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controlled, putting them at risk for significantly disabling or even life-ending
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## The Challenge

The widespread problem of hypertension is apparent in virtually every California community and it continues to be one of the most preventable risk factors targeted in public health. Health disparities are differences in health status among distinct segments of the population, such as those that occur by gender, age, or race/ethnicity. Health equity refers to efforts to ensure that all people have full and equal access to opportunities that enable them to lead healthy lives. The California Department of Public Health (CDPH) is addressing the issue of hypertension through many initiatives that seek to eliminate these health disparities and achieve the highest level of health equity for all Californians.

## Hypertension \& Health Impacts

Hypertension (HTN), or high blood pressure, is prevalent in 27.6 percent of California's adult population ${ }^{1}$ and is a major risk factor for cardiovascular disease (CVD), kidney disease, vision loss, and dementia. CVD includes coronary artery disease, stroke, and heart failure, and is responsible for about one in every three deaths in California. ${ }^{2}$ Because of the deadly consequences and virtual lack of symptoms of untreated HTN, it is often called the "silent killer."

Hypertension can be controlled through modification of lifestyle factors and through treatment with medication. Although in the Unites States 77 percent of patients with high blood pressure report taking medication for the condition, only 54 percent of hypertensive patients have their blood pressure under control. ${ }^{3}$

## WHAT IS

## HYPERTENSION?

Hypertension (high blood pressure) is the force of blood pushing against blood vessel walls, and a high pressure over time will damage those walls and cause them to "harden" faster, especially those in the heart, brain, kidneys, and legs. This can cause a heart attack, stroke, kidney failure, or amputation of the lower limbs. Blood vessels in the eyes can burst or bleed which may cause vision changes and can result in blindness. The extra stress on the heart causes it to get larger, which may lead to heart failure.


## Hypertension \& Health Equity: Persisting Disparities

Mortality from CVD has declined by 40 percent in all groups across California since 2000 due to improved management of HTN and cholesterol levels, reduction in tobacco use, and improved treatments for CVD. ${ }^{6}$ However, many disparities between communities are still apparent. In 2014, African Americans had a 50 percent higher mortality rate from CVD than the rest of Californians. ${ }^{7}$ Similar disparities exist for HTN. The prevalence of HTN increase with age, thus by age 65-74 years, over half of Californians have been diagnosed with HTN. Although HTN is more common in older adults, HTN affects all ages, including young and middle-aged adults. One in twelve California adults aged 35-45 years; one in six adults in this age group have been diagnosed with HTN.

HTN is reported similarly by men and women. The highest prevalence was reported by African Americans and Native Americans ( 36.5 percent and 35.5 percent respectively), well above the overall state level of 27.4 percent. The lowest prevalence was reported by non-Hispanic whites ( 25.4 percent) and Asians (24.1 percent). As with CVD overall, HTN is more prevalent among those with lower levels of education and income.

FIGURE 32 HYPERTENSION PREVALENCE IN ADULTS BY GENDER, RACE/ETHNICITY, EDUCATION, AND POVERTY, CALIFORNIA 2013-2014


Age-adjusted prevalence (\%)
SOURCE: California Health Interview Survey (CHIS) 2013-2014 Adult Survey. Heart disease prevalence is based on answers to the question: "Has a doctor ever told you that you have high blood pressure?" Horizontal lines represent $95 \%$ confidence intervals. Abbreviations: PI, Pacific Islander; GED, General Educational Development (High-school equivalency test)

## Hypertension Risk Factors

There are many risk factors that can increase the risk of developing high blood pressure. Some of these are inherited, while others can be modified through lifestyle changes.

## We CAN NOT change

- Age
- Race
- Family History
- Gender


## We CAN make lifestyle changes

- Stay Active
- Quit Smoking
- Consume less salt
- Eat more fruits and vegetables
- Avoid excessive alcohol use
- Reduce stress


In addition, there are social, economic, and environmental risk factors that can lead to a higher risk of HTN. Those living in poverty, those facing discrimination, and those living in unsafe neighborhoods are more likely to have high stress levels which can in turn worsen or increase the risk for HTN and other chronic diseases. Those living in low income areas may experience increased exposure to environmental toxins and pollutants, making them less likely to engage in physical activity. In addition, low income communities often have a higher concentration of fast food restaurants as well as a lack of access to healthy foods. By addressing poverty and increasing economic opportunities, we can help address the health disparities faced by populations most at risk for hypertension.

## Hypertension \& Health Equity: CDPH Commitment

CDPH is dedicated to optimizing the health and well-being of Californians by striving to eliminate health disparities among California's most vulnerable populations with multifaceted approaches. By working on proven Centers for Disease Control and Prevention (CDC) strategies at the state and local levels, CDPH aims to effect positive change. All of the following programs and initiatives are working towards reducing HTN and CVD through a health equity lens.

## ECONOMIC BURDEN:

In the United States, high blood pressure costs the nation $\$ 46$ billion each year. ${ }^{4}$ This total includes the cost of health care services, medications to treat high blood pressure, and missed days of work. Projections show that by 2030, the total cost of hypertension could increase to an estimated $\$ 274$ billion. $^{5}$


## Office of Health Equity

The CDPH Office of Health Equity (OHE) provides a key leadership role in improving the health status of all populations and places, with a priority on eliminating health and mental health disparities and inequities OHE's mission is to promote equitable social, economic and environmental conditions to achieve optimal health, mental health, and
well-being for all. As such, OHE is committed to addressing the underlying systems and living conditions, or the "social determinants of health" (e.g., economic, transportation, land use, housing, etc.), that in turn produce health inequities, with particular emphasis on low-income populations, the very young and the very old, communities of color, and those
who have been marginalized or discriminated against based on gender, race/ethnicity, or sexual orientation. ${ }^{8}$ OHE partners with communitybased organizations, local governmental agencies, and other State agencies, to ensure that health equity, and community perspectives and input are included in policies and strategic plans, recommendations, and implementation activities.


## POLICY

## Let's Get Healthy California

In 2012, Governor Jerry Brown issued an Executive Order establishing the Let's Get Healthy California Task Force to "develop a 10-year plan for improving the health of Californians, controlling health care costs, promoting personal responsibility for individual health, and advancing health equity." The Task Force established priorities for preventing and managing chronic disease including: meeting physical activity guidelines, consuming a healthy diet (including fruit and vegetable consumption), reducing tobacco use, improving control of hypertension high cholesterol, and reducing the prevalence of obesity and diabetes.

## California Wellness Plan

CDPH, in collaboration with local and state partners, produced a master plan on chronic disease and injury prevention entitled, the California Wellness Plan (CWP). This ten-year plan serves as a roadmap to create communities in which people can be healthy, improve the quality of clinical and community care, increase access to usable health information, assures continued public health capacity to achieve health equity, and empower communities to create healthier environments. The overarching goal of the plan is to achieve equity in health and wellbeing, with an emphasis on the elimination of preventable chronic disease. This CWP is currently being implemented through funding from the CDC Preventive Health and Health Services Block Grant.


Million Hearts ${ }^{\circledR}$

Million Hearts ${ }^{\circledR}$ is a national, public-private initiative with the goal of preventing one million heart attacks and strokes in the United States by 2017. The initiative aligns prevention and control efforts to improve health across communities by empowering Americans to make healthy choices and improving quality of care. In support of the Million Hearts® goal, CDPH has committed to the following activities to increase the percentage of adults who can control their hypertension and high cholesterol:

- Collaborate with state and local programs to promote healthy policies and environments that support healthful choices; access to quality, coordinated
health systems; and equity in health and wellness through promotion, convening stakeholders, and providing education.
- Promote use of electronic health records with registry function, decision supports, and electronic reminders.
- Encourage appropriate use of HTN medications by promoting coordination between providers such as physicians, nurses, pharmacists, and community health workers for management of high blood pressure.
- Promote cholesterol management via websites, worksites, and statewide meetings.
- Increase smoking cessation.




## Call to Action

Whether you are a physician, a health professional, a policymaker, a funding organization, or a patient, you have a role to play in reducing HTN! What actions will you take to improve health equity and reduce HTN and its risk factors?

- Support policies to increase access to healthy and affordable foods, such
as establishing local farmers markets, establishing full-service grocery stores in food deserts, or increasing healthy food offerings (e.g., in convenience stores).
- Get screened for high blood pressure.
- Limit your daily sodium intake to less than 2300 mg per day.
- Increase your physical activity level and advocate for safe and more walkable and bikeable communities.
- Talk to your patients about quitting smoking.
- Support increased funding for cardiovascular disease and diabetes prevention.
- Discuss the importance of nutrition and physical activity with your friends, family, and community.
- Manage and reduce stress.


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