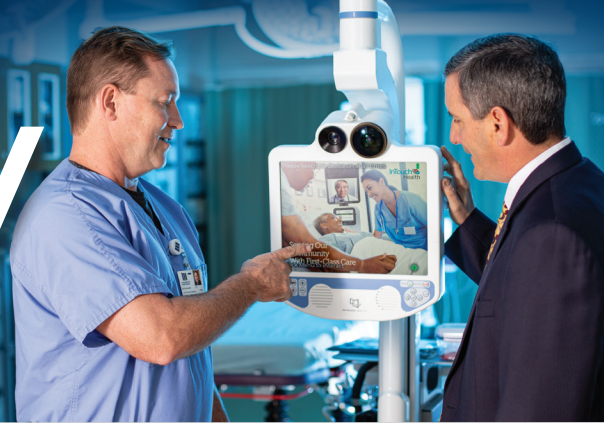


Quality Report Card

Licking Memorial Health Systems



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STROKE CARE

Artificial Intelligence Aids in Faster Triage for Stroke Patients

A stroke is the sudden death of brain cells due to lack of oxygen caused by blockage of blood flow or rupture of an artery to the brain. Stroke is a medical emergency, and prompt treatment is crucial for survival. Early action can reduce brain damage and other complications. Stroke is the fifth most common cause of death and a leading cause of disability in the United States. Licking Memorial Hospital recently implemented a new device in the Emergency Department that will facilitate efficient communication and care coordination to improve outcomes for stroke patients.

There are two general types of stroke. A hemorrhagic stroke occurs when an artery in the brain leaks blood or ruptures. An ischemic stroke results from a blockage in one of the major arteries of the brain. If an ischemic stroke involves blockage of a major vessel, it is called a large vessel occlusion. Time is a key factor in stroke treatment. It is important to learn how to recognize the warning signs of stroke, which can be remembered with the acronym FAST: Face drooping, Arm weakness, Speech difficulty, and Time. If someone is exhibiting any of these symptoms, call 911 immediately.

Successful management and delivery of care depend on timely and accurate data to aid in effective, clinical decision-making. Viz.ai Intelligent Care Coordination is powered by artificial intelligence (AI) and replaces outdated, conventional care practices with a single platform, enabling care teams to expedite care for patients who present stroke-like symptoms and reduce the amount of wait time from arrival to diagnosis and treatment.

The Viz.ai platform is a synchronized workflow that begins working upon arrival to the Hospital and as soon as symptoms suspicious for stroke are recognized. The software securely connects to the Hospital's existing computed tomography (CT) scanning technology. The app is installed on the smart devices of clinical team members, allowing them to receive automated alerts and patient updates

in real time from one another while immediately beginning communication via a HIPAA-compliant mobile interface to coordinate care for the patient.

As soon as images from a patient's CT scan are uploaded to the program, Viz.ai uses an AI algorithm to analyze the images for findings suggestive of a stroke. The completed analysis simultaneously notifies the appropriate medical specialists, including the treating physician, radiologist, neurologist, and other clinical team members. The clinicians can view the non-compressed images on their mobile device to appropriately evaluate the patient and communicate with other team members before making care-related decisions. Thrombolytic therapy can be administered immediately to treat an ischemic stroke and resolve the clot. If a brain hemorrhage is detected, patient care is expedited to determine the cause of the bleed and appropriate treatment can be started.

Immediate treatment can minimize the long-term effects of a stroke and prevent death. Viz.ai has shown to significantly reduce time to treatment from onset of symptoms and decrease length of hospital stays. The secure HIPAA-compliant communication tool allows clinical teams to quickly and conveniently coordinate patient care and treatment decisions, improving patient outcomes.



Measurably Different ... for Your Health!

Patient Story – Mark Ketter

Mark Ketter has worked at the Kroger in Heath for 42 years. On August 24, 2021, Mark arrived at 5:00 a.m., for his morning shift as the Frozen Foods Manager. About an hour and a half later, he began to notice a tingling sensation in the fingers on his right hand. He did not think much of it because he had experienced similar feelings before when working in cold environments. When Mark started to feel that same tingling sensation in his toes on his right foot, he began to worry that something might be wrong.

“I had remembered that these feelings could be the symptoms of a stroke, so I went to the bathroom and looked in the mirror to see if my face was drooping,” Mark explained. “I didn’t see any changes in my face, so I went and bought a bottle of aspirin and took one just to be on the safe side.”

A couple of hours passed, and Mark noticed the tingling sensations in his hand and foot were not going away. He had just received a wellness check that morning at the Kroger Pharmacy, so he returned and told the pharmacist that he was concerned that he might be having a stroke. The pharmacist checked Mark’s vital signs and suggested that he go to the Emergency Department (ED). Mark called his wife, Glenna, and told her that he needed her to drive him to the Hospital because he thought he may be having a stroke.

A stroke occurs when a blood vessel that carries oxygen and nutrients to the brain is either blocked by a clot or ruptures. When this happens, part of the brain cannot get the blood and oxygen needed, and brain cells begin to die. The effects of a stroke depend on several factors, including the location of the blockage and the amount of brain tissue affected. One side of the brain controls the opposite side of the body, so a person who has a stroke on the left side of their brain will experience complications on the right side of their body.

When Mark arrived at the Licking Memorial Hospital (LMH) ED, he was immediately triaged and underwent an electrocardiogram (ECG) to rule out any heart conditions. When his ECG came back normal, he was sent to get an MRI, which revealed evidence of an ischemic stroke on the left side of Mark’s brain. He was diagnosed with suffering an acute ischemic stroke (AIS).

An AIS occurs when blood flow through a brain artery is blocked by a clot and is responsible for nearly 90 percent of all strokes. Strokes can happen to anyone, but the risk increases with age. Other risk factors include uncontrolled high blood pressure, diabetes, coronary artery disease, and high cholesterol, and smoking. A transient ischemic attack (TIA) is a temporary blockage of blood flow to the brain. TIA symptoms may vary in duration – lasting a few minutes up to 24 hours. Mark’s symptoms only lasted about five hours, and by the time he was admitted to LMH for observation, his symptoms had disappeared.

During his stay, he saw DeRen Huang, M.D., of Licking Memorial Neurology. “Dr. Huang was very knowledgeable. He talked with me about what happened and discussed changes I could make to improve my health and prevent future strokes,” said Mark. “I was an occasional smoker, but once I learned that smoking is a risk factor for stroke, I quit that day.”

At his follow-up visit, Dr. Huang prescribed a cholesterol-lowering medication to reduce the risk of clots and prevent stroke. He is also taking one aspirin daily. Mark has quit drinking soda and tries to drink the recommended 64 ounces of water each day. He has also lowered his stress level by stepping down from his position as Frozen Foods Manager at Kroger and now assists in the general grocery area.

“It would have been so easy for me to ignore the symptoms and just keep working,” Mark said. “I am glad that I recognized the signs of a stroke and trusted my instincts to seek medical help. Everyone at LMH treated me well and knew exactly what to do to help me. I knew I was in capable hands.”

During a stroke, every minute counts. Recognizing the signs and symptoms of a stroke can save a person’s life. Stroke treatments work best if the stroke is recognized and diagnosed within three hours of the first symptoms. Common symptoms include drooping of the face on one side, impaired mobility on one side of the body, and slurred speech. A person may also experience memory loss, changes in vision, vertigo, confusion, or a sudden severe headache. Individuals should call 911 immediately if they notice a sudden onset of these symptoms.

Stroke Care – How do we compare?

At Licking Memorial Health Systems (LMHS), we take pride in the care we provide. To monitor the quality of that care, we track specific quality measures and compare to benchmark measures. Then, we publish the information so you can draw your own conclusions regarding your healthcare choices.

1. Thrombolytic drugs, sometimes called “clot-busters” often are effective in treating a stroke in progress, and may even reverse some of the neurological damage. However, thrombolytic drugs can have dangerous side effects. To lower the risk of complications, thrombolytic drugs can be given only to patients who have arrived at the Emergency Department (ED) quickly enough to have the drugs initiated within three hours of their first symptoms of having a stroke.

	LMH 2019	LMH 2020	LMH 2021	LMH Goal
Eligible stroke patients who received timely thrombolytic drugs in the ED	87.5%	90.6%	100%	88%

2. Tissue plasminogen activator (tPA) – an FDA-approved medication for acute ischemic strokes, is given through intravenous therapy (IV) in the arm, and works by dissolving clots and improving blood flow to the part of the brain being deprived. tPA can help reduce damage to the brain and the long-term effects of stroke. Minimal time to administration produces brain-saving benefits.

	LMH 2019	LMH 2020	LMH 2021	LMH Goal
Median time from arrival to administration of tPA	68 Minutes	73 Minutes	68 Minutes	60 Minutes

3. Quick access to brain scan results is critical to physicians when treating a patient with a suspected stroke. Clot-buster medications can be administered, but only for a short period of time after the patient’s stroke symptoms begin, and the medications may not be given until a brain scan is completed. Quick completion of a brain scan upon the patient’s arrival can reduce the amount of time elapsed before these important medicines can be given, which then increases the patient’s chance for improved recovery from a stroke.

	LMH 2019	LMH 2020	LMH 2021	National ⁽¹⁾
Stroke patients in the ED with brain scan results within 45 minutes	84%	96%	84%	72%

4. Ischemic stroke is a type of stroke that results in damage to the brain caused by an interruption or blockage in blood flow. It is the most common type of stroke. A stroke can result in death, so seeking medical attention quickly is vitally important. Licking Memorial Hospital (LMH) measures the rate of in-hospital death of patients suffering an ischemic stroke. Prompt and comprehensive stroke treatment can reduce the risk of death and long-term complications. Lower percentages are preferable.

	LMH 2019	LMH 2020	LMH 2021	National ⁽²⁾
Ischemic stroke – inpatient mortality rate	0.00%	0.00%	0.78%*	2.38%

*In 2021, one individual suffered a fatal ischemic stroke.

5. The “incidence rate” is a measure of how often ischemic strokes occur in our community, as compared to national averages. It is measured as the number of patients who are admitted with a stroke, out of every 1,000 admitted patients. Rates higher than average mean that more patients are admitted to the Hospital with strokes than the national average, while lower rates indicate fewer strokes occur in the community than the national average. Lower numbers are preferable.

	LMH 2019	LMH 2020	LMH 2021	National ⁽²⁾
Incidence rate	17.96%	20.10%	20.51%	19.31%

6. Atrial fibrillation, also known as “AFib,” is a condition in which the heart does not pump blood effectively. Patients with AFib are five times more likely to suffer a stroke than the general population, and many patients may be unaware that they have it. Patients with AFib are at risk of having blood clots form inside their heart, which can travel to the brain, causing a stroke. This measure reflects the percentage of patients, diagnosed with stroke who had underlying AFib. Patients with AFib typically are treated with blood thinners to help reduce the likelihood of clots forming inside the heart. Lower percentages are preferable.

	LMH 2019	LMH 2020	LMH 2021	National ⁽²⁾
Ischemic stroke – percentage with AFib	19.09%	14.29%	11.72%	17.81%

Stroke Care – How do we compare? (continued on back)



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7. In some cases, after the immediate crisis is stabilized and the patient no longer requires hospital care, ongoing care may be required depending on the needs of the patient. Patients may be transferred to post-hospital care settings such as inpatient rehabilitation, skilled nursing facilities or home health agencies. The LMH goal is for the patient to return to baseline functioning and be discharged directly home from the Hospital.

	LMH 2019	LMH 2020	LMH 2021	National ⁽²⁾
Ischemic stroke – percent discharged home	37.27%	49.58%	53.13%	55.56%

8. Licking Memorial Health Professionals (LMHP) office-based physicians use evidence-based measures in order to provide excellent, quality care to patients. The American Stroke Association and American Heart Association recommend the use of blood-thinning medication in order to prevent clots from forming and to improve blood flow.

	LMHP 2019	LMHP 2020	LMHP 2021	National ⁽³⁾	LMHP Goal
% LMHP coronary artery disease patients seen receiving blood-thinning medication	93%	93%	96%	>80%	>85%

Data Footnotes: (1) Comparative data from www.hospitalcompare.hhs.gov. (2) Comparative data from the Midas Comparative Database. (3) American Heart Association/American Stroke Association/National Committee for Quality Assurance Heart/Stroke Recognition Program.

Knowing Your Numbers Can Prevent Stroke Risk

A person’s risk for stroke is determined by a number of modifiable and non-modifiable factors. Modifiable risk factors are those that can be controlled by the patient, including high blood pressure, obesity, high cholesterol, and diabetes. According to the American Stroke Association, 80 percent of strokes are preventable. Understanding the following numbers can help individuals assess their risk of stroke and work with their physician to control these modifiable factors with lifestyle changes or medication.

Blood pressure – High blood pressure is the leading cause of stroke. People with high blood pressure should check their levels often. A normal blood pressure level is less than 120/80 mmHg. Lowering blood pressure can reduce the risk of stroke and may be accomplished through lifestyle changes or medication.

Cholesterol – Low density lipoprotein (LDL) is considered “bad” cholesterol, as too much of it can cause buildup in the arteries. High density lipoprotein (HDL), known as “good” cholesterol, helps to remove cholesterol from the body and prevents buildup. A total cholesterol level that is higher than 200 mg/dL increases a person’s risk of stroke.

Body mass index (BMI) – A person’s BMI is commonly used to classify weight as healthy or unhealthy. A BMI of between 25 and 29 is considered overweight, and a measurement of 30 or more is considered obese. Being overweight is a major risk factor for many serious illnesses, including stroke.

Blood sugar – Adults with diabetes are more likely to have a stroke than those without diabetes. Controlling blood glucose levels can help lower the risk of stroke. According to the American Diabetes Association, the goal for a person with diabetes should be a blood sugar level between 90 and 130 mg/dL before meals and 110 to 150 mg/dL at bedtime.



Licking Memorial Health Systems

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Please take a few minutes to read this month’s report on **Stroke Care**. You will soon discover why Licking Memorial Health Systems is measurably different ... for your health!

The Quality Report Card is a publication of the LMHS Public Relations Department. Please contact the Public Relations Department at (220) 564-1572 to receive future mailings.

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