

Telestroke Measures

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Time from Decision to Treat to Thrombolytic Administration

Patients who receive telestroke consultation grouped by time from telestroke physician recommendation for thrombolytic therapy to time thrombolytic was administered

Initial Patient Population

All patients age 18 years and older with a primary diagnosis of ischemic stroke

Age ≥18
AND

Final Clinical Diagnosis Related to Stroke Ischemic Stroke

Denominator

Include:

All patients in the initial patient population who received telestroke consultation at my hospital that resulted in thrombolytic administration

Data Elements for Calculation

Same as initial patient population
AND

Was Telestroke Consultation Performed Yes, the patient received telestroke consultation from a remotely located expert when the patient was located at my hospital)
AND

Did Telestroke Consultation Result in Thrombolytic Administration at the Referring Site Yes
AND

IV Thrombolytic Initiated at this Hospital Yes

Exclusions: (Always remove from denominator)

- Patients who received IV thrombolytic at an outside hospital or EMS/Mobile Stroke Unit
- Patients whose date/time of Decision to Administer Thrombolytic (By Telestroke) and/or date/time of thrombolytic administration is blank, unknown, or not in MM/DD/YYYY HH:MM format.
- Patients with a negative calculated time difference

IV Thrombolytic at an Outside Hospital or EMS / Mobile Stroke Unit? Yes
OR

Date/Time Decision to Administer Thrombolytic (By Telestroke) is blank, unknown, or just MM/DD/YYYY
OR

IV Thrombolytic Initiation Date/Time is blank, unknown, or just MM/DD/YYYY
OR

IV Thrombolytic Initiation Date/Time < Date/Time Decision to Administer Thrombolytic (By Telestroke)

Exceptions: (Remove from denominator if present and numerator is not met)

None

N/A

Numerator/Report

Display a bar graph of patients grouped by time from decision to treat with thrombolytic to thrombolytic administration in the increments below from 0-60 minutes with one bar for > 60 minutes.

1. 0-5 minutes
2. 6-10 minutes
3. 11-15 minutes
4. 16-20 minutes
5. 21-30 minutes

Group 1: $0 \leq (\text{IV Thrombolytic Initiation Date/Time MINUS Date/Time Decision to Administer Thrombolytic (By Telestroke)}) \leq 5$ minutes

Group 2: $6 \leq (\text{IV Thrombolytic Initiation Date/Time MINUS Date/Time Decision to Administer Thrombolytic (By Telestroke)}) \leq 10$ minutes

Group 3: $11 \leq (\text{IV Thrombolytic Initiation Date/Time MINUS Date/Time Decision to Administer Thrombolytic (By Telestroke)}) \leq 15$ minutes

Group 4: $16 \leq (\text{IV Thrombolytic Initiation Date/Time MINUS Date/Time Decision to Administer Thrombolytic (By Telestroke)}) \leq 60$ minutes

6. 31-40 minutes
7. 41-50 minutes
8. 51-60 minutes
9. >60 minutes

Decision to Administer Thrombolytic (By Telestroke) < = 20 minutes

Group 5: 21 < = (**IV Thrombolytic Initiation Date/Time MINUS Date/Time Decision to Administer Thrombolytic (By Telestroke)**) < =30 minutes

Group 6: 31 < = (**IV Thrombolytic Initiation Date/Time MINUS Date/Time Decision to Administer Thrombolytic (By Telestroke)**) < = 40 minutes

Group 7: 41 < = (**IV Thrombolytic Initiation Date/Time MINUS Date/Time Decision to Administer Thrombolytic (By Telestroke)**) < = 50 minutes

Group 8: 51 < = (**IV Thrombolytic Initiation Date/Time MINUS Date/Time Decision to Administer Thrombolytic (By Telestroke)**) < = 60 minutes

Group 9: (**IV Thrombolytic Initiation Date/Time MINUS Date/Time Decision to Administer Thrombolytic (By Telestroke)**) > 60 minutes

Door to Telestroke Consultation Request

Patients who receive telestroke consultation grouped by time from hospital arrival to first Telestroke consultation request

Initial Patient Population

All patients age 18 years and older admitted to the hospital who have a diagnosis of acute Ischemic stroke, Subarachnoid hemorrhage, Intracerebral hemorrhage, or Stroke not otherwise specified

Age: ≥ 18
AND

Final Clinical Diagnosis Related to Stroke Ischemic Stroke OR TIA OR Subarachnoid Hemorrhage OR Intracerebral Hemorrhage OR Stroke not otherwise specified

Denominator

Include:

All patients in the initial patient population who received telestroke consultation at my hospital

Data Elements for Calculation

Same as initial patient population
AND

Was Telestroke Consultation Performed Yes, the patient received telestroke consultation from a remotely located expert when the patient was located at my hospital

Exclusions: (Always remove from denominator)

- Patients who received IV thrombolytic at an outside hospital or EMS/Mobile Stroke Unit
- Patients whose date/time of first telestroke consultation request and/or date/time of hospital arrival is blank, unknown, or not in MM/DD/YYYY HH:MM format.
- Patients with a negative calculated time difference

IV Thrombolytic at an Outside Hospital or EMS / Mobile Stroke Unit? Yes
OR

(Date/Time of First Telestroke Consultation Request is blank, unknown, or just MM/DD/YYYY
OR

Arrival Date and Time is blank, unknown, or just MM/DD/YYYY
OR

(Date/Time of First Telestroke Consultation Request < Hospital Arrival Date and Time)

Exceptions: (Remove from denominator if present and numerator is not met)

None

N/A

Numerator/Report

Display a bar graph of the distribution of times from hospital arrival to first Telestroke consultation request in the increments below from 0-60 minutes with one bar for > 60 minutes.

1. 0-5 minutes
2. 6-10 minutes
3. 11-15 minutes
4. 16-20 minutes
5. 21-30 minutes
6. 31-40 minutes
7. 41-50 minutes
8. 51-60 minutes
9. >60 minutes

Group 1: $0 \leq (\text{Date/Time of First Telestroke Consultation Request} \text{ MINUS Hospital Arrival Date and Time}) < 5 \text{ minutes}$

Group 2: $6 \leq (\text{Date/Time of First Telestroke Consultation Request} \text{ MINUS Hospital Arrival Date and Time}) < 10 \text{ minutes}$

Group 3: $11 \leq (\text{Date/Time of First Telestroke Consultation Request} \text{ MINUS Hospital Arrival Date and Time}) < 15 \text{ minutes}$

Group 4: $16 \leq (\text{Date/Time of First Telestroke Consultation Request} \text{ MINUS Hospital Arrival Date and Time}) < 20 \text{ minutes}$

Group 5: $21 \leq (\text{Date/Time of First Telestroke Consultation Request} \text{ MINUS Hospital Arrival Date and Time}) < 30 \text{ minutes}$

Group 6: $31 \leq (\text{Date/Time of First Telestroke Consultation Request} \text{ MINUS Hospital Arrival Date and Time}) < 40 \text{ minutes}$

Group 7: $41 \leq (\text{Date/Time of First Telestroke Consultation Request} \text{ MINUS Hospital Arrival Date and Time}) < 50 \text{ minutes}$

Group 8: $51 \leq (\text{Date/Time of first Telestroke Consultation Request} \text{ MINUS Hospital Arrival Date and Time}) < 60 \text{ minutes}$

Hospital Arrival Date and Time < = 60 minutes

Group 9: (Date/Time of First Telestroke Consultation Request MINUS Hospital Arrival Date and Time) > 60 minutes

Door to Telestroke Provider (start of video session)

Patients who receive telestroke consultation grouped by time from hospital arrival to start of telestroke video session with the telestroke consultant

Initial Patient Population

All patients age 18 years and older with a primary diagnosis of ischemic stroke acute Ischemic stroke, Subarachnoid hemorrhage, Intracerebral hemorrhage, or Stroke not otherwise specified

Age ≥ 18
AND

Final Clinical Diagnosis Related to Stroke Ischemic Stroke OR TIA OR Subarachnoid Hemorrhage OR Intracerebral Hemorrhage OR Stroke not otherwise specified

Denominator

Include:

All patients in the initial patient population who received telestroke consultation at my hospital

Data Elements for Calculation

Same as initial patient population
AND

(Was Telestroke Consultation Performed Yes, the patient received telestroke consultation from a remotely located expert when the patient was located at my hospital)

Exclusions: (Always remove from denominator)

- Patients who received IV thrombolytic at an outside hospital or EMS/Mobile Stroke Unit
- Patients whose date/time of start of telestroke video session and/or date/time of hospital arrival is blank, unknown, or not in MM/DD/YYYY HH:MM format.
- Patients with a negative calculated time difference

IV Thrombolytic at an Outside Hospital or EMS / Mobile Stroke Unit? Yes
OR

Date/Time Start of Telestroke Video Session is blank, unknown or just MM/DD/YYYY
OR

Arrival Date and Time is blank, unknown, or just MM/DD/YYYY
OR

(Date/Time Start of Telestroke Video Session < Hospital Arrival Date and Time)

Exceptions: (Remove from denominator if present and numerator is not met) *Note: In the PMT, this is achieved via enabling rules or parent/child relationships between variables)*

Numerator/Report

Display a bar graph of the distribution of times from hospital arrival to start of telestroke video session with the telestroke consultant, in the increments below from 0-60 minutes with one bar for > 60 minutes.

1. 0-5 minutes
2. 6-10 minutes
3. 11-15 minutes
4. 16-20 minutes
5. 21-30 minutes
6. 31-40 minutes
7. 41-50 minutes
8. 51-60 minutes
9. >60 minutes

- Group 1:** $0 \leq (\text{Date/Time Start of Telestroke Video Session}) \text{ MINUS } \text{Hospital Arrival Date and Time} \leq 5 \text{ minutes}$
- Group 2:** $6 \leq (\text{Date/Time Start of Telestroke Video Session}) \text{ MINUS } \text{Hospital Arrival Date and Time} \leq 10 \text{ minutes}$
- Group 3:** $11 \leq (\text{Date/Time Start of Telestroke Video Session}) \text{ MINUS } \text{Hospital Arrival Date and Time} \leq 15 \text{ minutes}$
- Group 4:** $16 \leq (\text{Date/Time Start of Telestroke Video Session}) \text{ MINUS } \text{Hospital Arrival Date and Time} \leq 20 \text{ minutes}$
- Group 5:** $21 \leq (\text{Date/Time Start of Telestroke Video Session}) \text{ MINUS } \text{Hospital Arrival Date and Time} \leq 30 \text{ minutes}$
- Group 6:** $31 \leq (\text{Date/Time Start of Telestroke Video Session}) \text{ MINUS } \text{Hospital Arrival Date and Time} \leq 40 \text{ minutes}$
- Group 7:** $41 \leq (\text{Date/Time Start of Telestroke Video Session}) \text{ MINUS } \text{Hospital Arrival Date and Time} \leq 50 \text{ minutes}$

	<p>Group 8: $51 \leq (\text{Date/Time Start of Telestroke Video Session}) \text{ MINUS Hospital Arrival Date and Time} \leq 60$ minutes</p> <p>Group 9: $(\text{Date/Time Start of Telestroke Video Session}) \text{ MINUS Hospital Arrival Date and Time} > 60$ minutes</p>
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Telestroke Consultation Done

Percentage of stroke patients who received a telestroke consult

Initial Patient Population

All patients age 18 years and older with a primary diagnosis of ischemic stroke, Subarachnoid hemorrhage, Intracerebral hemorrhage, or Stroke not otherwise specified

Age: ≥ 18
AND

Final Clinical Diagnosis Related to Stroke Ischemic Stroke OR TIA OR Subarachnoid Hemorrhage OR Intracerebral Hemorrhage OR Stroke not otherwise specified

Denominator

Include:	Data Elements for Calculation
All patients in the initial patient population	Same as initial patient population
Exclusions: (Always remove from denominator)	
None	N/A
Exceptions: (Remove from denominator if present and numerator is not met)	
None	N/A

Numerator

Patients who received a telestroke consultation

Was Telestroke Consultation Performed Yes, the patient received telestroke consultation from my hospital staff when the patient was located at another hospital **OR** Yes, the patient received telestroke consultation from someone other than my staff when the patient was located at another hospital **OR** Yes, the patient received telestroke consultation from a remotely located expert when the patient was located at my hospital

Telestroke Consultation and Thrombolytic Therapy Received

Percentage of acute ischemic stroke patients who had a telestroke consultation and who received thrombolytic therapy

Initial Patient Population

All patients age 18 years and older with a primary diagnosis of ischemic stroke

Age: ≥ 18
AND

Final Clinical Diagnosis Related to Stroke Ischemic Stroke

Denominator

Include:	Data Elements for Calculation
All patients in the initial patient population Patients who received telestroke	Same as initial patient population
Exclusions: (Always remove from denominator)	
None	N/A
Exceptions: (Remove from denominator if present and numerator is not met) Note: In the PMT, this is achieved via enabling rules or parent/child relationships between variables)	
None	N/A

Numerator

Patients who received telestroke consultation that resulted in thrombolytic administration

Was Telestroke Consultation Performed Yes, the patient received telestroke consultation from my hospital staff when the patient was located at another hospital **OR** Yes, the patient received telestroke consultation from someone other than my staff when the patient was located at another hospital **OR** Yes, the patient received telestroke consultation from a remotely located expert when the patient was located at my hospital
AND

Did Telestroke Consultation Result in Thrombolytic Administration at the Referring Site Yes
AND

(IV Thrombolytic Initiated at this Hospital Yes
OR

IV Thrombolytic at an Outside Hospital or EMS / Mobile Stroke Unit Yes)

Reasons for Transfer to Higher Level of Care (Referring Center)

Patients with stroke who received telestroke consultation and were transferred to another facility for a higher level of care, grouped by reason for transfer

Initial Patient Population

All patients age 18 years and older admitted to the hospital who have a diagnosis of acute Ischemic stroke, Subarachnoid hemorrhage, Intracerebral hemorrhage, or Stroke not otherwise specified

Age ≥ 18
AND

Final Clinical Diagnosis Related to Stroke Ischemic Stroke OR TIA OR Subarachnoid Hemorrhage OR Intracerebral Hemorrhage OR Stroke not otherwise specified

Denominator

Include:

All patients in the initial patient population who received telestroke consultation and were transferred to another hospital for higher level care

Data Elements for Calculation

Same as initial patient population
AND

Not Admitted Yes, not admitted
AND

Reason Not Admitted Transferred from your ED to another acute care hospital
AND

Was Telestroke Consultation Performed Yes, the patient received telestroke consultation from my hospital staff when the patient was located at another hospital **OR** Yes, the patient received telestroke consultation from someone other than my staff when the patient was located at another hospital
AND

Did the Telestroke Consultant Recommend Transfer? Yes
AND

Reason(s) for Why Patient Transferred is not blank

Exclusions: (Always remove from denominator)

None

N/A

Exceptions: (Remove from denominator if present and numerator is not met)

None

N/A

Numerator/Report

Display a bar graph of patients grouped by reason for transfer to another facility for higher level care

1. Evaluation for IV alteplase up to 4.5 hours
2. Post Management of IV alteplase (e.g. Drip and Ship)
3. Evaluation for Endovascular thrombectomy
4. Advanced stroke care (e.g., Neurocritical care, surgical or other time critical therapy)
5. Patient/family request
6. Other advanced care (not stroke related)
7. Not documented

Group 1: Reason(s) for Why Patient Transferred Evaluation for IV alteplase up to 4.5 hours

Group 2: Reason(s) for Why Patient Transferred Post Management of IV alteplase (e.g. Drip and Ship)

Group 3: Reason(s) for Why Patient Transferred Evaluation for Endovascular Thrombectomy

Group 4: Reason(s) for Why Patient Transferred Advanced Stroke Care (e.g. Neurocritical care, surgical or other time critical therapy)

Group 5: Reason(s) for Why Patient Transferred Patient/ Family Request

Group 6: Reason(s) for Why Patient Transferred Other Advanced Care (not stroke related)

Group 7: Reason(s) for Why Patient Transferred Not Documented

Reasons for Transfer to This Facility (Receiving Center)

Patients with stroke who received telestroke consultation and were transferred to this facility for a higher level of care, grouped by reason for transfer

Initial Patient Population

All patients age 18 years and older admitted to the hospital who have a diagnosis of acute Ischemic stroke, Subarachnoid hemorrhage, Intracerebral hemorrhage, or Stroke not otherwise specified

Age \geq 18
AND

Final Clinical Diagnosis Related to Stroke Ischemic Stroke OR TIA OR Subarachnoid Hemorrhage OR Intracerebral Hemorrhage OR Stroke not otherwise specified

Denominator

Include:

All patients in the initial patient population who received telestroke consultation and were transferred to this hospital for higher level care

Data Elements for Calculation

Same as initial patient population
AND

How Patient Arrived at your Hospital Transfer from other hospital
AND

Was Telestroke Consultation Performed Yes, the patient received telestroke consultation from my hospital staff when the patient was located at another hospital **OR** Yes, the patient received telestroke consultation from someone other than my staff when the patient was located at another hospital
AND

Did the Telestroke Consultant Recommend Transfer? Yes
AND

If Patient Transferred to your Hospital, Select Transfer Reason(s) is not blank

Exclusions: (Always remove from denominator)

None N/A

Exceptions: (Remove from denominator if present and numerator is not met)

None N/A

Numerator/Report

Display a bar graph of patients grouped by reason for transfer to this hospital

1. First Visual Contact with Telestroke (Beaming In)
2. Evaluation for IV alteplase up to 4.5 hours
3. Post Management of IV alteplase (e.g. Drip and Ship)
4. Evaluation for Endovascular thrombectomy
5. Advanced stroke care (e.g., Neurocritical care, surgical or other time critical therapy)
6. Patient/family request
7. Other advanced care (not stroke related)
8. Not documented

Group 1: If Patient Transferred to your Hospital, Select Transfer Reason(s)
Evaluation for IV alteplase up to 4.5 hours

Group 2: If Patient Transferred to your Hospital, Select Transfer Reason(s) Post Management of IV alteplase (e.g. Drip and Ship)

Group 3: If Patient Transferred to your Hospital, Select Transfer Reason(s)
Evaluation for Endovascular Thrombectomy

Group 4: If Patient Transferred to your Hospital, Select Transfer Reason(s)
Advanced Stroke Care (e.g. Neurocritical care, surgical or other time critical therapy)

Group 5: If Patient Transferred to your Hospital, Select Transfer Reason(s)
Patient/ Family Request

Group 6: If Patient Transferred to your Hospital, Select Transfer Reason(s) Other Advanced Care (not stroke related)

Group 7: If Patient Transferred to your Hospital, Select Transfer Reason(s) Not Documented

Transfer Status after Telestroke Consult

Patients with stroke who received telestroke consultation grouped by transfer status after telestroke consult (PSC, TSC, CSC, Unknown or Not transferred)

Initial Patient Population

All patients age 18 years and older admitted to the hospital who have a diagnosis of acute Ischemic stroke, TIA, Subarachnoid hemorrhage, Intracerebral hemorrhage, or Stroke not otherwise specified

Age ≥ 18
AND

Final Clinical Diagnosis Related to Stroke Ischemic Stroke OR TIA OR Subarachnoid Hemorrhage OR Intracerebral Hemorrhage OR Stroke not otherwise specified

Denominator

Include:

All patients in the initial patient population received telestroke consultation and whose transfer status after telestroke consult is not missing

Data Elements for Calculation

Same as initial patient population
AND

Was Telestroke Consultation Performed Yes, the patient received telestroke consultation from a remotely located expert when the patient was located at my hospital
AND

Did the Telestroke Consultant Recommend Transfer? is not blank
AND

Patient Transfer Status after Telestroke Consult (TJC or equivalent) is not blank

Exclusions: (Always remove from denominator)

None

N/A

Exceptions: (Remove from denominator if present and numerator is not met) *Note: In the PMT, this is achieved via enabling rules or parent/child relationships between variables*

None

N/A

Numerator/Report

Display a bar graph of patients grouped by transfer status after telestroke consult:

1. Transferred to PSC
2. Transferred to TSC
3. Transferred to CSC
4. Transferred to Unknown
5. Not transferred

- Group 1:** **Patient Transfer Status after Telestroke Consult (TJC or equivalent)**
Transferred to PSC
- Group 2:** **Patient Transfer Status after Telestroke Consult (TJC or equivalent)**
Transferred to TSC
- Group 3:** **Patient Transfer Status after Telestroke Consult (TJC or equivalent)**
Transferred to CSC
- Group 4:** **Patient Transfer Status after Telestroke Consult (TJC or equivalent)**
Transferred to Unknown
- Group 5:** **Patient Transfer Status after Telestroke Consult (TJC or equivalent)**
Not transferred