Funding universal health care in the Commonwealth of Massachusetts

Replacing an inefficient, inequitable, and destructive health care finance system with a fair system that will promote economic efficiency and better health

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Introduction: paying for health care

This economic analysis explores the implications of a single payer health plan in the Commonwealth of Massachusetts that would have entered into effect in 2021. The Act would replace the Commonwealth's current multi-payer system in which individuals, private businesses, and government entities pay public and private insurers for health care coverage. It would establish a state Health Care Trust to finance medically necessary care including dental, vision, doctor visits, hospitalization, long-term care, medical devices, mental/behavioral health, prescribed occupational and physical therapy, prescription drugs, and rehabilitative care. The Trust would offer this comprehensive coverage to all residents and would pay for it with broad-based levies assessed on payrolls and on nonwage income.

The Massachusetts Health Care Trust would finance medical care with substantial savings compared with the existing multi-payer system of public and private insurers. By reducing administrative and other waste, including health insurance company profits and excessive prices for drugs, hospitals, and medical devices, the plan would increase real disposable income for the vast majority of Massachusetts residents. It would simultaneously increase employment by reducing the burden of health insurance on business. Some of these savings would be used to extend coverage to the three percent of residents still without insurance under the Affordable Care Act. Other savings would be reinvested in the health-care system to improve coverage for the growing number with inadequate coverage.

By reducing barriers to access to health care, the plan would eliminate the financial penalty associated with health problems; it would also reduce economic inequality by replacing the current regressive system of health insurance finance with contributions proportional to income and ability to pay. By reducing the burden of health care costs on Massachusetts business, the Trust would also improve the Commonwealth's business environment.

In addition, by improving access to health care and improving the health of Massachusetts residents, the trust would promote higher labor productivity because healthier workers are more productive. In short, by encouraging investment and improving health, the Trust would promote faster growth in income. By removing health insurance from bargaining, the Trust would also promote more amicable labor relations, reducing discord and improving worker morale.

It's the prices

We spend more on health care in the United States because the price of care is higher in the United States.[1] For decades, policy has missed this fundamental point and instead of addressing

[1] Anderson et al., "It's The Prices, Stupid"; Anderson, Hussey, and Petrosyan, "It's Still The Prices, Stupid"; Reinhardt, "Economists in Health Care"; Reinhardt, *Priced Out*; For a study of US prices in international context, see International Federation of Health Plans, "2013 Comparative Price Report: Variation in Medical and Hospital Prices by Country"; Hargraves and Bloschichak, "International Comparisons of Health Care Prices from the 2017 IFHP Survey"; McKinsey Global Institute, "Accounting for the Cost of Health Care in the United States."

prices and underlying inefficiencies, has tried to slow rising costs by reducing the utilization of health care with rising deductibles and other forms of cost sharing.[2] While this approach has had some success in slowing the growth in health care spending, it has done so at the expense of reducing access to care (see Figure 1). No other country has performed so badly and developed so much waste in its health care finance system.[3] The United States is unique with the fastest increase in costs with relatively small increases in life expectancy (see Figure 2). By reducing access to needed care, rising cost sharing has increased mortality (see Figure 3).[4]

Some states have been providing better health care. States like Massachusetts have done more to expand access to health care for the poor and marginalized groups with policies associated with raising life expectancy by 2.8 years for women and over 2.1 years for men.[5] In Massachusetts, over the last few years, aggressive public action has helped to restrain the rate of increase in health care spending, holding it down to the rate of increase in state income (see Figure 4).[6] Unfortunately, some, or even most, of this has been accomplished by increasing cost sharing to discourage health care utilization (see Figure 5).[7] Since 2002, the average deductible on a private-sector employment-based health insurance plan, for example, has been increasing since 2002 at an annual rate of over eight percent a year. As a result, we see in Massachusetts the same pattern seen in the rest of the United States of increasing mortality in counties where the sick cannot afford to access health care (see Figures 6 and 7). Indeed, notwithstanding our low

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[2] Rae, Cox, and Levitt, "Deductible Relief Day"; Kaiser Family Foundation, "Average Annual Family Premium per Enrolled Employee For Employer-Based Health Insurance"; Abelson, "Workers With Health Insurance Face Rising Out-of-Pocket Costs"; Case and Deaton, "Rising Morbidity and Mortality in Midlife among White Non-Hispanic Americans in the 21st Century"; Case and Deaton, *Deaths of Despair and the Future of Capitalism*; About a third of the US population reports they could not afford to access needed healthcare; Riffkin, "Cost Still a Barrier Between Americans and Medical Care."

[3] For summaries, see Friedman, *The Case for Medicare for All*; El-Sayed, *Medicare for All: A Citizen's Guide*; Archer, "What Is Wrong with Medicare Prices for All?"; Barber et al., "Healthcare Access and Quality Index Based on Mortality from Causes Amenable to Personal Health Care in 195 Countries and Territories, 1990–2015"; Emanuel, *Which Country Has the World's Best Health Care?*; Johnson, *The Customer Revolution in Healthcare*; Johnson, *Market Vs. Medicine*; Johnson, "Healthcare's Administrative 'Sludge' Is Worse than You Think"; Makary, *The Price We Pay*.

[4] Collins et al., "The Problem of Underinsurance and How Rising Deductibles Will Make It Worse Findings from the Commonwealth Fund Biennial Health Insurance Survey, 2014"; Collins, Bhupal, and Doty, "Health Insurance Coverage Eight Years after the ACA: Fewer Uninsured Americans and Shorter Coverage Gaps, but More Underinsured."

[5] Montez et al., "US State Policies, Politics, and Life Expectancy."

[6] Center for Health Information and Analysis, "Annual Report on the Performance of the Massachusetts Health Care System (March 2021)."

[7] Rising cost sharing lowers healthcare spending by discouraging utilization. It also lowers the spending reported in the Commonwealth CHIA which does not include out-of-pocket spending; see Center for Health Information and Analysis.

rate of uninsured and our world-famous hospitals and other health care facilities, the relationship between ability to afford to see a doctor and mortality is even stronger in Massachusetts than in the rest of the United States.[8]

Controlling costs while increasing access

There are limits to our ability to transfer resources to health care from other activities, and therefore access to care can be assured residents of the Commonwealth only if costs can be controlled. These costs can be controlled while access is increased only if the price of care can be contained, which can only happen if health care can be provided more efficiently or if we can squeeze monopoly rents out of the health care system.

The cost of coverage with the existing system of fragmented private health insurance

Estimates of the cost of health care with universal access through a public program begin with estimates of the cost of coverage under the existing system (see Table 1). For each activity, such as hospitals or pharmaceuticals, I use estimates from the Center for Medicare and Medicaid Services (CMS) available on the state level approximately every 10 years.[9] Because the most recent of these data are available only for 2014, I adjust them to a 2021 basis by raising spending in each category by the rate of inflation in health care spending for Massachusetts.[10]

I make two further adjustments to account for universal coverage and universal access:

First, I assume that those who are currently uninsured will increase their utilization of health care. While this includes three percent of the population, it will increase spending by less than that because the uninsured tend to be relatively young and healthy, and because they are already using health care, either from charitable support or out-of-pocket.[11] For this reason, an increase in insurance of three percent would be associated with an increase in spending of barely one percent.

In addition, I assume that removing most cost sharing will increase utilization. While this will have real benefits in health and economic efficiency, and may lead to some reductions in

[8] The coefficient on the proportion in a county who cannot afford medical care is twice as high in Massachusetts as it is in the United States as a whole, and the R squared on the regression is higher in Massachusetts indicating that the relationship is strong and significant.

[9] US Government, CMS, "US State Estimates by State of Residence -- Health Expenditures" CMS does not include administrative costs in its estimates, including costs within the insurance industry. I have estimated these by applying national estimates of the administrative ratio (the "Medical Loss Ratio") for the different insurers in Massachusetts. Because these data are for 2014, it has been necessary to extrapolate forward using estimates of the increase in per capita spending in Massachusetts as described in the text.

[10] The most recent report is from March 2021. Note that the data are given in per capita terms; I have calculated total spending by multiplying by the Census population estimates. Center for Health Information and Analysis, "Annual Report on the Performance of the Massachusetts Health Care System (March 2021)."

[11] Hadley and Holahan, "The Cost of Care for the Uninsured: What Do We Spend, Who Pays, and What Would Full Coverage Add to Medical Spending."

complications and cost in the future, it will involve immediate expenses.[12] A study by Brot et al. found that moving to a high-deductible plan with significant cost sharing was associated with a reduction in spending of between eleven percent and fifteen percent. Using these estimates applied to Massachusetts, where about one-third of the population now has a high deductible plan, would suggest an increase in utilization of between four and five percent if we moved to the proposed Trust with an actuarial value of 96%.[13] An alternative approach would rely on estimates of the effect on utilization of changes in the actuarial value (AV) of insurance plans, or the share of course covered by insurance. In Massachusetts, the current AV of plans of private health insurance plans is only eighty percent but including Medicaid and Medicare (including Medicare advantage and Medigap plans) raises the statewide AV to eighty-seven percent. Estimates from CMS are that moving up to ninety-seven percent, the level of coverage in the proposed plan, would increase utilization by seven percent.[14] To this we need to add an adjustment for activities outside of the CMS calculation of AV, including dental and home health care. I adjust utilization in these activities by extrapolating from the estimate from the CMS projection of the relationship between AV and utilization and the current insurance rates for dental and home health care (see Table 1).

Integrating Medicare and Medicaid into a universal program

Medicaid currently reimburses at rates as low as seventy percent those of Medicare. This is greatly inequitable for Medicaid providers who are paid less than other providers for the same services. It also makes it difficult for Medicaid recipients to access care. This discrimination will no longer be possible when all residents are in the same health plan. The required price increase must be added to the cost of the program.

Currently Medicare recipients who are not dual eligible, that is are not on Medicaid, may enroll at their own expense in Medicare Part B at a cost of over $104 a month. Since the Trust would provide Medicare recipients with care under the same circumstances as other residents regardless of whether they pay these premiums, there would be no reason for them to continue to enroll in Part B. However, unless the premiums are paid, the Trust would lose access to Medicare Part B funds. The Trust, therefore, will have to pick up this cost.[15]

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[12] Experience has been that new systems of universal coverage have had relatively small effects on total utilization. It may be that physicians have reallocated their time to needy patients previously unable to access care by reducing low value care provided relatively affluent patients. Cheng and Chiang, "The Effect of Universal Health Insurance on Health Care Utilization in Taiwan. Results from a Natural Experiment"; Enterline et al., "The Distribution of Medical Services before and after Free Medical Care — The Quebec Experience"; There is also evidence that increased access to primary care may lead to future cost savings. See Fruge, "Impact of Primary Care on Healthcare Cost and Population Health: A Literature Review"; Reschovsky et al., "Paying More for Primary Care: Can It Help Bend the Medicare Cost Curve?"

[13] Brot-Goldberg et al., "What Does a Deductible Do?"

[14] Pope et al., "Risk Transfer Formula for Individual and Small Group Markets Under the Affordable Care Act."

[15] An alternative would be to make Part B premium payments a requirement for access to Trust benefits. This would mean that seniors would be the only ones charged a premium for access to the Trust.

Savings from moving to the Massachusetts Health Care Trust: provider administration

American health care providers (hospitals, physicians, etc.) spend significantly more time on administrative tasks than do their counterparts in countries with universal coverage systems. Physicians in the U.S., for example, devote one-sixth of their work hours on administration, including bill processing, and four times the time spent by their Canadian counterparts.[16] Updating electronic records (used not only for patient care but for billing) requires an average of 16 minutes of physician time per patient visit.[17] It costs much more to process bills in our system than in other countries; the Commonwealth Fund reports that doctors report "wasting time on billing and insurance claims." Even other countries that rely on private health insurers, like Switzerland or the Netherlands, reduce the administrative burden for providers through regulations that standardize benefit packages and payment systems.[18] (Note that this does not include the substantial expense borne by employers and plan enrollees for processing bills to the insurance industry.[19])

Simplifying the reimbursement process would save physicians nearly six hours a week, equivalent to more than a ten percent increase in the available supply of physicians.[20] If Massachusetts health care providers were to spend, proportionally, only as much on

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[16] Congressional Budget Office, "How CBO Analyzes Proposals for a Single-Payer Health Care System | Congressional Budget Office"; Shrank, Rogstad, and Parekh, "Waste in the US Health Care System"; Himmelstein, "A Comparison of Hospital Administrative Costs in Eight Nations"; Woolhandler, Campbell, and Himmelstein, "Cost of Health Care Administration in the United States and Canada"; Jiwani et al., "Billing and Insurance-Related Administrative Costs in United States' Health Care: Synthesis of Micro-Costing Evidence"; Himmelstein, Campbell, and Woolhandler, "Health Care Administrative Costs in the United States and Canada, 2017"; Berwick and Hackbarth, "Eliminating Waste in US Health Care"; Woolhandler and Himmelstein, "Administrative Work Consumes One-Sixth of U.S. Physicians' Working Hours and Lowers Their Career Satisfaction"; Morra et al., "US Physician Practices Versus Canadians"; Holmgren et al., "Assessment of Electronic Health Record Use Between US and Non-US Health Systems."

[17] Overhage and McCallie, "Physician Time Spent Using the Electronic Health Record During Outpatient Encounters"; Holmgren et al., "Assessment of Electronic Health Record Use Between US and Non-US Health Systems"; Downing, Bates, and Longhurst, "Physician Burnout in the Electronic Health Record Era."

[18] Schneider et al., "Mirror, Mirror 2017: International Comparison Reflects Flaws and Opportunities for Better U.S. Health Care"; Shrank, Rogstad, and Parekh, "Waste in the US Health Care System"; Blanchfield et al., "Saving Billions Of Dollars—And Physicians' Time—By Streamlining Billing Practices"; Emanuel, *Which Country Has the World's Best Health Care?*

[19] Pfeffer, "Magnitude and Effects of 'Sludge' in Benefits Administration."

[20] A 2005 study found that California physicians spent 41% of their revenue on administrative activities, including 14% directly on billing and insurance related expenses; Kahn et al., "The Cost Of Health Insurance Administration In California"; Adopting a better system will increase the supply of doctors because the current financing system contributes to physician burnout by piling administrative sludge on practitioners. Downing, Bates, and Longhurst, "Physician Burnout in the Electronic Health Record Era."

administration as do physicians in Canada, or fourteen percent of revenue instead of twenty-four percent, they would save nearly nine billion dollars on administrative costs.

Savings from provider administration will be captured by the Health Care Trust through lower reimbursement rates leaving physician incomes secure.[21] Physicians will benefit from higher Medicaid reimbursements as well as higher utilization, especially from those now uninsured or underinsured.

Savings from moving to the Massachusetts Health Care Trust: insurance administration

In the current system, nearly twelve percent of total spending is on the administration of the insurance system -- including private insurance and employer-sponsored self-insured plans (which are administered much like insurance) -- as well as on government insurance programs. Private health insurers account for the bulk of this spending; they spend nearly fifteen percent of premiums on administrative activities, including redundant bill reviews, medical review programs, and other overhead, plus profit.[22] Salaries are also much higher for managers in private health insurers. The head of the Centers for Medicare and Medicaid Services, responsible for health insurance programs covering nearly half the population of the United States, is paid a bit less than $250,000; by contrast, the CEOs of seven large health insurers average over $16 million a year in compensation in 2016. The average health insurance CEO is paid more in a week than the CMS head is paid in a year.[23]

Private insurers also waste resources in other ways. Competition leads them to spend money on advertising and marketing their competing plans, spending that cures no illness and provides no health care. Many insurers are too small to realize the scale economies possible with a large billing network. Traditional Medicare operates with a medical loss ratio (MLR) of over ninety-eight percent, meaning that less than two percent of its spending is for administrative activities, saving over ten percent compared to private insurance. Despite the greater efficiency of public programs, the private system of administrative waste has spread to the public sector

[21] Note that this will have the perverse effect of locking in higher reimbursements for less efficient providers while penalizing those who are already operating efficiently in that billing activities.

[22] Even under the ACA, government measures of insurance company MLR leave extensive scope for insurance companies to pass off administrative costs as medical costs. Allowable expenses include "educational outreach to members, utilization management, case management, disease management, and quality management." In addition, the time period allowed for medical expenses, net premiums, and re-insurance recovery are not consistently defined, leaving room for companies to inflate their MLR; Families USA, "Medical Loss Ratios: Evidence from the States"; Naumburg, "Medical Loss Ratios in Maryland"; The Affordable Care Act sets limits on administrative waste with minimum MLR of 85% for group plans and 80% for individual plans. Nationally, health insurers refunded over $2.6 billion in excessive administrative charges under the ACA in 2020 to nearly 8 million subscribers; Fehr and 2020, "Data Note"; a California estimate is that the MLR there is only 82%; Kahn et al., "The Cost Of Health Insurance Administration In California."

[23] Baker, "Top Health Care CEOs Made $1.7 Billion Last Year."

through the Medicare Advantage plans and to Medicaid (through managed care programs).[24] Maintaining dual public-private systems also inflates the public costs because it requires eligibility checks for access to public programs. For Medicare, this can be done relatively cheaply by checking birth certificates. Public safety-net programs like Medicaid and CHIP, however, spend significant funds policing eligibility. The limited range of public insurance has also undermined efficiency by leading individuals to seek supplemental private coverage. Overhead costs are even higher in the individual insurance market, including the Medigap policies purchased by many seniors to cover insurance costs not covered by Medicare. Indeed, last year's MLR in the individual market fell to under eighty percent, with over a fifth of all spending going to administration.[25]

Raising the MLR to the level of traditional Medicare, ninety-eight percent, would save Massachusetts ten billion dollars. In addition, eliminating the cost to employers of finding and administering private insurance plans, would save employers in the Baystate nearly another billion dollars, and even more for their employees who would save the time and stress involved in dealing with the problems accessing benefits through the insurance industry.[26]

Savings from moving to the Massachusetts Health Care Trust: eliminating monopoly rents: hospitals and other providers

In his seminal article on health economics, Nobel-prize winning economist Kenneth Arrow warned that health care markets have a tendency toward monopoly because of the combination of asymmetric information -- where the sick lack information about the proper treatment of their illnesses -- and economies of scale in medical facilities, like hospitals.[27] Until the 1970s, monopoly pricing was restrained by state regulations, by the force of professional mores, and by the culture of not-for-profit communities.[28] The demise of rate setting, and the replacement of mores and non-profit values with financial incentives, has liberated the managers of hospitals

[24] Gruber, "Delivering Public Health Insurance through Private Plan Choice in the United States."

[25] Fehr and 2020, "Data Note."

[26] While they could be captured through employment fees, these savings are not included in our estimate of the funding program. They are left as benefits to employers and their workers; Pfeffer, "Magnitude and Effects of 'Sludge' in Benefits Administration." Nearly a third of American adults report expense and trouble dealing with their private health insurer; see Cathy Schoen, et al., "How Health Insurance Design Affects Access To Care And Costs, By Income, In Eleven Countries" *Health Affairs* 29:12 (2010), 2323-2334.

[27] Arrow, "Uncertainty and the Welfare Economics of Medical Care"; Reinhardt, "Economists in Health Care."

[28] McDonough, "Tracking the Demise of State Hospital Rate Setting"; Anderson, "All-Payer Ratesetting"; Anderson and Herring, "The All-Payer Rate Setting Model for Pricing Medical Services and Drugs."

and pharmaceutical and equipment manufacturers to use monopoly power to raise prices and profits, and to expand their power through forming alliances and through collusion.[29]

The virtually unfettered exercise of monopoly power has raised prices for Americans using health care. Public attention has been focused on pharmaceutical and drug prices where even the Trump Administration charged that drug prices are about twice as high in the United States as elsewhere.[30] The attention paid to pharmaceutical prices should not distract from other areas of monopoly pricing. A decade ago, the Massachusetts Attorney General warned that elite hospitals were charging prices four to five times as high as other providers for the same service.[31] Similar findings where the consolidation of hospital networks and physician practices have pushed up hospital prices and inflated managerial salaries. The median charge for inpatient procedures in California districts with market consolidation is nearly double that in districts with less market concentration.[32]

Individual health insurers lack the market clout to resist the demands of networks and elite hospitals. They acknowledged this during the debate over the Affordable Care Act when insurance industry lobbyists -- notably Karen Ignagni of America's Health Insurance Plans (AHIP) -- supported Obama Administration initiatives in alliance with Administration economists who sought to strengthen insurance companies against hospitals and drug companies.[33] These efforts largely failed, and most insurers do little to resist the demands of monopoly providers who will, in some cases, charge four or more times the charge in other hospitals for the same services.[34]

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[29] There is always a danger that providers will gain control over ratesetting. To some degree this is happened for medical specialists; see Laugesen, *Fixing Medical Prices*.

[30] Amazingly, their recommendation is to raise prices elsewhere; Council of Economic Advisers, "Reforming Biopharmaceutical Pricing at Home and Abroad."

[31] Office of Massachusetts Attorney General Martha Coakley, "Investigation of Health Care Cost Trends and Cost Drivers"; Coakley, "Examination of Health Care Cost Trends and Cost Drivers Pursuant to G.L. c. 118G, § 6½(b) Report, 2011."

[32] Nicholas C. Petris Center on Health Care Markets and Consumer Welfare, "Consolidation in California's Health Care Market 2010-2016: Impact on Prices and ACA Premiums"; Also see Bai and Anderson, "Extreme Markup"; Abelson, "Hospital Prices"; Meier, Creswell, and McGinty, "Hospital Billing Varies Wildly, U.S. Data Shows"; Lopez, Jacobson, and Levitt, "How Much More Than Medicare Do Private Insurers Pay?"; American Hospital Association, "Underpayment by Medicare and Medicaid Fact Sheet."

[33] Bob Herman, "Seismic Changes in the Health Insurance Industry Bring Opportunities and Friction," accessed September 10, 2017, http://www.modernhealth care.com/article/20160130/MAGAZINE/301309964; Paul Starr, *Remedy and Reaction, the Peculiar American Struggle over Health Care Reform* (New Haven: Yale University Press, 2011), http://site.ebrary.com/lib/amherst/Doc?id=10506565; Brill, *America's Bitter Pill*.

[34] Barry Meier, Julie Creswell, and Jo Craven McGinty, "Hospital Billing Varies Wildly, U.S. Data Shows," *The New York Times*, May 8, 2013, http://www.nytimes.com/2013/05/08/business/hospital-billing-varies-wildly-us-data-shows.html; Office of Massachusetts Attorney General Martha Coakley, "Investigation of Health Care Cost Trends and Cost Drivers."

Only one insurer currently has market power to balance that of elite hospitals with control over provider networks: the Centers for Medicare and Medicaid Services supervising the Medicaid and Medicare programs. Using its market power, CMS has been able to restrain hospital price increases, and the smaller increases in physician prices, holding down the rate of inflation in health care. This has created a growing gap between the high prices charged to private health insurers and the prices hospitals charge Medicare. (Although there is some evidence that Medicare rates may be as much as nine percent below the actual cost (including both variable and average fixed costs) of providing hospital services.[35]) In the case of Medicaid, reimbursement rates are substantially lower than Medicare, making it difficult for Medicaid recipients to find physicians willing to provide services at these low rates.[36]

Lowering hospital prices to Medicare rates with an increase in these rates of ten percent would save over eleven billion dollars in 2021, the largest area of savings. We anticipate saving another seven percent ($1.8 billion) from eliminating monopoly pricing among some elite physicians. Eliminating monopoly profits in this way would reduce hospitals ability to accumulate reserves, to reimburse investors in the case of for-profit hospitals, and would compel them to lower their often-inflated managerial salaries and ambitious investment plans.[37] It may be difficult for hospitals to unwind these activities quickly, however.[38] I present estimates, therefore, under two separate assumptions: an immediate price reduction and a reduction over a four-year period with prices reduced by twenty-five percent of the total savings each year.[39]

Savings from moving to the Massachusetts Health Care Trust: eliminating monopoly rents: prescription drugs and medical devices

The unfettered exercise of monopoly power has been especially toxic for Americans who need prescription drugs. A comprehensive survey published in 2007 found that drug prices are about

[35] Lopez, Jacobson, and Levitt, "How Much More Than Medicare Do Private Insurers Pay?"; Rand Corporation, "Hospitals Are Paid Twice as Much (or More) by Private Insurers than Medicare, Study Finds"; Berenson, "Addressing Pricing Power in Health Care Markets: Principles and Policy Options to Strengthen and Shape Markets The Final Report of the Academy's Panel on Pricing Power in Health Care Markets"; Koller and Khullar, "The Commercial Differential for Hospital Prices."

[36] Kaiser Family Foundation, "Medicaid-to-Medicare Fee Index"; Rickert, "Do Medicare And Medicaid Payment Rates Really Threaten Physicians with Bankruptcy?"

[37] "Executive Compensation."

[38] Cai and Kahn, "Medicare For All Would Improve Hospital Financing | Health Affairs Blog."

[39] This gradual reduction is the approach followed by the CBO in Congressional Budget Office, "How CBO Analyzes Proposals for a Single-Payer Health Care System | Congressional Budget Office."

sixty percent higher in the United States than in Europe or Canada.[40] More recent studies, including by the Trump Administration, suggest that this now understates the penalty Americans now pay because drug prices may now be double those paid elsewhere. Because of higher prices charged in the United States, over forty percent of pharmaceutical company revenue for twelve leading multi-national pharmaceutical companies comes from the United States, and direct comparisons of particular drugs shows American prices are often dramatically higher (see Figure 8).[41] Prices in the United States range from 3.2 times the Canadian price to 9.3 times as high (see Figure 8). The International Federation of Health Plans found that, for eight common drugs, the price in the United States is on average over three times the average price in Canada, England, or the Netherlands. In no case is the United States' price lower and, in only two drugs (Enbrel and Humira), prices in the United States are less than twice the price paid in other countries.[42] For example, a treatment of cancer drug Gleevac costs $6,214 in the United States, but only $1,141 in Canada; a multiple sclerosis drug Copaxone costs $3,875 in the United States, but only $862 in England; and an acid reflux drug Nexium costs $215 in the United States, but only $23 in the Netherlands.[43]

Inflated drug prices reflect the market power of companies whose brand reputation is reinforced by patent protection and the lack of an effective check by our fragmented insurance industry. Inflated prices derived from market power are charged by producers who could still profit from providing the same product even at a much lower price.[44] When market power is reduced with the removal of patent protection, for example, patients can buy the same drug for much lower prices. When a drug goes "off patent," the entry of two new producers typically lowers prices by half, and prices fall by over eighty percent when there are eight or more producers.[45]

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[40] McKinsey Global Institute, "Accounting for the Cost of Health Care in the United States"; International Federation of Health Plans, "2013 Comparative Price Report: Variation in Medical and Hospital Prices by Country"; Kesselheim, Avorn, and Sarpatwari, "The High Cost of Prescription Drugs in the United States."

[41] International Federation of Health Plans, "2013 Comparative Price Report: Variation in Medical and Hospital Prices by Country."

[42] International Federation of Health Plans.

[43] International Federation of Health Plans.

[44] At $1000 per pill in the United States, $84,000 for a full course of treatment, Gilead Science's Hepatitis C drug Sovaldi has produced more profit in one year than Gilead spent on R and D for over a decade. Almost half of all revenue to Gilead in 2014 was profit. Despite large sales elsewhere, 84% of Sovaldi revenues were in the United States because of hard bargaining by foreign governments and insurers to secure lower prices than are paid by Americans; Belk, "Gilead Sciences"; Pollack, "Gilead Revenue Soars on Hepatitis C Drug."

[45] Health, "About the Center for Drug Evaluation and Research - Generic Competition and Drug Prices"; Baker, "A Free Market Solution for Prescription Drug Crises."

Some Americans pay less for drugs. Negotiating directly to buy drugs in bulk, the Veteran's Administration is able to provide drugs at half the price paid by other Americans.[46] With a population of seven million, the Commonwealth of Massachusetts is comparable in size to the number of veterans receiving health care from the VA (about nine million).[47] A single agency negotiating prices for seven million residents should negotiate dramatically lower prices. Bringing prices down by forty-five percent, less than the savings achieved by the Veterans Administration, would save over five billion dollars; similar bargaining over the price of medical equipment would save nearly another billion dollars.[48]

Waste and fraud

Fraudulent billing -- including duplicate billing and billing for services not rendered -- accounts for between three and ten percent of health care spending in the United States, including an error rate in Federal programs of over nine percent.[49] This includes the "accidental fraud" caused by duplicate billing due to the confusing nature of the insurance process.[50] A single payer authority would reduce fraud in three ways. Eliminating multiple payers would immediately eliminate the possibility of duplicate billing. It would also simplify the process of tracking bills. In addition, public authorities have greater subpoena and prosecutorial powers, giving them more power to stop fraud. By reducing fraud and "accidental" overcharging, Massachusetts could, *conservatively*, save two percent of total costs, or over a billion dollars.[51]

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[46] Frakt, Pizer, and Feldman, "Should Medicare Adopt the Veterans Health Administration Formulary?"; Blumenthal and Squires, "Drug Price Control"; Congressional Budget Office, "Comparing the Costs of the Veterans' Health Care System With Private-Sector Costs."

[47] Bagalman, "The Number of Veterans That Use VA Health Care Services: A Fact Sheet"; a study of 11 countries found those with single-payer insurance system had lower drug prices and bargaining power largely explains higher drug spending in the United States; see Morgan, Leopold, and Wagner, "Drivers of Expenditure on Primary Care Prescription Drugs in 10 High-Income Countries with Universal Health Coverage."

[48] McKinsey Global Institute, "Accounting for the Cost of Health Care in the United States," 56. As is done with the VA, the state would establish a formulary list of covered drugs and negotiate prices with producers. It would then make these drugs available at the reduced prices to pharmacies and other private vendors; see National Committee to Preserve Social Security and Medicare, "Price Negotiation for the Medicare Drug Program: It Is Time to Lower Costs for Seniors."

[49] King and General Accounting Office, "Medicare and Medicaid Fraud, Waste, and Abuse"; National Health Care Anti-Fraud Association, "Testimony of the National Health Care Anti-Fraud Association to the House Insurance Committee"; Shrank, Rogstad, and Parekh, "Waste in the US Health Care System" puts the number a bit lower, at about 1%, which is the savings rate used here.

[50] Anyone who has tried to interpret a hospital bill can appreciate how easy it would be to make mistakes.

[51] This savings estimate is made after taking account of increases in utilization due to the universal coverage plans, extension of coverage, and removal of copayments and deductibles. The estimate of savings from fraud reduction is conservative compared with, for example, the Lewin Group, which regularly assumes that 5% of claims are fraudulent. 20% of these errors would be detected with enhanced subpoena powers without taking account of the reduction in duplicate claims under a system like that proposed here.

Paying for a better system

Remaining revenue from existing sources

After taking account of the additional costs associated with universal access and the savings coming from improved administration and the reduction of monopoly profits, Massachusetts would spend $74 billion in 2021 with the full implementation of the Massachusetts Health Care Trust.[52] Spending in later years has been estimated on the assumption that spending increases will continue at the rate of the recent years.[53]

Existing revenue sources and remaining out-of-pocket spending will supply over $55 billion in 2021 (see Table 2). Funding levels in 2021 have been estimated from the most recent data on the assumption that past rates of increase will continue.

There are a few particular issues to note:

- Medicare recipients cannot be compelled to receive coverage through the Health Care Trust and, if many remain in traditional Medicare, it will compromise the Trust's ability to capture savings from provider administration. The Trust can encourage recipients to join by offering itself as a Medicare Part C program. With its very high AV and comprehensive benefits, the Trust will be more attractive than any alternative.
- Medicaid payments will increase with higher reimbursement rates and higher enrollment under the program. This will involve increased federal funding to the Commonwealth and the Trust.
- The VA will remain separate with its own funding and program.
- Other is a catchall category that includes "worksite health care, other private revenues, Indian Health Service, workers' compensation, general assistance, maternal and child health, vocational rehabilitation, other federal programs, Substance Abuse and Mental Health Services Administration, other state and local programs, and school health."[54] Lacking other information, I have estimated revenues under this heading as the same share of total spending as is the case nationally minus medical spending under workers compensation as well as homeowners and auto insurance. I have removed these on the assumption that they will no longer be available because medical care will be provided by the Trust.

New revenue sources

The rest must be raised from the Commonwealth's residents from sources like those itemized in Table 4. In addition, I have estimated needed and available revenue over ten years under two alternative assumptions: immediate implementation of full savings including price reductions,

[52] I am assuming an actuarial rate of 96% with 4% of health care spending remaining out-of-pocket, including over-the-counter medications and some non-medically necessary services, such as cable-television in hospital rooms or procedures of dubious value, like consuming bleach or swallowing lightbulbs to prevent Covid-19.
[53] While it can usually be assumed that a single-payer system will slow the rate of health care inflation, Massachusetts has achieved unusually low rates of increase in recent years and it is possible that we will not be able to improve on that recent experience.
[54] US Government, CMS, "US State Estimates by State of Residence -- Health Expenditures."

and reduction of hospital prices over four years (see Table 3). Using reported income data from the IRS, I have estimated needed tax rates for the next decade under assumptions of immediate price adjustments and adjustments over four years, and under two alternative programs: a single rate set at ten percent as specified in the Act between earned and unearned income with the first $20,000 exempt for both forms of income, and an eight percent rate for wage income above $30,000 and sixteen percent for unearned income above that level.[55] The results, revenue raised and projected surpluses are shown in Table 5.

The Massachusetts Constitution has been interpreted as forbidding progressive income taxation. Nonetheless, the funding programs given here are progressive in their impact in three ways. First, moving from a health care system financed through lump-sum payments to one where payments are related to income will inevitably benefit lower and middle-income households because these households spend a higher proportion of their income on health care and a fixed payment is a higher share of their income.[56] In addition, progressivity can be integrated into the tax program here both by including a fixed exemption and by taxing nonwage income at a higher rate.[57]

Because of the financial savings to be achieved through implementing the Massachusetts Health Care Trust, it will be possible to provide universal access to health care for all residents of the Commonwealth at a lower cost than the current system (see Table 1 and Figure 9). So great are the savings that the additional revenues to be raised to finance the program are substantially less than the premiums and other cost sharing that Massachusetts employers and family members now pay for health care. Indeed, the revenue program included in the Act will be more than sufficient to finance the Trust (see Figure 10 and Table 5).[58]

The progressive nature of the program here is demonstrated in Figure 11 which shows the change in net income, that is income after paying for health care and any new health care taxes, from tax programs under the assumption that prices will be adjusted immediately and the tax program included in the Act is implemented.

Other considerations: productivity and health

Establishing the Massachusetts Health Care Trust will benefit Massachusetts businesses and workers by lowering the cost of health care, removing the burden of unfunded and unpredictable retiree health care costs, and by eliminating job lock where workers are compelled to remain at a

[55] Unearned income includes income from interest, rents, profits, and dividends, Internal Revenue Service, "SOI Tax Stats Historic Table 2."

[56] Saez and Zucman, "Make No Mistake."

[57] Nonwage income is a much higher share of income at higher income levels. Further progressivity may be introduced by making the exemption related to income, higher for lower income and lower for higher income households.

[58] This is true even with a phased introduction of the Act's price reductions for hospitals.
At least some of the surplus revenue should be used to accumulate reserves for unexpected expenses or for economic downturns with a reduction in revenues.

particular employment to maintain their health insurance.[59] Lowering the cost of operation will allow Massachusetts businesses to compete more effectively on national and international markets, increasing employment and income in the Commonwealth. Businesses will also benefit directly by removing the cost of selecting and implementing health insurance programs for their workers, a billion-dollar expenditure in the Commonwealth.

As is demonstrated in Figures 6 and 7, improving access to health care will lead to reduced mortality and improved population health. These are ends in themselves. In addition, however, they have ancillary benefits. A healthier population is a more productive population. Healthy workers miss fewer days due to illness and lower stress is associated with better concentration and higher productivity.[60] An analysis across member nations in the OECD has found that not only is Preventable Years of Lives Lost (PYLL) associated with access to health care, but increases are associated with lower labor productivity. (PYLL is the sum for all deaths in a year of the number of remaining years to live up to a selected age limit (age 70 is the age in OECD Health Statistics used here).[61]) Putting these effects together, lowering the share of Massachusetts residents who cannot afford to see a doctor from seven percent down to five percent would be associated with a reduction in PYLL that would lead to an increase in labor productivity of ten percent, equivalent to almost a decade of productivity and income growth. The effect of such an increase on Massachusetts income is shown in Figure 12.[62]

The positive association between productivity and health care access creates a virtuous cycle where treating people better is itself productive, beneficial not only to those who directly benefit but to the entire community.[63] Even those whose taxes will rise will benefit from living in a healthier community with more productive workers. And higher productivity and income will have the effect of allowing lower tax rates than those given here under the static assumption of no increase in employment, income, and productivity. Should this increase be realized, it would allow a reduction in the taxes needed to fund the Trust, lowering the rate by a full percentage point after ten years.

[59] Penn Wharton Budget Model, "Medicare for All."

[60] Penn Wharton Budget Model; Wilkinson, *The Spirit Level*.

[61] OECD, "Health Status - Potential Years of Life Lost - OECD Data."

[62] Gordon, *The Rise and Fall of American Growth*.

[63] Friedman, *The Case for Medicare for All*.

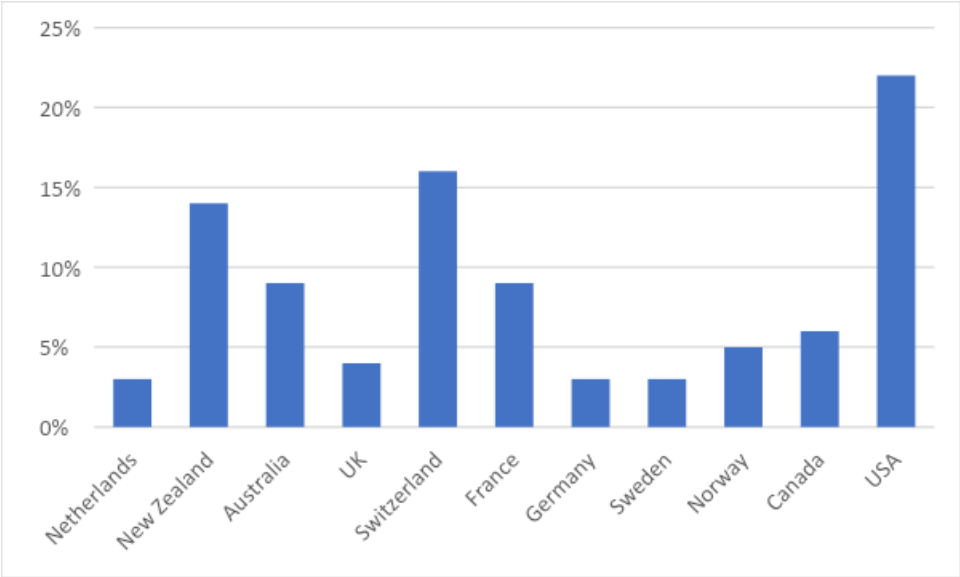

Figure 1. Proportion reporting that they did not receive medical care in the past year because of cost.

Source: Commonwealth Fund[64]

[64] Commonwealth Fund, "International Profiles of Health Care Systems | Commonwealth Fund."

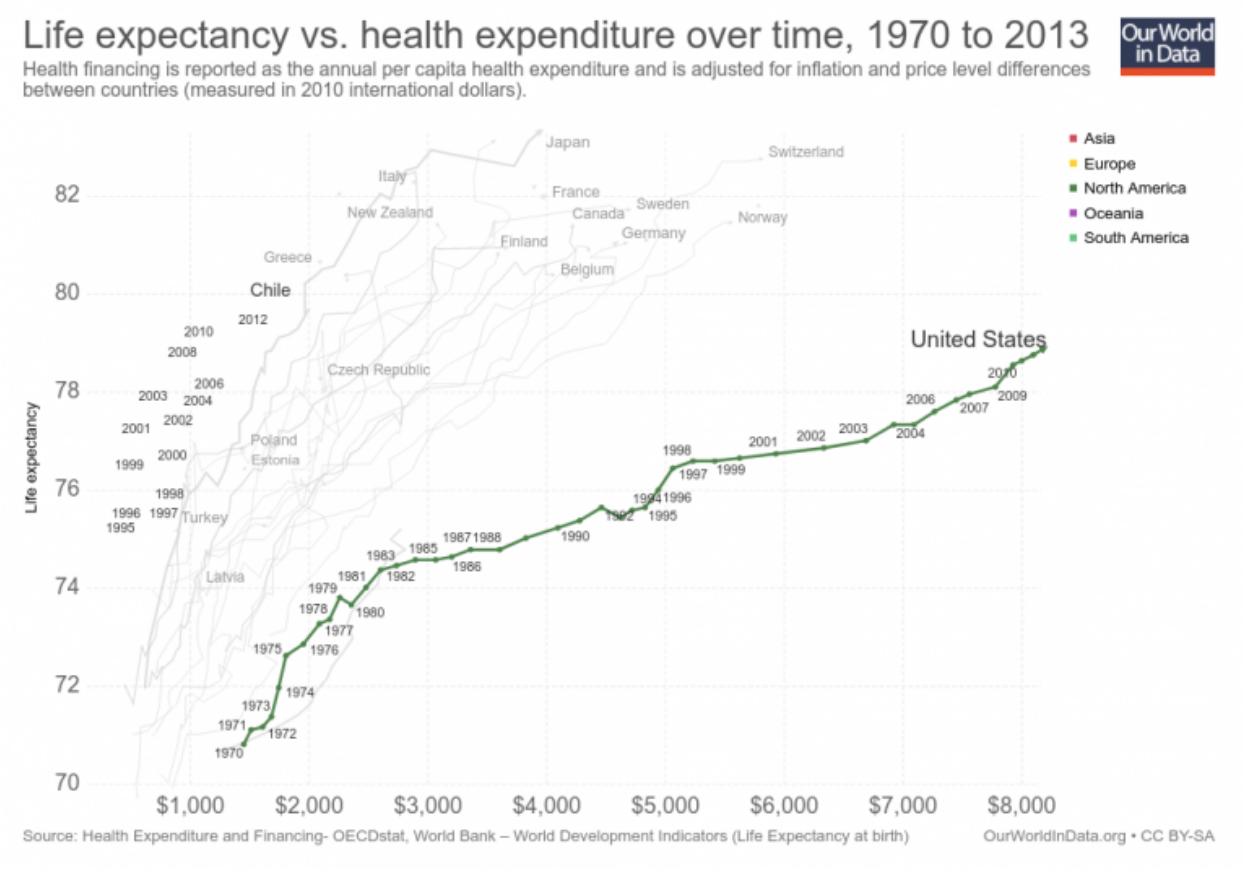

Figure 2. Changing life expectancy and health care spending, United States compared to other affluent countries

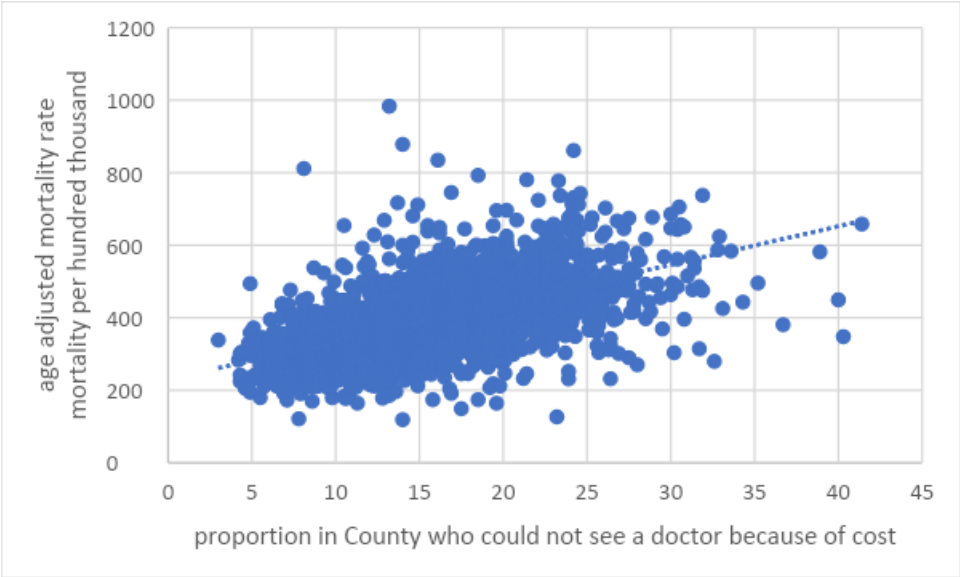

Figure 3. Age-adjusted mortality and un- and under-insurance

Source: Robert Wood Johnson and the University of Wisconsin, County health rankings[65]

[65] Robert Wood Johnson and University of Wisconsin, Population Health Institute, "County Health Rankings."

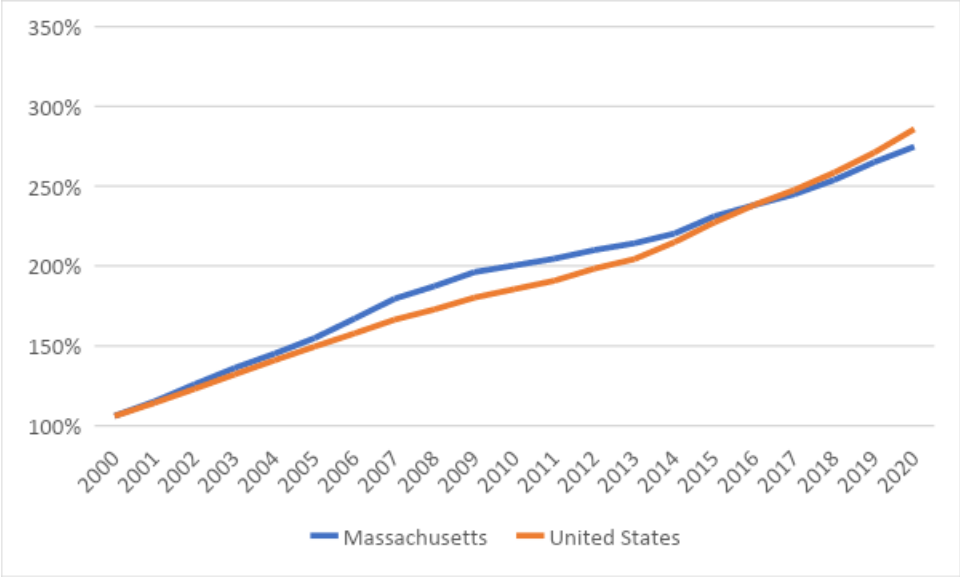

Figure 4. Increase in Healthcare Spending since 2000, Massachusetts and the United States

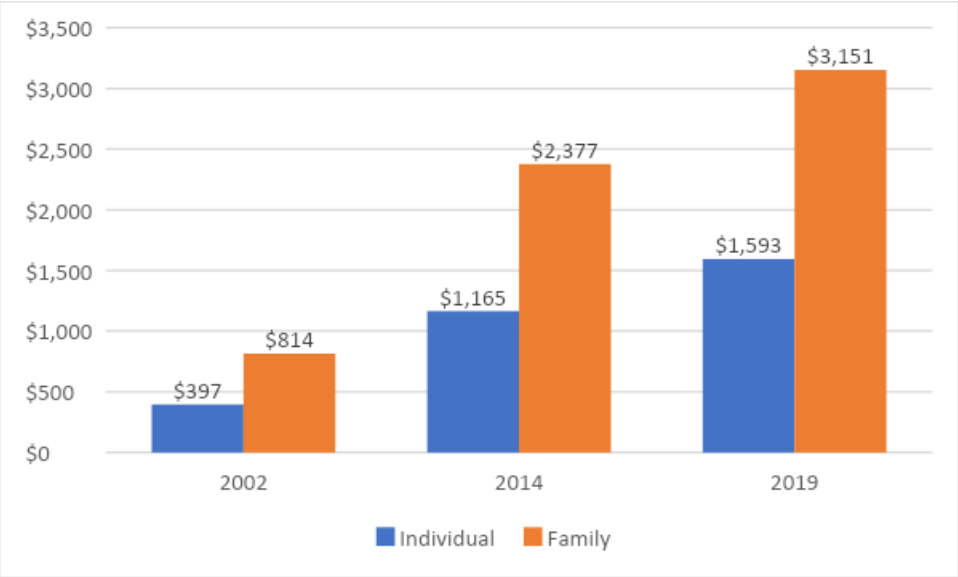

Figure 5. Average Deductible, Private-sector Employer-provided Health Insurance, Massachusetts

Source: Agency for Health care Research and Quality, *Medical Expenditure Panel Survey*[66]

[66] Agency for Healthcare Research and Quality, "Medical Expenditure Panel Survey Insurance Component State Tables."

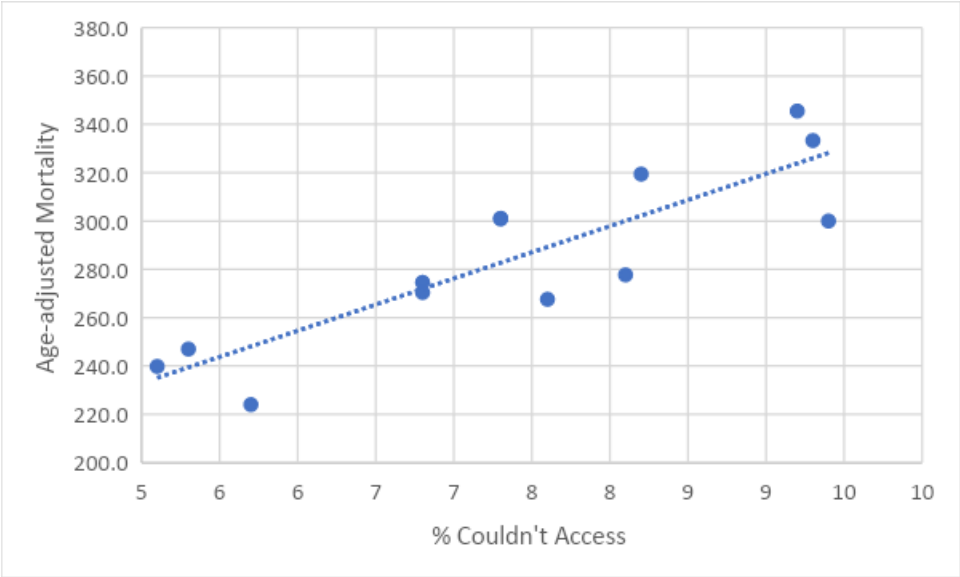

Figure 6. Effect of access on mortality, Massachusetts counties, 2012.

Note: this shows the relationship between the proportion who report they could not afford to see a doctor and the age-adjusted mortality in Massachusetts counties in 2012. It also shows the regression of mortality on access with the age-adjusted mortality rate increasing by 22 per 100,000 for every increase in the proportion who could not afford to see a doctor. This relationship is even stronger in Massachusetts than in the nation as a whole (Figure 3) where the coefficient on ability to afford to see a doctor is 10.5 and the R^2 is .32.

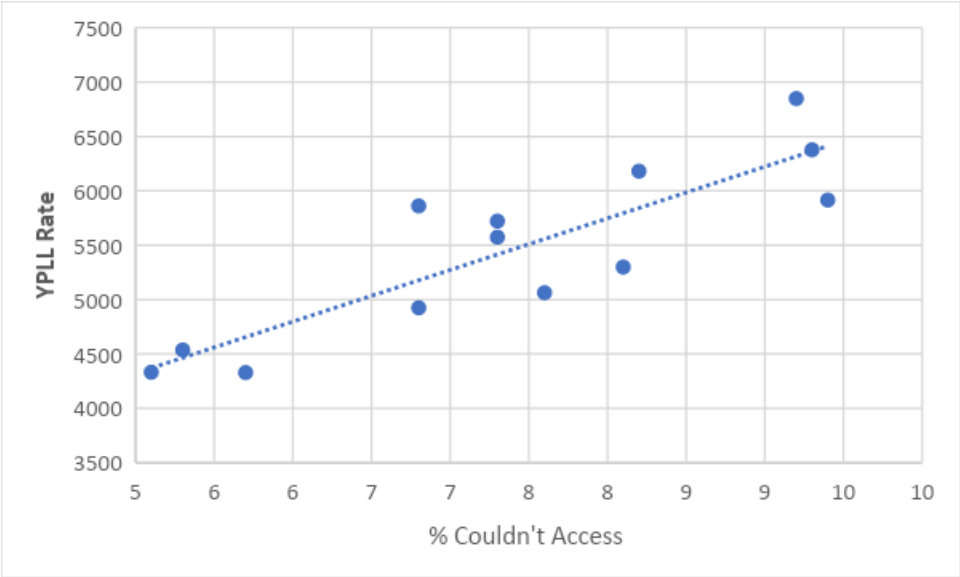

Figure 7. Effect of access to health care on estimated years of preventable lives lost, Massachusetts counties, 2012.

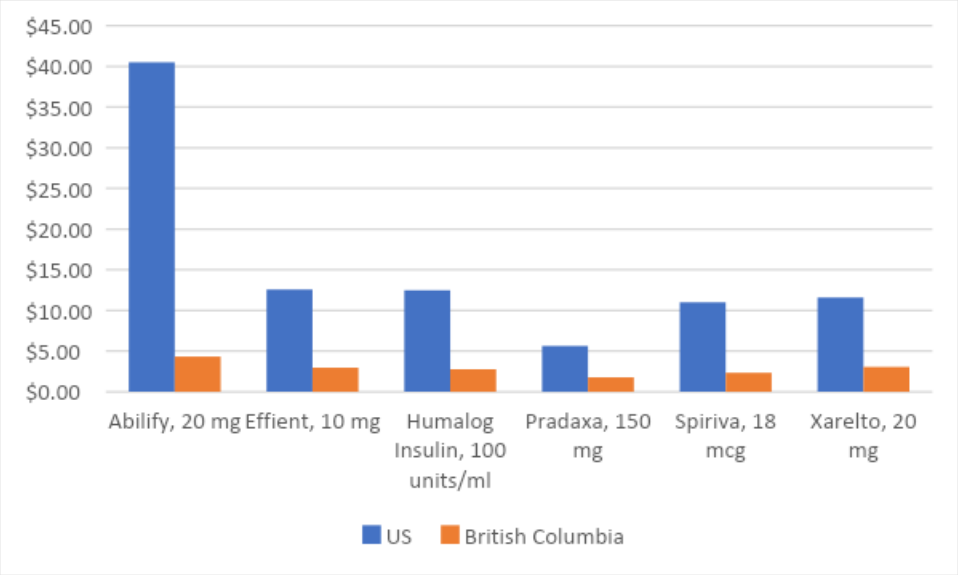

Figure 8. Prices for common prescription drugs, US vs. British Columbia, 2014

Source: http://truecostofhealth care.org/the_pharmaceutical_industry/

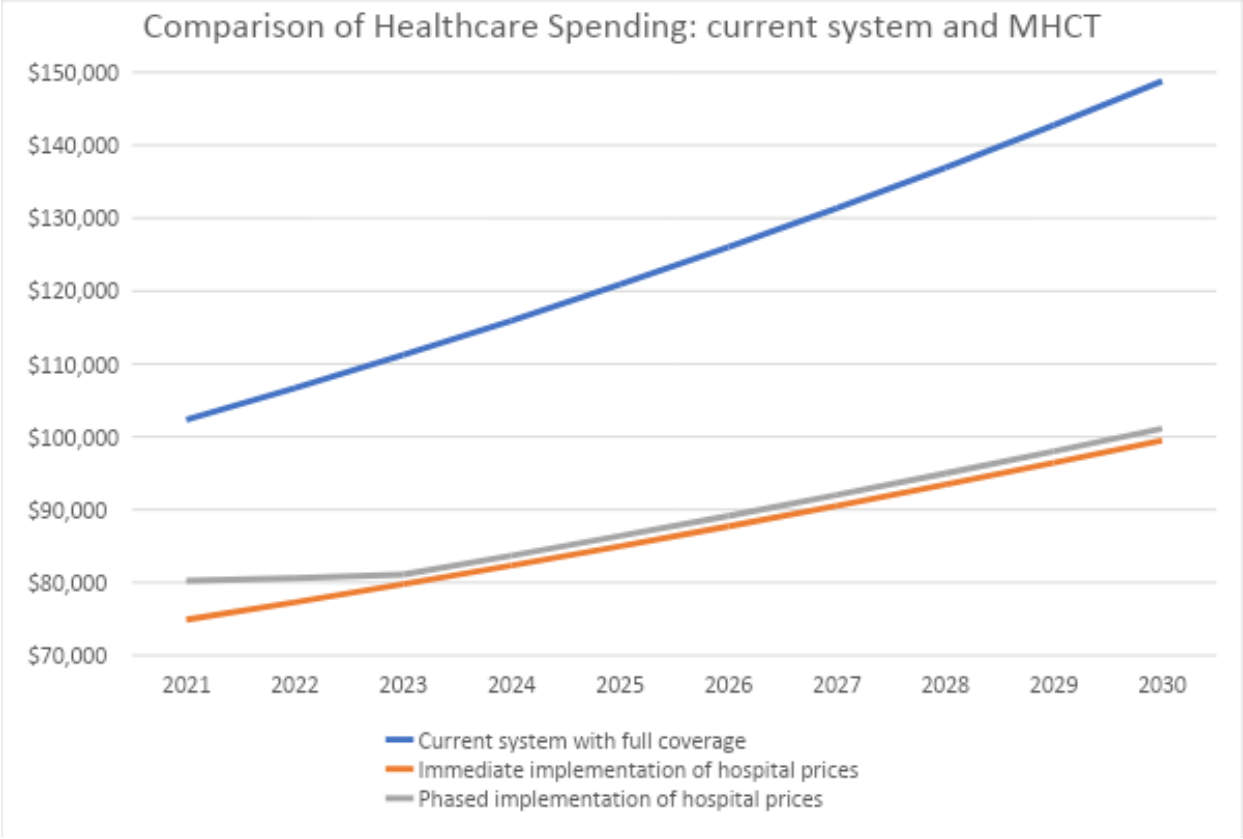

Figure 9. Comparison of Healthcare Spending: current system and MHCT

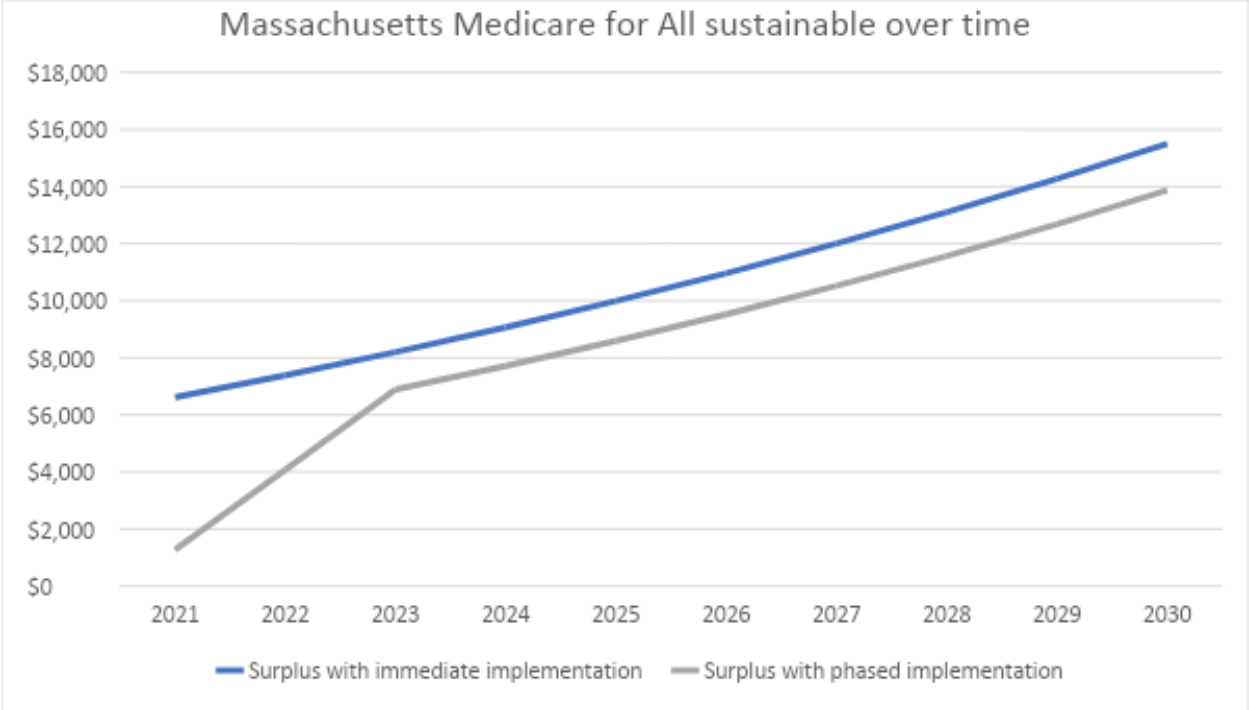

Figure 10. Massachusetts Medicare for All sustainable over time, surplus revenue with immediate implementation of hospital price reduction and reduction over four years

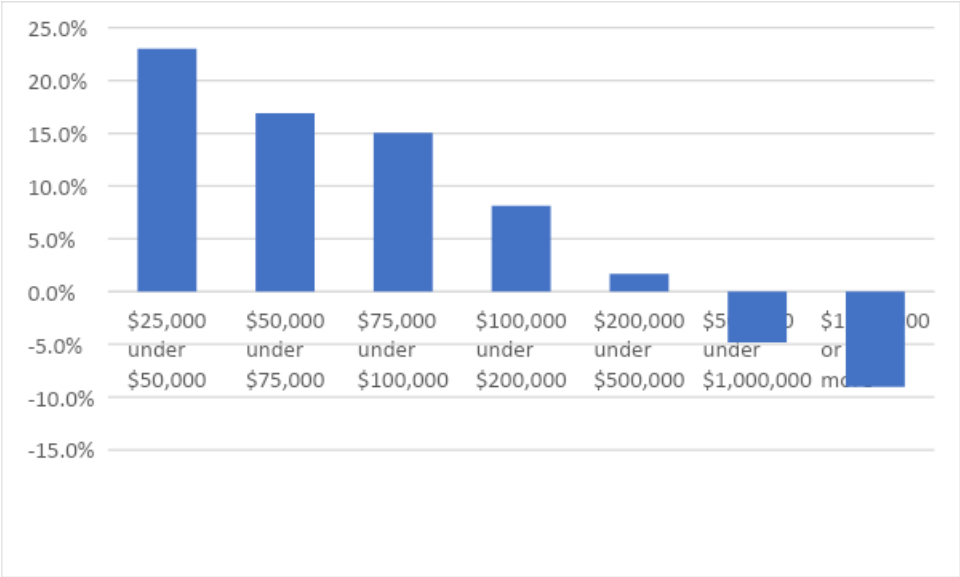

Figure 11. Net effect of Massachusetts Health Care Trust on Income After Taxes and Health care spending

Note: this figure shows the change in net income after health care costs including paying for health care, including insurance premiums and premiums paid by employers on behalf of employees, and taxes levied to pay for health care, including those paid by employers on behalf of employees. The tax rates used are those in the Act on the assumption that hospital prices will be adjusted immediately. The figures given are for an employee in an establishment with under 100 employees.

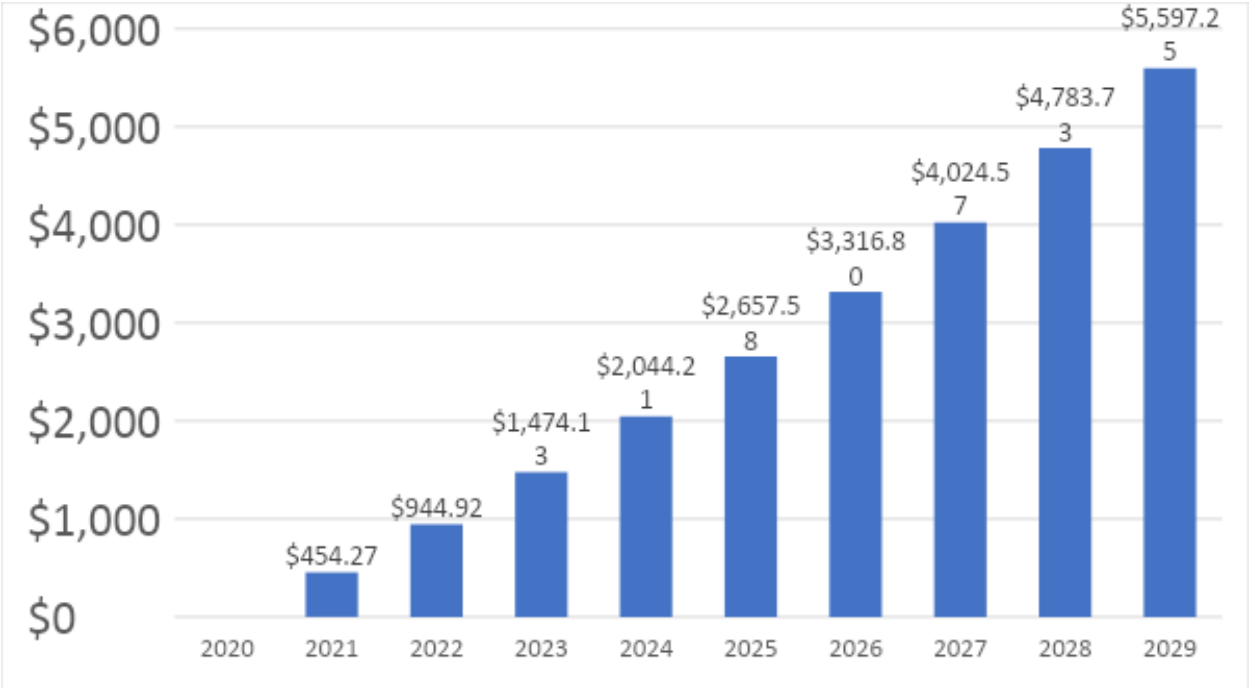

Figure 12. Per capita increase in personal income coming from improvement in health due to Massachusetts Health Care Trust

Table 1. Projected cost of health care, Massachusetts 2021, current system and with universal coverage at high actuarial value ($000,000s)

Spending with universal coverage, existing system		
Personal health care, current utilization	$	91,769
Improved access	$	5,970
Total personal health care	$	97,739
Insurance admin	$	11,286
Total, existing system with full access	$	109,025
		9
Savings from existing system, with universal coverage		
Hospital price adjustment	$	(11,591)
Physician price adjustment	$	(1,843)
Drug and device pricing	$	(5,962)
Provider admin	$	(8,890)
Medicaid price adjustment	$	3,587
Insurance admin	$	(9,854)
Fraud	$	(1,461)
Total savings	$	(36,014)
Funding of Massachusetts Trust		
Net spending, 2021, M4All	$	73,011
Including Medicare Part B	$	74,910
Existing revenue	$	55,700
Needed revenue	$	19,210
10% payroll with $20,000 exempt plus 0.5% on large establishments	$	17,735
10% unearned income with $20,000 exempt	$	8,163
Revenue	$	25,898
Surplus (or deficit)	$	6,687

Table 2. Existing revenue sources, projected 2021 ($000,000s)

Medicare	$	19,392
Medicaid	$	19,735
VA	$	1,545
Other state public health	$	9,655
Remaining out-of-pocket	$	2,922
ACA subsidies	$	727
New Medicaid moneys	$	1,725
Total	$	55,700

Note: Medicaid includes adjustment for Federal share of Medicaid price and coverage increases, but not state share.
Other includes state and local public health, workplace health care, Indian Health Service, charitable contributions, and others.
Medical spending through Workers' Comp, Homeowners', and Auto Insurance has been removed.

Table 3. Ten-year projections of total spending, Massachusetts Health Care Trust, 2021-30 under alternative assumptions of price adjustments for hospitals and physician practices.

Year	Immediate price adjustments	Price adjustments over 4 years
2021	$ 74,910	$ 80,256
2022	$ 77,312	$ 80,620
2023	$ 79,791	$ 81,102
2024	$ 82,349	$ 83,702
2025	$ 84,989	$ 86,385
2026	$ 87,714	$ 89,155
2027	$ 90,526	$ 92,013
2028	$ 93,428	$ 94,964
2029	$ 96,424	$ 98,008
2030	$ 99,515	$ 101,150

Note: This shows estimates of health expenditures (in $000,000s), personal health care plus sponsor administration, under the Massachusetts Health Care Trust under two assumptions regarding the speed with which hospital prices are reduced to Medicare levels +10%.

Table 4. Revenue sources from Massachusetts personal income ($millions)

Personal Income (BEA)	$	556,789
Wages and Salaries (BEA)	$	304,190
Dividends, Interest, Rents, Profits	$	164,428
AGI (IRS)	$	393,597
Wages and Salaries (IRS)	$	258,912
Nonwage Income (IRS)	$	107,015
With $20,000 exemption including establishment deduction		
Wages and Salaries (IRS)	$	171,632
Nonwage Income (IRS)	$	81,627

Note: The $20,000 exemption is applied to households with wage and salary income to their wage and salaries.

Table 5. 10 year funding program based on projected spending, immediate and four year transition

	10% tax, $20K exempt			$30 K exempt, 8% on wages, 16% on nonwage		
Year	Revenue	Surplus: phased implementation of hospital prices	Surplus: immediate hospital price reduction	Revenue	Surplus: phased implementation of hospital prices	Surplus: immediate hospital price reduction
2021	$ 25,898	$ 1,341	$ 6,687	$ 25,028	$ 472	$ 5,818
2022	$ 26,698	$ 4,149	$ 7,457	$ 26,065	$ 3,515	$ 6,823
2023	$ 27,524	$ 6,964	$ 8,275	$ 27,145	$ 6,585	$ 7,896
2024	$ 28,375	$ 7,792	$ 9,145	$ 28,270	$ 7,687	$ 9,040
2025	$ 29,253	$ 8,672	$ 10,068	$ 29,442	$ 8,861	$ 10,257
2026	$ 30,157	$ 9,607	$ 11,048	$ 30,663	$ 10,113	$ 11,554
2027	$ 31,090	$ 10,601	$ 12,088	$ 31,935	$ 11,446	$ 12,933
2028	$ 32,051	$ 11,656	$ 13,191	$ 33,260	$ 12,865	$ 14,400
2029	$ 33,042	$ 12,776	$ 14,360	$ 34,640	$ 14,374	$ 15,958
2030	$ 34,064	$ 13,964	$ 15,599	$ 36,078	$ 15,978	$ 17,613

Note: This is based on the assumption that prices will be adjusted for hospital services immediately or over a four-year period except that Medicaid rates will be immediately raised to Medicare levels plus 10%. Two tax programs are given: the first is that in the proposed act with a 10% rate applied to wage income and nonwage income with a $20,000 exemption on both; the second with an 8% rate on wage and 16% rate on nonwage income applied to income over $30,000. For both, a surtax of 0.5% is applied to payroll for establishments with over 100 employees.

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