FACT SHEET

American Heart Association.

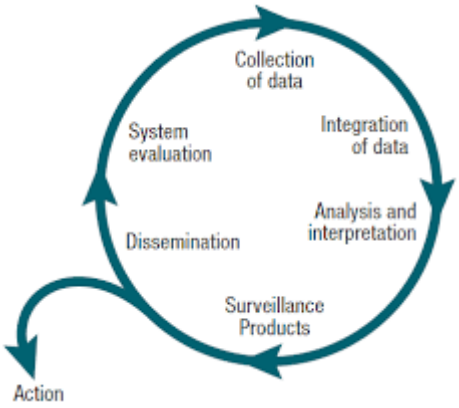
Cardiovascular and Brain Health and Disease Surveillance

OVERVIEW

Executing the American Heart Association's (AHA) strategic mission of "being a relentless force for a world of longer, healthier lives" requires reliable surveillance data to measure progress. The AHA's recommendations for cardiovascular and brain health surveillance[1] point to emerging community surveillance programs, the creation of robust data superhighways, and the rapid deployment of digital technology and electronic health records as opportunities to transform surveillance of cardiovascular health, stroke and cardiovascular disease.[3]

SURVEILLANCE: WHAT IS IT?

Public health surveillance is the continuous, systematic collection, analysis, and interpretation of health-related data needed for the planning, implementation, and evaluation of public health practice.[3]



The goal of surveillance is to measure cardiovascular health and cardiovascular disease and stroke mortality, incidence, and outcomes in representative samples of the whole population, major population subgroups, all ages from early childhood throughout the life course, and of local (i.e. small geographic) areas as well as state and national. Data domains critical for monitoring progress toward health impact goals include characteristics of the environment, behavior factors, cardiovascular risk factors, disease prevalence, clinical events, and disease management.

Examples of current surveillance efforts for CVD include:

- ✓ Surveys (e.g., the Behavioral Risk Factor Surveillance System and the National Health and Nutrition Examination Survey)[4,5]
- ✓ Registries (e.g., Cardiac Arrest Registry to Enhance Survival and the National Cardiovascular Data Registry)[6,7]
- ✓ Cohort studies (e.g., Framingham Heart Study and Jackson Heart Study)[8,9]
- ✓ Health services data (i.e. claims data, laboratory data, pharmacy data)
- ✓ Vital statistics (i.e., death certificates)

WHAT IS NEEDED?

Cardiovascular disease and stroke are substantially preventable and amenable to improved management for better health outcomes. Behavioral risk factors and clinical precursors for disease progression are well characterized. While a number of data sources exist, there is no systematic, integrated, and timely tracking and reporting of these behaviors and conditions across different geographic settings or population subgroups in the United States. Our overall national surveillance infrastructure needs an overhaul and upgrade.

While most current surveillance systems operate at the national or state levels, emerging community programs like the County Health Rankings & Roadmaps program, the 500 Cities program, and community health needs assessments conducted by tax-exempt hospitals suggest that there are opportunities to leverage surveillance programs collecting and reporting local surveillance data from the county-, city-, and hospital-service-area-levels.[3] A major limitation of these community based programs is that they have limited access to disease burden and outcomes which impacts their ability to assess the impact of policy. Mobile platforms and electronic health records also contain valuable heart and brain health data but lack mechanisms to easily aggregate data at the population level. The gaps in these valuable resources suggest significant opportunities for collaboration and coordination of surveillance activities and data.

In 2019, a major initiative to strengthen the public health surveillance infrastructure, Driving Public Health in the Fast Lane: The Urgent Need for a 21st Century Data Superhighway, was announced by the Council of State and Territorial Epidemiologists and various stakeholders.[10] This initiative calls for a transformation of the nation's public health surveillance system with five key areas of emphasis: enterprise approach to data systems modernization; interoperable data systems; security to protect data; workforce prepared for the information age; and partnership and innovation with the public and private sectors.

Such a transformation could strongly support the surveillance requirements of health promotion and disease prevention if its scope included cardiovascular and other noncommunicable diseases and their determinants. Additionally, the monitoring of acute clinical events and chronic disease management is fragmented and incomplete. These gaps have detracted from our ability to be target focused and implement effective local and national actions to improve cardiovascular and brain health.

Modernizing the public health surveillance infrastructure would enhance the detection, prevention, and treatment of heart disease and stroke by:

- Serving as an early warning system for impending disease gaps;
- Documenting the impact of an intervention, or tracking progress toward, specified goals;
- Monitoring and clarifying the epidemiology of health problems for priority-setting; and
- Informing heart and brain health policy and strategies.

GUIDING PRINCIPLES FOR BETTER CARDIOVASCULAR AND BRAIN HEALTH SURVEILLANCE

- Surveys should be based on samples representing all ages from early childhood throughout the life course and should be relevant both nationally and locally. They should also provide meaningful estimates for historically underrepresented or misrepresented subgroups within the population.
- Federal, state, and local governments should conduct purposeful interagency and intergovernmental coordination to link data to public health practice, resource prioritization, strategic planning, and policy development.
- Funding considerations should recognize the cost-effectiveness of using surveillance to reduce the burden of disease. Private-public collaboration should be explored to provide sustainability for optimal surveillance.
- Government agencies conducting surveillance should leverage novel digital platforms, including EHRs and mobile health, for behavioral and environmental risk factors, social drivers of health, and healthcare data systems, and should include quality of care indicators.
- Robust local surveillance should be enhanced to supplement state and national systems to contribute to a multidimensional approach to population surveillance.
- Data collection and exchange should adhere to all ethics and privacy laws. Personal information should be protected according to the strictest standards of legal and research ethics. All systems should include clear protections for economic, social, and civil rights.
- Surveillance systems should identify, evaluate, minimize, and disclose risks for harm before surveillance is conducted.
- The public should be given ample opportunities to understand how surveillance can benefit them and accurately reflect their ethos.

AHA ADVOCATES

- The funding, modernization, execution, and oversight of government-funded data collection activities that reflect the increasing demand for better policymaking, healthcare, and health outcomes in the U.S.
- The continued efforts to modernize and enhance public health surveillance capabilities—both electronic systems and surveys—at the federal, state, local, territorial, and tribal levels, including legislation to enhance data systems, standards, security, and the public health workforce.

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[1] Roger, V., Sidney, S., Fairchild, AL., Howard, VJ., Labarthe, DR., Shay, CM., Tiner, AC., Whitsel, LP., Rosamond, WD., Recommendations for cardiovascular health and disease surveillance for 2030 and beyond: A policy statement from the American Heart Association. *Circulation.* January 2020. 141(9).