FACT SHEET

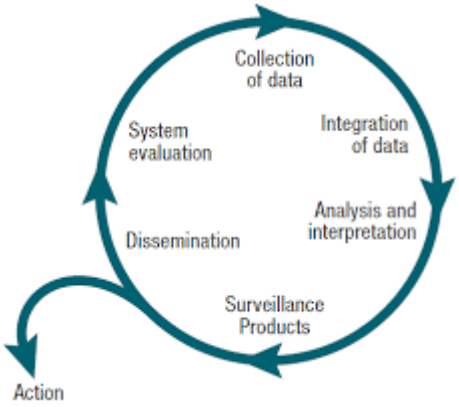
Cardiovascular Surveillance

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 2020 Strategic Impact Goal targeted a 20% improvement in cardiovascular health (CVH) and a 20% reduction of heart disease and stroke mortality by 2020.[1] This goal required surveillance systems to monitor CVD mortality rates, as well as trends in prevalence of each of the 7 CVH metrics (tobacco use, diet, physical activity, body mass index, blood pressure, cholesterol, and glucose).[1]

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.



The goal of CVD surveillance is to measure CVH and CVD mortality, incidence and outcomes in representative samples of the whole population, of all major population subgroups and all ages from early childhood throughout the life course and of local (i.e. small geographic) areas. Data domains critical for monitoring progress toward health impact goals include characteristics of 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)[2,3]
- ✓ Registries (e.g., Cardiac Arrest Registry to Enhance Survival, the National Cardiovascular Data Registry, and the Paul Coverdell National Acute Stroke Registry)[4,5,6]
- ✓ Cohort studies (e.g., Framingham Heart Study, Jackson Heart Study)[7,8]
- ✓ Health services data (i.e. claims data, laboratory data, pharmacy data)
- ✓ Vital statistics (i.e., death certificates)

WHAT IS NEEDED?

CVD is substantially preventable and amenable to improved management for better health outcomes. Behavioral risk factors and clinical precursors for CVD are well characterized. While a number of sources of data 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.

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. This initiative calls for 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 be strongly supportive of the surveillance requirements of CVH promotion and CVD 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 target focused and effective local and national action to improve cardiovascular health.

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

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

GUIDING PRINCIPLES FOR BETTER CVD SURVEILLANCE

- Surveys should be based on samples that represent 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 racial, sex, religious and sexual identity 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 and social determinants of health, as well as 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 of 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 be engaged on how the surveillance can benefit them, as well as on how it can 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 policy making, better healthcare, and better health outcomes in the U.S.
- The continued efforts to modernize and enhance the 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] Lloyd-Jones DM, Hong Y, Labarthe D, Mozaffarian D, Appel LJ, Van Horn L, Greenlund K, Daniels S, Nichol G, Tomaselli GF, et al; on behalf of the American Heart Association Strategic Planning Task Force and Statistics Committee. Defining and setting national goals for cardiovascular health promotion and disease reduction: the American Heart Association's strategic Impact Goal through 2020 and beyond. *Circulation.* 2010;121:586–613. doi: 10.1161/CIRCULATIONAHA.109.192703

[2] Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [appropriate year].

[3] Centers for Disease Control and Prevention (CDC). National Center for Health Statistics (NCHS). National Health and Nutrition Examination Survey Data. Hyattsville, MD: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, [appropriate year]

[4] myCARES.net . CARES fact sheet. Available at: https://mycares.net/sitepages/factsheet.jsp. Accessed January 8, 2020.

[5] American College of Cardiology. National Cardiovascular Data Registry. Washington, DC. https://cvquality.acc.org/NCDR-Home

[6] Centers for Disease Control and Prevention. Paul Coverdell National Acute Stroke Registry.

[7] https://www.framinghamheartstudy.org/

[8] https://www.jacksonheartstudy.org/