Kentucky Heart Disease and Stroke Prevention Task Force

Strategic Plan and Map 2024-2028

Heart Disease & Stroke Prevention
TASK FORCE
KENTUCKY

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American Heart Association.

Kentucky Board of Emergency Medical Services – Commonwealth of Kentucky

Emerald Foundation

Baptist Health

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UK HealthCare Kentucky Regional Extension Center

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Introduction

Heart Disease in Kentucky

- Kentucky had the eighth highest mortality rate from heart disease in the United States in 2021.*1*
- Heart disease was the #1 cause of death in Kentucky, resulting in 11,697 deaths in 2021.*2*
- 5.7% of adult Kentuckians reported they had experienced a heart attack at some time in their life.*3*
- 40% of adult Kentuckians reported they had hypertension, a major risk factor for heart disease.*3*

Risk Factors - Cardiovascular Health

- 37.5% of adult Kentuckians reported they had high cholesterol.*3*
- 52% adults ages 55-64 years old and 51% of adults ages 65 years and older in Kentucky have high cholesterol.*3*
- 52% of adults ages 55-64 years old and 64% of adults ages 65 years and older in Kentucky have high blood pressure.*3*
- 20% of the adults in Kentucky report currently smoking cigarettes.*3*
- Cigarette smoking is a major cause of heart disease and stroke, and is responsible for about 1 in every 4 U.S. deaths from heart disease and stroke.*4*

Kentucky Health Care Costs

In 2021, the average charge for inpatient hospital stays for heart disease was approximately $75,000, resulting in total charges of more than $4 billion.*5*

Stroke Impact in Kentucky

- Kentucky had the fourteenth highest mortality rate for stroke in the United States in 2021.*1*
- Stroke was the 6th highest cause of death in Kentucky, resulting in 2,428 stroke deaths in 2021.*2*
- 4.9% of adult Kentuckians reported they had experienced a stroke at some time in their life.*3*
- 40% of adult Kentuckians reported they had hypertension, the number one risk factor for stroke.*3*

Introduction

Social Drivers of Health

- The prevalence of reported stroke significantly decreased as annual household income increased. Adults with an annual household income under $25,000 reported a higher prevalence of stroke than those with an annual household income of $50,000 or more (9.6% vs 2.4%).*3*
- The prevalence of stroke decreased with increasing education level. The highest prevalence was among adults with less than high school education (10.4%).*3*
- The prevalence of stroke did not significantly differ by race. The mortality rate of stroke did not significantly differ between Black and white Kentuckians.*3*

Kentucky Health Care Costs

In 2021, the total charges for inpatient hospital stay for stroke* and transient ischemic attack (TIA)* collectively, was more than $894 million.*4*

Heart Disease Sources and notes:
1. Heart Disease Mortality by State, Centers for Disease Control and Prevention, National Center for Health Statistics Accessed at Accessed at https://www.cdc.gov/nchs/pressroom/sos-map/heart_disease_mortality/heart_disease.htm on May 3, 2023.
2. Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital StatisticsSystem, Mortality 2018-2021 on CDC WONDER Online Database, released in 2021. Data are from the Multiple Cause of Death Files, 2018-2021, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at http://wonder.cdc.gov/ucd-icd10-expanded.html on Feb 2, 2023.
3. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health. BRFSS Prevalence & Trends Data 2021. Accessed at https://www.cdc.gov/brfss/brfssprevalence/ on June 2, 2023.
4. Centers for Disease Control and Prevention. (2020). Smoking and Cardiovascular Disease: What Healthcare Professionals Need to Know. U.S. Department of Health and Human Services. https://www.cdc.gov/tobacco/patient-care/care-settings/pdfs/cdc-osh-hcp-cardio-factsheet-508.pdf. Accessed June 6, 2023.
5. Kentucky Hospital Inpatient Claims, 2021; Kentucky Cabinet for Health and Family Services, Office of Data Analytics. In 2021, inpatient hospital stays for heart disease* resulted in total charges of $4,173,850,599.00.
* ICD-10 codes: I00-I09, I11-I13, I20-I51

Stroke Sources and notes:
1. CDC NCHS. Stats of the States. Stroke Mortality by State. https://www.cdc.gov/nchs/pressroom/sosmap/stroke_mortality/stroke.htm Accessed April 2023.
2. CDC Wonder. http://wonder.cdc.gov/. Accessed April 2023.
3. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health. BRFSS Prevalence & Trends Data 2021. Accessed at https://www.cdc.gov/brfss/brfssprevalence/ on Jun 2, 2023.
4. Kentucky Hospital Inpatient Claims: 2021; Kentucky Cabinet for Health and Family Services, Office of Data Analytics. In 2021, inpatient hospital stays for stroke* and transient ischemic attack* resulted in total charges of $894,435,005.
* ICD-10 codes: I60-I609, I61-I619, I63-I639, G450-G452, G458-G459

Kentucky Heart Disease and Stroke Prevention Task Force

The Kentucky Heart Disease and Stroke Prevention Task Force (Task Force) and the Kentucky Department for Public Health's Heart Disease and Stroke Prevention Program (KHDSP), in a collaborative approach, are dedicated to prevention and treatment improvements through policy and system changes across the state. The Task Force mission is to cultivate and support partnerships by enhancing community and clinical linkages to improve cerebrovascular and cardiovascular health.

The overarching goal of the Task Force is to improve Kentucky's cardiovascular and cerebrovascular health. The Task Force is represented by health systems, community-based and professional organizations, businesses, higher level educational institutes and local and state government agencies. The following committees are actively working to advance the goals and strategies established by the Task Force:

- **Heart Systems of Care (HSOC)** - The Task Force's Heart Systems of Care committee collaborate with various health care sites throughout Kentucky to implement statewide, evidence-based integrated cardiovascular health delivery systems to improve statewide cardiovascular systems of care.

- **Kentucky Against Stroke and Heart Disease (KASH)** - The mission of KASH committee is to utilize and implement evidence-based prevention strategies in Kentucky. Through continued community education from member organizations of the Task Force, the goal is to use consistent prevention messages throughout the Commonwealth to decrease the number of heart disease and stroke incidents in Kentucky.

- **Stroke Encounter Quality Improvement Project (SEQIP)** - The mission of SEQIP is to advance acute stroke care management and reduce stroke disparities in Kentucky.

This collaborative effort to transform our state's cardiovascular and cerebrovascular health approaches and practices has been enhanced with a new strategic plan to guide the work to reach our mission and vision. Health care is in a state of change and growth in our country, and the Task Force prioritizes the use of data and evidence to shape specific target goals. We aim to use data to address health disparities and achieve health equity across the Commonwealth of Kentucky. The Task Force is intentional about giving attention to priority populations who face health inequities in the United States. People at higher risk, which include populations defined as Black persons, Hispanic persons, rural/Appalachian persons, and people 65 and older are noted in this strategic plan.

Health Equity Statement

Health equity is striving for the highest possible standard of health for all people and giving special attention to the needs of those at greatest risk of poor health, based on social conditions. To meet this goal of equitable health for all, there is a necessity for changing policies and systems that have resulted in health disparities. Health disparities are preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by populations that have been disadvantaged by their social or economic status, geographic location, and environment. Injustices might include everything from race, education, work opportunities, and other social injustices. Obstacles to health might include access to care, lack of transportation, inability to purchase medications or needed therapies, lack of health insurance or underinsurance, access to physical activity opportunities, healthy foods, language or literacy barriers, etc. (CDC, 2022).

This **strategic plan** is organized by the three committees' goals and objectives. An overview is presented and more detailed plans follow. Each committee established objectives and activities that align with the overarching goals of the Task Force.

Strategic Plan Overview

Vision: A Kentucky where all people have optimal health outcomes.	**Mission**: The Kentucky Heart Disease and Stroke Prevention Task Force's mission is to cultivate and support partnerships by enhancing community and clinical linkages to improve cerebrovascular and cardiovascular health.	**Values**: Collaboration, Equity, and Inclusion

TASK FORCE COMMITTEES		
Heart Systems of Care (HSOC)	Kentucky Against Stroke and Heart Disease (KASH)	Stroke Encounter Quality Improvement Project (SEQIP)
↓ **GOALS**		
Goal 1: Improve health equity and reduce health disparities related to cerebrovascular and cardiovascular diseases.		
Goal 2: Develop and enhance key partnerships between community organizations and health care systems.		
Goal 3: Promote collaboration between community organizations and health care systems to reduce the impact.		
↓ **DESIRED OUTCOMES**		
Decreased death from heart disease and strokes	Increased quality of care related to heart disease and strokes	Investment to create healthy communities

Goal 1: Improve health equity and reduce health disparities related to cardiovascular diseases using a regional approach by better utilizing technology and data.

Objective 1: Identify counties/zip codes with the highest risk persons for cardiovascular events (Black, Hispanic, rural/Appalachian regions, age, and all other modifiable risk factors) to provide targeted interventions to increase awareness of the most common cardiovascular risk factors and reduce heart attack incidence.

Action Items:

1. Use the CDC PLACES® database and KYDPH created maps by census tract of health equity data.
2. Use the KBEMS database, HSOC membership self-reporting, and Kentucky Hospital Association resources to create maps of EMS agency locations with an overlay of acute care hospitals and accredited Chest Pain Centers by level of certification.
3. Identify and disseminate demographic specific education materials to targeted communities on the signs and symptoms of heart attack and the importance of calling 911, CPR training, cholesterol, diabetes, high blood pressure, physical activity, smoking cessation, stress management, healthy eating, and weight management.

Objective 2: Cultivate and expand partnerships among stakeholders to enhance collaboration and increase participation in the Heart Systems of Care to ensure geographically represented data to support regionalization of results.

Action Items:

1. Identify 1 EMS agency annually to participate in quality improvement initiatives focused on evidence based prehospital STEMI identification and activation protocols.
2. Update and disseminate STEMI resources annually through the Kentucky Heart Disease and Stroke Prevention Task Force website (KHDSPtaskforce.com).
3. Identify and recruit 1 hospital annually to participate in the HSOC.
4. Recruit 1 EMS person from to participate in the HSOC.
5. Recruit a heart attack survivor as a member of the HSOC committee.

Goal 2: Develop and enhance key partnerships between community organizations and health care systems to improve STEMI systems of care in Kentucky.

Objective 1: Cultivate and expand collaboration among partners and stakeholders to enhance community clinical linkages.

Action Items:

1. Identify and meet the Centers for Disease Control National Cardiovascular Health Program goals and objectives.
2. Maintain HSOC representation on the Kentucky Board of Emergency Medical Services (KBEMS) Cardiac and Stroke Care subcommittee.
3. Continue to identify and map certified Chest Pain Centers levels as defined by KY HB 512 and disseminate to hospitals and EMS agencies annually.
4. Create and disseminate an annual HSOC report each year, including the KHDSPTF Website.
5. Implement quality improvement plan to map travel time and distance to certified Chest Pain Centers to assist in the development of regional destination and PCI networks with a minimum goal of 1 Ky Region mapped by 2028.
6. Identify and link with additional partners to incorporate in outreach initiatives, ie: Educators, Providers, Food Resources, Transportation agencies, Community Health Workers, etc.

Objective 2: Utilize state accreditation registries and KBEMS data along with stakeholder input to identify annual quality improvement initiatives.

Action Items:

1. Identify EMS agencies by county and utilization of the KBEMS recommended STEMI triage practices and destinations.
2. Identify and track Door-In to Door-Out time for transferring STEMI receiving centers to develop improvement in transfer times.
3. Develop a confidentiality agreement among HSOC members that any data shared in committee will be de-identified and remain confidential.
4. Continue to track, trend, and report standardized STEMI/Chest Pain performance measures.

Goal 3: Promote collaboration between community organizations and health care systems to reduce the impact of STEMI and Heart Attack and improve event outcomes.

Objective 1: Decrease Door-In to Door-Out times to improve median survivability by 10% and increase Cardiac Rehab counseling and median participation by 10% by 2028.

Action Items:

1. Develop performance improvement plans to decrease Door-In to Door-Out times in receiving/transferring centers.
2. Monitor by county, receiving/transferring centers, EMS documentation of calls for transfer, arrival times, door out times, and complications.
3. Identify barriers to documentation and data collection.
4. Disseminate data to local EMS agencies and the Chest Pain Centers whom they serve to develop performance improvement plans specific to their region.
5. Identify barriers in Chest Pain Centers to Cardiac Rehab consultation prior to discharge and improve participation.

Objective 2: Identify and collaborate with stakeholders to identify opportunities to close care gaps post discharge for STEMI survivors and their caregivers.

Action items:

1. Review resources currently available on the KHDSP website annually and update as necessary to meet current clinical evidence.
2. Create one new resource annually to assist STEMI survivors and caregivers with transitions of care and reintegration into the community.
3. Develop a pilot project focused on data collection for patient centered outcomes measures at 90 days post discharge (participation in CR, all-cause mortality, recurrent STEMI, adherence to modifiable risk factors).
4. Utilize partnerships with additional resources to incorporate in outreach initiatives, ie: Educators, Providers, Food Resources, Transportation agencies, Community Health Workers, etc.

Goal 1: Reduce health inequities and health disparities related to cerebrovascular and cardiovascular diseases for people at highest risk including Black persons, Hispanic persons, rural/Appalachian persons and people 65 and older.

Objective 1: Increase awareness by 15% where populations are located with highest risk of cerebrovascular and cardiovascular diseases and where gaps in services exist using maps provided by the KHDSP Program.

Action Items:

1. Use KHDSP Program created Kentucky maps of health equity data.
2. Develop and implement tailored dissemination plans using KHDSP Program created Kentucky maps of health equity data.
3. Update Kentucky maps annually.
4. Annually refine, update, and measure tailored dissemination plans for Kentucky maps.

Objective 2 : Increase the use of evidence-based clinically supported self-measured blood pressure monitoring (SMBP) in at least three specifically targeted areas where populations are identified at highest risk of cerebrovascular and cardiovascular diseases.

Action Items:

1. Use health equity data and Kentucky maps to target specific areas.
2. Develop tailored communication packets about the benefits of SMBP for health systems and community organizations in the identified specific areas.
3. Develop and implement tailored dissemination plans to health systems and community organizations in the identified specific areas.
4. Provide information and support to health systems and community organizations interested in providing clinically supported SMBP.
5. Annually refine and adapt communication packets and dissemination plans through feedback opportunities.

Goal 2: Enhance collaboration between community-based organizations and health care systems to reduce risk of cerebrovascular and cardiovascular diseases in populations at highest risk, including Black persons, Hispanic persons, rural/Appalachian persons and people 65 and older.

Objective 1: Expand non-traditional partnerships by three specific areas annually to include community members at highest risk, businesses, schools, faith-based organizations and human and social service organizations.

Action Items:

1. Identify specific areas and potential community members and non-traditional partners.
2. Develop tailored communication packets to engage new partners.
3. Develop and implement a tailored dissemination plan to engage new partners.
4. Continually refine and adapt communication packets and dissemination plans through feedback opportunities.

Objective 2: Increase awareness by 15% annually of cerebrovascular and cardiovascular risks among community members at highest risk and non-traditional partners including businesses, schools, faith-based organizations and human and social service organizations.

Action Items:

1. Create tailored promising- and evidence-based prevention and health education resources in digital and print formats.
2. Develop and implement a tailored dissemination plan to share promising practice- and evidence-based information with community members and partners.
3. Continually refine and adapt prevention and health education resources and dissemination plans through feedback opportunities.
4. Identify topics of interest to community members and partners and provide educational opportunities to enhance prevention and health education resources.

Goal 3: Promote collaboration between community organizations and health care systems to reduce the impact of stroke disability and improve stroke outcomes.

Objective 1: Increase awareness of social drivers of health (SDOH) by 15% annually in community members at highest risk for cerebrovascular and cardiovascular diseases and non-traditional partners including businesses, school, faith-based organizations and human and social service organizations.

Action Items:

1. Create tailored promising practice- and evidence-based resources about SDOH and its relationship to cerebrovascular and cardiovascular diseases in digital and print formats.
2. Develop and implement a tailored dissemination plan to share promising practice- and evidence-based information with community members and partners.
3. Create and publicly disseminate data visualizations on the KHDSP Task Force webpage to share outcomes of efforts to increase knowledge of SDOH in non-traditional partners.
4. Continually refine and adapt SDOH and cerebrovascular and cardiovascular resources and dissemination plan through feedback opportunities

Objective 2: Increase the use of standardized processes or tools with partners by 15% to identify social services and support needs of populations at highest risk for cerebrovascular and cardiovascular diseases.

Action Items:

1. Identify topics of interest to clinical and community partners regarding SDOH and cerebrovascular and cardiovascular diseases and provide educational opportunities to enhance standardized messaging resources.
2. Develop and implement a system to assist partners with monitoring referrals to address SDOH and use of those services.
3. Create and publicly disseminate data visualizations to share outcomes of efforts to increase knowledge of SDOH.
4. Create and publicly disseminate data visualizations to share outcomes of efforts to increase collaboration between clinical and community services and populations served.

Goal 1: Improve health equity and reduce health disparities related to cerebrovascular diseases using a regional approach by better utilizing technology and data.

Objective 1: Identify counties/zip codes with the highest risk persons for stroke (Black, Hispanic, rural/Appalachian regions, age ≥ 65, hypertension) to provide targeted interventions to increase awareness of the most common vascular risk factors and reduce stroke incidence.

Action Items:

1. Use Get With The Guidelines Stroke® (GWTG-S) zip code and KHDSP created maps by zip code health equity data to identify persons at highest risk for stroke
2. Use Kentucky Board of EMS data to create maps of EMS agency locations with an overlay of acute care hospitals and certified stroke centers by level of certification to be completed by December 2025 and updated annually.
3. Utilize GWTG-S to identify rates of thrombolytic therapy in Black, Hispanic, rural/Appalachian, persons who identify as female, and persons ≥ age 65 compared to Whites, men, and those under age 65 annually.
4. Identify and disseminate minority specific education materials to targeted communities on the signs and symptoms of stroke and the importance of calling 911, high blood pressure, how to monitor blood pressure at home, diabetes, and smoking cessation.

Objective 2: Cultivate and expand partnerships among stakeholders to enhance collaboration and increase participation in SEQIP and Coverdell to ensure geographically represented data to support generalization of results.

Action Items:

1. Identify two EMS agencies annually by Kentucky Area Development District to participate in quality improvement initiatives focused on evidence based prehospital stroke triage protocols.
2. Update and disseminate stroke resources annually through the Task Force website (KHDSPtaskforce.com).
3. Utilize American Heart Association's Rural Health Care Outcome Accelerator program to increase GWTG-S by five hospitals participating in the state registry by the end of 2025.
4. Recruit one EMS representative from each Kentucky Area Development District to participate in SEQIP leadership by December 2024.
5. Recruit a stroke survivor as a member of the SEQIP steering committee.

Goal 2: Develop and enhance key partnerships between community organizations and health care systems to improve stroke systems of care in Kentucky.

Objective 1: Cultivate and expand collaboration among partners and stakeholders to enhance community clinical linkages.

Action Items:

1. Continue collaboration with the Kentucky Coverdell team to sustain funding, recruitment of partners, and KHDSP to sustain funding to meet statewide goals and objectives.
2. Maintain SEQIP representation on the Kentucky Board of Emergency Medical Services (KBEMS) Cardiac and Stroke Care subcommittee.
3. Continue to identify and map certified stroke centers by stroke certification level as defined by KRS 216B.0425 and disseminate to hospitals and EMS agencies quarterly.
4. Increase SEQIP membership by one hospital per year.
5. Create and disseminate an annual SEQIP report in accordance with KRS 211.575. The report is sent to the governor and the Legislative Research Commission and includes recommendations for improving stroke systems of care.
6. Collaborate with KHDSP and KBEMS to map travel time and distance to certified stroke centers to assist in the development of regional destination triage protocols to be completed by December 2024 and updated annually in required reporting.
7. Recruit and implement process improvement initiatives in two health systems and two EMS agencies who service those health systems annually to participate in core curriculum developed by SEQIP on acute stroke treatment, documenting a stroke screening and severity scale in the field, and hospital prenotification for suspected stroke patients.

Objective 2: Utilize the state stroke registry, Coverdell, and KBEMS data along with KHDSP, SEQIP, and stakeholder input to identify annual quality improvement initiatives.

Action Items:

1. Identify and maintain documentation of EMS agencies by county and utilization of the KBEMS recommended stroke triage protocol versus use of medical director approved protocol by December 2024.
2. Develop a stroke coordinator orientation and mentorship program for new and experienced stroke coordinators by December 2024.
3. Continue to track data, analyze trends, and report standardized Coverdell, stroke certifying bodies, and AHA stroke performance measures annually.

Goal 3: Promote collaboration between community organizations and health care systems to reduce the impact of stroke disability and improve stroke outcomes.

Objective 1: Increase rate of IV thrombolytic utilization by 3% (baseline rate 10% 2022) by 2028 and increase volume of mechanical thrombectomy in Kentucky annually.

Action Items:

1. Utilize GWTG-S state registry data to develop performance improvement plans to increase utilization of acute stroke reperfusion therapies (IV thrombolytics and mechanical thrombectomy) annually.
2. Monitor by county and Kentucky Area Development District EMS documentation of stroke screening scale, stroke severity scale, and prenotification.
3. Disseminate data to local EMS agencies and certified stroke centers they serve to develop PI plans specific to their region.
4. Identify barriers to documentation and data collection.
5. Improve door-in-door-out times for patients with time sensitive treatments (IV thrombolytics, mechanical thrombectomy, intracerebral hemorrhage) to > 50% within 90 minutes by December 2028.
6. Achieve ≥ 85% for all AHA Stroke Performance and Quality Improvement Measures annually.

Objective 2: Identify and collaborate with stakeholders to identify opportunities to close care gaps post discharge for stroke survivors and their caregivers.

Action Items:

1. Review resources currently available on the KHDSP website annually and update as necessary to meet current clinical evidence.
2. Create one new resource annually to assist stroke survivors and caregivers with transitions of care and reintegration into the community.
3. Identify one to two partners to participate in a pilot focused on data collection for patient centered outcome measures at 90 days post discharge (all-cause mortality, recurrent stroke, adherence to smoking cessation, and patient reported cognitive changes) and implement a process improvement initiative by year end 2025.