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How Single-Payer Stacks Up: Evaluating Different Models of Universal Health Coverage on Cost, Access and Quality

Abstract: Described as “universal prepayment,” the national health insurance (or single-payer) model of universal health coverage is increasingly being promoted by international actors as a means of raising revenue for health care and improving social risk protection in low- and middle-income countries. Likewise, in the United States, the recent failed efforts to repeal and replace the Affordable Care Act have renewed debate about where to go next with health reform and arguably opened the door for a single-payer, Medicare-for-All plan, an alternative once considered politically infeasible. Policy debates about single-payer or national health insurance in the US and abroad have tended to rely heavily on Canada’s system as an ideal-typical single-payer system but have not systematically examined health system performance indicators across different universal coverage models. Using available cross-national data, we categorize countries with universal coverage into those best exemplifying national health insurance (single-payer), national health service and social health insurance models and compare them to the US in terms of cost, access and quality. Through this comparison, we find that many critiques of single-payer are based on misconceptions or are factually incorrect, but also that single-payer is not the only option for achieving universal coverage in the US and internationally.

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Background

The recent failed efforts to repeal and replace the Affordable Care Act have had an unintended consequence- a renewal of a debate about where to go next with health reform. With Republican “consumer driven” health reform proposals having largely fallen flat or likely to fall flat, Democrats have begun to rally behind Senator Sander’s single-payer, Medicare-for-All platform, moving this far-left policy alternative more into the political mainstream.¹ Moreover, in an about face, a majority of physicians now support a single-payer system according to a recent poll.² Single-payer proposals continue to draw attention at a state level as well. Even after the demise of Vermont’s single-payer plan, a number of states are pursuing single-payer options.³ Massachusetts recently adopted a bill to study single-payer and implement reforms if a single-payer plan is found to be less costly than alternatives.⁴ New York State was one vote shy of advancing a single-payer plan in a recent legislative session.⁵

Internationally, the national health insurance model is also gaining attention. In a bid to subsidize demand rather than supply of health services through a system of “universal prepayment,” single-payer systems are being advocated by the World Bank and other multilateral and donor organizations to replace national health service systems that have commonly provided services to the poor in developing countries, which have arguably been unable to assure sufficient care and financial risk protection.^{6,7,8}

While single-payer models are gaining attention and visibility in the US and globally, many policy experts argue that a single-payer plan is untenable in the US context where special interests are likely to corrupt the system.^{9,10} Further, some experts view single-payer as unnecessary in that affordable health coverage for all can be achieved within the confines of the current multi-payer context.^{11,12,13} Though anecdotes and memes about rationing and increased wait times in single-payer systems abound, there exists little systematic analysis of the performance of single-payer health care systems and how they compare with other universal health coverage models.

The lack of systematic comparisons between the performance of single-payer models compared with other universal coverage models appears to arise at least partially from confusion even among experts regarding what distinguishes a single-payer model from other forms of universal coverage. For instance, Glied (2009) evaluates the cost of single-payer coverage models using the concentration of financing from a single revenue source (i.e., payroll versus general taxes versus private insurance) as a marker of a system constituting a single-payer model.¹⁴ However, this conflates the number of revenue streams with the number of payers, the latter of which is a better marker of a single-payer system. Medicare, the US single-payer equivalent, is financed through a variety of sources including payroll tax, income tax and individual premium payments among other sources and yet because the US government via the Centers for Medicare and Medicaid Services (CMS) pays all Medicare claims, Medicare is considered to be a single-payer system.

Moreover, single-payer models are often conflated with National Health Service (NHS) models such as England's "Beveridge system" where publicly financed health care services are mostly free to patients at the point of service and providers tend to be salaried employees of the state since, in a strict sense, the state is also the "single-payer" in these systems.¹⁵ This broader category is sometimes referred to as a "single-pool".¹⁶ However, these systems are closer to the US Veteran's Affairs (VA) system where VA hospitals are public organizations and providers are salaried employees of the state, more akin to the US public education system. Public financing, in a National Health Service model, is not distinct from public provision.

The third major model of universal coverage is the Social Health Insurance (SHI) model exemplified by Germany's "Bismark system" where multiple non-profit insurance plans cover workers through shared employee-employer contributions and pooled financing covers the remainder.¹⁷ SHI is also known as a regulated multi-payer model and varies greatly in terms of the number of plans, degree of regulation, among other factors. This model is very close to the US model with the primary differences

centering the higher degree of regulation imposed in these models. Clinton's failed 1994 health reform bill would have created a regulated multi-payer system approximating the Bismark model.

By contrast, single-payer systems are best understood if described by their alternative moniker- "national health insurance" systems. National Health Insurance systems (NHI) are insurance-based models where health care providers are reimbursed through a tax-financed national health insurance plan that every citizen is eligible for by dint of citizenship.¹⁸ The government decides which benefits will be included in the national health insurance plan and citizens generally pay into the national plan via an earmarked tax. In the U.S., Medicare is a national health insurance plan, with the caveat that only older adults (age 65+) are eligible.

Here we review cross-national comparative evidence based largely off of information from the Commonwealth Fund's annual International Profiles of Health Care Systems reports to 1. Identify which set of countries apart from the well-known case of Canada can rightfully be described as having a "single-payer" model of universal health coverage; 2. Assess how different universal coverage systems compare with the US on cost, access and quality measures; 3. Discuss the findings in light of common arguments against single-payer, i.e., does single-payer invariably lead to longer wait times and other forms of health care rationing? Would the quality of health care services be reduced? Would single-payer put the private health insurance industry out of business? Through this cross-national lens we suggest that the single-payer model should not be viewed as the socialized behemoth it is often depicted as on the political right, nor should it be considered as the only acceptable means of achieving universal coverage as is often taken as gospel on the political left.¹⁹ We find that all universal health coverage systems perform better than or equivalent to the US on the outcomes measured, but that single-payer systems perform favorably on cost and availability of services.

Methods

The information for this analysis is drawn primarily from annual reports published by the Commonwealth Fund that provide detailed profiles of the health systems of presently 17 countries with universal coverage systems as well as comparisons of performance indicators derived from annual national surveys and other comparable sources.²⁰ We additionally draw information from secondary sources to supplement and validate the information contained in the reports.

Coding countries as characterizing a single-payer model. The Commonwealth Fund's International Profiles of Health Care Systems reports provide detailed descriptions of health care system financing and coverage including assessments of whether a country's model loosely represents more of a social insurance model or a National Health Service model. We defined single-payer based on recently articulated definitions as a "comprehensive universal coverage where everyone in a given region is covered by the same health plan with the same core set of services, [and] funding for that core set of services comes from a single public fund," generated through taxation. Providers are then reimbursed for health care services from that single public fund (hence, the "single-payer" moniker). In this sense, single-payer systems represent more narrowly a "National Health Insurance" (NHI) model, whereby there is typically one health insurance plan that everyone in an area is eligible for and would exclude multi-payer Social Health Insurance models and National Health Service models. In addition to our classification of countries, we also summarize additional relevant information from the reports including the degree to which the system uses public or private provision of services, and the amount of the population that is covered by supplementary insurance that covers services beyond a basic health care package.

Beyond relying on the descriptions provided by the Commonwealth fund, we engaged in secondary literature review and searches to understand the organization of different country health systems and how they are commonly understood and presented in the literature. We then coded countries based on which model "ideal type" best fit the system as described by various sources. As discussed below, finding cases that match perfectly to any of the three ideal types is complicated by the wide variety of combinations of different system characteristics. **Table 1** and the discussion in the results section

below describe major findings with regards to how well countries categorized into each system adhere to the stylized case.

Comparing countries based on cost, access and quality. For this portion of the analysis we relied on the data provided in the Commonwealth Funds reports compiled from publicly available datasets including the World Health Survey among other sources. Some measures rely on comparable administrative data and others from cross-national comparative micro-surveys of a representative sample of citizen's experiences with the health system. More details about the original sources of data can be found in the reports themselves.²⁰ Information compiled from the reports includes measures of 1. Access measured in terms of cost-related barriers to care; 2. Cost to the government or more broadly (i.e., health spending per capita, as a percent of GDP and health care cost inflation); 3. Quality, in terms of rationing (i.e., length of stay), wait times for different types of procedures, and health outcomes (i.e., mortality amenable to health care). We selected measures that best exemplified common arguments against universal coverage, for instance, that although UHC might lower system costs, it might also lead to rationing in terms of less availability of providers/hospital beds, longer wait times, worse health outcomes and overall lower patient satisfaction. **Table 2** presents the average as well as the disaggregated estimates for each measure across the 17 countries grouped into those best representing NHI, NHS and SHI models. Unfortunately, data on key indicators were missing for multiple indicators in several countries. Where data were missing, we searched the literature and other secondary sources for information on comparable measures of health system functioning and filled in where possible.

Results

What Countries use a Single-Payer, National Health Insurance Model? Based on our analysis, few countries use a single-payer system (see **Table 1**). Of the 17 countries reviewed, only four- Canada, Israel, Taiwan and Australia- could be considered as exemplifying a single-payer model as defined as a system where there is one publicly financed health insurance plan in a given region that everyone is

eligible for by dint of citizenship. The remaining countries were largely split between models that better exemplify a National Health Service model or a Social Health Insurance model.

Even these four “single-payer” countries fell slightly short of a true National Health Insurance model in that both Canada and Australia’s insurance plans are administered at a provincial level with slight variations in benefit packages, and Israel has four competing insurance plans. Each also has large participation of the population in supplementary insurance plans, which make them look more like multi-payer systems. In this sense, Taiwan may be the best exemplar of a pure single-payer model in practice although private insurance coverage has been increasing in recent years.²¹

Notable from **Table 1** is that even under “universal coverage” large portions of the public purchase or receive additional coverage beyond the basic coverage provided. In single-payer “NHI” systems, this is largely for non-covered benefits (e.g., private rooms in hospitals, drugs, dental care, optometry) that the basic insurance plan may not cover, but also for supplementary coverage (increased choice, faster access for nonemergency services, rebates for selected services). In Israel, over 87% of the public purchase private voluntary health insurance through their health plan as a top up to the basic plan and 53% also purchase commercial voluntary health insurance offered by for-profit insurance companies to individuals or groups for additional coverage.²⁰

Also notable from **Table 1** is that just because the primary source of financing is derived from public dollars does not necessarily mean that provision of care is provided by public employees in single-payer systems. Rather, in most cases, especially for primary care, providers are private contractors of the state. In fact, even in England’s NHS, often held up as the archetype of “socialized medicine,”¹⁶ 66% of GPs are private contractors.²⁰ Hospital care, by contrast, tends to be mainly public.

How does Single-Payer Perform Compared with other Models?

Cost (to government and consumers). A primary argument against more government involvement in health care is that it will result in run-away costs and bloated deficits. However, the evidence suggests

that universal coverage models spend less in spite of covering everyone. In terms of the overall cost of the system, the percentage of GDP spent on health care and health care spending per capita were lowest in single-payer systems (8.5% of GDP and \$3,763 per capita), in between for NHS models and highest for SHI, though no other country comes close to US levels of health care spending (17% of GDP and \$9,364 per capita) (**Table 2**). However, there was also wide variation across system ideal types with Israel (NHI), Italy (NHS) and Singapore (SHI/private) constituting among the lowest spenders per capita. Cost inflation was lowest among SHI models, but also low in NHI countries with the exception of Taiwan, which has experienced relatively high cost inflation at 4.1% over the period 1996-2012, even though it has been able to hold national health expenditures to 6.6% of GDP, which compares favorably to the OECD nations' average of 9.1%.^{21,22} When examining cost inflation solely on public programs, the US performs about on par with other OECD countries at 2.0%. However, when accounting for private health insurance, US health care inflation is higher than similar countries at 5.9%.²³

Access (cost related barriers to care). In addition to overall systems costs being high, the evidence also suggests that the average patient pays substantially more out of pocket in the US than in either single-payer or other universal models. The single-payer NHI model had the lowest average out of pocket (OOP) spending per capita at \$593 a year, though 15% still reported having an access barrier due to cost in the past year, which was more than for NHS or SHI models suggesting that even with universal coverage systems some portion of the population may still experience cost-related access barriers. Nonetheless, these cost related barriers and out of pocket payments were half the amount reported in the US where the mean out of pocket spending was over \$1,000 per person and 33% of the public reported having experienced an access barrier due to cost in the past year.

Quality (rationing). While costs may be less in single-payer systems, the argument is often advanced that lower costs are the result of “rationing” of health care services rather than efficiency gains. In terms of rationing based on the availability of services, the cross-national evidence does not support this assertion. The average annual number of physician visits per capita was 7.5 for the single-payer

systems versus 4 visits a year in the US. Moreover, the average length of a hospital stay was 6.1 days in the single-payer systems versus 5.4 in the US. Thus, people seem to receive more and not less care in single-payer and other universal coverage models than in the US.

Quality (wait times). Among the most often repeated meme employed by single-payer antagonists is the idea that wait times are significantly higher in such systems. There does appear to be evidence that Canada in particular has significant problems with long wait times for elective surgeries, but this does not seem to be endemic to all single-payer systems. While 18% of Canadians report waiting 4 months or more for elective surgery, only 8% of Australians do. This is still double the 4% reported by Americans, though SHI models appear to have lower wait times for surgery than the US on average (particularly Germany and France). Although comparative data on wait times was not available for Israel or Taiwan, other sources of information suggest that wait times in Taiwan are among the lowest in the world, with wait times for total hip and knee replacements being between 12-18 *days* in 2015.²⁴ The average wait time for elective surgery in Israel was 85 days in 2014.²⁵ In contrast with elective surgeries, all models seem to perform about as well as the US or better on same or next day care with some countries doing better than others and Canada again lagging behind.

Quality (health outcomes). To compare outcomes that can be attributable to the quality of medical care, researchers use a measure known as “mortality amenable to health care,” as well as other survival indicators following treatment for breast cancer and heart attacks. Comparing NHI systems to the US, single-payer models reported an average of 70 deaths per 100,000 from mortality amenable to health care compared with 112 deaths per 100,000 in the US. Mortality following myocardial infarction and survival rates following breast cancer were equivalent in single-payer countries and the US. Australia in particular- which President Trump recently conceded has “better care than we do” to the delight of single-payer advocates- had the lowest mortality amenable to health care of all countries reviewed.²⁶

Quality (patient satisfaction). Putting more objective indicators of quality aside, patient satisfaction is considered to be one of the principle performance goals of a health system along with

health outcomes and risk protection.²⁷ Overall, 23% of Americans felt that their health care system needed to be completely rebuilt, compared with an average of 6.5% in NHI and NHS systems and 4.5% in SHI systems. Americans appear to be profoundly unhappy with their private health insurance system whereas those in public systems appear quite satisfied with their coverage systems.

Discussion: What Can we Expect from a Single-Payer Model in the US?

We provide comparative evidence on the relative performance of three ideal-typical models of care- the national health insurance, or single-payer model, the national health service model and the social health insurance model. Overall we find that true single-payer models are relatively rare and that NHS and SHI systems are more common. Although many emerging economies are beginning to adopt or aim towards the national health insurance model,⁶ in terms of the countries examined here, this model is relatively rare in practice. NHI's core features are also confounded by the presence of parallel private insurance marketplaces and sub-national benefit plans in most countries, which make these systems feel more akin to multi-payer models, which, as others have noted, have the potential to undermine rather than enhance the core public system.¹⁶

We also find that single-payer systems perform better than other models on system cost and out of pocket spending without significant rationing in terms of access to care or wait times and comparable levels of quality of care. However, we find wide variation in performance measures amongst countries within each category, which renders these clusters less meaningful. Taiwan appears to approach most closely the ideal-type of a single-payer model, but also has a dearth of information available on overall system performance and may be the least comparable to the US. Based on the international comparisons presented here, we address several common policy questions raised in policy debates over single-payer below.

Will single-payer lower health care costs and cost related barriers to care or will it bloat the federal deficit and result in people paying more? Advocates may have an overly rosy view of the amount

by which OOP spending is limited under single-payer models. The idea that health care will be “free” without any co-pays or other cost-sharing schemes is not accurate when examined in cross-national experience. Few countries have specific caps on cost sharing and most require copayments as a cost-recovery scheme to reduce unnecessary visits. Moreover, insurance based models may require additional coverage for services not typically in the benefit plan such dental care or optometry. Out-of-pocket payments accounted for 18% of Australia’s total health expenditures in 2013–2014 and went towards medications and dental care.²⁰ OOP costs in Switzerland, arguably the most privatized of multi-payer systems, were especially substantial at \$1,815 per capita annually. Though official government statistics in Taiwan do not estimate out-of-pocket (OOP) expenditure according to international standards, estimates suggest that between 1996 and 2012 OOP spending grew at a rate of 5.4%.²¹ Cast in this light, universal publicly financed health coverage sounds much less radical and much more familiar.

While it is true that more of the costs of single-payer would be borne by government and must be paid for through tax financing, the lower costs in single-payer models suggest that the amount of taxes needed to cover the costs of the system should be less than the amount of private insurance premiums the average American currently pays, which is a key selling point noted by single-payer proponents. Though the argument is often made that more competition will lower costs, evidence from the Netherlands suggests that following the introduction of greater competition into the public health system, health care costs have risen substantially.²⁸

However, the degree to which these costs savings could be realized depends on how specific cost control mechanisms might be implemented. Notably, US *public* health care cost inflation, although higher than the single-payer models examined here with the exception of Taiwan, is not substantially higher than other OECD countries, a fact that has been pointed to before.²³ Yet, health expenditures per capita and as a percent of GDP are very large. The higher overall cost of the US health system is largely due to the prices of services, which are less controlled in the US compared with countries with universal coverage.²⁹ One of the biggest obstacles to enacting a universal coverage system that approximates other

countries spending levels may lie in opposition from providers, particularly specialists, who stand to lose income if more widespread price controls and global budgets are put in place.

Will Single-Payer lead to Health Care “Rationing”? Detractors who point to rationing and limits on choice as primary reasons to oppose single-payer should focus on understanding what specifically about the Canadian version of single-payer has led to high wait times for certain elective surgeries and learn from policy innovators like Taiwan that allow for free choice of physician and have short wait times. So-called “rationing by the queue” does not appear to be an inherent tendency of single-payer models, but does appear to be endemic in Canada. Critics should further consider that all countries with universal coverage also have access to voluntary supplementary health insurance coverage, which can allow consumers additional choices while setting a basic floor. Given that most countries with national health insurance plans also offer wrap-around and top-up coverage, this also suggests continued opportunities for insurance companies to sell private insurance plans, which could lessen some of the opposition from this key interest group.⁹

Health Care is Expensive in the US because it provides the Best Care on Earth- will Universal Coverage Compromise this? Recent evidence has highlighted the extent to which the US lags behind other advanced industrial countries on health outcomes.³⁰ Nevertheless, these reports can be deceiving because health outcomes are affected by a wide variety of social and behavioral determinants over which the health care system has little control. Comparing the US to other countries in terms of mortality attributable to the quality of medical care, the US performs comparable to single-payer models, though worse on overall mortality amendable to health care. Single-payer models do not appear to produce worse health outcomes, and may produce better health outcomes than other health coverage models.

Will Americans be able to accept a “Socialized” Health Care System or does it go against our Culture? Ultimately, the remaining barriers to universal coverage are not primarily technical, they are political (Berwick, Nolan & Whittington, 2008).³¹ Will Americans accept a single-payer model? Will organized interest groups allow a single-payer model? Based on the comparative evidence on patient

satisfaction, all three universal coverage models had very low percentages of the public calling for a total transformation of the health system (<10%) compared with the US where nearly a quarter of Americans felt the system needs to be completely rebuilt. While SHI systems were the most popular (with the exception of the Netherlands, which recently introduced more private competition into the system), NHI systems were equivalently popular to NHS. Other studies have shown the highest health care approval ratings in multi-payer systems, though also the most pronounced differences between social classes.³²

For single-payer skeptics that are concerned about jobs in the insurance industry that would be lost in a transition from a private to a public insurance system, and the feasibility of such a transition, it is clear that there still remains a role for private health insurance in single-payer systems, either as administrators of public plans, or in offering supplementary plans. Likewise, the continuation of a parallel private health insurance market might also lessen opposition from providers concerned about income loss, but could also threaten some of the projected cost savings from such a system.

Nevertheless, single-payer advocates may also consider that more countries with universal coverage systems have adopted a Social Health Insurance Model than National Health Insurance. It is clear that the SHI model, which is reasonably close to the post-ACA US health coverage system, is also a viable and popular health reform model with many merits, though moving in this direction would involve expanding and not contracting the Affordable Care Act.³³

Conclusions

According to recent polls, single-payer momentum is gaining ground in the US, especially among Democrats and among physicians.³⁴ This analysis has tried to demystify some of the rhetoric around single-payer and other universal coverage models and provide a more nuanced picture of what different health reform models might look like for the US. Single-payer appears to perform as well as any other model, but the wide variation in outcomes across countries suggest that there is no single cookie-cutter

model for health reform. Rather, variation in policy implementation within a particular model may play as much of a role on performance as the overarching type of system.

Table 1: Characteristics and Classification of Different Universal Coverage Models

Country	Insurance	Provision (Mostly Public or Private)		Private Supplementary Insurance Coverage (%)	Classification
		Primary Care	Hospital		
Australia	Universal public medical insurance program (Medicare)	Mainly private	Mainly public	~47%-56%	NHI
Canada	Regionally administered universal public insurance program	Mainly private	Mixed	~67%	NHI
Israel	National health insurance (NHI) system with four competing, nonprofit health plans; government distributes the NHI budget among the health plans	Mainly public	Mainly public	~87%	NHI
Taiwan	Single-payer government administered national health insurance system with mixed private-public provision	Mainly private	Mixed	~0-17% a	NHI
Denmark	National health care system; regulation, central planning, and funding by national government; provision by regional and municipal authorities	Mainly private	Mainly public	~39%	NHS
England	National Health Service (NHS)	Mainly private	Mainly public	~11%	NHS
Italy	National health care system; funding and definition of minimum benefit package by national government; planning, regulation, and provision by regional governments	Mainly private	Mainly public	~5.5%	NHS
New Zealand	National health care system; responsibility for planning, purchasing, and provision devolved to geographically defined District Health Boards	Mainly private	Mainly public	~33%	NHS
Norway	National health care system; regulation and some direct funding and provision roles for national government and some responsibilities devolved to Regional Health Care Authorities and municipalities	Mainly private	Mainly public	~8%	NHS
Sweden	National health care system; regulation, supervision, and some funding by national government; responsibility for most financing and purchasing/provision devolved to county councils	Mixed	Mainly public	~10%	NHS
France	Statutory health insurance system, with all SHI insurers incorporated into a single national exchange	Mainly private	Mainly public	~95%	SHI
Germany	Statutory health insurance system, with 118 competing SHI insurers ("sickness funds" in a national exchange); high income can opt out for private coverage	Mainly private	Mixed	~11%	SHI
Japan	Statutory health insurance system, with >3,400 noncompeting public, quasi-public, and employer-based insurers; national government sets provider fees, subsidizes local governments, insurers, and providers, and supervises insurers and providers	Mainly private	Mainly private	~0	SHI
Netherlands	Statutory health insurance system, with universally mandated private insurance (national exchange); government regulates and subsidizes insurance	Mainly private	Mainly private	~84	SHI/private
Switzerland	Mandatory health insurance system, with universally mandated private insurance (regional exchanges); some federal legislation, with cantonal (state) government responsible for provider supervision, capacity planning, and financing through subsidies	Mainly private	Mixed	no data	SHI/private
Singapore	Government subsidies at public health care institutions and some providers; Medisave: mandatory medical savings program for routine expenses; MediShield: catastrophic health insurance; Medifund: government endowment fund to subsidize health care for low-income and those with large bills; government regulation of private insurance, central planning and financing of infrastructure, and some direct provision through public hospitals and clinics	Mainly private	Mainly public	no data	SHI/other

* All information extracted from The Commonwealth Fund International Profiles of Health Care Systems, May 2017

** NHI= National Health Insurance; NHS=National Health Service; SHI= Social Health Insurance

a. Information from Yip, W., Lee, Y.-C., Tsai, S., Chen, B. (2017). Managing health expenditure inflation

under a single-payer system: Taiwan's National Health Insurance, Social Science & Medicine, online ahead of print.

Table 2: Selected Health System Performance Indicators for 17 Countries

	Single-Payer Models					National Health Service							Social Health Insurance Models							USA	
	Canada	Australia	Israel	Taiwan	Average	United Kingdom	Denmark	Italy	New Zealand	Norway	Sweden	Average	Germany	France	Netherlands	Switzerland	Japan	Singapore	Average	United States	
Cost	Percentage of GDP Spent on Health Care (most recent yr)	10.50%	9.40%	7.40%	6.61% ^a	8.48%	10.20%	10.7%	9.1%	10.90%	9.30%	11.70%	10.3%	11.00%	11.80%	10.90%	11.40%	11.40%	4.90%	11.3%	17.2%
	Health Care Spending per Capita (most recent yr)	\$4,728	\$4,207	\$2,353	no data	\$3,763	\$4,094	\$5,012	\$3,207	\$4,038	\$6,432	\$5,306	\$4,682	\$5,119	\$4,620	\$5,227	\$6,787	\$4,152	\$2,752	\$4,776	\$9,364
	Public Health Care Cost Inflation (1995-2009) (%) ^b	0.5	1.4	-1.7	4.1 ^c	1.1	2.5	2.5	2.0	5.5	1.7	1.0	2.5	0.0	0.0	2.9	1.4	0.5	no data	1.0	2.0 (5.9 with private)^d
Access (cost related barriers to access)	Out-of-Pocket Health Care Spending per Capita Experienced Access Barrier Because of Cost in Past Year	\$644	\$532	\$602	no data	\$593	\$586	\$671	\$706	\$263	\$882	\$787	\$649	\$664	\$305	\$649	\$1,815	\$126	no data	\$712	\$1,034
		16%	14%	no data	no data	15.0%	7%	no data	no data	18%	10%	8%	10.8%	7%	17%	8%	22%	no data	no data	13.5%	33%
Quality (rationing)	Average Annual Number of Physician Visits per Capita	7.6	7.3	no data	no data	7.5	no data	4.5	6.8	3.7	4.3	2.9	4.4	9.9	6.3	8.0	3.9	12.8	no data	8.2	4
	Average Length of Stay for Curative (Acute) Care in Days	7.5	4.7	5.1	no data	6.1	6.0	no data	6.8	5.2	5.5	5.4	5.8	7.6	5.8	6.4	5.8	16.9	no data	8.5	5.4
Quality (wait times)	Able to Get Same-Day/Next-Day Appointment When Sick	43%	67%	no data	no data	55.0%	57%	no data	no data	76%	43%	49%	56.3%	53%	56%	77%	57%	no data	no data	60.8%	51%
	Waited Four Months or More for Elective Surgery	18%	8%	no data	no data	13.0%	12%	no data	no data	15%	15%	12%	13.5%	0%	2%	4%	7%	no data	no data	3.3%	4%
Quality (outcomes)	Breast Cancer Five-Year Survival Rate, 2008-2013 (or nearest period)	88%	88%	88%	no data	88.0%	81%	86%	86%	86%	89%	89%	86.2%	86%	no data	85%	no data	no data	no data	85.5%	89%
	Mortality After Hospital Admission for Acute Myocardial Infarction per 100 Admissions, Patients Age 45 and Older, 2013	6.7	4.1	6.7	no data	5.4	7.6	5.7	5.5	6.6	6.7	4.5	6.1	8.7	7.2	7.6	7.7	12.2	no data	8.7	5.5
	Mortality Amenable to Health Care (Deaths per 100,000 Population), 2010/11 estimates	78	62	no data	no data	70.0	85	82	75	87	64	69	77	83	61	72	55	no data	no data	67.8	112
Quality (public perception)	System Needs to Be Completely Rebuilt	9%	4%	no data	no data	6.5%	7%	no data	no data	6%	5%	8%	6.5%	3%	4%	8%	3%	no data	no data	4.5%	23%

*Information extracted from The Commonwealth Fund International Profiles of Health Care Systems, May 2017 with exceptions noted below

a. From Cheng T-M. (2015). "Reflections On The 20th Anniversary Of Taiwan's Single-Payer National Health Insurance System," Health Affairs, 34(3): 502-510; available at: <http://content.healthaffairs.org/content/34/3/502/T3.expansion.html>

b. Estimates abstracted from OECD. (2013). Public spending on health and long term care: a new set of projections, available at <https://www.oecd.org/eo/growth/Health%20FINAL.pdf>. Estimates represent the residual expenditure growth computed by subtracting age and income effects from the increase in real health spending.

c. Represents the period 1996-2012, based on estimates in Yip, W., Lee, Y-C., Tsai, S., Chen, B. (2017). Managing health expenditure inflation under a single-payer system: Taiwan's National Health Insurance. Social Science & Medicine, online ahead of print.

d. Estimate of combined public/private expenditure growth from Kaiser Family Foundation. (2012). Health Care Costs: A Primer, available at: <https://kaiserfamilyfoundation.files.wordpress.com/2013/01/7670-03.pdf>

References

1. Keith K, Jost T. "Unpacking The Sanders Medicare-For-All Bill," Health Affairs Blog, September 14, 2017. <http://healthaffairs.org/blog/2017/09/14/unpacking-the-sanders-medicare-for-all-bill/> [last accessed 10/18/17]
2. Bluth R. "Doctors Warm To Single-Payer Health Care," Kaiser Health News, August 16, 2017: <https://khn.org/news/doctors-warm-to-single-payer-health-care/> [last accessed 10/18/17].
3. Fox AM, Blanchet NJ. (2014). "The little state that couldn't could? The politics of single-payer health coverage in Vermont," *J Health Polit Policy Law*, 40(3):447-85.
4. Lannan K. Mass. Senate Passes Sweeping Health Care Reform Bill, State House News Service, WBUR, November 10, 2017. Available at: <http://www.wbur.org/commonhealth/2017/11/10/mass-senate-health-care-reform-bill> [last accessed 12/12/17].
5. Rivlin-Nadler, M, Evans, L. "Meet The Senator Who Stands Between New Yorkers And Universal Health Care," The Village Voice, May 25, 2017. Available online at: <https://www.villagevoice.com/2017/05/25/meet-the-senator-who-stands-between-new-yorkers-and-universal-health-care/> [last accessed 12/12/17]
6. Preker AS., Lindner ME, Chernichovsky D, Schellekens OP, eds. 2013. *Scaling Up Affordable Health Insurance: Staying the Course*. Washington, DC: World Bank.
7. Waitzkin H. "Universal health coverage: the strange romance of The Lancet, MEDICC, and Cuba," *Social Medicine* 2015; 9(2): 93-97.
8. The Lancet. "Striving for universal health coverage," *Lancet* 2010; 376(27): 1799.
9. Oberlander J. "The Virtues and Vices of Single-Payer Health Care," *New England Journal of Medicine* 2016; 374(15): 1401-1402.
10. Pollack HJ. "Medicare for All — if It Were Politically Possible — would Necessarily Replicate the Defects of Our Current System Health," *J Health Polit Policy Law* 2015, 40 (4): 923-931.
11. Hussey P, Anderson GF.. "A comparison of single- and multi-payer health insurance systems and options for reform," *Health Policy* 2003; 66: 215-228.
12. Gusmano MK, Weisz D, Rodwin VG. "Achieving Horizontal Equity: Must We Have a Single-Payer Health System?," *J Health Polit Policy Law* 2009, 34(4): 617-633.
13. Pollack, R. (2017). Single-payer isn't the only progressive option on health care: There are several routes to universal coverage — some more politically feasible than others. *Vox*, Sep 14, 2017; available online at: <https://www.vox.com/the-big-idea/2017/9/8/16271888/health-care-single-payer-aca-democratic-agenda> [last accessed 12/12/17].
14. Glied S. "Single Payer as a Financing Mechanism," *J Health Polit Policy Law* 2009; 34(4): 593-615.
15. van der Zee J, Kroneman MW. "Bismarck or Beveridge: a beauty contest between dinosaurs," *BMC Health Services Research* 2007; 7:94.
16. White JJ. (2009). "Gap and Parallel Insurance in Health Care Systems with Mandatory Contributions to a Single Funding Pool for Core Medical and Hospital Benefits for All Citizens in Any Given Geographic Area," *J Health Polit Policy Law* 2007; 34 (4): 543-583.
17. Busse R, Blümel M, Knieps F, Bärnighausen T. "Statutory health insurance in Germany: a health system shaped by 135 years of solidarity, self-governance, and competition," *Lancet* 2017; 390(10097): 882-897.
18. Fliieger SP. What We Talk About When We Talk About Single Payer, Health Affairs Blog, September 19, 2017: <http://healthaffairs.org/blog/2017/09/19/what-we-talk-about-when-we-talk-about-single-payer/> [last accessed 10/18/17].
19. Stone D. (2009). "Single Payer—good Metaphor, Bad Politics," *J Health Polit Policy Law* 34 (4): 531-542.
20. Mossialos E, Djordjevic A, Osborn R., Sarnak D (eds.). (2017). *International Profiles of Health Care Systems*, The Commonwealth Fund, May 2017. Available at: http://www.commonwealthfund.org/~media/files/publications/fund-report/2017/may/mossialos_intl_profiles_v5.pdf . [last accessed 12/13/17].
21. Yip, W., Lee, Y.-C., Tsai, S., Chen, B. (2017). Managing health expenditure inflation under a single-payer system: Taiwan's National Health Insurance, *Social Science & Medicine*, online ahead of print.
22. Hsiao W, Cheng S-H, Yip W. What can be achieved with a single-payer NHI system: The case of Taiwan. *Social Science & Medicine* xxx (2017) 1e7, online ahead of print.
23. Kaiser Family Foundation. (2012). *Health Care Costs: A Primer*, available at: <https://kaiserfamilyfoundation.files.wordpress.com/2013/01/7670-03.pdf> [last accessed 12/13/17]

24. Cheng T-M. (2015). "Reflections On The 20th Anniversary Of Taiwan's Single-Payer National Health Insurance System," *Health Affairs* 34(3): 502-510.
25. Taub Center Staff. *Waiting for Care: Queues in Israel's Hospitals*. Taub Center Bulletin Articles, November 22, 2016. <http://taubcenter.org.il/waiting-for-care-queues-in-israels-hospitals/> [last accessed 10/18/17].
26. Phillip A. (2017). "Trump praises Australia's universal health-care system: 'You have better health care than we do'," *Washington Post*, https://www.washingtonpost.com/news/post-politics/wp/2017/05/04/trump-praises-australias-universal-health-care-system-you-have-better-health-care-than-we-do/?utm_term=.ccf085d13178 [last accessed 10/18/17].
27. Roberts, M., Hsiao, W., Berman, P., Reich, M. (2003). *Getting Health Reform Right: A Guide to Improving Performance and Equity*, 1st Edition. Oxford University Press.
28. Maarse H, Jeurissen P, Ruwaard D. (2016). "Results of the market-oriented reform in the Netherlands: a review," *11(2)*: 161-178
29. Anderson GF, Reinhardt UE, Hussey PS, Petrosyan V. (2003). "It's The Prices, Stupid: Why The United States Is So Different From Other Countries," *Health Affairs*, 22(3): 89-105.
30. Woolf SH, Aron L, eds. (2013). *U.S. Health in International Perspective: Shorter Lives, Poorer Health*. Institute of Medicine. Available at: <https://www.nap.edu/catalog/13497/us-health-in-international-perspective-shorter-lives-poorer-health> [accessed 12/13/17]
31. Berwick D, Nolan TW, Whittington, J. (2008). "The Triple Aim: Care, Health, And Cost: The remaining barriers to integrated care are not technical; they are political," *Health Affairs*, 27(3): 759-769.
32. Wendt C, Kohl J, Mischke M, Pfeifer M. (2010). "How Do Europeans Perceive Their Healthcare System? Patterns of Satisfaction and Preference for State Involvement in the Field of Healthcare," *European Sociological Review*, 26(2): 177-192.
33. Seidman L. (2015). "The Affordable Care Act versus Medicare for All," *J Health Polit Policy Law*, 40 (4): 911-921.
34. Kiley, J. "Public support for 'single payer' health coverage grows, driven by Democrats," *Pew Research Center*, June 23, 2017: <http://www.pewresearch.org/fact-tank/2017/06/23/public-support-for-single-payer-health-coverage-grows-driven-by-democrats/> [last accessed 12/13/17].