NEMSIS V3 Case Definition

STEMI

Date

May 27, 2025 (updated to ignore eSituation.10 - Other Associated Symptoms if it has a Pertinent Negative, "Symptom Not Present")
August 26, 2021

Definition

The patient experienced a STEMI.

Criteria Description

Patient care reports where:

- any symptom or impression is STEMI
  or
- cardiac rhythm is STEMI
  or
    - any symptom or impression is angina pectoris or unspecified angina and
    - cardiac rhythm is left bundle branch block
  or
- STEMI protocol is used
  or
- a STEMI destination team pre-arrival alert or activation is performed.

Pseudocode

Patient care reports where:

eSituation.09 - Primary Symptom
eSituation.10 - Other Associated Symptoms (without Pertinent Negative)
eSituation.11 - Provider's Primary Impression
eSituation.12 - Provider's Secondary Impressions
- I21.0* ST elevation (STEMI) myocardial infarction of anterior wall
- I21.1* ST elevation (STEMI) myocardial infarction of inferior wall
- I21.2* ST elevation (STEMI) myocardial infarction of other sites
- I21.3 ST elevation (STEMI) myocardial infarction of unspecified site

OR

eVitals.03 - Cardiac Rhythm
- STEMI Anterior Ischemia
- STEMI Inferior Ischemia
- STEMI Lateral Ischemia
- STEMI Posterior Ischemia

OR

(

eSituation.09 - Primary Symptom
eSituation.10 - Other Associated Symptoms (without Pertinent Negative)
eSituation.11 - Provider's Primary Impression
eSituation.12 - Provider's Secondary Impressions
- I20 Angina pectoris
- I20.0 Unstable angina
- I20.9 Angina pectoris, unspecified

AND

eVitals.03 - Cardiac Rhythm
- Left Bundle Branch Block

)

OR

eProtocols.01 Protocols Used
- Medical-ST-Elevation Myocardial Infarction (STEMI)

OR

eDisposition.24 - Destination Team Pre-Arrival Alert or Activation
- Yes-STEMI

XPath Code

```
/EMSDataSet/Header/PatientCareReport
  [
    eSituation/(eSituation.09, eSituation.10[not(@PN)], eSituation.11, eSituation.12)
      [matches(., '^(I21.0)|(I21.1)|(I21.2)|(I21.3)')]
    or
    eVitals/eVitals.VitalGroup/eVitals.03 =
      ('9901051', '9901053', '9901055', '9901057')
    or
```

```
  (
    eSituation/(eSituation.09, eSituation.10[not(@PN)], eSituation.11,
      eSituation.12) = ('I20', 'I20.0', 'I20.9')
    and
    eVitals/eVitals.VitalGroup/eVitals.03 = '9901021'
  )
  or
  eProtocols/eProtocols./ProtocolGroup/eProtocols.01 = '9914143'
  or
  eDisposition/eDisposition.HospitalTeamActivationGroup/eDisposition.24 = '4224013'
]
```

SAS Code

The NEMSIS public release research dataset does not include the Pertinent Negative attribute on eSituation.10 - Other Associated Symptoms, which was added in NEMSIS version 3.5, so the SAS code will select some records where a symptom was actually documented as "Symptom Not Present." This is estimated to affect less than 3% of v3.5 records.

```
proc sql;
  create table StemiKey as
  select distinct pcrKey from
    (
      select pcrKey from nemsis.factPcrPrimarySymptom where
        substr(eSituation_09,1,5) in ('I21.0', 'I21.1', 'I21.2', 'I21.3')
      union
      select pcrKey from nemsis.factPcrAdditionalSymptom where
        substr(eSituation_10,1,5) in ('I21.0', 'I21.1', 'I21.2', 'I21.3')
      union
      select pcrKey from nemsis.factPcrPrimaryImpression where
        substr(eSituation_11,1,5) in ('I21.0', 'I21.1', 'I21.2', 'I21.3')
      union
      select pcrKey from nemsis.factPcrSecondaryImpression where
        substr(eSituation_12,1,5) in ('I21.0', 'I21.1', 'I21.2', 'I21.3')
      union
      select pcrKey from nemsis.factPcrVital where pcrVitalKey in
        (
          select vitalKey from nemsis.pcrVitalEcgGroup where eVitals_03 in
            ('9901051', '9901053', '9901055', '9901057')
        )
      union
      select pcrKey from nemsis.factPcrVital where pcrVitalKey in
        (
          select vitalKey from nemsis.pcrVitalEcgGroup where eVitals_03 =
```

```
                '9901021'
        )
        and pcrKey in
        (
          select pcrKey from nemsis.factPcrPrimarySymptom where
            eSituation_09 in ('I21', 'I20.0', 'I20.9')
          union
          select pcrKey from nemsis.factPcrAdditionalSymptom where
            eSituation_10 in ('I21', 'I20.0', 'I20.9')
          union
          select pcrKey from nemsis.factPcrPrimaryImpression where
            eSituation_11 in ('I21', 'I20.0', 'I20.9')
          union
          select pcrKey from nemsis.factPcrSecondaryImpression where
            eSituation_12 in ('I21', 'I20.0', 'I20.9')
        )
      union
      select pcrKey from nemsis.factPcrProtocol where eProtocol_01 = '9914143'
      union
      select pcrKey from nemsis.factPcrDestinationTeam where eDisposition_24 =
        '4224013')
    )
  ;
quit;
```

Discussion

None.

References

NEMSIS V3 Public STEMI Dashboard. Global Inclusion Criteria and Filters.
wiki.utahdcc.org/confluence/display/NTD/V3+Public+STEMI+Dashboard.