

eCQM Title	Childhood Immunization Status		
CMS ID	117	eCQM Version Number	14.0.000
CBE Number	Not Applicable	GUID	b2802b7a-3580-4be8-9458-921aa62b78c
Measurement Period	January 1, 2026 through December 31, 2026		
Measure Steward	National Committee for Quality Assurance		
Measure Developer	National Committee for Quality Assurance		
Endorsed By	None		
Description	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 or four H 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		
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Measure Scoring	Proportion		
Measure Type	Process		
Stratification	None		
Risk Adjustment	None		
Rate Aggregation	None		
Rationale	<p>Infants and toddlers are particularly vulnerable to infectious diseases because their immune systems have not built up the necessary defenses to fight infection (HHS-OIDP, 2022). One study estimated that routine childhood vaccines administered in 2019 prevented 24 million diseases (Talbird et al., 2022). Another recent study estimated that routine childhood vaccinations prevented 17.8 million cases of disease and 31,000 deaths for children born in 2017, in addition to saving \$13.7 billion in health care costs (Carrico et al., 2022).</p> <p>Immunizing a child not only protects that child's health but also the health of the community, especially for those who are not immunized or are unable to be immunized due to other health complications (HHS-OIDP, 2022).</p>		
Clinical Recommendation Statement	<p>This measure looks for childhood vaccinations that should be completed by age 2, in accordance with the Centers for Disease Control and Prevention Advisory Committee on Immunization Practices (CDC ACIP) recommended child and adolescent immunization schedule (CDC, 2023).</p> <p>-- For the 2023-24 season, see the 2023-24 ACIP influenza vaccine recommendations (Grohskopf, 2023).</p>		
Improvement Notation	Higher score indicates better quality		
Reference	Reference Type: CITATION		
	Reference Text: 'Carrico, J., La, E.M., Talbird, S.E., et al. (2022). Value of the Immunization Program for Children in the 2017 US Birth Cohort. Pediatrics, 150(3). doi:10.1542/peds.2021-056007'		
Reference	Reference Type: CITATION		
	Reference Text: 'Centers for Disease Control and Prevention. (2023). Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States. Retrieved August 23, 2023, from https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html '		
Reference	Reference Type: CITATION		
	Reference Text: 'Grohskopf, L.A., Blanton, L.H., Ferdinands, J.M., et al. (2023). Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices — United States, 2023-24 Influenza Season. MMWR. Recommendations and Reports, 72(2), 1-25. DOI: http://dx.doi.org/10.15585/mmwr.rr7202a1 '		
Reference	Reference Type: CITATION		
	Reference Text: 'Talbird, S.E., Carrico, J., La, E.M., et al. (2022). Impact of Routine Childhood Immunization in Reducing Vaccine-Preventable Diseases in the United States. Pediatrics, 150(3). doi:10.1542/peds.2021-056013'		
Reference	Reference Type: CITATION		
	Reference Text: 'United States Department of Health and Human Services, Office of Infectious Disease and HIV/AIDS policy (HHS-OIDP). (2022). Vaccines for Infants, Children, and Teens. Retrieved August 23, 2023, from https://www.hhs.gov/immunization/who-and-when/infants-to-teens/index.html '		

Definition	Recommended vaccines: Vaccines and the schedule of vaccines as recommended by the ACIP for children two years of age. The measure may differ slightly from the ACIP recommendations because the measure focuses on immunizations that are appropriate by age 2. Also, there may be small differences when there are shortages for a particular vaccine.
Guidance	The measure allows a grace period by measuring compliance with these recommendations between birth and age two. This eCQM is a patient-based measure. This version of the eCQM uses QDM version 5.6. Please refer to the eCQI resource center (https://ecqi.healthit.gov/qdm) for more information on the QDM.
Transmission Format	TBD
Initial Population	Children who turn 2 years of age during the measurement period and have a visit during the measurement period
Denominator	Equals Initial Population
Denominator Exclusions	Exclude children who are in hospice care for any part of the measurement period. Exclude children with any of the following on or before the child's second birthday: <ul style="list-style-type: none"> - Severe combined immunodeficiency - Immunodeficiency - Human Immunodeficiency Virus (HIV) - Lymphoreticular cancer, multiple myeloma or leukemia - Intussusception
Numerator	<p>DTaP Children with any of the following on or before the child's second birthday meet criteria: <ul style="list-style-type: none"> - At least four DTaP vaccinations, with different dates of service. Do not count a vaccination administered prior to 42 days after birth. - Anaphylaxis due to the diphtheria, tetanus or pertussis vaccine. - Encephalitis due to the diphtheria, tetanus or pertussis vaccine. </p> <p>IPV Children with either of the following on or before the child's second birthday meet criteria: <ul style="list-style-type: none"> - At least three IPV vaccinations, with different dates of service. Do not count a vaccination administered prior to 42 days after birth. - Anaphylaxis due to the IPV vaccine. </p> <p>MMR Children with any of the following meet criteria: <ul style="list-style-type: none"> - At least one MMR vaccination on or between the child's first and second birthdays. - Anaphylaxis due to the MMR vaccine on or before the child's second birthday. - All of the following anytime on or before the child's second birthday (on the same or different date of service): <ul style="list-style-type: none"> - History of measles. - History of mumps. - History of rubella. </p> <p>HiB Children with either of the following meet criteria on or before the child's second birthday: <ul style="list-style-type: none"> - At least three HiB vaccinations, with different dates of service. Do not count a vaccination administered prior to 42 days after birth. - Anaphylaxis due to the HiB vaccine. </p> <p>HepB Children with any of the following on or before the child's second birthday meet criteria: <ul style="list-style-type: none"> - At least three hepatitis B vaccinations, with different dates of service. <ul style="list-style-type: none"> - One of the three vaccinations can be a newborn hepatitis B vaccination 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. - Anaphylaxis due to the hepatitis B vaccine. - History of hepatitis B illness. </p> <p>VZV Children with any of the following meet criteria: <ul style="list-style-type: none"> - At least one VZV vaccination, with a date of service on or between the child's first and second birthdays. - Anaphylaxis due to the VZV vaccine on or before the child's second birthday. - History of varicella zoster (e.g., chicken pox) illness on or before the child's second birthday. </p> <p>PCV Children with either of the following on or before the child's second birthday meet criteria: <ul style="list-style-type: none"> - At least four pneumococcal conjugate vaccinations, 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. - Anaphylaxis due to the pneumococcal vaccine. </p> <p>HepA Children with any of the following meet criteria: <ul style="list-style-type: none"> - At least one hepatitis A vaccination, with a date of service on or between the child's first and second birthdays. - Anaphylaxis due to the hepatitis A vaccine on or before the child's second birthday. - History of hepatitis A illness on or before the child's second birthday. </p> <p>RV Children with any of the following meet criteria: <ul style="list-style-type: none"> - At least two doses of the two-dose rotavirus vaccine on different dates of service on or before the child's second birthday. Do not count a vaccination administered prior to 42 days after birth. - At least three doses of the three-dose rotavirus vaccine on different dates of service on or before the child's second birthday. Do not count a vaccination administered prior to 42 days after birth. - At least one dose of the two-dose rotavirus vaccine and at least two doses of the three-dose rotavirus vaccine, all on different dates of service, on or before the child's second birthday. Do not count a vaccination administered prior to 42 days after birth. - Anaphylaxis due to the rotavirus vaccine on or before the child's second birthday. </p> <p>Flu Children with either of the following on or before their second birthday meet criteria: <ul style="list-style-type: none"> - At least two influenza vaccinations, 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. <ul style="list-style-type: none"> - One of the two vaccinations can be a Live Attenuated Influenza Vaccine (LAIV) vaccination administered on the child's second birthday. Do not count a LAIV vaccination administered before the child's second birthday. - Anaphylaxis due to the influenza vaccine. </p>
Numerator Exclusions	None
Denominator Exceptions	None
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity and sex

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Population Criteria**Initial Population**

AgeInYearsAt(date from
end of "Measurement Period"
) = 2
and exists ("Qualifying Encounters")

Denominator

"Initial Population"

Denominator Exclusions

Hospice."Has Hospice Services"
or "Has Severe Combined Immunodeficiency"
or "Has Immunodeficiency"
or "Has HIV"
or "Has Lymphoreticular Cancer, Multiple Myeloma or Leukemia"
or "Has Intussusception"

Numerator

(exists ("Four DTaP Vaccinations")
or exists ("DTaP Numerator Inclusion Conditions")
)
and (exists ("Three Polio Vaccinations")
or exists ("Polio Numerator Inclusion Conditions")
)
and (exists ("One MMR Vaccination")
or exists ("MMR Numerator Inclusion Conditions")
or (exists ("Measles Indicators")
and exists ("Mumps Indicators")
and exists ("Rubella Indicators")
)
)
and ("Has Appropriate Number of Hib Immunizations"
or exists ("Hib Numerator Inclusion Conditions")
)
and (exists ("Three Hepatitis B Vaccinations")
or (exists ("Meets HepB Vaccination Requirement")
or exists ("Hepatitis B Numerator Inclusion Conditions")
)
)
and (exists ("One Chicken Pox Vaccination")
or exists ("Varicella Zoster Numerator Inclusion Conditions")
)
and (exists ("Four Pneumococcal Conjugate Vaccinations")
or exists ("Pneumococcal Conjugate Numerator Inclusion Conditions")
)
and (exists ("One Hepatitis A Vaccinations")
or exists ("Hepatitis A Numerator Inclusion Conditions")
)
and ("Has Appropriate Number of Rotavirus Immunizations"
or exists ("Rotavirus Numerator Inclusion Conditions")
)
and (exists ("Two Influenza Vaccinations")
or ("Two Influenza Vaccinations Including One LAIV Vaccination")
or exists ("Influenza Numerator Inclusion Conditions")
)
)

Numerator Exclusions

None

Denominator Exceptions

None

Stratification

None

Definitions**Date of First Birthday**

date from Patient.birthDatetime + 1 year

Date of First Birthday to Date of Second Birthday

Interval["Date of First Birthday", "Date of Second Birthday"]

Date of Second Birthday

date from Patient.birthDatetime + 2 years

Denominator

"Initial Population"

Denominator Exclusions

Hospice."Has Hospice Services"
or "Has Severe Combined Immunodeficiency"
or "Has Immunodeficiency"
or "Has HIV"
or "Has Lymphoreticular Cancer, Multiple Myeloma or Leukemia"
or "Has Intussusception"

DTaP Immunizations or Procedures

((["Immunization, Administered": "DTaP Vaccine"]
union ["Procedure, Performed": "DTaP Vaccine Administered"]) DTaPVaccination
where date from Global."EarliestOf" (DTaPVaccination.relevantDatetime, DTaPVaccination.relevantPeriod) during day of "Vaccine Administration Interval - 42 Days up
to 2 Years Old"
)

▲ DTaP Numerator Inclusion Conditions

```
( ["Diagnosis": "Anaphylactic Reaction to DTaP Vaccine"]
union ["Diagnosis": "Encephalitis Due to Diphtheria, Tetanus or Pertussis Vaccine"] ) DTaPConditions
where date from start of DTaPConditions.prevalencePeriod during day of "First Two Years"
```

▲ First Two Years

```
Interval[date from Patient.birthDatetime, "Date of Second Birthday"]
```

▲ Four DTaP Vaccinations

```
from
"DTaP Immunizations or Procedures" DTaPVaccination1,
"DTaP Immunizations or Procedures" DTaPVaccination2,
"DTaP Immunizations or Procedures" DTaPVaccination3,
"DTaP Immunizations or Procedures" DTaPVaccination4
where date from Global."EarliestOf" ( DTaPVaccination2.relevantDatetime, DTaPVaccination2.relevantPeriod ) 1 day or more after date from Global."EarliestOf" (
DTaPVaccination1.relevantDatetime, DTaPVaccination1.relevantPeriod )
and date from Global."EarliestOf" ( DTaPVaccination3.relevantDatetime, DTaPVaccination3.relevantPeriod ) 1 day or more after date from Global."EarliestOf" (
DTaPVaccination2.relevantDatetime, DTaPVaccination2.relevantPeriod )
and date from Global."EarliestOf" ( DTaPVaccination4.relevantDatetime, DTaPVaccination4.relevantPeriod ) 1 day or more after date from Global."EarliestOf" (
DTaPVaccination3.relevantDatetime, DTaPVaccination3.relevantPeriod )
return DTaPVaccination1
```

▲ Four Pneumococcal Conjugate Vaccinations

```
from
"Pneumococcal Conjugate Immunizations or Procedures" PneumococcalVaccination1,
"Pneumococcal Conjugate Immunizations or Procedures" PneumococcalVaccination2,
"Pneumococcal Conjugate Immunizations or Procedures" PneumococcalVaccination3,
"Pneumococcal Conjugate Immunizations or Procedures" PneumococcalVaccination4
where date from Global."EarliestOf" ( PneumococcalVaccination2.relevantDatetime, PneumococcalVaccination2.relevantPeriod ) 1 day or more after date from
Global."EarliestOf" ( PneumococcalVaccination1.relevantDatetime, PneumococcalVaccination1.relevantPeriod )
and date from Global."EarliestOf" ( PneumococcalVaccination3.relevantDatetime, PneumococcalVaccination3.relevantPeriod ) 1 day or more after date from
Global."EarliestOf" ( PneumococcalVaccination2.relevantDatetime, PneumococcalVaccination2.relevantPeriod )
and date from Global."EarliestOf" ( PneumococcalVaccination4.relevantDatetime, PneumococcalVaccination4.relevantPeriod ) 1 day or more after date from
Global."EarliestOf" ( PneumococcalVaccination3.relevantDatetime, PneumococcalVaccination3.relevantPeriod )
return PneumococcalVaccination1
```

▲ Has Appropriate Number of Hib Immunizations

```
exists ( "Hib 3 or 4 Dose Immunizations" HibImmunization
//4 dose test

let HasFourDose: Count("Hib 4 Dose Immunizations or Procedures") > 0
where ( HasFourDose //if pt had at least one 4 dose code

and Count(distinct("Hib 3 or 4 Dose Immunizations" HibVaccinations
return date from Global."EarliestOf"(HibVaccinations.relevantDatetime, HibVaccinations.relevantPeriod)
)
) >= 4 //pt must have 4 regimens (e.g., 3,3,4,4 or 4,3,4,4)
)
or ( HasFourDose is false //if pt did not have at least one 4 dose code

and Count(distinct("Hib 3 or 4 Dose Immunizations" HibVaccinations
return date from Global."EarliestOf"(HibVaccinations.relevantDatetime, HibVaccinations.relevantPeriod)
)
) >= 3 //pt must have 3 regimens of 3 dose codes
)
)
)
```

▲ Has Appropriate Number of Rotavirus Immunizations

```
exists ( "Rotavirus 2 or 3 Dose Immunizations" RotavirusImmunization
let HasThreeDose: Count("Rotavirus 3 Dose Immunizations or Procedures") > 0
where ( HasThreeDose
and Count(distinct("Rotavirus 2 or 3 Dose Immunizations" RotavirusVaccinations
return date from Global."EarliestOf"(RotavirusVaccinations.relevantDatetime, RotavirusVaccinations.relevantPeriod)
)
) >= 3
)
or ( HasThreeDose is false
and Count(distinct("Rotavirus 2 or 3 Dose Immunizations" RotavirusVaccinations
return date from Global."EarliestOf"(RotavirusVaccinations.relevantDatetime, RotavirusVaccinations.relevantPeriod)
)
) >= 2
)
)
)
```

▲ Has HIV

```
exists ( ["Diagnosis": "HIV"] HIVDiagnosis
where date from start of HIVDiagnosis.prevalencePeriod during day of "First Two Years"
)
```

▲ Has Immunodeficiency

```
exists ( ["Diagnosis": "Disorders of the Immune System"] ImmuneDisorder
where date from start of ImmuneDisorder.prevalencePeriod during day of "First Two Years"
)
```

▲ Has Intussusception

```
exists ( ["Diagnosis": "Intussusception"] IntussusceptionDisorder
where date from start of IntussusceptionDisorder.prevalencePeriod during day of "First Two Years"
)
```

▲ Has Lymphoreticular Cancer, Multiple Myeloma or Leukemia

```
exists ( ["Diagnosis": "Malignant Neoplasm of Lymphatic and Hematopoietic Tissue"] LymphaticMalignantNeoplasm
where date from start of LymphaticMalignantNeoplasm.prevalencePeriod during day of "First Two Years"
)
```

▲ Has Severe Combined Immunodeficiency

```
exists ( ["Diagnosis": "Severe Combined Immunodeficiency"] SevereImmuneDisorder
where date from start of SevereImmuneDisorder.prevalencePeriod during day of "First Two Years"
)
```

▲ Hepatitis A Numerator Inclusion Conditions

```
( ["Diagnosis": "Hepatitis A"]
union ["Diagnosis": "Anaphylaxis caused by vaccine product containing Hepatitis A virus antigen (disorder)"] ) HepatitisADiagnosis
```

where date from start of HepatitisADiagnosis.prevalencePeriod during day of "First Two Years"

4 Hepatitis B Immunizations or Procedures

```
( ( ["Immunization, Administered": "Hepatitis B Vaccine"]
  union ["Procedure, Performed": "Hepatitis B Vaccine Administered"] ) HepatitisBVaccination
  where date from Global."EarliestOf" ( HepatitisBVaccination.relevantDatetime, HepatitisBVaccination.relevantPeriod ) during day of "First Two Years"
)
```

4 Hepatitis B Numerator Inclusion Conditions

```
( ["Diagnosis": "Anaphylaxis caused by vaccine product containing Hepatitis B virus antigen (disorder)"]
  union ["Diagnosis": "Hepatitis B"] ) HepBConditions
  where date from start of HepBConditions.prevalencePeriod during day of "First Two Years"
```

4 Hib 3 Dose Immunizations or Procedures

```
( ( ["Immunization, Administered": "Hib Vaccine (3 dose schedule)"]
  union ["Procedure, Performed": "Hib Vaccine (3 dose schedule) Administered"] ) ThreeDoseHib
  where date from Global."EarliestOf" ( ThreeDoseHib.relevantDatetime, ThreeDoseHib.relevantPeriod ) during day of "Vaccine Administration Interval - 42 Days up to 2
  Years Old"
)
```

4 Hib 3 or 4 Dose Immunizations

```
"Hib 3 Dose Immunizations or Procedures"
  union "Hib 4 Dose Immunizations or Procedures"
```

4 Hib 4 Dose Immunizations or Procedures

```
( ( ["Immunization, Administered": "Hib Vaccine (4 dose schedule)"]
  union ["Procedure, Performed": "Hib Vaccine (4 dose schedule) Administered"] ) FourDoseHib
  where date from Global."EarliestOf" ( FourDoseHib.relevantDatetime, FourDoseHib.relevantPeriod ) during day of "Vaccine Administration Interval - 42 Days up to 2
  Years Old"
)
```

4 Hib Numerator Inclusion Conditions

```
( ["Diagnosis": "Anaphylaxis caused by vaccine product containing only Haemophilus influenzae type b antigen (disorder)"] HibReaction
  where date from start of HibReaction.prevalencePeriod during day of "First Two Years"
```

4 Hospice.Has Hospice Services

```
exists ( ["Encounter, Performed": "Encounter Inpatient"] InpatientEncounter
  where ( InpatientEncounter.dischargeDisposition ~ "Discharge to home for hospice care (procedure)"
    or InpatientEncounter.dischargeDisposition ~ "Discharge to healthcare facility for hospice care (procedure)"
  )
  and InpatientEncounter.relevantPeriod ends during day of "Measurement Period"
)
or exists ( ["Encounter, Performed": "Hospice Encounter"] HospiceEncounter
  where HospiceEncounter.relevantPeriod overlaps day of "Measurement Period"
)
or exists ( ["Assessment, Performed": "Hospice care [Minimum Data Set]"] HospiceAssessment
  where HospiceAssessment.result ~ "Yes (qualifier value)"
  and Global."NormalizeInterval" ( HospiceAssessment.relevantDatetime, HospiceAssessment.relevantPeriod ) overlaps day of "Measurement Period"
)
or exists ( ["Intervention, Order": "Hospice Care Ambulatory"] HospiceOrder
  where HospiceOrder.authorDatetime during day of "Measurement Period"
)
or exists ( ["Intervention, Performed": "Hospice Care Ambulatory"] HospicePerformed
  where Global."NormalizeInterval" ( HospicePerformed.relevantDatetime, HospicePerformed.relevantPeriod ) overlaps day of "Measurement Period"
)
or exists ( ["Diagnosis": "Hospice Diagnosis"] HospiceCareDiagnosis
  where HospiceCareDiagnosis.prevalencePeriod overlaps day of "Measurement Period"
)
```

4 Influenza Immunizations or Procedures

```
( ( ["Immunization, Administered": "Child Influenza Vaccine"]
  union ["Procedure, Performed": "Child Influenza Vaccine Administered"] ) InfluenzaAdministration
  where date from Global."EarliestOf" ( InfluenzaAdministration.relevantDatetime, InfluenzaAdministration.relevantPeriod ) during day of "Vaccine Administration
  Interval - 180 Days up to 2 Years Old"
)
```

4 Influenza Numerator Inclusion Conditions

```
( ["Diagnosis": "Anaphylaxis caused by vaccine product containing Influenza virus antigen (disorder)"] InfluenzaConditions
  where date from start of InfluenzaConditions.prevalencePeriod during day of "First Two Years"
```

4 Initial Population

```
AgeInYearsAt(date from
  end of "Measurement Period"
) = 2
  and exists ( "Qualifying Encounters" )
```

4 LAIV Vaccinations

```
( ( ["Immunization, Administered": "Influenza Virus LAIV Vaccine"]
  union ["Procedure, Performed": "Influenza Virus LAIV Vaccine Administered"] ) InfluenzaAdministration
  where date from Global."EarliestOf" ( InfluenzaAdministration.relevantDatetime, InfluenzaAdministration.relevantPeriod ) during day of Interval["Date of Second
  Birthday", "Date of Second Birthday"]
)
```

4 Measles Indicators

```
( ["Diagnosis": "Measles"] MeaslesDiagnosis
  where date from start of MeaslesDiagnosis.prevalencePeriod during day of "First Two Years"
```

4 Meets HepB Vaccination Requirement

```
from
  "Hepatitis B Immunizations or Procedures" HepatitisBVaccination1,
  "Hepatitis B Immunizations or Procedures" HepatitisBVaccination2,
  "NewBorn Vaccine Requirement" NewBornVaccine3
  where date from Global."EarliestOf" ( HepatitisBVaccination2.relevantDatetime, HepatitisBVaccination2.relevantPeriod ) 1 day or more after date from
  Global."EarliestOf" ( HepatitisBVaccination1.relevantDatetime, HepatitisBVaccination1.relevantPeriod )
  and date from Global."EarliestOf" ( HepatitisBVaccination1.relevantDatetime, HepatitisBVaccination1.relevantPeriod ) 1 day or more after date from Global."EarliestOf"
  ( NewBornVaccine3.relevantDatetime, NewBornVaccine3.relevantPeriod )
  and date from Global."EarliestOf" ( HepatitisBVaccination2.relevantDatetime, HepatitisBVaccination2.relevantPeriod ) 1 day or more after date from Global."EarliestOf"
  ( NewBornVaccine3.relevantDatetime, NewBornVaccine3.relevantPeriod )
  return HepatitisBVaccination1
```

4 MMR Numerator Inclusion Conditions

["Diagnosis": "Anaphylaxis caused by vaccine product containing Measles morbillivirus and Mumps orthorubulavirus and Rubella virus antigens (disorder)"]
MMRConditions
where date from start of MMRConditions.prevalencePeriod during day of "First Two Years"

4 Mumps Indicators

["Diagnosis": "Mumps"] MumpsDiagnosis
where date from start of MumpsDiagnosis.prevalencePeriod during day of "First Two Years"

4 NewBorn Vaccine Requirement

["Procedure, Performed": "Introduction of Serum, Toxoid and Vaccine into Muscle, Percutaneous Approach"] NewBornVaccine
where date from Global."EarliestOf" (NewBornVaccine.relevantDatetime, NewBornVaccine.relevantPeriod) during day of Interval[date from Patient.birthDatetime, date from Patient.birthDatetime + 7 days]

4 Numerator

(exists ("Four DTaP Vaccinations")
or exists ("DTaP Numerator Inclusion Conditions")
)
and (exists ("Three Polio Vaccinations")
or exists ("Polio Numerator Inclusion Conditions")
)
and (exists ("One MMR Vaccination")
or exists ("MMR Numerator Inclusion Conditions")
or (exists ("Measles Indicators")
and exists ("Mumps Indicators")
and exists ("Rubella Indicators")
)
)
and ("Has Appropriate Number of Hib Immunizations"
or exists ("Hib Numerator Inclusion Conditions")
)
and (exists ("Three Hepatitis B Vaccinations")
or (exists ("Meets HepB Vaccination Requirement")
or exists ("Hepatitis B Numerator Inclusion Conditions")
)
)
and (exists ("One Chicken Pox Vaccination")
or exists ("Varicella Zoster Numerator Inclusion Conditions")
)
and (exists ("Four Pneumococcal Conjugate Vaccinations")
or exists ("Pneumococcal Conjugate Numerator Inclusion Conditions")
)
and (exists ("One Hepatitis A Vaccinations")
or exists ("Hepatitis A Numerator Inclusion Conditions")
)
and ("Has Appropriate Number of Rotavirus Immunizations"
or exists ("Rotavirus Numerator Inclusion Conditions")
)
and (exists ("Two Influenza Vaccinations")
or ("Two Influenza Vaccinations Including One LAIV Vaccination")
or exists ("Influenza Numerator Inclusion Conditions")
)
)

4 One Chicken Pox Vaccination

((["Immunization, Administered": "Varicella Zoster Vaccine (VZV)"]
union ["Procedure, Performed": "Varicella Zoster Vaccine (VZV) Administered"]) ChickenPoxVaccination
where date from Global."EarliestOf" (ChickenPoxVaccination.relevantDatetime, ChickenPoxVaccination.relevantPeriod) during day of "Date of First Birthday to Date of Second Birthday"
)

4 One Hepatitis A Vaccinations

((["Immunization, Administered": "Hepatitis A Vaccine"]
union ["Procedure, Performed": "Hepatitis A Vaccine Administered"]) HepatitisAVaccination
where date from Global."EarliestOf" (HepatitisAVaccination.relevantDatetime, HepatitisAVaccination.relevantPeriod) during day of "Date of First Birthday to Date of Second Birthday"
)

4 One MMR Vaccination

((["Immunization, Administered": "Measles, Mumps and Rubella (MMR) Vaccine"]
union ["Procedure, Performed": "Measles, Mumps and Rubella (MMR) Vaccine Administered"]) MMRVaccination
where date from Global."EarliestOf" (MMRVaccination.relevantDatetime, MMRVaccination.relevantPeriod) during day of "Date of First Birthday to Date of Second Birthday"
)

4 Pneumococcal Conjugate Immunizations or Procedures

((["Immunization, Administered": "Pneumococcal Conjugate Vaccine"]
union ["Procedure, Performed": "Pneumococcal Conjugate Vaccine Administered"]) PneumococcalVaccination
where date from Global."EarliestOf" (PneumococcalVaccination.relevantDatetime, PneumococcalVaccination.relevantPeriod) during day of "Vaccine Administration Interval - 42 Days up to 2 Years Old"
)

4 Pneumococcal Conjugate Numerator Inclusion Conditions

["Diagnosis": "Anaphylaxis caused by vaccine product containing Streptococcus pneumoniae antigen (disorder)"] PneumococcalReaction
where date from start of PneumococcalReaction.prevalencePeriod during day of "First Two Years"

4 Polio Immunizations or Procedures

((["Immunization, Administered": "Inactivated Polio Vaccine (IPV)"]
union ["Procedure, Performed": "Inactivated Polio Vaccine (IPV) Administered"]) PolioVaccination
where date from Global."EarliestOf" (PolioVaccination.relevantDatetime, PolioVaccination.relevantPeriod) during day of "Vaccine Administration Interval - 42 Days up to 2 Years Old"
)

4 Polio Numerator Inclusion Conditions

["Diagnosis": "Anaphylaxis caused by vaccine product containing human poliovirus antigen (disorder)"] PolioConditions
where date from start of PolioConditions.prevalencePeriod during day of "First Two Years"

4 Qualifying Encounters

(["Encounter, Performed": "Office Visit"]
union ["Encounter, Performed": "Home Healthcare Services"]
union ["Encounter, Performed": "Preventive Care, Established Office Visit, 0 to 17"]
union ["Encounter, Performed": "Preventive Care Services, Initial Office Visit, 0 to 17"]
union ["Encounter, Performed": "Office or other outpatient visit for the evaluation and management of an established patient that may not require the presence of a physician or other qualified health care professional"]
union ["Encounter, Performed": "Virtual Encounter"]

```
union ["Encounter, Performed": "Telephone Visits"] ) ValidEncounters
where ValidEncounters.relevantPeriod during day of "Measurement Period"
```

Rotavirus 2 Dose Immunizations or Procedures

```
( ( ["Immunization, Administered": "rotavirus, live, monovalent vaccine"]
union ["Procedure, Performed": "Rotavirus Vaccine (2 dose schedule) Administered"] ) TwoDoseRotavirus
where date from Global."EarliestOf" ( TwoDoseRotavirus.relevantDatetime, TwoDoseRotavirus.relevantPeriod ) during day of "Vaccine Administration Interval - 42
Days up to 2 Years Old"
)
```

Rotavirus 2 or 3 Dose Immunizations

```
"Rotavirus 2 Dose Immunizations or Procedures"
union "Rotavirus 3 Dose Immunizations or Procedures"
```

Rotavirus 3 Dose Immunizations or Procedures

```
( ( ["Immunization, Administered": "Rotavirus Vaccine (3 dose schedule)"]
union ["Procedure, Performed": "Rotavirus Vaccine (3 dose schedule) Administered"] ) ThreeDoseRotavirus
where date from Global."EarliestOf" ( ThreeDoseRotavirus.relevantDatetime, ThreeDoseRotavirus.relevantPeriod ) during day of "Vaccine Administration Interval - 42
Days up to 2 Years Old"
)
```

Rotavirus Numerator Inclusion Conditions

```
( ["Diagnosis": "Anaphylaxis caused by rotavirus vaccine (disorder)"] RotavirusConditions
where date from start of RotavirusConditions.prevalencePeriod during day of "First Two Years"
)
```

Rubella Indicators

```
["Diagnosis": "Rubella"] RubellaDiagnosis
where date from start of RubellaDiagnosis.prevalencePeriod during day of "First Two Years"
```

SDE Ethnicity

```
["Patient Characteristic Ethnicity": "Ethnicity"]
```

SDE Payer

```
["Patient Characteristic Payer": "Payer Type"]
```

SDE Race

```
["Patient Characteristic Race": "Race"]
```

SDE Sex

```
["Patient Characteristic Sex": "Federal Administrative Sex"]
```

Three Hepatitis B Vaccinations

```
from
"Hepatitis B Immunizations or Procedures" HepatitisBVaccination1,
"Hepatitis B Immunizations or Procedures" HepatitisBVaccination2,
"Hepatitis B Immunizations or Procedures" HepatitisBVaccination3
where date from Global."EarliestOf" ( HepatitisBVaccination2.relevantDatetime, HepatitisBVaccination2.relevantPeriod ) 1 day or more after date from
Global."EarliestOf" ( HepatitisBVaccination1.relevantDatetime, HepatitisBVaccination1.relevantPeriod )
and date from Global."EarliestOf" ( HepatitisBVaccination3.relevantDatetime, HepatitisBVaccination3.relevantPeriod ) 1 day or more after date from Global."EarliestOf" (
HepatitisBVaccination2.relevantDatetime, HepatitisBVaccination2.relevantPeriod )
return HepatitisBVaccination1
```

Three Polio Vaccinations

```
from
"Polio Immunizations or Procedures" PolioVaccination1,
"Polio Immunizations or Procedures" PolioVaccination2,
"Polio Immunizations or Procedures" PolioVaccination3
where date from Global."EarliestOf" ( PolioVaccination2.relevantDatetime, PolioVaccination2.relevantPeriod ) 1 day or more after date from Global."EarliestOf" (
PolioVaccination1.relevantDatetime, PolioVaccination1.relevantPeriod )
and date from Global."EarliestOf" ( PolioVaccination3.relevantDatetime, PolioVaccination3.relevantPeriod ) 1 day or more after date from Global."EarliestOf" (
PolioVaccination2.relevantDatetime, PolioVaccination2.relevantPeriod )
return PolioVaccination1
```

Two Influenza Vaccinations

```
from
"Influenza Immunizations or Procedures" FluVaccination1,
"Influenza Immunizations or Procedures" FluVaccination2
where date from Global."EarliestOf" ( FluVaccination2.relevantDatetime, FluVaccination2.relevantPeriod ) 1 day or more after date from Global."EarliestOf" (
FluVaccination1.relevantDatetime, FluVaccination1.relevantPeriod )
return FluVaccination1
```

Two Influenza Vaccinations Including One LAIV Vaccination

```
exists "LAIV Vaccinations"
and exists "Influenza Immunizations or Procedures"
```

Vaccine Administration Interval - 180 Days up to 2 Years Old

```
Interval[date from Patient.birthDatetime + 180 days, "Date of Second Birthday"]
```

Vaccine Administration Interval - 42 Days up to 2 Years Old

```
Interval[date from Patient.birthDatetime + 42 days, "Date of Second Birthday"]
```

Varicella Zoster Numerator Inclusion Conditions

```
( ["Diagnosis": "Varicella Zoster"]
union ["Diagnosis": "Anaphylaxis caused by vaccine containing Human alphaherpesvirus 3 antigen (disorder)"] ) VaricellaZoster
where date from start of VaricellaZoster.prevalencePeriod during day of "First Two Years"
```

Functions

Global.Earliest(period Interval<DateTime>)

```
if ( HasStart(period)) then start of period
else
end of period
```

Global.EarliestOf(pointInTime DateTime, period Interval<DateTime>)

Earliest(NormalizeInterval(pointInTime, period))

Global.HasStart(period Interval<DateTime>)

```
not ( start of period is null
      or start of period = minimum DateTime
    )
```

Global.NormalizeInterval(pointInTime DateTime, period Interval<DateTime>)

```
if pointInTime is not null then Interval[pointInTime, pointInTime]
else if period is not null then period
else null as Interval<DateTime>
```

Terminology

- code "Anaphylaxis caused by rotavirus vaccine (disorder)" ("SNOMEDCT Code (428331000124103)")
- code "Anaphylaxis caused by vaccine containing Human alphaherpesvirus 3 antigen (disorder)" ("SNOMEDCT Code (471341000124104)")
- code "Anaphylaxis caused by vaccine product containing Hepatitis A virus antigen (disorder)" ("SNOMEDCT Code (471311000124103)")
- code "Anaphylaxis caused by vaccine product containing Hepatitis B virus antigen (disorder)" ("SNOMEDCT Code (428321000124101)")
- code "Anaphylaxis caused by vaccine product containing human poliovirus antigen (disorder)" ("SNOMEDCT Code (471321000124106)")
- code "Anaphylaxis caused by vaccine product containing Influenza virus antigen (disorder)" ("SNOMEDCT Code (471361000124100)")
- code "Anaphylaxis caused by vaccine product containing Measles morbillivirus and Mumps orthorubulavirus and Rubella virus antigens (disorder)" ("SNOMEDCT Code (471331000124109)")
- code "Anaphylaxis caused by vaccine product containing only Haemophilus influenzae type b antigen (disorder)" ("SNOMEDCT Code (433621000124101)")
- code "Anaphylaxis caused by vaccine product containing Streptococcus pneumoniae antigen (disorder)" ("SNOMEDCT Code (471141000124102)")
- code "Discharge to healthcare facility for hospice care (procedure)" ("SNOMEDCT Code (428371000124100)")
- code "Discharge to home for hospice care (procedure)" ("SNOMEDCT Code (428361000124107)")
- code "Hospice care [Minimum Data Set]" ("LOINC Code (45755-6)")
- code "Introduction of Serum, Toxoid and Vaccine into Muscle, Percutaneous Approach" ("ICD10PCS Code (3E0234Z)")
- code "Office or other outpatient visit for the evaluation and management of an established patient that may not require the presence of a physician or other qualified health care professional" ("CPT Code (99211)")
- code "rotavirus, live, monovalent vaccine" ("CVX Code (119)")
- code "Yes (qualifier value)" ("SNOMEDCT Code (373066001)")
- valueset "Anaphylactic Reaction to DTaP Vaccine" (2.16.840.1.113883.3.464.1003.199.12.1031)
- valueset "Child Influenza Vaccine" (2.16.840.1.113883.3.464.1003.196.12.1218)
- valueset "Child Influenza Vaccine Administered" (2.16.840.1.113883.3.464.1003.110.12.1044)
- valueset "Disorders of the Immune System" (2.16.840.1.113883.3.464.1003.120.12.1001)
- valueset "DTaP Vaccine" (2.16.840.1.113883.3.464.1003.196.12.1214)
- valueset "DTaP Vaccine Administered" (2.16.840.1.113883.3.464.1003.110.12.1022)
- valueset "Encephalitis Due to Diphtheria, Tetanus or Pertussis Vaccine" (2.16.840.1.113883.3.464.1003.1164)
- valueset "Encounter Inpatient" (2.16.840.1.113883.3.666.5.307)
- valueset "Ethnicity" (2.16.840.1.114222.4.11.837)
- valueset "Federal Administrative Sex" (2.16.840.1.113762.1.4.1021.121)
- valueset "Hepatitis A" (2.16.840.1.113883.3.464.1003.110.12.1024)
- valueset "Hepatitis A Vaccine" (2.16.840.1.113883.3.464.1003.196.12.1215)
- valueset "Hepatitis A Vaccine Administered" (2.16.840.1.113883.3.464.1003.110.12.1041)
- valueset "Hepatitis B" (2.16.840.1.113883.3.67.1.101.1.269)
- valueset "Hepatitis B Vaccine" (2.16.840.1.113883.3.464.1003.196.12.1216)
- valueset "Hepatitis B Vaccine Administered" (2.16.840.1.113883.3.464.1003.110.12.1042)
- valueset "Hib Vaccine (3 dose schedule)" (2.16.840.1.113883.3.464.1003.110.12.1083)
- valueset "Hib Vaccine (3 dose schedule) Administered" (2.16.840.1.113883.3.464.1003.110.12.1084)
- valueset "Hib Vaccine (4 dose schedule)" (2.16.840.1.113883.3.464.1003.110.12.1085)
- valueset "Hib Vaccine (4 dose schedule) Administered" (2.16.840.1.113883.3.464.1003.110.12.1086)
- valueset "HIV" (2.16.840.1.113883.3.464.1003.120.12.1003)
- valueset "Home Healthcare Services" (2.16.840.1.113883.3.464.1003.101.12.1016)
- valueset "Hospice Care Ambulatory" (2.16.840.1.113883.3.526.3.1584)
- valueset "Hospice Diagnosis" (2.16.840.1.113883.3.464.1003.1165)
- valueset "Hospice Encounter" (2.16.840.1.113883.3.464.1003.1003)
- valueset "Inactivated Polio Vaccine (IPV)" (2.16.840.1.113883.3.464.1003.196.12.1219)
- valueset "Inactivated Polio Vaccine (IPV) Administered" (2.16.840.1.113883.3.464.1003.110.12.1045)
- valueset "Influenza Virus LAIV Vaccine" (2.16.840.1.113883.3.464.1003.110.12.1087)
- valueset "Influenza Virus LAIV Vaccine Administered" (2.16.840.1.113883.3.464.1003.110.12.1088)
- valueset "Intussusception" (2.16.840.1.113883.3.464.1003.199.12.1056)
- valueset "Malignant Neoplasm of Lymphatic and Hematopoietic Tissue" (2.16.840.1.113883.3.464.1003.108.12.1009)
- valueset "Measles" (2.16.840.1.113883.3.464.1003.110.12.1053)
- valueset "Measles, Mumps and Rubella (MMR) Vaccine" (2.16.840.1.113883.3.464.1003.196.12.1224)
- valueset "Measles, Mumps and Rubella (MMR) Vaccine Administered" (2.16.840.1.113883.3.464.1003.110.12.1031)
- valueset "Mumps" (2.16.840.1.113883.3.464.1003.110.12.1032)
- valueset "Office Visit" (2.16.840.1.113883.3.464.1003.101.12.1001)
- valueset "Payer Type" (2.16.840.1.114222.4.11.3591)
- valueset "Pneumococcal Conjugate Vaccine" (2.16.840.1.113883.3.464.1003.196.12.1221)
- valueset "Pneumococcal Conjugate Vaccine Administered" (2.16.840.1.113883.3.464.1003.110.12.1046)
- valueset "Preventive Care Services, Initial Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1022)
- valueset "Preventive Care, Established Office Visit, 0 to 17" (2.16.840.1.113883.3.464.1003.101.12.1024)
- valueset "Race" (2.16.840.1.114222.4.11.836)
- valueset "Rotavirus Vaccine (2 dose schedule) Administered" (2.16.840.1.113883.3.464.1003.110.12.1048)
- valueset "Rotavirus Vaccine (3 dose schedule)" (2.16.840.1.113883.3.464.1003.196.12.1223)
- valueset "Rotavirus Vaccine (3 dose schedule) Administered" (2.16.840.1.113883.3.464.1003.110.12.1047)
- valueset "Rubella" (2.16.840.1.113883.3.464.1003.110.12.1037)
- valueset "Severe Combined Immunodeficiency" (2.16.840.1.113883.3.464.1003.120.12.1007)
- valueset "Telephone Visits" (2.16.840.1.113883.3.464.1003.101.12.1080)
- valueset "Varicella Zoster" (2.16.840.1.113883.3.464.1003.110.12.1039)
- valueset "Varicella Zoster Vaccine (VZV)" (2.16.840.1.113883.3.464.1003.196.12.1170)
- valueset "Varicella Zoster Vaccine (VZV) Administered" (2.16.840.1.113883.3.464.1003.110.12.1040)
- valueset "Virtual Encounter" (2.16.840.1.113883.3.464.1003.101.12.1089)

Data Criteria (QDM Data Elements)

- "Assessment, Performed: Hospice care [Minimum Data Set]" using "Hospice care [Minimum Data Set]" (LOINC Code 45755-6)
- "Diagnosis: Anaphylactic Reaction to DTaP Vaccine" using "Anaphylactic Reaction to DTaP Vaccine" (2.16.840.1.113883.3.464.1003.199.12.1031)
- "Diagnosis: Anaphylaxis caused by rotavirus vaccine (disorder)" using "Anaphylaxis caused by rotavirus vaccine (disorder)" (SNOMEDCT Code 428331000124103)
- "Diagnosis: Anaphylaxis caused by vaccine containing Human alphaherpesvirus 3 antigen (disorder)" using "Anaphylaxis caused by vaccine containing Human alphaherpesvirus 3 antigen (disorder)" (SNOMEDCT Code 471341000124104)
- "Diagnosis: Anaphylaxis caused by vaccine product containing Hepatitis A virus antigen (disorder)" using "Anaphylaxis caused by vaccine product containing Hepatitis A virus antigen (disorder)" (SNOMEDCT Code 471311000124103)
- "Diagnosis: Anaphylaxis caused by vaccine product containing Hepatitis B virus antigen (disorder)" using "Anaphylaxis caused by vaccine product containing Hepatitis B virus antigen (disorder)" (SNOMEDCT Code 428321000124101)
- "Diagnosis: Anaphylaxis caused by vaccine product containing human poliovirus antigen (disorder)" using "Anaphylaxis caused by vaccine product containing human poliovirus antigen (disorder)" (SNOMEDCT Code 471321000124106)
- "Diagnosis: Anaphylaxis caused by vaccine product containing Influenza virus antigen (disorder)" using "Anaphylaxis caused by vaccine product containing Influenza virus antigen (disorder)" (SNOMEDCT Code 471361000124100)
- "Diagnosis: Anaphylaxis caused by vaccine product containing Measles morbillivirus and Mumps orthorubulavirus and Rubella virus antigens (disorder)" using "Anaphylaxis caused by vaccine product containing Measles morbillivirus and Mumps orthorubulavirus and Rubella virus antigens (disorder)" (SNOMEDCT Code 471331000124109)
- "Diagnosis: Anaphylaxis caused by vaccine product containing only Haemophilus influenzae type b antigen (disorder)" using "Anaphylaxis caused by vaccine product containing only Haemophilus influenzae type b antigen (disorder)" (SNOMEDCT Code 433621000124101)
- "Diagnosis: Anaphylaxis caused by vaccine product containing Streptococcus pneumoniae antigen (disorder)" using "Anaphylaxis caused by vaccine product containing Streptococcus pneumoniae antigen (disorder)" (SNOMEDCT Code 471141000124102)
- "Diagnosis: Disorders of the Immune System" using "Disorders of the Immune System" (2.16.840.1.113883.3.464.1003.120.12.1001)
- "Diagnosis: Encephalitis Due to Diphtheria, Tetanus or Pertussis Vaccine" using "Encephalitis Due to Diphtheria, Tetanus or Pertussis Vaccine" (2.16.840.1.113883.3.464.1003.1164)
- "Diagnosis: Hepatitis A" using "Hepatitis A" (2.16.840.1.113883.3.464.1003.110.12.1024)
- "Diagnosis: Hepatitis B" using "Hepatitis B" (2.16.840.1.113883.3.67.1.101.1.269)

- "Diagnosis: HIV" using "HIV (2.16.840.1.113883.3.464.1003.120.12.1003)"
- "Diagnosis: Hospice Diagnosis" using "Hospice Diagnosis (2.16.840.1.113883.3.464.1003.1165)"
- "Diagnosis: Intussusception" using "Intussusception (2.16.840.1.113883.3.464.1003.199.12.1056)"
- "Diagnosis: Malignant Neoplasm of Lymphatic and Hematopoietic Tissue" using "Malignant Neoplasm of Lymphatic and Hematopoietic Tissue (2.16.840.1.113883.3.464.1003.108.12.1009)"
- "Diagnosis: Measles" using "Measles (2.16.840.1.113883.3.464.1003.110.12.1053)"
- "Diagnosis: Mumps" using "Mumps (2.16.840.1.113883.3.464.1003.110.12.1032)"
- "Diagnosis: Rubella" using "Rubella (2.16.840.1.113883.3.464.1003.110.12.1037)"
- "Diagnosis: Severe Combined Immunodeficiency" using "Severe Combined Immunodeficiency (2.16.840.1.113883.3.464.1003.120.12.1007)"
- "Diagnosis: Varicella Zoster" using "Varicella Zoster (2.16.840.1.113883.3.464.1003.110.12.1039)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient (2.16.840.1.113883.3.666.5.307)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Hospice Encounter" using "Hospice Encounter (2.16.840.1.113883.3.464.1003.1003)"
- "Encounter, Performed: Office or other outpatient visit for the evaluation and management of an established patient that may not require the presence of a physician or other qualified health care professional" using "Office or other outpatient visit for the evaluation and management of an established patient that may not require the presence of a physician or other qualified health care professional (CPT Code 99211)"
- "Encounter, Performed: Office Visit" using "Office Visit (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Preventive Care Services, Initial Office Visit, 0 to 17" using "Preventive Care Services, Initial Office Visit, 0 to 17 (2.16.840.1.113883.3.464.1003.101.12.1022)"
- "Encounter, Performed: Preventive Care, Established Office Visit, 0 to 17" using "Preventive Care, Established Office Visit, 0 to 17 (2.16.840.1.113883.3.464.1003.101.12.1024)"
- "Encounter, Performed: Telephone Visits" using "Telephone Visits (2.16.840.1.113883.3.464.1003.101.12.1080)"
- "Encounter, Performed: Virtual Encounter" using "Virtual Encounter (2.16.840.1.113883.3.464.1003.101.12.1089)"
- "Immunization, Administered: Child Influenza Vaccine" using "Child Influenza Vaccine (2.16.840.1.113883.3.464.1003.196.12.1218)"
- "Immunization, Administered: DTaP Vaccine" using "DTaP Vaccine (2.16.840.1.113883.3.464.1003.196.12.1214)"
- "Immunization, Administered: Hepatitis A Vaccine" using "Hepatitis A Vaccine (2.16.840.1.113883.3.464.1003.196.12.1215)"
- "Immunization, Administered: Hepatitis B Vaccine" using "Hepatitis B Vaccine (2.16.840.1.113883.3.464.1003.196.12.1216)"
- "Immunization, Administered: Hib Vaccine (3 dose schedule)" using "Hib Vaccine (3 dose schedule) (2.16.840.1.113883.3.464.1003.110.12.1083)"
- "Immunization, Administered: Hib Vaccine (4 dose schedule)" using "Hib Vaccine (4 dose schedule) (2.16.840.1.113883.3.464.1003.110.12.1085)"
- "Immunization, Administered: Inactivated Polio Vaccine (IPV)" using "Inactivated Polio Vaccine (IPV) (2.16.840.1.113883.3.464.1003.196.12.1219)"
- "Immunization, Administered: Influenza Virus LAIV Vaccine" using "Influenza Virus LAIV Vaccine (2.16.840.1.113883.3.464.1003.110.12.1087)"
- "Immunization, Administered: Measles, Mumps and Rubella (MMR) Vaccine" using "Measles, Mumps and Rubella (MMR) Vaccine (2.16.840.1.113883.3.464.1003.196.12.1224)"
- "Immunization, Administered: Pneumococcal Conjugate Vaccine" using "Pneumococcal Conjugate Vaccine (2.16.840.1.113883.3.464.1003.196.12.1221)"
- "Immunization, Administered: Rotavirus Vaccine (3 dose schedule)" using "Rotavirus Vaccine (3 dose schedule) (2.16.840.1.113883.3.464.1003.196.12.1223)"
- "Immunization, Administered: rotavirus, live, monovalent vaccine" using "rotavirus, live, monovalent vaccine (CVX Code 119)"
- "Immunization, Administered: Varicella Zoster Vaccine (VZV)" using "Varicella Zoster Vaccine (VZV) (2.16.840.1.113883.3.464.1003.196.12.1170)"
- "Intervention, Order: Hospice Care Ambulatory" using "Hospice Care Ambulatory (2.16.840.1.113883.3.526.3.1584)"
- "Intervention, Performed: Hospice Care Ambulatory" using "Hospice Care Ambulatory (2.16.840.1.113883.3.526.3.1584)"
- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer Type" using "Payer Type (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: Federal Administrative Sex" using "Federal Administrative Sex (2.16.840.1.113762.1.4.1021.121)"
- "Procedure, Performed: Child Influenza Vaccine Administered" using "Child Influenza Vaccine Administered (2.16.840.1.113883.3.464.1003.110.12.1044)"
- "Procedure, Performed: DTaP Vaccine Administered" using "DTaP Vaccine Administered (2.16.840.1.113883.3.464.1003.110.12.1022)"
- "Procedure, Performed: Hepatitis A Vaccine Administered" using "Hepatitis A Vaccine Administered (2.16.840.1.113883.3.464.1003.110.12.1041)"
- "Procedure, Performed: Hepatitis B Vaccine Administered" using "Hepatitis B Vaccine Administered (2.16.840.1.113883.3.464.1003.110.12.1042)"
- "Procedure, Performed: Hib Vaccine (3 dose schedule) Administered" using "Hib Vaccine (3 dose schedule) Administered (2.16.840.1.113883.3.464.1003.110.12.1084)"
- "Procedure, Performed: Hib Vaccine (4 dose schedule) Administered" using "Hib Vaccine (4 dose schedule) Administered (2.16.840.1.113883.3.464.1003.110.12.1086)"
- "Procedure, Performed: Inactivated Polio Vaccine (IPV) Administered" using "Inactivated Polio Vaccine (IPV) Administered (2.16.840.1.113883.3.464.1003.110.12.1045)"
- "Procedure, Performed: Influenza Virus LAIV Vaccine Administered" using "Influenza Virus LAIV Vaccine Administered (2.16.840.1.113883.3.464.1003.110.12.1088)"
- "Procedure, Performed: Introduction of Serum, Toxoid and Vaccine into Muscle, Percutaneous Approach" using "Introduction of Serum, Toxoid and Vaccine into Muscle, Percutaneous Approach (ICD10PCS Code 3E0234Z)"
- "Procedure, Performed: Measles, Mumps and Rubella (MMR) Vaccine Administered" using "Measles, Mumps and Rubella (MMR) Vaccine Administered (2.16.840.1.113883.3.464.1003.110.12.1031)"
- "Procedure, Performed: Pneumococcal Conjugate Vaccine Administered" using "Pneumococcal Conjugate Vaccine Administered (2.16.840.1.113883.3.464.1003.110.12.1046)"
- "Procedure, Performed: Rotavirus Vaccine (2 dose schedule) Administered" using "Rotavirus Vaccine (2 dose schedule) Administered (2.16.840.1.113883.3.464.1003.110.12.1048)"
- "Procedure, Performed: Rotavirus Vaccine (3 dose schedule) Administered" using "Rotavirus Vaccine (3 dose schedule) Administered (2.16.840.1.113883.3.464.1003.110.12.1047)"
- "Procedure, Performed: Varicella Zoster Vaccine (VZV) Administered" using "Varicella Zoster Vaccine (VZV) Administered (2.16.840.1.113883.3.464.1003.110.12.1040)"

Supplemental Data Elements

▲ SDE Ethnicity

["Patient Characteristic Ethnicity": "Ethnicity"]

▲ SDE Payer

["Patient Characteristic Payer": "Payer Type"]

▲ SDE Race

["Patient Characteristic Race": "Race"]

▲ SDE Sex

["Patient Characteristic Sex": "Federal Administrative Sex"]

Risk Adjustment Variables

None

Measure Set	None
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