



STATE OF NEW JERSEY

DEPARTMENT OF HEALTH

M7: Treatment of Severe Hypertension

Quality Improvement Program – New Jersey (QIP-NJ)
Chart-Based Measure Specification Guidance

Agenda

- Presentation Information
- M7 Overview
- M7 Flowchart
- Standard Reporting Template
- Understanding Measure Criteria
- Examples with Sample Data
- How to Calculate Performance
- Conclusion

Acronyms Used in this Presentation

Acronym	Definition
BP	Blood Pressure
Dx	Diagnosis
ED	Emergency Department
EHR	Electronic Health Record
ICD-10 CM	International Classification of Diseases (Clinical Modification)
Idxdt	Index Date
M7	Treatment of Severe Hypertension
mm Hg	Millimeters of Mercury
NDC	National Drug Code
SHTN	Severe Hypertension
QIP-NJ	Quality Improvement Program – New Jersey
VSC	Value Set Compendium

Presentation Information

Objectives: By the end of the presentation, viewers should be able to:

- Define the numerator & denominator criteria for M7;
- State exclusion criteria for M7;
- Identify value sets used to define M7 measure criteria;
- Computer numerator compliance.

Reference Materials: Viewers are advised to reference the following program materials while listening to the presentation.

- [QIP-NJ Measurement Specifications and Submission Guidelines \(Databook\)](#)
- [QIP-NJ Databook Value Set Compendium \(VSC\)](#)

Disclaimer: This presentation was recorded in July 2021. QIP-NJ measure specifications may be updated annually to align with changes published by the measure stewards. Hospitals participating in QIP-NJ should reference the latest version of the QIP-NJ Measurement Specifications and Submission Guidelines for the most accurate description of each measure's criteria.

M7 Overview

Measure Description

Percentage of pregnant or postpartum women aged 18 to 55 years old with a severe hypertensive episode that is treated within one hour by a recommended first-line agent.

Refer to the Databook document for:

- Statewide Benchmark
- Measure Steward & Version



Measure M7: Treatment of Severe Hypertension (SHTN)

Measure Description:

The percentage of pregnant or postpartum women aged 18 to 55 years old with a severe hypertensive episode that is treated within one hour by a recommended first-line agent.

Data Source:

Chart/EHR

NQF #:

N/A

Measure Steward:

Alliance for Innovation on Maternal Health (AIM)

Measure Steward Version:

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Statewide Benchmark:

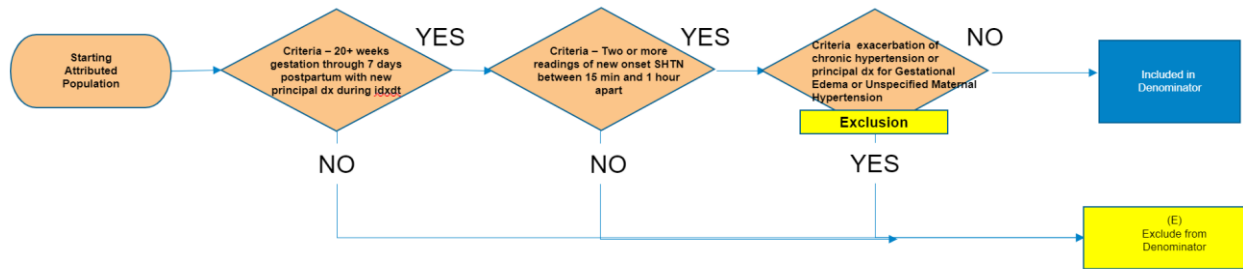
80%

M7 Flowchart

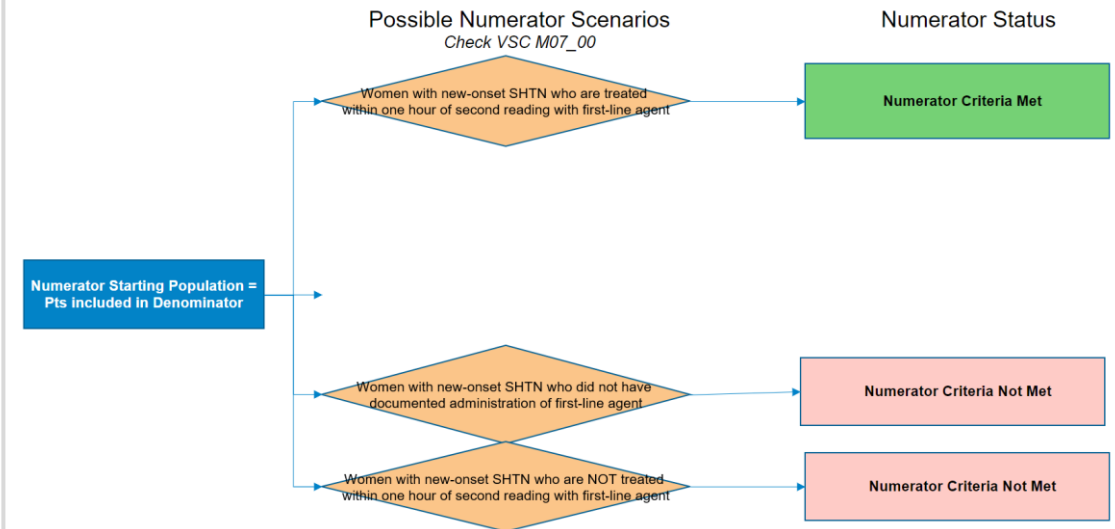
M7 Flowchart Overview

The measure itself requires both a denominator (eligible patient population) and a numerator (measure compliant patient population). The flowchart below has been developed to assist in identifying the measures data elements and how they should be treated throughout the calculation process.

Denominator Workflow



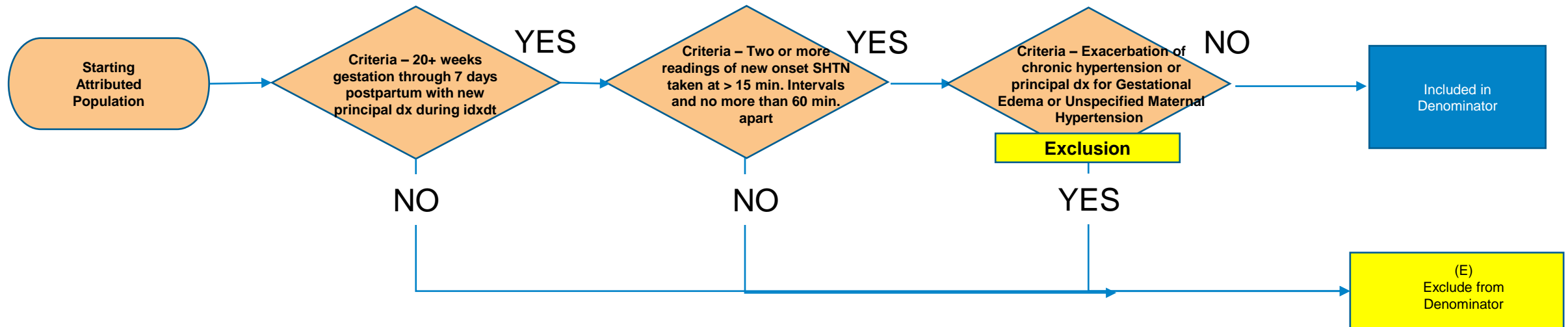
Numerator Workflow



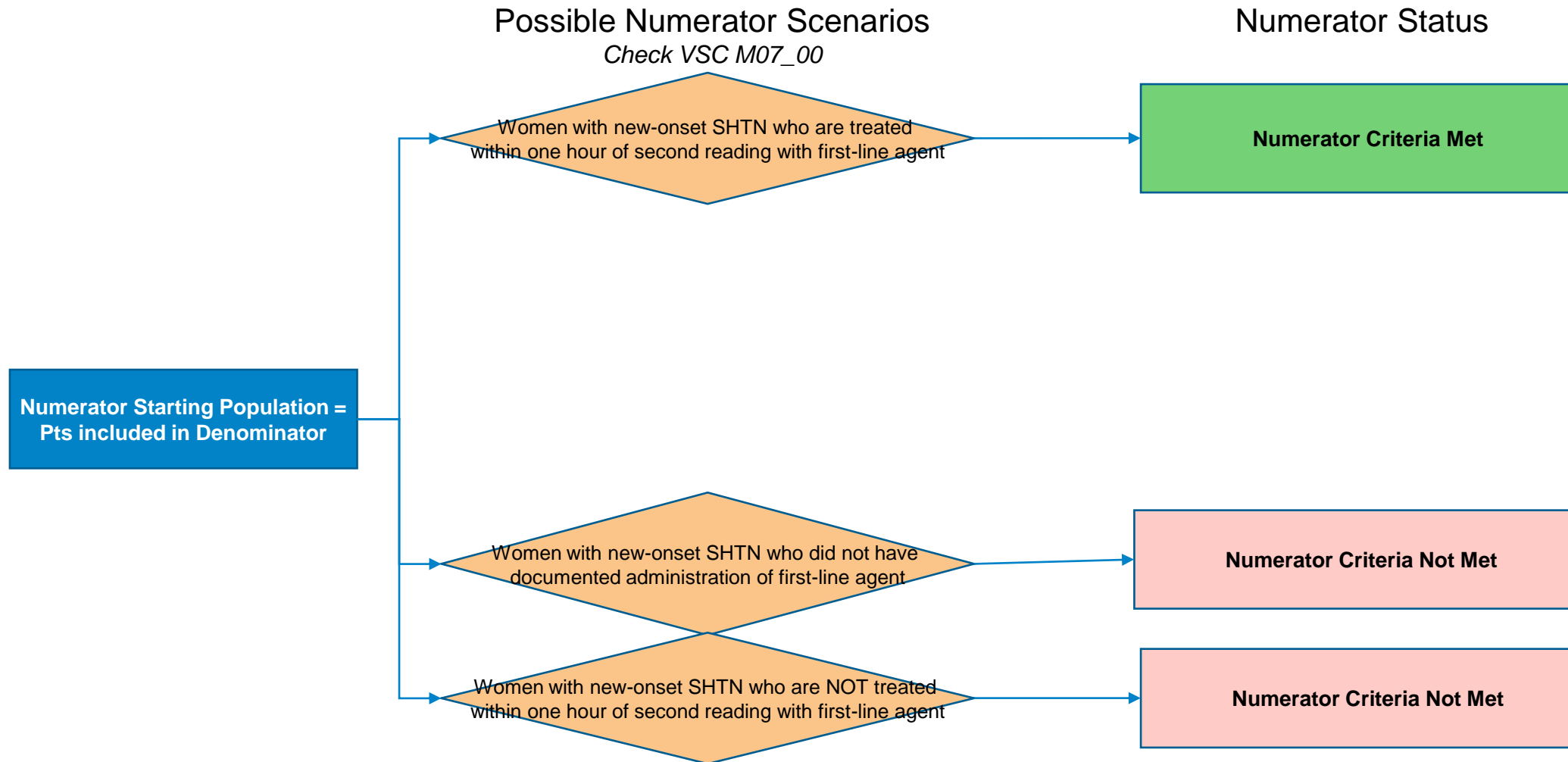
M7 Flowchart Part 1: Denominator

The portion of the measure's workflow below provides an overview of how the eligible patient denominator is calculated using available data sources.

Note: 'New Onset' refers to first instance of the individual presenting at facility



M7 Flowchart Part 2: Numerator



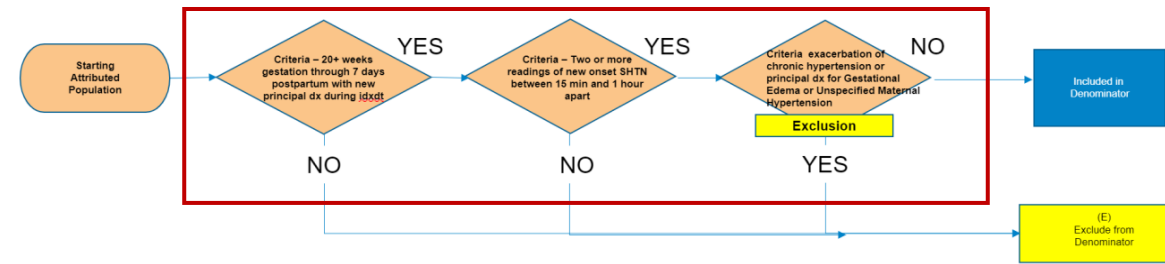
Standard Reporting Template

Key Variables

Member data elements - required metadata of each file	
M_DOB	Date of member's birth
M_ELEMT	Data element component
Date and time data elements	
SVC_DT	Service date
BP_TM	Blood pressure time for SHTN (M07)
BG_TM	Beginning of treatment for SHTN (M07)
ED_TM	Ending of treatment for SHTN (M07)
Clinical & diagnostic data elements (Use attribution roster to query the chart/EHR)	
RES_VAL	Result value indicator; Use C=CPT, D=Discharge Status H=HCPCS I=ICD10CM, J=ICD10PCS, L=LOINC, N= NDC, P(NJ)=POS, R = RXNORM, S=SNOMED, T=(UB)TOB, U=UBREV, Z=OTHER (ONE value per row per member)
CODE_VAL	Reflects the value that is indicated in RES_VAL
Measure-specific data elements (Use attribution roster to query the chart/EHR)	
BP_SYST	Blood Pressure Systolic value (M07)
BP_DIAS	Blood Pressure Diastolic value (M07)
ED_OTHTX	Was other non-first-line agent administered (M07)

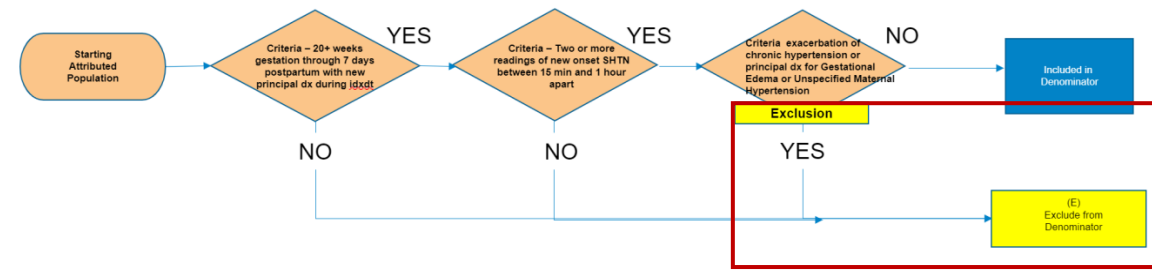
Understanding Measure Criteria

M7: Denominator Criteria



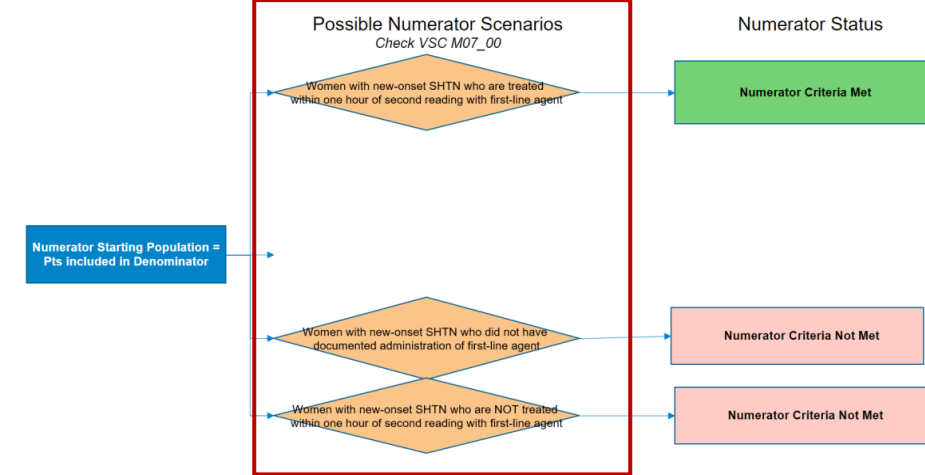
Criteria	Data Elements	Value Set Reference	Variable(s)
Individual 18 – 55 years, greater than or equal to 20 weeks gestation through 7 days postpartum, with a new principal diagnosis	<ul style="list-style-type: none"> Date of Birth ICD-10-CM Principal Diagnosis Code for Pre-existing or Gestational Hypertension Eclampsia/Pre-eclampsia 	Table M07_01	M_DOB, M_ELEMT, SVC_DT, RES_VAL, CODE_VAL
Two or more consecutive readings of new onset SHTN taken at greater than 15-min but less than 60-min intervals (defined by systolic BP \geq 160 mm Hg or diastolic BP \geq 110 mm Hg)	<ul style="list-style-type: none"> SHTN readings 	N/A	M_ELEMT, SVC_DT, RES_VAL, CODE_VAL, BP_SYST, BP_DIAS

M7: Exclusion Criteria



Criteria	Data Elements	Value Set Reference	Variable(s)
Individual has an exacerbation of chronic hypertension	<ul style="list-style-type: none"> Exclusionary diagnosis code 	Table M07_02	M_ELEMT, SVC_DT, RES_VAL, CODE_VAL
Any SHTN instances that occur prior to 20 weeks of pregnancy or after 7 days postpartum	<ul style="list-style-type: none"> Exclusionary diagnosis code 	Table M07_02	M_ELEMT, SVC_DT, RES_VAL, CODE_VAL
An ICD-10-CM Principal Diagnosis or Other Diagnosis Code for Gestational Edema or Unspecified Maternal Hypertension	<ul style="list-style-type: none"> Gestational Edema or Unspecified Maternal Hypertension codes 	Table M07_02	M_ELEMT, SVC_DT, RES_VAL, CODE_VAL

M7 Numerator Criteria



Criteria	Data Elements	Value Set Reference	Variable(s)
Individuals with persistent new-onset SHTN who were treated within one hour of second reading with a first-line agent	<ul style="list-style-type: none"> SHTN reading taken First line agent matches code set 	Table M07_00	BP_SYST, BP_DIAS, ED_OTHTX

Examples with Sample Data

Sample Individual #1

Sample Individual #1: Profile

- Gender: Female
- Age: 29 years
- Encounter date: 9/30/2020; presents in the ED; 1st BP reading at 16:00 (175/120)
- **ICD-10 CM code: O12.22**
- 2nd BP reading at 16:45 (180/120)

M_ID	HOSP_ID	M_DOB	M_GENDER	M_SAMP	M_ELEMT	SVC_DT	BP_TM	BG_TM	ED_TM	RES_VAL	CODE_VAL	BP_SYST	BP_DIAS	ED_OTHTX
M007	4136900	3/16/1991	F	0	D	9/30/2020	1600			Z		175	120	
M007	4136900	3/16/1991	F	0	D	9/30/2020	1645			Z		180	120	
M007	4136900	3/16/1991	F	0	E	9/30/2020				I	O1222			

Sample Individual #1: Denominator

- First, see if the individual meets the age requirement of 18-55 years old and 2+ SHTN readings.
 - ✓ This individual meets the age requirement and had 2 SHTN readings recorded greater than 15 minutes but less than 60 minutes apart.
- Then, check if the individual has any **exclusionary diagnosis** (Table M07_02) or inclusionary diagnosis (Table M07_01).
 - ✓ This individual has an exclusionary diagnosis of Gestational Edema in the Second Trimester and therefore cannot be included in the denominator. Without denominator inclusion, this individual cannot be considered for numerator performance.

(E)
Exclude from
Denominator

Sample Individual #2

Sample Individual #2: Profile

- Gender: Female
- Age: 22 years
- Encounter date: 6/1/2020; presents in the ED; 1st BP reading at 14:00 (160/110)
- ICD-10 CM: O14.13
- 2nd BP reading at 14:30 (160/110)
- **Treatment administered at 14:50**
- 3rd BP reading at 15:15 (130/80); no additional drug administered

M_ID	HOSP_ID	M_DOB	M_GENDER	M_SAMP	M_ELEMT	SVC_DT	BP_TM	BG_TM	ED_TM	RES_VAL	CODE_VAL	BP_SYST	BP_DIAS	ED_OTHTX
M007	4136900	1/3/1998	F	0	D	6/1/2020	1400			Z		160	110	
M007	4136900	1/3/1998	F	0	D	6/1/2020	1430			Z		160	110	
M007	4136900	1/3/1998	F	0	D	6/1/2020				I	O1413			
M007	4136900	1/3/1998	F	0	N	6/1/2020		1450		N				2
M007	4136900	1/3/1998	F	0	D	6/1/2020	1515			Z		130	80	

Sample Individual #2: Denominator

- First, see if the individual meets the age requirement of 18-55 years old and the 2+ SHTN readings.
 - ✓ Yes, the individual was 22 years old and has 2 SHTN readings recorded more than 15 minutes but less than 60 minutes apart.
- Then, check if the individual has any exclusionary diagnosis (Table M07_02) or inclusionary diagnosis (Table M07_01).
 - ✓ This individual has an inclusionary diagnosis of Severe Pre-Eclampsia in the Third Trimester and therefore can be included in the denominator.

Include in Denominator

Sample Individual #2: Numerator

- To determine performance inclusion, confirm that the individual met denominator requirements and had an inclusionary diagnosis.
 - ✓ This individual met requirements and had a valid diagnosis for denominator inclusion.
- Now that the individual is included in the denominator, check to see if they meet numerator requirements. Check if this individual received a **recommended first-line drug therapy** (Table M07_00) within one hour after their second SHTN reading.
 - ✓ This individual does not have a recorded first-line drug therapy under the RES_VAL and CODE_VAL variables. Because this individual doesn't have the requisite NDC#, they do not meet numerator performance requirements.

Performance Not Met

Sample Individual #3

Sample Individual #3: Profile

- Gender: Female
- Age: 37 years
- Encounter date: 7/15/2020; presents in the ED; 1st BP reading at 9:30 (170/120)
- ICD-10 CM code: O13.9
- 2nd BP reading at 10:20 (160/120)
- Treatment NDC #: 433860440 administered at 11:00
- 3rd BP reading at 11:45 (120/90); no additional drug administered

M_ID	HOSP_ID	M_DOB	M_GENDER	M_SAMP	M_ELEMT	SVC_DT	BP_TM	BG_TM	ED_TM	RES_VAL	CODE_VAL	BP_SYST	BP_DIAS	ED_OTHTX
M007	4136900	8/3/1983	F	0	D	7/15/2020	0930			Z		170	120	
M007	4136900	8/3/1983	F	0	D	7/15/2020	1020			Z		160	120	
M007	4136900	8/3/1983	F	0	D	7/15/2020				I	O139			
M007	4136900	8/3/1983	F	0	N	7/15/2020		1100		N	433860440			1
M007	4136900	8/3/1983	F	0	D	7/15/2020	1145			Z		120	90	

Sample Individual #3: Denominator

- First, see if the individual meets the age requirement 18-55 years old and had 2+ SHTN readings.
 - ✓ Yes, this individual had 2 consecutive SHTN readings greater than 15 minutes and less than 60 minutes apart and was 37 years old. Therefore, this individual meets this requirement.
- Then, check if the individual has any exclusionary diagnosis (Table M07_02) or inclusionary diagnosis (Table M07_01).
 - ✓ This individual has a valid diagnosis of Gestational (pregnancy-induced) Hypertension without Significant Proteinuria in Unspecified Trimester. Thus, it meets the requirements for inclusion.

Include in Denominator

Sample Individual #3: Numerator

- To determine performance inclusion, confirm that the individual met denominator requirements and had an inclusionary diagnosis.
 - ✓ This individual met requirements and had a valid diagnosis for denominator inclusion.
- Now that the individual is included in the denominator, check to see if they meet numerator requirements. Check if this individual received a recommended first-line drug therapy (Table M07_00) within one hour after their second SHTN reading.
 - ✓ This individual did receive a recommended first-line Nifedipine drug treatment within an hour after their second SHTN reading.

Performance Met

How to Calculate Performance

Calculating Performance: Subgroups

For this sample calculation, there is a starting attributed population of 30 individuals.

Subgroup Criteria	Subgroup Counts
Starting Population (Attributed)	30
Exclusions	5
Individuals with new-onset SHTN treated within 1 hour of second BP reading with first-line agent	15
Individuals with new-onset SHTN NOT treated within 1 hour of second BP reading with first-line agent	5
Individuals with new-onset SHTN NOT treated with first-line agent	5

Calculating Performance: Denominator

- First, calculate the **eligible population** for M7 from the starting attributed population.
- **Eligible population (M7):** Attributed individuals, meeting the age criteria, 20 weeks gestation – 7 days postpartum with a new principal diagnosis and 2+ readings of SHTN taken within 15 – 60 minutes of each other.

Starting Attributed Population – Exclusions = Eligible Population

Subgroup Criteria	Subgroup Count
Starting Population (Attributed)	30
Exclusions	5
Eligible Population (Denominator)	25

Calculating Performance: Numerator

- Next, calculate the *numerator compliant individual population* from the eligible population.
- **Measure Compliant Individual Population (M7):** Individuals with new-onset SHTN treated within 1 hour of second BP reading with first-line agent.

Individuals with new-onset SHTN treated within 1 hour of second BP reading with first-line agent = Measure Compliant Individual Population

Subgroup Criteria	Subgroup Count
Individuals with new-onset SHTN treated within 1 hour of second BP reading with first-line agent	15
Measure Compliant Individual Population	15

Calculating Performance: Percentage

- Finally, derive the proportion of the eligible population that is measure compliant. This value is the hospital's performance on the measure.

(Measure Compliant Individual Population / Eligible Population) * 100 = Individual Hospital Performance

Subgroup Criteria	Subgroup Count
Measure Compliant Individual Population	15
Eligible Population	25
Individual Hospital Performance	60%

Conclusion

More Information

For more information about data submission, please review the standard reporting templates and associated guides available on the QIP-NJ website: <https://qip-nj.nj.gov/participants.html>.

For more information about the measures, please reference the QIP-NJ Databook FAQ document: <https://qip-nj.nj.gov/resources.html>.

With any additional questions or concerns, please contact QIP-NJ@PCGUS.com.