dose were not required for FDA approval.

After 4 doses of Daptacel, the antibody response to pertussis antigens among U.S. infants was similar to that achieved among Swedish infants in whom efficacy was demonstrated after receiving 3 doses of Daptacel. Diphtheria antitoxin levels of ≥1.0 IU/mL were achieved by 98.5% of children, and 100% of children achieved tetanus antitoxin levels of ≥1.0 IU/mL (*101*). For diphtheria and tetanus, it was expected that most children will have protective levels of antibody following booster vaccination.

**IPV:**

A clinical trial of two preparations of enhanced-potency IPV was completed in the United States in 1984. Among children who received three doses of one of the enhanced-potency IPVs at ages 2, 4, and 18 months, 99%--100% had developed serum antibodies to all three poliovirus types at age 6 months, which was 2 months after administration of the second dose. The percentage of children who had antibodies to all three poliovirus serotypes did not increase or decrease during the 14-month period after the second dose, confirming that seroconversion had occurred in most of the children. Furthermore, geometric mean antibody titers increased fivefold to tenfold after both the second and third doses. Data from subsequent studies have confirmed that 90%--100% of children develop protective antibodies to all three types of poliovirus after administration of two doses of the currently available IPV, and 99%--100% develop protective antibodies after three doses.

**MMR:**

SAEs related to administration of PRIORIX were assessed using findings from four randomized controlled clinical trials at the licensed U.S. potency of PRIORIX and one Cochrane review with PRIORIX at any potency. Four additional observational studies and one additional systematic review addressed additional adverse events of interest (i.e., rate of febrile seizures, aseptic meningitis, and ITP). The rate of febrile seizures was based on two studies conducted in the United Kingdom, which included both PRIORIX and M-M-R II. Short-term humoral immunity was assessed using data from 13 randomized controlled trials, four at the licensed U.S. potency of PRIORIX, and nine at a lower potency of PRIORIX used in other countries. Additional data reviewed within the EtR framework included findings from a focus group conducted with state immunization managers and a survey of pediatric and general practitioners regarding the feasibility for use and acceptability of PRIORIX. Both the focus group and the survey findings supported the interchangeability of M-M-R II and PRIORIX and the benefit of having a second MMR vaccine option available.

**HiB:**

Immunogenicity and safety data for the use of Hiberix as a primary vaccination series in infants are from a phase three, single-blind, randomized, multicenter study conducted among 4,003 healthy infants treated at 67 sites in

the United States . Noninferiority of Hiberix to ActHIB (U.S.-licensed monovalent Haemophilus b Conjugate Vaccine [Tetanus Toxoid Conjugate], manufactured by Sanofi Pasteur, Swiftwater, PA) was assessed 1 month after completion of the primary series (after dose 3) using anti-PRP antibody concentrations ≥0.15 µg/mL and ≥1.0 µg/mL. Based on animal and human studies, anti-PRP levels of ≥0.15 µg/mL and ≥1.0 µg/mL provide protection from invasive Hib disease in the short- and long-term, respectively.

**Hepatitis B:**

Recommendations for hepatitis B were not evaluated using GRADE, but expert opinion was used to shape the recommendations. Studies indicated that vaccination produces seroprotection in 98% of healthy term infants.

**Varicella:**

Published and unpublished data related to correlates of protection, safety, immunogenicity, and efficacy of the new quadrivalent MMRV vaccine and the immunogenicity and efficacy of a second dose of varicella vaccine also were reviewed. Cost-benefit and cost-effectiveness analyses were considered, including revised cost-benefit analysis of both the 1- and 2-dose programs for children compared with no vaccination program and the incremental benefit of a second dose. Presentations were made to the full ACIP meetings in October 2004, February 2005, June 2005, and June 2006. Recommendation options were developed and discussed by the MMRV workgroup. When definitive research evidence was lacking, the recommendations incorporated expert opinion of the workgroup members. The workgroup sought input from partner organizations (i.e., the American Academy of Pediatrics [AAP], the American Academy of Family Physicians [AAFP], the American College of Obstetricians and Gynecologists, the Council of State and Territorial Epidemiologists, and the Association of Immunization Managers) and from state public health professionals and immunization program directors. Proposed recommendations and a draft statement were presented to the full ACIP in June 2005 and June 2006. After deliberations, final ACIP recommendations were approved in 2005 and 2006.

**Pneumococcal conjugate:**

The evidence type for use of PCV15 in children aged <2 years was determined to be 2 (moderate certainty of evidence) for VT-invasive pneumococcal disease, VT-pneumonia, VT-acute otitis media, and VT- pneumococcal deaths and was downgraded once for indirectness due to lack of correlates of protection for the critical outcomes considered. The evidence type for serious adverse events following immunization was 3 (low certainty of evidence); the evidence level for imprecision was downgraded two points to very serious for few vaccine-related serious adverse events reported and for the relative risk crossing 1.

**Hepatitis A:**

The EtR framework was used to review and evaluate data on HepA catch-up vaccination for children and adolescents aged 2–18 years. GRADE was not used to evaluate the evidence for HepA catch-up for several reasons: 1) HepA vaccine has been recommended for administration to children since 1996, 2) HepA vaccine has been recommended for catch-up vaccination based on shared clinical decision-making since 2006, and 3) the efficacy and safety of HepA vaccines has been evaluated and well-documented since 1996 (see Vaccine Safety).

**Rotavirus:**

The ACIP rotavirus vaccine workgroup was reestablished in July 2007, after submission of the Biologics License Application (BLA) for RV1 to FDA in June 2007. The workgroup held teleconferences at least monthly to review published and unpublished data on the burden and epidemiology of rotavirus disease in the United States, the safety and efficacy of RV1 and RV5, and cost-effectiveness analyses. Recommendation options were developed and discussed by ACIP's rotavirus vaccine work group. The opinions of workgroup members and other experts were considered when data were lacking. Programmatic aspects related to implementation of the recommendations were taken into account.

Immunogenicity: In two clinical trials, seroconversion was defined as the appearance of antirotavirus IgA antibodies (concentration of >20 U/ml) postvaccination in the serum of infants previously negative for rotavirus IgA antibodies. In the two studies, 1-2 months after a 2-dose series, 681 (86.5%) of 787 RV1 recipients seroconverted compared with 28 (6.7%) of 420 placebo recipients, and 302 (76.8%) of 393 RV1 recipients seroconverted compared with 33 (9.7%) of 341 placebo recipients, respectively. One U.S. study was designed

specifically to evaluate the antibody responses to vaccines (DTaP-HepB-IPV, PCV7 and Hib) coadministered with RV1.

Efficacy: The efficacy of the licensed formulation of RV1 has been evaluated in two large phase III trials among healthy infants, one conducted in 11 Latin American countries and one conducted in six European countries.

**Influenza:**

A case-control study conducted during the 2003--04 season found vaccine effectiveness of 49% against laboratory-confirmed influenza. An observational study among children aged 6--59 months with laboratory-confirmed influenza compared with children who tested negative for influenza reported vaccine effectiveness of 44% in the 2003--04 influenza season and 57% during the 2004--05 season. Partial vaccination (only 1 dose for children being vaccinated for the first time) was not effective in either study. During an influenza season (2003--04) with a suboptimal vaccine match, a retrospective cohort study conducted among approximately 30,000 children aged 6 months--8 years indicated vaccine effectiveness of 51% against medically attended, clinically diagnosed pneumonia or influenza (i.e., no laboratory confirmation of influenza) among fully vaccinated children and 49% among approximately 5,000 children aged 6--23 months. Another retrospective cohort study of similar size conducted during the same influenza season in Denver but limited to healthy children aged 6--21 months estimated clinical effectiveness of 2 TIV doses to be 87% against pneumonia or influenza-related office visits. Among children, TIV effectiveness might increase with age. A systematic review of published studies estimated vaccine effectiveness at 59% for children aged >2 years but concluded that additional evidence was needed to demonstrate effectiveness among children aged 6 months--2 years.

**[Response Ends]**

**1a.10. Provide the estimates of benefit, and consistency across studies.**

**[Response Begins]**

ACIP workgroup members assess the evidence and generally make recommendations based on findings of immunogenicity and safety, expert opinion and stakeholder input. However, ACIP does not always summarize the net benefit and consistency across studies. We did not find a summary of the net benefit and consistency at the vaccine level.

**[Response Ends]**

**1a.11. Indicate what, if any, harms were identified in the study.**

**[Response Begins]**

We did not find a summary of the net benefit and consistency at the vaccine level.

**[Response Ends]**

**1a.12. Identify any new studies conducted since the systematic review, and indicate whether the new studies change the conclusions from the systematic review.**

**[Response Begins]**

There have been no studies published since the guideline that would significantly affect the findings.

**[Response Ends]**

**1a.13. If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, describe the evidence on which you are basing the performance measure.**

**[Response Begins]**

N/A

**[Response Ends]**

**1a.14. Briefly synthesize the evidence that supports the measure.**

**[Response Begins]**

N/A

**[Response Ends]**

**1a.15. Detail the process used to identify the evidence.**

**[Response Begins]**

N/A

**[Response Ends]**

**1a.16. Provide the citation(s) for the evidence.**

**[Response Begins]**

N/A

**[Response Ends]**

**1b.01. Briefly explain the rationale for this measure.**

*Explain how the measure will improve the quality of care, and list the benefits or improvements in quality envisioned by use of this measure.*

**[Response Begins]**

Vaccines are critical tools for avoiding preventable illnesses in both the child and general population. By encouraging vaccination of children, the measure protects these most vulnerable individuals from avoidable morbidity and mortality while building important herd immunity and reducing medical costs.

**[Response Ends]**

**1b.02. Provide performance scores on the measure as specified (current and over time) at the specified level of analysis.**

*Include mean, std dev, min, max, interquartile range, and scores by decile. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include. This information also will be used to address the sub-criterion on improvement (4b) under Usability and Use.*

**[Response Begins]**

Childhood Immunization Status (CIS) Performance Rates

| Measurement Year | Plan Type | Total Number of Plans (N) | DTaP Performance Rates (%) | DTaP Performance Rates (%) | DTaP Performance Rates (%) | DTaP Performance Rates (%) | DTaP Performance Rates (%) | DTaP Performance Rates (%) | DTaP Performance Rates (%) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | Standard Deviation | 10th Percentile | 25th Percentile | 50th Percentile | 75th Percentile | 90th Percentile |
| 2021 | Commercial | 394 | 82.94% | 8.43% | 71.66% | 79.79% | 84.91% | 88.52% | 91.59% |
| 2020 | Commercial | 391 | 81.60% | 10.79% | 67.15% | 79.08% | 84.60% | 88.56% | 91.00% |
| 2019 | Commercial | 387 | 83.49% | 10.18% | 68.64% | 81.27% | 86.37% | 89.66% | 91.73% |
| 2021 | Medicaid | 241 | 69.74% | 9.02% | 60.83% | 65.21% | 69.83% | 75.43% | 79.76% |
| 2020 | Medicaid | 239 | 74.00% | 8.08% | 66.20% | 69.83% | 74.67% | 78.83% | 82.97% |
| 2019 | Medicaid | 241 | 77.18% | 6.84% | 68.61% | 73.24% | 77.62% | 81.68% | 85.12% |

Table showing DTaP performance rates for commercial and Medicaid plans, 2019 -2021.

| Measurement Year | Plan Type | Total Number of Plans (N) | Hepatitis A Performance Rates (%) | Hepatitis A Performance Rates (%) | Hepatitis A Performance Rates (%) | Hepatitis A Performance Rates (%) | Hepatitis A Performance Rates (%) | Hepatitis A Performance Rates (%) | Hepatitis A Performance Rates (%) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | Standard Deviation | 10th Percentile | 25th Percentile | 50th Percentile | 75th Percentile | 90th Percentile |
| 2021 | Commercial | 394 | 88.80% | 4.68% | 82.47% | 86.67% | 89.36% | 91.80% | 93.92% |
| 2020 | Commercial | 391 | 88.71% | 5.21% | 83.10% | 87.01% | 89.90% | 91.85% | 93.72% |
| 2019 | Commercial | 386 | 88.28% | 5.50% | 82.00% | 86.21% | 89.30% | 91.88% | 93.72% |
| 2021 | Medicaid | 241 | 79.94% | 6.27% | 71.73% | 76.89% | 80.54% | 84.43% | 86.77% |
| 2020 | Medicaid | 239 | 84.14% | 5.27% | 77.23% | 81.27% | 84.72% | 88.27% | 90.27% |
| 2019 | Medicaid | 241 | 85.26% | 5.62% | 77.62% | 82.73% | 85.64% | 89.29% | 91.24% |

Table showing Hepatitis A performance rates for commercial and Medicaid plans, 2019 -2021.

| Measurement Year | Plan Type | Total Number of Plans (N) | Hepatitis B Performance Rates (%) | Hepatitis B Performance Rates (%) | Hepatitis B Performance Rates (%) | Hepatitis B Performance Rates (%) | Hepatitis B Performance Rates (%) | Hepatitis B Performance Rates (%) | Hepatitis B Performance Rates (%) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | Standard Deviation | 10th Percentile | 25th Percentile | 50th Percentile | 75th Percentile | 90th Percentile |
| 2021 | Commercial | 394 | 82.98% | 15.44% | 62.65% | 81.14% | 88.56% | 91.97% | 94.67% |
| 2020 | Commercial | 391 | 80.07% | 17.76% | 48.00% | 76.47% | 86.37% | 91.58% | 93.92% |
| 2019 | Commercial | 387 | 81.79% | 17.23% | 53.85% | 79.92% | 87.62% | 91.58% | 94.65% |
| 2021 | Medicaid | 241 | 84.86% | 8.99% | 77.13% | 83.21% | 86.86% | 89.15% | 91.97% |
| 2020 | Medicaid | 239 | 87.28% | 7.67% | 81.21% | 85.09% | 88.56% | 91.48% | 93.21% |
| 2019 | Medicaid | 241 | 88.14% | 6.83% | 80.54% | 86.13% | 89.78% | 92.49% | 93.78% |

Table showing Hepatitis B performance rates for commercial and Medicaid plans, 2019 -2021.

| Measurement Year | Plan Type | Total Number of Plans (N) | HiB Performance Rates (%) | HiB Performance Rates (%) | HiB Performance Rates (%) | HiB Performance Rates (%) | HiB Performance Rates (%) | HiB Performance Rates (%) | HiB Performance Rates (%) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | Standard Deviation | 10th Percentile | 25th Percentile | 50th Percentile | 75th Percentile | 90th Percentile |
| 2021 | Commercial | 394 | 89.48% | 6.67% | 81.05% | 87.50% | 91.42% | 93.81% | 95.96% |
| 2020 | Commercial | 391 | 88.05% | 9.01% | 73.95% | 86.41% | 91.00% | 93.61% | 95.38% |
| 2019 | Commercial | 387 | 89.17% | 8.33% | 77.00% | 87.83% | 91.73% | 94.12% | 95.86% |
| 2021 | Medicaid | 241 | 82.65% | 8.02% | 73.78% | 79.92% | 83.94% | 87.35% | 90.71% |
| 2020 | Medicaid | 239 | 85.96% | 6.93% | 78.95% | 82.97% | 87.10% | 90.02% | 92.21% |
| 2019 | Medicaid | 241 | 87.36% | 5.84% | 80.54% | 84.67% | 88.08% | 91.00% | 93.19% |

Table showing HiB performance rates for commercial and Medicaid plans, 2019 -2021.

| Measurement Year | Plan Type | Total Number of Plans (N) | Influenza Performance Rates (%) | Influenza Performance Rates (%) | Influenza Performance Rates (%) | Influenza Performance Rates (%) | Influenza Performance Rates (%) | Influenza Performance Rates (%) | Influenza Performance Rates (%) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | Standard Deviation | 10th Percentile | 25th Percentile | 50th Percentile | 75th Percentile | 90th Percentile |
| 2021 | Commercial | 394 | 71.41% | 10.29% | 60.00% | 65.45% | 72.45% | 78.61% | 82.52% |
| 2020 | Commercial | 391 | 70.86% | 10.96% | 57.66% | 64.72% | 72.41% | 78.35% | 82.55% |
| 2019 | Commercial | 386 | 68.69% | 10.95% | 54.61% | 62.04% | 69.97% | 75.91% | 81.15% |
| 2021 | Medicaid | 241 | 47.64% | 11.72% | 33.33% | 39.17% | 47.20% | 55.47% | 63.55% |
| 2020 | Medicaid | 239 | 50.73% | 11.14% | 36.25% | 42.58% | 50.70% | 58.15% | 66.48% |
| 2019 | Medicaid | 241 | 49.88% | 11.54% | 35.77% | 40.88% | 49.88% | 58.39% | 65.21% |

Table showing Influenza performance rates for commercial and Medicaid plans, 2019 -2021.

| Measurement Year | Plan Type | Total Number of Plans (N) | IPV Performance Rates (%) | IPV Performance Rates (%) | IPV Performance Rates (%) | IPV Performance Rates (%) | IPV Performance Rates (%) | IPV Performance Rates (%) | IPV Performance Rates (%) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | Standard Deviation | 10th Percentile | 25th Percentile | 50th Percentile | 75th Percentile | 90th Percentile |
| 2021 | Commercial | 394 | 89.27% | 7.43% | 79.27% | 87.25% | 91.50% | 94.03% | 95.86% |
| 2020 | Commercial | 391 | 87.53% | 9.81% | 72.16% | 85.40% | 90.73% | 93.88% | 95.43% |
| 2019 | Commercial | 387 | 88.59% | 9.26% | 75.34% | 87.10% | 91.53% | 93.90% | 96.09% |
| 2021 | Medicaid | 241 | 84.69% | 8.03% | 78.59% | 82.55% | 85.64% | 88.81% | 91.48% |
| 2020 | Medicaid | 239 | 87.73% | 7.00% | 82.42% | 85.64% | 88.32% | 91.48% | 93.19% |
| 2019 | Medicaid | 241 | 88.67% | 5.21% | 82.48% | 86.62% | 89.77% | 91.75% | 93.83% |

Table showing IPV performance rates for commercial and Medicaid plans, 2019 -2021.

| Measurement Year | Plan Type | Total Number of Plans (N) | MMR Performance Rates (%) | MMR Performance Rates (%) | MMR Performance Rates (%) | MMR Performance Rates (%) | MMR Performance Rates (%) | MMR Performance Rates (%) | MMR Performance Rates (%) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | Standard Deviation | 10th Percentile | 25th Percentile | 50th Percentile | 75th Percentile | 90th Percentile |
| 2021 | Commercial | 394 | 91.30% | 3.74% | 87.32% | 89.33% | 91.74% | 93.57% | 95.62% |
| 2020 | Commercial | 391 | 91.59% | 4.62% | 87.10% | 90.02% | 92.43% | 94.33% | 95.70% |
| 2019 | Commercial | 387 | 91.75% | 4.33% | 87.11% | 89.94% | 92.46% | 94.64% | 95.86% |
| 2021 | Medicaid | 241 | 83.13% | 5.76% | 76.89% | 80.54% | 83.55% | 86.62% | 89.54% |
| 2020 | Medicaid | 239 | 87.59% | 4.06% | 82.56% | 85.16% | 88.08% | 90.27% | 92.42% |
| 2019 | Medicaid | 241 | 88.85% | 4.38% | 83.12% | 87.31% | 89.08% | 91.73% | 93.67% |

Table showing MMR performance rates for commercial and Medicaid plans, 2019 -2021.

| Measurement Year | Plan Type | Total Number of Plans (N) | PCV Performance Rates (%) | PCV Performance Rates (%) | PCV Performance Rates (%) | PCV Performance Rates (%) | PCV Performance Rates (%) | PCV Performance Rates (%) | PCV Performance Rates (%) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | Standard Deviation | 10th Percentile | 25th Percentile | 50th Percentile | 75th Percentile | 90th Percentile |
| 2021 | Commercial | 394 | 83.79% | 8.59% | 72.29% | 80.58% | 85.93% | 89.55% | 92.22% |
| 2020 | Commercial | 391 | 82.44% | 11.07% | 66.91% | 79.32% | 85.54% | 89.55% | 92.01% |
| 2019 | Commercial | 387 | 83.83% | 10.19% | 69.91% | 81.75% | 86.42% | 90.09% | 92.66% |
| 2021 | Medicaid | 241 | 70.72% | 9.15% | 61.65% | 66.18% | 71.29% | 76.52% | 80.54% |
| 2020 | Medicaid | 239 | 75.69% | 8.20% | 67.15% | 71.78% | 76.40% | 80.89% | 84.00% |
| 2019 | Medicaid | 241 | 77.36% | 7.12% | 68.66% | 73.48% | 78.10% | 82.24% | 85.40% |

Table showing PCV performance rates for commercial and Medicaid plans, 2019 -2021.

| Measurement Year | Plan Type | Total Number of Plans (N) | Rotavirus Performance Rates (%) | Rotavirus Performance Rates (%) | Rotavirus Performance Rates (%) | Rotavirus Performance Rates (%) | Rotavirus Performance Rates (%) | Rotavirus Performance Rates (%) | Rotavirus Performance Rates (%) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | Standard Deviation | 10th Percentile | 25th Percentile | 50th Percentile | 75th Percentile | 90th Percentile |
| 2021 | Commercial | 394 | 81.96% | 8.20% | 71.22% | 79.03% | 83.83% | 87.22% | 89.77% |
| 2020 | Commercial | 391 | 80.25% | 10.34% | 65.40% | 76.81% | 82.97% | 87.13% | 89.69% |
| 2019 | Commercial | 386 | 80.58% | 9.78% | 66.78% | 77.62% | 82.73% | 86.73% | 89.72% |
| 2021 | Medicaid | 241 | 68.40% | 9.77% | 59.12% | 64.72% | 69.59% | 73.72% | 78.59% |
| 2020 | Medicaid | 239 | 71.30% | 8.83% | 62.29% | 67.64% | 72.22% | 76.40% | 80.56% |
| 2019 | Medicaid | 241 | 71.16% | 8.55% | 62.53% | 67.40% | 72.02% | 76.40% | 79.81% |

Table showing Rotavirus performance rates for commercial and Medicaid plans, 2019 -2021.

| Measurement Year | Plan Type | Total Number of Plans (N) | VZV Performance Rates (%) | VZV Performance Rates (%) | VZV Performance Rates (%) | VZV Performance Rates (%) | VZV Performance Rates (%) | VZV Performance Rates (%) | VZV Performance Rates (%) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | Standard Deviation | 10th Percentile | 25th Percentile | 50th Percentile | 75th Percentile | 90th Percentile |
| 2021 | Commercial | 394 | 90.85% | 3.85% | 86.50% | 88.81% | 91.17% | 93.55% | 95.13% |
| 2020 | Commercial | 391 | 90.77% | 4.66% | 86.02% | 88.90% | 91.63% | 93.49% | 95.23% |
| 2019 | Commercial | 387 | 91.05% | 4.46% | 85.91% | 89.29% | 91.73% | 94.02% | 95.28% |
| 2021 | Medicaid | 241 | 88.42% | 4.41% | 82.97% | 86.37% | 88.81% | 91.44% | 93.19% |
| 2020 | Medicaid | 239 | 87.01% | 4.14% | 81.75% | 84.43% | 87.35% | 89.78% | 92.21% |
| 2019 | Medicaid | 241 | 82.89% | 5.68% | 76.64% | 80.05% | 83.45% | 86.37% | 89.02% |

Table showing VZV performance rates for commercial and Medicaid plans, 2019 -2021.

| Measurement Year | Plan Type | Total Number of Plans | Average Denominator Size |
|---|---|---|---|
| 2021 | Commercial | 394 | 593 |
| 2020 | Commercial | 391 | 679 |
| 2019 | Commercial | 387 | 634 |
| 2021 | Medicaid | 241 | 580 |
| 2020 | Medicaid | 239 | 633 |
| 2019 | Medicaid | 241 | 517 |

Table showing total numbers of plans and average denominator size for commercial and Medicaid plans, 2019 - 2021.

**[Response Ends]**

**1b.03. If no or limited performance data on the measure as specified is reported above, then provide a summary of data from the literature that indicates opportunity for improvement or overall less than optimal performance on the specific focus of measurement. Include citations.**

**[Response Begins]**

N/A - measure performance data is available.

**[Response Ends]**

**1b.04. Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity, gender, age, insurance status, socioeconomic status, and/or disability.**

*Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included. Include mean, std dev, min, max, interquartile range, and scores by decile. For measures that show high levels of performance, i.e., "topped out", disparities data may demonstrate an opportunity for improvement/gap in care for certain sub-populations. This information also will be used to address the sub-criterion on improvement (4b) under Usability and Use.*

**[Response Begins]**

HEDIS data are stratified by type of insurance (e.g. Commercial, Medicaid, Medicare). While not specified in the measure, this measure can also be stratified by demographic variables, such as race/ethnicity or socioeconomic status, in order to assess the presence of health care disparities, if the data are available to a plan. The HEDIS Race/Ethnicity Diversity of Membership and the Language Diversity of Membership measures were designed to promote standardized methods for collecting these data and follow Office of Management and Budget and Institute of Medicine guidelines for collecting and categorizing race/ethnicity and language data. In addition, NCQA's Multicultural Health Care Distinction Program outlines standards for collecting, storing, and using race/ethnicity and language data to assess health care disparities.

**[Response Ends]**

**1b.05. If no or limited data on disparities from the measure as specified is reported above, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations. Not necessary if performance data provided in above.**

**[Response Begins]**

Variations in immunization coverage exist among some populations. Data from the National Immunization Survey showed that national coverage with most routine childhood vaccines remained stable. However, disparities in immunization coverage have been seen in uninsured patients, Black and Hispanic patients, and patients living below the federal poverty line compared to individuals who were privately insured, White, or living at or above the poverty line (Hill et al., 2021).

(Hill, Holly A., et al. *Vaccination Coverage by Age 24 Months Among Children Born in 2017 and 2018 – National Immunization Survey-Child, United States, 2018-2020*. No. 41, 2021, p. 6.)

**[Response Ends]**

## 2. Scientific Acceptability of Measure Properties

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. Measures must be judged to meet the sub criteria for both reliability and validity to pass this criterion and be evaluated against the remaining criteria.

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**spma.01. Indicate whether there are changes to the specifications since the last updates/submission. If yes, update the specifications in the Measure Specifications section of the Measure Submission Form, and explain your reasoning for the changes below.**

**[Response Begins]**

Yes

**[Yes Please Explain]**

Measure specification was changed to provide clarity on the hospice required exclusion.

**[Response Ends]**

**spma.02. Briefly describe any important changes to the measure specifications since the last measure update and provide a rationale.**

**For annual updates, please explain how the change in specifications affects the measure results. If a material change in specification is identified, data from re-testing of the measure with the new specifications is required for early maintenance review.**

*For example, specifications may have been updated based on suggestions from a previous NQF CDP review.*

**[Response Begins]**

We have not made any important changes to the measure specifications since the last measure review.

**[Response Ends]**

**sp.01. Provide the measure title.**

*Measure titles should be concise yet convey who and what is being measured (see What Good Looks Like).*

**[Response Begins]**

Childhood Immunization Status (CIS)

**[Response Ends]**

**sp.02. Provide a brief description of the measure.**

*Including type of score, measure focus, target population, timeframe, (e.g., Percentage of adult patients aged 18-75 years receiving one or more HbA1c tests per year).*

**[Response Begins]**

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. The

Childhood Immunization Status measure includes an indicator for each individual vaccine. In addition to the individual indicators, NCQA uses various combination rates in its quality measurement programs. However, given the burden of testing needs and the magnitude of data that would need to be generated for NQF endorsement if combination rates were submitted, NCQA has opted to submit the measure with only the individual indicators that form the foundation of the measure.

**[Response Ends]**

**sp.04. Check all the clinical condition/topic areas that apply to your measure, below.**

*Please refrain from selecting the following answer option(s). We are in the process of phasing out these answer options and request that you instead select one of the other answer options as they apply to your measure.*

*Please do not select:*

- *Surgery: General*

**[Response Begins]**

Infectious Diseases (ID)

**[Response Ends]**

**sp.05. Check all the non-condition specific measure domain areas that apply to your measure, below.**

**[Response Begins]**

Immunization

Primary Prevention

**[Response Ends]**

**sp.06. Select one or more target population categories.**

*Select only those target populations which can be stratified in the reporting of the measure's result.*

*Please refrain from selecting the following answer option(s). We are in the process of phasing out these answer options and request that you instead select one of the other answer options as they apply to your measure.*

*Please do not select:*

- *Populations at Risk: Populations at Risk*

**[Response Begins]**

Children (Age < 18)

**[Response Ends]**

**sp.07. Select the levels of analysis that apply to your measure.**

*Check ONLY the levels of analysis for which the measure is SPECIFIED and TESTED.*

*Please refrain from selecting the following answer option(s). We are in the process of phasing out these answer options and request that you instead select one of the other answer options as they apply to your measure.*

*Please do not select:*

- *Clinician: Clinician*
- *Population: Population*

**[Response Begins]**

Health Plan

**[Response Ends]**

**sp.08. Indicate the care settings that apply to your measure.**

*Check ONLY the settings for which the measure is SPECIFIED and TESTED.*

**[Response Begins]**

Outpatient Services

**[Response Ends]**

**sp.09. Provide a URL link to a web page specific for this measure that contains current detailed specifications including code lists, risk model details, and supplemental materials.**

*Do not enter a URL linking to a home page or to general information. If no URL is available, indicate "none available".*

**[Response Begins]**

N/A

**[Response Ends]**

**sp.12. Attach the data dictionary, code table, or value sets (and risk model codes and coefficients when applicable). Excel formats (.xlsx or .csv) are preferred.**

*Attach an excel or csv file; if this poses an issue, contact staff. Provide descriptors for any codes. Use one file with multiple worksheets, if needed.*

**[Response Begins]**

Available in attached Excel or csv file

**[Response Ends]**

Attachment: 0038_0038 CIS Fall 2022 Value Sets-508.xlsx

**sp.13. State the numerator.**

*Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome).*

*DO NOT include the rationale for the measure.*

**[Response Begins]**

Children who received the recommended vaccines by their second birthday.

**[Response Ends]**

**sp.14. Provide details needed to calculate the numerator.**

*All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, time period for data collection, specific data collection items/responses, code/value sets.*

*Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at sp.11.*

**[Response Begins]**

Children with evidence of the following.

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 (i.e., DTaP and MMR), the organization must find evidence of all of the antigens.

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  ADMINISTRATIVE

- DTaP: At least four DTaP vaccinations (DTaP Vaccine Administered 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.

  (See corresponding Excel document for the DtaP Vaccine Administered Value Set)

- IPV: At least three IPV vaccinations (Inactivated Polio Vaccine (IPV) Administered 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.

  (See corresponding Excel document for the Inactivated Polio Vaccine (IPV) Administered Value Set)

- MMR: Any of the following on or before the child's second birthday meet criteria:
- At least one MMR vaccination (Measles, Mumps and Rubella (MMR) Vaccine Administered Value Set).
- At least one measles and rubella vaccination (Measles/Rubella Vaccine Administered Value Set) and at least one mumps vaccination or history of the illness (Mumps Vaccine Administered Value Set; Mumps Value Set) on the same date of service or on different dates of service.
- At least one measles vaccination or history of the illness (Measles Vaccine Administered Value Set; Measles Value Set) and at least one mumps vaccination or history of the illness (Mumps Vaccine Administered Value Set; Mumps Value Set) and at least one rubella vaccination or history of the illness (Rubella Vaccine Administered Value Set; Rubella Value Set) on the same date of service or on different dates of service.

  Note: General Guideline 39 (i.e., the 14-day rule) does not apply to MMR.

  (See corresponding Excel document for the appropriate value sets)

- HiB: At least three HiB vaccinations (Haemophilus Influenzae Type B (HiB) Vaccine Administered 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.

  (See corresponding Excel document for the Haemophilus Influenzae Type B (HiB) Vaccine Administered Value Set)

- Hepatitis B: Any of the following on or before the child's second birthday meet criteria:
    - At least three hepatitis B vaccinations (Hepatitis B Vaccine Administered 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).

      (See corresponding Excel document for the appropriate value sets)
- VZV: Either of the following on or before the child's second birthday meet criteria:
    - At least one VZV vaccination (Varicella Zoster (VZV) Vaccine Administered Value Set), with a date of service on or before the child's second birthday.
    - History of varicella zoster (e.g., chicken pox) illness (Varicella Zoster Value Set).

      (See corresponding Excel document for the appropriate value sets)
- Pneumoncoccal conjugate: At least four pneumococcal conjugate vaccinations (Pneumococcal Conjugate Vaccine Administered 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.

  (See corresponding Excel document for the Pneumococcal Conjugate Vaccine Administered Value Set)
- Hepatitis A: Either of the following on or before the child's second birthday meet criteria:
    - At least one hepatitis A vaccination (Hepatitis A Vaccine Administered Value Set), with a date of service on or before the child's second birthday.
    - History of hepatitis A illness (Hepatitis A Value Set).

      (See corresponding Excel document for the above value sets)
- 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 Vaccine [2 Dose Schedule] Administered Value Set) on different dates of service.
    - At least three doses of the three-dose rotavirus vaccine (Rotavirus Vaccine [3 Dose Schedule] Administered Value Set) on different dates of service.
    - At least one dose of the two-dose rotavirus vaccine (Rotavirus Vaccine [2 Dose Schedule] Administered Value Set) and at least two doses of the three-dose rotavirus vaccine (Rotavirus Vaccine [3 Dose Schedule] Administered Value Set), all on different dates of service.

      (See corresponding Excel document for the appropriate value sets)
- Influenza: At least two influenza vaccinations (Influenza Vaccine Administered 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.

  (See corresponding Excel document for the Influenza Value Set)

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  MEDICAL RECORD

  For immunization evidence obtained from the medical record, count members 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 member's second birthday.

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.

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.

**[Response Ends]**

**sp.15. State the denominator.**

*Brief, narrative description of the target population being measured.*

**[Response Begins]**

Children who turn 2 years of age during the measurement year.

**[Response Ends]**

**sp.16. Provide details needed to calculate the denominator.**

*All information required to identify and calculate the target population/denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets.*

*Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at sp.11.*

**[Response Begins]**

Step 1: Identify children who turned 2 years of age during the measurement year

Step 2: Remove all children who are not enrolled 12 months prior to the child's second birthday

Step 3: Assess allowable gaps - 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.

Step 4: Remove all required exclusions listed in sp.18

Step 5: Repeat Steps 1-4 for each vaccine for a total of 10 separate rates.

**[Response Ends]**

**sp.17. Describe the denominator exclusions.**

*Brief narrative description of exclusions from the target population.*

**[Response Begins]**

Exclude children who were in hospice, had a contraindication for a specific vaccine, or have immunodeficiencies.

**[Response Ends]**

**sp.18. Provide details needed to calculate the denominator exclusions.**

*All information required to identify and calculate exclusions from the denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at sp.11.*

**[Response Begins]**

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

- Children in hospice or using hospice services
- Severe combined immunodeficiency (Severe Combined Immunodeficiency Value Set)
- 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).
- Intussusception (Intussusception Value Set).

**[Response Ends]**

**sp.19. Provide all information required to stratify the measure results, if necessary.**

*Include the stratification variables, definitions, specific data collection items/responses, code/value sets, and the risk-model covariates and coefficients for the clinically-adjusted version of the measure when appropriate. Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format in the Data Dictionary field.*

**[Response Begins]**

N/A

**[Response Ends]**

**sp.20. Is this measure adjusted for socioeconomic status (SES)?**

**[Response Begins]**

No

**[Response Ends]**

**sp.21. Select the risk adjustment type.**

*Select type. Provide specifications for risk stratification and/or risk models in the Scientific Acceptability section.*

**[Response Begins]**

No risk adjustment or risk stratification

**[Response Ends]**

**sp.22. Select the most relevant type of score.**

*Attachment: If available, please provide a sample report.*

**[Response Begins]**

Rate/proportion

**[Response Ends]**

**sp.23. Select the appropriate interpretation of the measure score.**

*Classifies interpretation of score according to whether better quality or resource use is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score*

**[Response Begins]**

Better quality = Higher score

**[Response Ends]**

**sp.24. Diagram or describe the calculation of the measure score as an ordered sequence of steps.**

*Identify the target population; exclusions; cases meeting the target process, condition, event, or outcome; time period of data, aggregating data; risk adjustment; etc.*

**[Response Begins]**

Step 1. Determine the eligible population. The eligible population is all children who satisfy the criteria in section sp.15. above.

Step 2. Identify children who meet numerator criteria described in section sp.14.

Step 3. Calculate the denominator: for children who do not show a positive numerator event, remove from the eligible population children identified as having a contraindication for a vaccine (exclusion) as specified in section sp.17.

Step 4. Calculate the rate by dividing the number of children in step 2 (numerator) by the number of children in step 3 (denominator).

**[Response Ends]**

**sp.27. If measure testing is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.**

*Examples of samples used for testing:*

*• Testing may be conducted on a sample of the accountable entities (e.g., hospital, physician). The analytic unit specified for the particular measure (e.g., physician, hospital, home health agency) determines the sampling strategy for scientific acceptability testing.*

*• The sample should represent the variety of entities whose performance will be measured. The 2010 Measure Testing Task Force recognized that the samples used for reliability and validity testing often have limited generalizability because measured entities volunteer to participate. Ideally, however, all types of entities whose performance will be measured should be included in reliability and validity testing.*

*• The sample should include adequate numbers of units of measurement and adequate numbers of patients to answer the specific reliability or validity question with the chosen statistical method.*

*• When possible, units of measurement and patients within units should be randomly selected.*

**[Response Begins]**

This measure can be reported using Administrative and/or Medical Record data. For organizations that choose to report the measure using Medical Record data, a sample size of 411 is used. A sample size of 411 is used because it allows for the 95% confidence interval around the rate, meaning that a 5% difference in plan performance is statistically significant. NCQA provides a Random Number table that organizations can use to assist with sample selection.

**[Response Ends]**

**sp.30. Select only the data sources for which the measure is specified.**

**[Response Begins]**

Claims

Paper Medical Records

**[Response Ends]**

**sp.31. Identify the specific data source or data collection instrument.**

*For example, provide the name of the database, clinical registry, collection instrument, etc., and describe how data are collected.*

**[Response Begins]**

This measure is based on administrative claims and medical record documentation collected in the course of providing care to health plan members. NCQA collects the Healthcare Effectiveness Data and Information Set (HEDIS) data for this measure directly from Health Management Organizations and Preferred Provider Organizations via NCQA's online data submission system.

**[Response Ends]**

**sp.32. Provide the data collection instrument.**

**[Response Begins]**

No data collection instrument provided

**[Response Ends]**

**2ma.01. Indicate whether additional empirical reliability testing at the accountable entity level has been conducted. If yes, please provide results in the following section, Scientific Acceptability: Reliability - Testing. Include information on all testing conducted (prior testing as well as any new testing).**

***Please separate added or updated information from the most recent measure evaluation within each question response in the Scientific Acceptability sections. For example:***

***Current Submission:***

*Updated testing information here.*

***Previous Submission:***

*Testing from the previous submission here.*

**[Response Begins]**

Yes

**[Response Ends]**

**2ma.02. Indicate whether additional empirical validity testing at the accountable entity level has been conducted. If yes, please provide results in the following section, Scientific Acceptability: Validity - Testing. Include information on all testing conducted (prior testing as well as any new testing).**

***Please separate added or updated information from the most recent measure evaluation within each question response in the Scientific Acceptability sections. For example:***

***Current Submission:***

*Updated testing information here.*

***Previous Submission:***

*Testing from the previous submission here.*

**[Response Begins]**

Yes

**[Response Ends]**

**2ma.03. For outcome, patient-reported outcome, resource use, cost, and some process measures, risk adjustment/stratification may be conducted. Did you perform a risk adjustment or stratification analysis?**

**[Response Begins]**

No

**[Response Ends]**

**2ma.04. For maintenance measures in which risk adjustment/stratification has been performed, indicate whether additional risk adjustment testing has been conducted since the most recent maintenance evaluation. This may include updates to the risk adjustment analysis with additional clinical, demographic, and social risk factors.**

**Please update the Scientific Acceptability: Validity - Other Threats to Validity section.**

**Note: This section must be updated even if social risk factors are not included in the risk adjustment strategy.**

**[Response Begins]**

No additional risk adjustment analysis included

**[Response Ends]**

Measure testing must demonstrate adequate reliability and validity in order to be recommended for endorsement. Testing may be conducted for data elements and/or the computed measure score. Testing information and results should be entered in the appropriate fields in the Scientific Acceptability sections of the Measure Submission Form.

- Measures must be tested for all the data sources and levels of analyses that are specified. If there is more than one set of data specifications or more than one level of analysis, contact NQF staff about how to present all the testing information in one form.
- All required sections must be completed.
- For composites with outcome and resource use measures, Questions 2b.23-2b.37 (Risk Adjustment) also must be completed.
- If specified for multiple data sources/sets of specifications (e.g., claims and EHRs), Questions 2b.11-2b.13 also must be completed.
- An appendix for supplemental materials may be submitted (see Question 1 in the Additional section), but there is no guarantee it will be reviewed.
- Contact NQF staff with any questions. Check for resources at the Submitting Standards webpage.
- For information on the most updated guidance on how to address social risk factors variables and testing in this form refer to the release notes for the 2021 Measure Evaluation Criteria and Guidance.

Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the testing results for this measure meet NQF's evaluation criteria for testing.

2a. Reliability testing demonstrates the measure data elements are repeatable, producing the same results a high proportion of the time when assessed in the same population in the same time period and/or that the measure score is precise. For instrument-based measures (including PRO-PMs) and composite performance measures, reliability should be demonstrated for the computed performance score.

2b1. Validity testing demonstrates that the measure data elements are correct and/or the measure score correctly reflects the quality of care provided, adequately identifying differences in quality. For instrument based measures (including PRO-PMs) and composite performance measures, validity should be demonstrated for the computed performance score.

2b2. Exclusions are supported by the clinical evidence and are of sufficient frequency to warrant inclusion in the specifications of the measure;

AND

If patient preference (e.g., informed decision-making) is a basis for exclusion, there must be evidence that the exclusion impacts performance on the measure; in such cases, the measure must be specified so that the information about patient preference and the effect on the measure is transparent (e.g., numerator category computed separately, denominator exclusion category computed separately).

2b3. For outcome measures and other measures when indicated (e.g., resource use):

- an evidence-based risk-adjustment strategy (e.g., risk models, risk stratification) is specified; is based on patient factors (including clinical and social risk factors) that influence the measured outcome and are present at start of care; 14,15 and has demonstrated adequate discrimination and calibration
- rationale/data support no risk adjustment/ stratification.

2b4. Data analysis of computed measure scores demonstrates that methods for scoring and analysis of the specified measure allow for identification of statistically significant and practically/clinically meaningful 16 differences in performance;

OR

there is evidence of overall less-than-optimal performance.

2b5. If multiple data sources/methods are specified, there is demonstration they produce comparable results.

2b6. Analyses identify the extent and distribution of missing data (or nonresponse) and demonstrate that performance results are not biased due to systematic missing data (or differences between responders and non-responders) and how the specified handling of missing data minimizes bias.

2c. For composite performance measures, empirical analyses support the composite construction approach and demonstrate that:

2c1. the component measures fit the quality construct and add value to the overall composite while achieving the related objective of parsimony to the extent possible; and

2c2. the aggregation and weighting rules are consistent with the quality construct and rationale while achieving the related objective of simplicity to the extent possible.

(if not conducted or results not adequate, justification must be submitted and accepted)

**Definitions**

Reliability testing applies to both the data elements and computed measure score. Examples of reliability testing for data elements include, but are not limited to: inter-rater/abstractor or intra-rater/abstractor studies; internal consistency for multi-item scales; test-retest for survey items. Reliability testing of the measure score addresses precision of measurement (e.g., signal-to-noise).

Validity testing applies to both the data elements and computed measure score. Validity testing of data elements typically analyzes agreement with another authoritative source of the same information. Examples of validity testing of the measure score include, but are not limited to: testing hypotheses that the measures scores indicate quality of care, e.g., measure scores are different for groups known to have differences in quality assessed by another valid quality measure or method; correlation of measure scores with another valid indicator of quality for the specific topic; or relationship to conceptually related measures (e.g., scores on process measures to scores on outcome measures). Face validity of the measure score as a quality indicator may be adequate if accomplished through a systematic and transparent process, by identified experts, and explicitly addresses whether performance scores resulting from the measure as specified can be used to distinguish good from poor quality. The degree of consensus and any areas of disagreement must be provided/discussed.

Examples of evidence that an exclusion distorts measure results include, but are not limited to: frequency of occurrence, variability of exclusions across providers, and sensitivity analyses with and without the exclusion.

Patient preference is not a clinical exception to eligibility and can be influenced by provider interventions.

Risk factors that influence outcomes should not be specified as exclusions.

With large enough sample sizes, small differences that are statistically significant may or may not be practically or clinically meaningful. The substantive question may be, for example, whether a statistically significant difference of one percentage point in the percentage of patients who received smoking cessation counseling (e.g., 74 percent v. 75 percent) is clinically meaningful; or whether a statistically significant difference of $25 in cost for an episode of care (e.g., $5,000 v.$5,025) is practically meaningful. Measures with overall less-than-optimal performance may not demonstrate much variability across providers.

Please separate added or updated information from the most recent measure evaluation within each question response in the Scientific Acceptability sections. For example:

**Current Submission:**

Updated testing information here.

**Previous (Year) Submission:**

Testing from the previous submission here.

**2a.01. Select only the data sources for which the measure is tested.**

**[Response Begins]**

Claims

Paper Medical Records

**[Response Ends]**

**2a.02. If an existing dataset was used, identify the specific dataset.**

*The dataset used for testing must be consistent with the measure specifications for target population and healthcare entities being measured; e.g., Medicare Part A claims, Medicaid claims, other commercial insurance, nursing home MDS, home health OASIS, clinical registry).*

**[Response Begins]**

HEDIS Submissions

**[Response Ends]**

**2a.03. Provide the dates of the data used in testing.**

*Use the following format: "MM-DD-YYYY - MM-DD-YYYY"*

**[Response Begins]**

01-01-2018 – 12-31-2020

**[Response Ends]**

**2a.04. Select the levels of analysis for which the measure is tested.**

*Testing must be provided for all the levels specified and intended for measure implementation, e.g., individual clinician, hospital, health plan.*

*Please refrain from selecting the following answer option(s). We are in the process of phasing out these answer options and request that you instead select one of the other answer options as they apply to your measure.*

*Please do not select:*

- *Clinician: Clinician*
- *Population: Population*

**[Response Begins]**

Health Plan

**[Response Ends]**

**2a.05. List the measured entities included in the testing and analysis (by level of analysis and data source).**

*Identify the number and descriptive characteristics of measured entities included in the analysis (e.g., size, location, type); if a sample was used, describe how entities were selected for inclusion in the sample.*

**[Response Begins]**

This measure assesses whether child members enrolled in Medicaid and commercial health plans had vaccines for diphtheria; tetanus and acellular pertussis (DTaP), polio (IPV), measles, mumps, and rubella (MMR), haemophilus influenza type B (HiB), hepatitis B (HepB), chicken pox (VZV), pneumococcal conjugate (PCV), hepatitis A (HepA), rotavirus (RV); and influenza (flu) by their second birthday. Testing was done at the health-plan level, which is appropriate for the level of reporting for this measure. Data used to assess reliability were calculated from all Medicaid and commercial health plans submitting data to NCQA for this HEDIS measure. Data came from 239 Medicaid health plans and 391 commercial health plans that were geographically diverse and varied in size.

**[Response Ends]**

**2a.06. Identify the number and descriptive characteristics of patients included in the analysis (e.g., age, sex, race, diagnosis), separated by level of analysis and data source; if a sample was used, describe how patients were selected for inclusion in the sample.**

*If there is a minimum case count used for testing, that minimum must be reflected in the specifications.*

**[Response Begins]**

Data is summarized at the health plan level and stratified by plan type (i.e. commercial, Medicaid,). Below is a description of the sample. It includes number of health plans submitting the measure for HEDIS and the median eligible population for the measure across plans.

| Plan Type | Number of Plans | Median number of eligible patients per plan |
|---|---|---|
| Commercial | 391 | 664 |
| Medicaid | 239 | 3,293 |

Table compares commercial and Medicaid plans by the number of plans and median number of eligible patients per plan

**[Response Ends]**

**2a.07. If there are differences in the data or sample used for different aspects of testing (e.g., reliability, validity, exclusions, risk adjustment), identify how the data or sample are different for each aspect of testing.**

**[Response Begins]**

No differences in the data. The same data samples were used for all aspects of testing.

**[Response Ends]**

**2a.08. List the social risk factors that were available and analyzed.**

*For example, patient-reported data (e.g., income, education, language), proxy variables when social risk data are not collected from each patient (e.g. census tract), or patient community characteristics (e.g. percent vacant housing, crime rate) which do not have to be a proxy for patient-level data.*

**[Response Begins]**

We did not analyze social risk factors. This measure is specified to be reported separately by Medicaid and commercial plan types, which serves as a proxy for income and other socioeconomic factors.

**[Response Ends]**

Note: If accuracy/correctness (validity) of data elements was empirically tested, separate reliability testing of data elements is not required – in 2a.09 check patient or encounter-level data; in 2a.010 enter “see validity testing section of data elements”; and enter “N/A” for 2a.11 and 2a.12.

**2a.09. Select the level of reliability testing conducted.**

*Choose one or both levels.*

**[Response Begins]**

Accountable Entity Level (e.g., signal-to-noise analysis)

**[Response Ends]**

**2a.10. For each level of reliability testing checked above, describe the method of reliability testing and what it tests.**

*Describe the steps—do not just name a method; what type of error does it test; what statistical analysis was used.*

**[Response Begins]**

Methodology described by John Adams (Adams, J.L. The Reliability of Provider Profiling: A Tutorial. Santa Monica, California: RAND Corporation. TR-653-NCQA, 2009) was used to calculate signal-to-noise reliability. Reliability was estimated by using the beta-binomial model. This model assesses how well one can confidently distinguish the performance of one reporting entity to another. For HEDIS measures, the health plan is the reporting entity.

The Beta-binomial model is an appropriate model when estimating the reliability of simple pass/fail rate measures. Reliability scores range from 0.0 to 1.0. A score of zero implies that all variation is attributed to measurement error, whereas a reliability of 1.0 implies that all variation is caused by a real difference in performance across reporting entities. The higher the reliability score, the greater is the confidence with which one can distinguish the performance of one plan from another.

The formula for signal-to-noise reliability is:

Signal-to-noise reliability = $\sigma^2_{\text{plan-to-plan}} / (\sigma^2_{\text{plan-to-plan}} + \sigma^2_{\text{error}})$

Therefore, we need to estimate two variances: 1) variance between plans ($\sigma^2_{\text{plan-to-plan}}$); 2) variance within plans ($\sigma^2_{\text{error}}$).

1. Variance between plans = $\sigma^2_{\text{plan-to-plan}} = (\alpha\ \beta) / (\alpha + \beta + 1)(\alpha + \beta)^2$

$\alpha$ and $\beta$ are two shape parameters of the Beta-Binomial distribution, $\alpha > 0$, $\beta > 0$

1. Variance within plans: $\sigma^2_{\text{error}} = \hat{p}\ (1- \hat{p})/n$

$\hat{p}$ = observed rate for the plan

n = plan-specific denominator for the observed rate (most often the number of eligible plan members)

Using Adams' (2009) methodology, we estimated the reliability for each reporting entity, then averaged these reliability estimates across all reporting entities to produce a point estimate of signal-to-noise reliability. We label this point estimate "mean signal-to-noise reliability". The mean signal-to-noise reliability measures how well, on average, the measure can differentiate between reporting entity performance on the measure.

Along with the point estimate of mean signal-to-noise reliability, we are also providing the distribution of the plan-level (and provider-level) signal-to-noise reliability estimates. Each reporting unit's reliability estimate is a ratio of signal to noise, as described above [$\sigma^2_{\text{plan-to-plan}} / (\sigma^2_{\text{plan-to-plan}} + \sigma^2_{\text{error}})$]. Variability between reporting units ($\sigma^2_{\text{plan-to-plan}}$) is the same for each unit, while the specific reporting unit error ($\sigma^2_{\text{error}}$) varies. Reliability for each reporting unit is an ordinal measure of how well one can determine where that entity lies in the distribution across reporting units, with higher estimates indicating better reliability.

**[Response Ends]**

**2a.11. For each level of reliability testing checked above, what were the statistical results from reliability testing?**

*For example, provide the percent agreement and kappa for the critical data elements, or distribution of reliability statistics from a signal-to-noise analysis. For score-level reliability testing, when using a signal-to-noise analysis,*

*more than just one overall statistic should be reported (i.e., to demonstrate variation in reliability across providers). If a particular method yields only one statistic, this should be explained. In addition, reporting of results stratified by sample size is preferred (pg. 18, NQF Measure Evaluation Criteria).*

**[Response Begins]**

| * | Overall Reliability | Overall Reliability |
|---|---|---|
| **Measure Rate** | **Commercial** | **Medicaid** |
| DTaP | 0.93 | 0.92 |
| Hepatitis A | 0.83 | 0.87 |
| Hepatitis B | 0.98 | 0.93 |
| HiB | 0.93 | 0.91 |
| Influenza | 0.93 | 0.95 |
| IPV | 0.94 | 0.92 |
| MMR | 0.81 | 0.83 |
| Pneumococcal Conjugate | 0.94 | 0.93 |
| Rotavirus | 0.93 | 0.93 |
| VZV | 0.81 | 0.83 |

Table compares overall reliability of commercial and Medicaid measures

*Cell intentionally left empty

**Individual Plan Reliability**

**(Average, 10th percentile, Median, 90th percentile)**

| Measure Rate | Commercial | Commercial | Commercial | Commercial | Medicaid | Medicaid | Medicaid | Medicaid |
|---|---|---|---|---|---|---|---|---|
| | **Avg** | **10th** | **50th** | **90th** | **Avg** | **10th** | **50th** | **90th** |
| DTaP | 0.93 | 0.84 | 0.96 | 0.98 | 0.92 | 0.91 | 0.93 | 0.95 |
| Hepatitis A | 0.83 | 0.64 | 0.87 | 0.93 | 0.87 | 0.82 | 0.88 | 0.92 |
| Hepatitis B | 0.98 | 0.95 | 0.99 | 0.99 | 0.93 | 0.89 | 0.94 | 0.97 |
| HiB | 0.93 | 0.83 | 0.96 | 0.98 | 0.91 | 0.88 | 0.92 | 0.96 |
| Influenza | 0.93 | 0.84 | 0.95 | 0.97 | 0.95 | 0.94 | 0.95 | 0.96 |
| IPV | 0.94 | 0.86 | 0.97 | 0.98 | 0.92 | 0.88 | 0.93 | 0.96 |
| MMR | 0.81 | 0.57 | 0.86 | 0.92 | 0.83 | 0.76 | 0.84 | 0.90 |
| Pneumococcal Conjugate | 0.94 | 0.85 | 0.96 | 0.98 | 0.93 | 0.91 | 0.93 | 0.96 |
| Rotavirus | 0.93 | 0.83 | 0.96 | 0.97 | 0.93 | 0.92 | 0.93 | 0.95 |
| VZV | 0.81 | 0.56 | 0.86 | 0.92 | 0.83 | 0.77 | 0.84 | 0.90 |

Table compares individual plan reliability of commercial and Medicaid measures

**[Response Ends]**

**2a.12. Interpret the results, in terms of how they demonstrate reliability.**

*(In other words, what do the results mean and what are the norms for the test conducted?)*

**[Response Begins]**

In general, a score of 0.7 or higher suggests the measure has adequate reliability. The results suggest the measure has good reliability.

**[Response Ends]**

**2b.01. Select the level of validity testing that was conducted.**

**[Response Begins]**

Empirical validity testing

**[Response Ends]**

**2b.02. For each level of testing checked above, describe the method of validity testing and what it tests.**

*Describe the steps—do not just name a method; what was tested, e.g., accuracy of data elements compared to authoritative source, relationship to another measure as expected; what statistical analysis was used.*

**[Response Begins]**

NCQA performs Pearson correlation for construct validity using HEDIS health plan data. The test estimates the strength of linear association between two continuous variables; the magnitude of correlation ranges from -1 and +1. A value of 1 indicates a strong positive linear association: an increase in values of one variable is associated with increase in value of another variable. A value of 0 indicates no linear association. A value of -1 indicates a strong negative relationship in which an increase in values of the first variable is associated with a decrease in values of the second variable. The significance of a correlation coefficient is evaluated by testing the hypothesis that an observed coefficient calculated for the sample is different from zero. The resulting p-value indicates the probability of obtaining a difference at least as large as the one observed due to chance alone. We used a threshold of 0.05 to evaluate the test results. P-values less than this threshold imply that it is unlikely that a non-zero coefficient was observed due to chance alone.

CIS was compared to a similar measure, Immunizations for Adolescents (IMA), which assesses the percentage of adolescents 13 years of age who had one dose of meningococcal conjugate vaccine, one tetanus, diphtheria toxoids and acellular pertussis (Tdap) vaccine, and have completed the human papillomavirus (HPV) vaccine series by their 13th birthday. The measures were compared to each other along the following indicator sets:

| CIS Indicator | IMA Indicator | Rationale |
|---|---|---|
| DTaP | Tdap | Both assess the same type of vaccine |
| MMR | Tdap | Similar dosing requirements |
| Rotavirus | HPV | Similar dosing requirements |
| VZV (Varicella) | Meningococcal | Similar dosing requirements |

Table comparing CIS and IMA indicators with the rationale of the comparison

**[Response Ends]**

**2b.03. Provide the statistical results from validity testing.**

*Examples may include correlations or t-test results.*

**[Response Begins]**

Commercial

| CIS Indicator | IMA Indicator | Correlation |
|---|---|---|
| DtaP | Tdap | 0.79 |
| MMR | Tdap | 0.67 |
| Rotavirus | HPV | 0.52 |
| VZV (Varicella) | Meningococcal | 0.59 |

Table comparing CIS and IMA commercial indicators by correlation

Medicaid

| CIS Indicator | IMA Indicator | Correlation |
|---|---|---|
| DtaP | Tdap | 0.59 |
| MMR | Tdap | 0.55 |
| Rotavirus | HPV | 0.41 |
| VZV (Varicella) | Meningococcal | 0.54 |

Table comparing CIS and IMA Medicaid indicators by correlation

**[Response Ends]**

**2b.04. Provide your interpretation of the results in terms of demonstrating validity. (i.e., what do the results mean and what are the norms for the test conducted?)**

**[Response Begins]**

The pairs of indicators are all positively associated with each other, across both product lines. Correlations were moderate to high. The results indicate that as health plans improve rates for one measure, rates for the other also improve, which is reasonable given the similarities between the measures.

**[Response Ends]**

**2b.05. Describe the method for determining if statistically significant and clinically/practically meaningful differences in performance measure scores among the measured entities can be identified.**

*Describe the steps—do not just name a method; what statistical analysis was used? Do not just repeat the information provided in Importance to Measure and Report: Gap in Care/Disparities.*

**[Response Begins]**

To demonstrate meaningful differences in performance, NCQA calculates an inter-quartile range (IQR) for each indicator. The IQR provides a measure of the dispersion of performance. The IQR can be interpreted as the difference between the 25th and 75th percentile on a measure.

To determine if this difference is statistically significant, NCQA calculates an independent sample t-test of the performance difference between two randomly selected reporting units from each group (below 25$^{th}$ and above 75$^{th}$ percentiles). The t-test method calculates a testing statistic based on the sample size, performance rate, and standardized error of each reporting unit. The test statistic is then compared against a normal distribution. If the p-value of the test statistic is less than .05, then the two reporting units' performance are significantly different from each other.

**[Response Ends]**

**2b.06. Describe the statistical results from testing the ability to identify statistically significant and/or clinically/practically meaningful differences in performance measure scores across measured entities.**

*Examples may include number and percentage of entities with scores that were statistically significantly different from mean or some benchmark, different from expected; how was meaningful difference defined.*

**[Response Begins]**

| Measure Rate * | Commercial 25th | Commercial 75th | Commercial p-value | Medicaid 25th | Medicaid 75th | Medicaid p-value |
|---|---|---|---|---|---|---|
| DTaP | 0.79 | 0.89 | p < 0.001 | 0.70 | 0.79 | p < 0.001<br>p < 0.001 |
| Hep A | 0.87 | 0.92 | p = 0.007 | 0.81 | 0.88 | p < 0.001 |
| Hep B | 0.76 | 0.92 | p < 0.001 | 0.85 | 0.91 | p < 0.001 |
| HiB | 0.86 | 0.94 | p < 0.001 | 0.83 | 0.90 | p < 0.001 |
| Influenza | 0.65 | 0.78 | p < 0.001 | 0.43 | 0.58 | p < 0.001 |
| IPV | 0.85 | 0.94 | p < 0.001 | 0.86 | 0.91 | p < 0.001 |
| MMR | 0.90 | 0.94 | p < 0.001 | 0.85 | 0.90 | p < 0.001 |
| Pneumococcal Conjugate | 0.79 | 0.90 | p < 0.001 | 0.72 | 0.81 | p < 0.001 |
| Rotavirus | 0.77 | 0.87 | p < 0.001 | 0.68 | 0.76 | p < 0.001 |
| VZV | 0.89 | 0.93 | p < 0.001 | 0.84 | 0.90 | p < 0.001 |

Table comparing commercial and Medicaid measure rates with 25th and 75th percentile and p-value

*Cell intentionally left empty

**[Response Ends]**

**2b.07. Provide your interpretation of the results in terms of demonstrating the ability to identify statistically significant and/or clinically/practically meaningful differences in performance across measured entities.**

*In other words, what do the results mean in terms of statistical and meaningful differences?*

**[Response Begins]**

The difference in performance between reporting units across all indicators and product lines is statistically significant and has meaningful variation.

**[Response Ends]**

**2b.08. Describe the method of testing conducted to identify the extent and distribution of missing data (or non-response) and demonstrate that performance results are not biased due to systematic missing data (or differences between responders and non-responders). Include how the specified handling of missing data minimizes bias.**

*Describe the steps—do not just name a method; what statistical analysis was used.*

**[Response Begins]**

HEDIS measures apply to enrolled members in a health plan, and NCQA has a rigorous audit process to ensure the eligible population and numerator events for each measure are correctly identified and reported. The audit process is designed to verify primary data sources used to populate measures and ensure specifications are correctly implemented.

The HEDIS Compliance Audit addresses the following functions:

- Information practices and control procedures
- Sampling methods and procedures
- Data integrity
- Compliance with HEDIS specifications
- Analytic file production
- Reporting and documentation

**[Response Ends]**

**2b.09. Provide the overall frequency of missing data, the distribution of missing data across providers, and the results from testing related to missing data.**

*For example, provide results of sensitivity analysis of the effect of various rules for missing data/non-response. If no empirical sensitivity analysis was conducted, identify the approaches for handling missing data that were considered and benefits and drawbacks of each).*

**[Response Begins]**

HEDIS addresses missing data in a structured way through its audit process. HEDIS measures apply to enrolled members in a health plan, and NCQA-certified auditors use standard audit methodologies to assess whether data sources are missing data. If a data source is found to be missing data, and the issues cannot be rectified, the auditor will assign a “materially biased” designation to the measure for that reporting plan, and the rate will not be used. Once measures are added to HEDIS, NCQA conducts a first-year analysis to assess the measure’s feasibility once widely implemented in the field. This analysis includes an assessment of how many plans report valid rates vs. rates that are materially biased (or have other issues, such as small denominators). These considerations are weighed in the deliberation process before measures are approved for public reporting.

**[Response Ends]**

**2b.10. Provide your interpretation of the results, in terms of demonstrating that performance results are not biased due to systematic missing data (or differences between responders and non-responders), and how the specified handling of missing data minimizes bias.**

*In other words, what do the results mean in terms of supporting the selected approach for missing data and what are the norms for the test conducted; if no empirical analysis was conducted, justify the selected approach for missing data.*

**[Response Begins]**

This measure goes through the NCQA audit process each year to identify potential errors or bias in results. Only performances rates that have been reviewed and determined not to be “materially biased” are reported and used.

**[Response Ends]**

Note: This item is directed to measures that are risk-adjusted (with or without social risk factors) OR to measures with more than one set of specifications/instructions (e.g., one set of specifications for how to identify and compute the measure from medical record abstraction and a different set of specifications for claims or eCQMs). It does not apply to measures that use more than one source of data in one set of specifications/instructions (e.g., claims data to identify the denominator and medical record abstraction for the numerator). Comparability is not required when comparing performance scores with and without social risk factors in the risk adjustment model. However, if comparability is not demonstrated for measures with more than one set of specifications/instructions, the different specifications (e.g., for medical records vs. claims) should be submitted as separate measures.

**2b.11. Indicate whether there is more than one set of specifications for this measure.**

**[Response Begins]**

No, there is only one set of specifications for this measure

**[Response Ends]**

**2b.12. Describe the method of testing conducted to compare performance scores for the same entities across the different data sources/specifications.**

*Describe the steps—do not just name a method. Indicate what statistical analysis was used.*

**[Response Begins]**

**[Response Ends]**

**2b.13. Provide the statistical results from testing comparability of performance scores for the same entities when using different data sources/specifications.**

*Examples may include correlation, and/or rank order.*

**[Response Begins]**

**[Response Ends]**

**2b.14. Provide your interpretation of the results in terms of the differences in performance measure scores for the same entities across the different data sources/specifications.**

*In other words, what do the results mean and what are the norms for the test conducted.*

**[Response Begins]**

**[Response Ends]**

**2b.15. Indicate whether the measure uses exclusions.**

**[Response Begins]**

Yes, the measure uses exclusions.

**[Response Ends]**

**2b.16. Describe the method of testing exclusions and what was tested.**

*Describe the steps—do not just name a method; what was tested, e.g., whether exclusions affect overall performance scores; what statistical analysis was used?*

**[Response Begins]**

This measure excludes children who had a contraindication for a specific vaccine from the denominator for all antigen rates. As exclusions are clinically indicated, we did not conduct statistical analyses to determine whether they should be implemented in the measure. However, we describe prevalence of exclusions below. Due to low rates of reported plan exclusions, exclusions were not tested by individual exclusion criteria (i.e., data for those excluded by hospice, data for those excluded by vaccine components). **Exclusions had a minimal overall effect on performance rates for the measure.**

**[Response Ends]**

**2b.17. Provide the statistical results from testing exclusions.**

*Include overall number and percentage of individuals excluded, frequency distribution of exclusions across measured entities, and impact on performance measure scores.*

**[Response Begins]**

| Plan Type | 2020 |
|---|---|
| Commercial | Among reporting plans, only 0.57% of their eligible population, on average, was excluded |
| Medicaid | Among reporting plans, only 0.22% of their eligible population, on average, was excluded |

Table comparing commercial and Medicaid plans by percentage of individuals excluded, frequency distribution of exclusions across measured entities, and impact on performance measure scores in 2020

**[Response Ends]**

**2b.18. Provide your interpretation of the results, in terms of demonstrating that exclusions are needed to prevent unfair distortion of performance results.**

*In other words, the value outweighs the burden of increased data collection and analysis. Note: If patient preference is an exclusion, the measure must be specified so that the effect on the performance score is transparent, e.g., scores with and without exclusion.*

**[Response Begins]**

Given the very small number of exclusions across all reporting plans, exclusions for allergy or intolerance to the vaccine has a minimal effect on the overall performance rates. However, the exclusions are still needed given they remove patients for clinical reasons.

**[Response Ends]**

**2b.19. Check all methods used to address risk factors.**

**[Response Begins]**

No risk adjustment or stratification

**[Response Ends]**

**2b.20. If using statistical risk models, provide detailed risk model specifications, including the risk model method, risk factors, risk factor data sources, coefficients, equations, codes with descriptors, and definitions.**

**[Response Begins]**

**[Response Ends]**

**2b.21. If an outcome or resource use measure is not risk-adjusted or stratified, provide rationale and analyses to demonstrate that controlling for differences in patient characteristics (i.e., case mix) is not needed to achieve fair comparisons across measured entities.**

**[Response Begins]**

NCQA's advisory panels concluded there is no conceptual reason to risk- or case-mix-adjust a measure assessing vaccination rates.

**[Response Ends]**

**2b.22. Select all applicable resources and methods used to develop the conceptual model of how social risk impacts this outcome.**

**[Response Begins]**

**[Response Ends]**

**2b.23. Describe the conceptual and statistical methods and criteria used to test and select patient-level risk factors (e.g., clinical factors, social risk factors) used in the statistical risk model or for stratification by risk.**

*Please be sure to address the following: potential factors identified in the literature and/or expert panel; regression analysis; statistical significance of p<0.10 or other statistical tests; correlation of x or higher. Patient factors should be present at the start of care, if applicable. Also discuss any "ordering" of risk factor inclusion; note whether social risk factors are added after all clinical factors. Discuss any considerations regarding data sources (e.g., availability, specificity).*

**[Response Begins]**

**[Response Ends]**

**2b.24. Detail the statistical results of the analyses used to test and select risk factors for inclusion in or exclusion from the risk model/stratification.**

**[Response Begins]**

**[Response Ends]**

**2b.25. Describe the analyses and interpretation resulting in the decision to select or not select social risk factors.**

*Examples may include prevalence of the factor across measured entities, availability of the data source, empirical association with the outcome, contribution of unique variation in the outcome, or assessment of between-unit effects and within-unit effects. Also describe the impact of adjusting for risk (or making no adjustment) on providers at high or low extremes of risk.*

**[Response Begins]**

**[Response Ends]**

**2b.26. Describe the method of testing/analysis used to develop and validate the adequacy of the statistical model or stratification approach (describe the steps—do not just name a method; what statistical analysis was used). Provide the statistical results from testing the approach to control for differences in patient characteristics (i.e., case mix) below. If stratified ONLY, enter "N/A" for questions about the statistical risk model discrimination and calibration statistics.**

*Validation testing should be conducted in a data set that is separate from the one used to develop the model.*

**[Response Begins]**

**[Response Ends]**

**2b.27. Provide risk model discrimination statistics.**

*For example, provide c-statistics or R-squared values.*

**[Response Begins]**

**[Response Ends]**

**2b.28. Provide the statistical risk model calibration statistics (e.g., Hosmer-Lemeshow statistic).**

**[Response Begins]**

N/A

**[Response Ends]**

**2b.29. Provide the risk decile plots or calibration curves used in calibrating the statistical risk model.**

*The preferred file format is .png, but most image formats are acceptable.*

**[Response Begins]**

**[Response Ends]**

**2b.30. Provide the results of the risk stratification analysis.**

**[Response Begins]**

**[Response Ends]**

**2b.31. Provide your interpretation of the results, in terms of demonstrating adequacy of controlling for differences in patient characteristics (i.e., case mix).**

*In other words, what do the results mean and what are the norms for the test conducted?*

**[Response Begins]**

**[Response Ends]**

**2b.32. Describe any additional testing conducted to justify the risk adjustment approach used in specifying the measure.**

*Not required but would provide additional support of adequacy of the risk model, e.g., testing of risk model in another data set; sensitivity analysis for missing data; other methods that were assessed.*

**[Response Begins]**

**[Response Ends]**

## 3. Feasibility

Extent to which the specifications including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

---

**3.01. Check all methods below that are used to generate the data elements needed to compute the measure score.**

**[Response Begins]**

Generated or collected by and used by healthcare personnel during the provision of care (e.g., blood pressure, lab value, diagnosis, depression score)

Coded by someone other than person obtaining original information (e.g., DRG, ICD-10 codes on claims)

Abstracted from a record by someone other than person obtaining original information (e.g., chart abstraction for quality measure or registry)

**[Response Ends]**

**3.02. Detail to what extent the specified data elements are available electronically in defined fields.**

*In other words, indicate whether data elements that are needed to compute the performance measure score are in defined, computer-readable fields.*

**[Response Begins]**

Some data elements are in defined fields in electronic sources

**[Response Ends]**

**3.03. If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using data elements not from electronic sources.**

**[Response Begins]**

To allow for widespread reporting across health plans and health care practices, this measure is collected through multiple data sources (administrative data, electronic clinical data, paper records, and registry). We anticipate as electronic health records become more widespread the reliance on paper record review will decrease.

**[Response Ends]**

**3.04. Describe any efforts to develop an eCQM.**

**[Response Begins]**

Childhood Immunization Status (CIS) is developed as an eCQM.

https://ecqi.healthit.gov/ecqm/ec/2023/cms117v11

**[Response Ends]**

**3.06. Describe difficulties (as a result of testing and/or operational use of the measure) regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues.**

**[Response Begins]**

Field test and HEDIS results continue to demonstrate that this measure is highly feasible and usable. Data are available in administrative data sources and in medical records. The measure also allows use of registry data to report the measure.

**[Response Ends]**

Consider implications for both individuals providing data (patients, service recipients, respondents) and those whose performance is being measured.

**3.07. Detail any fees, licensing, or other requirements to use any aspect of the measure as specified (e.g., value/code set, risk model, programming code, algorithm),**

**Attach the fee schedule here, if applicable.**

**[Response Begins]**

Broad public use and dissemination of these measures is encouraged and NCQA has agreed with NQF that noncommercial uses do not require the consent of the measure developer. Use by health care physicians in connection with their own practices is not commercial use. Commercial use of a measure requires the prior written consent of NCQA. As used herein, “commercial use” refers to any sale, license, or distribution of a measure for commercial gain, or incorporation of a measure into any product or service that is sold, licensed or distributed for commercial gain, even if there is no actual charge for inclusion of the measure.

**[Response Ends]**

## 4. Usability and Use

Extent to which potential audiences (e.g., consumers, purchasers, providers, policy makers) are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations.

---

Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making.

NQF-endorsed measures are expected to be used in at least one accountability application within 3 years and publicly reported within 6 years of initial endorsement, in addition to demonstrating performance improvement.

**4a.01. Check all current uses. For each current use checked, please provide:**

- **Name of program and sponsor**
- **URL**
- **Purpose**
- **Geographic area and number and percentage of accountable entities and patients included**
- **Level of measurement and setting**

**[Response Begins]**

Public Reporting

**[Public Reporting Please Explain]**

**Program Name:** NCQA Health Plan Rating

- **URL**: https://reportcards.ncqa.org/health-plans
- This measure is used to calculate health plan ratings, which are reported in Consumer Reports and on the NCQA website. These rankings are based on performance on HEDIS measures among other factors. In 2021, a total of 643 Medicare health plans, 576 commercial health plans and 278 Medicaid health plans across 50 states were included in the rankings.

**Program Name**: NCQA Annual State of Health Care Quality

• **URL:** https://www.ncqa.org/report-cards/health-plans/state-of-health-care-quality-report/

• This measure is publicly reported nationally and by geographic regions in the NCQA State of Health Care annual report. This annual report published by NCQA summarizes findings on quality of care. In 2019, the report included results from calendar year 2018 for health plans covering a record 136 million people, or 43 percent of the U.S. population.

**Program Name:** CMS Medicaid Child Core Set

- **URL**: https://www.medicaid.gov/medicaid/quality-of-care/downloads/2022-child-core-set.pdf
- These are a core set of health quality measures for children enrolled in Medicaid/Children's Health Insurance Program (CHIP) to be reported at the state level. The data collected from these measures will help CMS to better understand the quality of health care that children enrolled in Medicaid/CHIP receive nationally.

**Program Name:** CMS Health Insurance Marketplaces - Quality Rating System (Public Reporting)

- **URL**: https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityInitiativesGenInfo/ACA-MQI/Quality-Rating-System/About-the-QRS

- The Affordable Care Act requires that qualified health plans participating in the Health Insurance Marketplaces submit quality rating information, including clinical measures. Data will be publicly reported.

Payment Program

**[Payment Program Please Explain]**

**Program Name:** CMS EHR Incentive Program (Payment Programs)

- **URL**: https://www.cms.gov/regulations-and-guidance/legislation/ehrincentiveprograms
- The American Recovery and Reinvestment Act of 2009 established incentive payments to eligible professionals, eligible hospitals, and critical access hospitals, and Medicare Advantage Organizations to promote the adoption and meaningful use of interoperable health information technology (HIT) and qualified electronic health records (EHRs). These incentive payments are part of a broader effort under the HITECH Act to accelerate the adoption of HIT and utilization of qualified EHRs. Beginning in 2011, the Medicare and Medicaid Electronic Health Record (EHR) Incentive Programs were established to encourage eligible professionals and eligible hospitals to adopt, implement, upgrade, and demonstrate meaningful use of certified EHR technology.

**Program Name:** Merit-based Incentive Payment System (MIPS) Quality Payment Program (Payment Program)

- **URL:** https://qpp.cms.gov/mips/reporting-options-overview
- This measure is used in the MIPS Quality Payment Program which is a reporting program that uses performance-based payment adjustments to promote reporting of quality information by eligible professionals (EP). MIPS Quality Payment Program allows EP's to earn payment adjustment for Part B covered professional services paid under or based on the Medicare Physician Fee Schedule. MIPS can be used by any eligible clinician in the nation.

Regulatory and Accreditation Programs

**[Regulatory and Accreditation Programs Please Explain]**

**Program Name:** NCQA Health Plan Accreditation (Regulatory & Accreditation)

- **URL**: https://www.ncqa.org/programs/health-plans/health-plan-accreditation-hpa/

This measure is used in scoring for accreditation of Medicare Advantage Health Plans. In 2019, 336 commercial health plans covering 87 million lives and 77 Medicaid health plans covering 9.1 million lives were accredited. Health plans are scored based on performance compared to benchmarks.

Quality Improvement with Benchmarking (external benchmarking to multiple organizations)

**[Quality Improvement with Benchmarking (external benchmarking to multiple organizations) Please Explain]**

**Program Name:** Quality Compass

- **URL:** https://www.ncqa.org/programs/data-and-information-technology/data-purchase-and-licensing/quality-compass/
- This measure is used in Quality Compass which is an indispensable tool used for selecting a health plan, conducting competitor analysis, examining quality improvement, and benchmarking plan performance. Provided in this tool is the ability to generate custom reports by selecting plans, measures, and

benchmarks (averages and percentiles) for up to three trended years. Results in table and graph formats offer simple comparison of plans' performance against competitors or benchmarks.

**[Response Ends]**

**4a.02. Check all planned uses.**

**[Response Begins]**

Measure Currently in Use

**[Response Ends]**

**4a.03. If not currently publicly reported OR used in at least one other accountability application (e.g., payment program, certification, licensing), explain why the measure is not in use.**

*For example, do policies or actions of the developer/steward or accountable entities restrict access to performance results or block implementation?*

**[Response Begins]**

N/A - measure is publicly reported.

**[Response Ends]**

**4a.04. If not currently publicly reported OR used in at least one other accountability application, provide a credible plan for implementation within the expected timeframes: used in any accountability application within 3 years, and publicly reported within 6 years of initial endorsement.**

*A credible plan includes the specific program, purpose, intended audience, and timeline for implementing the measure within the specified timeframes. A plan for accountability applications addresses mechanisms for data aggregation and reporting.*

**[Response Begins]**

N/A - measure is publicly reported.

**[Response Ends]**

**4a.05. Describe how performance results, data, and assistance with interpretation have been provided to those being measured or other users during development or implementation.**

*Detail how many and which types of measured entities and/or others were included. If only a sample of measured entities were included, describe the full population and how the sample was selected.*

**[Response Begins]**

Health plans that report HEDIS calculate their rates and know their performance when submitting to NCQA. NCQA publicly reports rates across all plans and also creates benchmarks in order to help plans understand how they perform relative to other plans. Public reporting and benchmarking are effective quality improvement methods.

**[Response Ends]**

**4a.06. Describe the process for providing measure results, including when/how often results were provided, what data were provided, what educational/explanatory efforts were made, etc.**

**[Response Begins]**

NCQA publishes HEDIS results annually in our Quality Compass tool. NCQA also presents data at various conferences and webinars. For example, at the annual HEDIS Update and Best Practices Conference, NCQA presents results from all new measures' first year of implementation or analyses from measures that have changed significantly. NCQA also regularly provides technical assistance on measures through its Policy Clarification Support System.

**[Response Ends]**

**4a.07. Summarize the feedback on measure performance and implementation from the measured entities and others. Describe how feedback was obtained.**

**[Response Begins]**

NCQA measures are evaluated regularly. During this "reevaluation" process, we seek broad input on the measure, including input on performance and implementation experience. We use several methods to obtain input, including vetting of the measure with several multi-stakeholder advisory panels, public comment posting, and review of questions submitted to the Policy Clarification Support System. This information enables NCQA to comprehensively assess a measure's adherence to the HEDIS Desirable Attributes of Relevance, Scientific Soundness and Feasibility.

**[Response Ends]**

**4a.08. Summarize the feedback obtained from those being measured.**

**[Response Begins]**

In general, health plans have not reported significant barriers to implementing this measure, as it uses the administrative and hybrid data collection method. Questions have generally centered around minor clarification of the specifications and questions about the supporting guidelines for the measure. NCQA responded to all questions to ensure consistent implementation of the specifications.

**[Response Ends]**

**4a.09. Summarize the feedback obtained from other users.**

**[Response Begins]**

This measure has been deemed a priority measure by NCQA and other entities, as illustrated by its use in programs.

**[Response Ends]**

**4a.10. Describe how the feedback described has been considered when developing or revising the measure specifications or implementation, including whether the measure was modified and why or why not.**

**[Response Begins]**

Feedback has not required modification to this measure.

**[Response Ends]**

**4b.01. You may refer to data provided in Importance to Measure and Report: Gap in Care/Disparities, but do not repeat here. Discuss any progress on improvement (trends in performance results, number and percentage of people receiving high-quality healthcare; Geographic area and number and percentage of accountable entities**

**and patients included). If no improvement was demonstrated, provide an explanation. If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.**

**[Response Begins]**

The number of accountable entities has increased for this measure. Previous submission data showed from 2012-2014 an average of commercial plans reporting was 346 and for Medicaid was 175 plans. Data listed above in the Importance to Measure and Report: Gap in Care/Disparities section shows an average of commercial plans reporting for 2019-2021 was 391 and for Medicaid was 240 plans. Performance rates for this measure generally stayed high with some fluctuation. This fluctuation may be in response to the COVID-19 pandemic. A study by Onimoe et al. identified the impact on COVID-19 on Well Child Care and Vaccination. Using medical record review, it was found that 43.5% of patients within 2020 were not up to date on their childhood vaccinations.

(Onimoe, Grace, et al. "Effect of COVID-19 Pandemic on Well Child Care and Vaccination." *Frontiers in Pediatrics*, vol, 10, Apr. 2022, p. 873482. PubMed Central, https://doi.org/10.3389/fped.2022.873482)

**[Response Ends]**

**4b.02. Explain any unexpected findings (positive or negative) during implementation of this measure, including unintended impacts on patients.**

**[Response Begins]**

Testing and implementation of this measure have not identified any unintended negative consequences to individuals or populations.

**[Response Ends]**

**4b.03. Explain any unexpected benefits realized from implementation of this measure.**

**[Response Begins]**

There were no unexpected benefits from the implementation of this measure.

**[Response Ends]**

## 5. Comparison to Related or Competing Measures

If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure.

---

If you are updating a maintenance measure submission for the first time in MIMS, please note that the previous related and competing data appearing in question 5.03 may need to be entered in to 5.01 and 5.02, if the measures are NQF endorsed. Please review and update questions 5.01, 5.02, and 5.03 accordingly.

**5.01. Search and select all NQF-endorsed related measures (conceptually, either same measure focus or target population).**

*(Can search and select measures.)*

**[Response Begins]**

0041: Preventive Care and Screening: Influenza Immunization

1659: Influenza Immunization

**[Response Ends]**

**5.02. Search and select all NQF-endorsed competing measures (conceptually, the measures have both the same measure focus or target population).**

*(Can search and select measures.)*

**[Response Begins]**

**[Response Ends]**

**5.03. If there are related or competing measures to this measure, but they are not NQF-endorsed, please indicate the measure title and steward.**

**[Response Begins]**

N/A

**[Response Ends]**

**5.04. If this measure conceptually addresses EITHER the same measure focus OR the same target population as NQF-endorsed measure(s), indicate whether the measure specifications are harmonized to the extent possible.**

**[Response Begins]**

Yes

**[Response Ends]**

**5.05. If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden.**

**[Response Begins]**

Childhood Immunization Status (NQF #0038) and Influenza Immunization (NQF #0041) both address influenza vaccination. NQF #0041 focuses specifically on influenza vaccination in children and adults age 6 months and older and is specified at the clinician level. Childhood Immunization Status (#0038) focuses on children up to age two and assesses receipt of at least two influenza vaccines by the child's second birthday and is specified at the health plan level. The measure numerator intents align, and both measures do not apply to children under age 6 months, as

this vaccine is not recommended in those age groups. NQF #0038 also assesses receipt of all vaccines recommended by the Advisory Committee on Immunization Practices in addition to hepB.

Childhood Immunization Status (NQF #0038) and Influenza Immunization (NQF #1659) both address influenza vaccination. NQF #1659 focuses on an inpatient population and includes children and adults age 6 months and older and is specified at the hospital/acute care facility level. Childhood Immunization Status (#0038) focuses on children up to age two and assesses receipt of at least two influenza vaccines by the child's second birthday and is specified at the health plan level. The measure numerator intents align, and both measures do not apply to children under age 6 months, as this vaccine is not recommended in those age groups. NQF #0038 also assesses receipt of all vaccines recommended by the Advisory Committee on Immunization Practices in addition to hepB.

**[Response Ends]**

**5.06. Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality). Alternatively, justify endorsing an additional measure.**

*Provide analyses when possible.*

**[Response Begins]**

This measure is the only NQF-endorsed measure to evaluate the full spectrum of vaccinations children up to age two years should receive. Other measures evaluate individual vaccines, specifically the influenza vaccine.

**[Response Ends]**

## Appendix

**Supplemental materials may be provided in an appendix.:**

No appendix

## Contact Information

**Measure Steward (Intellectual Property Owner):** National Committee for Quality Assurance

**Measure Steward Point of Contact:** Rehm, Bob, nqf@ncqa.org

Wade, Brittany, wade@ncqa.org

**Measure Developer if different from Measure Steward:** National Committee for Quality Assurance

**Measure Developer Point(s) of Contact:** Rehm, Bob, nqf@ncqa.org

Wade, Brittany, wade@ncqa.org

## Additional Information

**1. Provide any supplemental materials, if needed, as an appendix. All supplemental materials (such as data collection instrument or methodology reports) should be collated one file with a table of contents or bookmarks. If material pertains to a specific criterion, that should be indicated.**

**[Response Begins]**

No appendix

**[Response Ends]**

**2. List the workgroup/panel members' names and organizations.**

*Describe the members' role in measure development.*

**[Response Begins]**

Childhood Immunization Status Measurement Advisory Panel

Anthony Fiore, Centers for Disease Control and Prevention

Maureen Kolasa, Centers for Disease Control and Prevention

Abigail Shefer, Centers for Disease Control and Prevention

Shannon Stokley, Centers for Disease Control and Prevention

Raymond Strikas, Centers for Disease Control and Prevention

Jean Moody Williams, Centers for Medicare & Medicaid Services

Describe the group´s role in measure development.

The NCQA Childhood Immunization Status Measurement Advisory Panel advised NCQA during measure development. They evaluated the way staff specified the measure, reviewed field test results, and assessed NCQA's overall desirable attributes of Relevance, Scientific Soundness and Feasibility. The advisory panel consisted of a balanced group of experts, including representatives from pediatric care. In addition to this advisory panel, we vetted the measure with a host of other stakeholders, as is our process. Thus, our measures are the result of consensus from a broad and diverse group of stakeholders.

Additional panels that evaluate the measure include the following.

COMMITTEE ON PERFORMANCE MEASUREMENT (2022 membership)

Rose Baez, RN, MSN, MBA, CPHQ, Director, Provider Measurement Programs, Blue Cross Blue Shield Association

Jeff Brady, MD, MPH, Director, Center for Quality Improvement and Patient Safety (CQuIPS), AHRQ

Sharon Brangman, MD, FACP, AGSF, Distinguished Service Professor; Chair, Dept of Geriatrics, SUNY Upstate Medical University

Peter Briss, MD, MPH, Medical Director, NCCDPHP, CDC

Elizabeth Drye, MD, SM, Chief Scientific Officer, National Quality Forum

Mark Friedberg, MD, MPP, SVP, Performance Measurement & Improvement, Blue Cross Blue Shield of Massachusetts

Sylvia Gates Carlisle, MD, MBA, FACP, Medical Director, Beaver Medical Group

Andrea Gelzer, MD, MS, FACP, CEO, QualIT Strategies

Erin Grace, MHA, Acting Director, Center for Quality Improvement and Patient Safety, Agency for Healthcare Research and Quality (AHRQ)

David Grossman, MD, MPH, Senior Associate Medical Director, Kaiser Permanente Washington

Alice Hm Chen, MD, MPH, Chief Medical Officer, Covered California

Christine Hunter, MD, Self-employed; independent board director, WPS Health Solutions

David Kelley, MD, MPA, Chief Medical Officer, Office of Medical Assistance Programs (OMAP), PA Department of Human Services

Jeff Kelman, MD, MMSc., Chief Medical Officer, Medicare, DHHS

Ronald Kline, MD, Chief Medical Officer, OPM

Nancy Lane, Ph.D., Independent Consultant

Danielle Lloyd, MPH, Senior Vice President, AHIP

Amanda Parsons, MD, Vice President, Clinical Management, Healthfirst

Wayne Rawlins, MD, MBA, Chief Medical Officer, ConnectiCare

Kristin Russell, MD, MBA, Associate Vice President, Humana

Rodolfo Saenz, MD, MMM, FACOG, Physician, Altais Medical Group of Riverside

Michelle Schreiber, MD, Deputy Center Director, Centers for Medicare and Medicaid (CMS)

Darren Schulte, MD, MPP, President, Advanced Technology, Centene Corporation

Anecia Suneja, CNS-BC, Measure Coordinator/Program Analyst, VHA

Marcus Thygeson, MD, MPH, Chief Health Officer, Bind On-Demand

Tom Tsang, MD, MPH, CEO, Co-Founder Valera Health, Inc.

JoAnn Volk, MA , Research Professor, Georgetown University

Lina Walker, Ph.D., Vice President, AARP

HEDIS EXPERT CODING PANEL

DeHandro Hayden, Senior Coding Analyst, American Medical Association

Nelly Leon-Chisen, Director, Coding and Classification, American Hospital Association

Patience Hoag, Director, Audits and Special Projects, MetaStar, Inc.

Denene Harper, Senior Coding Consultant, American Hospital Association

Craig Thacker, Informatics Senior Specialist, CIGNA HealthCare

Michele Mouradian, Clinical Data Analyst, Change Healthcare

Glen Braden, Principal/HEDIS Compliance Auditor, Attest Health Care Advisors

Alec McLure, Director, Research and Analytics, Cotiviti

TECHNICAL MEASUREMENT ADVISORY PANEL

Michael Albornoz, MPH, CHCA, Inland Empire Health Plan, Director, Quality Informatics

Jennifer Brudnicki, MBA, Inovalon Inc., Product Services Manager

Lindsay Cogan, PhD, MS, New York State Department of Health, Deputy Director

Mike Farina, R.Ph, MBA , Capital District Physicians' Health Plan, Director, Health Care Quality

Matt Flores, MS, RRT, CHCA, Advent Advisory Group, Client Manager

Scott Fox, MS, MEd, FAMIA, The MITRE Corporation, Principal, Payment Reform and Delivery

Carlos Hernandez, CHCA (former), CenCal Health, Quality Officer

Harmon Jordan, ScD, Self-Employed, Health Research Consultant

Nikki O'Dell, MS, Aetna, Director, HEDIS Technology, Data & Reporting

Gigi Raney, LCSW, Centers for Medicare and Medicaid Services, Technical Director

Patrick Smith , MA, CHCA, CHIE, Kaiser Permanente, Principal Consultant

Anthony Tran, MBA, UPMC Health Plan, Senior Manager

Carla Willis, PhD, MA, The Urban Institute, Principal Research Associate

**[Response Ends]**

**3. Indicate the year the measure was first released.**

**[Response Begins]**

1994

**[Response Ends]**

**4. Indicate the month and year of the most recent revision.**

**[Response Begins]**

August 2022

**[Response Ends]**

**5. Indicate the frequency of review, or an update schedule, for this measure.**

**[Response Begins]**

Approximately every 3 years, sooner if the clinical guidelines have changed significantly.

**[Response Ends]**

**6. Indicate the next scheduled update or review of this measure.**

**[Response Begins]**

2025

**[Response Ends]**

**7. Provide a copyright statement, if applicable. Otherwise, indicate "N/A".**

**[Response Begins]**



**[Response Ends]**

**8. State any disclaimers, if applicable. Otherwise, indicate "N/A".**

**[Response Begins]**

These performance measures are not clinical guidelines and do not establish a standard of medical care, and have not been tested for all potential applications. THE MEASURES AND SPECIFICATIONS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND.

**[Response Ends]**

**9. Provide any additional information or comments, if applicable. Otherwise, indicate "N/A".**

**[Response Begins]**

NCQA Notice of Use. Broad public use and dissemination of these measures is encouraged and NCQA has agreed with NQF that noncommercial uses do not require the consent of the measure developer. Use by health care physicians in connection with their own practices is not commercial use. Commercial use of a measure requires the prior written consent of NCQA. As used herein, “commercial use” refers to any sale, license or distribution of a measure for commercial gain, or incorporation of a measure into any product or service that is sold, licensed or distributed for commercial gain, even if there is no actual charge for inclusion of the measure.

**[Response Ends]**