2015 EPI
MEDICAL RECORD ABSTRACT
VARIABLE DEFINITION
MANUAL

All dates should use MM/DD/YY format. All times to be recorded in military time (HH/MM).

DO NOT DRAW LINES THRU SOMETHING THAT COULD BE FILLED IN LATER (examples are date of death, ICD-9 codes)

*FOR ALL CASES THAT ARE FULLY ABSTRACTED, PLEASE COPY THE FOLLOWING:

- ED MD DICTATION
- STROKE TEAM ASSESSMENT/NOTE
- NEUROLOGY CONSULT
- H & P
- DISCHARGE SUMMARY
- ALL IMAGING OF HEAD – INCLUDING CT/CTA, MRI/MRA, CEREBRAL ANGIOGRAMS
- EKG
- ECHO
- **ANY PERTINENT NOTE THAT CONFIRMS CASE, TIMING, DURATION, SYMPTOMS, ETC.**

If a chart from another institution is required to complete the abstract, please place a note on the front of the abstract so that the chart can be requested, if necessary. If the transfer is within your facility, please complete, or request if necessary.

Rules when calculating mRs:

Cane= should be at least a "2" minimum
Walker= should be at least a "3" minimum
Assisted living= should be at least a "2" minimum
Nursing home/SNF= should be at least a "3" minimum
Disabled+ should be at least a "2" minimum
Patients going to hospice should usually be a 5 (but there are always exceptions!)

DEMOGRAPHICS (pg 1)

D-1: **Abstractor**- Enter your 3 initials.

D-2: **Date of Chart Completion**- Enter the date you completed the abstraction. Use MM/DD/YY format.

D-6: **Date of Admission**-Use the date of *arrival* to the hospital. Find this in the ED record as first recorded ED arrival date. For outpatient charts, (patients that were never admitted), leave this field blank.

D-7: **Final Date of Discharge**-Use date of actual FINAL discharge from hospitalization. For outpatient charts, (patients that were never admitted), leave this field blank. ***For the DC date use whatever the hospital put as the date they actually "discharged" the patient, even if the patient died several hours earlier on the previous day.***

D-5: **Date of Outpatient Visit**- Complete only on outpatient abstracts. For clinics and M.D. offices, use the date of the office visit, regardless of whether they went to the hospital or not . For nursing homes, use the date of stroke. If the event occurred outside of the study period, for clinics/M.D.'s use the date of the last visit in 2015, and for nursing homes use 12/31/15 or the date of death if occurred in 2015. For autopsies, use date autopsy performed.

D-7a: **Date of Death**- Enter date expired here. Sometimes we find out about a death in the future and need to enter it into the database, so if the patient is alive at discharge don't draw a line through this space.

D-8&8a: **Institution**- List the acute institution. Please note, if the patient visited multiple institutions, fill out page 1A. Also, if the information is incomplete in the acute record, you may need to pursue the other institution's charts. Medical record number should be institution specific.

D-11: **ICD-9-CM Code**- Take this from the discharge attestation sheet. Use only *stroke related codes* (430-438) as can be found in the handbook. If there is no stroke related code listed, please call coordinator to see which code should be entered here; usually 999.

D-12: **Primary or Secondary** –List whether the stroke related code was a primary or secondary code.

D-14: **Name**- Enter last, first names and middle initial/name.

D-15: **Address**- Enter the patient's address where they resided at the time of their stroke. If they resided in a nursing home, enter the address of that institution, not their prior home address. Use the home address for rehab facilities or confirmed short stay NH admits (i.e. rehab).

D-17: **Social Security Number**-Enter their SSN#. May only be able to get last 4 from chart (do not put XXXs).

D-18: **Age**-Enter the patient's age at the **time of the stroke**. This must be verified from the face sheet/date of birth, even if this is contradicted by the progress notes.

D-19: **Date of Birth**- See above. Enter the year of birth as four digits.

D-20: **Gender**- Enter M for male, or F for female.

D-21: **Race**-Enter the race as documented on the face sheet. If there is any question of category (Pacific Islander, for example) refer to handbook for a description of racial categories by the NIH. If O=other, please write race on line provided.

D-21a: **Ethnicity**- Enter the patient's ethnicity as seen on the face sheet, H = Hispanic, and N = Non-Hispanic. If it is not listed on the face sheet, use documentation in the chart. If ethnicity is not documented anywhere, enter U.

DEMOGRAPHICS (pg 1)cont.

D-22: **Type of Insurance**- Enter the primary insurance type as noted on the face sheet. (if medicare and Medicaid (only exception) choose 7.

D-23: **Marital Status**-Enter the marital status as noted on the face sheet.

D-24: **Employment Status**- new options, either employed or not employed.

D-25: **Residence at Time of Admission**- Enter their residence at the time of the stroke. If the patient lives in a nursing facility and it is not specified nursing home or assisted living, default to 2=nursing home.

D-25a: **Living Arrangement**- *If answered 1=home for D-25*; enter 1=lives alone, 2=lives with others or 8= unknown.

D-27: **Case**- Enter yes or no based on symptoms and/or imaging.

D-31: **If No, Reason for Exclusion**- Enter the reason you feel this is not a case. When choosing #7=other, explain the reason on the line provided. Answer #3 means the zip code of the address filled in above is out of zip. Answer #4 means that the zip above is in geographic *but* the patient hasn't lived there for at least 3 months. Leave blank if case.

D-29: **Person Determining Status of Case**-Enter who made the final call regarding whether to fully abstract the case.

Complete the rest of this page only if case

D-30: **Type of Case**-Give your clinical impression as to the stroke subtype (do not stress; this your best guess, MDs may differ).

D-26: **Site Where Stroke/TIA Occurred**- Enter where the patient was when the stroke symptoms first began. If entering #7=other, please explain.

D-41: **First Medical Contact**- The first person with medical training that speaks to or evaluates the patient. If someone calls 911, and is seen by EMS, first medical contact is "911". If they are driven or drive themselves to the ED, then first medical contact is "ED".
If a patient resides at a nursing home/asst. living, and the home calls 911, the first contact is still "nursing home/asst. living". Hospital should be marked if new event/symptoms begin while patient is already in the hospital, or they are directly admitted from home. Enter #2 if patient is *seen* first at PMD's office for symptoms. If patient talks to the PMD's office on the phone first, enter option #9. If they die with no medical contact whatsoever, then mark coroner, however it must be verified that they had no medical contact. If you find a case only at a coroner's office, call coordinator.

D-42: **Date of First Medical Contact**- Enter from the above documentation.

D-43: **Did This Event Occur and Was It Diagnosed and Treated in the Outpatient Setting Only?**- Mark this question yes if the event occurred in an outpatient setting (primary care doctor, nursing home, clinic) AND the patient did NOT come to either an ER or a hospital for their symptoms. Some examples; if someone comes in for a carotid endarterectomy after a TIA, but never came to the hospital for their symptoms at the time of the event, mark this question yes, or, if the event is picked up in the outpatient setting, but the patient WAS hospitalized (and miscoded), then mark the answer to this question NO.

DEMOGRAPHICS (pg 1) cont.

D-46: **Did The Patient Get Discharged and Re-Admitted For This Same Event?**

If patient presents to ED with an event but is discharged to home and then returns to ED for continued symptoms, choose yes here and list also on page 1a. Also contact coordinator regarding how to complete ED record disposition question. When you are doing one of these call Kathy and discuss; there are many nuances to these cases and instead of trying to rules it may be better to discuss. There will be definite changes to the post stroke mRS and the outcomes page and the dc meds and dx pages and what timeframes need to be documented. I would rather handle on an individual basis to start out with and see if we can make any steadfast rules.

D-47: **Cause of death:** (new field for 2015). If patient is found to have expired anytime during the study period, attempt to identify the cause of death, if at all possible. If uncertain, mark unknown.

D-45: **Notes**- Use this field to further explain why an event was determined to be a non-case.

Include story, negative imaging, non-focal symptoms, etc... to prove the point. Or sometime you have a clarifier for a case that is best served on the front page.

Page 1a - Other Charts Reviewed for this Patient (but not abstracted separately)

This page is for additional charts that belong to this patient *but are not* separate cases, such as ED transfers, rehab, etc. This will account for all the charts you review without doing a separate demo. **Please make a notation in the note field under each chart to explain if it is not a separate event.**

Decision at this point: 'to decide what to do with the REHAB charts (gateway, drake, and healthsouth) that we have never recorded. Need to track (I need to figure out how to efficiently do this)

PRIOR/SUBSEQUENT TIA (pg 1b)

This is for a prior or subsequent TIA, in time (2015) that did not seek care in a hospital setting which we could retrieve, and that you have little information on but are able to determine a case. **Call coordinator** for subsequent event *and* if unsure if this event should be recorded on a full abstract or on this page only.

PT-1a: **Prior to or Subsequent Event**- Choose one option.

PT-1: **Date of TIA**-Please use as accurate a date as possible. Estimate a month if this is the only information you are given (for example, the symptoms happened "2 months ago", record that month and our year, using 88 as the day). *Enter date of most recent TIA here.*

PT-2**: Is the Date of TIA Estimated**- Choose one option.

PT-2a: **Is Time of TIA Known**-Choose one option.

PT-3: **if yes…**- Document time of TIA (24 hour clock) in military time.

PT-5a: **Duration of Symptoms for TIA** -Enter if at all possible in hours/minutes before using 88's.

PT-5c: If Duration of Symptoms for TIA is not exact, then classify choosing one of the options.

PT-5b: **# of Additional Events in 2015**-Do not count the event you are fully abstracting *or* the prior/subsequent event on this page. **Must be same symptoms**. If symptoms are in a different distribution, use a 2nd 1b page. If greater than 3 events, record "3".

PT-5d: If more than one event, list each event's dates and times.

PT-6 thru 10: **Symptoms**- Enter an option. When entering #7=other, please describe.

PT-11: **Medical Care Sought**- If the answer is 1=ED, please call a coordinator.

PT-12: **Notes**- **ALWAYS** describe the event including symptoms, onset, and the sequence of events.

PT-13 thru 15: **For physician use only.**

EMS RECORD (pg 2)

EMS-2: **EMS Run**-Record whether the chart mentions if there was an **EMS** run. If possible, try to differentiate between 911 dispatched EMS and transport from other facilities. If there was a run but no records, use option #3. **Do not** record EMS info for an in-house event

EMS-3: **Type of Run**- Record whether the EMS run was advanced life support or basic life support. This should be documented on the run sheet. If not noted on run sheet, then mark "ALS" if the patient had cardiac monitoring en route. Mark unavailable if no run sheet is in the chart.

EMS-3a: **Squad** - Taken off the run sheet.

EMS-3b: **EMS Responded to Patient's Residence-** Check address on run sheet (see prior definition of residence above).

EMS-3c: If NO in EMS-3b, enter the address, or at least the name of location where EMS responded.

For EMS- 6a and 8: changed to have only one date and time because not consistently recorded.

EMS-6a: **First Recorded EMS Date**-Date recorded on EMS Sheet.

EMS-8: **At Scene Time**- As noted on run sheet. ***If not documented, use the time of first vital signs.***

EMS-11: **Chief Complaint**- As noted on EMS run sheet in their own words. For example, "Left sided weakness", do not infer they meant "stroke or TIA". Option #7, please explain on line.

EMS-4: **Date of Initial EMS Evaluation-**As noted on run sheet.

EMS-5: **Time of Initial EMS Evaluation-**As noted on run sheet (use EMS-8, if missing).

EMS-13 thru 16: **Vital Signs**- As documented on run sheet.

EMS-17 thru 21: **Glasgow Coma Scale**- Use the scale/score on the EMS record if done. If you need to estimate the GCS, use the EMS notes/assessments. Estimated? - mark yes or no.

EMS-23, 27, 28, 29, 33, 34: **Life Squad Procedures**- As documented on run sheet. If glucose was done, document the value.

EMS-36: **Other**- List any other significant procedures performed by EMS in the field.

Notes: Any pertinent information not addressed above.

ED RECORD (pg 3)

ED-1: **ED Department Encounter**- Was the patient seen in an emergency department? If the answer is #2, 3, 4, 6 or 8, skip the rest of the page. Answer #5 relates to symptom onset starting in ED. Please note, **if patient was a direct admit enter #4.**

ED-2: **Hospital**- Name of the ***first*** hospital emergency department in which the patient was seen for event.

ED-7&8: **First Recorded ED Arrival Date and Time**- Often noted in ED nursing documentation.

ED-10: **Sent to CT/MRI**- Did the patient get sent from the ED for a CT/MRI scan of the brain.

ED-12: **Time Sent for CT/MRI**- The time the patient left the ED for a CT/MRI scan of the brain as noted in nursing notes or CT/MRI start time. Use the time confirmed by our consensus r/t our chart review and discussions. Could be different per institution.

ED-13b: **Clinical Neurological Change in ED**- If there is a *significant* condition change in ED, choose appropriate response. If unsure, call coordinator.

ED-13: **Disposition from ED**- Choose one option. Option #7, please explain on line.

ED-13A: **If "3", Hospital**- If transferred to another hospital, list full name of hospital transferred to.

ED-14& 15: **Date and Time of Hospital Admit or Transfer from ED**- Put in the actual time when the patient left the ED to go to the floor or another hospital.

ED-16&17: **Discharge Date and Time Home from ED**- If the patient is discharged to home from the ED fill in these dates and times, (leave blank if admitted).

ED-18: **Diagnosis from ED Chart**- Fill in the diagnosis as noted by the treating emergency physician. If #7=other, please describe. In EPIC, see hospital encounter, "reason for admission" and EDMD note.

ED-36 thru 39& 41: **Glasgow Coma Score**- If a Glasgow Coma Score was documented by ED nursing or physicians, mark their score. If not documented, but you are able to estimate, mark your score and note "estimated" on ED- 41.

ED-44 thru 45a & 47 & 48: **Procedures**- Enter as documented in ED record. Temperature is the first documented in ED (record in Fahrenheit), and use the first recorded blood pressure documented in the ED.

ED-46: **Antihypertensive Medication Given**- Was an antihypertensive med given In EPIC, use the MAR (preferred source), for drugs given in ED, along with the ED nursing notes.

ED-46a: **1st Treated Blood Pressure**- Blood pressure recorded that determined treatment needed, could be 1st or a subsequent one but should be the closest to the treatment time.

ED-49 thru 56b: List the BP medications given, the route given, time administered, and follow-up BP and BP time. If a home BP medication is given in ED (because it was missed…), include it here. If final BP following medication administration is first vitals when they get to floor and is reasonable timeframe, use it.

SYMPTOMS (1) (pg 4)

Symptoms page: Fill out for all cases describing symptoms that brought them to seek medical attention and those symptoms noted in ED/acute phase, regardless if they have already resolved. DO NOT include old stroke sx here unless worsened sx is part of new presentation.

SX-1: **Weakness** - As related in the history. If generalized, or "fatigue" mark 3.

SX-1a, b, c: Mark where the weakness was. Please note:
#U=unspecified, they report a weakness but no side given.
If "right sided weakness" is documented, mark both arm and leg but not face unless noted.

SX-2: **Numbness**- Could be described as tingling/paresthesias/sensory loss.

SX-2a, b, c: Mark where the sensory change was (see SX-1a explanation).

SX-3: **Headache**- Associated with symptoms or is the primary reason for presentation.

SX-3a, b: Answer if yes to headache.

SX-4: **Mental Status**- Mark the closest category describing the patient's mental status. #7 please explain.

SX-5: **Speech**- Try as best as you can to distinguish between slurred or difficult to understand speech from a primary language problem. If the speech is purely slurred or dysarthric, mark "slurred". If the language is abnormal (expressive, receptive aphasia, word-finding, word salad), then mark aphasia. If the patient has both, then use 5. If there is no verbal response choose mute. If you aren't sure, mark "abnormal, unknown type". Option #7, please explain.

SX-6: **Fall/Cannot Walk**- Mark this if patient is unable to walk or goes down/falls.

SX-7: **Vision**- Mark the category describing their visual problems. Double vision = diplopia. Partial loss can mean either vision loss in one eye, or part of the visual field in one or both eyes (such as "left field cut"). Photophobia means a sensitivity to light. Option #7, please explain.

SX-7b & 7c: **Gaze Deviation**- Answer and if yes, enter side.

SX-8: **Dizzy/Vertigo**- Documented.

SX-9: **Ataxia**- Recorded only if documented (if they note dyscoordination, ataxia, terminal dysmetria, dysdiadochokinesia, F to N or H to S abnormal) this would count as "limb ataxia".

SX-10: **Dysphagia/Drooling**- Record if either is documented, same mechanism.

SX-11: **Nausea/Vomiting**- Documented.

SX-12: **Seizure/Jerking**- If documented with this event, not history of.

SX-17: **Nystagmus**- An involuntary rhythmic shaking or wobbling of the eyes (this will be documented).

SX-18: **Asymmetric Pupils**- Documented inequality of pupils.

SX-20: Neglect/Extinction- Those who are affected by extinction/neglect have a lack of awareness in the contralesional side of space (towards the left side space following a right lesion) and a loss of exploratory search and other actions normally directed toward that side.

SX-13: **Other**- Describe any other stroke symptoms that brought them to seek medical attention.

SYMPTOMS (2) (pg 5)

SX-16: **Summary of Event**- This is the story behind the patient seeking treatment for their event. Include date, time and place of onset, duration of symptoms, symptoms (both described by patient and assessed by MD/nurses on presentation), timeline/progression of event, treatment sought and given, etc… Include anything of importance to prove that this event is a case. Can include worsening or improvement of symptoms; anything related to the Stroke/TIA.

FUNCTIONAL STAUS POST STROKE (preferably closest to 12-24 hours after admission), (pg 5)

(When a worsening occurs; call and discuss with coordinator)

SX-20: **Date Modified Rankin Done**

SX-21: **Modified Rankin**- Again, this is post stroke, within 24 hours of admission. Use H&Ps, nursing notes, PT/OT/ST evaluations… to help determine a score

SX-22: **Describe Disability**- Enter what led you to assign a specific Rankin score.

MEDICAL THERAPIES PRIOR TO ONSET OF STROKE/TIA (pg 6)

MED- 0: **Medication List**-Choose the appropriate option.

MED-1 thru 26: **List All Medications**- Pull these from as many sources as you can, don't rely on just one medication list if possible (**start with ED dictation, then use H&P as your primary sources**). Be sure to check for start dates to confirm the pt. was on the meds pre-event. Aspirin and antiplatelets are the only medications we are collecting doses, so write the dose next to the aspirin or antiplatelet medication on the line. **If the patient has been off of a medication for > 2 weeks, do not list that medication, but do include it under MED-29 if appropriate.**

MED-27: **Medication Non-Compliance Documented on Admission**- As documented.

MED-29-33a: Were any of their antiplatelet/anticoagulation medications stopped prior to this event (these are listed separately). If answered yes to Med-29, mark the medication stopped, record date stopped if known, and reason stopped if known. If other, please explain. Please note that we have a new list of medications since last study period.

MED-37: **Notes**- Include any additional information of importance regarding medications.

STROKE/TIA EVALUATION (1) (pg 7)

SE-1: **Date of Stroke/TIA**- This should be when the symptoms first started, OR when they were last seen normal. Do not use the "wake-up" date for this field.

SE-1a: **Is Time of Stroke/TIA Known**- If yes, enter time. If time of stroke is not known, choose no, estimate the time from documentation in the chart, and then complete SE-3.

SE-2: If time of stroke is known, enter the time here. This field does not include time last seen normal.

SE-3: If time of stroke is estimated, pick one of the following:

- "a**woke with symptoms**": patient awoke with symptoms. Symptom onset/last time seen normal/awoke, must be less than 24 hours prior to presentation.
- **>24 hours ago**": if the patient's symptoms began more than 1 day ago.
- "**after midnight**": 00:01am-06:00am.
- "**morning**": 06:01am-12:00pm.
- "**afternoon**":12:01pm-18:00pm.
- "**evening**": 18:01pm-00:00am.
- **If only time that we have is LTSN AND is <4.5 hrs, mark "7", then we will be pointed to the last time seen nl**
- If the time of onset is ***completely*** unknown, then choose unknown.

SE-3a: If no, **Date & Time Last Seen Normal –** if you don't know exact time, fill in est. time.

SE-3b: If "wake-up" **Date & Time Awoke.** If this field is used, SE-3a must have also been completed.

SE-3c: **Did Symptoms Last More Than 24 Hours**- Document if symptom duration is greater or less than 24hrs. if pt receives tpa, we should automatically answer "yes". If they are an Ischemic stroke but not focal by our criteria, now mark "9" (a new variable)

SE-3d: **Duration of Symptoms for TIA**- In hours/minutes if known.

SE-3e: **If Duration of Symptoms for TIA is not exact**- Then choose one of the options to classify.

SE-3f: **Symptoms Resolved Prior to Presentation**- Answer yes, no or unknown.

SE-7a: **BP (if no ED Record)** - Only fill in this blood pressure if they did not go through the ED, (direct admits, strokes in-house, or outpatient). Mark the first documented blood pressure after their stroke.

SE-15: **Modified Rankin Scale Prior to Stroke/TIA Onset**- This is reflective of the patient prior to the event. Use multiple resources (PT/OT/ST initial evaluations, past medical history, residence, assistive devices use).

SE-15a: **Describe Disability/Disabilities**- that interfere with their activities of daily living. How did you arrive at the Rankin score? Use only pertinent factors.

SE-15b & c: Do they use a cane or walker. Documented.

POTENTIAL IV tPA EXCLUSION CRITERIA(see handbook for entire list): List all that apply.

SE-16e: **MD *documented* reason for rt-PA exclusion**-this can be either from the ED physician, stroke team or the admitting physician. They must mention that they were not a candidate for IV tPA/thrombolytics because….inferring their rationale does not count here. You may not necessarily agree with the reason listed. If they are a TIA, hemorrhage or they are treated with rt-PA, record a "9". When EDMD and stroke team MD both document reasons, stroke team should be used.

SE-16f: **Documented reason excluded from receiving IV rt-PA by MD:** again, just what was documented as a rationale by a physician. We expect most physicians won't specifically mention this, if no reason documented then just put a slash here. As always, if you're not sure how this fits in with the potential variables listed, just put it under 7=other. If a patient/family refuses **rt-PA,** there is now a variable for that. An MD may give a reason for exclusion that we would not consider an exclusion (ie. Age), but mark it anyway. Also, if the patient had a TIA or ICH/SAH, also put a "9", as it's not applicable. If the patient receives IV tPA, put a 9.

SE-16g: **Reason excluded from receiving IV tPA by RN opinion:** This is a variable based on your clinical judgment of why the patient did not receive rt-PA. We fully expect that your opinion will likely differ from what the MDs document in the chart, this is OK. **Note: this variable is intended for IV tPA only.** If they go for intra-arterial devices such as MERCI or Penumbra, or intra-arterial tPA, they still have been excluded from IV tPA for a reason that should be documented. If they get both IV and IA tPA, then they should be listed as a 9=pt eligible for IV tPA. If you find a patient that was treated, but appears to have NOT been eligible based on the below criteria, go ahead and mark the reasons why you think the patient wasn't eligible. Let's go through the possible answers here one by one:

Time: the patient must arrive to the ED within **3.5** hours from a known symptom onset. This allows one hour from arrival to treatment with IV tpa. (if they get treated, then

NIHSS<5: this is either by the documented NIHSSS, or the retrospective scale that you do based on the symptoms described.

INR>1.7: this is on the initial blood draw. Just being on Coumadin, without checking an INR, is not an exclusion for rt-PA.

BP issues: This is a challenging variable. To be eligible for rt-PA, the BP must be < 185/110. To reach this BP, the patient must not require more than 3 doses of IV push BP meds, or require a drip such as nipride or esmolol (the exception is a nicardipine drip, that one is ok).

Platelets <100,000: on the initial blood draw

Imaging exclusion: any blood noted on the initial CT is an exclusion, either SAH, ICH, acute subdural (hygromas don't count), or hemorrhagic transformation of an ischemic infarct. Also, if they present to the ED with an ischemic infarct that is read as "well-defined" infarct, or "mass effect, midline shift", all of those key phrases suggest that the infarct is older than just a few hours. "Subacute" is a term the radiologists all use differently, I wouldn't use this phrase to help you decide.

Blood glucose <50 or >400: this is either the initial fingerstick in the field or in the ED, or on the first renal panel obtained.

Stroke within 3 months: this is an ischemic stroke (not TIA!) within three months from the current event. If they have EVER had an ICH or SAH, they are also excluded, but mark that as an "other" exclusion.

Rapidly improving symptoms: another challenging variable. If the patient is getting "close" to normal, but not quite normal in the ED, I would mark this variable. However, if the patient had a massive stroke and improved to a severe stroke, I would not mark this variable. Another clinical judgment. Make sure that somewhere in the abstract we have a description of how much the patient improved while in the ED.

Recent arterial puncture/non-comp: By "recent" this means within 7 days. It is intended to express an invasive procedure that is not compressible should it bleed. It would include a central venous line in the neck or chest, a lumbar puncture, a colonoscopy/EGD with biopsies, a pacer placement, a cystoscopy with biopsies, etc. However, an art line in the wrist, or a recent cath with access in the groin, would not count, as these are compressible sites.

STROKE/TIA EVALUATION (1) (pg 7) cont.

Recent major surgery < 14 days: Defining major surgery can be challenging, but usually means invasive surgeries, such as open heart, abdominal surgery, etc. Skin surgeries or minor extremity surgeries would not count.

Life exp <3 months or poor functional status: another judgment call. Ask yourself, is the patient really expected to live past three months from now? Is their functional status so poor that it likely would not be worth the risk of thrombolytics? Some examples: widely metastatic lung cancer with spread to liver and bones: not eligible due to life expectancy. Severely demented, bed-bound, not walking patient: not eligible due to functional status.

- **Recent GI/UT bleed:** if history of recent GI/UT bleed in past 3 weeks
- **Family refused:** patient is eligible but pt/family refused, mark 20.
- **>3hrs & ≥ 80yo: under 80 can be 4.5 hrs, but ≥ 80yo disqualifies them from this.**
- If a patient comes to the hospital and no family present initially to determine onset time, choose "7" and record**: "onset clarification delayed"**

SE-16a: **Evaluated by Stroke Team**- Meaning the GCNK Stroke team.

SE-16 & 16b: **Evaluated by a Neurologist (at UC if the neuro-intensivist is also a neurologist, this counts.) and/or a Neurosurgeon.**

STROKE/TIA EVALUATION (2) (pg 8) – NIHSS - Default to stroke team (use 1st) if possible.

SE-22: **NIH Stroke Scale Done by Stroke Team**- A full NIHSS as documented by Stroke Team only.

SE-23: List the score given by the stroke team MD. (do retrospective if you have to assign scale from description)

SE-24a**: NIHSS Recorded Below** - Prospective is the actual scale done by the stroke team and retrospective is you taking an examination and estimating the score.
The only times that you should NOT attempt to estimate stroke severity is when they die prior to arrival, or patient is admitted for a carotid procedure where the event happened some time ago with little information, or on outpatient TIAs (historical events). Otherwise, give your best attempt at estimating severity using the scale in SE-27 thru 41.
Remember there is a coma scale specific to patients who arrive in a coma.
Also remember that sometimes the ED assessment is suboptimal, but we need that early exam; use the bad exam and then document the next best exam on the additional NIHSS page.

SE-25& 26: **Date and Time of Exam-** That allowed you or stroke team to estimate stroke severity. In EPIC, you may find this in the ED nursing assessment flow sheet 2, or use the first note that references the EDMD being involved in care or the time of note dictated by EDMD (whichever is the earliest time).

SE-26a: **Presenting Stroke/TIA Evaluation Documentation Utilized From**- Whose documentation did you take the stroke scale evaluation from. Option #7, please explain. Please note – if item is not noted in chart, it is coded as normal.

SE-27 thru 41**: see descriptions on the abstract.**

SE-31: If there is visual loss in one eye, without clarifiers mark 2= complete hemianopia. If they say 'field cut' or partial loss of vision on one side mark 1=partial hemianopia.

SE-32: If the face is weak in the upper and lower portions, or if they say "Bell's palsy", mark 3.

SE-33-36: Strength as documented in chart. Often strength is rated on a scale of 0-5, with MRC5 being full, MRC4 being weak, MRC3 is antigravity only, MRC2 not antigravity but some movement, MRC1 is twitch only, and MRC0 is no movement or "plegic". MRC4 is a very large category, including the mild weakness to the very weak. If they say a "drift" or "pronator drift" only, mark 1.

SE-37: If they note dyscoordination, ataxia, terminal dysmetria, dysdiadochokinesia, F to N or H to S abnormal, this would count as "limb ataxia". If they only state "ataxia" but don't specify one or two limbs, mark one limb.

SE-38: See description on page.

SE-39: This question purely deals with language. Slurred speech does not count for this question.
Expressive aphasia means difficulty getting the words out, halting, non-fluent, labored, telegraphic frustrated, disjointed words, poor sentence construction or decreased word production. However their comprehension is preserved. In receptive aphasia, speech is preserved but language content is incorrect. It can mean fluent but using the wrong words, jargon, comprehension and repetition are poor, word salad, loss of insight into language difficulty.
If they say "garbled speech" only, then mark a 1 for this question and a 1 for dysarthria.

.SE-40: This question only has to do with the clarity of speech production, not language. If they say slurred speech, dysarthria, sounds like they're drunk, then mark dysarthria.

SE-41: See description on page or in handbook.

SE-41a: **Are Any Of The Scored Symptoms Above Due To An Old CVA (or other condition)?** If due to CVA describe under SH-3. If other, describe in notefield.

"Best" STROKE/TIA EVALUATION (3) (pg 9) - This is to be used when the initial exam is inadequate; this is to be used for any difference documented.

This evaluation should be *within the first 24 hours* after initial stroke scale evaluation.
This is *not* used for a worsening in patient condition/symptoms.

This NIHSS follows the same procedure as the previous page, with the addition of the following:

SEb-42: Any other deficits discovered that cannot be accounted for above. If yes, list. Examples might include dizziness, imbalance, blurred vision…

24 hr STROKE/TIA EVALUATION (4) (pg 10) – this is the closest to 24hrs and CAN/SHOULD include any change! We want to know what they really look like at 24 hrs.

SEc-22: can it be done? Is there enough documentation? Have they expired? Have they been dc'd? is it inappropriate (this will probably need to be discussed at least the first few times.

Sec-22a: I will try to define this the best I can: we need to know if there is a change (if there is a DIFFERENCE!!!) in the patient since their admit and their initial NIHSS (or their "best") scale? If there is NO change in the patients' symptoms/severity but it is ***different*** from the initial scale then you need to do a "best" exam, even if it is the same one you are doing at 24hrs, because it's the best (without a "true" change!!) and it's the 24hr!

This actual NIHSS follows the same procedure as the previous page.

STROKE (PRIOR) HISTORY (pg 11)

SH-1: **Prior History of Stroke**- Mark yes for any kind of stroke hx., whether it's ischemic or hemorrhagic.

SH-2: **Number of Prior Strokes** – List all (not silent, found on imaging only; up until that point no one had a clue.).

SH-3: **Any Residual Impairment from Prior Strokes**- As defined by documented residual deficits. Please describe. This helps in determining new strokes in the same territory.

SH-4 thru 7a: **Prior Strokes**- List most recent first. If there is a prior stroke mentioned in the record that occurred within the study period, call the coordinator to let her know and investigate. If the record just mentions a "hemorrhage" previously, mark ICH. Mark date of stroke, if unknown mark 88/88/88.

SH-8 thru 10b: **Prior History Of**: – For TIA include the most recent date of event. SH-10b- if 10a is in our time period, the answer should be either yes or yes, prior TIA page only (if the TIA is described quite well in the record, including timing and symptoms, and the patient did not get seen in an ED or get admitted for that event, please fill out the 1B page describing the event). If they were admitted or seen in an ED, call the coordinator to check on a separate abstract having been done. List 13 (in time) as TIAs.

SH-24: **Notes**

BASELINE MEDICAL HISTORY PRIOR TO STROKE/TIA ONSET (1) (pg 12)

Do not judge medical history by the medications they are on; only put "yes" to documented medical conditions prior to the event.

MHX-0: **Weight and Height**- List the patient's weight in pounds. If in the chart as kg, please convert it to pounds prior to entry (1 lb = 2.2 kg). List height in feet and inches.

MHX-0a &0b: **Current Coumadin/anticoagulant Use-** If yes, document the reason patient is on the medication**. Use 7 if there is an "other" response or more than one response.**

MHX-1: **History of Hypertension**- Mark this only if the patient has a PRIOR history of hypertension, not just if they present with high blood pressures.

MHX-2: Drug treatment for hypertension. Mark this if the patient has been prescribed medication for hypertension (regardless if they were taking it).

MHX-3**: Diabetes Mellitus**- PRIOR diabetes. Mark this as positive even if the chart says "borderline diabetes" or "diet-controlled diabetes".

MHX-4: Current treatment for diabetes, mark whatever is notated in the chart on admission

MHX-5: Mark all that apply for types of treatment, including diet, oral or insulin.

MHX-6: **History of Elevated Cholesterol**- PRIOR history of elevated cholesterol, total or LDL. This does not refer to elevated triglycerides. For our purposes, the terms: hyperlipidemia, hypercholesteremia, and dyslipidemia would count as a yes in this field.

MHX-7: List the type of treatment for elevated cholesterol (see list for cholesterol lowering agents).

MHX-8: **History of Coronary Artery Disease**- Mark this if the patient has had a prior myocardial infarct, CABG, coronary angioplasty/stenting, or unstable angina.

MHX-9: **History of Myocardial Infarction**- If this is yes, MHX-8 should also be yes. Include MI, subendocardial MI, non-q wave MI. Should be symptomatic, if the chart notes "old MI on EKG" or "hypo/akinetic segments on ECHO consistent with prior MI" but does not note a symptomatic event, mark NO.

MHX-10: Enter the date of the most recent MI if known.

MHX-11: **Atrial Fibrillation by EKG/History**- Mark yes to this question if the patient has ever had atrial fibrillation, whether in the past, **or** is in afib on admission. Mark "no" if the atrial fibrillation is new and develops **AFTER** admission. (If patient presents in new onset a-fib, or develops a-fib after admission, also mark yes for question #EKG-12c).

MHX-12: **History of Angina**- As marked in the chart, as "unstable angina", or cardiac chest pain. If the angina is thought to be secondary to coronary artery disease, then MHX-8 should also be marked yes, (some angina can be related to other things, like vasospasm).

BASELINE MEDICAL HISTORY PRIOR TO STROKE/TIA ONSET (1) (pg 12) cont.

MHX-13: **History of Congestive Heart Failure**- This can include right or left ventricular failure, "severe diastolic dysfunction".

MHX-13a: **Baseline Ejection Fraction**- if noted on H&P, prior to admission and not from current echo.

MHX-14: **Heart Valve Replacement**- Do not mark this if the patient had a heart valve "repair", or "valvuloplasty" **only if total replacement happened.**

MHX-14a: List the type of valve used. Mark "biologic" if the valve is not mechanical, i.e. from a porcine or cadaveric.

MHX-15: List the site of valve replacement. This may be listed in the chart as T = tricuspid, P = pulmonic, M = mitral, and A = aortic.

MHX-16: **Prior Cardiac Bypass Surgery (CABG)**

MHX-17: Date of most recent CABG.

MHX-18: **Cardiac Vessel Angioplasty/Stent**- prior history.

MHX-19: Date of most recent angioplasty/stent

MHX-20: **Cardiac Pacemaker**

MHX-20a: Reason for pacemaker, if known. Choices include 3rd degree heart block/bradycardia, sick sinus syndrome (also known as "tachy-brady syndrome"), or other. Option #7, please explain.

MHX-20b: **AICD/Defibrillator Placed**- (automatic implantable cardiac defibrillator). Note this is different from a pacemaker.

MHX-21: **Cardiomyopathy**- List here if prior to admission on H&P, not if EF% is low on new ECHO. This is used to subtype, so look for appropriate documentation.

MHX-22: **History of Carotid Artery Disease**- (extracranial). does not have to be symptomatic, is documented " hx of carotid artery disease".

MHX-23: **Carotid Endarterectomy**

MHX-23b: Sides of endarterectomy – include all past surgeries.

MHX-24: Date of most recent endarterectomy.

MHX-23a: Side of most recent endarterectomy.

MHX-24a: **Carotid Stenting/Angioplasty**

MHX-24h: Sides of intravascular interventions- include all past procedures.

MHX-24c: Date of most recent carotid stenting/angioplasty.

MHX-24b: Side of most recent stenting/angioplasty.

BASELINE MEDICAL HISTORY PRIOR TO STROKE ONSET (2) (pg 13)

MHX24d: Was a distal protection device used- if the procedure note is available for the carotid stenting, please mark if they used a "distal protection device", meaning the "accunet", or umbrella, to catch emboli and protect the brain from stroke.

MHX-24e: **Surgery/Procedure within the Last 30 Days**- Mark this yes if the patient has had any surgery or procedures within the past 30 days.

MHX-24f & g: Date of recent surgery and type.

MHX-25: **Cerebral Angiogram**- Within 24 hours of symptom onset

MHX-26: **Coronary Angiogram**- Within 24 hours of symptom onset

MHX-26a: **Thrombolytic Therapy**- Given for a non-stroke reason within 24 hrs prior to symptom onset. For example, myocardial infarction, peripheral arterial occlusion, graft thrombosis, etc.

MHX-27: **Recent Emboli to Peripheral Arteries**: In last 3 months. Mark if they had an embolus to leg/arm/kidney gut (ie."cold, pulseless blue foot").

MHX-27a: **Recent DVT** (within past 6 months)

MHX-27b: **Greenfield Filter-** Answer yes if *ever* had this type of filter placed.

MHX-27c: **History of Peripheral Vascular Disease**

MHX-28**: Dementia**- Mark this if the chart notes a dementia history.

MHX-28a: If the chart notes the type of dementia, enter type here. Don't try to guess.

MHX-29: **Depression**- History documented.

MHX-30: **Sickle Cell Disease**- Mark this if patient has true sickle disease, not just "sickle trait".

MHX-32: **Hemophilia**

MHX-32a: **End-Stage Renal Disease (ESRD)** documented; may or may not be on dialysis.

MHX-32c: **Dialysis-** is patient on dialysis prior to event, mark yes.

MHX-32b: **Chronic Renal Insufficiency-** can have insufficiency without ESRD, but not vice versa.

MHX-33: **HIV Positive**- As marked in the chart, or "AIDS".

MHX-34 & 35: **History of Brain Tumor**- If a metastatic tumor, please write this in the note field, along with the site of the primary tumor (i.e. metastatic lung tumor). If a primary brain tumor, then note the type (i.e. GBM, oligo, medulloblastoma, etc).

MHX-36 & 37: **History of Malignancy**- List the type. Include skin cancers; *exclude benign tumors, such as lipomas, or fibroid tumors, etc.*

MHX-38: **History of Seizure**- Does not have to be receiving treatment, but exclude "pseudoseizure".

MHX-38a: **History of Migraine**- Documented as migraine not headaches.

BASELINE MEDICAL HISTORY PRIOR TO STROKE ONSET (2) (pg 13)

MHX-41: **Obstructive Sleep Apnea-** this is becoming more common in the medical record dictation; mark yes if documented.

MHX-38b & c: **Infection within the Last 2 Weeks-** If yes, list type. Do not include seasonal allergies in this field, only if the chart specifically states upper respiratory infection.

MHX-39: **Other Significant Medical Conditions-** List any other medical conditions that you think are relevant.

MHX-40: **Notes-** List any notes that you want to share about their past medical history, including additional medical problems.

SUBSTANCE ABUSE (pg 14)

SA-1: **Smoking Use**- If noted ever, past or present, cigarettes only. If smoke cigars or chew tobacco, please record the information in the note field.

SA-2: **Number of Years of Smoking:** mark # of years smoked if given

SA-2a: **Number of Pack years:** if this is all your given, mark the # of pack years here; if not, leave blank

SA-3: **Number of Packs per Day**- May use decimal point, i.e., 1 ½ packs = 1.5. If stated in the medical record as "less than 1 pack", and non-specific, record as 0.5. If cigars record "99" and put in notes.

SA-4: **Current Smoker**- Meaning any smoking within the last three months.

SA-5: **How Many Years since Last Smoked**- If they are a current smoker, enter 99, if unknown enter 88.

SA-6: **Alcohol Use-** any alcohol use documented, put yes

SA-7: **Primary Type**- Type of alcohol the patient most typically drinks.

SA-8: **Servings of Alcohol per Day**- See the abstract for definitions of "serving". Enter 0 if occasional use.

SA-9: **Patient Noted on Medical Record as Heavy Drinker**- Mark this yes if the pt is noted to be a heavy drinker in the M.R. **or** if the *pt drinks more than 2 servings a day*. If noted to be binge drinker, former alcoholic or unknown, choose the appropriate answer.

SA-10, 12 & 21: **Street Drug Use**- is patient drug use documented. If so, please specify current or former (meaning in distant past). If unsure, call Coordinator. Please specify the drug used if it is not marijuana or cocaine/crack in 'other' field.

SA-22b: **Alcohol level ordered**- was a lab test actually ordered

SA-22 & 22a: **Alcohol Detected in Urine or Blood**- If yes, please mark the lab value on the line provided.

SA-23a: **Drug screen obtained**- was a lab test actually ordered

SA-23: **Drugs Detected in Urine or Blood** (other than alcohol) - Please mark what was detected in the note field.

SA-24: **Any NON-PRESCRIBED Street Drug Use within 24 Hours of Stroke Onset**- documented by history or **lab result.** If yes, then record type of drug used.

SA-25: **Notes**- About substance abuse not otherwise noted.

LABORATORY (pg 15)

LAB-1: **Admission Labs Done**- Or at time of event. If an in-house stroke, those labs closest following the stroke/TIA event.

LAB-2: **Location of Lab**- Where admission/event labs were done.

LAB-3: **Date Admission/Event Labs Drawn**

Admission Labs- if a lab is not done leave blank.
LAB-4 thru 8: Enter presenting values. Note, creatinine is different from a creatinine clearance. Glucose can be from a finger stick glucose.

LAB-14 thru 16: Enter presenting values. If not drawn in ED, may use the 1st PT/PTT/INR drawn if within 24 hours of presentation and patient was not put on anticoags that could alter the values.

Additional Labs Drawn During Hospitalization- AM *labs count as fasting for this abstract.*

LAB-23a & 23b: **Tropinin**- Enter the initial value noted in the record (**use 0** if within that institute's normal values, ie. <0.0xx, etc), and date. If value recorded - is it abnormal. Even if it is "a little" abnormal, answer yes. (based on each individual hospital's range).

LAB-23g & 23j: we will now collect the first three troponins if they are drawn

LAB-23c and 23-f: **Troponin "I" or "T" or "P"(POC) Drawn**- Enter the initial. Found on the lab results.

LAB-23d & 23e: **Troponin *peak value-***. Only record if there is an **abnormal** value. Record no if troponins are negative. ***Remember that this could be the same as one of the ones above.***

LAB-9, 10, 12 & 13: **Lipid Profile**- Include date. Should be fasting values.

LAB-7a-d: **Creatinines-** we are now collecting peak and final creatinine values. Note that the peak could be the same as the initial creatinine depending on their hospital course. The final could be from the acute setting or from rehab. If there is only ONE creatinine drawn, answer no to additional.

LAB-18: **Lumbar Puncture Performed**

LAB-19: Note the number of RBCs in the spinal fluid. If more than one tube sent, list the value from the last tube drawn (i.e. if tubes #1 and 4 are sent, list the value from tube #4).

LAB-24: **Sedimentation Rate** (ESR) - First drawn. Enter value.

LAB-25: **CRP** (C-reactive protein)- Enter value.

LAB-26**: Homocysteine Level-** Enter value

LAB- 27a**: Proteinuria Value** - If a urinalysis was done, was protein present? List the value.

LAB-28: **Fasting Blood Glucose**- Enter value and date

LAB-29: **Hemoglobin A1C** - Checking for diabetes. Enter value and date.

LAB-30: **BNP** (beta naturetic peptide) – List the highest value noted during the hospitalization and date; this checks for the presence and severity of CHF.

LAB-32: **Hypercoaguable Panel Done**- This includes lupus anti-coagulant, DRVVT, antithrombin III, protein C, protein S, factor V leiden or activated protein C, anticardiolipin antibodies, prothrombin 20210 genetic test. If the answer is YES, then **make copies of these values!! Donot list in notefield.**

LAB-31: **Notes** – Any findings or additional pertinent lab values.

ADMISSION EKG, CHEST X-RAY (pg 17)– *attach copy of EKG to abstract*

EKG-1: **Admission (or at time of event) EKG done-** If there is no report or official reading of the EKG, you may use the EDMD's interpretation of the EKG (use #1 if filling in data from whatever source).

EKG-2: **Admission EKG**- Normal, abnormal, borderline or unknown.

If abnormal/borderline, answer the following EKG-3 thru 12b – can be abnormal /borderline but not necessarily due to choices below. If abnormal/borderline due to something other than choices, put in notes.

EKG-3: **Sinus Bradycardia**- HR <60.

EKG-4: **Sinus Tachycardia**- HR>100.

EKG-5: **PAC -** (premature atrial contractions)/**PVC-** (premature ventricular contractions).

EKG-7: **Atrial fibrillation/Atrial flutter**

EKG-8: **3rd Degree Heart Block**

EKG-9: **LVH-** As interpreted by machine or by physicians.

EKG-10: **MI of Indeterminate Age-** As listed on interpretation.

EKG-11: **Acute MI**- Must list "acute" not just ischemic changes.

EKG-12: **V-Fib/V-Tach**

EKG-12a: **Pauses**- Sinus pauses of greater than 5 seconds.

EKG-12b: **ST changes/abnormalities**- very common.

EKG-12e: Paced Rhythm (New): sometimes this is the only thing that makes it "not normal"

EKG-12c: **Patient Diagnosed with Atrial Fibrillation This Hospitalization**- Diagnosis of new onset a-fib for this patient.

EKG-12d- **Patient Placed on Telemetry** (not just unit but is patient on monitor)

EKG-13: **Chest X-ray** - If abnormal, see next question.

EKG-13a: Abnormality as noted on CXR. If you have any question, please describe report in the note field.

EKG-14: **Notes** – Any additional EKG/Chest findings.

EKG-15: **Outpatient cardiac Monitoring-** record if you find and results; print if you need to

DIAGNOSTIC TESTS (CT and MRs) (pg 18)

Diagnostic tests: (always attach ALL reports)!

When filling out the imaging results, if multiple studies were done, **try to include the initial, and then the most relevant scan at a later point** (if there is one**)**. So if a patient were admitted for a month, with multiple scans, and then bled on day 12, you would fill out the initial scan and the scan on day 12. If no change, you can use the 2nd scan. PLEASE READ THE BODY OF THE REPORT, NOT JUST THE IMPRESSION.

DIA-1: **CT of Head Done After Onset**- First CT of head

DIA-1a**: Reason for CT** - Choices include initial CT done upon presentation (*this is used only if it is the 1st imaging done for this event of any kind*), routine follow-up would be a scheduled exam regardless of clinical condition (such as a 24 hour safety scan after tpa), clinical deterioration as noted in the record, and other (describe in the note field below).

DIA-2: **Location of Study Performed**- (i.e. St. Elizabeth Edgewood, Kentucky Diagnostic, etc).

DIA-3 &4: **Date and Time of Study**- Be sure to cross reference the time with the ED "sent to CT" time that was documented, so that they are in sequence. It *is* okay to use the same time as the "sent to CT" time documented on the ED page, if there is no specific time given on the report.

DIA-5: **Primary Finding**- As noted in report. Hemorrhagic conversion refers to an infarct that has then bled. . Often words like "petechial hemorrhage" will be used, and sometimes it can be difficult to differentiate from ICH. Any questions call the coordinator.

DIA-5a & b: Any additional findings, mark as many as apply. If too long add rest to note fields.

DIA-6: **CT Notes** – Additional findings of interest.

DIA-7 thru 12: **The 2nd CT** is a CT showing significant change, *or*, if no change, use the 2nd CT ordered. Repeat above information for additional CT.

DIA -13: **MRI Done**

DIA-13d: If no, **Reason For No MRI –** select appropriate answer

DIA-13a: **Reason for MR** - See 1a for description (an MR *could be* the initial imaging over a CT. The "initial imaging" choice can only be used once.)

DIA-13b: **Diffusion Weighted Imaging** (DWI) - Look for the word "diffusion" in body of report.

DIA-13c: **DWI Positive for Acute Cerebral Infarct**- Meaning that there was an acute infarct seen on DWI. "T2 shine-through" seen on diffusion does NOT count as positive.

DIA-14: **Location of Study Performed**

DIA-15& 16: **Date and Time of Study**

DIA-17: **Primary Finding-** See DIA-5 explanation.

DIA-17a & b: **Secondary Findings**- On MRI, they can also see prior hemorrhagic changes, sometimes noted as "hemosiderin products". If this is noted, mark "prior hemorrhage". Note that you can mark as many as apply in the MR notes.

DIA-18: **MR Notes**

DIA-19 thru 24: Repeat of above for additional MRI.

DIA-25: **Additional Notes**

ADDITIONAL IMAGING (pg 19)

DIA-26 thru 30: **Fill in Type** (CT, MRI…), Date, Primary Finding and Secondary Finding on all subsequent CT/MRI imaging during the patient's hospitalization.

MR ANGIOGRAPHY

ANG-1 thru 5: **List MRA**, with anatomy scanned, location of study, date and time of study, and if normal or abnormal (attach reports).

CTA

ANG-6 thru 10: **List the CTA**, with anatomy scanned, location of study, date and time of study and findings (attach reports)

CEREBRAL ANGIOGRAPHY

ANG-11 thru 15: **List cerebral angio** done, with anatomy scanned, location of study, date and time of study and findings (attach reports).

ANG-16: Notes- Any additional information of use.

CAROTID ULTRASOUND (pg 20)

CU-2: **Carotid Ultrasound Done After Stroke/TIA**- If yes, complete the rest of the form. Also, record if had one near this event; it will not be repeated. Please note-if a previous/historical carotid ultrasound was done and the results are known, enter those results in the note field.

CU-3: **Date of Ultrasound**

CU-5: **Significant Abnormal Carotid Findings**- Mark if a significant abnormality noted on the record. See the table on the abstract for description of what is considered significant. *If yes to this question, complete the following. If it is not significant, do not fill out below.*

There are now enough options to cover every system and their ranges *(I hope!)*

CU-6: **CCA** = common carotid artery. Note: mark "8" if they were unable to see the vessels, due to anatomy or other reasons (intubation, lines, habitus, etc)

CU-7: **ICA** = internal carotid artery.

CU-9: **Ulceration-** Mark this if the text of the ultrasound report notes "ulcerated" plaque, mark the location of all ulcerations. *If yes to this question, complete the following.*

CU-10 & 11: **CCA and ICA**

CU-12: **Notes**- Any additional information, including prior ultrasounds.

ECHO (pg 21) ***Copy all reports and attach.***

EC-2: **Echocardiogram**- Done during this hospitalization. *If yes, answer the following.* Also, record if had one near this event; it will not be repeated.

EC-3: **Date of Echocardiogram**

EC-4: **Type of Echo**- TTE aka 2D ECHO, or surface ECHO, vs. TEE (transesophogeal). "With bubble" can be either type. When not specified, mark TTE. **If both TTE and TEE are done, use the TEE report to fill out the remainder of the ECHO page.** *Copy both!!!*

EC-5: **Quality of Study**- This is usually noted only when it's a poor study, due to habitus or some other reason.

EC-6: **Abnormal Echocardiographic Findings**-Was the ECHO noted to be normal or abnormal. ***If EF is ≤35% record as "abnormal"***

EC-7: **Left Atrial Enlargement**

EC-8: **LVH** or left ventricular hypertrophy- This is purely based on ECHO findings, do not mark this if it is only notated on the EKG.

EC-9: **Valvular Vegetation*-** Can also be called fibrotic vegetation, thrombus, mobile mass, or strands.

EC-10: **Cardiomyopathy**- Note this if marked in the report only (***not based on EF result***).

EC-11: **Mural Thrombus***- This is a blood clot noted in the ventricle or atria of the heart. They can be associated with a ventricular aneurysm, but do not mark this unless they clearly stated there is a thrombus associated with it.

EC-12: **Mitral Valve Prolapse**

EC-13: **Akinetic Wall**- This is a NON-moving segment of the ventricular wall on ECHO. Hypokinetic wall, or poor EF, do not count.

EC-14: **Ventricular Aneurysm***- This is an out pouching of the ventricle wall; often this is akinetic as well.

EC-15: **LV Ejection Fraction**- Simply list # (if 35-40, list 40/highest value).

EC-16: **Spontaneous ECHO Contrast, or "Smoke"-** Seen in the heart or the proximal aorta.

EC-17 &18: **Mitral or Aortic Valve Stenosis/Sclerosis**- Mark this if they note that the mitral or aortic valve is stenosed or has sclerosis.

EC-19**: Patent Foramen Ovale***- If size of the defect is noted, i.e. "pencil-patent" or "probe-patent", note this in the note field. Also, if they say the shunt is "large" or if only present with valsalva maneuver, note this in the note field as well. **If R to L shunt, mark yes to PFO and also put in notes.**

EC-20: **Atrial Septal Aneurysm***- If they document the degree of "floppiness", say the excursion of the aneurysm was 10mm, then note this in the note fields.

EC-21: **Aortic Atheroslerotic Debris**- Plaques of ascending aorta & aortic arch.

EC-21a: **Aortic Atheromata***- If they describe the thickness of the atheromata, note this in the note field. Also document if they see "mobile" or "highly calcified" atheromata.

EC-24: Graded Diastolic Dysfunction- this is new based on the many times we had to write it in. there are 4 grade potentials (1 thru 4). You will not have to decide; it is documented. Below is a brief description:

Grade 1 (Mild diastolic dysfunction) *Grade 2, (Moderate diastolic dysfunction)*

Grade 3 (Reversible restrictive pattern) *Grade 4 (Irreversible restrictive pattern)*

EC-22: **Other**- Document other **significant** findings not described above.

EC-23: **Notes-** Include all abnormal findings not addressed above.

INTERVENTIONS (pg 22)

IT-2: **Major Surgeries**- Following their Stroke/TIA and related to the neurological event.

IT-3 & 4: **Date and Time of said Surgery**

IT-5: **Type of Surgery**- Clot evacuation refers to an ICH patient, with neurosurgical hematoma removal. If the patient receives a major endovascular neurological procedure (i.e. embolization of AVM, or other endovascular treatments), mark other and describe.

IT-5a: If surgery is a carotid endarterectomy or stent placement, list side involved.

IT-7: **Intubation**- Intubation related to the patient condition; not for surgery.

IT-8: **Intraventricular Drain or Shunt Placed**- This can be a ventricular drain, or a VP shunt.

IT-12: **Blood Pressure**- Enter the blood pressure documented that is *closest* to 24 hours after their admission (irregardless of symptom onset) unless in-house stroke then it is 24 hours from stroke symptoms.

IT-9: **IV GTT Medication for Hypertension Control**- This could include nipride, esmolol, nicardipine, labetolol, or others, but it must be a continuous drip and not bolus dosing.

IT-9a: If yes, list meds given.

IT-10: **IV GTT Medication for Hypotension Control**- Choices include dopamine, dobutamine, levophed, etc…must be a drip.

IT-11: If yes, list meds given.

IT-12a: **Blood Pressure**- Enter the blood pressure *closest* to acute stroke treatment, if applicable.

IT-14: **Was TPA Administered Following Onset of Stroke**

IT-14a: **Route of Administration**

IT-14b: **Date and Time**- Of medication bolus/infusion starting.

IT-15: **Was Other Thrombolytic Therapy Given Following Onset of Stroke**- *Specify the drug*. Choices might include urokinase, reopro, eptifibatide, argatroban, integrillin, or others. **This does not include heparin.**

IT-15a: **Route of Administration**- Of other thrombolytic therapy.

IT-15b: **Date and Time**- Of administration of other thrombolytic agent.

IT-15d&e: IA Acute mechanical intervention: this is when they attempt an IA intervention without tpa. If they have IA intervention with tpa, mark this "yes' also.

IT-15c: **Intracranial Angioplasty/Stent**- In the cerebral vessels in the brain, this includes carotid vessels.

IT-16: **IV Heparin Following Ischemic Event** (Stroke or TIA) - This does not include subcutaneous heparin for DVT prophylaxis or low molecular weight heparin. Must have been *ordered for the stroke* (within 24 hours OR after Neuro consult).

IT-16a: **Date and Time**- Start of IV Heparin.

IT-17: **Nimodipine**- Used following SAH.

IT-18 &19: **Experimental Drug Study**- Includes studies. Enrolled in an acute stroke treatment trial? If so, name the trial and the possible treatments, specify all that apply.

IT-20: **Notes**- For any explanation of entries on this page or additional information.

QUALITY INDICATORS AND THERAPY (pg 23)

QI-1: **DVT Prophylaxis** - Was there medical therapy given to prevent a DVT in an immobilized patient. This means that they must be in bed and unable to walk to the bathroom on day 2 after symptom onset to qualify for DVT prophylaxis. If ambulatory, choose #4. **Treatment trumps ambulatory.**

If yes, modes of prevention used:

QI-1a, b, c & d: In the qualifying patient, mark whether DVT prophylaxis was sub q heparinoids (LMW) or serial compression device, ted hose, or other and list. Mark all that apply.

QI-2: **Foley Catheter**- Placed during their hospital stay.

QI-3: **Sliding Scale Insulin-** Mark if ordered. Include an insulin drip under this heading.

QI-4: **Swallowing Evaluation**- Did the patient at risk for aspiration, receive a swallowing evaluation.

QI-5: **Smoking Cessation Intervention**- This means that a medical professional documented that they discussed strategies for smoking cessation in the chart. **If they don't smoke, mark 9**.

QI-6, 7 & 8: **Physical therapy, Occupational therapy, or Speech therapy-** Did they evaluate the patient. If the patient had no symptoms warranting an evaluation, mark 9.

QI-9 thru 9d: **Physical Therapy**- Select the institution(s) where the patient actually received therapy.

QI-10 thru 10d: **Occupational Therapy**- Select the institution(s) where the patient actually received therapy.

QI-11 thru 11d: **Speech Therapy**- Select the institution(s) where the patient actually received therapy.

PLEASE NOTE:

QI-9b, QI-10b and QI-11b include any rehab facility were the patient is an inpatient! Examples include Drake, Gateway, GSH rehab floor, BN rehab…
QI-9c, 10c, and 11c are marked if the patient goes to a SNF (whether outside the hospital or within the hospital), even if noted for rehab purposes.

CLINICAL COURSE (1) (pg 24)

CC-7a: **Hemorrhagic Transformation**- This is defined as bleeding into a recent stroke, into the same territory, within 14 days.
This could be a significant amount of blood or as small as petechial staining in the infarcted area. Bleeding into another area of the brain, or bleeding into a stroke after 14 days, is considered a new event.

CC-7b: **Date transformation noted** in chart

CC-7d: **Time of event**, if noted

CC-7c: **Describe Event**- Around the time that bleeding was noted on CT/MRI scan.

CC-10a: **Infarct following Hemorrhage**- This should be only for those strokes that are not considered a separate event. If this comes up, you should call the coordinator to discuss, and attach the imaging report.

CC-10b: **Angioedema**: this should be specifically documented in the medical record and caused by r-tPa.

CC-8: **Vasospasm Documented**- If yes, how was this determined, by transcranial doppler (TCD), angiogram, CTA, or unknown. **Include all that apply.**

CC-9: **TCD Done**- At UC, TCDs are put in the medical record under progress notes, on a separate form.

CC-10: **Hemorrhage Growth by CT**-Did the serial imaging reports of an ICH, SAH, or IVH note that there had been significant growth of the hemorrhage.

CC-11: **Acute Hydrocephalus by CT or MRI**- Note if this is discussed in the imaging reports. This should NOT be marked if the patient has a history of chronic hydrocephalus.

Possible Treatments:

CC-16b thru 16e: **Steroids, ICP Monitoring, Mannitol** or other documented treatments. Mark all that apply.

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CC-14: **Clinical Neurological Worsening of Symptoms**- Did the patient change in regards to symptoms, mental status, related to the stroke.

CC-15: **Date and Time**- Of clinical worsening. Describe the worsening, i.e. symptoms, imaging results…in the note field below.

CC-15b thru 15d: If event is an ICH/SAH, do GCS.

If yes to clinical *neurological* worsening, please describe the event/symptoms/worsening on the lines provided.

CLINICAL COURSE (2) (pg 25)

CC-14a: **Clinical Neurological Improvement of Symptoms- *Dramatic*** or complete resolution.

CC-15a: **Date and Time**: Of improvement noted. If yes, describe.

If yes to clinical *neurological* improvement, please describe the improvement/changes on the lines provided here.

CC-13: **Patient Diagnosed with Diabetes *During* this Hospitalization**

CC-13a: **Patient Diagnosed with Hypertension *During* this Hospitalization**

CC-13b: **Patient Diagnosed with Hypercholesteremia *During* this Hospitalization**

Subsequent New Event (note: this stroke must be abstracted separately by EPI)

If there are questions regarding whether a subsequent event is a new event or a continuation of an old event, contact the study coordinator.

CC-2: **Subsequent Stroke or TIA**- This should only be marked for events that would be considered as a separate event. If you mark this yes, there should be another abstract for this additional event.

CC-3: **Date**- Of subsequent event.

CC-4: **Type**- Of subsequent event.

CC-12: **Notes**- Describing above subsequent event.

DNR Status

CC-17: **Was Patient Made DNR-** Include date and time. *See description on abstract.*

CC-17a: **Was Patient Made Comfort Care Measures Only**- Include date and time. Hospice consult counts as being made comfort care. *See description on abstract.*

COMPLICATIONS/NEW DIAGNOSES (pg 26)

This page is for *documented*, significant complications/new diagnoses that occur during the hospitalization following the stroke. If this is an in-hospital stroke, list only those events that occurred after the stroke was diagnosed. The discharge summary is a good place to start; you are not expected to read every word in the chart to determine this. We are only looking for significant complications, so don't stress!

CX-1 thru 12: List the **Code** of the complication and the "**time period"** when it started.
This is new. We are now categorizing time periods into: 1. At presentation, 2. During acute hospitalization, 3. During rehab, 4. Outpatient setting, or unknown.

Can comment in attached notes section if need to explain or define **or if other, specify,**

> If a complication goes on during a hospitalization only list it once. **Please note**-
> there have been new complication codes added that are in alphabetical order but out of order by number – please read carefully.

For hyperglycemia:

1) If treated, whether with sliding scale or insulin gtt, include in complications.

2) Do not include in complications if not treated.

CX-13: **Notes**

DISCHARGE MEDICATIONS (pg 27)

Date of Discharge: At final discharge.

DMED-0: **Medications**- Choose the appropriate answer.

DMED-1 thru 28: List *all* the discharge medications (when finally leaving hospital, not just going to in-house rehab, SNF, etc.). List only the aspirin dose. Usually the best place to find this is the discharge summary or discharge planning/instructions/discharge orders.

DISCHARGE DIAGNOSES FROM DC SUMMARY (pg 28)

DDX-0: Choose the appropriate answer

DDX-1 thru DDX-28**:** Copy all diagnoses listed on the discharge summaries**.** If the patient goes to rehab, combine the acute DC summary and the rehab DC summary diagnoses on this page.

OUTCOME (pg 29)

O-1: **Vital Status at Final Discharge**-At final discharge is the patient alive or expired.

O-2: **Date of Death-** If applicable***. (If the date of death is just prior to midnight or "brain death", use that date for DOD and DC date.***

O-2a: **Time of death:** this we will be collecting for those who die at discharge and the time is almost always listed.

O-3: **Cause of Death**- Enter the best choice available. Sometimes this is spelled out and sometimes it's a judgment call based on documentation, but if unsure, put unknown.
If entering #7=other, please describe.

O-3a: **Place of Death**

Functional Status at 30 days post stroke (*preferred*) OR discharge (*within 30 days post stroke*). COMPLETE RANKIN (O-4 thru O-7c) **ON ALL PATIENTS** – alive and expired.

O-4: **Date Modified Rankin Done**- This could be the discharge date OR 30 days, but we want whatever puts us closer to 30 days without exceeding 30 days. If they are in the acute setting and go to rehab or SNF, use the date of discharge from there unless it is > 30 days. If in doubt call the coordinator.

O-5 & 6: **Rankin Score**- Use discharge summary, PT/OT, progress notes to determine this. Take their overall functioning capabilities into consideration. Describe briefly why you assigned that score.
There is now an option of "expired" (#6) if needed.

O-7 and 7a: **Does Patient Use a Cane or Walker.** Look for documented proof.

O-8 thru 18b: Varying discharges surrounding this event and where they were discharged to; within the same institution (i.e. rehab unit, SNF, hospice…).

O-19: **Date of Final Discharge** for event- This is *always* completed. ***(If the date of death is just prior to midnight or "brain death", use that date for DOD . For the DC date use whatever the hospital put as the date they actually "discharged" the patient.)***

O-20: **Disposition at Final Discharge**- If #7 please specify.

O-22: **Notes**-any pertinent notes regarding outcome.

AUTOPSY (pg 29)

THIS PAGE WILL NOT BE ATTACHED TO THE ABSTRACT. IF YOU HAVE A PATIENT WHO EXPIRES AND HAS AN AUTOPSY, PLEASE COPY THE AUTOPSY REPORT AND THEN COMPLETE THIS PAGE AT THE OFFICE BEFORE TURNING IN.

AU-2 & AU-3: Date of Death, autopsy done?

If yes to autopsy, answer the following AU-4 thru AU-10.