

# Stroke Outcome Data

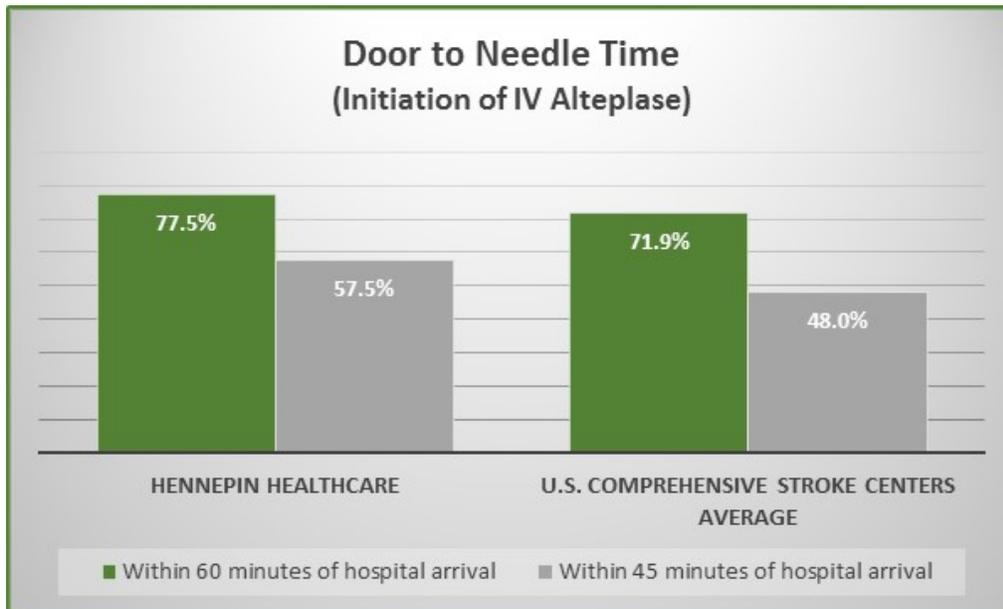
There is an established and formal set of criteria that must be met to become a Certified Stroke Center. Hennepin Healthcare is certified by The Joint Commission as a Primary Stroke Center and has applied for Comprehensive Stroke Center (CSC) certification status. CSC status requires the availability of the most advanced treatment and technology, which Hennepin Healthcare has, as well as several other criteria. Among these criteria are several quality indicators that must be monitored to ensure that high quality care is being provided. The American Heart Association/American Stroke Association works collaboratively with The Joint Commission to identify best practices in stroke care and in determining which quality indicators should be monitored.

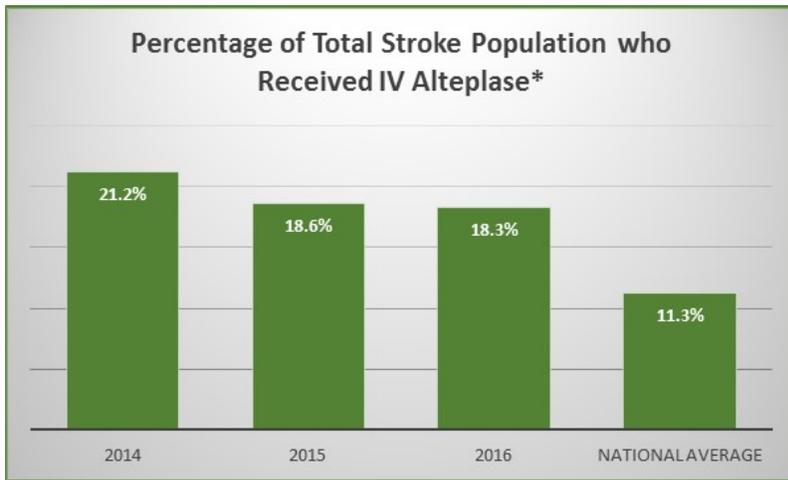
Hennepin Healthcare at HCMC is proud to have specialized expertise along with the resources and technology to treat the most complex strokes.

*Time from stroke code activation to stroke team arrival to patient location = 2.6 minutes  
(Hennepin 2016 Average Response Time)*

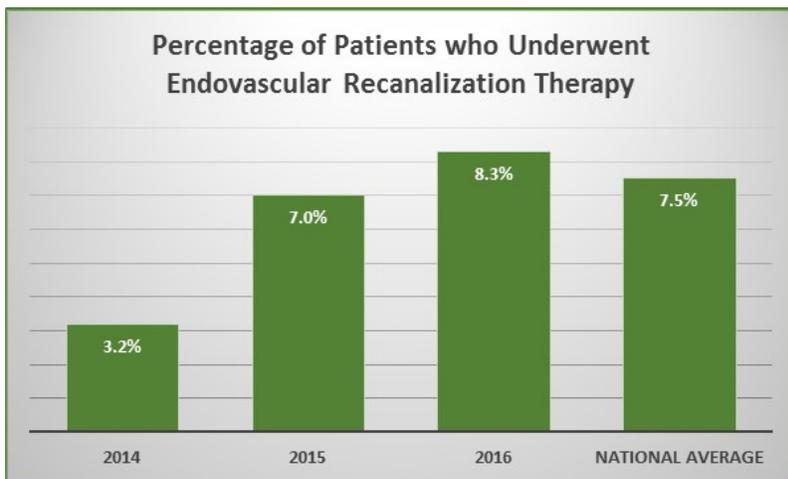
Because of our excellent Emergency Medical System (EMS) personnel (paramedics and EMTs) who are quick to recognize stroke and instantly communicate with the emergency department, we are able to activate our stroke team and initiate IV Alteplase (clot busting drug) rapidly in a larger percentage of patients.

Our teaching hospital has neurologists and neurosurgeons on site 24/7 and our emergency nursing and medical staff are skilled at treating the most complex stroke cases.

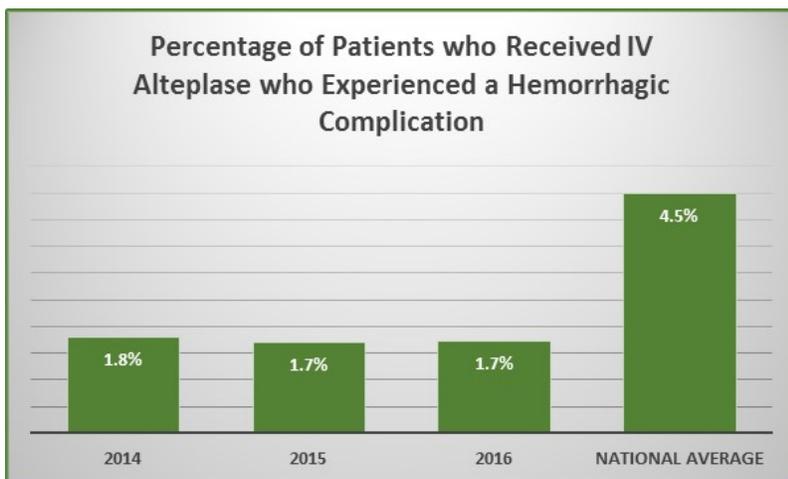




\*IV Alteplase is a clot-busting drug given to reopen a blocked blood vessel. It must be started within 4.5 hours of when stroke symptoms started. The earlier IV alteplase is given, the more likely it is to be effective. It increases the likelihood of minimal to no disability by about 20%.



Endovascular recanalization is done by inserting a device through the blood vessels to remove a clot. Only clots in larger arteries can be reached with these devices. Removal of the clot increases the likelihood of minimal to no disability 20-30% more than IV alteplase alone.



There is a risk of serious bleeding in the brain when a clot-busting drug is administered. Through careful patient selection in the administration of the drug, we have achieved extremely low complication rates.

The national average data used in these graphs is from the American Heart Association / American Stroke Association Get with the Guidelines – Stroke, National Stroke Registry.

Hennepin Healthcare has highly skilled physicians and staff who perform surgical and endovascular procedures for stroke. These procedures are very complex, and there is a risk of the procedures leading to complications. The most serious of these complications are stroke and death. Complication rates are closely monitored. Over 200 stroke related procedures were performed at HCMC in 2016 with very few complications and no deaths.

<b>Post-Procedural (Death) Mortality Rates</b>			
<b>Procedure</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>Carotid Endarterectomy</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
<b>Carotid Stent</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
<b>Cerebral Angiogram</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
<b>Surgical Clipping of Cerebral Aneurysm</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
<b>Endovascular Coil Embolization or Flow Diversion of Aneurysm</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>

<b>Number of patients who had a procedural complication following carotid endarterectomy or carotid stent procedure</b>		<b>Number of patients who had a procedural complication following a diagnostic cerebral angiogram</b>	
2014	1	2014	0
2015	0	2015	1
2016	1	2016	2