

## Chronic Disease Prevention: For Dollars and Sense

March 2018

Cost, access, and quality are among the key issues addressed when discussing healthcare in America. This sole focus on medical treatment and payment limits the potential of public health interventions to support good health maintenance, as well as the prevention of disease and disease complications. The total national health expenditures in 2015 were $3.2 trillion, with the per capita national health expenditures reaching $9,990.[[1]](#endnote-1) America’s health expenditures are expected to increase at an average rate of 5.6 percent per year through the year 2025 if current policies and conditions persist.[[2]](#endnote-2)

History shows that medical innovations and advances in public health have increased the life expectancy of our population by reducing early mortality resulting from infectious diseases such tuberculosis and diarrhea. As a result of this demographic and epidemiologic transition, increased life span is therefore correlated with chronic diseases and morbidities such as diabetes, heart disease and stroke, cancer, and dementia. In addition to advances in medicine, health behaviors are now more responsible for contributing to or preventing these novel chronic diseases.

* Chronic diseases accounted for seven of the top 10 causes of death in 2014[[3]](#endnote-3)
* 46% of all deaths in 2014 were caused by two chronic diseases—heart disease and cancer3
* Those who die of chronic disease before age 65 lose one-third years of potential life[[4]](#endnote-4)

Chronic disease negatively impacts population health beyond just deaths alone. The diseases tend to be long lasting, and are treatable; however, not curable. Disability and reduced quality of life are complications that are likely experienced by patients due to chronic disease. The burden of chronic disease is directly shared by Americans of all ages, and the associated economic impact is felt by taxpayers and employers alike.

* Over 117 million people in the United States—about half of all adults—have at least one chronic health condition3
* One in four U.S. adults have two or more chronic health conditions3
* At least 50% of U.S. adults do not meet recommended aerobic physical activity guidelines3
* Diabetes is the number one cause of kidney failure, lower-limb amputations, and new cases of blindness among adults, which can hinder daily tasks for the individual3
* More than one third of U.S. adults have at least one type of cardiovascular disease, some of which can be prevented through lifestyle interventions3

Most families are negatively impacted by chronic disease by some means: whether it be the personal diagnosis of a disease, grievance of the death of a loved one, family members with long-term illness, disability, or reduced quality of life, or the financial and community burdens evoked by these diseases.

Our nation’s health must not be measured by the length of life, but by the quality of life of all Americans. Chronic diseases account for 86% of health care costs in the U.S. Therefore, the pressing issue of chronic disease and the preventive health measures in the country ought to be acknowledged.

The state of the nation’s health care system emphasizes expensive advancements in the hopes of curing disease, however cost-effective preventive measures to avert such diseases should be the focus. Traditional physician-patient visits are the typical point of care in our society. Although effective, the visits tend to be infrequent and hurried. However, individuals spend considerably more time in their communities, whether it be at school, work, or play, where they are engaging in health risk or health promoting behaviors. Much of the time, the individual makes such decisions with minimal training, information, and health literacy. This is particularly true of the 28 million Americans who are uninsured and have limited access to health care services.[[5]](#endnote-5)

## Coming to Grips with Reality

* When we realize that over 86% of all the nation’s health care costs relate to chronic diseases, and most of such costs are preventable3
* When we realize that our nation’s health care system is ranked 24th based on progress in meeting the United Nation’s Sustainable Development Goals[[6]](#endnote-6)
* When we realize that the projected prevalence of any cardiovascular disease in the United States will increase by 3% to over 45% by the year 2035[[7]](#endnote-7)
* When we realize that 27% of young adults are too overweight to serve in the military[[8]](#endnote-8)
* And when we realize that we are responsible for causing the greatest problems for ourselves
* We will then realize the utmost necessity for public health policy and prevention

## Now is The Time

Choosing healthy options and refraining from risky health behaviors is a challenge at every stage of our lives in the culture that we live in today. Adults and adolescents alike know that it is important to eat healthy, engage in physical activity, and avoid tobacco. However, schools are cutting back on recess and physical education, tobacco is readily available, and nutritious food choices are available but costly. This showcases another problem of disparities amongst people which hinder their access to healthy food options and lifestyle interventions.

Although the available resources are effective in treating many chronic diseases and diagnoses, time, money, and expertise would be better spent addressing proactive interventions to prevent or mitigate the effects of the diseases in the first place. This change to the traditional healthcare methods would not only improve the lives of Americans, but will also reduce long term healthcare costs.

The Centers for Disease Control and Prevention (CDC) and associated state and community based programs are responsible for developing and implementing a wide range of preventative strategies ([www.chronicdisease.org](http://www.chronicdisease.org)). This current array of evidence-based and cost-effective programs are a result of just limited funding towards chronic disease control and prevention initiatives. State successes, referenced on the aforementioned website, spotlight achievements regarding many of the funded activities throughout the nation. Students in an Idaho school district have experienced better social behavior and academic standings as a result of the district’s focus on wellness. Throughout the country, 24 health care professionals and practices were recognized as 2018 Million Hearts® Hypertension Control Champions for their success in increased blood pressure control amongst their patients with hypertension. State employees in Minnesota are eligible for a diabetes prevention program as a covered benefit and plan members enrolled lost 4.3% body weight on average. The expansion of funds to support movements such as increasing physical activity, early detection of cancer, prevention and control of diabetes, heart disease, and stroke, reduction of disabilities associated with chronic diseases will only widen the impact across the country.

Although these success stories are praiseworthy, they only scratch the surface of the chronic disease epidemic. Chronic disease prevention strategies are not one-size-fits-all, and therefore tailored interventions for diverse populations are imperative to reap the associated benefits—a healthy population, elimination of disparities and decreased healthcare costs.

## Bringing Chronic Disease Prevention Up to Scale

Chronic disease prevention and control programs receive minimal governmental healthcare funding. Investment in CDC’s National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) must increase substantially so that every state has the opportunity to provide an array of evidence-based programs necessary to prevent chronic disease. The following must be included:

* Arthritis Prevention and Control
* Diabetes Prevention and Control (including prevention of kidney disease)
* Early Detection of Cancer and Cancer Survivorship Services
* Healthy Community Programs (including Nutrition and Obesity Initiatives - Steps, REACH, others)
* Heart Disease and Stroke Prevention
* Implementation of The Healthy Brain Initiatives: The Public Health Road Map
* Obesity Prevention and Control (including both nutrition and physical activity)
* School Health and Oral Health Programs
* Tobacco Prevention and Control

Prevention efforts in America receive approximately the same amount of funding as they did in 2001. Whereas housing, education, and medical care investments have surpassed inflation rates, prevention investments have not kept up with this trend.

## Important Opportunities

It is not too late to invest in prevention methods that will increase the quality of lives of Americans, as well as decrease the health care spending in the nation. CDC should be at the forefront of this initiative and continue to lead the successful programs that are already in place. CDC’s NCCDPHP has demonstrated positive impacts on improving health and decreasing chronic disease across the lifespan, increasing healthy life expectancy, and therefore reducing health care costs through the tracking of chronic disease and risk factors, partnering with states and communities, and supporting health care delivery of prevention services.[[9]](#endnote-9) In addition to the abovementioned state-based, evidence-based programs, and with an increase in funding, CDC has the potential to further accelerate the assembly of additional programs to develop new evidence for changes in healthcare; target diverse populations and disparities; launch further health and community linkages, health and economic development linkages, and Medicaid and Public Health partnerships. Furthermore, physical activity is a sector that demands immediate attention from CDC, as the current epidemic of sedentary behavior negatively impacts our health, the health of the aging population, our economy, and our national security.

The federal and state partnerships can utilize state projects to increase the database, encompassing best evidence-based practices to further transform the United States into a healthier nation.

## Examples of Impact

### Chronic disease prevention and control programs save lives and money!

### Physical Activity

Physical activity can improve health by lowering risks for chronic diseases, controlling and maintaining weight, and therefore increasing the length and quality of life.[[10]](#endnote-10) However, only half of adults and a quarter of children and adolescents engage in the recommended amount of aerobic physical activity.[[11]](#endnote-11) Due to the lack of physical activity, lifestyle choices, and other conditions, more than a third of U.S. adults and 17 percent of youth have obesity.[[12]](#endnote-12) The obesity epidemic is detrimentally impacting the national security of the nation in that 1 in 4 young adults are too heavy to serve in the military. Additionally, between the years 2002 and 2011, obesity among active service duty members rose over 60 percent, thereby preventing them from meeting medical standards to deploy, or will likely be associated with increased risk for injury once deployed.12 Along with the health risks and national security risk related to obesity, the high cost is another issue that must be considered. The annual medical cost of obesity in 2008 U.S. dollars was $147 billion, and the estimated medical costs were $1,429 higher for those with obesity than for those at a normal weight.12

### Diabetes

If current trends continue, one-third of U.S. adults are expected to be living with diabetes by the year 2050.[[13]](#endnote-13) More than a third of U.S. adults currently have prediabetes and are therefore at risk for a diagnosis of type 2 diabetes, as well as other chronic diseases such as heart disease and stroke, and accompanying body complications.13 Programs like the National Diabetes Prevention Program (DPP) have a mission to lower the risk of such chronic diseases for those with prediabetes by educating and encouraging those patients to engage in healthy lifestyle habits, including increased physical activity and nutritious food intake. Not only will programs like the National DPP decrease chronic disease risk—risk of developing type 2 diabetes can be reduced by 58% for those with prediabetes who participate in lifestyle modification strategies—but it will consequently decrease the associated health care expenditures.13 Direct medical costs and lost productivity equate to $245 billion yearly, and medical costs are doubled for those with diabetes compared to those without the disease.[[14]](#endnote-14)

### Heart Disease and Stroke

One-quarter of deaths in the United States are due to heart disease each year, while 1 out of every 20 deaths are due to stroke.[[15]](#endnote-15),[[16]](#endnote-16) Heart disease and stroke are estimated to cost the nation $234 billion annually—$200 billion for heart disease; $34 billion for stroke—for medical costs and lost productivity.15,16 High blood pressure is a key risk for both heart disease and stroke; however, only half of people with hypertension have the condition under control.[[17]](#endnote-17) About 70-80% of people that have their first heart attack or first stroke also have high blood pressure.[[18]](#endnote-18) Controlling blood pressure and other risk factors, like uncontrolled cholesterol and current smoking, can decrease a person’s risk of suffering a heart attack or stroke by 80%.[[19]](#endnote-19) With both professional and patient education, as well as risk identification and reduction, these cardiovascular events are highly preventable or treatable.

### Cancer

Public health early detection programs are accountable for the identification of many types of cancers in the early stages. The earlier identification of cancer is correlated with more effective treatments and positive outcomes, as well as decreased expenses. The average costs per-patient for breast cancer, one-year post diagnosis is about $60,000, and $130,000 for early stage and stages III/IV, respectively.[[20]](#endnote-20) Additionally, patients with colon cancer identified by colonoscopy rather than through other means, such as presenting with symptoms, have better staging and outcomes, prolonged longevity, improved quality of life, and reduced health care costs.[[21]](#endnote-21)

### Alzheimer’s Disease

Over 5 million Americans are currently living with Alzheimer’s disease, and this number is estimated to triple by 2050 due to the aging population.[[22]](#endnote-22) Alzheimer’s disease is reported as the sixth leading cause of death among U.S. adults.22 However, it is hypothesized that the disease should be ranked higher, as it is commonly not the diagnosis reported on death certificates. Alzheimer’s disease and other dementias cost the nation $259 billion in 2017, and with the projected increase in prevalence, it is expected that the costs could reach $1.1 trillion in 2050.[[23]](#endnote-23) In addition to the health and costs of the patient, caregiver health is of concern, as 35 percent of caregivers report that their health has declined as a result of their care responsibilities.23 There is a growing body of evidence, including that of *The Healthy Brain Initiative: The Public Health Road Map for State and National Partnerships*, that support the use of federal resources and public health’s role in raising awareness and maintaining quality of life for those both directly and indirectly affected by the disease.

*Public health programs work to improve care, prevent disease, and prevent complications of disease. An investment in chronic disease prevention and control programs saves lives, improve quality of life, and saves healthcare dollars.*

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