

Vidant Duplin Stroke Program

One Team, One Dream: Brain Matters
Improving Stroke Care in Rural Eastern NC



VIDANT HEALTH™

Vidant Duplin Stroke Team



Project Leader(s) and Discipline:

1. Katie Knowles, BSN,RN- Manager Medical-Surgical, Stroke Coordinator
2. Sue Taylor, MSN,RN- VP of Nursing
3. Christina Miller, MSN, RN- Director of Patient Care Services

Team Member Name(s) and Discipline:

1. Dr. Jennifer Adkins, Medical Director- Stroke Team
2. Lori Fulghum, MSN,RN- Education Nurse Specialist
3. Auburn Perkins, RN- Data Analyst
4. Heather Wells, RN- EMS Liaison/ED Nurse Champion
5. Chelsie Johnson, RN- Inpatient Stroke Nurse Champion

Vidant Duplin Stroke Program



The goal of this intervention was to improve stroke outcomes in rural eastern NC by increasing the number of stroke patients evaluated and treated for acute stroke. In 2015, Vidant Duplin Hospital administered the lifesaving thrombolytic (clot buster), Alteplase, a total of 5 times and did not have any patients transferred for clot retrieval by endovascular treatment.

Via partnership with Wake Forest Baptist Medical Center, Vidant Health was able to provide telestroke services across the health system, offering immediate neurological evaluation and intervention for acute stroke patients. Initial barriers to this intervention were identified:

1. There was a delay in patients presenting within the 3-4.5 hour window for thrombolytic treatment
2. Alteplase was not offered and administered to all patients who qualified
3. Endovascular treatment was not often considered as a treatment option.

To improve stroke care in rural eastern North Carolina the following project aims were identified:

- To maintain outreach efforts in Duplin County and increase the number of patients presenting within 2 hours of onset by 25%.
- To increase the number of patients that receive IV Alteplase by 25% by 2018.
- To increase the number of patients identified and transferred for endovascular treatment by 25% annually.

Process Measure(s):

1. Development of Code Stroke Standard of Work
2. Telestroke activation
3. Overhead page of Code Stroke to increase response time of Emergency Response Team (ERT) providers
4. Implementation of Code Stroke Logs for Radiology/Lab to monitor compliance
5. Evaluation and improvement of Vidant Health transfer process for stroke patients

Outcome Measure(s):

1. Community Health Screening Volumes
2. Total Patients Arriving Within 2 Hours of Stroke Symptom Onset
3. Lytic Administration Volumes
4. Endovascular Treatment Volumes

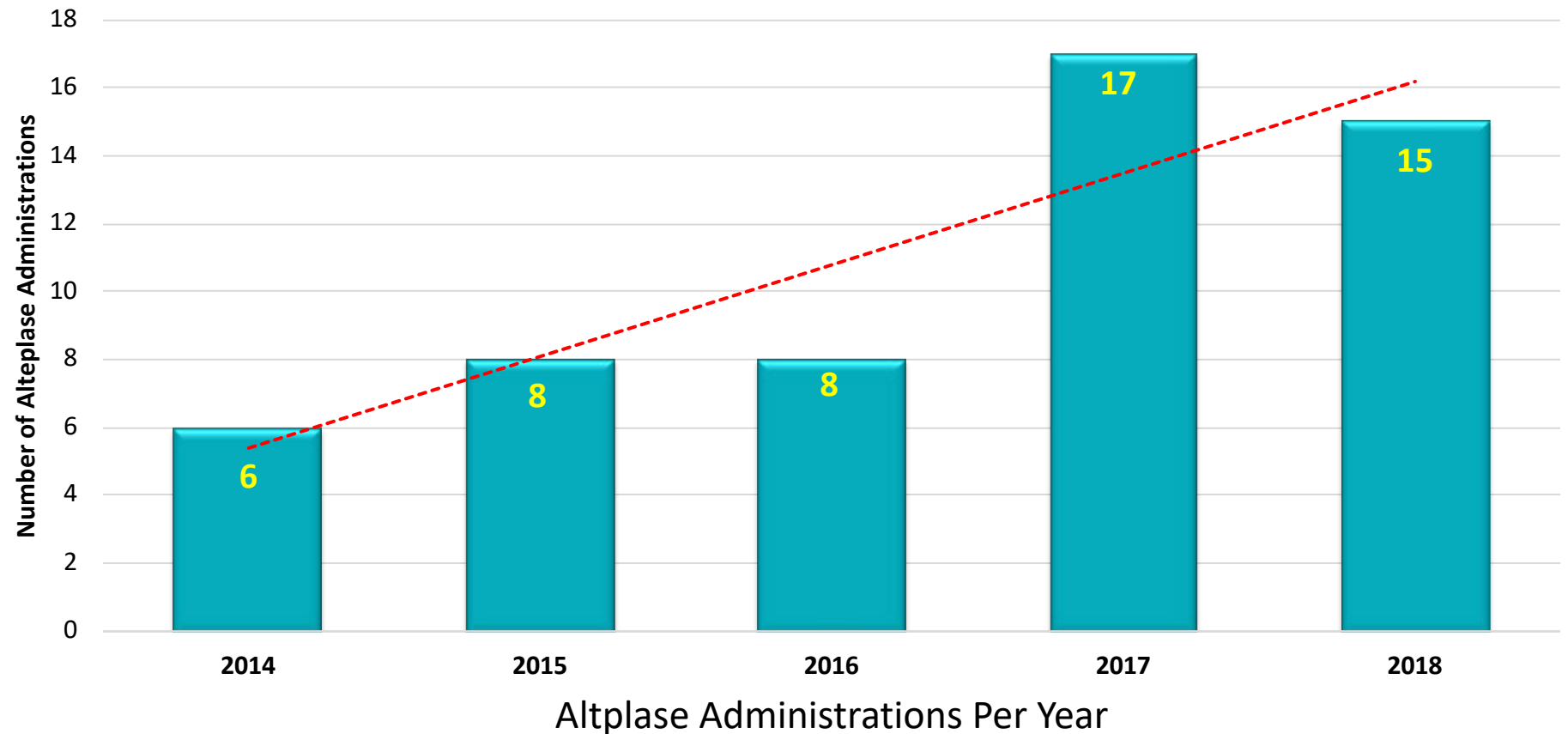
What Did You Do to Improve (PDSA Cycles):

1. Utilization of Joint Commission Stroke Certification standards to conduct concurrent audits. Team used LEAN concepts to identify focused areas needing improvement to exceed performance.
2. Created daily feedback mechanisms for clinical and leadership staff to drive performance, remove barriers to produce outcomes
3. Structured Monthly Stroke Team Meetings to lead process improvement.
4. Implementation of Nurse First Triage Process and ED provider hallway assessment process to expedite initiation of care and transport to CT
5. Implementation of Emergency Response Team responders for all Code Strokes
6. Extensive Community Education program was developed that focused on Outreach through education sessions with local churches and civic groups.
7. Frequent communication and feedback sessions conducted with Wake Forest Baptist to continually improve Telestroke processes and stroke care.



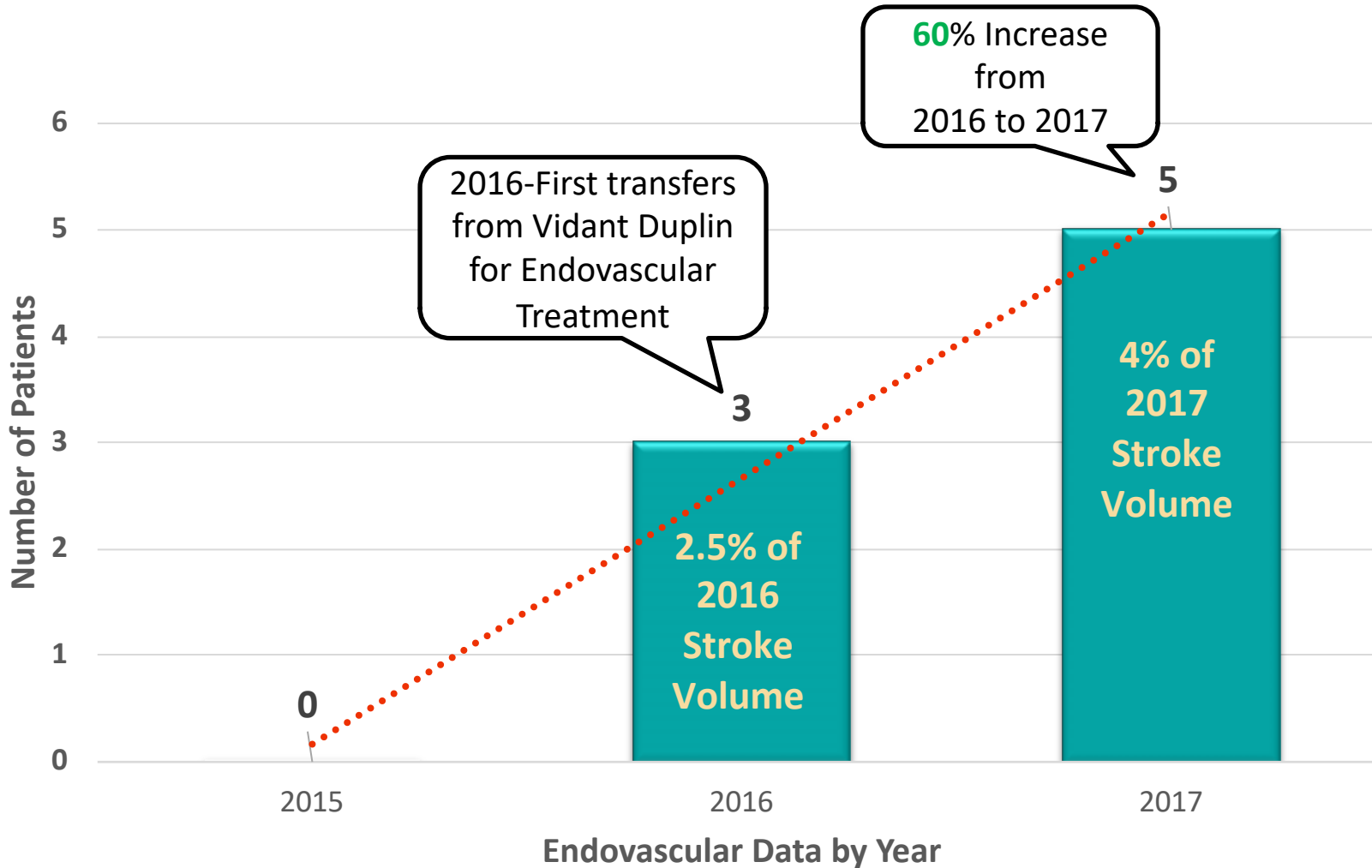
Stroke patients receive immediate neurological consultation via Telestroke Robot

Alteplase Administration at Vidant Duplin



Alteplase, known as a clot buster, is currently the only existing pharmaceutical treatment for stroke and can be administered up to 4.5 hours after symptom onset. Utilization of Telestroke has improved the number of patients identified as candidates for this medication.

Transfers for Endovascular Treatment

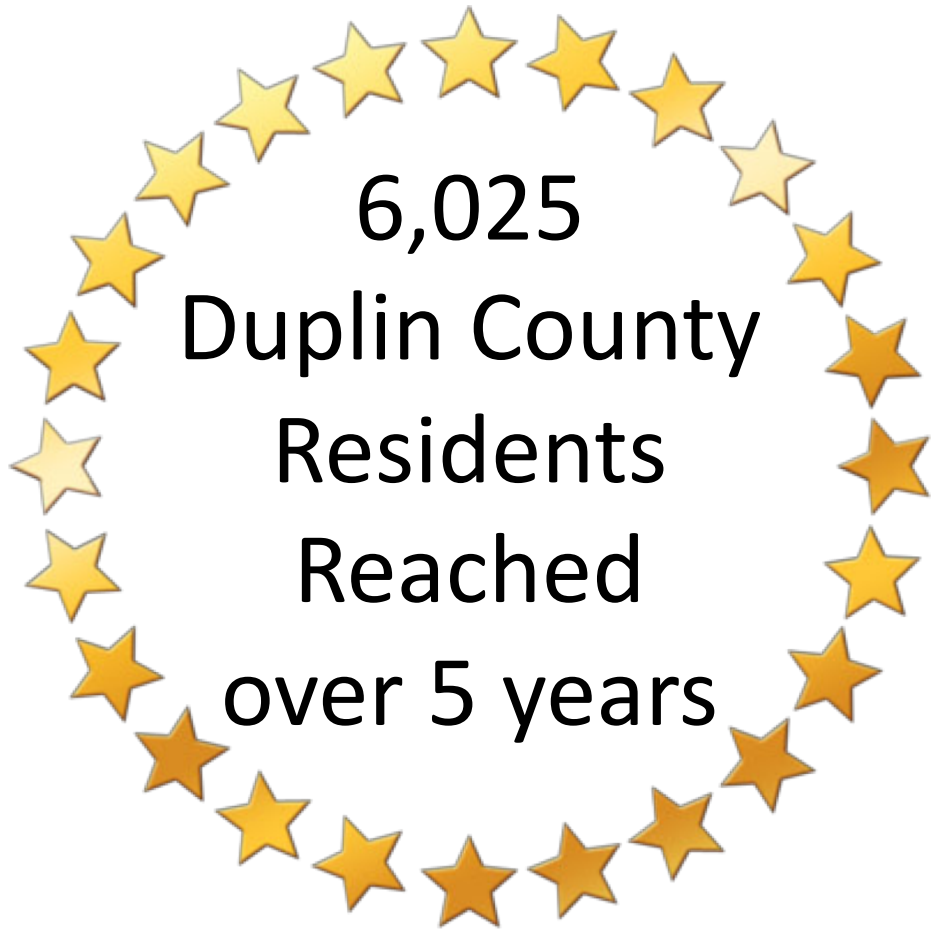
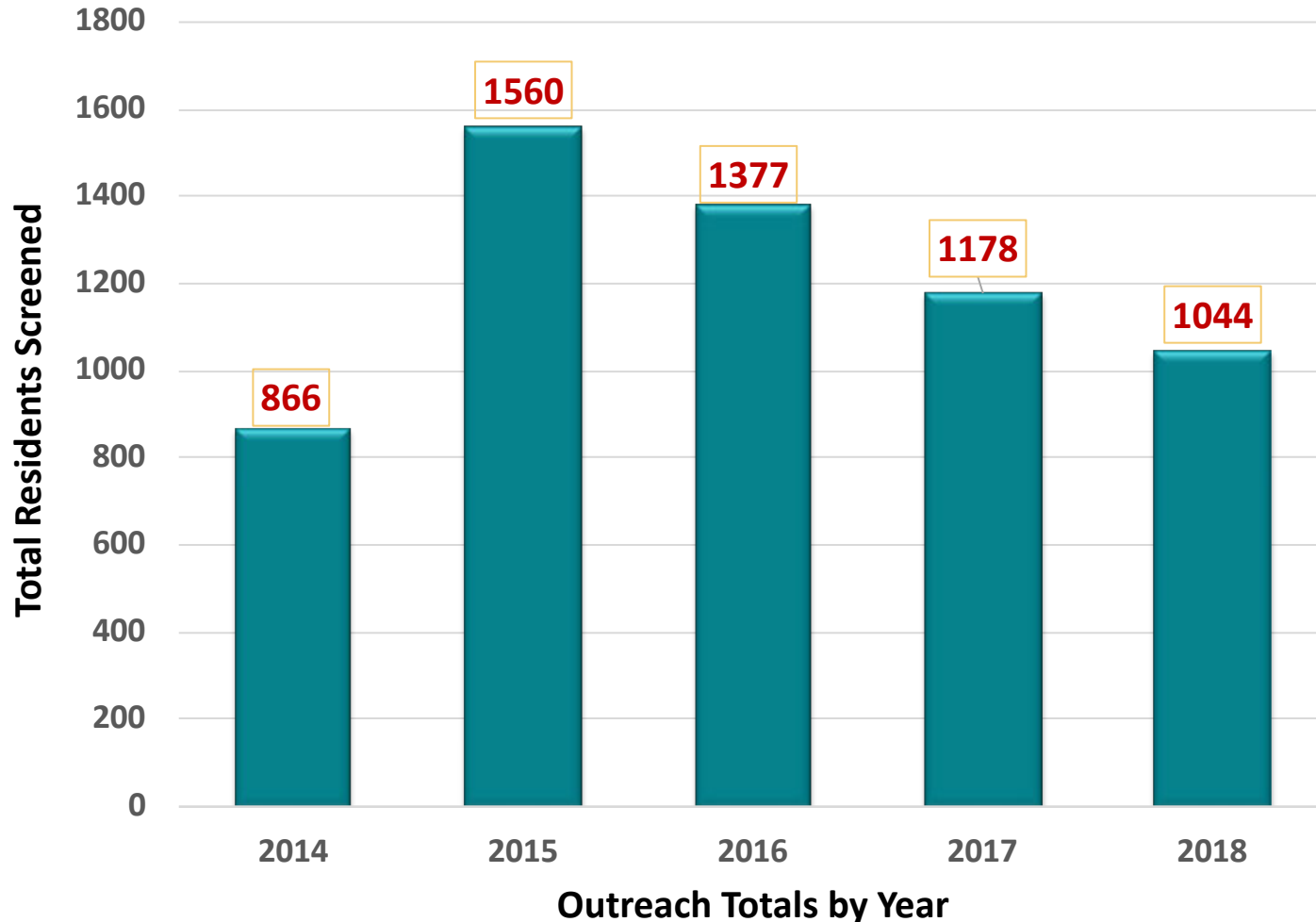


An endovascular procedure is the mechanical removal of the large blood clot causing an acute stroke. This procedure is emergent and can only be conducted within a few hours of the onset of stroke, and can only be provided for blood clots that are in certain vessels of the brain. Not all patients are eligible for this procedure.

According to the American Heart Association (2012), the ability for a patient to receive endovascular treatment results in a decrease in hospital deaths, and overall disability.

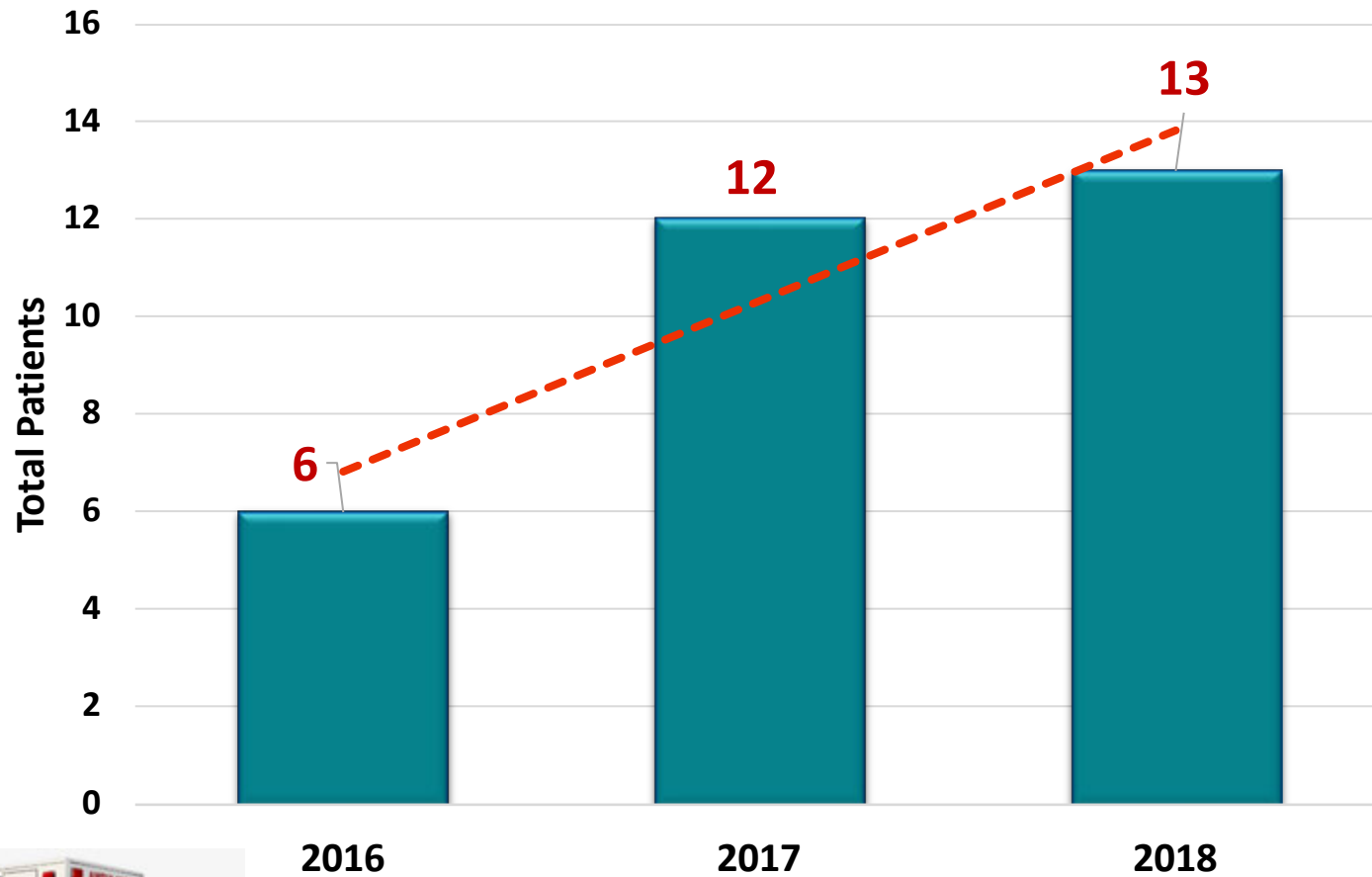


Vidant Duplin Community Stroke Screenings



6,025
Duplin County
Residents
Reached
over 5 years

Stroke Patients Arriving within 2 Hours of Symptom Onset



1.9 MILLION neurons die every minute when a large vessel stroke is left untreated. Each hour in which treatment fails to occur, the brain loses as many neurons as it does in almost 3.6 years of normal aging.

Improving the time from symptom onset to hospital arrival means that more patients have the ability receive life-saving thrombolytic (clot-busting) therapy. This results in a decrease in disability, and an increase in both quality and quantity of life!

