Stroke Patient Post-Discharge Follow-up and Data Collection Guide

STROKE PROGRAM

MINNESOTA DEPARTMENT OF HEALTH

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Introduction

Follow-up care after hospital discharge is an important part of improving stroke patient health outcomes. Early follow-up and regular post-discharge check-ins can help reduce hospital emergency room visits and hospital readmissions by catching complications early before they grow into bigger issues and helps to assure that patients and caregivers needs are being met.

The Minnesota Department of Health (MDH) Stroke Program, through a grant from the Center for Disease Control and Prevention (CDC) Paul Coverdell National Acute Stroke Program (PCNASP) (www.cdc.gov/dhdsp/programs/stroke_registry.htm), works with hospitals to improve transitions of care for stroke patients discharged from hospital to home. MDH encourages hospitals to establish a program to follow-up on stroke patients discharged home with a telephone call to assess their health and recovery status, and provide assistance as needed. MDH also encourages hospitals to submit data collected on these calls from the patients to MDH in order to track and measure and improve care after discharge.

Our goal is for all Comprehensive Stroke Centers (CSCs), Primary Stroke Centers (PSCs), and Acute Stroke Ready Hospitals (ASRHs) to a) follow-up with their admitted patients by telephone within seven, thirty, and 90 days after discharge and b) collect data on their stroke recovery.

MDH has been working with hospitals understand their stroke follow-up practices. Through this work, MDH has learned that most hospitals are following up with patients within 24 hours to four days post-discharge; some are calling patients within 30 days; and several are contacting patients at 90 days (mainly to obtain the modified Rankin Scale (mRS) score). A few hospitals are following up at multiple points in time. Much of this work is driven by requirements of stroke center certifying bodies (i.e., The Joint Commission and DNV). Data obtained from these follow-up calls are entered into the electronic health record (EHR) and/or directly into the American Heart Association's Get With the Guidelines Patient Management Tool® (GWTG PMT). MDH is working with all hospitals to improve their follow-up practices and collect data.

This guide outlines our expectations for hospitals in conducting follow-up and collecting data on patients after they are discharged. It also includes tips and tools for developing follow-up systems based on information learned from hospitals in Minnesota and other states doing stroke post-discharge follow-up work. We hope that this guide will help your hospital meet these goals for post-discharge stroke patient care:

- Short term goals:
    - Developing efficient, effective, and relevant follow-up processes
    - Developing efficient data collection processes
    - Developing relevant data elements

- Intermediate goals:
    - Understanding stroke patient needs
    - Addressing stroke patient needs
    - Developing and understanding best practice performance metrics
- Long term goals:
    - Reducing negative health outcomes (30-day mortality, readmissions, medication adherence, hypertension, falls, smoking)
    - Improving positive health outcomes (e.g., modified Rankin Score)

If your hospital strives to meet these goals, you will not only improve the transition home, but also reduce ED visits, readmissions, and mortality, and improve overall patient outcomes.

Contact MDH for questions and technical assistance:
Kay Herzfeld, Transitions of Care Coordinator
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Goals and Objectives

MDH requests that your hospital establishes a process to follow-up with stroke patients discharged from the hospital to home. The intent is to provide support to patients, address unmet needs, coordinate their care, and reduce preventable emergency room visits and hospital readmissions.

Program Goals

1. Extend patient-centered care.
    1. Assist patients in making a seamless transition from hospital to home.
    2. Provide support to patients during recovery to assure that their needs are being met.
    3. Coordinate care for stroke patients.
    4. Reduce preventable emergency department visits and hospital readmissions.
2. Engage in performance improvement activities
    1. Track and review performance measures and reports.
    2. Use data to drive QI efforts to develop effective processes to support effective post-discharge patient care and prevent health complications after discharge.

Program Objectives

1. To determine if patients have **attended a follow-up appointment** with their primary care or other provider (e.g., neurology) and completed needed lab tests since discharge.
2. To determine if patients have **visited the emergency department or has been readmitted** since discharge.
3. To **assess patients' disability** and need for assistance (e.g., Modified Rankin Scale).
4. To determine if patients have **received rehabilitation services** (e.g., PT, OT, speech) if prescribed.
5. To determine if patients have **experienced any complications** since discharge (e.g., falls, urinary tract infections, pneumonia) since discharge.
6. To assess patients' **adherence to their medication plan**.
7. To assess if patients attempted to **quit smoking** (if they were a smoker).
8. To monitor patients' **self-management of their blood pressure**.
9. To **assess patients' mental health status**.

Program Plan

Primary Activities

There are essentially three activities that we ask your hospital to implement:

1. Conduct telephone calls with your stroke patients (or their caregivers)
2. Collect, record, and submit data on and from the patients
3. Implement at least one strategy to prevent or address patient challenges

Action Steps

A. **Contact patients**: telephone calls are intended to check in on patients - to understand their needs and, if possible address them. This can happen within two days, on the 30-day and/or 90-day call. (See below)

B. Collect and record/submit data:

1. Contact patients between 30 and 45 days to collect the majority of data elements. (If possible, collect as much data about the patient using other means, such as medical chart review)
2. Contact patients between 90 and 105 days to conduct modified Rankin Scale
3. Record and submit data

C. **Implement a broader QI strategy:** implement strategies in your care practice that will prevent or address needs of patients.

1. **Idea 1: Create and update clear discharge plans** that use plain language, checklists, and provide simple-to-understand information about what to expect, what to do, what not to do, their medications, who to contact, etc.
2. **Idea 2: Develop a program or activity** that involves one or more health care provider and/or community resource to address one of these common stroke survivor issues:
    i. Medication management
    ii. Blood pressure control
    iii. Falls prevention
    iv. Smoking cessation
    v. Care coordination (e.g., therapy, medical, home health)
    vi. Physical, social, or financial needs
3. Track patient outcomes and metrics to inform progress and guide planning.

Please contact Kay Herzfeld (kay.herzfeld@state.mn.us) for help developing and implementing your process for calling patients, collecting data, and developing an overall project or program.

Target Population

- All acute stroke patients admitted to your hospital

  NOTE: Sampling is encouraged if resources are limited. Examples of categories of patients to consider selecting:

  - Intervention (IV alteplase and/or thrombectomy) stroke patients
  - Hemorrhagic stroke patients
  - Admitted patients discharged home

- Exclusions:

  - Patients enrolled in hospice care
  - Patients discharged to a skilled nursing facility
  - Patients transferred out of the emergency department (to a CSC or PSC)
    Note: See "Following-up with Transferred Patients" section for suggestions on how ASRHs should follow-up with transferred patients

Timeline of Follow-up Contacts (Minimum)

1. **30 days** (i.e., between 30-45 days post-discharge) for all patients
2. **90 days** (i.e., between 90 and 105 days) for hemorrhagic stroke patients - to obtain the Modified Rankin Scale (mRS) score. Collection of additional data elements beyond the mRS at this time point is highly encouraged.

Staffing

1. Nurse, nurse care coordinator, stroke navigator, social worker, certified nurse assistant or trained hospital volunteer to make follow-up phone calls.
2. Quality analyst or abstractor to obtain data and information from patient's medical record prior to making the follow-up phone call and to submit data.

Follow-up Forms and Data Collection

1. **Call Script/Data Collection Forms.** We recommend that you develop a call script and a data collection form that meets your needs. See Appendix A: Follow-up Call Instructions for a sample call script and data collection form.

2. **Data Collection Options**

   1. **Get with the Guidelines Patient Management Tool Post-Discharge Mortality and Readmission Tab.** For hospitals participating in GWTG, please contact Mindy Cook (mindy.cook@heart.org) for information on how to activate this tab. To learn more

about the GWTG program, visit the American Heart Association website (https://www.heart.org/HEARTORG/Professional/GetWithTheGuidelinesHFStroke/GetWithTheGuidelinesStrokeHomePage/Stroke-Patient-Management-Tool_UCM_308035_Article.jsp#.XjHMgP5YZfw).

2. **Minnesota Stroke Portal, Post-Hospital Discharge Follow-up Tab.** Please note that this form (as of October 2020) is still in development and not yet available. Visit the MDH Stroke Program web site (https://www.health.state.mn.us/diseases/cardiovascular/stroke/resources.html) for instructions on navigating the Minnesota Stroke Portal.

3. **Microsoft Excel:** Follow-up Tracking and Data Collection Spreadsheet. To track patients from admission to discharge and follow-up, use a Microsoft Excel spreadsheet. (This is the best option for hospitals until the Minnesota Stroke Portal form is developed.)

   Contact health.stroke@state.mn.us to request a sample spreadsheet.

Telephone Calls: Planning and Preparation

1. **Develop a protocol for including follow-up call information in the discharge summary.**
   1. Prior to patient being discharged from hospital, inform patient and caregiver that they will be receiving a follow-up phone call from your hospital, which may include verbal and written information. Ask patient for three different numbers to call (e.g., home, mobile, and family or caregiver's number) and best days and times to call.
   2. Provide patient and caregiver with the caller's telephone number and name (if known) so they will recognize the number and name when they receive the call.

2. **Develop a process for identifying patients that need a follow-up call.**
   1. Weekly stroke report or alert system in electronic medical record system
   2. Ensure all staff on inpatient ward are trained on a process to flag patients to be called
   3. Other

3. **Use a follow-up tracking spreadsheet to log patients from emergency department to admission, to discharge, and follow-up.**

   The tracking sheet should include but is not limited to:
   1. Patient information (e.g., name, birthdate, age, gender)
   2. Hospitalization information (e.g., admission, discharge dates) and target follow-up date

3. Patient ID for stroke registry

   Note: A sample tracking sheet is available upon request (health.stroke@state.mn.us).

4. **Develop a protocol for reviewing patient's medical chart, discharge summary, and other information prior to making follow-up phone call in order to identify issues that need follow-up discussion.**
   1. Assign staff to conduct chart review and/or patient summary, if needed
   2. Discuss any questions with the stroke coordinator, nurse, or physician as needed

5. **Develop a follow-up call script.** Call script should include the following:
   1. Patient Status
   2. Instructions for determining Modified Rankin Scale (mRS) score.
   3. Local and state resources for additional assistance (e.g., Minnesota Brain Injury Alliance Resource Facilitation Program: Minnesota Senior Linkage Line.)

6. **Develop a protocol for timing of calls and number of call attempts.**
   1. Timing: Rolling or batch schedule where certain day(s) and times of the week are set aside for making follow-up phone calls.
   2. Attempts: A minimum of three attempts is recommended. Attempts should include different days and times during the day.
   3. Blocked calls: Process to prevent follow-up phone numbers from being blocked.

7. **Develop a protocol for responding to various issues that may arise.** This may include a process to document and address issues such as those listed below, including a list of contacts to refer to for specific issues and available resources.
   1. No social support
   2. PHQ-9 (mental health status) – i.e., if the patient is experiencing a mental health crisis
   3. Falls (i.e., if there have been more than two falls since discharge)
   4. Barriers (e.g., needing transportation to follow-up appointments; patient is experiencing difficulty in refilling prescriptions)

Telephone Calls and Data Collection

1. **Review medical charts**. Prior to making call, review patient's health history, medical chart, and discharge summary to learn about the following:
    1. Diagnosis and condition at discharge
    2. Medications prescribed at discharge
    3. Personal information such as daily routines, cultural practices, need for interpreter, family involvement, social and other support needs
    4. Follow-up appointments and completion status
    5. Home services and equipment needs; delivery status of services/equipment

    At this stage, you can actually begin completing some of the elements on the Post-Discharge Follow-up and Mortality Form and highlight specific issues which need to be discussed with the patient, such as ED visits and readmissions.

2. **Conduct the Follow-up Telephone Call**
    1. Use a call script (if necessary) and the "teach-back" method to confirm patient's/caregiver's understanding of information discussed.
    2. Obtain informed consent (if needed)
    3. Address problems and issues identified, and refer for additional assistance and resources as needed.

3. **Document patient/caregiver responses.**
    1. Enter information into a spreadsheet or in electronic health record form, including any follow-up action needed or taken.
    2. Communicate information obtained with providers through use of a flag in the EHR or phone/fax/secure messaging system.

4. **Collect and submit data to MDH through one of the following mechanisms:**
    1. Get With the Guidelines Patient Management Tool: For hospitals participating in GWTG, enter data in the Post Discharge Mortality and Readmission Tab.
    2. Microsoft Excel worksheet. Data in this file will be batch-submitted to MDH after the Minnesota Stroke Portal Post-Hospital Discharge Follow-up Tab is operational.

Data should be submitted to MDH quarterly.

Discharge Period	Date Follow-up Completed	Data Submission Deadline
Q1 (Jan – Mar)	June 30	July 31
Q2 (Apr – June)	September 30	October 31
Q3 (July – Sept)	December 31	January 31
Q4 (Oct – Dec)	March 31	April 30

We understand that follow-up may be challenging. Please note that these dates are *guidelines* for completion of data submission, to help provide your program with targets for conducting these telephone calls and submitting data.

Following Up with Transferred Patients

1. Develop a communication process with the tertiary care hospital that you transfer to most frequently to notify you when a transferred patient has been discharged back home.
    1. Request that the CSC or PSC provide a monthly report of all patients they received from your hospital.
    2. Determine which hospital will be providing the follow-up care to the patient.
    3. Determine if the primary care provider has been notified when patient is discharged.
        i. Ensure that a discharge summary is provided to the primary care provider prior to appointment
        ii. Determine if a follow-up appointment with the primary care provider was scheduled prior to discharge.
2. Document patients' discharge date from CSC/PSC in patient's medical record.

Use of Follow-up Information and Data for Quality Improvement

Information and data obtained from the follow-up call can be used to drive and inform quality improvement efforts to prevent patient complications, problems, and issues. Improvement projects may include addressing the following:

- Improving medication compliance
- Increasing attendance at follow-up and rehabilitation appointments
- Falls prevention
- Improving self-blood pressure management
- Helping a patients stop smoking

Resources

MDH developed a *Transitions of Care for Stroke Patients Toolkit* which provides resources for staff at hospitals to help implement post-discharge follow-up strategies. The toolkit offers tips, tools, and resources including project planning steps, quality improvement projects, post-discharge follow-up and data collection methods, templates, tools, and other helpful information. The *Toolkit* is available at the MDH Stroke Program Resources page (https://www.health.state.mn.us/diseases/cardiovascular/stroke/resources.html)

Please contact MDH for questions and technical assistance:

Kay Herzfeld, Transitions of Care Coordinator

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Appendix A: Follow-up Call Instructions

A. Review weekly stroke report and record information in Excel

1. Stroke list comes from [name of department where list comes from]
    1. Print the list.
    2. Only patients discharged home and home with home care receive a follow-up phone call. Identify them on the list with a specific code in the discharge disposition column.
    3. Everyone else, you can strike through, as they have discharged somewhere other than home. (e.g., Skilled Nursing Facility/SNF)
    4. Keep all lists in a 30 day call list folder.

2. Excel Spreadsheet - 30 day calls
    1. Copy all home discharges to the spreadsheet.
    2. Record the following information about the patient in the Excel spreadsheet:
        i. Identification number
        ii. Admit Date
        iii. Discharge Date
        iv. Call dates
            1. Earliest day to call +25
            2. Last day to call +35

Suggestions for Contacting Patients

1. Goal is to complete calls as close to the discharge date as possible. Keep in mind that most of the patients also received a call between 24 hours and 7 days, so try to call them as close to the 30 days from discharge date as possible.
2. Decide on the maximum number of telephone calls you plan to make for each patient follow-up.
    1. If you decide to make three attempts and the patient can't be reached the first time, call two more times. If the initial call was made in the morning, try calling in the afternoon (or vice versa).
    2. If the patient can't be reached the second time, call him/her at a different time than the first two calls.
    3. If the patient cannot be reached after calling three times, note that he/she cannot be reached and move on to the next patient to be followed-up.
3. Avoid calling on holidays.
4. Call the patient between 10:00 a.m. and 6:00 p.m.

B. Telephone Call – Sample Script

Introduction when speaking to the patient

"Hello, may I speak with Mr./Mrs. [*patient's name*]? My name is [*name of person calling from hospital/clinic*], and I am calling from [*name of hospital/clinic*]. This is a courtesy call to ask you some questions about your health, check how you are doing, and see if you need anything. You may recall us mentioning when you were discharged that we would be following up with you by phone. This call will take approximately 20-30 minutes, depending on how many questions you may have, and is voluntary. Are you okay with answering some questions and do you have time to talk right now?"

- If YES: "Great. Thank you so much for your time. The purpose of the call is to learn about your progress since being discharged. I will ask you questions about your follow-up appointments, medications, blood pressure and other areas of your care. If you have questions at any time, please do not hesitate to ask. If for any reason I am not able to answer your questions, I will connect you with someone that can assist you.

  To start with, I will need you to have all your medications in front of you. Could you please get those medication containers? This would include both the medications your doctor prescribed AND those medication that you can buy over the counter."
- If NO: "When is a good time for me to call you back [*date/day and time*]? "

Introduction when speaking to with the patient's caregiver or designee

"Hello, may I speak with Mr./Mrs. [*patient's name*], their caregiver, or the person who handles their medical affairs. My name is *name of person calling from hospital/clinic*], and I am calling from [*hospital/clinic*]. This is a courtesy call to ask you some questions about their health, check how they are doing, and see if they need anything. I will also share some information about stroke, including signs and symptoms, and talk to you about their upcoming appointments? If you have questions at any time, please do not hesitate to ask. If for any reason I am not able to answer your questions, I will connect you with someone that can assist you.

Response if family member or designee reports that the patient passed away

- "I am so sorry to hear that, and I'm sorry about your loss. Would you be able to tell me when the patient passed?"
  - Date of death: _____
  - Approximate date of death, if unsure: _____
- "Can I ask what the cause of death was (e.g., stroke, cardiovascular disease)?"

If patient is still living, proceed with interview

"Can we discuss their health?" ___ Yes ___ No

If Yes: Continue.
If, No: "Is there someone else I should speak to?"

Do you live with the patient? ___ Yes ___ No

If No: "May I speak with the person who is the primary caregiver living with the patient?" Continue with script.

C. Post-Discharge Follow-up Interview Data Elements

Below are the data elements in the in the Minnesota Stroke Portal Post-Discharge Tab that should be collected during the follow-up phone call. You can use this form to guide the telephone call and/or build the form in your hospital EHR.

General Information *Internal Hospital Use*

Patient Name: _____

Date of Birth: _____/_____/_____ (MM/DD/YYYY)

Patient ID #: _____

Primary Care Physician: _____

Primary Care Physician Address: _____

Neurologist: _____

Attempts to contact patient/caregiver:

1. Date:____/___/_____Time: _____Method: _____ Initials: _____

2. Date:___/___/_____Time:_____ Method: _____ Initials: _____

3. Date:___/___/_____Time:_____ Method: _____ Initials: _____

Person interviewed: _____Relationship to patient: _____

Data Elements

Post-Discharge Follow-up Form	
Date of hospital admission __/__/____ Date of hospital discharge __/__/____ Date follow-up completed __/__/____ Period that follow-up occurred ☐ Within 30 days post-discharge ☐ Within 60 days ☐ Within 90 days Method used for patient follow-up ☐ Chart review ☐ Health facility ☐ Patient's current residence ☐ Phone call ☐ Unable to reach ☐ Other	Source of information (primary) ☐ Caregiver ☐ EMS ☐ Family ☐ Home health aide ☐ Patient ☐ Chart review ☐ Other Is patient deceased? ☐ Yes ☐ No Patient's current location ☐ Acute care facility (hospital) ☐ Chronic health care facility ☐ Home ☐ Rehabilitation facility ☐ Skilled nursing facility ☐ Unknown/Not documented

Post-Discharge Follow-up Form

DEATH

If patient is deceased: Date of death __/__/___

Period of death

- ☐ Within 30 days post-discharge
- ☐ Within 60 days
- ☐ Within 90 days

Cause of death

- ☐ New ischemic stroke
- ☐ Pneumonia/respiratory failure
- ☐ Myocardial infarction
- ☐ Heart failure
- ☐ Other cardiovascular
- ☐ Deep vein thrombosis or pulmonary embolism
- ☐ Sepsis/Infection
- ☐ Intracranial hemorrhage (SAH, ICH, SDH, etc.)
- ☐ Other
- ☐ Unknown/ND

IF PATIENT IS DECEASED YOU HAVE COMPLETED THE FORM AT THIS POINT. YOU DO NOT NEED TO PROCEED FURTHER. IF PATIENT IS NOT DECEASED, PLEASE CONTINUE COMPLETING THE REST OF THIS FORM.

DISABILITY

Post-discharge Modified Rankin Scale Score (0-6) _____ Date post-discharge Modified Rankin Scale Performed __/__/___

REHABILITATION SERVICES

Were rehab services provided at time of discharge?

- ☐ Patient received rehab services during hospitalization
- ☐ Patient transferred to rehab facility
- ☐ Patient referred to rehab services following discharge
- ☐ Patient ordered rehab but declined services
- ☐ Patient ineligible to receive rehab services because symptoms resolved
- ☐ Patient ineligible to receive rehab services due to impairment (i.e., poor prognosis, unable to tolerate therapeutic regimen)
- ☐ Patient not assessed for rehab during their previous inpatient visit

Current therapy status

- ☐ Home therapy
- ☐ Home with outpatient therapy
- ☐ Home with no therapy
- ☐ Rehabilitation facility
- ☐ Unknown/ND

FALLS

Period of Falls

- ☐ Within 30 days post-discharge
- ☐ Within 60 days
- ☐ Within 90 days

Occurrence of Falls

- ☐ Yes
- ☐ No
- ☐ Unknown/ND

If Yes, Number of Falls ___

Post-Discharge Follow-up Form

APPOINTMENTS

Was an appointment made prior to discharge to follow-up with a healthcare provider?

- ☐ Yes
- ☐ No
- ☐ Unknown/ND

For the first post-discharge appointment scheduled, what was the outcome?

- ☐ Initial appointment completed with provider
- ☐ Initial appointment scheduled, but has not seen provider
- ☐ Initial appointment cancelled, but rescheduled
- ☐ Initial appointment rescheduled and completed
- ☐ Initial appointment cancelled and not rescheduled
- ☐ No appointment scheduled to date
- ☐ Unknown/ND

Who did patient see or will see within 30 days of discharge?

- ☐ Primary care physician
- ☐ Cardiologist
- ☐ Neurologist
- ☐ Endocrinologist
- ☐ Other

Date of first post-discharge physician office visit __/__/___

Reason for cancellation of initial appointment

- ☐ No transportation
- ☐ No reminder calls
- ☐ Patient not aware of initial appointment
- ☐ Cost
- ☐ Distance to provider
- ☐ Scheduling conflict
- ☐ Sick
- ☐ Other

Reason for not rescheduling appointment

- ☐ Same reason as cancelling initial appointment
- ☐ No transportation
- ☐ No reminder calls
- ☐ Patient not aware of initial appointment
- ☐ Cost
- ☐ Distance to provider
- ☐ Scheduling conflict
- ☐ Sick
- ☐ Other

MEDICATIONS AT DISCHARGE

Indicate the medication(s) patient was prescribed at time of discharge.

___Antihypertensive ___Statin ___ Antidiabetic ___Aspirin or other platelet
___Anticoagulant ___ Other medication, please specify _____

Post-Discharge Follow-up Form

Stoppage of Medication(s)

Has patient stopped taking any medication(s) without instruction from their medical provider? If yes, indicate which ones.

___ Antihypertensive ___ Statin ___ Antidiabetic ___ Aspirin or Other Platelet

___ Anticoagulant ___ Other medication, please specify: _____

Reason(s) for Stoppage of Medication(s)

What was the reason(s) for patient's stoppage of medication(s)?

___ Cost ___ Frequently forget___ No transportation ___ Ran out ___ Side effects

___ Traveling ___ Not documented/ UTD ___ Other, please specify _____

EMERGENCY DEPARTMENT VISITS

Has the patient been seen in the ED since discharge?

- ☐ Yes
- ☐ No
- ☐ Unknown/ND

Period of ED visit (s)

- ☐ Within 30 days post-discharge
- ☐ Within 60 days
- ☐ Within 90 days

Date of first ED visit __/__/___

Reason for ED visit

- ☐ Falls
- ☐ Transient ischemic attack
- ☐ Recurrent stroke
- ☐ Pneumonia
- ☐ Urinary tract infection
- ☐ DVT/PE/Blood clot
- ☐ Acute myocardial infarction
- ☐ Heart failure
- ☐ Infection/Sepsis
- ☐ Surgery
- ☐ Carotid intervention
- ☐ Other

Disposition for ED visit

- ☐ Admitted to hospital
- ☐ Discharged to home
- ☐ Discharged to SNF/long term care
- ☐ Held for observation
- ☐ Unknown/ND

READMISSIONS

Has patient been readmitted to a hospital since discharge?

- ☐ Yes

Post-Discharge Follow-up Form

- ☐ No
- ☐ Unknown/ND

Number of readmissions since discharge ____ Date of first readmission __/__/___

Reason for readmission

- ☐ Acute myocardial infarction
- ☐ Atrial fibrillation/flutter
- ☐ Carotid intervention (endarterectomy/stent)
- ☐ Deep vein thrombosis/pulmonary embolism/blood clot
- ☐ Fall
- ☐ Heart failure
- ☐ Infection/Sepsis
- ☐ Other cardiac event
- ☐ Other surgical procedure
- ☐ Peripheral intervention
- ☐ Pneumonia
- ☐ Recurrent stroke
- ☐ Transient ischemic attack
- ☐ Urinary tract infection
- ☐ Unknown/ND

TOBACCO (SMOKING)

Tobacco user at time of stroke?

- ☐ Yes
- ☐ No
- ☐ Unknown/ND

NOTE: Tobacco use includes cigarettes, cigars/cigarillo, and little cigars. Pipes, smokeless tobacco (chew, dip, snuff, snus), hookah/water pipe and electronic vapor products (e-cigarettes, e-hookah, vape pens). Also, some patients may get defensive when questioned about their tobacco use. The following script is a suggestion on how to broach the topic.

"[Name of the hospital] would like to find out whether stroke patients who use tobacco are receiving the education and interventions they need to stop tobacco use. Did you use tobacco at the time of your stroke? Tobacco includes cigarettes, cigars/cigarillo, little sugars, pipes, smokeless tobacco, hookah/water pipe, and electronic vapor products like e-cigarettes and vape pens."

Use of tobacco since discharge?

- ☐ Yes
- ☐ No
- ☐ Unknown/ND

BLOOD PRESSURE MONITORING

The following script is a suggestion on how to begin this section: "As you may know, high blood pressure is a leading cause of stroke and I would like to ask whether you check your blood pressure on a regular basis."

Has the patient been monitoring blood pressure at home or in the community?

- ☐ Yes
- ☐ No
- ☐ Unknown/ND

Has patient reported their blood pressure to their health care provider since discharge?

- ☐ Yes
- ☐ No
- ☐ Unknown/ND

D. Review stroke signs and symptoms

Review the stroke signs and symptoms with patient/caregiver.

Patient should call 9-1-1 or emergency medical services immediately if they experience:

- Sudden confusion, trouble speaking or understanding speech.
- Sudden numbness or weakness of face, arm or leg. Especially on one side of the body.
- Sudden trouble seeing in one or both eyes.
- Sudden trouble walking, dizziness, loss of balance or coordination.
- Sudden severe headache with no known cause.

E. Confirm understanding by teach back?

Indicate if the patient or caregiver can verbalize your instructions to contact their primary care provider regarding any health issues they experience in their own words in order to confirm understanding.

___ Yes ___ No, patient needs reinforcement

F. Conclude interview

"One more thing before I let you go. Have you heard about the Resource Facilitation Program? As part of your rehabilitation, we offer follow-up services through the Minnesota Brain Injury Alliance/Minnesota Stroke Association Resource Facilitation Program. This confidential and voluntary telephone follow-up service DOES NOT REPLACE any medical rehabilitation follow-up care that you need. It is intended to provide you and your family with information about stroke or brain injury and assistance in accessing services and supports for up to two years. You must enroll in this program and participation begins on the date you sign the enrollment form. Once enrolled, a Resource Facilitator will contact you by telephone approximately 6 weeks from the time that that you return the enrollment form. They will check in with you via phone periodically to see how you are doing and if you need anything. If you prefer them to contact you sooner than 6 weeks, than please contact them at: 1-800-669-6442. Is that something you might be interested in? If so, I can help you with that enrollment.

"I believe that's all I have to cover today. Do you have any questions? Should we need to call again, is this the best number to use to contact you?

If you have any questions, please do not hesitate to contact [hospital contact's name, phone and email].

Thank you for your time and information. Have a good day!"

G. Document interview and next steps

Further action needed post follow-up call? ___ Yes ___No

If yes, what follow-up action is needed/performed? _____

Patient referred to Primary Care Provider (___-___-_____) Date: _____

Person interviewed: _____

Form Completed by: _____ Date: ____/___/ _____ Time: _____

Signature: _____

H. Record information from call

Record information from the phone call onto an Excel spreadsheet, in the EHR, and/or directly into the Minnesota Stroke Portal or GWTG Patient Management Tool. When finished, document the call on the Excel Follow-up Tracking Spreadsheet by highlighting in green if the call was completed and red if the patient has been called twice and there has been no answer.

Source: Adapted from the California Coverdell Program 30 Day Phone Call Questionnaire, 6/23/19 and the American Heart Association West Region Grant 90-day Follow-up Interview Guide, 2017.

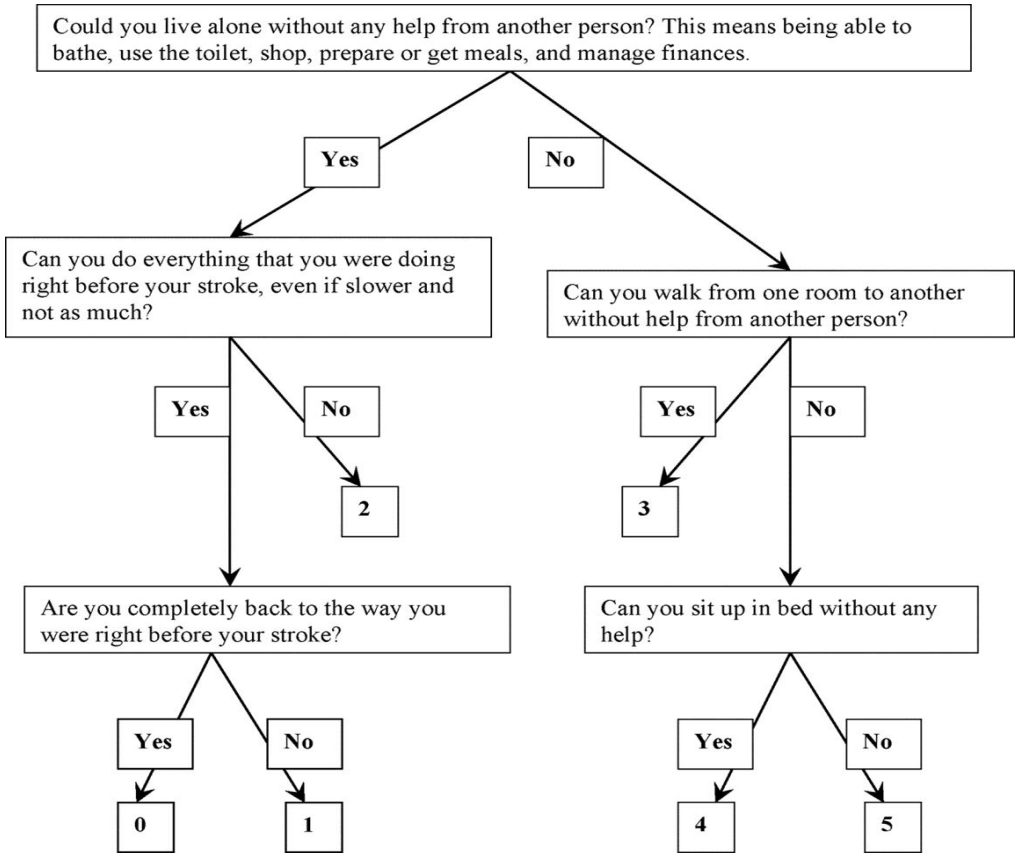
Appendix B: Modified Rankin Scale

The Modified Rankin Scale is a commonly used scale for measuring degree of disability or dependence in daily activities with people who have suffered a stroke and other neurological disabilities. The scale runs from 0 to 6, running from perfect health without symptoms to death.

- 0: No symptoms
- 1: No significant disability. Able to carry out all usual activities, despite some symptoms
- 2: Slight disability. Able to look after own affairs without assistance, but unable to carry out all previous activities
- 3: Moderate disability. Requires some help, but able to walk unassisted
- 4: Moderately severe disability. Unable to attend to own bodily needs without assistance, and unable to walk unassisted
- 5: Severe disability. Requires constant nursing care and attention, bedridden, incontinent
- 6: Dead

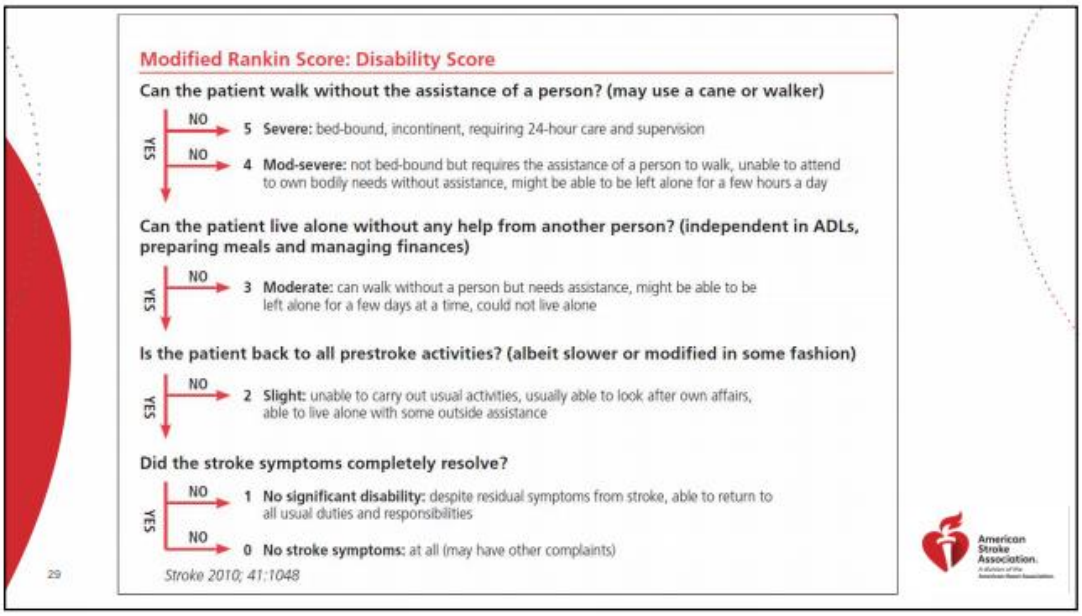
Example 1: This decision tree may be used to determine mRS score over the telephone on a follow-up call.

Modified Rankin Scale Decision Tree



Source: Bruno et al. Improving Modified Rankin Scale Assessment with a Simplified Questionnaire. Stroke. *2010; 41:1048-1050.*

Example 2, Modified Rankin Score: Question-based Assessment



Source: American Heart Association.

MODIFIED RANKIN SCALE 90 Day Follow-Up

Patient Name: _____

Medical Record#_____ **DOB:**____ ____ _____
MM DD YYYY

Hospital Discharge Date: ____ ____ ____
MM DD YYYY

☐ **Telephone Follow-Up**

☐ **Physician Record Follow-Up**
Fax completed from to
832-355-5070

Score	**Description**
0	No symptoms at all
1	No significant disability despite symptoms; able to carry out all usual duties and activities
2	Slight disability; unable to carry out all previous activities, but able to look after own affairs without assistance
3	Moderate disability; requiring some help, but able to walk without assistance
4	Moderately severe disability; unable to walk without assistance and unable to attend to own bodily needs without assistance
5	Severe disability; bedridden, incontinent and requiring constant nursing care and attention
6	Dead

TOTAL (0–6): _____

Completed Follow-up date: ____ ____ ____
MM DD YYYY

Attempt Date: #1_____
#2 _____
#3_____

Person Completing Form: _____

References
Rankin J. "Cerebral vascular accidents in patients over the age of 60."
Scott Med J 1957;2:200-15
Bonita R, Beaglehole R. "Modification of Rankin Scale: Recovery of motor function after stroke."
***Stroke* 1988 Dec;19(12):1497-1500**
Van Swieten JC, Koudstaal PJ, Visser MC, Schouten HJ, van Gijn J. "Interobserver agreement for the assessment of handicap in stroke patients."
***Stroke* 1988;19(5):604-7**