



# STROKE RISK ASSESSMENT

HIGH RISK—EXISTING CONDITION



## RISK EXPLAINED

People in this category are at high risk for stroke. They have reported at least 1 of the following pre-existing conditions that significantly increases their chance of stroke:

- Prior stroke
- Transient ischemic attack (TIA)
- Stroke symptoms, including:
  - Weak, numb, or drooping hand, tongue, cheek, face, arm or leg
  - Difficulty speaking, garbled/slurred speech, or inability to speak
  - Blurred, doubled, or decreased vision in one or both eyes



## EXAMPLE PERSONA

Frank is a 65-year-old African American male with type 2 diabetes. He is overweight and quit smoking a year ago after experiencing a TIA.

Frank has been seeing the same doctor for 5 years to treat his diabetes. He recently started experiencing chest pain and is wondering if his symptoms mean there's something going on.

Frank took this HRA while looking for information about his symptoms on his clinic website.



## DOES THE USER HAVE A PRIMARY CARE PHYSICIAN?

YES



### CUSTOMIZED CALL TO ACTION MESSAGES

Focus Call to Action (CTA) messaging in the follow-up section of portal on:

- Chronic-care management enrollment.
- Appointment scheduling.



### PHONE CALL FOLLOW-UP

Follow up with the user as soon as possible by phone call to:

- Enroll the user in a chronic-care management program.
- Review the results report with them and explain their results.
- Schedule an appointment with their primary care physician to discuss their results and any next-steps.



### FOLLOW-UP EMAILS

Customize your follow-up email content to explain:

- The importance of chronic-care management and staying in touch with their doctor.
- Lifestyle changes that can help reduce the risk of stroke.
- Who should see a vascular specialist and why.



### ENROLLMENT IN CHRONIC-CARE MANAGEMENT

- Promote chronic-care management programs available through your organization.
- Enroll the user in the appropriate programs if possible.

NO



### CUSTOMIZED CALL TO ACTION MESSAGES

Focus Call to Action (CTA) messaging in the follow-up section of portal on:

- Finding a doctor.
- Chronic-care management enrollment.
- Appointment scheduling.



### PHONE CALL FOLLOW-UP

Follow up with the user as soon as possible by phone call to:

- Find a primary care physician and schedule an appointment.
- Enroll the user in a chronic-care management program.
- Review the results report with them and explain their results.



### FOLLOW-UP EMAILS

Customize your follow-up email content to explain:

- Building a relationship with a primary care physician.
- The importance of chronic-care management.
- Lifestyle changes that can help reduce the risk of stroke.
- Who should see a vascular specialist and why.



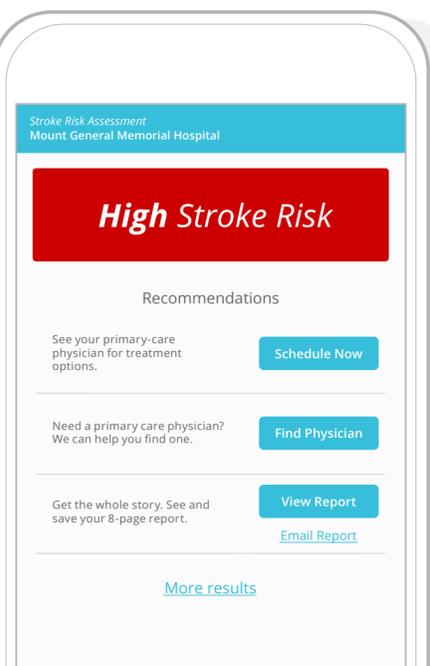
### ENROLLMENT IN CHRONIC-CARE MANAGEMENT

- Promote appointment scheduling and chronic care management programs.
- Enroll the user in the appropriate chronic-care management programs if possible.

## OTHER CONSIDERATIONS

In addition to their pre-existing condition(s), these users may have one or more of the following stroke risk factors:

- Overweight or obesity
- Smoking within past year
- High blood pressure
- Abnormal cholesterol
- Pre-diabetes (elevated blood sugar)
- Physical inactivity
- Older age
- Personal history of diabetes, other cardiovascular disease, atrial fibrillation
- Family history of stroke





# STROKE RISK ASSESSMENT

HIGH RISK



## RISK EXPLAINED

People in this group are at high risk of stroke because they have three or more high risk factors. This result will display regardless of the number of moderate or low risk factors the users have.

High risk factors for stroke include:

- Type 1 or type 2 diabetes
- Age over 65
- Family history of stroke
- Atrial fibrillation
- Blood pressure 130/80 mm Hg or higher
  - or- unknown blood pressure
- Total cholesterol 240 mg/dL or higher
  - or- unknown cholesterol
- Current smoking
- Fewer than 30 minutes each week of moderate-intensity exercise
- BMI of 30 or higher (obesity)



## EXAMPLE PERSONA

Suzanne is a 68-year-old Caucasian female. She smokes cigarettes daily, and her blood pressure and cholesterol are both high in spite of taking medications to control them.

Her father and grandfather died of heart disease before the age of 70. Suzanne is starting to worry about her risk. She has recently started to exercise more and is considering quitting smoking.

Suzanne took this HRA while visiting a health fair, and was alarmed by what she learned about her risk.



## DOES THE USER HAVE A PRIMARY CARE PHYSICIAN?

YES



### CUSTOMIZED CALL TO ACTION MESSAGES

Focus Call to Action (CTA) messaging in the follow-up section of portal on:

- Appointment scheduling (potentially with a specialist).
- Health risk management programs.



### PHONE CALL FOLLOW-UP

Follow up with the user as soon as possible by phone call to:

- Encourage a discussion with their primary care physician to receive further evaluation for stroke.
- Review the results report with them and explain their results.
- Discuss lifestyle changes that may lower their risk, such as quitting smoking or losing weight.



### FOLLOW-UP EMAILS

Customize your follow-up email content to explain:

- The importance of chronic care management and staying in touch with their doctor.
- Lifestyle changes that can help reduce the risk of stroke.
- The early signs of stroke or other cardiovascular conditions.



### CARDIOVASCULAR SCREENING

- Most high-risk users should undergo additional screening for stroke. This may include a carotid ultrasound.
- In most cases, patients in this group should be under the care of a vascular specialist or cardiologist.

NO



### CUSTOMIZED CALL TO ACTION MESSAGES

Focus Call to Action (CTA) messaging in the follow-up section of portal on:

- Finding a doctor.
- Appointment scheduling (potentially with a specialist).



### PHONE CALL FOLLOW-UP

Follow up with the user as soon as possible by phone call to:

- Find a primary care physician and set up an appointment for further evaluation.
- Encourage them to receive cardiovascular screening or stress tests with a doctor.
- Discuss lifestyle changes that may lower their risk, such as quitting smoking or losing weight.



### FOLLOW-UP EMAILS

Customize your follow-up email content to focus on:

- The importance of building a relationship with a primary care physician.
- Lifestyle changes that can help reduce the risk of stroke.
- The early signs of stroke or other cardiovascular conditions.



### CARDIOVASCULAR SCREENING

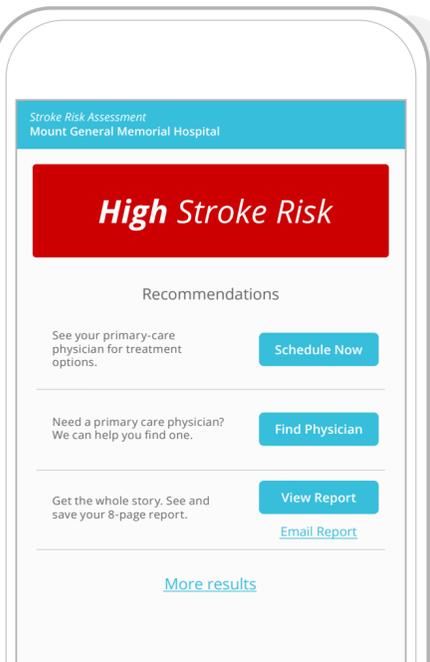
- Most high-risk users should undergo additional screening for stroke. This may include a carotid ultrasound.
- In most cases, patients in this group should be under the care of a vascular specialist or cardiologist.

## OTHER CONSIDERATIONS

This group has the most “surprise” risk and typically warrants the most aggressive follow-up regardless of whether they have a primary care physician.

This group should be educated about their risk and actively managed through regular checkups with a specialist. It’s likely that they would be good candidates for additional screening, such as a carotid ultrasound.

These users do not report previous stroke, stroke symptoms, or TIA.





# STROKE RISK ASSESSMENT

MODERATE RISK



## RISK EXPLAINED

People in this group are at moderate risk for stroke because they have a combined total of three or more moderate and high risk factors (see Other Considerations). This result will display regardless of the number of low risk factors the user has.

Moderate\* risk factors for stroke include:

- Pre-diabetes
- Age 55 to 65
- Unknown family history of stroke
- Unknown history of atrial fibrillation
- Systolic blood pressure of 120 to 129 mm Hg
- Total cholesterol of 200 to 239 mg/dL
- Former smoker, quit less than a year
- Fewer than 90 minutes of moderate-intensity each week
- BMI of 25.0 to 29.9 (overweight)

\*For a list of high risk factors, see *High Risk* category.



## EXAMPLE PERSONA

Diane is a 55-year-old African American woman. She's never smoked, and her total cholesterol number is very good.

She has high blood pressure, but she's been doing 180 minutes of moderate-intensity cardio every week to try and lower it. She's hoping the exercise will also help her lose a few pounds.

Diane doesn't know her family history of stroke, so she's surprised to learn that she's at moderate risk for stroke. She wasn't aware that stroke risk increases with age and can be impacted by BMI.

## OTHER CONSIDERATIONS

These people have no more than 2 of the high risk factors listed in the *High Risk* category. In order to be included in the *Moderate Risk* category, they must have:

- At least 3 moderate risk factors OR
- 1 high risk factor and at least 2 moderate risk factors OR
- 2 high risk factors and at least 1 moderate risk factor

These people may not be actively engaged with their doctor. It's likely that they would be good candidates for lifestyle interventions, such as smoking cessation or weight loss programs. This group should be educated about their risk and actively managed through regular checkups with a primary care doctor.

These users do not report previous stroke, stroke symptoms, or TIA.

## GOAL: SCHEDULING A PRIMARY CARE FOLLOW-UP APPOINTMENT

YES



### CUSTOMIZED CALL TO ACTION MESSAGES

Focus Call to Action (CTA) messaging in the follow-up section of portal on:

- Appointment scheduling.
- Health risk management information.
- Community wellness events at your organization.



### PHONE CALL FOLLOW-UP

Follow up with the user by phone call to:

- Confirm that the user is in regular contact with their primary care physician.
- Review the results report with them and explain their results.
- Promote healthy lifestyle habits that may help decrease their risk as they age.



### FOLLOW-UP EMAILS

Customize your follow-up email content to explain:

- The importance of talking to a doctor about cardiovascular health.
- The early signs of a stroke or other serious conditions.
- Who should see a specialist, and why.



### PRIMARY CARE APPOINTMENT

- Users with moderate risk should be seen by a primary care physician.
- Some users may warrant referral to a specialist for additional screening.
- Most users would benefit from health risk management programs or early intervention.

NO



### CUSTOMIZED CALL TO ACTION MESSAGES

Focus Call to Action (CTA) messaging in the follow-up section of portal on:

- Finding a doctor.
- Appointment scheduling.
- Health risk management information.



### PHONE CALL FOLLOW-UP

Follow up with the user by phone call to:

- Find a primary care physician and set up an initial appointment.
- Review the results report with them and explain their results.
- Promote healthy lifestyle habits that may help decrease their risk as they age.



### FOLLOW-UP EMAILS

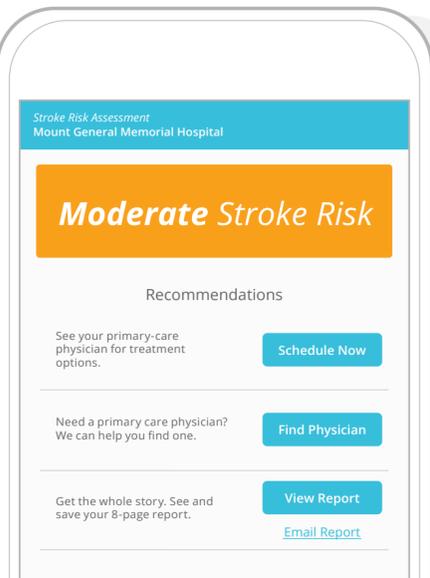
Customize your follow-up email content to focus on:

- Building a relationship with a primary care physician.
- The importance of talking to a doctor about cardiovascular health.
- The early signs of a stroke or other serious conditions.
- Who should see a specialist, and why.



### PRIMARY CARE APPOINTMENT

- Users with moderate risk should be seen by a primary care physician.
- Some users may warrant referral to a specialist for additional screening.
- Most users would benefit from health risk management programs or early intervention.





# STROKE RISK ASSESSMENT

LOW RISK

## GOAL: EARLY INTERVENTION FOR LIFESTYLE-RELATED RISK FACTORS



### RISK EXPLAINED

People in this group are at low risk of stroke because they have a combined total of no more than two moderate and high risk factors.

Low\* risk factors for stroke include:

- No diabetes or pre-diabetes
- Age under 55
- No family history of stroke
- No atrial fibrillation
- Blood pressure below 120/80 mm Hg
- Total cholesterol below 200 mg/dL
- Never smoker or former smoker, quit for more than one year
- At least 90 minutes each week of moderate-intensity exercise
- BMI of 24.9 or lower (normal weight or underweight)

\*For lists of high and moderate risk factors, see the other categories.



### EXAMPLE PERSONA

Kari is a 35-year-old Asian woman. She is slightly overweight and is a daily smoker.

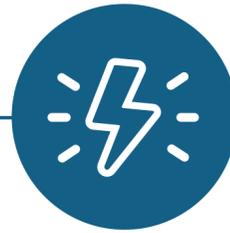
She exercises for 180 minutes every week and has tried to quit smoking several times. Right now, her blood pressure and cholesterol numbers are still in the good range.

Kari wants to find a way to quit smoking. She experiences anxiety when she thinks about what will happen if she doesn't, because her dad had a heart attack a few months ago. She's more motivated to quit smoking after completing the HRA and learning that smoking is a high risk factor.



### DOES THE USER HAVE A PRIMARY CARE PHYSICIAN?

YES



### CUSTOMIZED CALL TO ACTION MESSAGES

Focus Call to Action (CTA) messaging in the follow-up section of portal on:

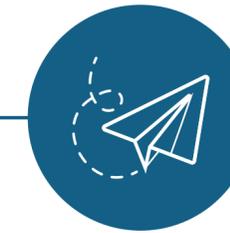
- Appointment scheduling.
- Health fairs and other events sponsored by your organization.
- Social media engagement or newsletter sign-ups.



### PHONE CALL FOLLOW-UP

Follow up with the user by phone call to:

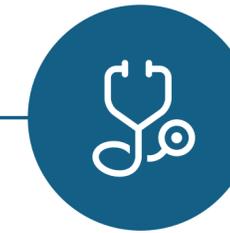
- Review the results report with them and explain their results.
- Encourage them to visit their primary care physician to discuss their results and learn what may increase their risk in the future.



### FOLLOW-UP EMAILS

Customize your follow-up email content to explain:

- The importance of staying in touch with a primary care doctor.
- Lifestyle changes that can reduce the risk of stroke.
- Community wellness programs offered by your organization.

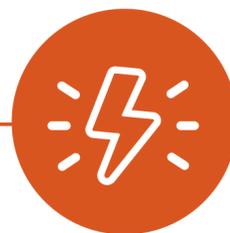


### SCREENING FOR HEALTHY BEHAVIORS

- Users with low risk should see their primary care physician to review their risks and discuss lifestyle factors that influence their risk.
- Some users may be eligible for health risk management programs or community wellness initiatives.

NO

## GOAL: CREATING A RELATIONSHIP WITH A PRIMARY CARE PHYSICIAN



### CUSTOMIZED CALL TO ACTION MESSAGES

Focus Call to Action (CTA) messaging in the follow-up section of portal on:

- Finding a doctor.
- Appointment scheduling.
- Health fairs and other events by your organization.



### PHONE CALL FOLLOW-UP

Follow up with the user by phone call to:

- Find a primary care physician and set up an appointment.
- Review the results report with them and explain their results.
- Encourage them to visit their primary care physician to discuss their results and learn what may increase their risk in the future.



### FOLLOW-UP EMAILS

Customize your follow-up email content to explain:

- The importance of building a relationship with a primary care physician.
- Lifestyle changes that can reduce the risk of stroke.
- Community wellness programs offered by your organization.



### SCREENING FOR HEALTHY BEHAVIORS

- Users with low risk should be seen by a primary care physician to review their risks and discuss lifestyle factors that influence their risk.
- Some users may be eligible for health risk management programs or community wellness initiatives.

### OTHER CONSIDERATIONS

These users have a near-term risk that is low, but they may have one or two risk factors that can impact stroke risk over time.

These risk factors may be lifestyle-related (weight, smoking history, blood pressure, cholesterol) or health history-related (age, family history, pre-existing conditions).

