

Quality ID #394: Immunizations for Adolescents

2023 COLLECTION TYPE:

MIPS CLINICAL QUALITY MEASURES (CQMS)

MEASURE TYPE:

Process

DESCRIPTION:

The percentage of adolescents 13 years of age who had one dose of meningococcal vaccine (serogroups A, C, W, Y), one tetanus, diphtheria toxoids and acellular pertussis (Tdap) vaccine, and have completed the human papillomavirus (HPV) vaccine series by their 13th birthday.

INSTRUCTIONS:

This measure is to be submitted a minimum of **once per performance period** for patients seen during the performance period. There is no diagnosis associated with this measure. Performance for this measure is not limited to the performance period. This measure may be submitted by Merit-based Incentive Payment System (MIPS) eligible clinicians who perform the quality actions described in the measure based on services provided and the measure-specific denominator coding.

This measure will be calculated with 4 performance rates:

- 1) Patients who had one dose of meningococcal vaccine (serogroups A, C, W, Y), on or between the patient's 11th and 13th birthdays
- 2) Patients who had one tetanus, diphtheria toxoids and acellular pertussis vaccine (Tdap) on or between the patient's 10th and 13th birthdays
- 3) Patients who have completed the HPV vaccine series with different dates of service on or between the patient's 9th and 13th birthdays
- 4) All patients who are compliant for Meningococcal (serogroups A, C, W, Y), Tdap and HPV during the specified timeframes

NOTE: Patient encounters for this measure conducted via telehealth (e.g., encounters coded with GQ, GT, 95, or POS 02 modifiers) are allowable.

Measure Submission Type:

Measure data may be submitted by individual MIPS eligible clinicians, groups, or third party intermediaries. The listed denominator criteria are used to identify the intended patient population. The numerator options included in this specification are used to submit the quality actions as allowed by the measure. The quality data codes listed do not need to be submitted by MIPS eligible clinicians, groups, or third party intermediaries that utilize this modality for submissions; however, these codes may be submitted for those third party intermediaries that utilize Medicare Part B claims data. For more information regarding Application Programming Interface (API), please refer to the Quality Payment Program (QPP) website.

DENOMINATOR (SUBMISSION CRITERIA FOR ALL RATES):

Adolescents who turn 13 years of age during the measurement period

DENOMINATOR NOTE: The same denominator is used for all rates.

Denominator Criteria (Eligible Cases):

Patients who turn 13 years of age during the measurement period

AND

Patient encounter during the performance period (CPT or HCPCS): 99202, 99203, 99204, 99205, 99211,

99212, 99213, 99214, 99215, 99341, 99342, 99344, 99345, 99347, 99348, 99349, 99350, G0402

AND NOT

DENOMINATOR EXCLUSION:

Patients who use hospice services any time during the measurement period: G9761

NUMERATOR (SUBMISSION CRITERIA 1):

Adolescents who had one dose of meningococcal vaccine (serogroups A, C, W, Y), on or between the patient's 11th and 13th birthdays

Numerator Options:

Performance Met:

Patient had one dose of meningococcal vaccine (serogroups A, C, W, Y) on or between the patient's 11th and 13th birthdays (**G9414**)

OR

Denominator Exception:

Patient had anaphylaxis due to the meningococcal vaccine any time on or before the patient's 13th birthday (**M1160**)

OR

Performance Not Met:

Patient did not have one dose of meningococcal vaccine (serogroups A, C, W, Y), on or between the patient's 11th and 13th birthdays (**G9415**)

NUMERATOR (SUBMISSION CRITERIA 2):

Adolescents who had one tetanus, diphtheria toxoids and acellular pertussis vaccine (Tdap) on or between the patient's 10th and 13th birthdays

Numerator Options:

Performance Met:

Patient had one tetanus, diphtheria toxoids and acellular pertussis vaccine (Tdap) on or between the patient's 10th and 13th birthdays (**G9416**)

OR

Denominator Exception:

Patient had anaphylaxis due to the tetanus, diphtheria or pertussis vaccine any time on or before the patient's 13th birthday (**M1161**)

OR

Denominator Exception:

Patient had encephalitis due to the tetanus, diphtheria or pertussis vaccine any time on or before the patient's 13th birthday (**M1162**)

OR

Performance Not Met:

Patient did not have one tetanus, diphtheria toxoids and acellular pertussis vaccine (Tdap) on or between the patient's 10th and 13th birthdays (**G9417**)

NUMERATOR (SUBMISSION CRITERIA 3):

Adolescents who completed the HPV vaccine series on or between the patient's 9th and 13th birthdays

Numerator Options:

Performance Met:

Patient had at least two HPV vaccines (with at least 146 days between the two) OR three HPV vaccines on or between the patient's 9th and 13th birthdays (**G9762**)

OR

Denominator Exception:

Patient had anaphylaxis due to the HPV vaccine any time on or before the patient's 13th birthday (**M1163**)

OR

Performance Not Met:

Patient did not have at least two HPV vaccines (with at least 146 days between the two) OR three HPV vaccines on or between the patient's 9th and 13th birthdays (**G9763**)

NUMERATOR (SUBMISSION CRITERIA 4):

Adolescents who are numerator compliant for Rates 1, 2 and 3

RATIONALE:

Adolescent immunization rates have historically lagged behind early childhood immunization rates in the United States. In 2000, the American Academy of Pediatrics (AAP) reported that 3 million adolescents failed to receive at least one recommended vaccination. Low immunization rates among adolescents have the potential to cause outbreaks of preventable diseases and to establish reservoirs of disease in adolescents that can affect other populations including infants, the elderly, and individuals with chronic conditions. Immunization recommendations for adolescents have changed in recent years. In addition to assessing for immunizations that may have been missed, there are new vaccines targeted specifically to adolescents.

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

CLINICAL RECOMMENDATION STATEMENTS:

Receiving recommended vaccinations is the best defense against vaccine-preventable diseases. However, as children get older, the protection they received from some of their childhood vaccinations begins to wear off and they need booster shots. Adolescents are also at risk for vaccine-preventable diseases (e.g., meningococcal meningitis) that are not typically vaccinated against as children.

The tetanus, diphtheria toxoids, and acellular pertussis (Tdap) vaccine is given to adolescents as a booster shot to increase the protection they received in childhood vaccinations. Diphtheria, tetanus, and pertussis are serious diseases that can cause life-threatening illnesses. Diphtheria can cause breathing difficulties, heart problems, nerve damage, pneumonia, and even death. Tetanus can cause seizures and severe muscle spasms strong enough to cause bone fractures of the spine, and causes death in 30 to 40 percent of cases. Pertussis can cause severe coughing spells that can interfere with breathing, as well as pneumonia, long-lasting bronchitis, seizures, brain damage, and death.

Meningococcal disease occurs when the protective membranes covering the brain and spinal cord become infected and swell, and can cause serious complications, such as brain damage, hearing loss, or learning disabilities.

Meningococcal disease is caused by the bacterium *Neisseria meningitidis*, or meningococcus, and is the leading cause of bacterial meningitis in the United States (U.S.).

A meningococcal infection can spread quickly, killing an otherwise healthy adolescent in 48 hours. Although not all cases of meningococcal disease progress into meningitis, 15 percent of the cases that do progress result in death.

Each year, many adolescents miss their recommended vaccinations, leaving them needlessly vulnerable to disease, suffering and death.

Vaccine-preventable diseases are expensive for society as a whole, costing more than \$10 billion in direct medical costs and indirect societal costs.

In 2012, pertussis outbreaks were reported in a majority of states, with more than 32,000 cases and 16 deaths.

Outbreaks can occur in workplaces, schools, and homes, and can result in physical, economic, and social costs.

Bacterial meningitis remains a major global health threat, with an estimated 500,000 cases reported worldwide each year, accounting for at least 50,000 deaths. According to preliminary data, meningitis was responsible for 606 deaths in the U.S. in 2011.

Vaccines are a safe and effective way to protect adolescents against potentially deadly diseases and help them develop into healthy adults. Vaccines can protect their family and their community as well.

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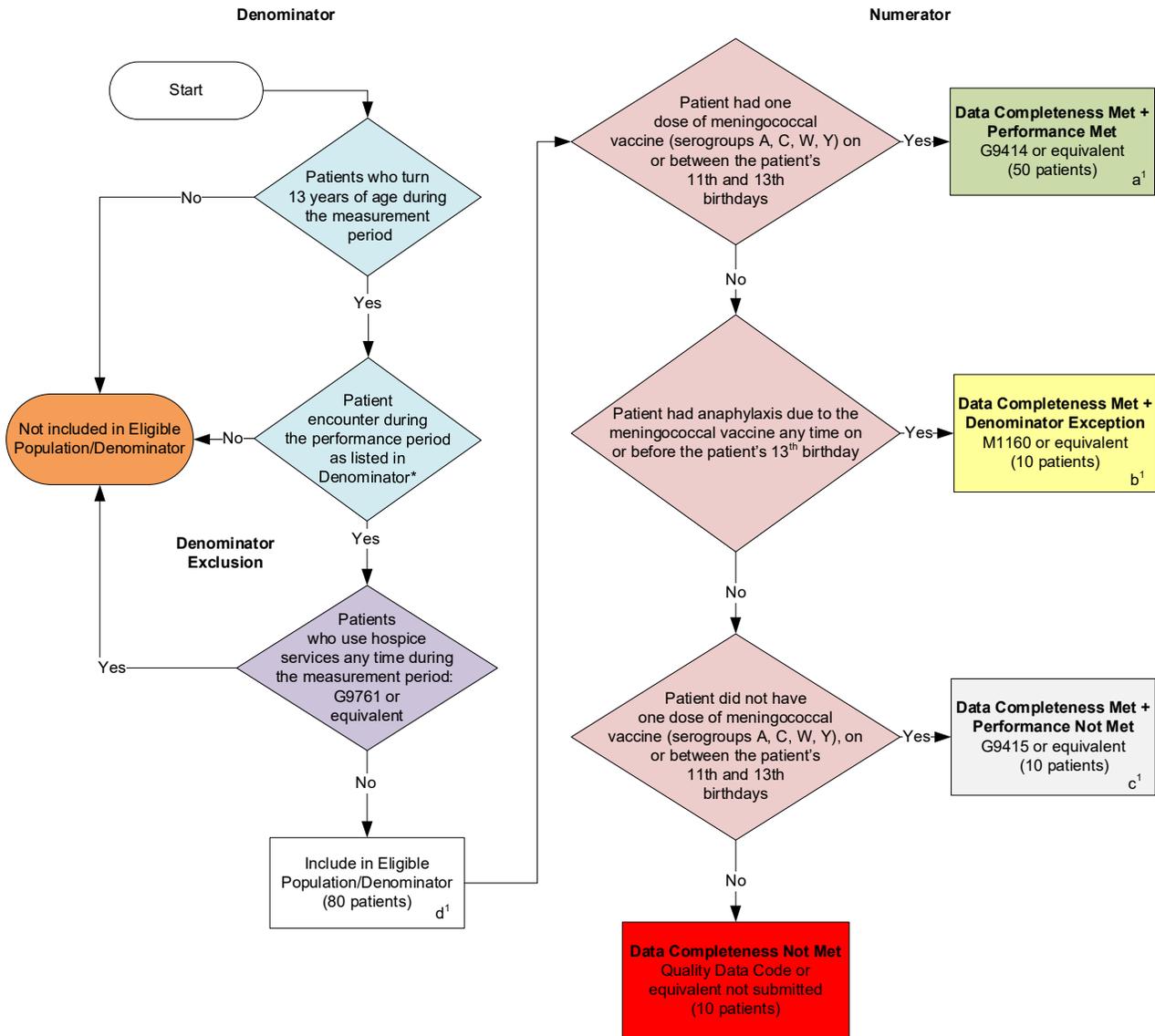
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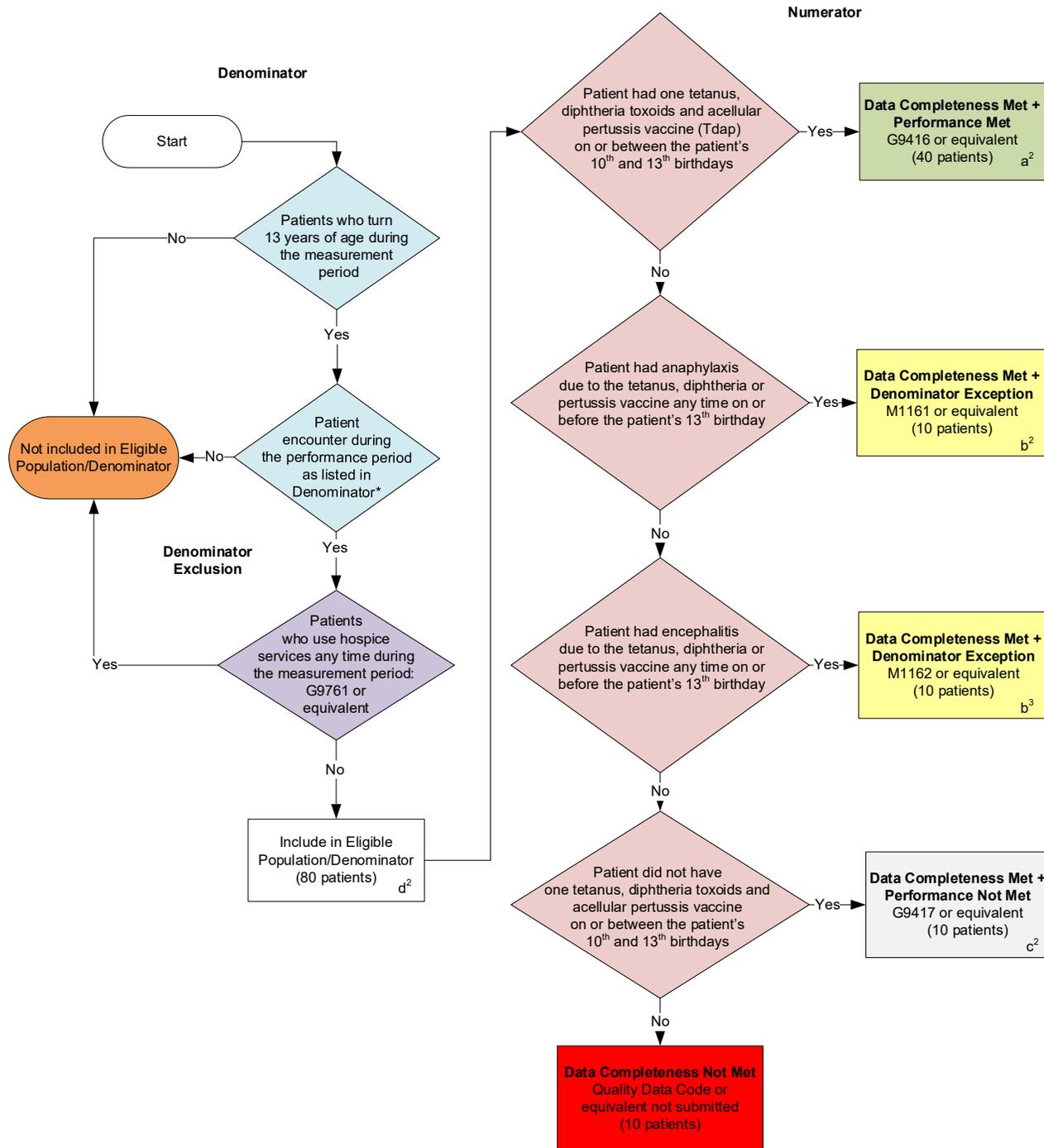
**2023 Clinical Quality Measure Flow for Quality ID #394:
Immunizations for Adolescents
Submission Criteria One**

Disclaimer: Refer to the measure specification for specific coding and instructions to submit this measure.

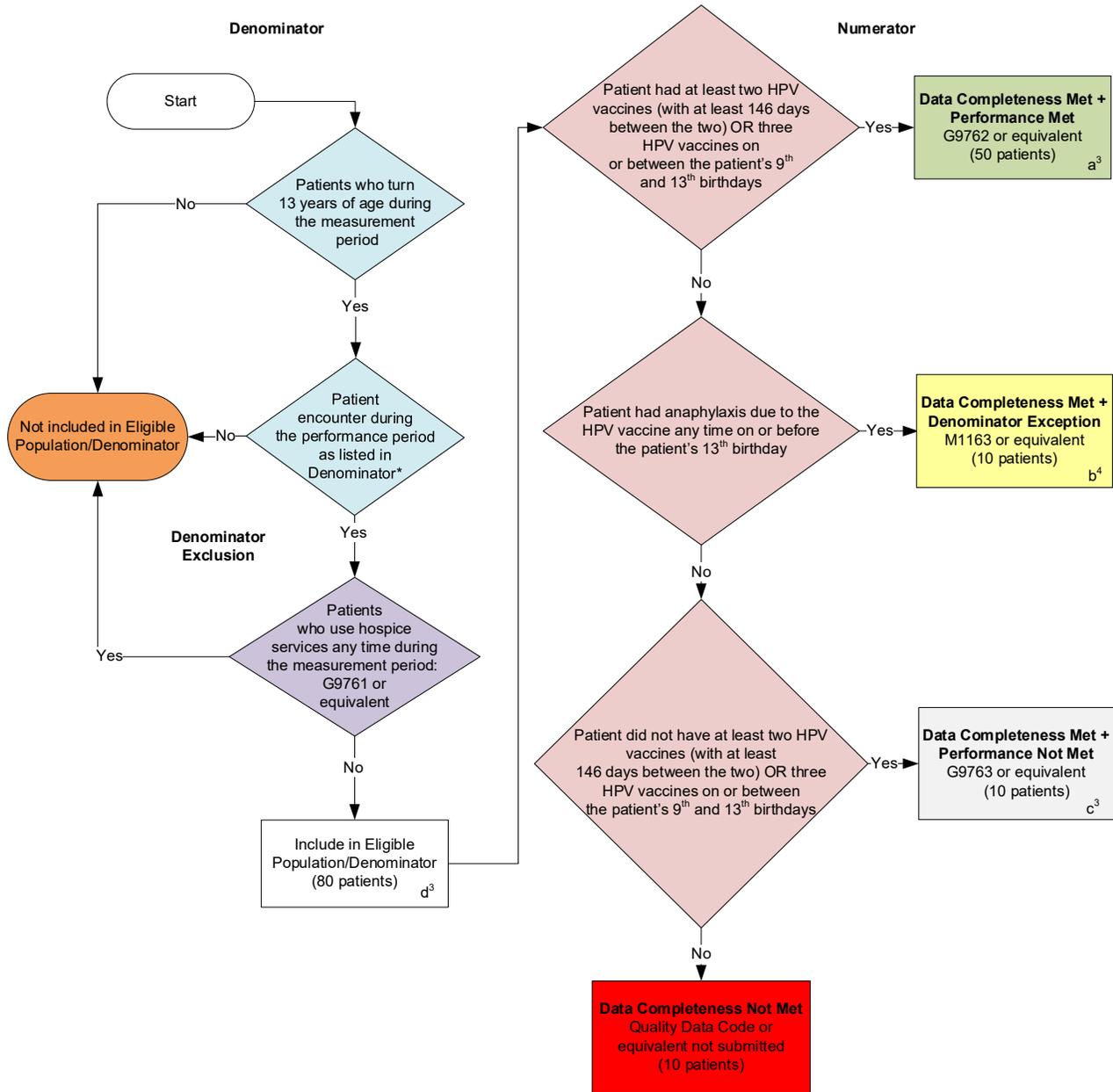
Multiple Performance Rates



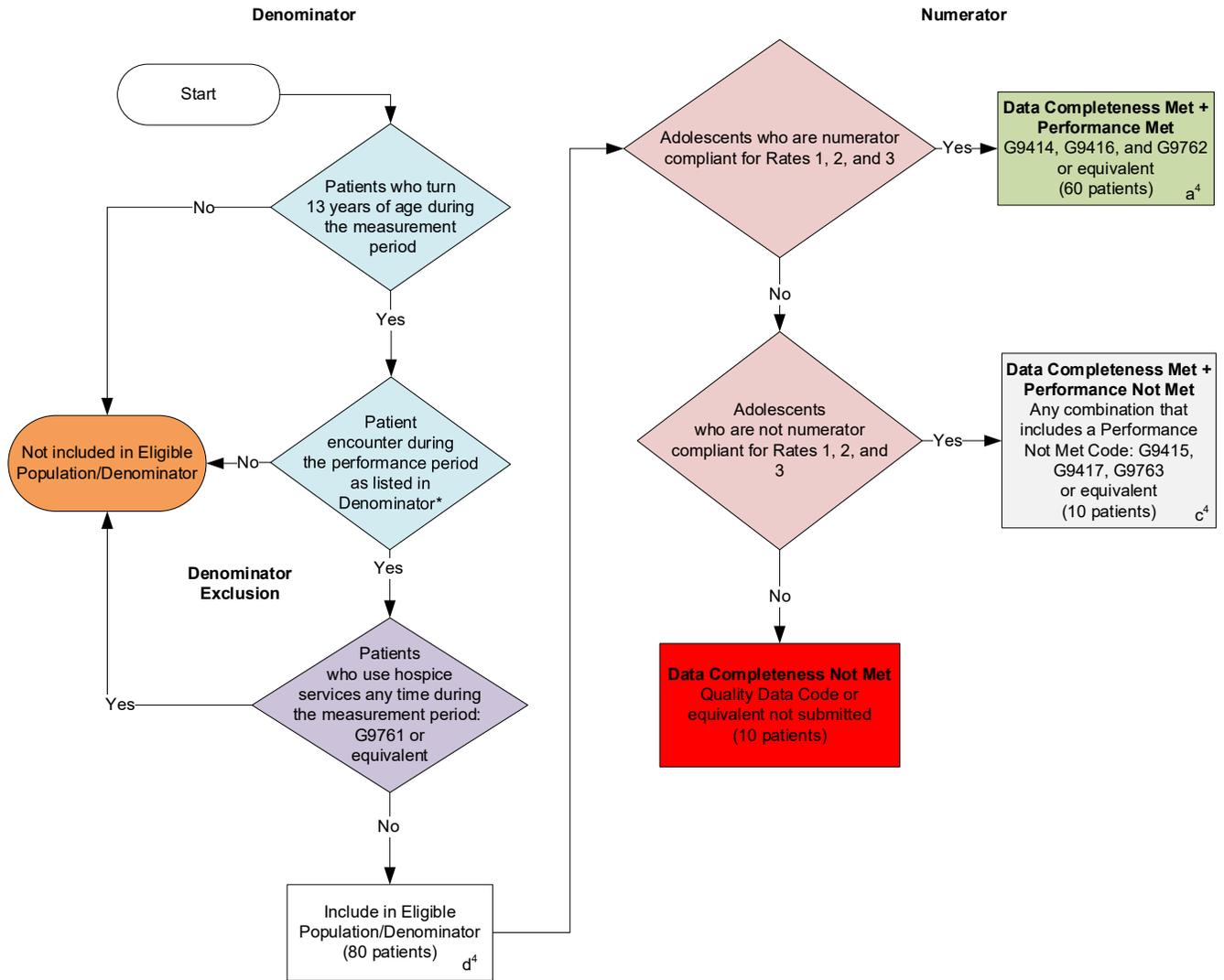
Submission Criteria Two



Submission Criteria Three



Submission Criteria Four



SAMPLE CALCULATIONS SUBMISSION CRITERIA ONE

Data Completeness=

$$\frac{\text{Performance Met (a}^1=50 \text{ patients)} + \text{Denominator Exception (b}^1=10 \text{ patients)} + \text{Performance Not Met (c}^1=10 \text{ patients)}}{\text{Eligible Population / Denominator (d}^1=80 \text{ patients)}} = \frac{70 \text{ patients}}{80 \text{ patients}} = 87.50\%$$

Performance Rate=

$$\frac{\text{Performance Met (a}^1=50 \text{ patients)}}{\text{Data Completeness Numerator (70 patients) – Denominator Exception (b}^1=10 \text{ patients)}} = \frac{50 \text{ patients}}{60 \text{ patients}} = 83.33\%$$

SAMPLE CALCULATIONS SUBMISSION CRITERIA TWO

Data Completeness=

$$\frac{\text{Performance Met (a}^2=40 \text{ patients)} + \text{Denominator Exceptions (b}^2+\text{b}^3=20 \text{ patients)} + \text{Performance Not Met (c}^2=10 \text{ patients)}}{\text{Eligible Population / Denominator (d}^2=80 \text{ patients)}} = \frac{70 \text{ patients}}{80 \text{ patients}} = 87.50\%$$

Performance Rate=

$$\frac{\text{Performance Met (a}^2=40 \text{ patients)}}{\text{Data Completeness Numerator (70 patients) – Denominator Exceptions (b}^2+\text{b}^3=20 \text{ patients)}} = \frac{40 \text{ patients}}{50 \text{ patients}} = 80.00\%$$

SAMPLE CALCULATIONS SUBMISSION CRITERIA THREE

Data Completeness=

$$\frac{\text{Performance Met (a}^3=50 \text{ patients)} + \text{Denominator Exception (b}^4=10 \text{ patients)} + \text{Performance Not Met (c}^3=10 \text{ patients)}}{\text{Eligible Population / Denominator (d}^3=80 \text{ patients)}} = \frac{70 \text{ patients}}{80 \text{ patients}} = 87.50\%$$

Performance Rate=

$$\frac{\text{Performance Met (a}^3=50 \text{ patients)}}{\text{Data Completeness Numerator (70 patients) – Denominator Exception (b}^4=10 \text{ patients)}} = \frac{50 \text{ patients}}{60 \text{ patients}} = 83.33\%$$

SAMPLE CALCULATIONS SUBMISSION CRITERIA FOUR

Data Completeness=

$$\frac{\text{Performance Met (a}^4=60 \text{ patients)} + \text{Performance Not Met (c}^4=10 \text{ patients)}}{\text{Eligible Population / Denominator (d}^4=80 \text{ patients)}} = \frac{70 \text{ patients}}{80 \text{ patients}} = 87.50\%$$

Performance Rate=

$$\frac{\text{Performance Met (a}^4=60 \text{ patients)}}{\text{Data Completeness Numerator (70 patients)}} = \frac{60 \text{ patients}}{70 \text{ patients}} = 85.71\%$$

*See the posted measure specification for specific coding and instructions to submit this measure.

NOTE: Submission Frequency: Patient-Process

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**2023 Clinical Quality Measure Flow Narrative for Quality ID #394:
Immunization for Adolescents**

***Disclaimer:** Refer to the measure specification for specific coding and instructions to submit this measure.*

Multiple Performance Rates

Submission Criteria One:

1. Start with Denominator
2. Check *Patients who turn 13 years of age during the measurement period*:
 - a. If *Patients who turn 13 years of age during the measurement period* equals No, do not include in *Eligible Population/Denominator*. Stop processing.
 - b. If *Patients who turn 13 years of age during the measurement period* equals Yes, proceed to check *Patient encounter during the performance period as listed in Denominator**.
3. Check *Patient encounter during the performance period as listed in Denominator**:
 - a. If *Patient encounter during the performance period as listed in Denominator** equals No, do not include in *Eligible Population/Denominator*. Stop processing.
 - b. If *Patient encounter during the performance period as listed in Denominator** equals Yes, proceed to check *Patients who use hospice services any time during the measurement period*.
4. Check *Patients who use hospice services any time during the measurement period*:
 - a. If *Patients who use hospice services any time during the measurement period* equals Yes, do not include in *Eligible Population/Denominator*. Stop processing.
 - b. If *Patients who use hospice services any time during the measurement period* equals No, include in *Eligible Population/Denominator*.
5. Denominator Population:
 - Denominator Population is all Eligible Patients in the Denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d¹ equals 80 patients in the Sample Calculation.
6. Start Numerator
7. Check *Patient had one dose of meningococcal vaccine (serogroups A, C, W, Y) on or between the patient's 11th and 13th birthdays*:
 - a. If *Patient had one dose of meningococcal vaccine (serogroups A, C, W, Y) on or between the patient's 11th and 13th birthdays* equals Yes, include in *Data Completeness Met and Performance Met*.
 - *Data Completeness Met and Performance Met* letter is represented as Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a¹ equals 50 patients in the Sample Calculation.
 - b. If *Patient had one dose of meningococcal vaccine (serogroups A, C, W, Y) on or between the patient's 11th and 13th birthdays* equals No, proceed to check *Patient had anaphylaxis due to the meningococcal vaccine any time on or before the patient's 13th birthday*.

8. Check *Patient had anaphylaxis due to the meningococcal vaccine any time on or before the patient's 13th birthday*:
 - a. If *Patient had anaphylaxis due to the meningococcal vaccine any time on or before the patient's 13th birthday* equals Yes, include in *Data Completeness Met and Denominator Exception*.
 - *Data Completeness Met and Denominator Exception* letter is represented as Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter b¹ equals 10 patients in the Sample Calculation.
 - b. If *Patient had anaphylaxis due to the meningococcal vaccine any time on or before the patient's 13th birthday* equals No, proceed to check *Patient did not have one dose of meningococcal vaccine (serogroups A, C, W, Y) on or between the patient's 11th and 13th birthdays*.
9. Check *Patient did not have one dose of meningococcal vaccine (serogroups A, C, W, Y) on or between the patient's 11th and 13th birthdays*:
 - a. If *Patient did not have one dose of meningococcal vaccine (serogroups A, C, W, Y) on or between the patient's 11th and 13th birthdays* equals Yes, include in the *Data Completeness Met and Performance Not Met*.
 - *Data Completeness Met and Performance Not Met* letter is represented as Data Completeness Rate in the Sample Calculation listed at the end of this document. Letter c¹ equals 10 patients in the Sample Calculation.
 - b. If *Patient did not have one dose of meningococcal vaccine (serogroups A, C, W, Y) on or between the patient's 11th and 13th birthdays* equals No, proceed to check *Data Completeness Not Met*.
10. Check *Data Completeness Not Met*:
 - a. If *Data Completeness Not Met*, the Quality Data Code or equivalent was not submitted. 10 patients have been subtracted from the Data Completeness Numerator in the Sample Calculation.

Sample Calculations: Submission Criteria One:

Data Completeness equals Performance Met (a¹ equals 50 patients) plus Denominator Exception (b¹ equals 10 patients) plus Performance Not Met (c¹ equals 10 patients) divided by Eligible Population/Denominator (d¹ equals 80 patients). All equals 70 patients divided by 80 patients. All equals 87.50 percent.

Performance Rate equals Performance Met (a¹ equals 50 patients) divided by Data Completeness Numerator (70 patients) minus Denominator Exception (b¹ equals 10 patients). All equals 50 patients divided by 60 patients. All equals 83.33 percent.

*See the posted measure specification for specific coding and instructions to submit this measure.

NOTE: Submission Frequency: Patient-Process

The measure diagrams were developed by CMS as a supplemental resource to be used in conjunction with the measure specifications. They should not be used alone or as a substitution for the measure specification.

Submission Criteria Two:

1. Start with Denominator
2. Check *Patients who turn 13 years of age during the measurement period*:
 - a. If *Patients who turn 13 years of age during the measurement period* equals No, do not include in *Eligible*

Population/Denominator. Stop processing.

- b. *If Patients who turn 13 years of age during the measurement period equals Yes, proceed to check Patient encounter during the performance period as listed in Denominator*.*
3. *Check Patient encounter during the performance period as listed in Denominator*:*
 - a. *If Patient encounter during the performance period as listed in Denominator* equals No, do not include in Eligible Population/Denominator. Stop processing.*
 - b. *If Patient encounter during the performance period as listed in Denominator* equals Yes, proceed to check Patients who use hospice services any time during the measurement period.*
4. *Check Patients who use hospice services any time during the measurement period:*
 - a. *If Patients who use hospice services any time during the measurement period equals Yes, do not include in Eligible Population/Denominator. Stop processing.*
 - b. *If Patients who use hospice services any time during the measurement period equals No, include in Eligible Population/Denominator.*
5. *Denominator Population:*
 - *Denominator Population is all Eligible Patients in the Denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d² equals 80 patients in the Sample Calculation.*
6. *Start Numerator*
7. *Check Patient had one tetanus, diphtheria toxoids and acellular pertussis vaccine (Tdap) on or between the patient's 10th and 13th birthdays:*
 - a. *If Patient had one tetanus, diphtheria toxoids and acellular pertussis vaccine (Tdap) on or between the patient's 10th and 13th birthdays equals Yes, include in Data Completeness Met and Performance Met.*
 - *Data Completeness Met and Performance Met letter is represented as Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a² equals 40 patients in the Sample Calculation.*
 - b. *If Patient had one tetanus, diphtheria toxoids and acellular pertussis vaccine (Tdap) on or between the patient's 10th and 13th birthdays equals No, proceed to check Patient had anaphylaxis due to the tetanus, diphtheria or pertussis vaccine any time on or before the patient's 13th birthday.*
8. *Check Patient had anaphylaxis due to the tetanus, diphtheria or pertussis vaccine any time on or before the patient's 13th birthday:*
 - a. *If Patient had anaphylaxis due to the tetanus, diphtheria or pertussis vaccine any time on or before the patient's 13th birthday equals Yes, include in Data Completeness Met and Denominator Exception.*
 - *Data Completeness Met and Denominator Exception letter is represented as Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter b² equals 10 patients in the Sample Calculation.*
 - b. *If Patient had anaphylaxis due to the tetanus, diphtheria or pertussis vaccine any time on or before the patient's 13th birthday equals No, proceed to check Patient had encephalitis due to the tetanus, diphtheria or pertussis vaccine any time on or before the patient's 13th birthday.*

9. Check *Patient had encephalitis due to the tetanus, diphtheria or pertussis vaccine any time on or before the patient's 13th birthday*:
 - a. If *Patient had encephalitis due to the tetanus, diphtheria or pertussis vaccine any time on or before the patient's 13th birthday* equals Yes, include in *Data Completeness Met and Denominator Exception*.
 - *Data Completeness Met and Denominator Exception* letter is represented as Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter b³ equals 10 patients in the Sample Calculation.
 - b. If *Patient had encephalitis due to the tetanus, diphtheria or pertussis vaccine any time on or before the patient's 13th birthday* equals No, proceed to check *Patient did not have one tetanus, diphtheria toxoids and acellular pertussis vaccine on or between the patient's 10th and 13th birthdays*.
10. Check *Patient did not have one tetanus, diphtheria toxoids and acellular pertussis vaccine on or between the patient's 10th and 13th birthdays*:
 - a. If *Patient did not have one tetanus, diphtheria toxoids and acellular pertussis vaccine on or between the patient's 10th and 13th birthdays* equals Yes, include in the *Data Completeness Met and Performance Not Met*.
 - *Data Completeness Met and Performance Not Met* letter is represented as Data Completeness in the Sample Calculation listed at the end of this document. Letter c² equals 10 patients in the Sample Calculation.
 - b. If *Patient did not have one tetanus, diphtheria toxoids and acellular pertussis vaccine on or between the patient's 10th and 13th birthdays* equals No, proceed to check *Data Completeness Not Met*.
11. Check *Data Completeness Not Met*:
 - If *Data Completeness Not Met*, the Quality Data Code or equivalent was not submitted. 10 patients have been subtracted from the Data Completeness Numerator in the Sample Calculation.

Sample Calculations: Submission Criteria Two:

Data Completeness equals Performance Met (a² equals 40 patients) plus Denominator Exceptions (b² + b³ equals 20 patients) plus Performance Not Met (c² equals 10 patients) divided by Eligible Population/Denominator (d² equals 80 patients). All equals 70 patients divided by 80 patients. All equals 87.50 percent.

Performance Rate equals Performance Met (a² equals 40 patients) divided by Data Completeness Numerator (70 patients) minus Denominator Exceptions (b² + b³ equals 20 patients). All equals 40 patients divided by 50 patients. All equals 80.00%.

*See the posted measure specification for specific coding and instructions to submit this measure.

NOTE: Submission Frequency: Patient-Process

The measure diagrams were developed by CMS as a supplemental resource to be used in conjunction with the measure specifications. They should not be used alone or as a substitution for the measure specification.

Submission Criteria Three:

1. Start with Denominator
2. Check *Patients who turn 13 years of age during the measurement period*:

- a. If *Patients who turn 13 years of age during the measurement period* equals No, do not include in *Eligible Population/Denominator*. Stop processing.
 - b. If *Patients who turn 13 years of age during the measurement period* equals Yes, proceed to check *Patient encounter during the performance period as listed in Denominator**.
3. Check *Patient encounter during the performance period as listed in Denominator**:
 - a. If *Patient encounter during the performance period as listed in Denominator** equals No, do not include in *Eligible Population/Denominator*. Stop processing.
 - b. If *Patient encounter during the performance period as listed in Denominator** equals Yes, proceed to check *Patients who use hospice services any time during the measurement period*.
 4. Check *Patients who use hospice services any time during the measurement period*:
 - a. If *Patients who use hospice services any time during the measurement period* equals Yes, do not include in *Eligible Population/Denominator*. Stop processing.
 - b. If *Patients who use hospice services any time during the measurement period* equals No, include in *Eligible Population/Denominator*.
 5. Denominator Population:
 - Denominator Population is all Eligible Patients in the Denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d³ equals 80 patients in the Sample Calculation.
 6. Start Numerator
 7. Check *Patient had at least two HPV vaccines (with at least 146 days between the two) OR three HPV vaccines on or between the patient's 9th and 13th birthdays*:
 - a. If *Patient had at least two HPV vaccines (with at least 146 days between the two) OR three HPV vaccines on or between the patient's 9th and 13th birthdays* equals Yes, include in *Data Completeness Met and Performance Met*.
 - *Data Completeness Met and Performance Met* letter is represented as Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a³ equals 50 patients in the Sample Calculation.
 - b. If *Patient had at least two HPV vaccines (with at least 146 days between the two) OR three HPV vaccines on or between the patient's 9th and 13th birthdays* equals No, proceed to check *Patient had anaphylaxis due to the HPV vaccine any time on or before the patient's 13th birthday*.
 8. Check *Patient had anaphylaxis due to the HPV vaccine any time on or before the patient's 13th birthday*:
 - a. If *Patient had anaphylaxis due to the HPV vaccine any time on or before the patient's 13th birthday* equals Yes, include in *Data Completeness Met and Denominator Exception*.
 - *Data Completeness Met and Denominator Exception* letter is represented as Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter b⁴ equals 10 patients in the Sample Calculation.
 - b. If *Patient had anaphylaxis due to the HPV vaccine any time on or before the patient's 13th birthday* equals No, proceed to check *Patient did not have at least two HPV vaccines (with at least 146 days between the*

two) OR three HPV vaccines on or between the patient's 9th and 13th birthdays.

9. Check *Patient did not have at least two HPV vaccines (with at least 146 days between the two) OR three HPV vaccines on or between the patient's 9th and 13th birthdays*:
 - a. If *Patient did not have at least two HPV vaccines (with at least 146 days between the two) OR three HPV vaccines on or between the patient's 9th and 13th birthdays* equals Yes, include in the *Data Completeness Met and Performance Not Met*.
 - *Data Completeness Met and Performance Not Met* letter is represented as Data Completeness Rate in the Sample Calculation listed at the end of this document. Letter c³ equals 10 patients in the Sample Calculation.
 - b. If *Patient did not have at least two HPV vaccines (with at least 146 days between the two) OR three HPV vaccines on or between the patient's 9th and 13th birthdays* equals No, proceed to check *Data Completeness Not Met*.
10. Check *Data Completeness Not Met*:
 - a. If *Data Completeness Not Met*, the Quality Data Code or equivalent was not submitted. 10 patients have been subtracted from the Data Completeness Numerator in the Sample Calculation.

Sample Calculations: Submission Criteria Three:

Data Completeness equals Performance Met (a³ equals 50 patients) plus Denominator Exception (b⁴ equals 10 patients) plus Performance Not Met (c³ equals 10 patients) divided by Eligible Population/Denominator (d³ equals 80 patients). All equals 70 patients divided by 80 patients. All equals 87.50 percent.

Performance Rate equals Performance Met (a³ equals 50 patients) divided by Data Completeness Numerator (70 patients) minus Denominator Exception (b⁴ equals 10 patients). All equals 50 patients divided by 60 patients. All equals 83.33 percent.

*See the posted measure specification for specific coding and instructions to submit this measure.

NOTE: Submission Frequency: Patient-Process

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Submission Criteria Four:

1. Start with Denominator
2. Check *Patients who turn 13 years of age during the measurement period*:
 - a. If *Patients who turn 13 years of age during the measurement period* equals No, do not include in *Eligible Population/Denominator*. Stop processing.
 - b. If *Patients who turn 13 years of age during the measurement period* equals Yes, proceed to check *Patient encounter during the performance period as listed in Denominator**.
3. Check *Patient encounter during the performance period as listed in Denominator**:
 - a. If *Patient encounter during the performance period as listed in Denominator** equals No, do not include in *Eligible Population/Denominator*. Stop processing.

- b. If *Patient encounter during the performance period as listed in Denominator** equals Yes, proceed to check *Patients who use hospice services any time during the measurement period*.
4. Check *Patients who use hospice services any time during the measurement period*:
 - a. If *Patients who use hospice services any time during the measurement period* equals Yes, do not include in *Eligible Population/Denominator*. Stop processing.
 - b. If *Patients who use hospice services any time during the measurement period* equals No, include in *Eligible Population/Denominator*.
5. Denominator Population:
 - Denominator Population is all Eligible Patients in the Denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d⁴ equals 80 patients in the Sample Calculation.
6. Start Numerator
7. Check *Adolescents who are numerator compliant for Rates 1, 2, and 3*:
 - a. If *Adolescents who are numerator compliant for Rates 1, 2, and 3* equals Yes, include in the *Data Completeness Met and Performance Met*.
 - *Data Completeness Met and Performance Met* letter is represented as Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a⁴ equals 60 patients in the Sample Calculation.
 - b. If *Adolescents who are numerator compliant for Rates 1, 2, and 3* equals No, proceed to check *Adolescents who are not numerator compliant for Rates 1, 2, and 3*.
8. Check *Adolescents who are not numerator compliant for Rates 1, 2, and 3*:
 - a. If *Adolescents who are not numerator compliant for Rates 1, 2, and 3* equals Yes, include in the *Data Completeness Met and Performance Not Met*.
 - *Data Completeness Met and Performance Not Met* letter is represented as Data Completeness in the Sample Calculation listed at the end of this document. Letter c⁴ equals 10 patients in the Sample Calculation.
 - b. If *Adolescents who are not numerator compliant for Rates 1, 2, and 3* equals No, proceed to check *Data Completeness Not Met*.
9. Check *Data Completeness Not Met*:
 - a. If *Data Completeness Not Met*, the Quality Data Code or equivalent was not submitted. 10 patients have been subtracted from the Data Completeness Numerator in the Sample Calculation.

Sample Calculations: Submission Criteria Four:

Data Completeness equals Performance Met (a⁴ equals 60 patients) plus Performance Not Met (c⁴ equals 10 patients) divided by Eligible Population/Denominator (d⁴ equals 80 patients). All equals 70 patients divided by 80 patients. All equals 87.50 percent.

Performance Rate equals Performance Met (a⁴ equals 60 patients) divided by Data Completeness Numerator (70 patients).

All equals 60 patients divided by 70 patients. All equals 85.71 percent.

*See the posted measure specification for specific coding and instructions to submit this measure.

NOTE: Submission Frequency: Patient-Process

The measure diagrams were developed by CMS as a supplemental resource to be used in conjunction with the measure specifications. They should not be used alone or as a substitution for the measure specification.