

NBER WORKING PAPER SERIES

ACHIEVING UNIVERSAL HEALTH INSURANCE COVERAGE IN THE UNITED STATES:
ADDRESSING MARKET FAILURES OR PROVIDING A SOCIAL FLOOR?

Katherine Baicker
Amitabh Chandra
Mark Shepard

Working Paper 30854
<http://www.nber.org/papers/w30854>

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
January 2023

Katherine Baicker is dean and Emmett Dedmon Professor, University of Chicago Harris School of Public Policy, Chicago, Illinois. Amitabh Chandra is Ethel Zimmerman Wiener Professor of Public Policy, Harvard Kennedy School, and Henry and Allison McCance Professor of Business Administration, Harvard Business School, Cambridge, Massachusetts. Mark Shepard is Associate Professor, Harvard Kennedy School, Cambridge, Massachusetts. Their email addresses are kbaicker@uchicago.edu, amitabh_chandra@harvard.edu, and mark_shepard@hks.harvard.edu. This paper is based on a manuscript prepared for the Journal of Economic Perspectives. The authors thank the editors and Joe Newhouse for helpful feedback and suggestions, and Jason Furman and Matt Fiedler for sharing historical data on US uninsured rates. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

At least one co-author has disclosed additional relationships of potential relevance for this research. Further information is available online at <http://www.nber.org/papers/w30854>

NBER working papers are circulated for discussion and comment purposes. They have not been peer-reviewed or been subject to the review by the NBER Board of Directors that accompanies official NBER publications.

© 2023 by Katherine Baicker, Amitabh Chandra, and Mark Shepard. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

Achieving Universal Health Insurance Coverage in the United States: Addressing Market Failures or Providing a Social Floor?

Katherine Baicker, Amitabh Chandra, and Mark Shepard

NBER Working Paper No. 30854

January 2023

JEL No. H4,H51,I13

ABSTRACT

The United States spends substantially more on health care than most developed countries, yet leaves a greater share of the population uninsured. We suggest that incremental insurance expansions focused on addressing market failures will propagate inefficiencies and are not likely to facilitate active policy decisions that align with societal coverage goals. By instead defining a basic bundle of services that is publicly financed for all, while allowing individuals to purchase additional coverage, policymakers could both expand coverage and maintain incentives for innovation, fostering universal access to innovative care in an affordable system.

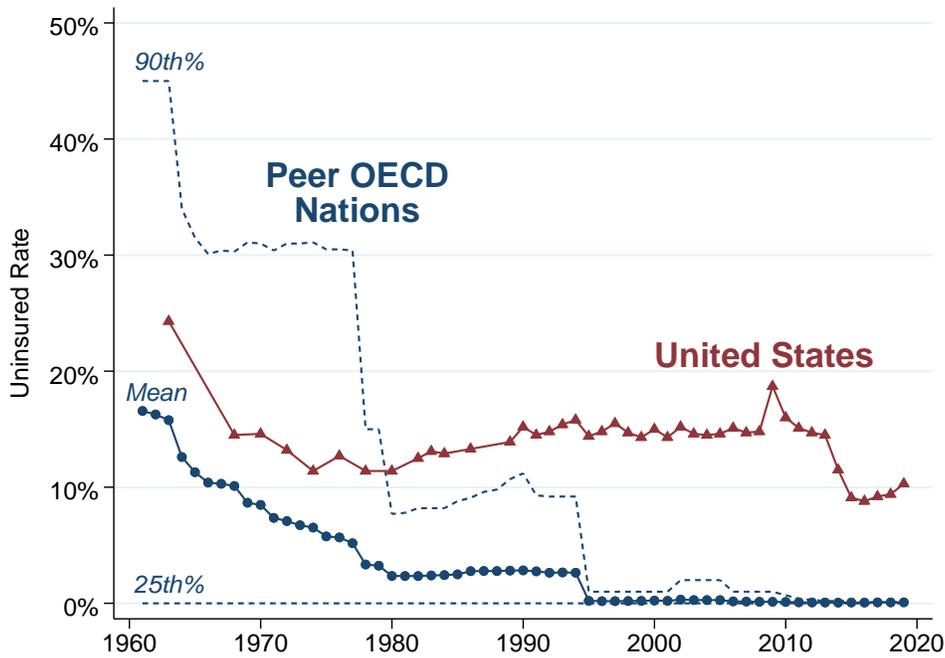
Katherine Baicker
Harris School of Public Policy
University of Chicago
1307 E. 60th Street
Chicago, IL 60637
and NBER
kbaicker@uchicago.edu

Mark Shepard
Harvard Kennedy School
Mailbox 114
79 JFK Street
Cambridge, MA 02138
and NBER
mark_shepard@hks.harvard.edu

Amitabh Chandra
John F. Kennedy School of Government
Harvard University
79 JFK Street
Cambridge, MA 02138
and NBER
amitabh_chandra@harvard.edu

Among developed nations, the United States stands as an outlier in health insurance coverage: almost all other high-income countries have near-universal coverage, while almost 10 percent of the US population is uninsured. Figure 1 shows uninsured rates since the 1960s in the United States relative to a group of 19 developed nations. While uninsurance has declined everywhere over time, the US has been an outlier since at least the 1980s, with most others achieving universal insurance by 1995.

Figure 1: Health Uninsurance Rate in the United States and Peer OECD Nations, 1961-2019



Note: The graph shows the share of populations who lack health insurance coverage in the US and peer nations. Peer OECD nations are the 19 countries with consistent uninsurance data from 1961-2019 in the OCED Health Statistics database: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, Germany, Iceland, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Sweden, Switzerland, and the United Kingdom. We report the mean, 25th and 90th percentiles across these nations. U.S. data is from Fiedler and Furman (2014), who it compiled it from the National Health Interview Survey and other sources. Non-U.S. data is from OECD Health Statistics.

The lack of universal coverage presents a puzzle in standard economic models. Risk-averse people should benefit from some amount of health insurance, even as a purely financial product to protect against medical expense risk. Beyond financial protection, ample evidence shows that health insurance provides greater access to beneficial care and can improve health and save lives. Why, then, is uninsurance such a persistent challenge in the United States? Why is the US experience with uninsurance different from other high-income nations?

We present two approaches to understanding less-than-universal health insurance coverage in the United States and their implications for policies to expand coverage. The first – rooted in the US experience and the economics of supply and demand for health insurance – focuses on the market failures that limit availability of valuable insurance products and the behavioral frictions that further reduce take-up. This “market failures” approach has yielded a large body of fruitful

research elucidating the (many) problems affecting insurance markets. However, we suggest that it may have been less fruitful as an effective guide to universal coverage. Fundamentally, it suggests an incremental approach to insurance expansion via targeted policies to correct market failures that inhibit take-up. The result in the United States has been a patchwork of policies – such as expanding program eligibility, increasing subsidies, streamlining or nudging enrollment, fine-tuning risk adjustment, and penalizing uninsurance through individual and employer mandates. Indeed, many of the policies in the 2010 Patient Protection and Affordable Care Act are based on this approach.

While based in part on the understandable goal of avoiding disruption of people’s existing coverage, this incremental approach has sustained a fragmented US insurance system with many inherent limitations. These include labor market “job lock” (in which workers remain in a job for fear of losing health insurance), regressive financing, costly complexity, and limited incentives for investing in population health. Even more fundamentally, this approach does not coherently define the social welfare goal of how much insurance (and health care access) should be available “universally,” nor the effect of insurance design on system-level investment in medical capacity and innovation.

An alternative approach would start with universal coverage of some kind as a social goal and focus on the decisions involved with designing a health insurance system that ensures a floor on access to medical care. This approach – related to the path taken by many other high-income countries – automatically provides a basic level of insurance to everyone and then focuses attention on key questions about the design of basic coverage and the availability of alternatives.

This “social floor” approach makes explicit many of the underlying goals and tradeoffs that are obscured in the incremental approach grounded in correcting market failures. While take-up of (basic) insurance is no longer a core issue – because everyone gets basic coverage automatically – economics can play a key role in framing the problems and understanding tradeoffs that arise.

We highlight three key questions that arise in the social floor approach. First, this approach to universal coverage requires defining the floor to which everyone will be automatically entitled, or what we call the “basic bundle”. Defining this scope of coverage requires a difficult public conversation: not an abstract debate about whether “health care is a right,” but an answer to the concrete question of “*how much* health care is a right” given real-world funding, capacity, and resource constraints. This process starts by defining what set of medical services are covered, but it must go further. Almost all health services can be “medically necessary” for certain patients in certain situations but quite wasteful (with virtually no health benefit) in other situations. The generosity of basic coverage depends on which mechanisms are used to limit spending on covered services – such as global medical budgets, provider prices, capacity constraints, patient cost sharing, and utilization controls.

Second, a social floor approach must specify *who is in charge* of administering and delivering basic coverage – who decides how much to pay for which services for which patients? In the current US system, some of these decisions are delegated to private insurers while others are subject to federal and state regulation, leading to different degrees of choice, flexibility, and

alignment with patient preferences across insurance segments. A more coherent system for administering basic coverage could yield benefits of simplicity and lower administrative costs.

Finally, decisions must be made about whether and how individuals can use private funds to obtain additional coverage beyond the basic package. This decision about allowing “top up” has economic as well as ethical and distributional implications. The more heterogeneous the population in terms of preferences and income, the greater the return to additional choices, but also the wider the resulting disparities in outcomes.¹ In addition, a top-up system will increase incentives for innovators to invest in new treatments, given a large monopsony purchaser catering to median preferences. (The ability of the US government to demand monopsony prices will likely exceed that of other smaller governments, and the evidence for sustaining a “moderate monopsonist” is weak.)

Beyond these first-order questions, myriad political and logistical concerns would arise in moving the US to a different framework – though there are ways to smooth that transition path so that changes are not unduly disruptive, as we sketch out below. There are lessons to be learned from the experiences of other countries, many of which have some flavor of a universal basic system, though with different answers to the fundamental questions posed above. For example, the United Kingdom automatically covers all residents in its National Health Service, a public healthcare system with no out-of-pocket costs. The Netherlands and Switzerland provide universal coverage through a health insurance market in which people can choose among competing private plans offering basic coverage. Germany and Israel have systems of basic coverage through competing nonprofit plans. Australia has a basic public medical system like the UK system, but with a much larger role for private hospitals and insurance. In many countries, employers play a central role in providing top-up coverage. While these designs display considerable variation, they share a common feature that all citizens are automatically entitled to a basic level of health insurance, without the need to purchase a product or go through a complex enrollment process, resulting in essentially zero uninsurance.

We begin with a short synopsis of the rationale behind a goal of universal coverage, the evolution of health insurance coverage in the United States, and comparisons to other systems. We then draw out implications for coverage through an approach grounded in addressing market failures within the current system vs. starting with a foundation of a guaranteed coverage floor.

Evolution of Health Insurance Coverage

Rationales and Goals of Universal Health Insurance Coverage

We begin with a presumption that almost all individuals are risk averse, and thus inherently value at least some basic amount of insurance. Insurance coverage improves health outcomes and provides financial protection to providers and payers, as well as to covered individuals: for reviews of the evidence, see Finkelstein, Mahoney, and Notowidigdo (2018) and Sommers, Gawande, and Baicker (2017). Moreover, the value of health insurance increases as medical technology advances

¹ Americans are quite divided in how they approach basic questions about government intervention in health care, and the degree to which they value others’ insurance coverage (Baicker and Chandra 2020).

and more lifesaving but expensive treatments become available – for example, a gene-therapy that allows children crippled by spinal muscular atrophy to walk, or a cell therapy that edits DNA to neutralize genes that cause heart attacks.

We also assume that society places value on providing health insurance to others, which could arise for several reasons.² One societal motivation for expanding coverage to the uninsured is risk of health spillovers; but although the COVID pandemic represents a recent example of enormous health spillovers, such spillovers are thought to be relatively small in normal times. Another motivation stems from altruistic concerns for the health of others, especially if health shocks are seen as largely exogenous, or if patients are seen as under-consuming health care because of “behavioral hazard” (Baicker et al. 2015). Finally, conditional on a social decision to provide life-saving care regardless of ability to pay, there is a social interest in providing that care efficiently: the uninsured impose costs on others when they use inefficient “uncompensated care” in emergency rooms and safety net hospitals (the Samaritan’s Dilemma). Further, these costs increase with growth in life-saving medical technology that is expensive.³

If there is a policy goal that all residents have *some* health insurance, the next question is *how much* health insurance. A truly unlimited right to health care (that is, any care at any price for anyone) would quickly eat up all resources available for all other public programs, including schools, housing, and public health. Before turning below to different mechanisms for establishing limits to coverage and spending, we first address the question of why there remains such a substantial population with no insurance at all in the current US system.

The Development of the US Health Insurance System

Prior to the 20th century, few people in any country had formal health insurance. Medical care was not effective or expensive enough to motivate an insurance product to cover its costs. As medicine advanced and became more expensive, the value of health insurance grew. Starting with Otto von Bismarck’s Germany in 1883, many high-income countries developed social health insurance systems that covered wide swaths of the population, often through employers or workers guilds. From the 1940s to 1970s, these social insurance systems gradually expanded or evolved into national health insurance systems in many countries. As Figure 1 indicates, most US peer high-income nations had near-universal coverage by 1980. By 1995, universal coverage had come to nearly all peer nations.

Unlike other high-income nations, the United States did not implement a single model of public (or private) health insurance. Instead, it developed a patchwork of programs for different groups. The US gradually adopted an employer-based health insurance system over the first half of the

² Some would argue that the choice to remain uninsured is a matter of individual liberty – that is, the freedom not to purchase a product. This argument has been encapsulated through comparing mandating universal insurance to mandating that people eat broccoli (for example, Elhauge 2011). Like broccoli, insurance is good for health – but should the government therefore mandate it? This argument is strongest if insurance coverage is viewed as a purely private good.

³ Finkelstein, Hendren, and Luttmer (2019) estimate using the Oregon Health Insurance Experiment that third-party uncompensated care costs equal about two-thirds of the cost of formal insurance via Medicaid. Mahoney (2015) estimates that the Pigouvian externality of unpaid medical debts discharged in bankruptcy (just one part of uncompensated care) are about \$340 per person.

20th century. Such plans received a major boost from the decision – made in the throes of World War II – that workers could receive raises (during a time of wartime wage controls) in the form of employer-paid health insurance excluded from personal taxable income. Additionally, families could choose to purchase private “non-group” coverage directly from insurers. However, by the early 1960s, about 25 percent of Americans lacked health insurance, and these were disproportionately elderly retirees and low-income people.

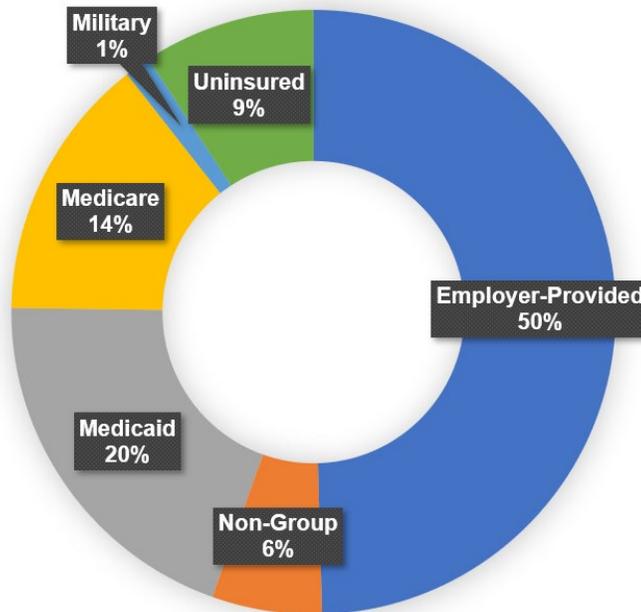
The first major public insurance expansion occurred with the creation of Medicare and Medicaid in 1965. These programs were designed to cover the key groups with the highest uninsured rate: the elderly and families with low incomes, as well as people with disabilities (added to Medicare in 1972). As a result, the national uninsured rate fell from 25 percent in 1963 to 11-12 percent by the mid-1970s.

But over the four decades from 1973 to 2013, the US made little net progress in reducing the uninsured rate. The uninsured rate ticked up to 15 percent during the 1980s and remained around or above that level until 2013. This standstill occurred despite the growth of Medicaid to cover more low-income pregnant women, parents, and children – especially after the passage of the Children’s Health Insurance Plan (CHIP) in 1997 – gains that were roughly offset by declines in employer-provided insurance. It also occurred despite a major expansion in public spending on Medicare and Medicaid, which rose from \$13 billion (or 17 percent of national health expenditures) in 1973 to \$1 trillion (or 37 percent of national health expenditures) by 2013 (CMS NHEA, 2022). The value of the tax exclusion for employer-sponsored health insurance also grew to \$270 billion in foregone income and payroll taxes (Tax Policy Center, 2022). Yet despite these major expansions in public spending and eligibility, uninsurance did not fall meaningfully.

The Patient Protection and Affordable Care Act (ACA) that became law in 2010 represented the second major wave of coverage expansion within the current system. The law provided a plausible path to universal coverage, at least for citizens. It expanded Medicaid to everyone with incomes below 138 percent of the federal poverty level (in states that adopted the Medicaid expansion) and provided income-based subsidies for private insurance in newly created health insurance exchanges. Nearly all poor and middle-income citizens – those with incomes below 400 percent of the poverty line, or \$92,000 for a family of three – qualified for either Medicaid or subsidized insurance at premiums at a cost of 2-10 percent of income for a benchmark plan. Higher-income Americans did not generally qualify for subsidies, but they were given access to a minimum standard of insurance on newly created state exchanges and encouraged to take it up through a tax penalty on uninsurance (though this was repealed in 2019). When the ACA insurance expansions took effect in 2014, uninsurance rates dropped from about 15 percent down to 9-10 percent—about 30 million uninsured people.

Figure 2 shows population shares in various forms of health insurance as of 2019, based on data from the American Community Survey. Half of the US population (158 million people) had employer-provided insurance, while one-third had either Medicare (45 million) or Medicaid (63 million), though the latter has risen sharply since the start of the pandemic. Another 6 percent (19 million) had non-group coverage (including coverage in the health insurance exchanges created in the 2010 legislation), up slightly from the 5 percent share prior to 2014. Finally, 9 percent (29 million) lacked formal health insurance.

Figure 2: US Health Insurance Coverage by Source, 2019



Note: The figure shows the shares of the overall US population with health insurance from each source of coverage. Source: Kaiser Family Foundation (2022) analysis of American Community Survey data.

Explaining the Persistence of Uninsurance

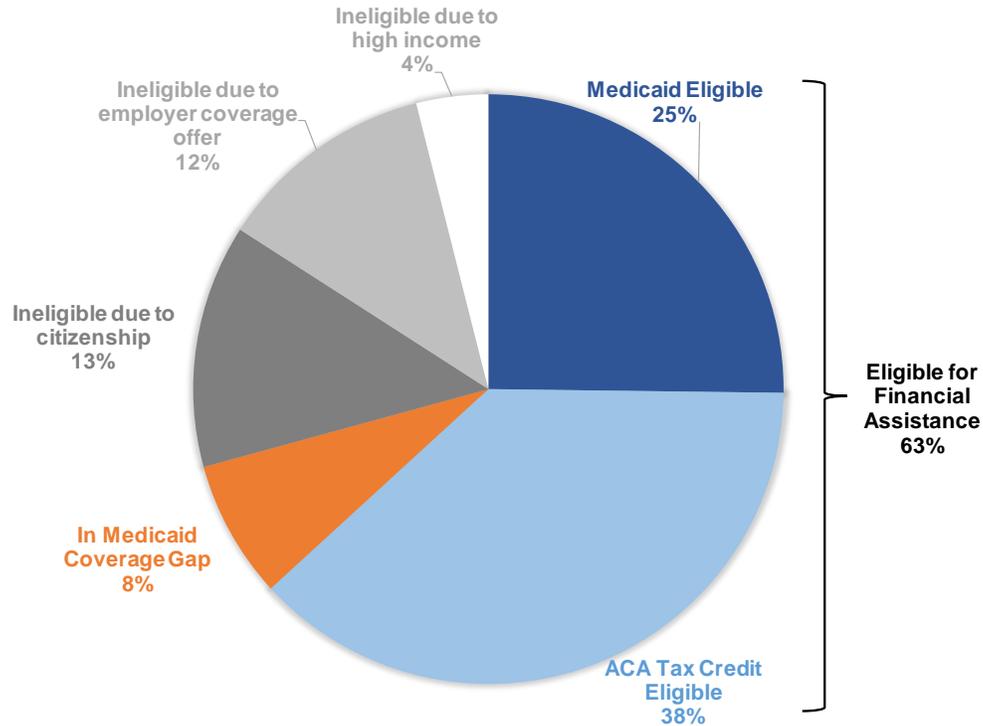
What explains stubbornly persistent uninsurance in the United States? Much of the public discourse focuses on affordability. But although available insurance may be too expensive for some to buy, an examination of the data suggests this is unlikely to be the whole story.

Figure 3 breaks down the uninsured into shares eligible for various sources of insurance as of 2021. On the one hand, this figure points to some gaps in social safety net programs. Not all states have expanded Medicaid under the Patient Protection and Affordable Care Act of 2010, leaving about 2 million very low-income Americans in 12 states to fall into a “coverage gap” (not eligible for Medicaid, but too low income to be eligible for non-group market subsidies). Further, undocumented immigrants are not eligible for subsidies or Medicaid under the 2010 law, affecting perhaps 4 million people (or 13 percent of the uninsured). But together, these two groups account for less than one-fourth of the remaining uninsured.

About 63 percent of the uninsured (about 18 million people) – by far the largest share – are low- or middle-income Americans who qualify for subsidized insurance (via Medicaid or a health insurance exchange) that they have not taken up. Indeed, under the more generous subsidies available since 2021, about 40-50 percent of the uninsured likely qualify for fully-subsidized coverage – that is, coverage with zero out-of-pocket premium for them (Rae et al. 2021). Thus, a

substantial share of the uninsured could be covered by inducing take-up of benefits that would be *free* to them. These facts indicate that affordability is not the only, or even the main, barrier to universal coverage; other forces are at work as well.

Figure 3: Eligibility for Subsidized Insurance Coverage among Non-Elderly Uninsured, 2021



Note: The graph shows the share of uninsured Americans under age 65 who are already eligible subsidized insurance via Medicaid or ACA tax credits to purchase coverage on state insurance exchanges. Overall, 63 percent of the uninsured are eligible for financial assistance, while 37 percent are not. The “Medicaid coverage gap” refers to low-income individuals living in states that have not expanded Medicaid under the Patient Protection and Affordable Care Act of 2010 (ACA). Source: Kaiser Family Foundation (2021), using estimates from American Community Survey data. The graph follows the format of KFF in Tolbert et al. (2019).

Approaching Universal Coverage by Addressing Insurance Market Failures

If the reason uninsurance persists is not merely unaffordability for credit-constrained low-income populations, the standard model suggests an examination of potential insurance market failures. What are potential policy responses to correct market failures and align incentives for take-up?

This “market failures approach” to universal coverage is the (largely implicit) workhorse in much of the relevant economics literature. This framework starts by conceptualizing health insurance as a product bought by consumers who obtain value from it (*demand*), and sold by insurers who incur costs in selling the policy and covering the care (*supply*). By standard theory, the forces of supply

and demand should lead to Pareto optimal allocations unless there are market failures or behavioral frictions. This territory is familiar and comfortable for economists.

The logic of risk aversion and uncertain health expenses suggests that most (perhaps all) consumers should benefit from purchasing a non-zero amount of insurance.⁴ Therefore, if many consumers lack *any* (formal) insurance, it is natural to ask whether the outcome is Pareto optimal – and if not, what the problems are and how to fix them. Over the past decades, economists have elucidated a long list of factors that may lead to non-optimal uninsurance. Here, we review them briefly, grouped into four categories.

First, health insurance markets suffer from *adverse selection*. In addition to truly asymmetric information about consumer health risk, existing regulations ban health insurers from price discriminating based on much of the information they do have about individual-specific risks. Instead, insurers must use group average costs to set premiums. As a result, low-cost healthy individuals are charged premiums exceeding their own expected costs – because these include a cross-subsidy for sicker individuals – and may find purchasing health insurance to be a bad deal. The implications of adverse selection are carefully drawn out in the theory literature, and the past two decades have seen a burgeoning of empirical work showing its continued relevance; for some useful starting points to the modern literature, see Einav and Finkelstein (2011) and Geruso and Layton (2017), both in this journal. Recent work, however, suggests that adverse selection may not be sufficient to explain low take-up (at least among the poor), since a large share of low-income individuals have demand for insurance falling far below their costs of coverage (Finkelstein, Hendren, and Shepard 2019).

Second, the *presence of insurer market power and/or loading fees* to cover administrative expenses may discourage individuals from purchasing insurance. These forces push premiums above actuarially fair levels, meaning that consumers again may find it to be a bad deal. Insurance markets are highly concentrated, and a growing body of work shows the relevance of insurers' market power on premiums (for example, Dafny 2010; Dafny, Duggan, Ramanarayanan 2012; Starc 2014; Mahoney and Weyl 2017).

Third, *behavioral frictions combined with liquidity constraints* may discourage consumers from obtaining health insurance, because such consumers depart from the rational agents with easy access to capital markets who are the starting point of standard economic theory. Relevant factors include liquidity constraints (Ericson and Sydnor 2018); biased beliefs about health risks (Spinnewijn 2017); information frictions (Domurat, Menashe, and Yin 2021); and inertia in the face of enrollment hassles (Shepard and Wagner, 2022). A growing body of evidence finds that even when consumers *do* purchase insurance, they often choose poorly (Abaluck and Gruber 2011; Handel, 2013; Bhargava, Loewenstein, and Sydnor 2017); similarly, as patients they often make imperfect medical decisions in the face of cost-sharing (Newhouse, 1993; Baicker, Mullainathan, and Schwartzstein 2015; Brot-Goldberg et al. 2017).

Finally, the *presence of an implicit safety net* providing health care for the uninsured may undermine the incentives of some individuals to pay for insurance (as in the “Samaritan’s

⁴ This positive insurance result persists even with moral hazard, as long as the cost of moral hazard for the first unit of insurance is second-order, while the benefits of risk protection are first-order.

dilemma” discussed by Buchanan 1975). We have, as a society, already made the decision that vital care must be provided to people in critical need of care, regardless of ability to pay. Informal safety net coverage goes beyond requirements that emergency departments address critical needs regardless of ability to pay, like those embodied in the Emergency Medical Treatment and Active Labor Act of 1986. There is also “charity care” delivered by a range of providers and informal insurance from family and friends (Finkelstein, Mahoney, Notowidigdo 2018). Because of the relatively low threshold for bankruptcy (Mahoney 2015) and free or discounted care from safety net providers (Garthwaite, Gross, and Notowidigdo, 2018), third parties cover about 80 percent of the costs of many low-income uninsured (Finkelstein, Hendren, and Luttmer, 2019). Thus, even uninsured Americans have a sort of informal health insurance coverage – albeit coverage that is disorganized, stressful, low quality, and inefficient.

Addressing Market Failures to Expand Health Insurance Coverage

With an approach rooted in market failures, the natural response is to implement targeted policies that address those failures. We describe how four incremental policy approaches might work within the system: expanding eligibility, expanding subsidies, encouraging enrollment in health insurance for those who already qualify, and bolstering safety net care.

One of the most straightforward expansions of health insurance eligibility within the current system is *to expand Medicaid eligibility in states that have not done so*, using the heavy federal subsidies included for this purpose in the Affordable Care Act. This would expand eligibility for health insurance to about 2 million people.⁵ A reason commonly stated by states that have not taken this step is a concern that the federal subsidies will be withdrawn in the future, which would lead state-level politicians to face an unpalatable choice between finding an alternative funding source or cutting benefits. In our view, however, the choice not to expand seems more a matter of politics than of economic calculus. Additional expansions could also cover the 4 million uninsured who are ineligible because of immigration status, though such a step is even more politically fraught. (We consider “Medicare for All” proposals to be a more fundamental system change, addressed below.)

Increasing the generosity of subsidies for those purchasing non-group private insurance may increase enrollment, especially among healthy near-poor (150-300 percent of poverty) individuals for whom existing modest premiums (about 2-6 percent of income) may nonetheless impose a significant barrier to take-up (Finkelstein, Hendren and Shepard 2019; Tebaldi 2022). Some groups are already eligible for partial subsidies but may find (or at least perceive) insurance to remain unaffordable.

Addressing the frictions associated with enrolling in and retaining health insurance may substantially increase coverage, by inducing those who already qualify for health insurance coverage at no out-of-pocket cost or with heavy subsidies to take it up. This group comprises about 22 million of the 29 million uninsured, including about 7.3 million people who already qualify for free Medicaid, 11.0 million people who qualify for health insurance through a state-level insurance “exchange” (with about half that group qualifying for free coverage), and 3.5 million people who

⁵ For estimates of the health uninsured cited in this section, see estimates from the Kaiser Family Foundation (KFF 2021).

could be receiving health insurance through an employer. For example, recent work has highlighted how seemingly-small administrative burdens involved with insurance enrollment can strongly affect coverage outcomes (Domurat, Menashe, Yin 2021; McIntyre, Shepard, Wagner 2021; Shepard and Wagner, 2022; Wright et. Al 2017). This is especially true when individuals transition between different forms of coverage – for instance, between Medicaid and exchange eligibility, or after losing a job with employer coverage and qualifying for Medicaid. Policies that target transitioning individuals for outreach or auto-enrollment could have a significant impact on take-up, though there are implementation challenges (Dorn, Capretta, and Chan, 2018).

Finally, *the existing safety net system of emergency departments, federally qualified health centers, public clinics, and charity care could be bolstered.* Eligibility along with the bundle of free services expected to be delivered could be expanded. For example, providers of such services could be reimbursed with public funds for primary care and medicines that prevent acute events, not just for emergency department visits.

Limitations to the Approach of Expansion through Filling Gaps in Current System

The US health insurance system has a number of well-documented issues beyond the gaps in health insurance coverage. One is the frictions in labor markets introduced by the fact that half of the population (157 million) is covered by employer-based health insurance. People know that if they lose their jobs—because of recessions, pandemics or business failure—they lose their health insurance, which likely also means finding a new primary care physician, transferring medical records, and amending medications to conform with formularies. This generates “job lock” that reduces labor market flexibility (Madrian 1994).⁶

Another limitation is the lack of continuity of care and coverage introduced by the discontinuities in eligibility between different forms of health insurance – including employer-based insurance, Medicaid, and the subsidized health insurance exchanges for individual policies. In general, a multi-payer system is also expensive to administer: each payer has its own reimbursement forms that are not standardized, and there are bespoke cost-sharing, networks, and formularies—which imposes costs and can confuse patients and their doctors.

Approaches grounded in addressing market failures in the current system are perhaps the path of least resistance in the short run, minimizing disruptions to care while marginally increasing coverage. But it’s worth noting both the limited effectiveness of such approaches over the last 50 years and the shortcomings that such patches would perpetuate.

⁶ It is worth noting that the tax financing of employer-based insurance is inherently regressive and inefficient. By making employer-sponsored health insurance policies tax-exempt, the largest benefits go to workers in the highest tax brackets with the most generous policies. Such policies may also foster low-cost-sharing and higher-premium plans, exacerbating moral hazard issues.

Universal Coverage through Establishing a Social Floor

Rather than beginning with the presumption that the main need is addressing market failures, an alternative approach to expanding coverage begins with the explicit presumption that covering everyone with some form of insurance is a social goal.

In every nation, citizens have some access to health care, regardless of ability to pay, simply by being part of society – the “right” to a *de facto* floor of care. The United States also has an implicit floor, albeit an informal one – meaning that even for the uninsured have access to some health insurance, with no credible way to opt out. We call this the “basic bundle.” The US basic bundle includes hospital care in emergencies as required by the Emergency Medical Treatment and Labor Act of 1986, and non-emergency care from community health centers, safety net hospitals, and clinics that treat people regardless of insurance status or ability to pay. It is socially costly, involving about \$40 billion in annual uncompensated care and \$11 billion in grants for community health centers, paid for by a mix of public funding and health system cross-subsidies.⁷ In this way, the US basic bundle of health care is not unlike public health systems available in many developing countries that are principally used by the poor.

The implicit basic bundle could be made explicit through automatic, free enrollment in some form of coverage financed by general revenues. This broad approach is taken in nearly all countries that have achieved universal coverage, but there are many variations. Although “universal coverage” is often equated with single-payer, government-run health insurance, systems in peer nations in fact reflect a diversity of models with varying roles for government.⁸ For instance, the Netherlands and Switzerland provide insurance via *universal health insurance markets*, offered by competing (but regulated) private health insurers. Germany provides coverage via *competing non-profit insurers* called “sickness funds” that offer standardized benefits and cover the same set of providers (with common fee schedules). Germans can also opt out into a less regulated private health insurance market, an option taken by 11 percent of (mostly higher-income) people.

Canada and the United Kingdom both have universal coverage through *single-payer government-run health insurance*. However, the UK’s medical provider system is also government-run, whereas Canada’s providers are largely private. Further, despite being “single-payer” systems, both nations feature a sizable role for add-on private insurance (largely provided through employers) to cover extra services. In the UK, 11 percent of people have private insurance that covers supplementary benefits – largely elective care at private hospitals with shorter waits. In Canada, 67 percent of people hold complementary private insurance that covers services excluded from the public plan (for example, prescription drugs and dental care).

Many components of the US’s current patchwork system have parallels to international health insurance models: for example, traditional fee-for-service Medicare is similar to Canada; the state-

⁷ For data from the Kaiser Foundation on “Sources of Payment for Uncompensated Care for the Uninsured,” see <https://www.kff.org/uninsured/issue-brief/sources-of-payment-for-uncompensated-care-for-the-uninsured/>. For data on Community Health Center Revenues by Payer Source, see <https://www.kff.org/other/state-indicator/community-health-center-revenues-by-payer-source>.

⁸ For an overview and sources of information on these systems, see the Commonwealth Fund International Health System Profiles (2022) at <https://www.commonwealthfund.org/international-health-policy-center/system-profiles>.

level health insurance exchanges are similar to Switzerland; the Veteran’s Health Administration is analogous to the UK’s system. Thus, moving towards one of these models need not involve wholesale overhaul. But there must be explicit policy decisions made on multiple dimensions that are only implicitly determined now.

We discuss three key policy decisions in a system of guaranteed universal basic coverage: 1) What health care does the basic bundle cover, and how generous is that coverage? 2) What mechanisms are used to limit spending, and who decides? 3) Are people permitted to purchase top-up or supplementary coverage beyond the basic bundle? One goal of this article is to provide a framework that may help guide future research to help inform answers to these questions.

Design Question #1: What Does the Basic System Cover?

How generous – and therefore expensive – should the basic bundle be? This question has important implications for the level of health spending and the ultimate disparities in health care and outcomes, and the answer is a matter of public policy priorities and preferences. We argue that the value of the care in improving health relative to the resource cost of the care is a key input into this social welfare function. Based on this criterion, it would be desirable to include care with health benefits that sufficiently exceed resource costs.⁹

It is important to note that “high-value care” does not mean “low-cost care”: some very expensive treatments with dramatic health benefits are high-value, and some cheap treatments with negligible health benefits are low-value. Some health care services are of such high value that they have negative net cost—that is, the service *pays for itself*. This small minority of care could include vaccinations against communicable diseases, superior treatments for mental illness that reduce incarceration of patients with schizophrenia, or future novel transformational treatments for diseases like Alzheimer’s that reduce total spending. Some health care is of so low value that it has negative net benefit – that is, it is *harmful* to patients. This too is only a small share of care, like prescribing antibiotics for viral infections or contraindicated MRI scans.

But most health care has a positive cost that must be weighed against a positive health benefit. Lots of care has health benefit that will clearly warrant its cost to most: say, emergency care for acute events like accidents, strokes, appendicitis, or pulmonary embolisms; or “curative” or life-sustaining medicines. Coverage of such treatments in the “basic bundle” would likely be uncontroversial. But this leaves a host of care with high cost and more questionable benefits, and debate about inclusion of such services in the basic bundle would likely be heated. As discussed below, establishing a regularized mechanism for inclusion decisions about whether care has sufficiently high benefits relative to costs is important for a successful policy – and something that many countries have struggled to achieve.

Such a system would not only focus health care resources on high-value care, but would also provide an incentive for innovators to develop new treatments with higher health benefit and/or lower cost. The ideal health insurance system would not only provide efficient coverage for

⁹ Additional criteria for inclusion in the basic bundle might include services for which the top-up markets discussed below are unlikely to function well because of adverse selection, or services that are disproportionately used by disadvantaged populations where there is high distributional social value in coverage.

today’s technology, but would also embed appropriate incentives for the development of meaningful innovations in future medical care including prevention, delivery, devices, medicines and procedures.

In turn, insurance coverage must evolve in response to innovation in care. For example, Medicare only began covering prescription drugs in 2006 – a relic of the fact that such medications had not been an important or expensive component of care when the program was established in 1965.¹⁰ The design of public health insurance – from coverage to reimbursement rates to gatekeeping mechanisms – is a major driver of investment in capacity as well as innovation (for example, Finkelstein, 2007; Clemens and Gottlieb 2014; Clemens, Gottlieb, and Hicks, 2021; Weisbrod, 1991; Chandra and Skinner, 2012). Incentives for innovation are not usually contemplated in “public utility” approaches to insurance regulation, and public plans tend to lag private insurance in coverage of health care innovations.¹¹ These facts speak to the value of allowing “top up” plans, described below, as well as the importance of a mechanism for ensuring regular updates to basic coverage design.

Design Question #2: What Mechanisms Are Used to Control Spending?

In addition to the generosity of coverage and design of the basic bundle, decisions must be made around *mechanisms to control spending* such as cost sharing rules, provider payments, access to provider networks, and utilization controls like prior authorization and step therapy. These are often detailed decisions that cannot be specified in law but need to be made for thousands of specific instances. A key governance question naturally arises: *who is in charge* of making these detailed choices, and through what process?

It is tempting to side-step the issue of the need to control spending by suggesting that we can fund universal coverage by eliminating waste, fraud, and abuse; or by eliminating private sector profits; or by reducing administrative costs.¹² Aside from the limited magnitude of such potential savings,

¹⁰ Canada has “universal coverage” in the sense that everyone has coverage for hospital and physician services, but 20 percent of Canadians lack prescription drug coverage. In the United States, standard Medicare does not cover vision and dental benefits, and the Medicare drug coverage long had an infamous “donut hole” where patients lose insurance protection—a design artifact that is believed to have increased mortality as patients cut back on their medicines in response to this gap in coverage (Chandra, Flack, Obermeyer, 2021). Private health insurance plans offered drug coverage three decades before Medicare. Medicare’s coverage of prescription drugs for over 45 million elderly Americans increased innovation in medicines that disproportionately helped these covered patients (Blume-Kohout and Sood 2013).

¹¹ There are global general equilibrium effects to the decision made by a large, high-income country like the United States: coverage and pricing decisions in US markets drive the development of innovations that are then available to other countries – in essence cross-subsidizing innovations that benefit citizens of other countries, but also driving potential expenses for their systems.

¹² Versions of this argument include asserting that Medicare has low administrative costs relative to private insurers. Both medical prices and administrative costs (“paperwork”) do appear to be much higher in the United States than in comparable countries. For medical prices, see Anderson, Hussey, and Petrosyan (2019). For administrative costs, see Cutler and Ly (2010). We say “appear to be” because cross-country price comparisons are notoriously challenging, since it is difficult to define a constant, quality-adjusted unit of service. However, not all administrative costs are wasteful, as many involve efforts to limit use of high-cost drugs and treatments (Brot-Goldberg et al. 2022). Administrative costs are low in Medicare partly because it does not perform utilization management in its fee-for-service offerings, relies on regulated prices as a way to manage utilization, and piggybacks off the systems used by

such arguments miss the inherent opportunity cost of spending on care with diminishing returns. Everyone is against fraud, but even assuming that we could identify in advance and prevent all “wasted” care, that would still leave an enormous body of care with limited health benefit and high cost that would eat up an increasing share of GDP as medical innovations arrived. With scarce resources, there is an inherent tradeoff between covering more people and covering more resource-intensive services (Baicker and Chandra, 2010).

One approach to making these choices is through a centralized public process. One possibility would be legislation that set broad guidelines to define a basic bundle and empowered a medical board or government agency to define details. It’s worth noting that centralized decision-making can occur within a national health insurance system largely operated by private actors. For instance, German (private) health insurance “sickness funds” have standardized coverage and cost sharing rules, and they offer essentially unrestricted choice among providers (who are paid via a centrally set fee schedule). In market-based systems like Switzerland and the Netherlands, coverage by the basic plan is universal, but people may choose different specific plans.

The benefit of this centralized approach is its simplicity and lower administrative costs. The downside is that public entities may make suboptimal decisions. On the one hand, there may be public pressures that generate unsustainably high spending (as seen in some aspects of Medicare and Medicaid), or, on the other, there may be budget pressures that generate stinting (a common perception of the UK’s National Health Service, limited drug coverage in Canada, or Medicaid provider payments in many states). This fundamental problem is hard to avoid in the absence of competitive forces and market price signals.

Several tools might help to reduce the risks involved with centralized pricing or rate-setting. One approach is capitation, which refers to health insurance making payments to health care providers on a (risk-adjusted) per-enrollee basis, not on a fee-for-service basis. The hope is that capitation payment provides an incentive for health care providers to innovate in ways that will attract enrollees, while still holding down costs.

For example, under the Medicare Advantage program (Part C of Medicare), the government makes a flat per-enrollee payment to a private-sector insurer. There is evidence that such mechanisms drive payers to compete on quality (which direct government provision does not) and to deploy a variety of contracting arrangements with doctors and staff to reduce overuse and therefore costs (Newhouse and McGuire 2014; Curto et al. 2019). There are certainly challenges to figuring out how to risk-adjust payments to health plans so that they are incentivized neither to avoid sicker patients (Brown et al. 2014) nor to “upcode” medical diagnoses to increase payments (Geruso and Layton 2020). As another example, “Accountable Care Organizations” are groups of health care providers who provide fee-for-service care to Medicare patients, but who are financially rewarded for meeting certain pre-defined metrics of quality while spending less. Evidence suggests that the existing Accountable Care Organizations have generated modest cost-savings (McWilliams et al 2018), though it is not clear how they negotiate prices for care delivered outside their own organizations.

private insurers to process claims. Although there is surely plenty of room for efficiency gains, there are also likely to be real tradeoffs.

As an alternative to centralized decision-making, there are hybrid options that vest more decision-making in private insurers, such as subjecting insurers to minimum adequacy regulations, but then giving broad flexibility to make coverage decisions, design cost-sharing schedules, and adjust provider (or pharmacy) networks. Patient cost-sharing can be a valuable tool, but it is crucial that cost-sharing take into account patients' behavioral response, and align cost-sharing with the health value of the care to ensure that patients do not cut back on highly valuable care in response to copays (Chandra et.al 2021; Brot-Goldberg et.al 2017; Baicker, Mullainathan, Schwartzstein, 2015; Chandra, Gruber and McKnight, 2010). Private insurance markets can suffer from severe market failures (notably adverse selection) and sub-optimal consumer choices (for example, consumers choosing low-premium plans that expose them to high patient cost-sharing), highlighting the value of policy guardrails.¹³

This hybrid approach is taken by the Medicare Part D drug benefit and by the health insurance exchanges established by the Patient Protection and Affordable Care Act of 2010. Empirically, however, it is not clear how efficient the drug coverage decisions of Part D plans are—for example, many have cost-sharing on drugs with little scope for overuse, thus reducing the insurance value without improving efficiency of resource use.

Design Question #3: What Supplementary Coverage Should be Available?

Once the parameters of a basic, guaranteed plan are established, a policy decision needs to be made about the allowability of supplemental plans for private purchase. Supplemental plans offer several advantages – though there are important distributional implications.

First, many individuals (especially those with higher income) may wish to purchase additional coverage or access to care, and there is social value in letting people choose a plan that fits their preferences. Second, allowing for top-up insurance relieves the budgetary pressure of providing a substantially larger bundle of health care for everyone. Third, the presence of a private health insurance market can help in the process of price revelation, and guide administration of the basic bundle in that way. In particular, without private markets, the regulator has no external benchmark of value, and monopsony pricing by a centralized authority risks reducing welfare by discouraging quality or investments in innovation (Chandra and Garthwaite 2019).¹⁴ The risk of monopsony pricing increases as the share of people covered by the basic-bundle increases. Fourth, the supplemental health insurance market can be an area for experimentation in how health care

¹³ A variation would be to include a public option to increase competition for private plans. However, private plans cannot compete with a public plan that is allowed to run massive deficits, which highlights the problems of running a system without budget limits. Traditional Medicare, for example, competes against Medicare Advantage private plans, but its deficit financing creates an unlevel playing field, limiting the market discipline that is exerted (Chandra and Garthwaite 2019).

¹⁴ This concern is not theoretical: the prices paid to medical providers affect which providers are willing to accept patients covered that plan. Medicaid provides relatively low provider payment rates, but most Medicaid plans have limited provider networks and about 30 percent of physicians do not accept any new Medicaid patients (MACPAC, 2019). More generally, a large monopsonist payer may prefer to use administratively-set prices to control spending, which can result in a low-quality insurance product. Allowing citizens to top up the basic plan provides a signal of price adequacy - as the share of citizens with the top-up plan increases, the more likely it is that the basic plan is inadequate.

benefits might be designed or adjusted. Fifth, allowing top-up of the basic bundle would not require the elimination of the existing employer-provided health insurance plans that cover about 160 million Americans. Of course, the specific choices involved in defining a basic bundle and the allowable types of top-up coverage will pose a version of the classic efficiency-equity tradeoff (Shepard, Baicker, and Skinner 2020).

A basic bundle of health care benefits could be “topped up” along multiple dimensions. Table 1 summarizes four of them (available in many national health systems): patient cost sharing, add-on services, breadth of provider network, and medical amenities. These categories highlight the dimensions along which a basic bundle would need to be defined.

Table 1: Dimensions of Top-Up Benefits in Health Insurance

Top-Up Benefit	Description	Examples
Patient cost sharing	Health insurance systems often include cost sharing to reduce moral hazard. Individuals can purchase top-up coverage to help insure these costs.	<ul style="list-style-type: none"> • “Medigap” insurance in the US Medicare program. • Tier choice in US health insurance exchanges (platinum/gold/silver/bronze) • Choice among plans with varying cost sharing in the Swiss and Dutch systems
Add-on services	Most national health systems purposefully exclude certain categories of medical services. Common exclusions are long-term care, dental and vision care.	<ul style="list-style-type: none"> • Outpatient prescription drugs in Canada • Dental and vision coverage in US Medicare • Long-term care in many countries including the US, Canada, and the U.K. (except for the impoverished)
Private providers	Many health insurance systems do not cover certain providers, who may differ from others in terms of quality, convenience, or amenities.	<ul style="list-style-type: none"> • The UK typically does not cover care at private hospitals, which offer elective procedures with shorter wait times and more amenities. About 10% of people hold private coverage to help pay for these. • Many US providers do not take Medicaid and are accessible only if people pay out of pocket or purchase other insurance
Medical Amenities	The basic system often does not cover services deemed “amenities” rather than “medical quality.”	<ul style="list-style-type: none"> • In many countries, shorter waiting times for non-urgent procedures (e.g., joint

		<p>replacement surgery) are treated as an amenity.</p> <ul style="list-style-type: none"> • In Singapore, basic public insurance pays for shared hospital rooms or wards, while individuals who pay out of pocket or with private insurance can get private rooms in the same facility.
--	--	--

There are two different potential mechanisms for top-up coverage: the ability to buy “add-on” coverage that wraps around the basic bundle, or the ability to purchase a “replacement” plan that supplants the basic program. Most high-income countries allow add-on (or “complementary”) private coverage to their nationally guaranteed plan, which typically covers amenities or providers not covered in the public system (like private hospitals or private rooms within hospitals). As one example, all UK residents can use National Health Service doctors and hospitals for free, but about 11 percent of UK residents purchase private insurance that covers care at private hospitals that have private rooms, as well as shorter waiting lists for non-emergency procedures like joint replacement surgery. In other cases, patients pay out-of-pocket for higher quality treatments or amenities.

In countries that allow replacement health insurance, individuals can opt out of the baseline public insurance system to purchase less-standardized private insurance, which often features more generous treatment coverage or provider access. Prominent examples include Germany and Chile. In Germany, the tax-financed social health insurance program is the universal default basic system, but individuals can explicitly opt out of that and into a private insurance market (an option taken, as expected, mainly by upper-income Germans). In the United States, employer-provided and other non-group health insurance can be thought of as *replacement private insurance* that individuals can voluntarily purchase to replace the implicit basic bundle of charity care and emergency services.¹⁵ This is analogous to (disproportionately higher-income) people opting out of the public K-12 schools and instead paying out-of-pocket for private schools.

Replacement private insurance raises issues of its own. It results in lower public spending, but, depending on pricing institutions, it can also exacerbate adverse selection and market unraveling relative to add-on private insurance (Weyl and Veiga 2017) – potentially leading to a breakdown of risk pooling. Furthermore, when electing the replacement plan means losing the subsidy for basic coverage, this choice may result in inefficient crowd out of private spending. Even individuals who might be interested in additional health insurance beyond the basic bundle may decide against doing so because they wish to avoid losing a generous public subsidy (analogous to Pelzman, 1973). In a US health care context, the fact that Medicaid provides long-term care insurance at no out-of-pocket cost—albeit only after household assets are drawn down substantially—is widely believed to have crowded out the provision of private long-term care

¹⁵ Medicaid is not exactly an implicit basic bundle. It offers free coverage – including being retroactive typically for 90 days – for those who are eligible. But eligibility is non-universal and individual eligibility varies greatly over time with changes in income and family structure. Given the hassles of enrollment, take-up is far from universal.

insurance (Brown and Finkelstein 2008). The degree to which a basic bundle might crowd out private health insurance increases as the price of medical care increases.

This notion of a publicly guaranteed basic bundle alongside private supplemental coverage is of course controversial. Many people believe strongly in equal access to care regardless of income or ability to pay – not just a basic floor level of care provided to all. Allowing a top-up plan means that higher-income people are likely to have access to more care and better health outcomes. Some healthcare systems limit or block supplemental health insurance. A well-known example is Canada, which (by rule until 2005, and *de facto* today) disallows private insurance for services covered by its national Medicare-like system – though it allows private insurance for non-covered services, including prescription drugs. Similarly, many “Medicare for All” plans like that proposed Senator Bernie Sanders disallow most private insurance. As with many other features of the social floor approach to universal coverage, there are likely to be important tradeoffs on which additional research would add great value.

Conclusion

Achieving meaningful universal coverage in the United States requires an explicit policy decision about is meant by that term. We suggest that incremental expansions focused on addressing market failures in the current US system will propagate inefficiencies in our patchwork approach and are not likely to facilitate the active policy decisions that align with societal coverage goals. By instead defining a basic bundle of valuable services that is publicly financed for all, while allowing individuals to “top up” by purchasing additional coverage, policymakers could both expand coverage to the uninsured and maintain incentives for innovation in a financially sustainable system.

Of course, there are important challenges to such a system redesign. Hard decisions would have to be made about tradeoffs among priorities for the allocation of scarce public resources (which are of course implicitly being rationed now) – opening up further potential for the politicization of medical decisions. Changing the functioning of the enormous US health care sector would be inherently disruptive – and perhaps particularly disruptive to the existing employer-sponsored insurance system, necessitating careful transition mechanisms.

To provide additional health care to the currently uninsured without substantially cutting back on care covered by existing public programs, such a system would also require a substantial increase in taxes, raising important questions about progressivity and deadweight loss. In this approach, private health insurance spending would be at least partially supplanted by government spending (with taxes rising commensurately, leaving similar take-home pay net of health care). There would be legitimate concerns about disruption to clinical relationships as provider networks realigned under new insurance coverage design, and legitimate fears about the government as monopsonist payer lowering the incentives for medical innovation by setting prices that reduce the ability of entrepreneurs to capture value, highlighting the importance of additional supplemental private insurance options.

Despite these challenges, few would argue that the current US health care system is serving everyone well. We are surely spending too much on the provision of health care that is delivering

too little benefit to too few people. Reconceptualizing what we mean by universal coverage to ensure that public resources are devoted to care with high health benefit offers the opportunity to ensure universal access to innovative care in an affordable system.

References

- Abaluck, J., and Gruber, J. (2011). Choice inconsistencies among the elderly: evidence from plan choice in the Medicare Part D program. *American Economic Review*, 101(4), 1180-1210.
- Anderson, G. F., Hussey, P., and Petrosyan, V. (2019). It's still the prices, stupid: why the US spends so much on health care, and a tribute to Uwe Reinhardt. *Health Affairs*, 38(1), 87-95.
- Baicker, K., Mullainathan, S., and Schwartzstein, J. (2015). Behavioral hazard in health insurance. *The Quarterly Journal of Economics*, 130(4), 1623-1667.
- Baicker, Katherine, Amitabh Chandra, and T. Bodenheimer. "Uncomfortable Arithmetic Whom to Cover versus What to Cover." *New England Journal of Medicine* 362, no. 2 (2010): 95.
- Baicker, Katherine, and Amitabh Chandra. "What values and priorities mean for health reform." *New England Journal of Medicine* 383, no. 15 (2020).
- Bhargava, S., Loewenstein, G., and Sydnor, J. (2017). Choose to lose: Health plan choices from a menu with dominated option. *The Quarterly Journal of Economics*, 132(3), 1319-1372.
- Blume-Kohout, M. E., and Sood, N. (2013). Market size and innovation: Effects of Medicare Part D on pharmaceutical research and development. *Journal of public economics*, 97, 327-336.
- Brot-Goldberg, Z. C., Chandra, A., Handel, B. R., and Kolstad, J. T. (2017). What does a deductible do? The impact of cost-sharing on health care prices, quantities, and spending dynamics. *The Quarterly Journal of Economics*, 132(3), 1261-1318.
- Brot-Goldberg, Z., Burn, S., Layton, T., and Vabson, B. (2022). Rationing medicine through bureaucracy: authorization restrictions in medicare. Working Paper.
- Brown, J., Duggan, M., Kuziemko, I., & Woolston, W. (2014). How does risk selection respond to risk adjustment? New evidence from the Medicare Advantage Program. *American Economic Review*, 104(10), 3335-64.
- Brown, J. R., and Finkelstein, A. (2008). The interaction of public and private insurance: Medicaid and the long-term care insurance market. *American Economic Review*, 98(3), 1083-1102.
- Buchanan, J. M. (1975). The Samaritan's dilemma. Phelps, ES (Ed.): *Altruism, morality and economic theory*, New York (Russell Sage Foundation) 1975, pp. 71-86.
- Center for Medicare and Medicaid Services (CMS). (2022). National Health Expenditure Accounts (NHEA) data. Available at <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData>
- Chandra, A., Flack, E., and Obermeyer, Z. (2021). The health costs of cost-sharing (No. w28439). National Bureau of Economic Research.
- Chandra, A., and Garthwaite, C. (2019). Economic principles for Medicare reform. *The ANNALS of the American Academy of Political and Social Science*, 686(1), 63-92.
- Chandra, A., Gruber, J., and McKnight, R. (2010). Patient cost-sharing and hospitalization offsets in the elderly. *American Economic Review*, 100(1), 193-213.
- Chandra, A., and Skinner, J. (2012). Technology growth and expenditure growth in health care. *Journal of Economic Literature*, 50(3), 645-80.

- Clemens, Jeffrey, and Joshua D. Gottlieb. "Do physicians' financial incentives affect medical treatment and patient health?." *American Economic Review* 104, no. 4 (2014): 1320-49.
- Clemens, Jeffrey, Joshua D. Gottlieb, and Jeffrey Hicks. "How would Medicare for all affect health system capacity? Evidence from Medicare for some." *Tax Policy and the Economy* 35, no. 1 (2021): 225-262.
- Cutler, D. M., and Ly, D. P. (2011). The (paper) work of medicine: understanding international medical costs. *Journal of Economic Perspectives*, 25(2), 3-25.
- Curto, V., Einav, L., Finkelstein, A., Levin, J., & Bhattacharya, J. (2019). Health care spending and utilization in public and private Medicare. *American Economic Journal: Applied Economics*, 11(2), 302-32.
- Dafny, L. S. (2010). Are health insurance markets competitive? *American Economic Review*, 100(4), 1399-1431.
- Dafny, L., Duggan, M., and Ramanarayanan, S. (2012). Paying a premium on your premium? Consolidation in the US health insurance industry. *American Economic Review*, 102(2), 1161-85.
- Domurat, R., Menashe, I., and Yin, W. (2021). The role of behavioral frictions in health insurance marketplace enrollment and risk: Evidence from a field experiment. *American Economic Review*, 111(5), 1549-74.
- Dorn, S., Capretta, J. C., and Chen, L. J. (2018). Making health insurance enrollment as automatic as possible (part 1). *Health Affairs Blog*, 2.
- Elhauge, Einer. 2011. "The Broccoli Test." *New York Times*, November 16, <https://www.nytimes.com/2011/11/16/opinion/health-insurance-and-the-broccoli-test.html>.
- Einav, L., and Finkelstein, A. (2011). Selection in insurance markets: Theory and empirics in pictures. *Journal of Economic perspectives*, 25(1), 115-38.
- Ericson, K. M., and Sydnor, J. R. (2018). Liquidity constraints and the value of insurance (No. w24993). National Bureau of Economic Research.
- Fiedler, Matt and Jason Furman. (2014). "2014 Has Seen Largest Coverage Gains in Four Decades, Putting the Uninsured Rate at or Near Historic Lows." White House Council of Economic Advisers blog. Available at: <https://obamawhitehouse.archives.gov/blog/2014/12/18/2014-has-seen-largest-coverage-gains-four-decades-putting-uninsured-rate-or-near-his>.
- Finkelstein, A., Hendren, N., and Luttmer, E. F. (2019). The value of 22regon22d: Interpreting results from the 22regon health insurance experiment. *Journal of Political Economy*, 127(6), 2836-2874.
- Finkelstein, A., Hendren, N., and Shepard, M. (2019). Subsidizing health insurance for low-income adults: Evidence from Massachusetts. *American Economic Review*, 109(4), 1530-67.
- Finkelstein, Amy, Neale Mahoney, and Matthew J. Notowidigdo. "What does (formal) health insurance do, and for whom?." *Annual Review of Economics* 10 (2018): 261-286.
- Finkelstein, Amy. "The aggregate effects of health insurance: Evidence from the introduction of Medicare." *The quarterly journal of economics* 122, no. 1 (2007): 1-37.

- Garthwaite, C., Gross, T., and Notowidigdo, M. J. (2018). Hospitals as insurers of last resort. *American Economic Journal: Applied Economics*, 10(1), 1-39.
- Geruso, M., and Layton, T. J. (2017). Selection in health insurance markets and its policy remedies. *Journal of Economic Perspectives*, 31(4), 23-50.
- Geruso, M., & Layton, T. (2020). Upcoding: evidence from Medicare on squishy risk adjustment. *Journal of Political Economy*, 128(3), 984-1026.
- Handel, B. R. (2013). Adverse selection and inertia in health insurance markets: When nudging hurts. *American Economic Review*, 103(7), 2643-82.
- Kaiser Family Foundation (KFF). (2021). "Distribution of Eligibility for ACA Health Coverage Among the Remaining Uninsured." Available at <https://www.kff.org/health-reform/state-indicator/distribution-of-eligibility-for-aca-coverage-among-the-remaining-uninsured> (accessed 10/24/2022).
- Kaiser Family Foundation (KFF). (2022). "Health Insurance Coverage of the Total Population." Available at <https://www.kff.org/other/state-indicator/total-population> (accessed 10/24/2022).
- MACPAC (Kayla Holgash and Martha Heberlein). 2019. "Physician Acceptance of New Medicaid Patients." *Medicaid and CHIP Payment and Access Commission*. Available at <https://www.macpac.gov/wp-content/uploads/2019/01/Physician-Acceptance-of-New-Medicaid-Patients.pdf>.
- Madrian, B. C. (1994). Employment-based health insurance and job mobility: Is there evidence of job-lock?. *The Quarterly Journal of Economics*, 109(1), 27-54.
- Mahoney, N. (2015). Bankruptcy as implicit health insurance. *American Economic Review*, 105(2), 710-46.
- Mahoney, N., and Weyl, E. G. (2017). Imperfect competition in selection markets. *Review of Economics and Statistics*, 99(4), 637-651.
- McIntyre, A., Shepard, M., and Wagner, M. (2021, May). Can Automatic Retention Improve Health Insurance Market Outcomes?. *AEA Papers and Proceedings* (Vol. 111, pp. 560-66).
- McWilliams, J. M., Hatfield, L. A., Landon, B. E., Hamed, P., & Chernew, M. E. (2018). Medicare spending after 3 years of the Medicare Shared Savings Program. *New England Journal of Medicine*, 379(12), 1139-1149.
- Newhouse, Joseph P. Rand Corporation. Insurance Experiment Group, Rand Corporation, and Insurance Experiment Group Staff. (1993). *Free for all?: lessons from the RAND health insurance experiment*. Harvard University Press.
- Newhouse, J. P., & McGuire, T. G. (2014). How successful is Medicare advantage?. *The Milbank Quarterly*, 92(2), 351-394.
- OECD Health Statistics, available at <https://www.oecd.org/health/health-data.htm>
- Peltzman, S. (1973). The effect of government subsidies-in-kind on private expenditures: The case of higher education. *Journal of political Economy*, 81(1), 1-27.
- Rae, M., Cox, C., Claxton, G., McDermott, D., and Damico, A. (2021). How the American Rescue Plan Act Affects Subsidies for Marketplace Shoppers and People Who Are Uninsured. San

- Francisco: Kaiser Family Foundation. Available at: <https://www.kff.org/health-reform/issue-brief/how-the-american-rescue-plan-act-affects-subsidies-for-marketplace-shoppers-and-people-who-are-uninsured/>
- Shepard, M., and Wagner, M. (2022) Reducing Ordeals through Automatic Enrollment: Evidence from a Subsidized Health Insurance Exchange. Working paper.
- Shepard, M., Baicker, K., and Skinner, J. (2020). Does one medicare fit all? the economics of uniform health insurance benefits. *Tax Policy and the Economy*, 34(1), 1-41.
- Sommers, Benjamin D., Atul A. Gawande, and Katherine Baicker. "Health insurance coverage and health—what the recent evidence tells us." *New England Journal of Medicine* 377, no. 6 (2017): 586-593.
- Spinnewijn, J. (2017). Heterogeneity, demand for insurance, and adverse selection. *American Economic Journal: Economic Policy*, 9(1), 308-43.
- Starc, A. (2014). Insurer pricing and consumer welfare: Evidence from medigap. *The RAND Journal of Economics*, 45(1), 198-220.
- Tax Policy Center. (2022). "How does the tax exclusion for employer-sponsored health insurance work?" Available at <https://www.taxpolicycenter.org/briefing-book/how-does-tax-exclusion-employer-sponsored-health-insurance-work> (accessed 3/10/2022).
- Tebaldi, P. (2022). Estimating equilibrium in health insurance exchanges: Price competition and subsidy design under the aca. NBER Working Paper #29869.
- Tolbert, J., Orgera, K., Singer, N., & Damico, A. (2019). Key facts about the uninsured population. Kaiser Family Foundation, Issue Brief. Available at: <https://files.kff.org/attachment//fact-sheet-key-facts-about-the-uninsured-population>.
- Weisbrod, B. A. (1991). The health care quadrilemma: an essay on technological change, insurance, quality of care, and cost containment. *Journal of economic literature*, 29(2), 523-552.
- Weyl, E. G., and Veiga, A. (2017). Pricing institutions and the welfare cost of adverse selection. *American Economic Journal: Microeconomics*, 9(2), 139-48.
- Bill J. Wright, Ginny Garcia-Alexander, Margarete A. Weller and Katherine Baicker (2017). Low-Cost Behavioral Nudges Increase Medicaid Take-Up Among Eligible Residents of Oregon, *Health Affairs* 36, no.5 (2017):838-845.