Release Notes for the 2021B Manual

Measure Information Forms

Section	Rationale	Description
ASR-OP-2	Add retired note to ASR-OP-2	Under 'Measure Information Form' **Add *RETIRED Effective July 1, 2021***
CSTK-03	The measure information form was updated to add a denominator exclusion for hemorrhage due to malignant brain neoplasm. The measure algorithm was updated to add a decision point for non-aneurysmal SAH to the surgical (SG) path.	Denominator Excluded Populations: **Change from**: • Patients less than 18 years of age • Patients who have a Length of Stay > 120 days • Patients with *Comfort Measures Only* documented on the day of or day after hospital arrival • Non-surgical patients discharged within 6 hours of arrival at this hospital • Patients with traumatic brain injury (TBI), unruptured arteriovenous malformation (AVM), and non-traumatic subdural hematoma_(ICD-10-CM Other Diagnosis Codes_ as defined in Appendix A, Table 8.2f for ICD-10 codes) • Patients who have an *ICD-10-CM Principal Diagnosis Code* in Appendix A, Table 8.2a assigned at discharge and documentation of non-aneurysmal SAH or SAH related to head trauma any time during the hospital stay **To:** • Patients less than 18 years of age • Patients who have a Length of Stay > 120 days • Patients with *Comfort Measures Only* documented on the day of or day after hospital arrival • Non-surgical patients discharged within 6 hours of arrival at this hospital • Patients with traumatic brain injury (TBI), unruptured arteriovenous malformation (AVM), non-traumatic subdural hematoma, or hemorrhage due to malignant brain neoplasm (*ICD-10-CM Other Diagnosis Codes* as defined in Appendix A, Table 8.2f for ICD-10 codes) • Patients who have an *ICD-10-CM Principal Diagnosis Code* in Appendix A, Table 8.2a assigned at discharge and documentation of non-aneurysmal SAH or SAH related to head trauma any time during the hospital stay

		Algorithm: **Added** "Non-aneurysmal" diamond between "ICD-10-CM Principal Diagnosis Code" and "Initial Hunt and Hess Scale Performed" on page 2.
CSTK-09	The measure information was updated to add strata for patients transferred to the hospital and direct arrivals/admissions.	Performance Measure Name **Change from**: Arrival Time to Skin Puncture **To**: Arrival Time to Skin Puncture (Overall Rate) Description **Change from**: Median time from hospital arrival to the time of skin puncture to access the artery (e.g., brachial, carotid, femoral, radial) selected for endovascular treatment (EVT) of acute ischemic stroke. **To**: CSTK-09 Median time from hospital arrival to the time of skin puncture to access the artery (e.g., brachial, carotid, femoral, radial) selected for endovascular treatment (EVT) of acute ischemic stroke. CSTK-09a Median time from hospital arrival to the time of skin puncture to access the artery (e.g., brachial, carotid, femoral, radial) selected for endovascular treatment (EVT) of acute ischemic stroke in patients who are transferred from another hospital. CSTK-09b Median time from hospital arrival to the time of skin puncture to access the artery (e.g., brachial, carotid, femoral, radial) selected for endovascular treatment (EVT) of acute ischemic stroke in patients who present directly to your hospital, **OR** mode of arrival not documented. The CSTK-09 measure is reported as an overall rate (i.e., median time in minutes) which includes ischemic stroke patients who undergo EVT. CSTK-09a and CSTK-09b are subsets of the overall rate, and stratified by the mode of patient arrival to the hospital. Rationale **Change from**: Timely recanalization of an occluded intracerebral artery is a strong predictor of improved functional outcome and reduced mortality in patients with an acute ischemic stroke.

		Initiation of intra-venous (IV) alteplase within three hours of time last known well is recommended first before attempting other treatment; however, endovascular treatment (EVT) with mechanical retrieval devices is also recommended after IV thrombolysis failure or lapse of the therapeutic window. For eligible patients, initiation of EVT (e.g., groin puncture) within 6 hours of stroke symptom onset using a stent retriever is preferred (Powers WJ, et. al., 2015). Findings from clinical trials published in 2018 (i.e., DAWN, DEFUSE 3) have reported the benefits of mechanical thrombectomy in the extended window up to 24 hours of last known well for select ischemic stroke patients meeting certain criteria. The use of mechanical thrombectomy devices other than stent retrievers as first-line devices for mechanical thrombectomy may be reasonable in some circumstances, but stent retrievers remain the first choice (Powers WJ, et. al., 2018). Since “time is brain”, the overall speed of the revascularization process is an important and appropriate measure. In multicenter clinical trials of intra-arterial catheter-directed therapies, the probability of good outcome as defined by a Modified Rankin Score of 0-2 at 90 days decreased as time to angiographic revascularization increased. It is estimated that for every 30-minute delay in time to revascularization, there is a 10% decrease in the likelihood of a good outcome from EVT. **To**: Timely recanalization of an occluded intracerebral artery is a strong predictor of improved functional outcome and reduced mortality in patients with an acute ischemic stroke. Initiation of intra-venous (IV) alteplase within three hours of time last known well is recommended first before attempting other treatment; however, endovascular treatment (EVT) with mechanical retrieval devices is also recommended after IV thrombolysis failure or lapse of the therapeutic window. For eligible patients, initiation of EVT (e.g., groin puncture) within 6 hours of stroke symptom onset using a stent retriever is preferred (Powers WJ, et. al., 2015). Findings from clinical trials published in 2018 (i.e., DAWN, DEFUSE 3) have reported the benefits of mechanical thrombectomy in the extended window up to 24 hours of last known well for select ischemic stroke patients meeting certain criteria. The use of mechanical thrombectomy devices other than stent retrievers as first-line devices for mechanical thrombectomy may be reasonable in some circumstances, but stent retrievers remain the first choice (Powers WJ, et. al., 2018). Since “time is brain”, the overall speed of the revascularization process is an important and appropriate measure. In multicenter clinical trials of intra-arterial catheter-directed therapies, the probability of good outcome as defined by a Modified Rankin Score of 0-2 at 90 days decreased as time to angiographic revascularization increased. It is estimated that	

for every 30-minute delay in time to revascularization, there is a 10% decrease in the likelihood of a good outcome from EVT. Five randomized clinical trials (RCTs) published in 2015 demonstrated the benefit of timely endovascular therapy in select patients with acute ischemic stroke due to large vessel occlusion (Jahan R et al., 2019).

American Heart Association Get With The Guidelines® (GWTG) sets a goal for Door-To-Puncture (DTP) Time within 90 minutes. Recent studies have reported that shorter DTP times may be achieved. Jahan and colleagues studied the time-benefit relationship in a large cohort of 6756 acute ischemic stroke patients from the GWTG clinical registry who underwent endovascular therapy within 8 hours of symptom onset. Findings from this study suggest that national quality target DTP times could be within 75 minutes for patients arriving directly to the hospital via emergency medical services (EMS) and within 45 minutes for patients transferred from another acute care hospital.

Continuous Variable Statement
Change from:

Time (in minutes) from hospital arrival to skin puncture in patients with acute ischemic stroke who undergo endovascular treatment.

To:

CSTK-09 Time (in minutes) from hospital arrival to skin puncture in patients with acute ischemic stroke who undergo endovascular treatment.

CSTK-09a Time (in minutes) from hospital arrival to skin puncture in patients with acute ischemic stroke who are transferred from another hospital and undergo endovascular treatment.

CSTK-09b Time (in minutes) from hospital arrival to skin puncture in patients with acute ischemic stroke who present directly to your hospital and undergo endovascular treatment, **OR** mode of arrival not documented.

Data Elements
Add Mode of Arrival

Selected References
Add:

		• Jahan R, Saver JL, Schwamm LH, Fonarow G, Liang L, Matsouaka RA, Xian Y, et al. Association Between Time to Treatment With Endovascular Reperfusion Therapy and Outcomes in Patients With Acute Ischemic Stroke Treated in Clinical Practice. JAMA. 2019;322(3):252-263. Algorithm **Add** 4th page for stratification.
CSTK-11	The measure algorithm was updated to better reflect the clinical intent of the measure.	Algorithm: **Moved** "Post-Treatment Thrombolysis in Cerebral Infarction (TICI) Reperfusion Grade" diamond from page 3 to page 2 between "Site of Primary Vessel Occlusion" and "Arrival Date".
CSTK-12	The measure algorithm was updated to better reflect the clinical intent of the measure.	Algorithm: **Moved** "Post-Treatment Thrombolysis in Cerebral Infarction (TICI) Reperfusion Grade" diamond from page 3 to page 2 between "Skin Puncture Time" and "TICI Date".
STK-3	The measure information was updated to add a reference.	Selected References **Add**: • January, C.T., Wann, S., Calkins, H., Chen, L.Y., Cigarroa, J.E., Cleveland, J.C., Ellinor, P.T., et al. "Association Task Force on Clinical Practice Guidelines and the Heart Rhythm Society…2019 AHA/ACC/HRS Focused Update of the 2014 AHA/...A Report of the American College of Cardiology/American Heart Association." [In eng.]. Circulation 140, no. 2 (Jan 28 2019):e125–e151.
STK-OP-1	The measure information was updated to add more specific strata for drip and ship ischemic stroke patients.	Rationale **Change from**: Hemorrhagic stroke is a life-threatening condition caused by a rupture in a weakened blood vessel in the brain. Surgical intervention to repair a ruptured aneurysm may be indicated and necessitate urgent transfer of the patient, if the hospital is unable to provide advanced neurological treatments and services. The benefits of both IV altelplase and mechanical thrombectomy for the treatment of acute ischemic stroke are time dependent. The earlier the treatment within the time window, the greater the benefit to patients. Initiation of IV alteplase at a primary stroke center (PSC) and rapid transport to an advanced center capable of performing endovascular treatment may lead to faster and more complete reperfusion for certain patients eligible for these treatments (Powers, 2018).

The Brain Attack Coalition recommends that such transfers occur within 2 hours of patient arrival at the transferring stroke center (Alberts, 2013). Reducing the time stroke patients remain in the emergency department (ED) can improve access to a higher-level of stroke care and surgical intervention or advanced intra-arterial endovascular treatments, and increase quality of care. For those stroke patients who are not transferred to a TSC or CSC, inpatient admission within 3 hours, preferably to a formal stroke unit, is recommended (Jauch, 2013).

To: Hemorrhagic stroke is a life-threatening condition caused by a rupture in a weakened blood vessel in the brain. Surgical intervention to repair a ruptured aneurysm may be indicated and necessitate urgent transfer of the patient, if the hospital is unable to provide advanced neurological treatments and services.

The benefits of both IV altelplase and mechanical thrombectomy for the treatment of acute ischemic stroke are time dependent. The earlier the treatment within the time window, the greater the benefit to patients. Initiation of IV alteplase at a primary stroke center (PSC) and rapid transport to an advanced center capable of performing endovascular treatment may lead to faster and more complete reperfusion for certain patients eligible for these treatments (Powers, 2018).

In 2013, The Brain Attack Coalition recommended that stroke transfers occur within 2 hours of patient arrival at the referring stroke center (Alberts, 2013). Since that time, faster door-in-door-out (DIDO) times have been reported for specific groups of stroke patients. For hospitals without an on-site mechanical thrombectomy (MT) service, shorter door-in-door-out (DIDO) times should be the goal. Choi and colleagues recently reported a median DIDO time of 86 minutes (IQR, 65–111) for acute ischemic stroke patients transferred out for potential MT. During working hours (0800–1700 hours), a median DIDO time of 59 minutes (IQR, 51–80) was achieved (Choi, 2019). Prolonged transfer times may result in worse outcomes for MT-eligible patients with evolving large vessel occlusion (ELVO) who are without successful reperfusion. Higher NIHSS scores have been noted at discharge and 90 days (Applications/LocalApps.McTaggert, 2018).

Reducing the time stroke patients remain in the emergency department (ED) can improve access to a higher-level of stroke care, surgical intervention, or advanced intra-arterial endovascular treatments, and increase quality of care. For those stroke patients who are not transferred to a TSC or CSC, inpatient admission within 3 hours, preferably to a formal stroke unit, is recommended (Jauch, 2013).

		Continuous Variable Statement **Remove**: STK-OP-1c Time (in minutes) from ED arrival to transfer of an ischemic stroke patient (drip and ship) to another hospital **Add**: STK-OP-1g Time (in minutes) from ED arrival to transfer of an ischemic stroke patient (IV alteplase prior to transfer (drip and ship), LVO and MER eligible) to another hospital STK-OP-1h Time (in minutes) from ED arrival to transfer of an ischemic stroke patient (IV alteplase prior to transfer (drip and ship), LVO and NOT MER eligible) to another hospital STK-OP-1i Time (in minutes) from ED arrival to transfer of an ischemic stroke patient (IV alteplase prior to transfer (drip and ship), no LVO) to another hospital References **Add**: • Choi PMC, Tsoi AH, Pope AL, Leung S, Frost T, Loh PS, Chandra RV, Ma T, Parsons M, Mitchell P, Dewey HM. "Door-in-Door-Out Time of 60 Minutes for Stroke With Emergent Large Vessel Occlusion at a Primary Stroke Center." [In Eng]. Stroke (Aug 29 2019). • Applications/LocalApps.McTaggert RA, Moldovan K, Oliver LA, Dibiasio EL, Baird GL, Hemendinger ML, Haas RA, Goyal M, Wang TY, Jayaraman MV. "Door-in-Door-Out Time at Primary Stroke Centers May Predict Outcome for Emergent Large Vessel Occlusion Patients." [In Eng]. Stroke (Nov 8 2018). Algorithm **Add** • 3rd page for stratification(STK-OP-1g, STK-OP-1h,STK-OP-1i) **Remove** • STK-OP-1c on page2
THKR-IP-4	Corrected Typo	**Changed from:** • Patients with an ICD-10-PCS Principal Procedure Code for THKR as defined in Appendix A: Table 1a-Total Hip Replacements or Table-1b Total Knee Replacements **To:** • Patients with an ICD-10-PCS Principal Procedure Code as defined in Appendix A: Table 14.01a Total Hip Replacement or Table 14.02a Total Knee Replacement

THKR-IP-5	New measure THKR-IP-5 Postoperative Functional/Health Status Assessment was added to THKR inpatient measure set.	**Add** measure THKR-IP-5 to THKR-IP measure set.
THKR-OP-4	Correct typo	Removed data elements: Preoperative Assessments Completed and Preoperative Assessments Completion Date from the denominator.
THKR-OP-5	New measure THKR-OP-5 Postoperative Functional/Health Status Assessment was added to THKR outpatient measure set.	**Add** THKR-OP-5 measure to THKR-OP measure set.

Data Elements

Section	Rationale	Description
CPT® Codes with Modifier	Appendix B removed	**Change From**: Guidelines for Abstraction Inclusion: Refer to Appendix A and Appendix B **To**: Guidelines for Abstraction Inclusion: Refer to Appendix A
Date Last Known Well	The data element definition was updated to align with the CMS national specifications manual.	Inclusion Guidelines for Abstraction **Add**: • Syncope • Seizure
Decision to Admit Time	The data element definition was updated to correct a typo.	Notes for Abstraction, 5th bullet: **Change from**: Decision to Admit Time includes physician/APN/PA documentation of a decision to send the patient to cath lab or surgery. Example: The ED physician documents that he/she is sending the patient to the OR for surgery. The decision to admit to observation or inpatient status date will abstract as the time this was documented.

		To: Decision to Admit Time includes physician/APN/PA documentation of a decision to send the patient to cath lab or surgery. Example: The ED physician documents that he/she is sending the patient to the OR for surgery. The decision to admit to observation or inpatient status time will abstract as the time this was documented
ED Departure Date	The data element definition was updated to remove a reference to the ASR-OP-2 measure.	Notes for Abstraction **Change** 5th bullet to: • For patients who are placed into observation outside the services of the emergency department, abstract the date of departure from the emergency department. **STK-OP-1 MEASURE ONLY** EXCEPTION: For patients who are placed into observation services in a bed outside the ED, e.g., inpatient bed, select the date that the patient is transferred to another hospital and actually leaves your hospital (Discharge Date) and not the date of departure from the emergency department.
ED Departure Time	The data element definition was updated to remove a reference to the ASR-OP-2 measure.	Notes for Abstraction **Change** 12th bullet to: * If the patient is placed into observation services and remains in the ED or in a unit of the ED abstract the time they depart the ED or ED unit for the floor/surgery etc. Do not abstract the time they are placed into observation services. **STK-OP-1 MEASURE ONLY** EXCEPTION: For patients who are placed into observation services in a bed outside the ED, e.g., inpatient bed, select the time that the patient is transferred to another hospital and actually leaves your hospital (*Discharge Time*) and not the time of departure from the emergency department.
Education Addresses Warning Signs and Symptoms of Stroke	The data element definition was updated to align with the CMS national specifications manual.	Inclusion Guidelines for Abstraction **Add:** • Syncope • Seizure
Last Known Well	The data element definition was updated to align with the CMS national specifications manual.	Inclusion Guidelines for Abstraction **Add:** • Syncope • Seizure
Mode of Arrival	A new data element was created to identify how the patient got to the hospital.	Data Elements **Add**: *Mode of Arrival*
Post-Treatment	The data element definition	Suggested Data Sources:

Thrombolysis in Cerebral Infarction (TICI) Reperfusion Grade	was updated to provide clarification for abstractors.	**Add**: Excluded Data Sources: • Any documentation dated/timed after discharge
Post-Treatment Thrombolysis in Cerebral Infarction (TICI) Reperfusion Grade Date	The data element definition was updated to restore all references to TICI 2B/3 as noted in the previous Version 2020A2 definition.	Definition **Change** to: The month, date, and year that a Post-Treatment Thrombolysis in Cerebral Infarction (TICI) Reperfusion Grade of 2B/3 was first documented during the mechanical thrombectomy procedure. Question **Change** to: What was the date that a TICI 2B/3 was first documented during the mechanical thrombectomy procedure? Notes for Abstraction **Change** 4th bullet to: • If the date a TICI 2B/3 was first documented is unable to be determined from medical record documentation, select “UTD”.
Post-Treatment Thrombolysis in Cerebral Infarction (TICI) Reperfusion Grade Time	The data element definition was updated to restore all references to TICI 2B/3 as noted in the previous Version 2020A2 definition.	Definition **Change** to: The time (military time) that a Post-Treatment Thrombolysis in Cerebral Infarction (TICI) Reperfusion Grade of 2B/3 was first documented during the mechanical thrombectomy procedure. Question **Change** to: What was the time that a TICI 2B/3 was first documented during the mechanical thrombectomy procedure? Notes for Abstraction **Change** first bullet to: • Use the time a TICI 2B/3 was first documented. If a discrepancy exists in time documentation from different sources, choose the earliest time. If multiple times are documented during the procedure, use the earliest time. Notes for Abstraction **Change** fifth bullet to:

		• If the time a TICI 2B/3 was first documented is unable to be determined from medical record documentation, select “UTD”.
Reason for Not Administering Nimodipine Treatment	The data element definition was updated to add hemorrhage due to malignant brain neoplasm as a stand-alone reason for not administering nimodipine.	Definition **Change from**: Reason for not administering nimodipine treatment: • Nimodipine allergy • Non-aneurysmal subarachnoid hemorrhage (SAH) • Reversible cerebral vasoconstriction syndrome • Cerebral amyloid angiopathy • Other reasons documented by physician/advanced practice nurse/physician assistant (physician/APN/PA) or pharmacist Nimodipine inhibits calcium transport into vascular smooth muscle cells, thereby preventing or limiting cerebral vasospasm. **To**: Reason for not administering nimodipine treatment: • Nimodipine allergy • Non-aneurysmal subarachnoid hemorrhage (SAH) • Reversible cerebral vasoconstriction syndrome • Cerebral amyloid angiopathy • Hemorrhage due to malignant brain neoplasm • Other reasons documented by physician/advanced practice nurse/physician assistant (physician/APN/PA) or pharmacist Nimodipine inhibits calcium transport into vascular smooth muscle cells, thereby preventing or limiting cerebral vasospasm. Notes for abstraction second bullet **Add**: • Nimodipine allergy • Hemorrhage due to malignant brain neoplasm
Time Last Known Well	The data element definition was updated to align with the CMS national specifications manual.	Inclusion Guidelines for Abstraction **Add**: • Syncope • Seizure

Supplemental Materials

Section	Rationale	Description
Introduction to the Data Dictionary	This section is being updated to reflect CMS regulations.	Physician/Advanced Practice Nurse/ Physician Assistant Documentation **Add** as last sub-bullet under the first bullet: • Anesthesiologist Assistant (AA) (CMS also considers an Anesthesiologist Assistant the same as an APN or PA).
Introduction to the Manual	Section on Electronic Clinical Quality Measures (eCQMs) Overview being updated to align with the current Hospital Quality Reporting Programs policies and the verbiage in The Specifications Manual for National Hospital Inpatient Quality Measures.	Electronic Clinical Quality Measures (eCQMs) Overview **Change** section to: Effective CY 2016, hospitals are required to electronically report clinical quality measures as a portion of the Hospital Inpatient Quality Reporting (IQR) and the Medicare and Medicaid Promoting Interoperability Program (previously known as the Medicare EHR Incentive Program). These quality measures were developed specifically to allow an electronic health record (EHR) system certified to the Office of the National Coordinator (ONC) standards to capture, export, calculate, and report the measure data. The CQMs required for reporting are electronically specified, using industry standards for the measure logic (Health Quality Measures Format [HQMF]) and the data transmission (Quality Reporting Document Architecture [QRDA]: Category I – patient-level data). As the industry updates these standards, CMS and ONC expect to reflect those updates in their respective requirements. Hospitals that successfully submit eCQM data to meet Hospital IQR Program requirements will also fulfill the Medicare and Medicaid Promoting Interoperability Program requirement for electronic reporting of CQMs with one submission. Eligible hospitals (EHs) are required to report eCQMs to the Hospital IQR Program. EHs and Critical Access Hospitals (CAHs) are required to electronically report to the Medicare portion of the Medicare and Medicaid Promoting Interoperability Program.
Table of Contents		Added two new measures, THKRIP-IP-5 and THKR-OP-5.
Transmission of Data	Updated Joint Commission Stroke Certification Measure Table to reflect new added and retired strata to STK-OP-1 measure. Retired ASR-OP-	**Add**: STK-OP-1 strata STK-OP-1g, STK-OP-1h and STK-OP-1i **Retire**: Strata STK-OP-1c **Add**: STK-OP-1 and strata in the list for Acute Stroke Ready (ASR) **Add**: CSTK-9 strata CSTK-09a and CSTK-09b

	2 and replaced with STK-OP-1 in the list for Acute Stroke Ready (ASR).	**Retire**: ASR-OP-2 and strata **Add**: In ASR data section, added STK Outpatient measure (STK-OP-1)