



## Prevention Status Report for Hawaii

# Heart Disease and Stroke

Accessed on August 9, 2016

## About the Prevention Status Reports

The Prevention Status Reports (PSRs) highlight—for all 50 states and the District of Columbia—the status of public health policies and practices designed to address the following important public health problems and concerns:



## PSR Framework






Each report follows a simple framework:

- Describe the public health problem using public health data
- Identify potential solutions to the problem drawn from research and expert recommendations
- Report the status of those solutions for each state and the District of Columbia

## Criteria for Selection of Policies and Practices

The policies and practices reported in the PSRs were selected because they—

- Can be monitored using state-level data that are readily available for most states and the District of Columbia
- Meet one or more of the following criteria:

-  Supported by systematic review(s) of scientific evidence of effectiveness (e.g., The Guide to Community Preventive Services)
-  Explicitly cited in a national strategy or national action plan (e.g., Healthy People 2020)
-  Recommended by a recognized expert body, panel, organization, study, or report with an evidence-based focus (e.g., Institute of Medicine)

## Ratings

The PSRs use a simple, three-level rating scale—green, yellow, or red—to show the extent to which the state has implemented the policy or practice in accordance with supporting evidence and/or expert recommendations. The ratings reflect the status of policies and practices and do not reflect the status of efforts of state health departments, other state agencies, or any other organization to establish or strengthen those policies or practices.

## Suggested Citations

For a state report:

Centers for Disease Control and Prevention. Prevention Status Reports: [State name]. Atlanta, GA: US Department of Health and Human Services; 2016. Accessed [month date, year].

For the National Summary:

Centers for Disease Control and Prevention. Prevention Status Reports: National Summary. Atlanta, GA: US Department of Health and Human Services; 2016. Accessed [month date, year].

## Public Health Problem



Cardiovascular disease—including heart disease, stroke, and other vascular diseases—is the leading cause of death in the United States. Each year, nearly 800,000 people die from cardiovascular disease, accounting for one in every three deaths (1).

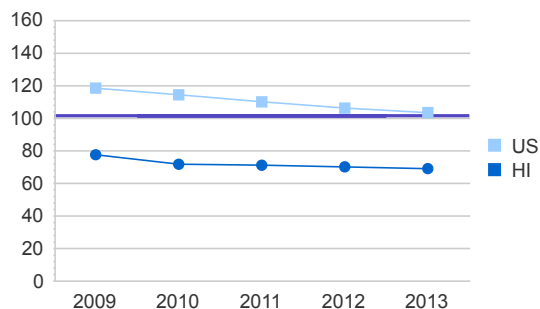


Twenty-nine percent of US adults—more than 70 million people—have high blood pressure and approximately 73.5 million have high levels of low-density lipoprotein (LDL) cholesterol. High blood pressure and high LDL are two leading risk factors for heart disease and stroke (2,3).



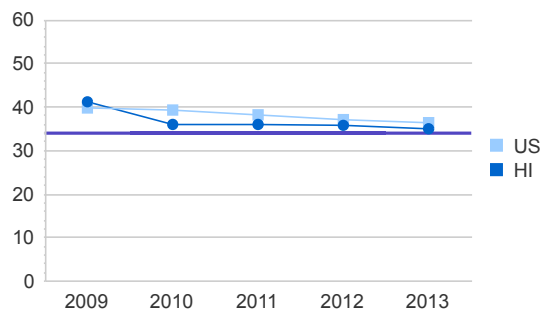
About one of every six healthcare dollars in the United States is spent on treating cardiovascular disease. Annual US cardiovascular disease costs exceed \$195.6 billion in direct medical expenses and \$320.1 billion when indirect expenses are included (3).

**Coronary heart disease death rate**  
(age-adjusted rate per 100,000 population)



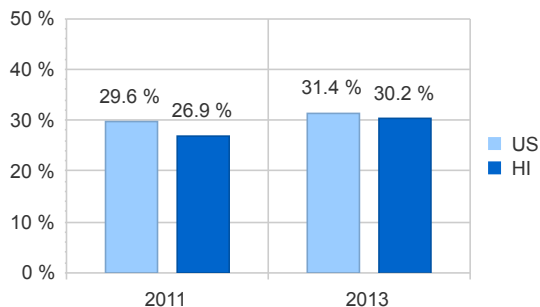
Source: National Vital Statistics System—Mortality (1,4)  
Healthy People 2020 target: 100.8/100,000 (purple line) (5)

**Stroke death rate**  
(age-adjusted rate per 100,000 population)



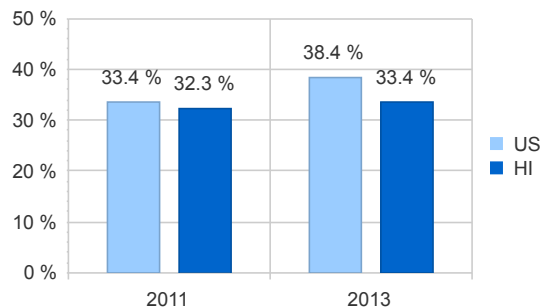
Source: National Vital Statistics System—Mortality (1,4)  
Healthy People 2020 target: 33.8/100,000 (purple line) (6)

**Percentage of self-reported hypertension**  
(age-adjusted)



Source: Behavioral Risk Factor Surveillance System (6)  
Note: These rates were adjusted using the direct method and the 2000 standard US population (7).

**Percentage of self-reported high cholesterol**  
(age-adjusted)



Source: Behavioral Risk Factor Surveillance System (6)  
Note: These rates were adjusted using the direct method and the 2000 standard US population (7).

## Solutions and Ratings

This report focuses on one policy and one practice recommended by the Community Preventive Services Task Force, the US Public Health Service, Institute of Medicine, and the American College of Clinical Pharmacy because scientific studies support their effectiveness in managing heart disease and stroke risks (8–11):

- Implementing meaningful use of certified electronic health records
- Establishing state collaborative drug therapy management (CDTM) policies that authorize pharmacists to provide certain patient services

Other strategies for reducing heart disease and stroke that are supported by scientific evidence and practice include promoting team-based care, implementing clinical decision-support systems, using interventions that engage community health workers, reducing out-of-pocket costs for cardiovascular disease preventive services, and reducing sodium consumption at the community level (12,13).

## Status of Policy and Practice Solutions

### Meaningful use of electronic health records

The percentage of office-based physicians demonstrating meaningful use of certified electronic health record (EHR) technology, as defined by the Centers for Medicare & Medicaid Services EHR Incentive Program's meaningful use criteria (14).

As of December 2014, 64.2% of office-based physicians in Hawaii demonstrated meaningful use of EHRs (15).

According to the Institute of Medicine, using electronic health records supports high-quality primary care (10). The Community Preventive Services Task Force recommends clinical decision-support systems, which are used in certified EHR technology, for prevention of cardiovascular disease (13). Research shows that meaningful use of EHRs allows physicians, nurses, pharmacists, and other healthcare providers to proactively monitor and manage the health of their patients by tracking heart disease and stroke risk factors (16–23). “Meaningful use” involves using EHRs to 1) improve quality, safety, and efficiency; 2) engage patients and family; 3) improve care coordination; 4) maintain privacy and security of patient health information; 5) improve population and public health; and 6) reduce health disparities (23).

### How This Rating Was Determined

The rating reflects meaningful use of certified EHRs in the state as measured by the Centers for Medicare & Medicaid Services (23). Certified EHR technology must include clinical decision supports, such as alerts for elevated blood pressure and cholesterol levels based on laboratory results, to support guidelines-based clinical decision making (24).

Rating	Percentage of office-based physicians in the state who demonstrated meaningful use
<b>Green</b>	<b>≥62.0%</b>
Yellow	53.0%–61.9%
Red	<53.0%

### State pharmacist collaborative drug therapy management policy

A state legislative, regulatory, or other written administrative policy that authorizes qualified pharmacists working within the context of a collaborative practice agreement or defined protocol to perform patient assessments; order drug therapy-related laboratory tests; administer drugs; and/or select, initiate, monitor, continue, and adjust drug regimens (8–11).

As of December 31, 2014, Hawaii had a statewide pharmacist CDTM policy for all health conditions (25).

The Community Preventive Services Task Force recommends team-based care to improve blood pressure control (8). State policies such as CDTM laws, which authorize pharmacists to enter into collaborative practice agreements with prescribing providers, can increase medication adherence rates and improve health outcomes (e.g., reduced hemoglobin A1c, lower blood pressure and LDL cholesterol level, fewer adverse drug events) (9).

Rating	State CDTM policy
Green	<b>Authorized pharmacists to collaborate or provide patient services under protocol for all health conditions</b>
Yellow	Authorized pharmacists to collaborate or provide patient services under protocol but did not cover chronic diseases, OR collaboration was limited to specified hospital, medical, or clinical practice settings
Red	No policy existed

### How This Rating Was Determined

The rating reflects the status of the state's CDTM policies as reviewed by CDC policy analysts (25). CDTM policies were rated on the extent to which pharmacists were able to enter into collaborative practice agreements that included all health conditions and all healthcare settings.

## References

1. CDC. [Deaths: final data for 2013—detailed tables](http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_02.pdf) (http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64\_02.pdf). National Vital Statistics Reports; 2015.
2. Nwankwo T, Yoon SS, Burt V, et al. [Hypertension Among Adults in the United States: National Health and Nutrition Examination Survey, 2011–2012](http://www.cdc.gov/nchs/data/databriefs/db133.htm) (http://www.cdc.gov/nchs/data/databriefs/db133.htm). NCHS Data Brief, No. 133. Hyattsville, MD: US Department of Health and Human Services; 2013.
3. Mozaffarian D, Benjamin EJ, Go AS, et al. [Heart disease and stroke statistics—2015 update: a report from the American Heart Association](http://circ.ahajournals.org/content/early/2014/12/18/CIR.000000000000152) (http://circ.ahajournals.org/content/early/2014/12/18/CIR.000000000000152) (//www.cdc.gov/Other/disclaimer.html). Circulation 2014;131:e29–e322 [Epub ahead of print].
4. CDC. [Compressed Mortality File 1999–2013](http://wonder.cdc.gov/cmfi-icd10.html) (http://wonder.cdc.gov/cmfi-icd10.html). CDC WONDER. Released Oct 2014. Accessed Jun 12, 2015.
5. US Department of Health and Human Services. [Heart disease and stroke](http://www.healthypeople.gov/2020/topics-objectives/topic/heart-disease-and-stroke) (http://www.healthypeople.gov/2020/topics-objectives/topic/heart-disease-and-stroke) (//www.cdc.gov/Other/disclaimer.html). In: Healthy People 2020. Rockville, MD: US Department of Health and Human Services; 2010.
6. CDC. Behavioral Risk Factor Surveillance System data, 2011–2013.
7. Klein RJ, Schoenborn CA. [Age Adjustment Using the 2000 Projected U.S. Population](http://www.cdc.gov/nchs/data/statnt/statnt20.pdf) (http://www.cdc.gov/nchs/data/statnt/statnt20.pdf). Healthy People Statistical Notes, No. 20. Hyattsville, MD: National Center for Health Statistics; 2001.
8. Community Preventive Services Task Force. [Cardiovascular disease prevention and control: team-based care to improve blood pressure control](http://www.thecommunityguide.org/cvd/teambasedcare.html) (http://www.thecommunityguide.org/cvd/teambasedcare.html) (//www.cdc.gov/Other/disclaimer.html). In: Guide to Community Preventive Services. Updated Apr 2012.
9. Giberson S, Yoder S, Lee MP. [Improving Patient and Health System Outcomes Through Advanced Pharmacy Practice. A Report to the U.S. Surgeon General 2011](http://www.pharmacist.com/improving-patient-and-health-system-outcomes-through-advanced-pharmacy-practice-report-surgeon) (http://www.pharmacist.com/improving-patient-and-health-system-outcomes-through-advanced-pharmacy-practice-report-surgeon) (//www.cdc.gov/Other/disclaimer.html). Rockville, MD: US Public Health Service; 2011.
10. Institute of Medicine. [Primary Care and Public Health: Exploring Integration to Improve Population Health](http://iom.nationalacademies.org/Reports/2012/Primary-Care-and-Public-Health.aspx) (http://iom.nationalacademies.org/Reports/2012/Primary-Care-and-Public-Health.aspx) (//www.cdc.gov/Other/disclaimer.html). Washington, DC: National Academies Press; 2012.
11. American College of Clinical Pharmacy. [ACCP position statement: collaborative drug therapy management by pharmacists—2003](https://www.accp.com/docs/positions/positionStatements/pos2309.pdf) (https://www.accp.com/docs/positions/positionStatements/pos2309.pdf) (//www.cdc.gov/Other/disclaimer.html). Pharmacotherapy 2003;23(9)1210–25.
12. Frieden TR, Berwick DM. [The “Million Hearts” initiative—preventing heart attacks and strokes](http://www.nejm.org/doi/full/10.1056/NEJMp1110421) (http://www.nejm.org/doi/full/10.1056/NEJMp1110421) (//www.cdc.gov/Other/disclaimer.html). New England Journal of Medicine 2011;365(13):e27.
13. Community Preventive Services Task Force. [Cardiovascular disease prevention and control](http://www.thecommunityguide.org/cvd/index.html) (http://www.thecommunityguide.org/cvd/index.html) (//www.cdc.gov/Other/disclaimer.html). In: Guide to Community Preventive Services. Updated Nov 24, 2015.
14. US Department of Health and Human Services. [EHR Incentives & Certification: How to Attain Meaningful Use](http://healthit.gov/providers-professionals/how-attain-meaningful-use) (http://healthit.gov/providers-professionals/how-attain-meaningful-use) (//www.cdc.gov/Other/disclaimer.html). Accessed Jun 10, 2015.
15. Centers for Medicare and Medicaid Services. [Data Documentation: Office-based Physician EHR Adoption and Use](http://dashboard.healthit.gov/datadashboard/documentation/physician-health-it-adoption-use-data-documentation.php) (http://dashboard.healthit.gov/datadashboard/documentation/physician-health-it-adoption-use-data-documentation.php) (//www.cdc.gov/Other/disclaimer.html). Updated Feb 2015.
16. Bright TJ, Wong A, Dhurjati R, et al. [Effect of clinical decision support systems: a systematic review](http://www.ncbi.nlm.nih.gov/pubmed/22751758) (http://www.ncbi.nlm.nih.gov/pubmed/22751758) (//www.cdc.gov/Other/disclaimer.html). Annals of Internal Medicine 2012;157(1):29–43.
17. Hicks LS, Sequist TD, Ayanian JZ, et al. [Impact of computerized decision support on blood pressure management and control: a randomized controlled trial](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2359515/) (http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2359515/) (//www.cdc.gov/Other/disclaimer.html). Journal of General Internal Medicine 2008;23(4):429–41.
18. McCullough CM, Wang JJ, Parsons AS, et al. [Quality measure performance in small practices before and after electronic health record adoption](http://repository.edm-forum.org/egems/vol3/iss1/1/) (http://repository.edm-forum.org/egems/vol3/iss1/1/) (//www.cdc.gov/Other/disclaimer.html). EGEMS 2015;3(1):1131.
19. Persell SD, Lloyd-Jones DM, Friesema EM, et al. [Electronic health record-based patient identification and individualized mailed outreach for primary cardiovascular disease prevention: a cluster randomized trial](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3599027/) (http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3599027/) (//www.cdc.gov/Other/disclaimer.html). Journal of General Internal Medicine 2013;28(4):554–60.
20. Roshanov PS, Misra S, Gerstein HC, et al. [Computerized clinical decision support systems for chronic disease](#)

- management: a decision-maker-researcher partnership systematic review (<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3170626/>) (<http://www.cdc.gov/Other/disclaimer.html>). *Implementation Science* 2011;6:92.
21. Samal L, Linder JA, Lipsitz SR, et al. Electronic health records, clinical decision support, and blood pressure control ([http://www.ajmc.com/journals/issue/2011/2011-9-vol17-n9/AJMC\\_11sep\\_Samal\\_626to632/](http://www.ajmc.com/journals/issue/2011/2011-9-vol17-n9/AJMC_11sep_Samal_626to632/)) (<http://www.cdc.gov/Other/disclaimer.html>). *American Journal of Managed Care* 2011;17(9):626–32.
  22. Wang JJ, Sebek KM, McCullough CM, et al. Sustained improvement in clinical preventive service delivery among independent primary care practices after implementing electronic health record systems (<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3733479/>) (<http://www.cdc.gov/Other/disclaimer.html>). *Preventing Chronic Disease* 2013;10:E130.
  23. US Department of Health and Human Services. EHR Incentives & Certification: Meaningful Use Definition & Objectives (<http://www.healthit.gov/providers-professionals/meaningful-use-definition-objectives>) (<http://www.cdc.gov/Other/disclaimer.html>). Accessed Sep 25, 2015.
  24. US Department of Health and Human Services. ONC Health IT Certification Program (<http://healthit.gov/policy-researchers-implementers/onc-health-it-certification-program>) (<http://www.cdc.gov/Other/disclaimer.html>). Standards and Certification Criteria. Accessed Jun 11, 2015.
  25. CDC. Chronic Disease State Policy Tracking System (<http://nccd.cdc.gov/CDPHPolicySearch/default.aspx>). Accessed Jun 10, 2015.