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We are pleased and excited to present our Stroke Annual Report. At Albany Medical Center, we are committed to our mission of providing expert care in the area of cerebrovascular disease and stroke to all people in the Capital District and beyond in upstate eastern New York State. Through a regional stroke network of multiple medical centers in a variety of care settings, we have created a pipeline to ensure that all patients suffering from stroke have access to the most up to date, state of the art care.

Whether it’s a patient who wakes up with weakness on one side of their body and difficulty speaking who is appropriately identified as a stroke and transferred to Albany Medical Center for potential clot retrieval procedures, or a patient who receives intravenous t-PA at an outside hospital and then is transferred to Albany Medical Center for expert stroke care, or a patient who arrives directly at our hospital in need of our services, we are dedicated to being there for them.

Our team is composed of top level providers in multiple important areas, from the physicians who diagnose and treat acute strokes, to the highly trained nurses who provide daily care and ensure that complications are avoided or appropriately identified and managed, to the physical, occupational, and speech and language therapists who begin the all-important task of post-stroke recovery. As you will see in the rest of the report, we are committed to quality care and ongoing improvement to ensure that we continue to provide the best possible care. Albany Medical Center is a nationally recognized center for stroke care, as is supported by our 2018 Gold Plus award from Get with the Guidelines under the American Heart and American Stroke Associations. In addition, we are accredited as a Primary Stroke Center with
the Joint Commission for the Accreditation of Hospitals Organization, and are applying for Comprehensive Stroke Center accreditation currently. We are confident that we will attain this level of accreditation, as we have been providing that level of services at our institution for years.

Please take the time to read our Annual Report. We are very proud of the work we do here, and we hope you will see our level of care and commitment in the pages that follow.

Colum F. Amory, MD, MPH
Associate Professor of Neurology
Hellman Family Chair in Vascular Neurology
Director, Stroke and Neurocritical Care

“I am fortunate to be a part of an outstanding medical team that provides quality assessment, investigation, treatment and rehabilitation services for our stroke patients. We represent stroke care with the highest levels of evidence and strive to help our patients achieve the best post-stroke outcomes” - Morgan Thomas, FNP Stroke Team
PAST, PRESENT, & FUTURE

History of Albany Medical Center’s Stroke Program

Since the early 2000’s Albany Medical Center’s Stroke Program has seen major growth, from the designation of a separate stroke service from general neurology to the dedication of the Kenneth and Thelma Lally Stroke Unit in 2001. In 2004, the stroke program at Albany Medical Center became a designated stroke center by the New York State Department of Health. Since 2006, we have held the prestige certification by the Joint Commission as a Primary Stroke Center.

Where We are Today

As the region’s only academic and level 1 trauma center, Albany Medical Center is prepared to care for the most seriously ill and critical patients in the Capital Region. Our stroke program proudly serves over 25 counties in eastern New York, along with several counties into Vermont and Massachusetts.

Albany Medical Center’s mission as an academic health sciences center is to provide excellence in medical education, biomedical research and patient care. The stroke program encompasses all aspects of the clinical management and neuroscience research for the treatment of stroke. As an academic medical center, we have the opportunity to offer our patients opportunities to participate in clinical trials.

Research is the fundamental building blocks of academic medicine and advances health through innovative visions and therapies. The stroke program at Albany Medical Center is proud to be involved with the following IRB approved clinical trials:
The Stroke Program at Albany Medical Center has a dedicated stroke team available to acute ischemic, transient ischemic attack, hemorrhagic strokes, and non-traumatic subarachnoid hemorrhages 24 hours 7 days a week. Our acute stroke team is comprised of an interprofessional team that includes:

- Stroke Neurologist
- Neuroendovascular Interventionists
- Neurosurgery
- Neuroradiologists
- Vascular Surgery
- Neurology Stroke Fellow/Residents

**Future State of Albany Medical Center’s Stroke Program**

With the arrival of Dr. Alan Boulos in 2003, as a Albany Medical Center’s first trained neurosurgeon in endovascular interventions, the stroke program has seen tremendous growth in having the ability to provide our community with the most advanced interventions to stroke patients. In 2003, coiling of aneurysms became available at Albany Medical Center. Albany Medical Center proudly continues to be the only region’s hospital to offer the lifesaving mechanical thrombectomy intervention for acute ischemic stroke patients since 2004.

Albany Medical Center’s stroke program continues to be dedicated to providing the Capital Region and its surrounding communities with the most comprehensive program for stroke patients. The goal for 2018 is for Albany Medical Center’s stroke program to become the Capital Region’s first Comprehensive Stroke Center certified by the Joint Commission.
ADVANCEMENTS IN STROKE INTERVENTIONS

We are very fortunate to have four fellowship trained neurosurgeons who specialize in the treatment of stroke. In the past couple years, endovascular procedures have been proven to improve clinical outcomes in patients suffering from an ischemic or hemorrhagic stroke. These therapies are now being provided at all times with innovative tools. Our results continue to make huge differences in the lives of our patients and every second matters to keep getting those results. The team shown below represents only some of the day-to-day manpower required to get patients taken care of in a rapid but careful and conscientious method. We always strive for perfection and we will continue to do so.
STROKE COORDINATOR STATEMENT

Adrienne L. Weitzel, MSN, RN

Our philosophy is to improve the health care and services of stroke patients in our community, by providing excellence in the continuum of care. The stroke program is aligned with Albany Medical Center’s mission, vision, and values. Through an expert multidisciplinary team approach, we are able to ensure consistent achievement in meeting both state and national quality outcomes measures in stroke care.

In 2017, Albany Medical Center’s Stroke Program saw consistent growth in patient volumes from the capital region and surrounding communities.

- 1162 actual stroke patients
- 764 acute ischemic stroke patients
- 77 transient ischemic attack patients
- 206 intracerebral hemorrhage patients
- 115 non-traumatic subarachnoid hemorrhage patients
- 581 transfers from outside hospitals

At Albany Medical Center our dedicated emergency department physician, nursing, radiology, lab, and pharmacy staff are committed to ensuring any patient presenting with stroke-like symptoms obtain the highest quality of care during their acute phase. We have two available CT scanner suites in our emergency department, staffed with technicians 24 hours 7 days a week who are trained in stroke care. Albany Medical Center offers our acute stroke patients advanced imaging capabilities, which allows for appropriate selection of treatment options. Through specialized training and collaboration between Neurology, Pharmacy, and Emergency Department physician and nursing, the stroke program is able to
treat acute ischemic stroke patients with thrombolytic therapy when presenting within 3 or 4.5 hours of their last known well.

At Albany Medical Center, we are dedicated to continually providing the best care while always looking to improve patient outcomes. Our dedicated physicians and nurses have vast experience in caring for complex stroke patients. We have over 100 nurses who obtain specialty training in stroke care annually and care for patients in either our neuroscience intensive care, stroke progressive care, or stroke units. Our patients and families are at the center of every care experience, and our team is dedicated to ensuring all stroke patients and their caregivers have the tools and resources during and after their hospital stay.
Services We Provide

Our stroke program is committed to providing the Capital Region and beyond with advanced treatments in stroke care. At Albany Medical Center, we have the ability to provide stroke patients with:

- Dedicated stroke team comprised of stroke Neurologists, Neuroendovascular Interventionists, Vascular Surgeons, Stroke Nurses, Speech Therapy, Physical and Occupational Therapist, Case Management and Social Workers.
- Dedicated Neuroscience Intensive Care Unit, Stroke Progressive Unit, and Stroke Step Down Unit
- Advanced imaging capabilities 24 hours 7 days a week (CT Angio/CT Perfusion & MRI)
- Interventional Radiology Angio Suites and staff available 24 hours 7 days a week to perform mechanical thrombectomy, carotid artery stenting, and aneurysm coiling.
- Neurosurgery available to perform aneurysm clipping.
- Vascular surgery available to perform carotid stenting or carotid endarterectomy procedures
- Use of clot-busting tPA for ischemic stroke treatment
STROKE QUALITY AND OUTCOMES MEASURES
Lauren Marozzi, MS Stroke Quality Specialist

Our Stroke Program takes pride in our quality of patient care. At Albany Medical Center our patients and their families are always at the center of everything we do. This includes quality management and process improvement.

Albany Medical Center’s Stroke Program is a New York State designated stroke center, currently we are certified as a Primary Stroke Center with the Joint Commission, and we participate in the American Heart/American Stroke Association Get with the Guidelines for Stroke and the Paul Coverdell stroke program.

Through an interdisciplinary team approach and expertise, we have been able to implement strategic methods to standardized patient care practices. With the growth of our program over the past several years, it became increasingly important to implement process improvement initiatives to drive faster imaging, diagnosis, and treatment of the acute stroke patient.

As an academic center we are on the forefront of the future of medicine. By participating with multiple regulatory bodies, Albany Medical Center’s Stroke Program raises the bar for stroke care in our community. Through a combination of concurrent and retrospective quality review we are able to identify areas of opportunity for process improvement in patient care. By utilizing the data that is gathered the stroke program has the ability not only to track progress, but to improve stroke patient outcomes. Not only do we strive to improve patient outcomes, at Albany Medical Center we take pride in ensuring our patients and their families have the best experience during and after their stay. Monitoring patient satisfaction data for the stroke specific population assists the Stroke Program in meeting a standard of excellence in the patient care experience.
2017 procedure volume

2017 AMC Stroke Program Intervention Procedure Volume

2017 Carotid Endarterectomy (CEA) and Carotid Artery Stenting (CAS) 30 Day Stroke/Mortality Rate

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<tr>
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Setting the Standard in Stroke Care

Albany Medical Center’s Stroke Program received top honors in stroke care from the American Heart/American Stroke Association in 2017. We were honored to be the recipient of the Get with the Guidelines Stroke Gold Plus award in 2017. “Albany Medical Center is dedicated to improving the quality of care for our stroke patients by implementing the American Heart Association’s Get with the Guidelines-Stroke initiative,” said Adrienne L. Weitzel, Stroke Coordinator. “The tools and resources provided help us track and measure our success in meeting evidenced-based clinical guidelines developed to improve patient outcomes.” Hospitals receiving this achievement award have been able to reach 85 percent or higher compliance with designated quality measures for 2 consecutive calendar years. Additionally, the organization must demonstrate 75 percent compliance with seven out of ten stroke quality metrics during the 12-month period. The Stroke Program at Albany Medical Center has been honored to receive the Get with the Guideline Stroke Gold Plus award for two consecutive years in a row, having received the gold plus award in both 2016 and 2017.
Providing regional Care Through Collaboration

Albany Medical Center’s Stroke Program

proudly serves over 25 counties in the Capital Region and beyond, extending east into the Massachusetts and Vermont borders. Through ongoing collaboration with our regional organizations, we have been able to continue to bring the most technically advanced interventions in stroke care. The Stroke Program has collaborated with multiple hospitals with the shared purpose of delivering expert stroke care, in spite of geographical boundaries.

Albany Medical Center’s Stroke Program is able to keep ongoing relationships through educational lectures, discussion, and feedback on transferring patients who receive interventions.

2017 Stroke Transfer Volume by Acute Care Transferring Facility

Capital Region Stroke Coordinator Group

In our region, we believe in the importance of collaborating in order to improve outcomes for stroke. Through a bi-monthly monthly meeting, our regional stroke coordinators meet to discuss best practices, regional systems of care, and have educational experiences. We have welcomed guest speakers from the New York State Department of Health and the American Heart/Stroke Association.
EMS Stroke Outreach

Number of Stroke Patients arriving by EMS (from home/scene): 434
Number of Interfacility Stroke patients arriving at Albany Med: 581
Number of Walk In patients (arrive by private vehicle) with Stroke: 147

There are still a significant number of stroke patients in our community who are not activating the 911 system and are arriving to hospitals by personal vehicle. This is a significant percentage of people with potentially life-threatening illness who are risking death by delaying care. Patients who arrive at the hospital via 911 services have a shorter timeframe from onset of symptoms to treatment. Additionally, they can receive lifesaving measures from prehospital providers should they have a sudden decline in their status in route to the hospital.

It is well stated in the literature that stroke is a time-sensitive condition. The time from onset of symptoms to the time of treatment have a significant impact on the outcome of the stroke patient (Saver JL, Fonarow GC, Smith EE, Reeves MJ, Grau-Sepulveda MV, Pan W, Olson DM, Hernandez AF, Peterson ED, Schwamm LH. Time to Treatment with Intravenous Tissue Plasminogen Activator and Outcome from Acute Ischemic Stroke. JAMA. 13; 309(23):2480-2488. doi:10.1001/jama.2013.6959). Systems of care include not only patient management from time of incident through hospital discharge but also public education and disease prevention.
Summary of EMS Accomplishments:

- In 2017 we have met with the Regional EMS Committee to suggest/assist in developing a new protocol organized approach to stroke management/triage/transport and care throughout the region. As well as a discussion of utilizing a NEW Stroke scale to identify LVO Stroke
- Continue a quality improvement initiative to provide outcome to ALL Stroke patient received by EMS at Albany Med to the EMS provider/Agency
- Annual EMS Education – Education Day (May 2018) on Stroke, Stroke Interventions, LVO identification and appropriate destination. 289 EMS providers attended. Presented by Dr. Boulos
- 1/24/17 EMS Lecture Series presented by Stroke Coordinator and Neurology on LVO Stroke and Stroke Cases to EMS Providers. 14 at Albany Med, 11 online participated
- Off-site EMS Education on Stroke: Saratoga Springs FD, North Greenbush Ambulance, Niskayuna FD #2. 62 EMS Providers
- Participation in American Heart Mission Lifeline
- Participation in the Regional EMS Quality Improvement Committee – Initiated project to look at the documentation of EARLY (pre-notification) by EMS of Stroke Alert. Issue with electronic prehospital care reporting systems; no standard documentation protocol, no regional standard, several different electronic platforms that are not standard
- Albany Med has signed a business agreement with EMS Charts to purchase, HL7 Interface Module. Health Level Seven (HL7) is a standard for the exchange, management, and integration of electronic healthcare information. Using the HL7 format, emsCharts has developed custom interfaces with many hospital electronic medical record (EMR) systems to exchange electronic data between the ePCR and the hospital record. emsCharts can accept an HL7 feed to import Admit, Discharge, and Transfer (ADT) data back into the emsCharts medical record, thus replacing the common practice of the crews waiting for a face sheet from the ER registrars. The feed automatically updates the prehospital medical records with the receiving hospital’s Medical Record Number and Account Number as well as disposition/outcome data. This is planned for 2019.
Reaching the Community

Stroke remains the third leading cause of death and number one cause of disability in the United States. According to the American Heart Association (2018), many factors contribute to delays in seeking treatment for stroke, but the principal factor is lack of public knowledge. People are often unaware of the signs and symptoms of a stroke and the preventable risk factors for disease management.

At Albany Medical Center, our stroke program is dedicated to conducting a minimum two community educational events that focus on recognition of signs and symptoms of stroke, modifiable and non-modifiable risk factors, and the importance of using their local EMS and providers calling 911 if someone thinks they or a family member is having a stroke. Other activities include community events that aim at educating the public about stroke awareness, risk factors, prevention, and life after stroke.

Strength in Support

In collaboration with Steps for Stroke, the Stroke Program hosts a once a month Stroke Survivor’s Group at Albany Medical Center’s main campus. Here an environment is created that is welcoming and provides an opportunity to share stories, successes, and challenges one faces day to day after a stroke. The group is encouraged to bring their family members and caregivers to share in this experience. We have been fortunate to be able to provide our survivors with educational discussions, sessions with healing arts, and other fun topics tailored to their needs.

The effects of a stroke can be life altering, leaving stroke survivors and their caregivers with questions on how to adjust. Connecting with other survivors and caregivers in their community can be life changing to their recovery.
Expert Stroke Care

Every minute counts when someone is having a stroke. At Albany Med, our stroke team is ready 24/7 to provide patients with the most advanced treatments available. Our interprofessional team approach ensures the stroke patient is receiving the most comprehensive care across the continuum. Our team is comprised of Stroke neurologist, Neurosurgeons who are specialist in endovascular interventions, Vascular surgeons, Neuroradiologists, Cardiologist, and rehabilitation specialists who support the stroke patient through all phases of care.

Stroke Neurology

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<tr>
<th>Colum Amory, MD</th>
<th>Laura Risley, MD</th>
<th>Kathleen Ward, DO</th>
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<tr>
<td>Stroke Medical Director</td>
<td>Stroke Neurologist</td>
<td>Stroke Neurologist</td>
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Neurosurgery/Neuroendovascular Interventionist

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<th>Alan Boulos, MD</th>
<th>John Dalfino, MD</th>
<th>Junichi Yamamoto, MD, PhD</th>
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<td>Chairman of Neurosurgery &amp; Co-Chair of Neurosciences Institute Neurosurgery &amp; Neuroendovascular Interventionalist</td>
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Stroke Coordinator/Stroke Quality Specialist

Adrienne Weitzel, MSN, RN
Stroke Program Coordinator

Lauren Marozzi, MS
Stroke Quality Specialist

Stroke Advanced Practice Providers and Stroke Nursing Support

Yama Rasouly, NP
Stroke Neurology ANP

Morgan Thomas, NP
Stroke Neurology ANP

Kristin Vanalphen, RN
Stroke Neurology

Alex Andres, NP
Stroke Neurology APN
Specialized Stroke Nursing Care

Our nursing staff are dedicated to providing excellence in care for stroke patients. From our emergency room nurses who care for the stroke patient during their acute phase, to the staff who are ready at any given time day or night to perform mechanical thrombectomy procedures, to our neurosciences nurses working on our dedicated neuroscience intensive care and stroke progressive care units, there’s no doubt these nurses have a passion for stroke. Albany Medical Center’s Stroke Program offers these specialized nurses over 8 hours of stroke specific education annually to ensure our nurses are kept up to date on the newest guidelines and advances in stroke treatment.

At Albany Medical Center our neurosciences nurses hold the patient at the center of all they do. Our stroke specialized nurses have the knowledge and compassion for all things stroke. This is evidence in not only the excellence in care they deliver on a daily basis, but also shines through in their dedication. Many of our nursing staff hold certification as a stroke certified register nurse or certified critical nurse for those working in our neuroscience intensive care unit.
Specialize Care for Stroke Patients

Albany Medical Center is the region’s only hospital that is equipped to care for stroke patients during all phases. Our 10-bed dedicated Neuroscience Intensive Care Unit (NSICU) is cable of caring for the most critical stroke patient. These individual rooms are equipped with state-of-the-art cardiac monitoring, ventilator support, and critically care trained stroke physician and nursing staff. There is 24/7 CT Scan capabilities located on the SICU/NSICU unit that can be utilized for stroke patient’s that need emergent imaging. Along with SICU/NSICU, Albany Medical Center has a dedicated 44-bed stroke unit also has an 18-bed progressive care area as a step down to the NSICU. Having these specialized areas allows our care teams to provide standardized stroke across the continuum in a true interdisciplinary team fashion.