

# Chronic & Communicable Diseases In The Silver State: Can Nevada's Health Care System Handle Growing Challenge?

by  
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The prevalence of Chronic Disease may well be taken as a sign of a highly developed society, where the availability of food, drink, and pleasure-seeking create populations whose daily lives transition from excessive behaviors to excessive use of the health care system. That may be too glib a sentence however to explain the realities of chronic disease (heart disease, stroke, cancer, diabetes, asthma) and other chronic conditions (resulting from diseases that are the result of sexually transmitted or communicable infections) on Nevadans and the challenges to the health care system to meet those challenges. While behaviors do contribute significantly or cause some chronic diseases, environmental exposures increase risks as do a person's genetic disposition to certain illnesses. Let's look at the impact of chronic disease on Nevada's health care system and discuss the need for increased treatment capacity and prevention strategies that might reduce that need over time.

The Partnership to Fight Chronic Disease (<http://www.fightchronicdisease.org/states/nevada>) is a new Nevada coalition calling on Presidential candidates to address chronic diseases as a focus of their health care plans. There's always a chance that the Presidential campaigns after the conventions might actually want to focus on such matters. After all, the evidence is overwhelming that most health care costs are associated with chronic disease. Every family has dealt with or is dealing with a loved one with one or more chronic diseases and understand that these diseases are leading causes of death and disabilities. Check out the coalition's web site and help them to help the Presidential candidates to talk about something meaningful.

The Legislative Committee on Health Care (a joint committee of State Senators and Assembly-members that meets in the months between Legislative Sessions) held a fascinating March 23rd meeting to look at public and population health issues. In this assessment, I'm interpreting data from presentations made at that meeting, from the work of the Coalition I mentioned above and from national resources. Nationally, we spend just short of \$3 trillion on health care every year, an amount that is expected to continue growing as the Baby-Boom generation ages. 86% of this \$3 trillion (largely through the federal Medicare program which covers individuals with disabilities and seniors) go for chronic disease treatment.

In Nevada, 54% of all patients have at least one chronic condition. Nationally, that accounts for 50% of adult patients. 16% of Nevada patients have 2 chronic diseases, while 12% have 3 chronic diseases or more. Again, this is much higher than the national prevalence numbers. The direct cost of chronic disease in Nevada is estimated by the Department of Health and Human Services to be \$4 billion annually. The "indirect" cost of chronic disease in Nevada is estimated to be over \$16 billion per year.

The Silver State's 3 top causes of death are all chronic diseases: cardiovascular disease, cancer and chronic lower respiratory disease. The national Centers for Disease Control and Prevention estimates that 2,411 Nevadans could be saved this year through prevention and treatment of chronic disease. There lies the challenge. Much of the health care system is there to provide disease diagnosis and treatment. That's where most costs are and that's where families feel the burdens of loved ones dealing with chronic illnesses. The costs of managing

chronic disease is the largest cost in the federal Medicare and the Federal/State Medicaid programs.

No one can argue that this care should be reduced or eliminated, but there is a way to reduce the need for these costs to continue rising in the future. For these possibilities, one needs to look at another vital center of the health care system called “public health” and “population” as opposed to individual health measures. Benjamin Franklin wrote: “An ounce of prevention is worth a pound of cure.” As often the case with Franklin, this simple truism has significant impact if applied to a real-world problem. (Incidentally, Franklin apparently didn’t invent the phrase which is attributed to a 13th century Englishman named Henry de Bracton.)

As an example of applying public health and population intervention thinking to health care, let’s consider a non-immunized child who contracts whooping cough. That’s happened a lot in recent years partially because of political controversies regarding vaccines and partially because of young immigrants who often are not in the general population until they attend school leaving a large non-immunized pre-school population. The child will require treatment and, under some circumstances, hospitalization. That care needs to be available and provided, but the child would not have become ill if she had been vaccinated against this preventable disease. Even if our child patient didn’t get immunized, she probably could have avoided the disease if most of the children around her had been vaccinated. That’s the basic principal of “population health” interventions. The U. S. witnessed the virtual elimination of epidemics and childhood deaths from measles, polio, and other vaccine preventable diseases in the decades following World War II when mass population vaccinations of children simply made it hard for the microbes to break through the preventive shield that protected the population. Unfortunately, for the reasons noted earlier (political controversies and unprotected immigrant populations) as well as others, too many children and adults are unprotected from these microorganisms and we again face the potential for epidemics. The largest and deadliest epidemic of modern times was the 1918 influenza outbreak. A flu pandemic, largely preventable by vaccine, is certainly the most likely mass outbreak that we’ll face in the near future.

The public health system was incredibly successful during the late 19th and early 20th centuries with population health measures such as cleaning the population water supply (a major source of mass illnesses and deaths in human history). Public health was successful in protecting the food chain from contamination. Both of these great successes, which experts generally agree accounted for most of the lengthened life spans and particularly the reduction of childhood death rates, are again problematic as food borne disease outbreaks and contaminated water supplies resulting in chronic childhood illnesses are back in the news.

Public health interventions have eliminated many mosquito (and other) insect borne epidemics, but the last few years have seen outbreaks of ebola, dengue fever, and zika in isolated parts of equatorial nations become threats in Europe and the United States. Modern travel allows illnesses to travel anywhere and unprepared populations to become infected. While vaccines are likely to be developed against these threats, the more successful public health intervention in the short term is probably eradication of the disease carriers. Nevertheless, each outbreak requires medical interventions to treat the ill as well as a public health intervention to reduce the overall impact of the disease.

Public health has also been quite successful in mass education interventions about tobacco use and sexually transmitted diseases among others. Again, as time has passed tobacco use among young people may be on the rise again. Nevada public health authorities have reported alarming rises in HIV, syphilis and gonorrhea rates. A mass education campaign done once has positive consequences, but a new generation further away in time and experience from the illnesses about which the education campaign was created repeat the behavior which caused the problem in the first place.

I think this makes a case that public health, no less than individual health care treatment, is valuable and can be an incredibly successful part of a successful chronic disease prevention strategy through population based interventions. Tobacco use remains the largest preventable cause of heart disease, cancer and lung disease. Public health interventions in Nevada have successfully brought down tobacco smoking rates. Similar success is expected from mass educational efforts regarding the consequences of high-fat and high sugar diets, which also result in chronic diseases (diabetes, heart disease, cancer). While still resisted in the face of scientific data (as tobacco industry advocates and tobacco users did for decades), obesity and diabetes are reaching epidemic rates. The Partnership to Fight Chronic Disease projects that 1 in 3 Nevada children in the first grade will develop diabetes in their lifetimes.

As the costs to treat chronic diseases approaches 90% of all health care costs, the application of prevention strategies to reduce the number of patients with chronic disease would seem obvious. Perhaps not. Of the \$3 trillion in US health care spending, we spend \$79 billion or 2.6% on public health services. Again, the Nevada numbers are dreadful. The average US State spending on public health per capita is \$31.06. That's terribly low, but Nevada spends \$3.59 per capita, ranking the Silver State as 51st in the nation according to the Trust for America's Health. Not surprisingly, chronic disease prevalence continues to climb.

These facts are painful. We must be content to face growing chronic disease treatment costs unless we are prepared to develop a two pronged strategy that treats those with chronic diseases and reduces the rate of growth by vigorous preventive public health interventions. Aldous Huxley once wrote: "Facts do not cease to exist just because they're ignored." The challenge to us and to our political leaders is to face the facts about chronic disease while we can change them.