

Virginia Stroke Care Quality Improvement Advisory Group

Updates

**Meeting Location: Centra Lynchburg General Hospital,
Lynchburg, VA (Virtual Option Available)**

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April 22, 2022

Comparison Chart of Legislation and CDC Paul Coverdell National Acute Stroke Program

Requirements of the Code of Virginia 32.1-111.15:1	CDC Paul Coverdell National Acute Stroke Program	
Advisory Group / Annual Report	Progress & Evaluation Deliverables	C.5. Professional Development (did not select)
Implement systems to collect data and information related to stroke care.	C.1. Leverage EHRs /HIT to identify patients with stroke risk factors. Monitor health care disparities for those at highest risk for stroke events.	C.6. Develop and implement patient care practices/patient care protocols within EMS and hospital systems to coordinate patient handoff and transitions in care.
Facilitate information & data sharing and collaboration among hospitals and providers.	C.2. Establish and expand statewide data infrastructure through an integrated data management system that links pre-hospital, hospital, and post-hospital follow up data for measurement, tracking, and assessment of quality of stroke care data. (Virginia Stroke Registry)	C.7. Establish and strengthen partnerships with relevant state or local stroke coalitions, initiatives, professional organizations, providers, and health systems that provide resource support for stroke patients, and those at high risk. (VSSTF , VSCC)
Apply evidence-based treatment guidelines for transitioning patients to community-based follow-up care following acute treatment for stroke.	C.3. Coordinate the development and implementation of a referral tracking system to support transitions of care for stroke patients post-discharge. (Statewide Referral System)	C.8. Facilitate engagement of patient navigators/ community health workers in the management of those at highest risk for stroke events and post-event discharge support and follow-up of stroke patients across clinical and community settings.
Establish a process for continuous quality improvement for the delivery of stroke care.	C.4. Analyze data, identify areas to improve the efficiency and quality of care within EMS and hospital settings to improve transitions of care	C.9. Coordinate and/or promote stroke messaging/education around the importance of addressing the needs of those at highest risk for stroke events and the appropriate response during a stroke event, including utilizing EMS for stroke transport. (Stroke Smart Virginia)

Virginia Stroke Registry Alignment with Coverdell

- Meets Strategy 1 to Track and Monitor Clinical Measures to Improve Data Infrastructure Across Stroke Systems of Care
- C.2. Establish and expand statewide data infrastructure through an integrated data management system that links pre-hospital, hospital, and post-hospital follow up data for measurement, tracking, and assessment of quality of stroke care data.
- Required Element of Performance for the Coverdell Grant

Virginia Stroke Registry Phases

Phase 1: VDH Stroke Repository.

- The Stroke Repository contains the Coverdell data set.
- Data submissions to state of 163 Coverdell data elements via ESO Portal utilizing the GWTG data set
- ESO aggregates data for submission to the CDC

Phase 2: VDH Stroke Registry.

- Supplements the Stroke Repository with an expanded data set beyond the Coverdell data set and adds on a full data entry and reporting product suite.
- Planned for full usage June 2023
- Open to all hospitals in Commonwealth at no additional cost

Phase 1 Virginia Stroke Registry Updates

- ESO Coverdell Portal is Live as of April 2022
- Training Planned for Participating Hospitals on May 4, 2022
- Goal to submit data from October 2021 to April 2022 to CDC by June 15, 2022
- Data will need to be submitted quarterly
- Have capabilities for other facilities to join in the October 2022 submission

Phase 1 Participating Hospitals

Bon Secours St. Mary's Hospital
Centra Health-Lynchburg
Chesapeake Regional Medical Center
HCA Chippenham/Johnston-Willis
HCA Reston Hospital
Inova Alexandria Hospital
Inova Fairfax Hospital
Riverside Regional Medical Center
Sentara Norfolk General Hospital
Sentara Martha Jefferson Hospital
UVA Medical Center
VCU Health

Phase 2 Virginia Stroke Registry- June 2023

- Phase 2 will be the full development of Stroke Registry will additional data points and ability to do reporting and analysis of data
- Hospitals will have choice to contribute in 2 ways:
 - Upload data from Get With The Guidelines Stroke Registry
 - Input data into Virginia Stroke Registry from hospital records
- Virginia Stroke Registry will have no extra cost to the hospital
- Will Meet Criteria for Certification
- Will allow for linkage of EMS and Hospital Records to improve quality of Care across the entire System of Care
 - Also meets CDC Recommendations for Coverdell Participation

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Questions and Answers

Appendices

Leading Causes of Death in Virginia, 2021

Causes of Death	Number of Deaths
1. Heart Disease	15,942
2. Cancer	15,114
3. COVID-19	8,230
4. Accidents	4,558
5. Stroke	3,901
6. Chronic Lower Respiratory Diseases	3,117
7. Diabetes	2,589
8. Alzheimer's Disease	2,541
9. Kidney Disease	1,577
10. Parkinson's Disease	1,105

Stroke: Stroke death rates have increased from 36.2 in 2013 (lowest in 15 years) to 39.9 in 2020. Time is Brain - the vast majority of stroke patients do not arrive to the hospital within the treatment window, leading to increased death & disability.

Cardiovascular Disease: Heart Disease death rates have steadily increased over the past 3 years. In 2020, Heart Disease surpassed Cancer as the Leading Cause of Death in Virginia and remains the Leading Cause of Death in 2021.

Source: Vital Event Statistics Program, Office of Information Management - Virginia Department of Health 04/13/2022. Data is preliminary and subject to change. Counts for COVID-19 deaths are based strictly on underlying cause of death using the Virginia Case Definition for COVID-19 from 8/31/2021.

Stroke Death Rates Rising in Virginia

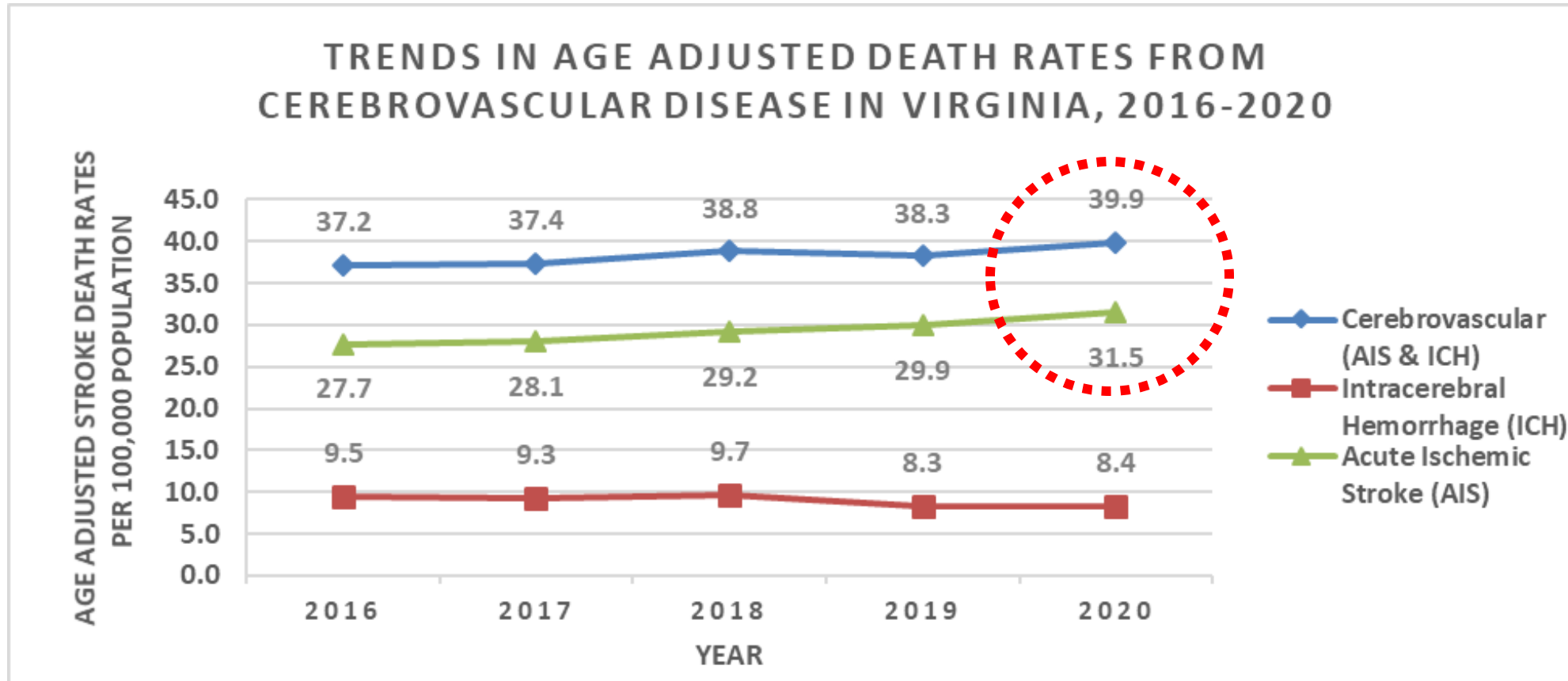


Figure. Trends in Age Adjusted Death Rates from Cerebrovascular Disease in Virginia, 2016-2020. ICD-10 Codes I60-I69 (Cerebrovascular), I60-I62 (Intracerebral Hemorrhage (ICH)), I63-I69 (Acute Ischemic Stroke (AIS)). Data Source: Vital Event Statistics Program, Office of Information Management, Virginia Department of Health.

Stroke Death Rates and Demographic Data

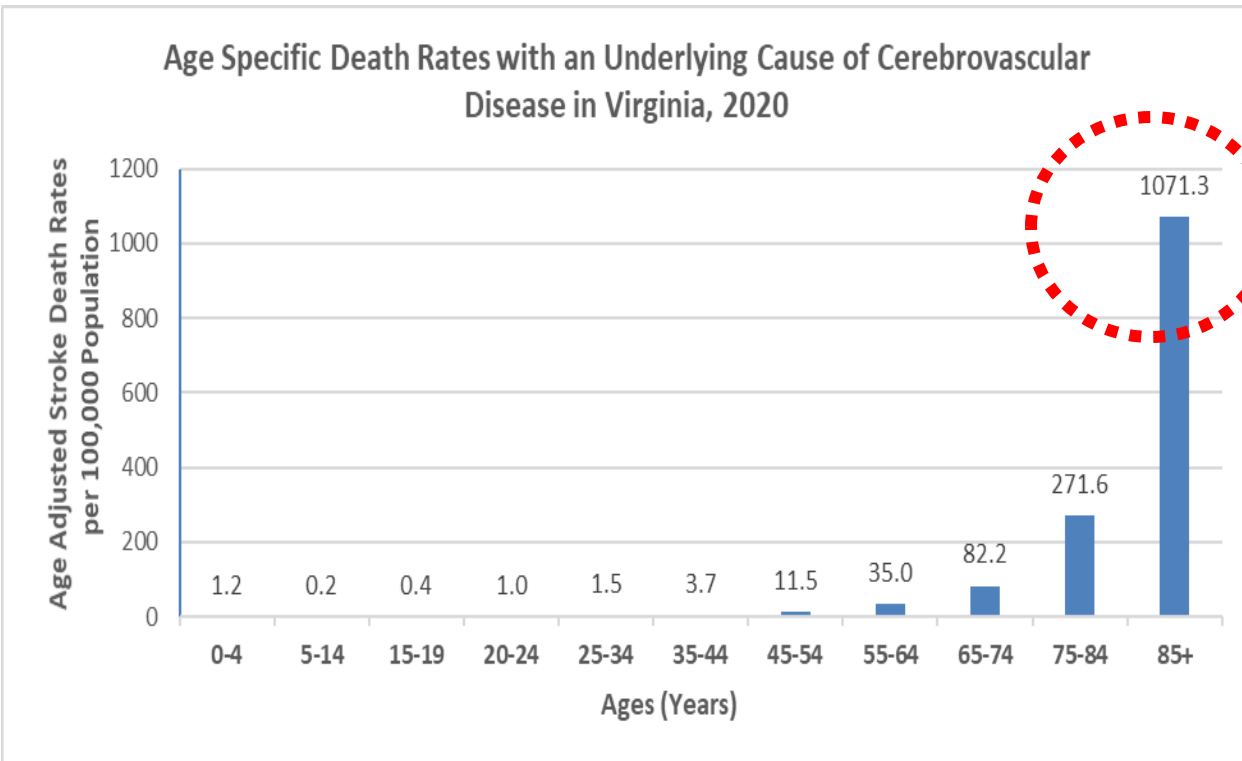


Figure. Age Specific Death Rates with an Underlying Cause of Cerebrovascular Disease in Virginia, 2020. ICD-10 Codes I60-I69 (Cerebrovascular), I60-I62 (Intracerebral Hemorrhage (ICH)), I63-I69 (Acute Ischemic Stroke (AIS)). Data Source: Vital Event Statistics Program, Office of Information Management, Virginia Department of Health.

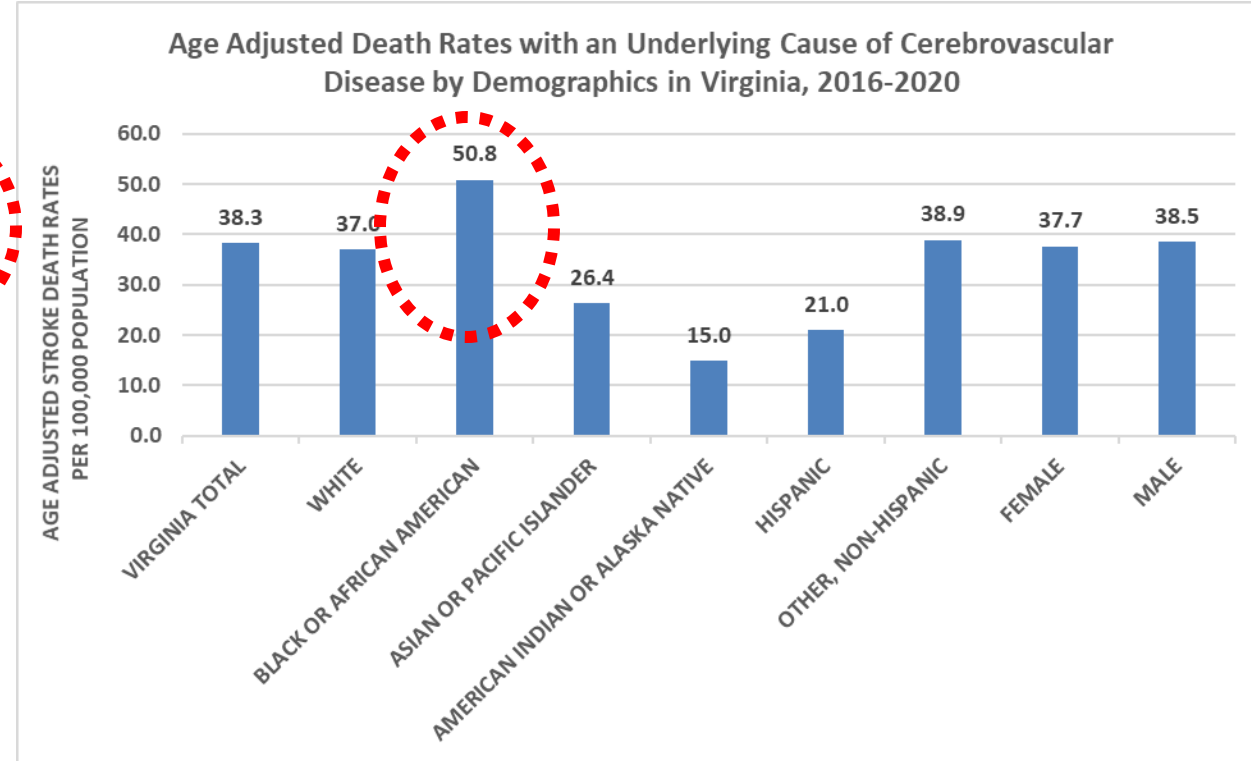


Figure. Age Adjusted Death Rates with an Underlying Cause of Cerebrovascular Disease by Demographics in Virginia, 2016-2020. ICD-10 Codes I60-I69 (Cerebrovascular), I60-I62 (Intracerebral Hemorrhage (ICH)), I63-I69 (Acute Ischemic Stroke (AIS)). Data Source: Vital Event Statistics Program, Office of Information Management, Virginia Department of Health.

Stroke Hospitalization Rates and Demographic Data

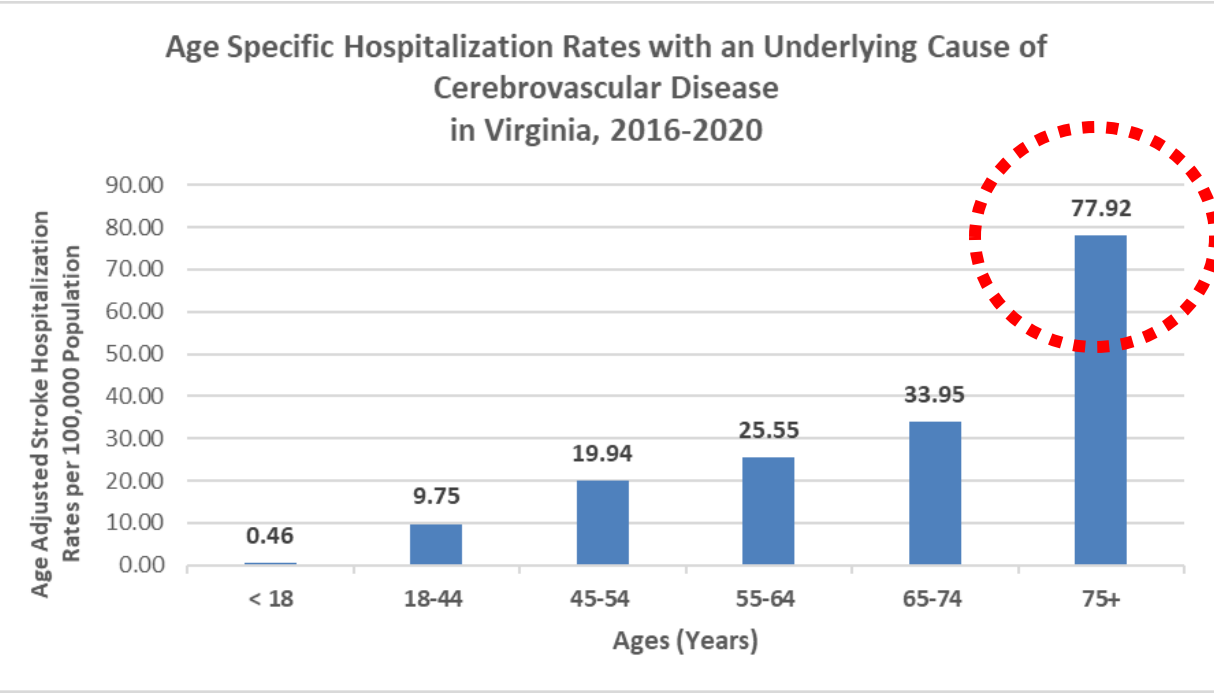


Figure. Age Specific Hospitalization Rates Per 100,000 Population with an Underlying Cause of Cerebrovascular Disease in Virginia, 2016-2020. ICD-10 Codes I60-I62 (Intracerebral Hemorrhage (ICH)), I63-I69 (Acute Ischemic Stroke (AIS)), G45 (Transient Ischemic Attack (TIA)), I60-I69 and G45 (All Stroke/TIA). Data Source: Inpatient discharge dataset provided to Virginia Department of Health by Virginia Health Information Discharge Database, 2022.

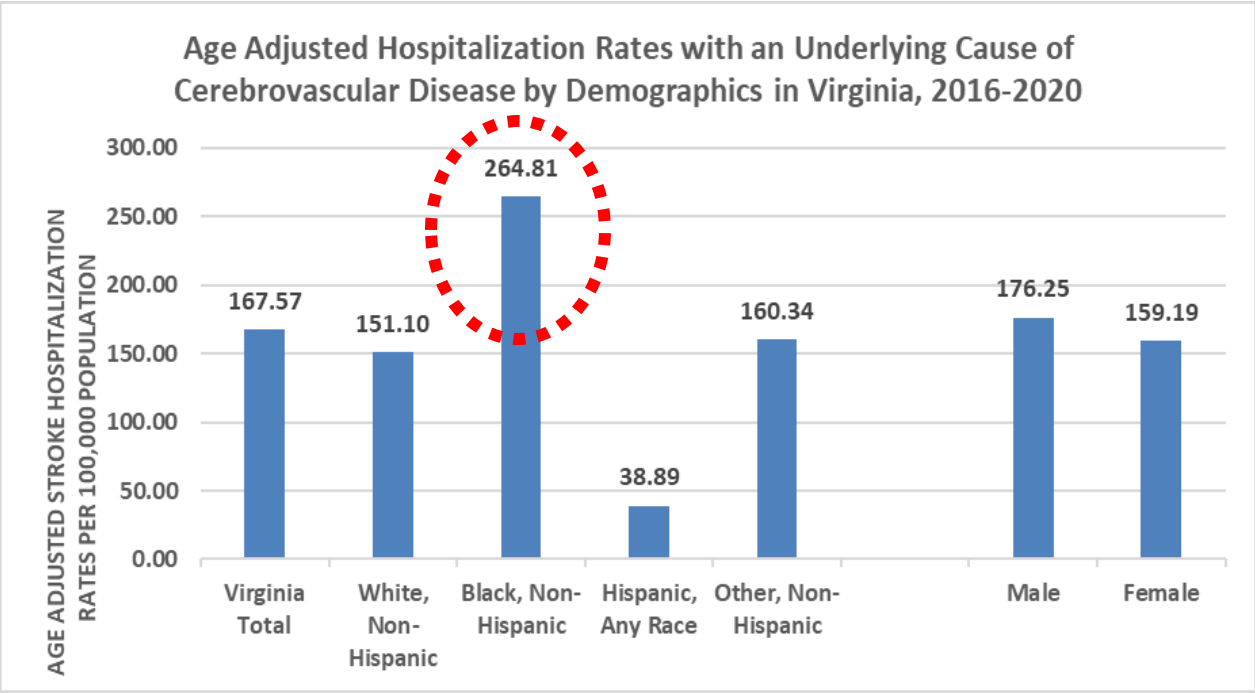


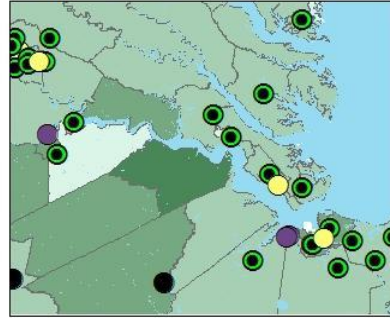
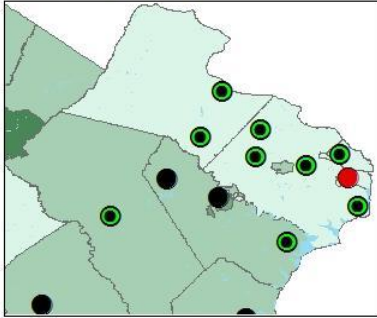
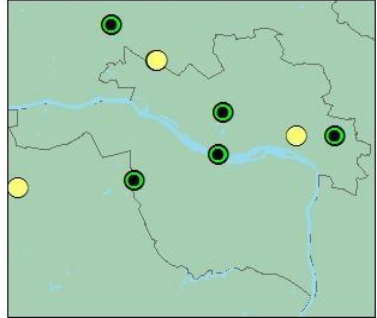
Figure. Age Adjusted Hospitalization Rates per 100,000 Population with an Underlying Cause of Cerebrovascular Disease by Demographics in Virginia, 2016-2020. ICD-10 Codes I60-I62 (Intracerebral Hemorrhage (ICH)), I63-I69 (Acute Ischemic Stroke (AIS)), G45 (Transient Ischemic Attack (TIA)), I60-I69 and G45 (All Stroke/TIA). Data Source: Inpatient discharge dataset provided to Virginia Department of Health by Virginia Health Information Discharge Database, 2022.

Health Disparities in Virginia

Richmond Metro Area

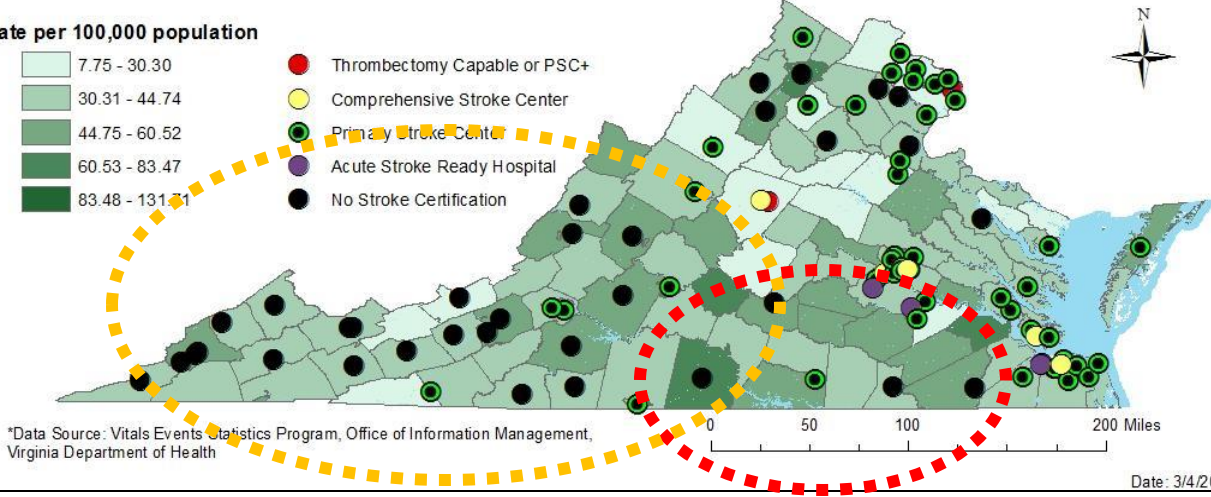
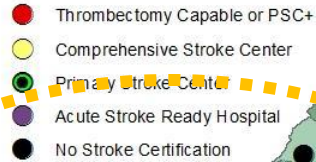
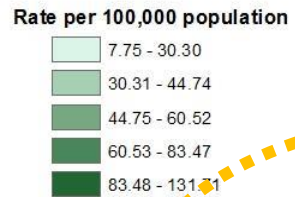
Northern Virginia

Hampton Roads



Virginia

Stroke Death Rate* per 100,000 by City/County, 2018



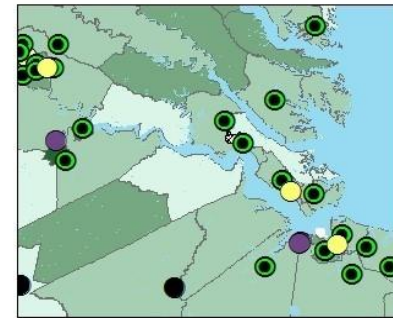
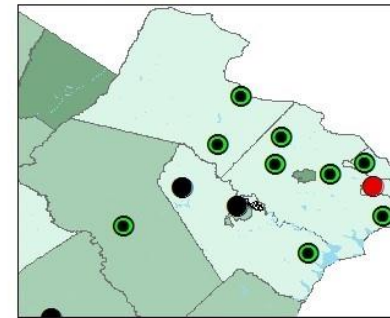
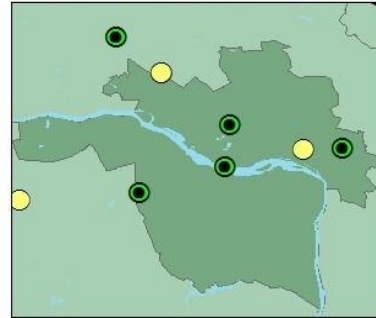
*Data Source: Vitals Events Statistics Program, Office of Information Management, Virginia Department of Health

Date: 3/4/2020

Richmond Metro Area

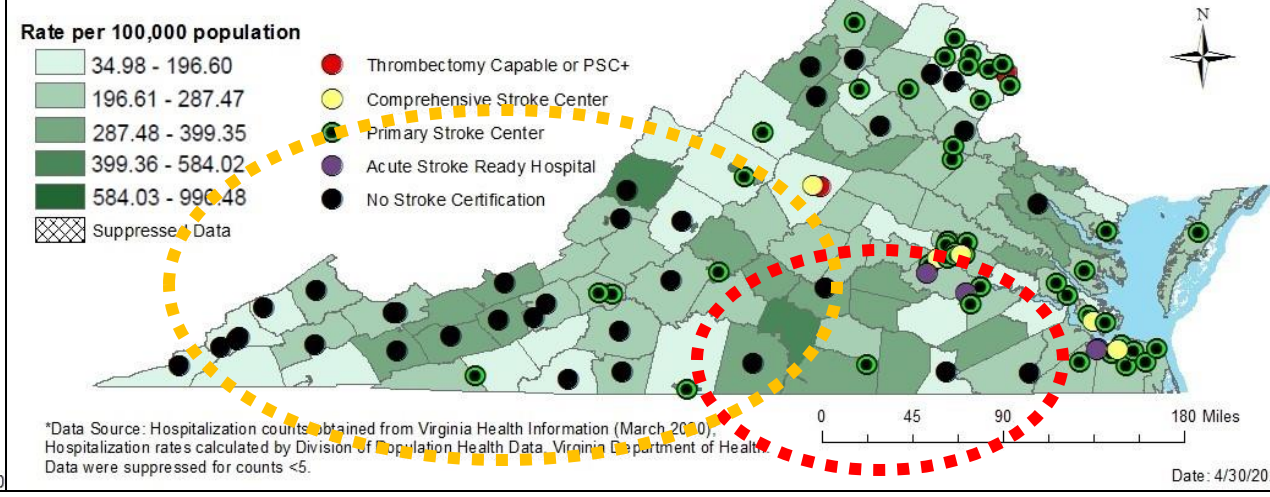
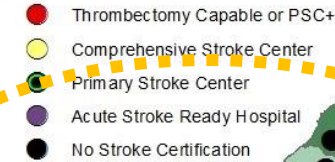
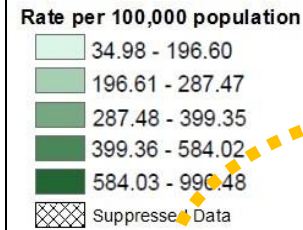
Northern Virginia

Hampton Roads



Virginia

Stroke Age-Adjusted Hospitalization Rate* per 100,000 by City/County, 2018



*Data Source: Hospitalization counts obtained from Virginia Health Information (March 2020). Hospitalization rates calculated by Division of Population Health Data, Virginia Department of Health. Data were suppressed for counts <5.

Date: 4/30/2020

Region	Locality	Stroke Mortality 2014-2018	Stroke Mortality 2016-2020	Stroke Mortality Change (+ / -)
Central	Greensville County	64.76	63.43	-1.33
	Brunswick County	59.44	59.53	0.09
	Nottoway County	59.13	53.97	-5.16
	Petersburg City	58.65	65.10	6.45
	Surry County	57.96	39.08	-18.88
	Mecklenburg County	56.97	60.28	3.31
	Hopewell City	49.93	44.49	-5.44
Eastern	Franklin City	93.2	96.93	3.73
	Portsmouth City	52.67	47.68	-4.99
	Lancaster County	52.66	58.78	6.12
	Norfolk City	50.01	53.09	3.08
	Hampton City	47.33	42.89	-4.44
	Accomack County	45.56	51.32	5.76
	Mathews County	44.48	35.87	-8.61
Northern	Manassas City	49.75	46.00	-3.75
	Fairfax City	41.11	49.95	8.84
Northwest	Highland County	60.66	37.51	-23.15
	Lexington City	60	54.99	-5.01
	Buena Vista City	53.67	44.49	-9.18
	Harrisonburg City	48.99	47.57	-1.42
	Staunton City	48.17	41.44	-6.74
	Warren County	44.16	47.87	3.71
	King William County	44.14	51.49	7.35
	Caroline County	42.46	39.53	-2.93
Southwest	Martinsville City	84.64	94.42	9.78
	Covington City	74.77	64.23	-10.54
	Galax City	70.09	82.64	12.55
	Radford City	67.57	62.29	-5.28
	Lynchburg City	61.13	64.97	3.84
	Appomattox County	59.56	58.82	-0.75
	Danville City	54.72	52.85	-1.87
	Salem City	51.26	51.97	0.71
Amherst County	50.55	47.20	-3.35	

Table. Virginia Stroke Priority Geographic Areas by Mortality Age-Adjusted Rates, 2014-2018 and 2016-2020 Comparison.

Highest Stroke Mortality
Franklin City
Martinsville City
Galax City

Notes: Localities were categorized by Virginia Health Planning Region and sorted by Age-Adjusted Mortality Rate. The top quartile of each region was then selected to indicate priority localities. (Virginia Department of Health, Office of Vital Records).