

# Future Scenarios: U.S. Health Care Financing in 2050+

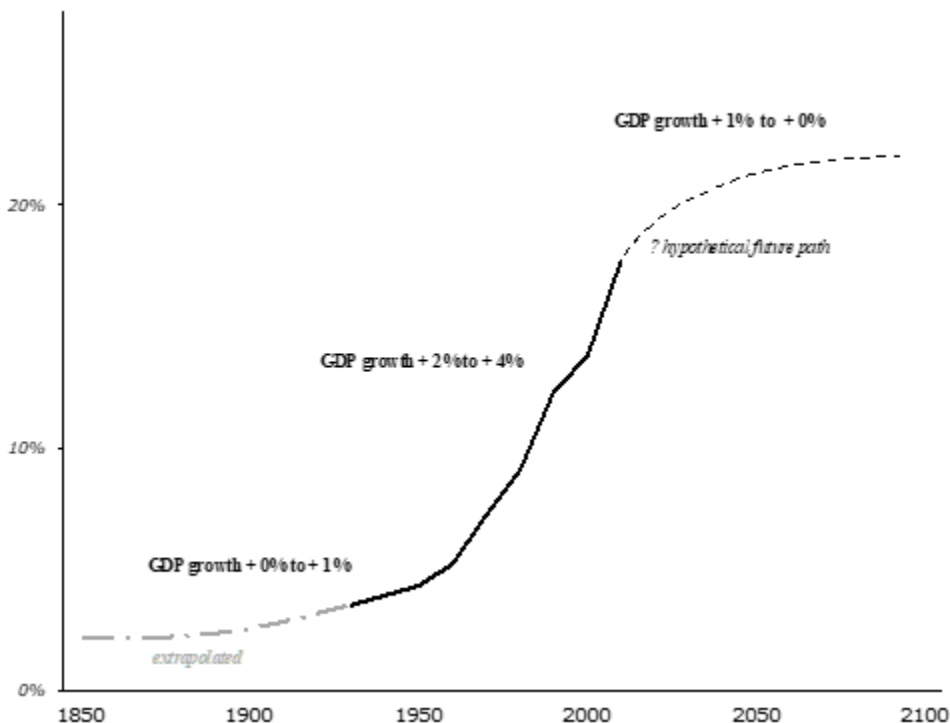
Thomas Getzen, PhD

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## Introduction

The contribution of medicine to increasing health and life expectancy during the 20th century is both obvious and almost impossible to quantify. What is obvious is that medicine has become expensive, too expensive for the average American, and places the current health insurance system under great strain. Among a wealth of detail and statistics one contour is evident, an S-shaped growth curve showing that medical spending was transformed during the 20th century. The curve hinges around two turning points: the rise of scientific medicine with effective therapeutic interventions toward the end of the 19th century, then inflexion in the third quarter of the 20th century with the coalescence of national health systems. A third turning point toward a long-run sustainable growth path may have already begun and is likely to become evident within a few decades (for detailed description of data and methodology see the Getzen (2022) book in the list of sources).

## “S-Curve” U.S. Health Expenditures as a Share of GDP 1850 to 2100



S-shaped logistic growth curves are typical of many biological and technological processes—an initial period of slow and erratic growth suddenly rising exponentially under favorable conditions and then decelerating as limits to growth due to overcrowding and resource constraints begin to dominate. The share of an economy devoted to medical care exists with inflexible upper and lower bounds mathematically imposed --- never be less than 0% or more than 100%, and probably constrained at a significantly lower sustainable level – perhaps 25% or 35%. However, for many years health economists were convinced the health share would never exceed 10%, then 15%, then 20%, until being repeatedly humbled by data as these presumed limits were broken. Major changes in the 21<sup>st</sup> century are inevitable, but the timing and shape of a reformed health financing system is not yet clear. Trend extrapolations provide useful forecasts for cost growth over the next few years, but are less helpful in predicting the timing or scope of transformative shifts in organization and financing. What is offered here is a framework for assessing long run risk rather than data analysis or detailed quantification, presumably helpful but necessarily speculative and subjective.

Like most forecasts, the Getzen model is based on a trend projection. Similar to the “going concern” and “current law” assumptions relied upon by accountants, projections rest on a range of stability assumptions while recognizing that fundamental changes could push the system “out of range.” A number of commentators have argued that the current medical cost trends are not sustainable for a variety of reasons, several of which are discussed in the “Sources” listed at the end of this appendix. The likelihood of major disruption makes it prudent for actuaries to consider alternative scenarios regarding potential reconfigurations of health care financing over the coming decades.

## Scenarios

Five possible reconfigurations are arrayed in Figure 1 below. The middle column is the messy status quo that has evolved in response to the usually conflicting demands to provide some level of health care affordable to all stakeholders. Extreme changes corresponding to government production of medical care at one end and an unrestricted reliance on market forces at the other are laid out from left to right. Neither extreme is likely to occur in the short-run and the muddling middle will persist for some years or decades, yet achieving long-run sustainability most likely requires a major reorganization and rationalization of health care financing. The patchwork multitude of legacy parts will likely be replaced over time with a more comprehensive and rational design that controls costs while providing coverage to all or most Americans. Distributional concerns and cross-subsidies will have to be explicitly dealt with in order to do so.

Some kind of reconfiguration similar to either the right or left columns is likely to occur within the next several decades. It will require major changes to the model and may make current estimates obsolete. The POG views such a change to the health care system as a change in the law that has not yet occurred.

**Figure 1**

### POTENTIAL HEALTHCARE SCENARIOS AND THEIR CHARACTERISTICS

Healthcare Scenarios	Government	Uniform	Patchwork	Multi-tier	Open Market
<b>Scenario Characteristics</b>	Government Owned Providers	National Prices and Finances		Elite, Regular, Indigent	Personal Accounts, Charity, Safety Net
<b>Outside Examples</b>	UK National Health Service (NHS)	Medicare for All	Current	Medicare Advantage, Health Savings Accounts	Self Pay, Charity
<b>2030 Likelihood</b>	5%	15%	50%	20%	10%
<b>2050 Likelihood</b>	10%	35%	20%	30%	5%

Under the accounting rules OPEB liabilities must be estimated under the current law and changes to the current law are not considered. However, employers who are establishing trusts to prefund OPEB liabilities may want to factor in possible changes in the future law in determining their funding goals and should consider the impact of such reconfigurations.

Major elements of the US health care financing system – employer health insurance benefits, Medicare, Medicaid, and safety-net providers—were put in place during the 1960s. They fit the medical care system of that period very well. Five decades later, a substantial mismatch between these legacy health financing mechanisms and current conditions had arisen. Just as with combinations of legacy software, constructing a networked system has meant dealing with inconsistencies, overlaps, and ever more complicated fixes required to patch the pieces together, so that the health financing “system” no longer made sense to the workers and employers that must pay for them, or to the hospitals, doctors, and nurses that provide medical care. The current patchwork has led to medical care in the U.S. that is routinely (and correctly) criticized as excessively costly and having poorer outcomes than

those obtained in other advanced economies. It has also led to conflict over who gets services, who pays, and how much. The need for comprehensive reorganization is widely accepted but there is no consensus regarding what shape the new financial configuration should take.

## What, Why, When

### What

Extreme scenarios are easiest to describe. Veterans hospitals and the English National Health service are familiar examples of government provided health services at the left end. At the right end, scenarios resemble the unregulated health financing provided through open market contracts similar to the first half of the 20<sup>th</sup> century. Fragments of unregulated financing are still observed in self-payment plans, religious health cost sharing groups, and treatments where comprehensive health insurance is viewed as undesirable such as cosmetics, complimentary medicine, massage, or alternative counseling practices. Left-center scenarios are currently exemplified the advent of price regulation for pharmaceuticals or “Medicare for All” with universal coverage on essentially identical terms across groups. Right-center policies are typified by a broad aversion to price regulation with means-testing and explicit tiers with groups having different levels of coverage.

Distributional conflicts over who should pay and who should benefit are central to contrasting scenarios for health financing. Moving left to right along this range of scenarios shifts the distribution of costs and services. The left relies on tax revenues while the right shifts the financial burden toward beneficiaries. Left of center scenarios attempt to provide care uniformly based on medical needs, while moving toward the right involves a distribution of services weighted toward employment status, incomes, and personal choices. Financing in the muddled middle is dependent upon cost-shifting with differential pricing across insurance groups.

### Why

Cost-shifting across groups was much easier and less visible when medical care accounted for 5% of consumption expenditures than when it tripled to more than 15%. Rising aggregate costs interacted with the distributional change in sources of financing and the medical beneficiaries. Early health insurance plans, including Bismarck’s seminal industrial medical coverage, had workers as both the primary payers and primary beneficiaries. Workers paid the premiums through deductions from wages and received care for their own illnesses. In the 21<sup>st</sup> century wage earners pay directly or indirectly for most of total costs nationally, yet the main and most expensive beneficiaries are not working – the elderly, indigent, or disabled dependents. Hence not only has the total medical bill increased greatly over the last fifty years, there has been a divergence between the sources of payment and the recipients of care. Reliance on cost shifting as a major financing strategy has become less and less tenable.

As medical care became less affordable, population aging and decreased marginal returns to additional therapeutic interventions made the value and extent of future gains in life expectancy fall. Globalization has exposed American jobs to low cost workers in comparable industrialized countries. The large differential in the cost of health benefits (18% of GDP vs. 10%) creates a substantial and wasteful tax tariff on U.S. domestic employment (see <https://data.oecd.org/healthres/health-spending.htm> OECD data). Taken together, all of these stresses make continuation of the current health financing patchwork less and less sustainable over time.

## **When**

Financial strains, evident soon after the current system was established, had become acute by the end of the century. Per capita medical expenditures in the U.S. were slightly above the average for health systems in other developed nations from 1960 to 1975, and then rose much more rapidly. Numerous attempts at cost control had been made but with only limited success. The divergence in national health expenditure trends between the U.S. and other countries after 1975 may have been due to the fact that national health systems for comprehensive insurance coverage and price control for all or most citizens had been put in place elsewhere. It could be said that comprehensive overhaul of U.S. health care financing is decades overdue, a delay attributable to inertia in medical organization and an inability to achieve political consensus.

Employment in medical care over the last thirty years as a share of total employment is shown in Table 1 below. Employment is a useful and rapidly available measure of real resource use. After rising for more than 100 years, the share of total employment in the health sector has stabilized since 2010—indicating some degree of control over costs and reinforcing expectations that a major shift will come “soon.” The leveling off in Medicare per-capita beneficiary costs since 2010 tells a similar story. Once the next phase in health care financing systems becomes apparent it will probably be possible to look back and see the signs of that change in events of the last decade (e.g., protests over out-of-network excess billing, resistance to personalized medical drugs costing more than \$100,000, private equity roll-ups of specialty practices, etc.).

## **Risk Assessment for Clients**

This appendix is intended to provide a framework for analytical thinking rather than quantification or data analysis. A sustainable health financing system *will* control costs. That is not a question, it is a requirement. While *how much* it will do so is not yet clear, across the scenarios shown above the muddling middle path seems less effective than moving either to the right or to the left. The most restraint appears likelier at the left end than the right. More important than the level of expenditure is the *distribution*, who bears risk and who gets care, who wins and who loses. Medical technology, human biology, and professional organization will all play a role, yet these decisions are essentially political. The future shape of health financing will be determined by what the public wants and the legislation enacted to create change.

The finances available to providers (doctors, hospitals, hospices, laboratories, pharmaceutical firms, etc.) show how and why distributional concerns are likely to loom larger than aggregate total expenditure restrictions. Any move away from the current pattern is likely to reduce total provider revenues, with changes toward the left being more constraining than on the right. Leftward changes will disrupt or eliminate cost shifting and shift funding toward inner city and rural areas, while significantly reducing the gains to independent ambulatory facilities and specialty physician groups. The incidence of distributional changes will depend greatly on the administrative rules and implementation procedures, and hence be subject to contentious lobbying efforts. Movement toward uniform pricing will greatly reduce the scope for revenue enhancement and may cause billing departments to shrink.

Reconfiguration of the US medical system will affect employers, insurance companies---and the practice of health actuaries. A simplified left-to-right dimension is incapable of capturing the particulars of regulation or the complexity of distributional effects. Evolutionary change may be so gradual as to be almost unnoticeable for the next few years, but will eventually impact almost every analysis of health care costs.

*This appendix report has been prepared by Professor Thomas E. Getzen, PhD, presenting his personal assessments and opinions. Although it has been reviewed by the SOA project Oversight Group, Prof. Getzen is solely responsible for the content and any errors.*

### **Sources:**

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**Table 1: Health Employment as % of Total US Employment (BLS)**

<i>1990</i>	<b>7.5</b>
<i>1991</i>	<b>7.9</b>
<i>1992</i>	<b>8.2</b>
<i>1993</i>	<b>8.3</b>
<i>1994</i>	<b>8.3</b>
<i>1995</i>	<b>8.4</b>
<i>1996</i>	<b>8.4</b>
<i>1997</i>	<b>8.4</b>
<i>1998</i>	<b>8.4</b>
<i>1999</i>	<b>8.3</b>
<i>2000</i>	<b>8.2</b>
<i>2001</i>	<b>8.5</b>
<i>2002</i>	<b>8.8</b>
<i>2003</i>	<b>9.1</b>
<i>2004</i>	<b>9.1</b>
<i>2005</i>	<b>9.2</b>
<i>2006</i>	<b>9.2</b>
<i>2007</i>	<b>9.4</b>
<i>2008</i>	<b>9.7</b>
<i>2009</i>	<b>10.3</b>
<i>2010</i>	<b>10.6</b>
<i>2011</i>	<b>10.6</b>
<i>2012</i>	<b>10.6</b>
<i>2013</i>	<b>10.6</b>
<i>2014</i>	<b>10.6</b>
<i>2015</i>	<b>10.6</b>
<i>2016</i>	<b>10.7</b>
<i>2017</i>	<b>10.7</b>
<i>2018</i>	<b>10.7</b>
<i>2019</i>	<b>10.8</b>
<i>2020</i>	<b>11.1</b>
<i>2021</i>	<b>10.9</b>
<i>2022</i>	<b>10.7</b>