Hearing before the Senate Budget Committee
"Medicare for All: Protecting Health, Saving Lives, Saving Money"
Thursday, May 12, 2022

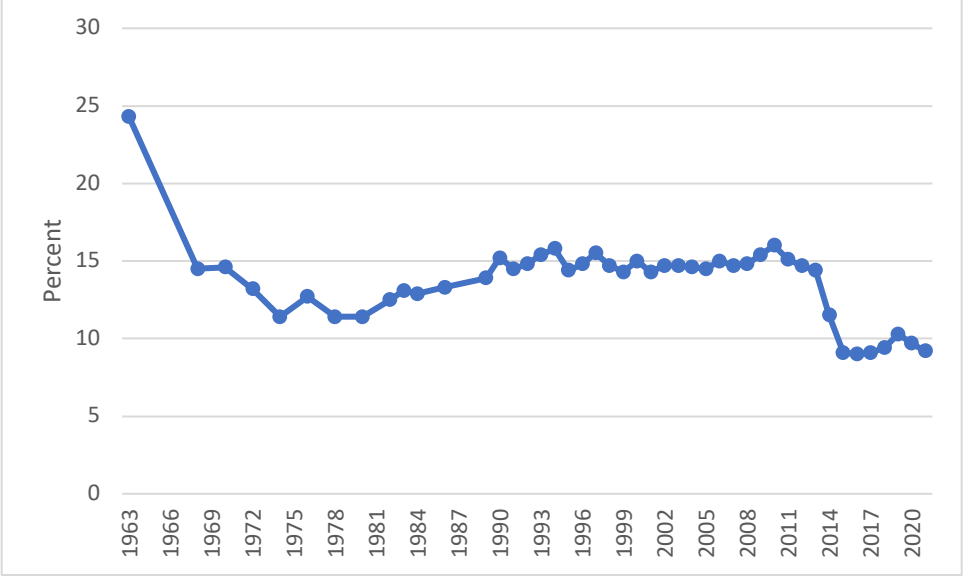
Written Testimony of Adam Gaffney, MD MPH
Assistant Professor, Harvard Medical School

Thank you Chairman Sanders and all of the members of the Budget Committee for the opportunity to discuss the pressing issue of Medicare for All. In the testimony that follows, I outline the benefits of Medicare for All from a medical perspective, and then explore the salient economic issues raised by national health insurance reform.

Covering Everyone: A Medical and Moral Imperative

Universal coverage is a medical and moral imperative, yet it remains an unfulfilled dream in the United States. As a result of passage of Medicare and Medicaid in 1965, and the Affordable Care Act in 2010, the uninsurance rate has fallen over the past six decades (Figure 1). Yet despite progress, 30 million Americans remained uninsured in 2021, or 9.2% of the US population.[1]

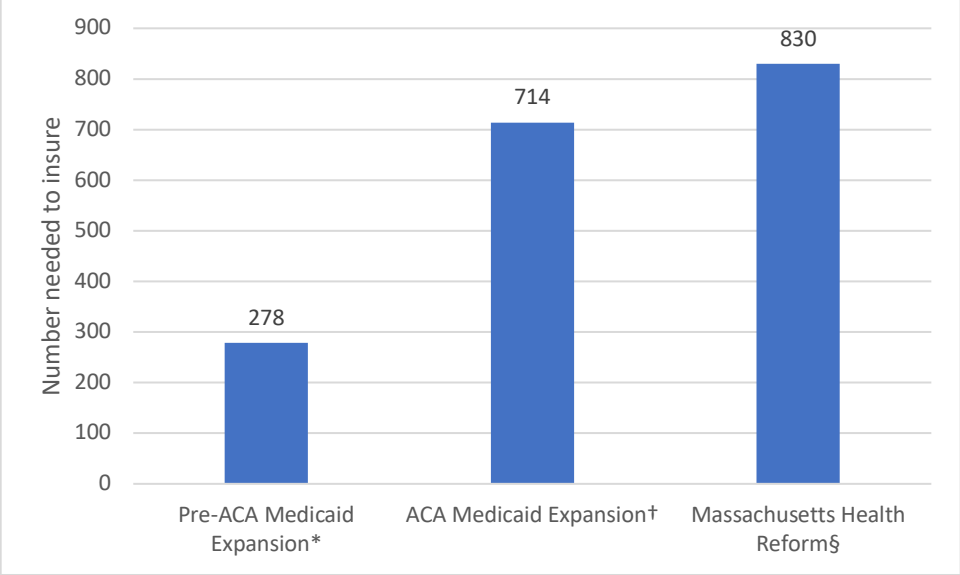
Figure 1: Uninsured, 1963 – 2021



Source for data before 2010: Council of Economic Advisers, "Methodological Appendix: Methods Used to Construct a Consistent Historical Time Series of Health Insurance Coverage," 2014, Available from: https://obamawhitehouse.archives.gov/sites/default/files/docs/longtermhealthinsuranceseriesmethodologyfinal.pdf.
Source for data from 2010 – 2021: Early Release Estimates from the National Health Interview Survey, multiple years. Available at: https://www.cdc.gov/nchs/data/nhis/earlyrelease.pdf. Note that there was a change in survey methodology in 2019.

Uninsurance does not affect all groups equally: Black, Hispanic, and lower income individuals are uninsured at substantially higher rates than others.[1] The consequences for patients' health and wellbeing can be severe. Lack of health coverage leads to medical debt, financial strain, foregone medical care, worse health, and premature death.[2–7] Quasi-experimental studies have demonstrated that for every 278 - 830 patients we leave uninsured, one dies annually (Figure 2). This translates into more than 30,000 deaths every year due to lack of health insurance, an entirely unnecessary toll of suffering and death.

Figure 2: Number needed to insure (NNI) to prevent one death annually in 4 Quasi-Experimental/Experimental Studies



* Sommers BD. State Medicaid Expansions and Mortality, Revisited: A Cost-Benefit Analysis. American Journal of Health Economics 2017; 3: 392–421. Figure is midpoint of estimates provided by Sommers.
† Calculated from age 19-64 subgroup from: Miller S, Altekruse S, Johnson N, Wherry LR. Medicaid and Mortality: New Evidence from Linked Survey and Administrative Data. National Bureau of Economic Research, 2019 DOI:10.3386/w26081. Figure is calculated from Miller et al.'s finding for the age 19-64 subgroup.
§ Sommers BD, Long SK, Baicker K. Changes in mortality after Massachusetts health care reform: A quasi-experimental study. Annals of internal medicine 2014; 160: 585–93. Figure of 1/830 is estimate provided by Sommers et al.

By covering all US residents, Medicare for All would leave no one uninsured in the nation. It would, however, accomplish much more.

The Need to Improve Coverage for All

Alongside persistent uninsurance runs an even more common problem: inadequate quality of coverage, i.e. coverage with such high copays and deductibles, narrow networks of providers, and inadequate benefits that it leaves enrollees medically and financially vulnerable. In 2020, 26% of adults in the US went without a doctor visit in the past year due to costs, five-fold higher than the proportion of Canadians..[8] And about 1 in 5 Americans went without a needed prescription drug, four-fold higher than persons in United Kingdom and more than double the rate in Canada. [8]

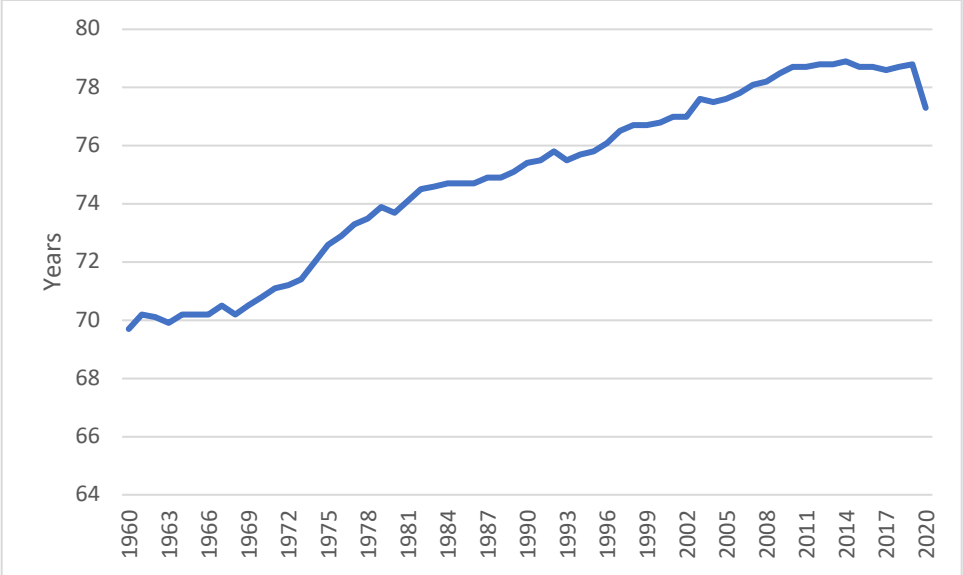
The proportion of working age adults with medical insurance who are classified as underinsured due to high exposure to medical costs rose from 9% in 2003[9] to 21% in 2020, or 41.1 million Americans.[10] As with

uninsurance, underinsurance has major adverse consequences for patients. The underinsured are more likely to be contacted by collection agencies for medical debt, and to go without needed prescription drugs and doctor visits.[10]

Numerous well-designed studies have conclusively tied cost-sharing to worse health. Copays and deductibles worsen blood pressure control, as demonstrated in one randomized trial.[11] They lead to more recurrent vascular events after heart attacks, as seen in another.[12] They cause serious delays in care for patients with cardiovascular[13] or ocular[14] complications of diabetes. Low socioeconomic status individuals with high-deductible health plans even avoid the ER when suffering from high-severity conditions.[15] High-deductibles cause women with breast cancer to delay imaging, biopsies, and even chemotherapy.[16] When copays are high, seniors with multiple sclerosis and rheumatoid arthritis go without critically important drugs that keep their diseases at bay.[17] Cost-sharing causes asthmatics and those with chronic obstructive pulmonary disease (COPD) to avoid taking their inhalers[18] — likely driving worse disease control and an increase in hospitalizations.[19,20] A recent quasi-experimental study found that even relatively low copays and deductibles led seniors to forgo needed medications, causing a 32.7% increase in mortality.[21]

Such cost barriers no doubt contribute to inferior health in America. And indeed, recent health trends in the US are alarming. Even prior to the COVID-19 pandemic, life expectancy plateaued in the US in the past decade, ending decodes of progress (Figure 3).

Figure 3: Life Expectancy at Birth in the United States, 1960-2020*

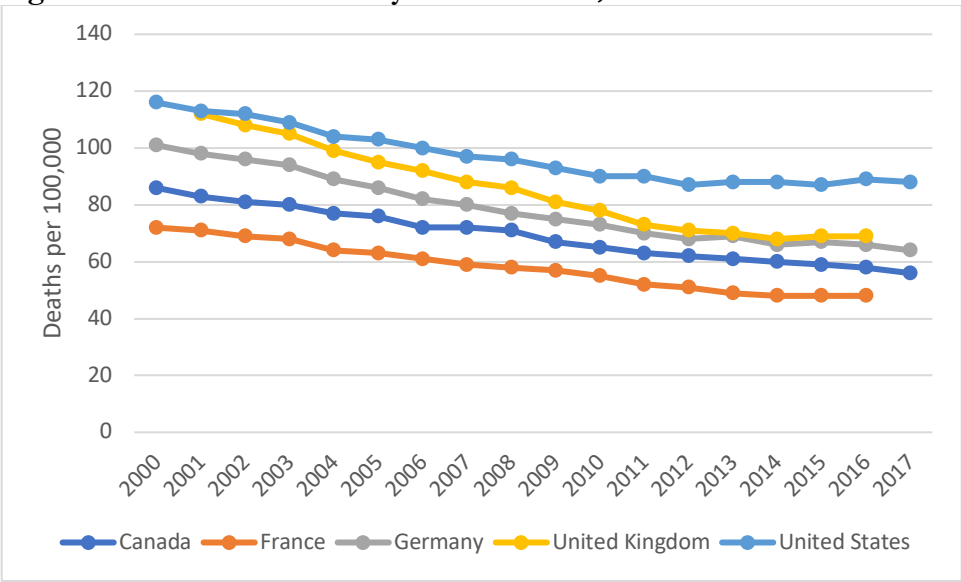


Source of data:
1960-2018:NCHS Data Visualization Gallery - Mortality Trends in the United States. 2020. https://www.cdc.gov/nchs/data-visualization/mortality-trends/index.htm
2019-2020: Arias E, Betzaida T-V, Ahmad F, Kochanek K. Provisional Life Expectancy Estimates for 2020. National Center for Health Statistics (U.S.); 2021. Available from: https://stacks.cdc.gov/view/cdc/107201. Note 2020 data is provisional.

Of course, multiple factors in addition to inadequate medical care contribute to poor health. Yet relative to other wealthy nations, "treatable mortality" — that is to say, deaths potentially preventable with medical

care — is also higher in the US (Figure 4), a gap that has widened in the past two decades. Moreover, medical control of high blood pressure[22] and diabetes[23] has also worsened in recent years.

Figure 4: "Treatable Mortality" in 5 Nations, 2000-2017



Rates are standardized. Source: OECD.Stat, Accessed March 11, 2022. Data points after 2017 were available only for Germany and so were omitted. Available at: https://stats.oecd.org/#.

Cost-sharing is not necessary. In Canada, doctor visits, tests, and hospital care are free-at-point of use. This is also the case in the United Kingdom. In Scotland and Wales, all medicines are additionally free-at-point-of use; even hospital parking is free for patients. As the experience of these nations illustrates, the imposition of high out-of-pocket can be avoided at the same time costs are contained. Medicare-for-All would eliminate nearly all out-of-pocket expenses, ensuring that all patients can get the care they need when they need it, improving both their health and financial welfare.

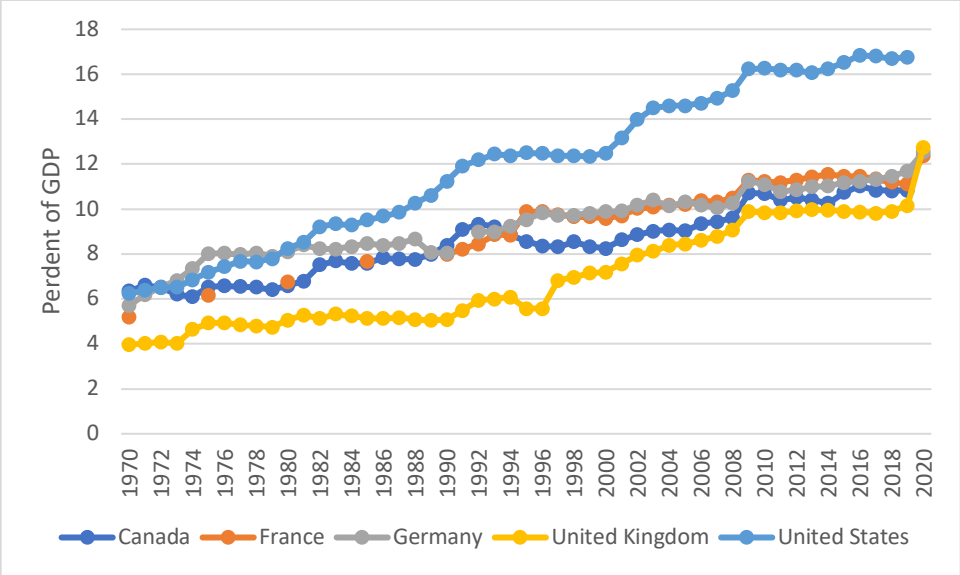
It could also realize a historic expansion in benefits by covering long-term care for everyone — a benefit that relatively few Americans have today. According to the Congressional Budget Office (CBO), a Medicare for All inclusive of long-term care benefits would approximately double the number of eligible Americans receiving covered home- and community-based services.[24] Medicare for All would also expand coverage of other benefits traditionally neglected by current insurance plans, such as dental coverage.

In sum, by covering the uninsured, and improving coverage for everyone else, Medicare for All could greatly improve the health and longevity of Americans.

Realizing Universal Care Affordably

An expansion of health protection to all Americans is clearly urgent. However, healthcare reform must also be affordable. Despite leaving so many uncovered, or with paltry and inadequate coverage, the US healthcare system is far more costly than that of other high-income nations, a difference that has widened since the 1970s (Figure 5).

Figure 5: Healthcare spending in five wealthy nations, 1970-2020



Source: OECD.Stat, Accessed March 11, 2022. There is a series break in 1975 for Canada; in 1995, 2003, and 2006 for France; in 1992 for Germany; and in 1997 for the United Kingdom. The 2019 Canadian estimate and the 2020 United Kingdom and Germany estimates are reported as "provisional". The 2020 US value is reported as an "estimated value." Available from: https://stats.oecd.org/#

Uniquely among healthcare reform proposals, Medicare for All would achieve the savings needed to cover the cost of a generous coverage expansion that provides first-dollar coverage to all US residents. I review some of the major factors affecting the price tag of Medicare for All below.

Savings on Payer-Side Administration

One key driver of high US healthcare costs is our system's inordinately high administrative costs, an issue appropriately recognized by the CBO and some other analysts, but inaccurately modelled by some previous economic analyses.

In 2017, 34% of healthcare spending was devoted to administration in the US — approximately twice the proportion spent on administration in Canada's single-payer national health insurance system.[25] Much of this administrative expense stems from the wasteful bureaucracy inherent to private health insurance. Compared to a public insurer like traditional Medicare, private insurers inflict numerous added costs, including profits for shareholders, bloated executive salaries, product and benefit design, marketing, and burdensome processes for disputing claims (needed to maximize profit). The CBO estimates that private insurance plans take 16.0% of their premium revenues for their overhead and profit.[24] The National Health Expenditure Accounts (NHEA) historical year data provides a slightly lower estimate of 12% (author's calculation; 2018-2020 three-year moving average). Publicly-funded plans operated by private health insurance companies, e.g. Medicare Advantage, have overhead similar to those of other commercial health insurance plans. An estimate from the Government Accountability Office (GAO) put overhead for Medicare Advantage plans (inclusive of profit) at 13.6% in 2011.[26] Today, the share may even be higher. Using the 2020 NHEA estimate of Medicare net private health insurance costs (i.e. overhead) of $63.4

billion divided by 2020 estimates from the 2021 report of Medicare Trustees of $422[27] in Medicare Part C + D spending gives a similar overhead of 15%. In comparison, traditional Medicare has an overhead of approximately 2% (author's calculation from the 2021 Medicare Trustees report[27]); a similar proportion is estimated by the CBO for overhead under Medicare for All.[24] Nations with national health insurance systems, including Canada, have a similarly low insurance overhead.[28] In other words, reducing insurance overhead of the overall US healthcare system to that of traditional Medicare could unlock enormous savings — funds that can then be used to cover the costs of a generous coverage expansion for all.

And indeed, the CBO has estimated savings from such a reduction in insurance costs at over $400 billion annually.[24] Some analyses have come to lower savings because they incorrectly projected that overhead of a single-payer system would be more than three times higher than that projected by the CBO.[24]

Savings on Provider-Side Administration

Payer-side administrative savings are only part of the equation, however. To contend with a multitude of different insurance plans, each with unique payment systems and standards, providers must also spend large amounts of resources on administration. One study, for instance, found that at a large academic medical center, billing costs consumed 14.5% of the professional revenue it received for a primary care visit, and 25.2% of the revenue for an ER visit.[29] US hospitals hire armies of billers and coders to process claims and maximize payments, and consequently spend 25% of their revenue on administration; these costs are effectively bundled into the "price" of each healthcare service.[30] In comparison, nations with single-payer systems including Canada and Scotland that use hospital global budgets — or lump sums to cover all operating expenditures — spend only about 12% of their revenue on administration.[30]

Other providers also accrue excessive administrative costs because of the needlessly complex US insurance system. For instance, US physician practices spend more than $80,000 annually, per physician, to cover the costs of interactions with insurers — almost four-fold higher than Canada.[31] Yet even these figures may not fully account for time spent by physicians in onerous documentation efforts required (or incentivized) by our complex payment systems. A study by colleagues and I, for instance, estimated that US physicians spent 125 million hours on documentation outside office hours in 2019 — much of it driven by insurers' demands regarding billing — an enormous expenditure of time and resources.[32] A time-motion study examining time spent by 57 physicians found that about half of the work day was expended on the electronic health record (EHR) and desk work.[33] An analysis of EHR's found that internal medicine doctors spent more than 3 hours daily on "desktop medicine."[34] In addition to consuming healthcare resources, such busywork likely contributes to the epidemic of physician burnout, which itself imposes costs on the healthcare system. Moreover, such analyses entirely neglect the burden, in time and resources, imposed on *patients* from bureaucratic burdens. US workers may collectively spend as much as half a billion hours a year on the phone with health insurers annually.[a] Moreover, there may be health impacts on patients: about 1 in 4 nonelderly adult patient reports foregoing or delaying healthcare because of administrative burdens.[35]

Overall, the CBO estimates that under single-payer, provider-side administrative expenses (as a share of total revenue) would fall from 19% to 12% for hospitals, from 15% to 9% for physician/clinical services, and from 9% to 6% for other services.[24] The CBO models these savings by assuming that healthcare providers could deliver more care within existing budgets, but these reductions are indeed clear cut savings.

[a] I extrapolated this figure from: Pfeffer J, Witters D, Agrawal S, Harter JK. Magnitude and Effects of "Sludge" in Benefits Administration: How Health Insurance Hassles Burden Workers and Cost Employers. Academy of Management Discoveries 2020;6(3):325–40. My calculation follows authors' assumptions: mean time per worker per week * 130.6 million full-time workers * 50 weeks per year, downwardly adjusted for 7.2% uninsured workers. This figure excludes part time workers.

Moreover, because the CBO does not model global budgeting of hospitals, but instead payment through a fee-for-service system similar to traditional Medicare, achieved savings might even be higher.

Savings on Pharmaceuticals

Compared to other high-income nations, the US pays far more for the same prescription drugs. A single-payer program, particularly if it included aggressive price control tools such as compulsory licensing or public drug development programs, could hence achieve large savings on pharmaceuticals.[36] Under a "high price" single-payer scenario, the CBO estimated only a 7% reduction in drug prices by 2030. However, their "lower price" scenario, which envisions a 30% reduction in drug prices, is entirely realistic – as my colleagues and I have shown[36,37] - and would also bring US drug prices closer to those of other nations.

Costs for Increased Use of Care

Covering the uninsured and providing better coverage for the insured is expected — and indeed, intended — to increase the use of healthcare, which all else equal will increase healthcare spending, partially offsetting some of the aforementioned savings. Some previous analyses, however, have projected enormous increases in healthcare utilization under single-payer that would actually exceed administrative savings.[38] Such surges in hospitalizations, surgical procedures, and office visits, however, are improbable and likely impossible. An analysis by colleagues and I of 13 historical universal coverage expansions in the US and other nations found that increases in healthcare use due to those expansions have been modest and sometimes non-existent.[39] A major error in some previous analyses has been a neglect of the supply-side of the equation: because the number of hospitals and physicians is finite, coverage expansions tend to deliver more care to the newly insured, with small, nearly imperceptible reductions in low-value care among the well-insured.[40] The CBO does model supply-side factors, although it errs in contextualizing constrained increases in use as unmet demand rather than salubrious reductions in the large amounts of unnecessary and even harmful care that are currently delivered.

How Would Providers Fare?

Some previous analyses have suggested that healthcare providers would fare poorly under Medicare for All — indeed, that they might even face financial failure. Some of these same analyses have simultaneously suggested that costs would rise under Medicare for All. These two outcomes cannot simultaneously be true: if healthcare spending rises, so too does provider revenue. In truth, however, neither outcome is likely.

Table 1 provides a previously published estimate by colleagues and I[41] of changes in revenue per practicing physician under Medicare for All that builds on CBO estimates. Under both the "low" and "high" payment rate scenarios envisioned by the CBO, revenues per practicing physician actually increase.

Table 1: Modeling CBO's Low-Cost Sharing Scenario: Ramifications for Physicians

	Low Payment Rates	High Payment Rates
Increased Total Physician and other Clinical Service revenues	$43 billion	$170 billion
Increased Revenues Per Practicing Physician*	$39,816	$157,412

* Based on AAMC estimate of 840,000 practicing physicians in 2030, and the assumption that physician payments account for 77.78% of payments in the "Physician and other Clinical Service" category, as they did in 2018 according to the National Health Expenditure Accounts. This table is reproduced in full from reference [41]

Table 2 provides projections for hospitals' clinical (i.e. non-administrative) revenue. Again, funds available for patient care would increase, not decrease, under both the CBO's "low" and "high" payment rate scenarios.

Table 2: Modeling CBO's Low-Cost Sharing Scenario: Ramifications for Hospitals' Revenues and Clinical Operating Budgets

	Low Payment Rates	High Payment Rates
Change in Hospitals' Gross Revenues	-$187 billion	$144 billion
Hospital administrative spending relative to current law (excluding savings on nursing time)**	-$178 billion	-$139 billion
Net change in hospital clinical (non-administrative) funding excluding savings on nursing time	*-$9 billion*	*$283 billion*
Hospital's Savings on RN and LPN Administrative Time***	$59 billion	$59 billion
Net change in hospital clinical (non-administrative) funding accounting for savings on nursing time	*$50 billion*	*$342 billion*

** Based on the CBO estimate that hospitals' spending on administration (excluding RN and LPN time spent on administration) would be reduced from 19% to 12% of hospital revenues.
*** Based on (1) BLS estimate of number of RNs and LPNs employed in hospitals and average RN and LPN wages in 2019; (2) the assumption that benefit costs = 20% of wages; (3) the assumption that nursing costs would rise at the same rate as overall hospital costs; and (4) CBO's estimate that RNs and LPNs devote 23% of time to administration and that single payer would reduce that time by 80%.
This table is reproduced in full from reference: [41]

Clearly, providers would not suffer under Medicare for All. And while increased funding for safety net providers or primary care physicians may be appropriate, huge windfalls to already highly profitable providers seems inappropriate, suggesting that, if anything, costs would likely be even lower than projected by the CBO.

Conclusions

Medicare for All is the one healthcare reform that can accomplish the goal of expanding and improving coverage for everyone in the nation while simultaneously containing costs. Less comprehensive healthcare reforms, in comparison, will either provide less generous coverage, impose higher costs, or both. Systems similar to Medicare for All have been implemented around the world and have led to improved population health, better protection against the costs of illness, and lower national healthcare expenditures. Such a reform is urgently needed and achievable in the US today.

References

1. Cohen RA. Health insurance coverage: Early release of estimates from the National Health Interview Survey, 2021. Published online 2021:24.

2. McWilliams JM, Meara E, Zaslavsky AM, Ayanian JZ. Use of health services by previously uninsured Medicare beneficiaries. *New England Journal of Medicine*. 2007;357(2):143-153. doi:10.1056/NEJMsa067712

3. Finkelstein A, Taubman S, Wright B, et al. The Oregon health insurance experiment: evidence from the first year. *Q J Econ*. 2012;127(3):1057-1106.

4. Woolhandler S, Himmelstein DU. The relationship of health insurance and mortality: Is lack of insurance deadly? *Annals of internal medicine*. Published online 2017. doi:10.7326/M17-1403

5. Miller S, Altekruse S, Johnson N, Wherry LR. *Medicaid and Mortality: New Evidence from Linked Survey and Administrative Data*. National Bureau of Economic Research; 2019. doi:10.3386/w26081

6. Goldin J, Lurie IZ, McCubbin J. *Health Insurance and Mortality: Experimental Evidence from Taxpayer Outreach*. National Bureau of Economic Research; 2019. doi:10.3386/w26533

7. Sommers BD, Gawande AA, Baicker K. Health Insurance Coverage and Health — What the Recent Evidence Tells Us. *New England Journal of Medicine*. 2017;377(6):586-593. doi:10.1056/NEJMsb1706645

8. Doty MM, Tikkanen RS, FitzGerald M, Fields K, Williams RD. Income-Related Inequality In Affordability And Access To Primary Care In Eleven High-Income Countries. *Health Affairs*. 2020;40(1):113-120. doi:10.1377/hlthaff.2020.01566

9. Collins SR, Bhupal HK, Doty MM. *Health Insurance Coverage Eight Years After the ACA: Fewer Uninsured Americans and Shorter Coverage Gaps, But More Underinsured*. Commonwealth Fund; 2019. Accessed November 25, 2019. https://www.commonwealthfund.org/sites/default/files/2019-08/Collins_hlt_ins_coverage_8_years_after_ACA_2018_biennial_survey_sb_v2.pdf

10. Collins S, Gunja MZ, Aboulafia G. U.S. Health Insurance Coverage in 2020: A Looming Crisis in Affordability — Findings from the Commonwealth Fund Biennial Health Insurance Survey, 2020. Published online 2020. Accessed November 22, 2020. https://www.commonwealthfund.org/sites/default/files/2020-08/Collins_looming_crisis_affordability_biennial_2020_sb.pdf

11. Persaud N, Bedard M, Boozary AS, et al. Effect on Treatment Adherence of Distributing Essential Medicines at No Charge: The CLEAN Meds Randomized Clinical Trial. *JAMA Intern Med*. Published online October 7, 2019. doi:10.1001/jamainternmed.2019.4472

12. Choudhry NK, Avorn J, Glynn RJ, et al. Full Coverage for Preventive Medications after Myocardial Infarction. *New England Journal of Medicine*. 2011;365(22):2088-2097. doi:10.1056/NEJMsa1107913

13. Wharam JF, Lu CY, Zhang F, et al. High-Deductible Insurance and Delay in Care for the Macrovascular Complications of Diabetes. *Annals of Internal Medicine*. Published online November 20, 2018. doi:10.7326/M17-3365

14. Wharam JF, Wallace J, Argetsinger S, et al. Diabetes Microvascular Disease Diagnosis and Treatment After High-Deductible Health Plan Enrollment. *Diabetes Care*. Published online September 29, 2021. doi:10.2337/dc21-0407

15. Wharam JF, Zhang F, Landon BE, Soumerai SB, Ross-Degnan D. Low-socioeconomic-status enrollees in high-deductible plans reduced high-severity emergency care. *Health Affairs*. 2013;32(8):1398-1406. doi:10.1377/hlthaff.2012.1426

16. Wharam JF, Zhang F, Wallace J, et al. Vulnerable And Less Vulnerable Women In High-Deductible Health Plans Experienced Delayed Breast Cancer Care. *Health Affairs*. 2019;38(3):408-415. doi:10.1377/hlthaff.2018.05026

17. Li P, Hu T, Yu X, et al. Impact of Cost-Sharing Increases on Continuity of Specialty Drug Use: A Quasi-Experimental Study. *Health Services Research*. 2017;53(S1):2735-2757. doi:10.1111/1475-6773.12744

18. Castaldi PJ, Rogers WH, Safran DG, Wilson IB. Inhaler Costs and Medication Nonadherence Among Seniors With Chronic Pulmonary Disease. *Chest*. 2010;138(3):614-620. doi:10.1378/chest.09-3031

19. Dormuth CR, Maclure M, Glynn RJ, Neumann P, Brookhart AM, Schneeweiss S. Emergency hospital admissions after income-based deductibles and prescription copayments in older users of inhaled medications. *Clinical Therapeutics*. 2008;30, Part 1(0):1038-1050. doi:http://dx.doi.org/10.1016/j.clinthera.2008.06.003

20. Gaffney A, White A, Hawks L, et al. High Deductible Health Plans and Healthcare Access, Use, and Financial Strain in Those with COPD. *Annals ATS*. Published online October 10, 2019. doi:10.1513/AnnalsATS.201905-400OC

21. Chandra A, Flack E, Obermeyer Z. The Health Costs of Cost-Sharing. *National Bureau of Economic Research Working Paper*. https://www.nber.org/papers/w28439

22. Muntner P, Hardy ST, Fine LJ, et al. Trends in Blood Pressure Control Among US Adults With Hypertension, 1999-2000 to 2017-2018. *JAMA*. 2020;324(12):1190-1200. doi:10.1001/jama.2020.14545

23. Fang M, Wang D, Coresh J, Selvin E. Trends in Diabetes Treatment and Control in U.S. Adults, 1999–2018. *New England Journal of Medicine*. 2021;384(23):2219-2228. doi:10.1056/NEJMsa2032271

24. Congressional Budget Office. *How CBO Analyzes the Costs of Proposals for Single-Payer Health Care Systems That Are Based on Medicare's Fee-for-Service Program.*; 2021. https://www.cbo.gov/publication/56811

25. Himmelstein DU, Campbell T, Woolhandler S. Health Care Administrative Costs in the United States and Canada, 2017. *Ann Intern Med*. Published online January 7, 2020. doi:10.7326/M19-2818

26. Office USGA. Medicare Advantage: 2011 Profits Similar to Projections for Most Plans, but Higher for Plans with Specific Eligibility Requirements. 2014;(GAO-14-148). Accessed March 27, 2019. https://www.gao.gov/products/GAO-14-148

27. The Boards of Trustees, Federal Hospital Insuance and Federal Supplementary Medical Insurance Trust Funds. 2021 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. Accessed September 16, 2021. https://www.cms.gov/files/document/2021-medicare-trustees-report.pdf

28. Jiwani A, Himmelstein D, Woolhandler S, Kahn JG. Billing and insurance-related administrative costs in United States' health care: synthesis of micro-costing evidence. *BMC health services research*. 2014;14:556. doi:10.1186/s12913-014-0556-7

29. Tseng P, Kaplan RS, Richman BD, Shah MA, Schulman KA. Administrative Costs Associated With Physician Billing and Insurance-Related Activities at an Academic Health Care System. *JAMA*. 2018;319(7):691-697. doi:10.1001/jama.2017.19148

30. Himmelstein DU, Jun M, Busse R, et al. A Comparison Of Hospital Administrative Costs In Eight Nations: US Costs Exceed All Others By Far. *Health affairs*. 2014;33(9):1586-1594. doi:10.1377/hlthaff.2013.1327

31. Morra D, Nicholson S, Levinson W, Gans DN, Hammons T, Casalino LP. US physician practices versus Canadians: spending nearly four times as much money interacting with payers. *Health Aff (Millwood)*. 2011;30(8):1443-1450. doi:10.1377/hlthaff.2010.0893

32. Gaffney A, Woolhandler S, Cai C, et al. Medical Documentation Burden Among US Office-Based Physicians in 2019: A National Study. *JAMA Internal Medicine*. Published online March 28, 2022. doi:10.1001/jamainternmed.2022.0372

33. Sinsky C, Colligan L, Li L, et al. Allocation of Physician Time in Ambulatory Practice: A Time and Motion Study in 4 Specialties. *Ann Intern Med*. 2016;165(11):753. doi:10.7326/M16-0961

34. Tai-Seale M, Olson CW, Li J, et al. Electronic Health Record Logs Indicate That Physicians Split Time Evenly Between Seeing Patients And Desktop Medicine. *Health Affairs*. 2017;36(4):655-662. doi:10.1377/hlthaff.2016.0811

35. Kyle MA, Frakt AB. Patient administrative burden in the US health care system. *Health Services Research*. n/a(n/a). doi:10.1111/1475-6773.13861

36. Gaffney A, Lexchin J, The US/Canadian Pharmaceutical Policy Reform Working Group. Healing an ailing pharmaceutical system: prescription for reform for United States and Canada. *BMJ*. 2018;361:k1039. doi:10.1136/bmj.k1039

37. US / Canadian Pharmaceutical Working Group. *Table 7: Estimated Effects of Proposed Reforms on US National Pharmaceutical Expenditures, 2017*. Accessed September 4, 2018. http://www.pnhp.org/sites/default/files/Pharma_Table7.pdf

38. Blumberg LJ, Holahan J, Buettgens M, et al. From Incremental to Comprehensive Health Insurance Reform: How Various Reform Options Compare on Coverage and Costs. Published online 2019.

https://www.urban.org/research/publication/incremental-comprehensive-health-reform-how-various-reform-options-compare-coverage-and-costs

39. Gaffney A, Woolhandler S, Himmelstein D. The Effect of Large-scale Health Coverage Expansions in Wealthy Nations on Society-Wide Healthcare Utilization. *J GEN INTERN MED*. Published online November 19, 2019.

40. Gaffney A, Himmelstein DU, Woolhandler S, Kahn JG. Pricing Universal Health Care: How Much Would The Use Of Medical Care Rise? *Health Affairs*. 2021;40(1):105-112. doi:10.1377/hlthaff.2020.01715

41. Gaffney A, Himmelstein D, Woolhandler S. Congressional Budget Office Scores Medicare-For-All: Universal Coverage For Less Spending. *Health Affairs Blog*. Published online February 16, 2021. Accessed October 23, 2021. https://www.healthaffairs.org/do/10.1377/hblog20210210.190243/full/