

Public Health 2030: Economics and Public Health Financing Driver Forecasts

Forecast Summaries

Expectable: Slow economy, mixed health results

- U.S. economy grows slowly between 2012 and 2030 with two “normal” recessions
- Health care costs continue to strain spending in most state and local governments
- Recessions accompanied by increased mental health problems, chronic inflammation, regression to poor behaviors, and increased infant and maternal morbidity and mortality
- By 2030 almost 50 percent of Americans are obese (better than previous projections that over 60 percent of Americans would be obese)
- More localities use “alternative economics” such as time-banking and consumer-supported agriculture to both adapt to and thrive during economic instability
- Federal per capita public health spending increases from \$251 (in 2012) to \$320 (2012 equivalent); health care expenditures drop from over \$8,000 (in 2012) to \$7,400 (2012 equivalent)

Challenging: Economic and health regressions

- In 2022, the Second Great Depression follows the “lost decade” of the 2010s
- Severe reductions in local and state public health spending
- Rises in homicide, violent crime, theft, and drug abuse; heart attacks and suicide rates skyrocket by the mid-2020s
- By 2030, children are born with health problems and defects at higher rates than any decade in modern history
- A minority of Americans turn to homesteading and self-reliability activities; the few who succeed often sell their resources at exorbitant prices or fiercely defend their homes and resources from potential attackers
- Federal per capita public health spending declines from \$251 (in 2012) to \$174 (2012 equivalent); health care expenditures remain consistent at over \$8,000 per capita (2012 equivalent)

Aspirational: Economic transformations and cost-effective health gains

- By 2030 the economy largely recovers and transforms; the 2015 and 2022 recessions inspire the nation to aggressively pursue accountability, cost-effectiveness, prevention, and innovation
- State and local governments combine alternative economics and technological innovations to increase economic and financial resilience
- Leaders implement sound and socially productive economic and financial policy, such as Sustainability/Health/Equity in All Policies
- Maintenance of “living security” and a focus on enhancing equity drives economic policy and technological innovation
- Alternative economics prove highly successful in low-income communities; public health promotes these and provides some regulation of the food production activities
- Federal per capita public health spending rise from \$251 (in 2012) to \$350 (2012 equivalent); state and local expenditures rise as well; health care expenditures decline significantly

Driver Background

The national economy and public health financing both impact public health outcomes. Certain adverse health effects occur during economic decline. Suicide rates tend to increase, and mental health worsens.¹ In the U.S., “job churning” (a state of low unemployment but high job loss rates) has been associated with the reporting of more poor health conditions.² Job loss increases the chance of reporting poor or fair health.³ Job displacements have been associated with a higher risk of mortality for men in the U.S. even 10 years after the job displacement.⁴ Worsening health is also frequently experienced by individuals undergoing a foreclosure or experiencing housing insecurity.⁵

However, some health indicators actually improved in the United States during periods of economic decline, perhaps because of behavioral change. For example, constrained resources and income may lower the amount of unnecessary driving to reduce spending on fuel, thus contributing to fewer driving accidents.⁶ Burgard points out that while the “direct effects” of a recession on health are usually negative, the “indirect effects” of recessions can improve health.⁷ However, studies of the U.S. and other nations show that health is better maintained in industrialized nations when resources are shared across the nation. Thus, increases in income inequality in the U.S. can hinder health improvement and exacerbate health disparities.⁸

Burgard points out that it is difficult to measure the impact of an economic recession on public health, because post-recession data is often lacking, and many negative effects may take time to manifest themselves. However, even early indicators suggest negative impacts on health.⁹ For example, Asian Americans, African Americans, and Latinos experienced small increases in asthma during and following the recession.¹⁰ Higher levels of stress, depression, and anxiety were observed as well. Serious psychological distress increased during the most recent recession, particularly among 25-44 year olds.¹¹ The American Public Health Association found that more individuals suffered from deaths due to psychiatric disorders, heart disease, and cancer during previous recessions than during times of economic stability or growth.¹² In addition, regression to unhealthy behaviors has been on the rise (alcohol, drug, and tobacco use among people who had previously controlled their addictions, or compulsive eating among obese patients who had been able to lose weight previously).¹³

¹ Bezruchka, Stephen, MD, MPH. "The Effect of Economic Recession on Population Health." *CMAJ* 181.5 (2009): 282. 31 Aug. 2009. Web. 1 Apr. 2013.

² Ibid, 283.

³ Ibid.

⁴ Burgard, Sarah. 2012. *Health, Mental Health, and the Great Recession*. Stanford, CA: Stanford Center on Poverty and Inequality. p. 1.

⁵ Ibid.

⁶ Ibid.

⁷ Ibid.

⁸ Bezruchka, Stephen, MD, MPH. "The Effect of Economic Recession on Population Health." *CMAJ* 181.5 (2009): 281. 31 Aug. 2009. Web. 1 Apr. 2013.

⁹ Burgard, Sarah. 2012. *Health, Mental Health, and the Great Recession*. Stanford, CA: Stanford Center on Poverty and Inequality. p. 1.

¹⁰ Ibid.

¹¹ Ibid, 4.

¹² Abramson, Susan S., MHS. *Holes in the Net: Surveying the Impact of the Current Economic Recession on the Health Care Safety Net*. Issue brief. American Public Health Association (APHA), Apr. 2009. Web. 1 Apr. 2013. p.2.

¹³ Ibid, 3.

With national, state, and local budget constraints, expenditures on public health are limited. Mays and Smith found that public health spending is linked to declines in preventable deaths.¹⁴ The National Association of County and City Health Officials (NACCHO) found that in 26 states, over half of the local health departments (LHDs) had made cuts in at least one program area during 2011;¹⁵ 57% of LHDs had curtailed or terminated services in at least one program area in 2011 (program areas that were most frequently cut or eliminated included chronic disease treatment and screening, population-based primary prevention, clinical health services, maternal and child health programs, and emergency preparedness).¹⁶ Over a third of the U.S. population lives in a jurisdiction that reported a decrease to at least three program areas, while nearly two-thirds of the U.S. population lives in a jurisdiction that reported reductions to at least one program area.¹⁷ Furthermore, LHDs dropped almost 40,000 employees between 2008 and 2011, including 5,000 staff positions during the second half of 2011.¹⁸ Nationwide, 44% of LHDs lost at least one staff person, and 62% of the U.S. population lives in an affected jurisdiction.¹⁹

Thus, the state of the national, state and local economies can influence public health directly and indirectly. Budgetary constraints can directly hinder public health spending, which limits the capacity of LHDs to improve public health and maintain their current public health activities. Coupled with inequalities in income and resource distribution, declines in the national, state and local economies and reductions in public health spending can also exacerbate or create gaps in health.

The state of the economy is also fostering alternative approaches to meeting personal and family needs in communities, making individuals and communities more resilient and self-reliant. These include open barter networks, time banking, local currencies, local food growth and consumption (including community supported agriculture, urban agriculture, community gardening, crop swaps, seed saving and home aeroponics). Benefits have been observed among individuals and communities participating in time banks by cutting the cost of clinical health care, helping people feel valued, and helping aging people maintain their health.²⁰ Time banks involve individuals sharing or “banking” their time by providing services for others in the community. Since time banks require services, not money, expansion of time banks into low-income communities may benefit families. Similarly, community supported agriculture (CSA) initiatives invite local citizens to pledge their financial support to local farms as investors and receive shares of the anticipated harvest during the growing season in the form of weekly shares of fruits, vegetables, and other food items.²¹ CSA programs and partnerships, which have been created in many communities, have the potential to combat food deserts, to enhance prevention, and to improve nutrition. LHDs have been involved in some of these efforts, particularly in those that

¹⁴ Mays, G. P., and S. A. Smith. "Evidence Links Increases In Public Health Spending To Declines In Preventable Deaths." *Health Affairs* 30.8 (2011): 1585-593. 21 July 2011. Web. 6 Sept. 2012.

¹⁵ *Local Health Department Job Losses and Program Cuts: Findings from the January 2012 Survey*. Issue brief. National Association of County & City Health Officials (NACCHO). Web. 1 Apr. 2013. p.2.

¹⁶ *Ibid*, 1-2.

¹⁷ *Ibid*, 2.

¹⁸ *Ibid*, 4.

¹⁹ *Ibid*, 5.

²⁰ See <http://opinionator.blogs.nytimes.com/2011/09/20/the-payoffs-of-time-banks/>. Accessed 4 April, 2012. Also see <http://timebanks.org/wp-content/uploads/2011/08/KeepingtheGPAway.pdf>. Accessed 11 May, 2012.

²¹ See https://en.wikipedia.org/wiki/Community-supported_agriculture. Accessed 17 April, 2012.

encourage healthy eating. LHDs' roles in advocating and in some cases regulating these economic development, economic sustainability and self-sustainability initiatives – and various alternative and local economic modes and models – are likely to grow.

Forecasts

Expectable Forecast

The U.S. economy experienced slow growth between 2012 and 2030, with two “normal” recessions in 2015 and 2022. Unemployment grew during the recessions and remained high even when the economy was growing. The average national unemployment from 2010 to 2030 was 8%. In 2030, most state and local governments have negative operating balances (i.e., most are not able to use current receipts such as tax income to cover their current expenditures), mainly due to health care compensation for state and local government employees and retirees, Medicare expenditures, and other health-related costs.²² During the recessions, local and state public health expenditures declined. More people died from preventable causes during and immediately following the recessions. During the recession that began in 2015, a noticeably higher rate of newborns and children experienced health problems. The psychological stresses associated with the recession and its impacts (foreclosures, job insecurity, underemployment, loss of welfare support, etc.) had activated genetic mechanisms that created more chronic inflammation, mental health problems, and anxiety in adults and their children.²³ More individuals began to regress to poor behavioral habits as well. These impacts played out into long-term health consequences, which were exacerbated in the 2022 recession for those who had suffered during the 2015 recession.

Unemployment, underemployment, foreclosures, and financial instability had immediately noticeable health and health care impacts, as people experienced higher rates of depression and poor mental health, and cancelled doctor's appointments and prescription/medication refills. Men in particular who lost their jobs in 2015 and/or 2022 experienced noticeably higher mortality rates. “Recessions” often implied an economic state of “depression” for low-income individuals and families, for many non-Caucasians, and for recent immigrants. The long-term impacts of the recessions on many low- and middle-income individuals, minorities, and recent immigrants began to play out in the 2020s. Worsening mental health and increasing stress factors became particularly prominent in these groups. These groups also suffered from increased maternal and infant mortality rates. Patients who had foregone necessary preventive care experienced more health problems.

Not all news was bad during the recessions of 2015 and 2022, however. Projections made by Trust for America's Health back in the 2000s that over 60% of Americans would be obese by 2030 ultimately

²² For an explanation of operating balances and projections out to 2030, see state and Local Governments' Fiscal Outlook: April 2013 Update. GAO-13-546SP. Washington, D.C.: April 2013. pp.1-2.

²³ Coghlan, Andy. "AUSTERITY'S TOXIC GENETIC LEGACY." *NewScientist* 13 Apr. 2013: 6-7. Print.

inspired national and local prevention, nutrition, and exercise programs (although by 2030 almost half of Americans are still obese). Driving accidents were reduced during the recessions because of fewer miles driven, and some communities and families took measured steps to maintain their health and plan for their futures. Some states and localities had taken serious approaches to preventing public health declines after the 2015 recession, and proved more resilient than other states and localities during the 2022 recession. These states and localities did particularly well economically during periods of economic stability, while the other states and localities recovered more slowly. Beginning in the early 2020s, more and more localities and “transition communities” used innovative initiatives such as time banking, and consumer-supported agriculture to adapt to and even thrive during periods of economic instability. Thus, in 2030, there is a “mixed bag” for how well or poorly states and localities are doing economically. However, most local health departments (LHDs) that survived the 2015 recession are still recovering from the 2022 recession, even in 2030. Many have not rebuilt their staff to earlier levels and were trying to hold on to their share of reduced local government revenues.

Per capita public health spending by the federal government in 2030 has increased moderately to \$320 (2012 equivalent) from the 2012 amount of \$251,²⁴ while health care expenditures dropped relative to the 2012 proportion of health care spending (from over \$8,000²⁵ to \$7,400 [2012 equivalent]). LHDs had significantly cut their workforces during both recessions, and rehired slowly after each one. They also invested in new technologies, activities, advocacy, and research for community prevention. Local and state financing for public health activities and LHDs increased in non-recession periods, aiding the efforts of LHDs. However, they were not flourishing across the nation, as many had kept their budgets and staff quite limited in order to save money in the longer term. The success of LHDs in their efforts depended largely on their locations. Those in more progressive, wealthier localities took advantage of supportive political will, citizen advocacy, funding, and technology to accomplish their goals. In less progressive and more fiscally constrained areas, LHDs were limited in what they could do, often serving more in a reactive capacity to health problems, rather than enacting prevention and promoting or creating optimal health. By 2030, half of LHDs have expanded and strengthened program areas in chronic disease treatment and screening, population-based primary prevention, clinical health services, maternal and child health programs, and emergency preparedness (57% of LHDs in 2011 had selected at least one of these program areas to be cut or curtailed due to financial constraints).

Challenging Forecast

Debt and deficit reduction measures, particularly sequestration in the early 2010s, led to severe cuts that rendered many federal, state, and local programs ineffective, increased unemployment, and prevented economic recovery. The “lost decade” of the 2010s was followed by a major economic downturn in 2022, dubbed the “Second Great Depression.” The interest payments alone on the national debt grew so high that growth in the non-recession periods was further slowed. Local and state public

²⁴ See <http://www.healthcarefinancenews.com/news/iom-calls-more-us-public-health-spending>. Accessed 29 May, 2013.

²⁵ Ibid.

health expenditures had declined severely, or had been eliminated entirely in some cases. In public health, cutbacks in expenditures on prevention, infectious disease control and inspections led to increased illness and deaths. Individuals and families of low- and middle-income, many non-Caucasians, and many recent immigrants suffered in particular from anxiety, mental health problems, and depression. Heart attacks and suicide rates had skyrocketed by the mid-2020s.

The “Second Great Depression” that began in 2022 really hurt most of the population, particularly recent graduates (who had little or no job experience, high debts, and few financial resources of their own), low- and middle-income individuals and families, non-Caucasians, recent immigrants, and the elderly (who were more susceptible to stress and chronic health conditions, and who were influenced by the general stress of their families, loved ones, friends, and the nation). These groups collectively totaled 65% of the U.S. population. Among these demographic groups, morbidity, substance abuse, and chronic disease rose steeply. Depression, homicide, violent crime, theft, and drug abuse expanded among these groups and in most states and localities. Debts, foreclosures, unemployment, underemployment, increasing constraints on paying for education, and general financial instability had immediate impacts on people’s mental health and stress levels. Maternal and infant mortality rates rose and by 2030 children are born with health problems and defects at higher rates than any time in modern history. Many pointed to research in epigenetics that concluded that the overall economic and health “depressions” were impacting health by affecting gene expression. Additionally, the ideals of the Affordable Care Act did not play out to allow people to remain “fully” insured even when unemployed. Spending limits imposed by government health care plans left many severely limiting their visits to health care professionals for preventive care, regular check-ups, prescription refills, and medication advice. Families themselves began to decide on which emergency cases were important enough to go to “free clinics,” which in many cases had actually begun charging fees. A minority of individuals and families turned to homesteading and self-reliability activities. When they were able to successfully support themselves solely from their own work, including electricity and food production, they frequently guarded their homes and resources fiercely or sold resources to others at exorbitant prices. However, many efforts to be self-reliant failed, especially when individuals had health emergencies and could not cover their health care costs. All of these factors combined with major outbreaks of infectious, often antibiotic-resistant disease, producing a growing psychosocial burden of ill health.

In 2030, per capita public health spending by the federal government has actually declined from the 2012 amount of \$251²⁶ to \$175 (2012 equivalent), while health care expenditure levels remained consistent between 2012 and 2030 in terms of proportion of total health expenditure. States and localities had high debt burdens and cut public health expenditures, as well as welfare, environmental, and housing programs. This severely impacted the capacity of LHDs to perform their tasks. Most LHDs had managed to survive the “Lost Decade” of the 2010s, though with significant staff and budget cuts. However, in the wake of the Second Great Depression, LHDs in hundreds of jurisdictions closed altogether. By 2030, most LHDs had no choice but to eliminate their programs and activities in chronic disease treatment and screening and population-based primary prevention, while they made serious

²⁶ Ibid.

financial cuts to program areas such as clinical health services, maternal and child health programs, and emergency preparedness. Most LHDs that remained in operation were frustrated because they could not afford the updates required by public health accreditation standards. LHDs suffered tremendously and in 2030 the LHD full-time workforce is still below the levels of the 2010s. Most of the rest of the LHD workforce is underemployed (underpaid, part-time, rotating, temporary, etc.).

Aspirational Forecast

By 2030, the economy has largely recovered and transformed in many ways. The nation experienced two recessions in 2015 and 2022, yet their health and economic impacts were not as severe as in earlier recessions, particularly during and after the 2022 recession. Furthermore, economic growth was high during non-recession periods. By the early 2020s, Millennials – who had reached their 30s and 40s and been through multiple recessions, witnessing their impacts on them and their families – have come into positions of authority and power determined to develop more sound and socially productive economic and financial policy. One example of these efforts included “smart” domestic sustainability investing that yielded both substantial monetary returns and an established minimum level of social and environmental benefit within a maximum of five years. Another example was calculating the ranges for long-term (timeframes of at least 10 years) return on investment (ROI) for social and educational initiatives, and requiring that these ROI calculations be included in any policies and legislation. “Health in All Policies,” “Sustainability in All Policies,” and economic and financial scenario planning were also included in these efforts. These efforts from the new leaders were all geared towards maintenance of “living security,” a term that had come to be used to refer to a person’s overall ability to support oneself and one’s family. The term also referred to how well the person’s local, state, and national systems could support and contribute to their overall wellbeing in terms of economic productivity, educational attainment, and health and wellness attainment.

At the state and local levels, this attitude – combined with creative uses of local economics and technological innovations – helped increase economic and financial resilience across districts. Officially, the national unemployment average in 2030 was 6.5%. However, throughout the 2020s, local economics (which promoted voluntary simplicity, sustainable and local buying and practices, local currencies, time banking, and active lifestyles) and local health initiatives (local businesses and practices that were tied to local economics initiatives but were specifically geared toward improving a locality’s health and thus its longer-term economic potential) contributed to improved health in many communities regardless of how economically vibrant they had generally been in the past. The previous recessions in 2015 and 2022 helped policymakers, citizens, residents, communities, and the nation aggressively pursue accountability, cost-effectiveness, prevention, and innovation. The U.S. has thus learned to make cost-effective health policy, utilizing prevention and technological gains to improve health, reduce major risk factors such as obesity, and prevent drastic health declines during periodic recessions. In 2030, per

capita public health spending by the federal government has risen from the 2012 amount of \$251²⁷ to \$350 (2012 equivalent). Funding for health care has declined significantly in 2030 compared to the 2010s and 2020s, with funding being redirected toward population health, public health, and prevention activities through set amounts of funding given to LHDs each year based on their population size, health and environmental stressors, and various other factors.

Thus, the gaps in health, wellness, and living security between the wealthiest and the poorest had narrowed noticeably since the 2010s. A social focus on equity and ending poverty inspired affordable technological and policy innovations geared toward improving the health, educational, and financial status of low-income families and individuals. These innovations also granted them greater access to creative crowdsourcing and crowdfunding networks specifically focused on health, skills training, and entrepreneurship. Gaming platforms were designed to help low-income individuals and families make highly sophisticated financial and health decisions given their current situations and future goals, with reward points that could be redeemed for various prizes and goods. Furthermore, the culture of determining and implementing sound and socially productive economic and financial policy (Sustainability in All Policies, Health in All Policies, Equity in All Policies, etc.) had helped narrow this gap during the 2020s. Health disparities still remain in 2030, of course. However, a culture of focusing on youth, health, cost-effectiveness, prevention, and resilience merged with new innovations and technological advances to significantly reduce the health disparities from previous levels. Furthermore, alternative economic activities proved highly successful in low-income communities, so while these communities were “low-income” by standard measures, they could meet many of their food, energy and housing needs as well as avoid or prevent poorer health status and higher rates of violent crime.

Public health agencies in general had to diversify their objectives and daily routines in order to keep up with new societal trends (e.g., expansion of local economics) and meet the demands of a public that wanted measurable, cost-effective, innovative, and smart public health policy and activities. In communities with alternative economic initiatives, LHDs had to adapt their public health advocacy and activities to account for the way these initiatives were influencing the behaviors and views of local residents. In fact, some LHDs began regulating these alternative economic activities (such as local and in-home facilities for aeroponics, aquaponics, and hydroponics, food swaps, community supported agriculture, and even time banking), while others encouraged residents to participate in these activities (or advocated for the establishment of these activities in their communities). Some LHDs also worked with the local sustainability, environmental, and energy agencies to ensure that homesteaders were meeting standard electric codes and that the homesteaders’ means of producing their own food and electricity did not detract from the overall wellbeing or fair resource distribution of non-homesteading neighbors and the community as a whole.

Many LHDs expanded their tasks to include health gamification and anticipation, and frequently attended virtual conferences of LHDs and their representatives to share best practices and collaborate on specific issues, including innovations in public health financing. The addition of new kinds of

²⁷ See <http://www.healthcarefinancenews.com/news/iom-calls-more-us-public-health-spending>. Accessed 29 May, 2013.

employees also helped LHDs in their efforts to diversify their sources of financing or saving on costs. For example, several LHDs developed gaming platforms for children that were designed to help them make healthier long-term decisions, thus saving LHDs on future intervention costs for the up-and-coming teenagers and adults. In addition, while state and local tax revenues could be at stable or slowly growing levels, LHDs put a new twist on “public financing” by using crowdfunding platforms geared toward getting donations from citizens (some levels of donations proved tax-deductible). LHDs had to show how innovative and cost-effective they were and showcase their accountability and transparency, and to use these platforms to make the case for funding for new tasks for the next fiscal year. While these donations typically did not compare to the bulk of what was received in tax dollars and federal support, these crowdfunding platforms did allow LHDs to experiment with and conduct public health activities much more quickly than would have been possible had they applied for state or federal grants, which came with their own sets of restrictions and guidelines. LHDs also included transition community and local economics specialists to help them reach out and increase the opportunities for all to be healthy.

Thus by 2030, most LHDs were able or would soon be able to significantly reduce their spending in areas such as clinical health services and chronic disease treatment and screening because effective health care services were available to all. Instead, LHDs increased their focus on population-based primary prevention, maternal and child health programs, and emergency preparedness (part of the resilience requirements for climate change and the assurance of long-term living security of residents). This redirection in focus ultimately proved effective in reducing the incidence of chronic disease and the need for clinical care except in cases of emergency. LHDs thus showed themselves to be highly innovative, resilient, and cost-effective by 2030.

Learn more about the Public Health 2030 project by the Institute for Alternative Futures at www.altfutures.org/publichealth2030.