

Health Care expenditures in Oregon – an attempt at an estimate for recent years

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One of the most basic numbers that the Task Force will need in order to appropriately design a revenue package for a single-payer system is the amount of new revenue that needs to be raised. The Oregon RAND report¹ roughly agrees with many other single-payer economic studies on an important projection – that a single-payer system will be able to provide health care to all, with no out-of-pocket costs, for roughly the same expenditures as the status quo, though most studies project that expenditures with a single-payer system will be slightly lower. It is thus useful to have an estimate of the costs that are not currently borne through taxes.

The Task Force has been presented with an estimate of \$36 billion in projected health care expenditures from the RAND report for Oregon in 2020, and OHA staff has indicated that expenditures may be closer to \$40 billion. RAND's estimate is certainly for 2020 being a normal year for health care – they could have no clue that we would be hit with a pandemic. It is not clear what sort of expenditure estimate OHA staff had in mind with the \$40 billion value – personal health care expenditures, health consumption expenditures, or total health expenditures. These will be defined below.

One way to generate an estimate of the required revenue is to project expenditures with the status quo according to source, and to determine which of those sources will be replaced by the state single payer. This is the essence of what is described in section 6(7)(b to e) on p. 8 of SB 770:²

(7) The task force's report to the Legislative Assembly must include:

(a) ...

(b) Estimates of the savings and expenditure increases under the plan, relative to the current health care system, including but not limited to:

(A) Savings from eliminating waste in the current system and from administrative simplification, fraud reduction, monopsony power, simplification of electronic documentation and other factors that the task force identifies;

(B) Savings from eliminating the cost of insurance that currently provides medical benefits that would be provided through the plan; and

(C) Increased costs due to providing better health care to more individuals than under the current health care system;

(c) Estimates of the expected health care expenditures under the plan, compared to the current health care system, reported in categories similar to the National Health Expenditure Accounts compiled by the Centers for Medicare and Medicaid Services, including, at a minimum:

(A) Personal health care expenditures;

(B) Health consumption expenditures; and

¹ https://www.rand.org/pubs/research_reports/RR1662.html

² <https://olis.oregonlegislature.gov/liz/2019R1/Downloads/MeasureDocument/SB770/Enrolled>

- (C) *State health expenditures;*
- (d) *Estimates of how much of the expenditures on the plan will be made from moneys currently spent on health care in this state from both state and federal sources and redirected or utilized, in an equitable and comprehensive manner, to the plan;*
- (e) *Estimates of the amount, if any, of additional state revenue that will be required;*

This paper is an attempt to estimate total health care expenditures in Oregon, along the lines described subsection (c) above for the status quo. It is expected that 2020 was an atypical year due to the pandemic, so the attempt will be to estimate Oregon healthcare expenditures in 2019. Without this sort of estimate, it will not be possible for the Task Force to create the report as SB 770 specifies.

The expenditure categories used by the Center for Medicare and Medicaid Services (CMS) that are called for in section 6(7)(c) of SB 770 as quoted above are:

- Personal Health Care Expenditures (PHCE) – expenditures paid to providers for care to individuals.
- Health Consumption Expenditures (HCE) – this includes PHCE and also expenditures on public health (PH) and what CMS calls *Total Administration and Total Net Cost of Health Insurance Expenditure*³ (admin). The latter value can be called sponsor/payer overhead or administrative expenditures, though it includes things like profit and the building of reserves that some would not label as administrative expenses. Note that
 $HCE = PCHE + PH + admin$
- Total health care expenditures (THE) include health consumption expenditures and also expenditures on investment. At the national, level this includes expenditures on structures & equipment (SE), and research. Note that
 $THE = HCE + SE + (research\ spending)$

In general, expenditures on research will not be part of a state single payer system, so that can be reasonably left out of expenditure estimates. Since it is envisioned that the state system will, fund major capital improvements, an estimate for expenditures on structures & equipment is necessary. The pandemic has shown that the lines between public health and personal health care are blurry (e.g. – vaccinations can be accounted in either category, even the same sort of vaccination). Payer overhead costs (admin) are important in the accounting, since much of the savings in a well-designed single payer system will come from decreasing this overhead. Long term care expenditures need to be considered, since SB 770 directs the Task Force to consider including it as part of covered services and also leaving it covered as it would be with the status quo.

³ Administrative activities in provider offices are not part of what is meant by the term “total administration” in this label. Provider administrative costs are accounted as part of personal health care expenditures.

The most credible comprehensive information about health care expenditures in Oregon comes from CMS National Health Expenditure Data.⁴ Unfortunately, this information is only currently provided through 2014, and only for PHCE. National expenditure information in all three categories (THE, HCE, and PHCE) is provided by CMS through 2019.⁵ Oregon data more recent than 2014 can be Oregon data can be found for some expenditures (e.g. – detailed Oregon Medicaid expenditures are publicly available for 2019), but for some of the data, the best estimates that I can make rely on assuming a relationship between Oregon per capita or per enrollee expenditures and comparable national data.

Table 1 shows my best estimates of 2019 Oregon health care expenditures. The columns are personal health care expenditures (PHCE), health consumption expenditures (HCE), total health expenditures (THE), the portion of HCE for long-term care (LTC), and an estimated uncertainty.

Table 1. Estimated healthcare expenditures in Oregon in 2019. The expenditures are in \$ millions, except for per capita expenditures which are THE per capita. The Uncertainty is for THE, and includes only “known unknowns.”

Oregon 2019 healthcare expenditures (\$ millions)

	PHCE	HCE	THCE	per cap	LTC	uncertain
1. Out-of-pocket (OOP)	4,874	4,874	4,874	1,155	827	280
2. Medicare	8,868	9,580	9,580	2,271	1,159	320
3. Medicaid & CHIP	9,309	10,264	10,264	2,434	2,734	50
4. private insurance	11,968	13,441	13,441	3,187	400	1700
5. federal not Medicare/caid/CHIP	1,811	2,024	2,024	480	335	230
6. state/local not Medicaid & CHIP	501	505	505	120		60
7. private not from private insurer	2,813	3,164	3,164	750	347	360
8. public health		1,133	1,133	269		200
9. structures & equipment			1,659	393		300
10. total	40,143	44,984	46,643	11,059	5,801	
dental	2,088	2,345	2,345	556		250

Total per capita expenditures in Oregon are estimated to be 5% less than national per capita expenditures, and 3% less than national per capita without research and federal public health expenditures included.

The value given in Table 1 for Oregon PHCE agrees with the \$40 billion expenditure estimate presented to the Task Force by OHA staff, though it is not clear whether that value was intended to be PHCE, HCE, or THE. The value for total expenditures is slightly lower than the

⁴ [Health expenditures by state of residence: summary tables, 1991-2014 \(ZIP\)](#)

⁵ [National Health Expenditures by type of service and source of funds, CY 1960-2019 \(ZIP\)](#)

\$47.8 billion projected by Gerald Friedman in his economic study of The Affordable Health Care for All Oregon Plan,⁶ but Friedman’s study was done in 2014 and used higher estimates of medical inflation than what actually occurred.

Appendix 1 describes extrapolations made from the CMS data for Oregon that is only available through 2014. This informs the estimates for lines 2, 3, and 4 in Table 1, and the other lines collectively. Appendix 2 describes calculations of Oregon expenditures based on national per capita data from CMS, available through 2019. This informs the estimates for all of the lines, but requires assumptions about how Oregon pre-capita expenditures relate to national values. When possible, the relationship between national and Oregon per capita values from prior years is used to inform a likely relationship in 2019.

Appendix 3 gives details about Medicaid expenditures. This category has the most detailed credible information for Oregon in 2019. Appendix 4 provides recent data regarding Medicare, expenditures in Oregon, some of which is provided directly by Medicare Trustees and some which must be calculated from national per capita values. Appendix 5 is an attempt to make estimates about expenditures by private insurance by looking at recent data. Appendix 6 looks at other expenditure categories in more detail.

There are four categories of expenditures in Table 1 for which I could not find data or a method to check whether the data makes sense – or at least more sense than just assuming Oregon’s per capita expenditures in those categories were similar to national per capita expenditures –

- Out-of-pocket (OOP)
- Federal – not Medicare, Medicaid, or CHIP
- Private (not from private insurer) – this category includes the medical portion of property and casualty insurance,⁷ philanthropic support, and non-patient revenue.⁸ I have also included worksite healthcare here.⁹
- Structures & equipment (SE)

Together, these amount to an estimated 25% of total expenditures. All but the federal expenditures are important for the state single payer revenue needs estimate.

If the single payer system does not save any money relative to the status quo, these values suggest that as much as \$23 billion in new revenue would need to be raised to fund an Oregon

⁶<https://static1.squarespace.com/static/5c567ee734c4e2372f8d2754/t/5e90dbfef65f7b6ade6a9d07/1586551808512/Oregon+health+reform+Draft+3+150203+B.pdf>

⁷ CMS National Health Expenditure reports has a line item for Workers’ Compensation (the healthcare portion) that amounts to 18% of this category nationally.

⁸ Non-patient revenue in Oregon hospitals amounted to \$740 million, or 5% of total operating revenue, in 2019. See <https://tinyurl.com/fsw5cu96>. This amounts to 23% of “expenditures” in this category.

⁹ Worksite healthcare amounts to 3% of this category nationally.

single payer system (in 2019 dollars). A more nuanced analysis would look at savings expected in a single-payer system, which occur because of administrative simplicity and monopsony purchasing power. Extra costs occur because of increased utilization. This paper will not delve into the subject of how much lower expenditures in a single payer system are likely to be than the status quo, but a recent Congressional Budget Office (CBO) report is a good place to start.¹⁰ It is also useful to look at a critique of the CBO analysis that describes savings that a well-designed single-payer system could have that CBO did not include in its analysis.¹¹ Another useful analysis is a paper that investigates utilization increases that have occurred in this country and other countries with major increases in coverage, and that roughly corroborates the CBO's analysis.¹²

The main conclusion of this paper is that the numbers that have been presented to the Task Force so far are not clear about whether they are PHCE, HCE, or THE, and that this matters. The \$40 billion number is reasonable for PHCE in Oregon, but it is not clear if that was what was intended with that value.

The RAND study left out some categories included here (other state & local expenditures, other private expenditures, PH, and SE). I estimate that Oregon 2019 expenditures in these categories amounted to \$6.5 billion. Estimates of expenditures in these categories may be necessary for the Task Force, depending on coverage and coordination choices that are made, as well as expectations for what a single-payer system might mean for philanthropy. But even without including these expenditures, the values presented here are greater than the values RAND reported. Appendix 7 tries to make sense of the discrepancies.

It is interesting to compare Oregon expenditures on compensation for practitioners, administrative costs in provider offices, and insurer overhead (what I have called admin here). Appendix 8 goes into more detail. I estimate that in 2019, admin expenditures in Oregon were \$3.7 billion and administrative costs in provider offices were \$4.4 billion, while compensation for physicians totaled \$3.6 billion, \$3.9 billion for nurses, and \$5.5 billion for others involved in patient care (dentists, therapists, lab technicians, various assistants, home health workers, etc.). The administrative burden is even larger than this suggests, since physicians and nurses spend more time on billing and insurance related activities in this country than they would spend if we had a well-designed single payer system, as exists in other countries.

I hope that the Task Force asks for OHA, DCBS, and the Association of Oregon Counties (AOC) to provide more reliable and up to date data, especially for private expenditures (by private insurance companies, by self-insured companies, and by other sources), and also expenditures by counties, which it appears RAND left out. These three entities are all represented on the Task Force, and SB 770 directs OHA and DCBS *"to assist the task force in the performance of the duties of the task force."* Clearly OHA has been assisting, but it seems OHA may have data that could

¹⁰¹⁰ <https://www.cbo.gov/system/files/2020-12/56811-Single-Payer.pdf>

¹¹ <https://www.healthaffairs.org/doi/10.1377/hblog20210210.190243/full/>

¹² <https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2020.01715?journalCode=hlthaff>

help with these estimates that has not yet been used, and DCBS could certainly provide more assistance. DCBS has publicly published insurance data through 2016, which I cite below. I expect that they have more recent data, since they need such data to appropriately regulate private insurance companies.

The most important data that may not be reasonably available at the state level are expenditures by self-insured plans and multi-state/multi-employer trusts (exempt from state regulation by ERISA), out-of-pocket expenditures, and “other” private expenditures (the largest portion probably comes from charity).

If the Task Force is going to seriously propose a revenue package for discussion by the public, it is critically important that credible Oregon health expenditure data be a starting point.

Appendix 1 – details of estimates from extrapolations of CMS PCHE

Table A1a shows personal health care expenditures in Oregon for four major categories:

- Medicare
- Medicaid
- Private insurance
- Other

The Center for Medicare and Medicaid Services (CMS) provides this sort of data at the state level, but the latest available state level data is for 2014. Most of the rest of this paper is trying to complete the data through 2019.

The state level data is supplied by CMS only for PHCE. For HCE, PH and admin are added. CMS provides these data for national health expenditures (NHE), with data available through 2019 at the time this was written. Total health expenditures (THE) includes HCE and also investment, which is comprised of expenditures on research and structures & equipment (SE). All of these expenditures except the research portion and the federal public health expenditures are likely important for an Oregon single payer plan.

I will make several different estimates of Oregon expenditures in 2019, which can be compared to estimates that have been presented to the Task Force. I will describe the method used to get each estimate.

Extrapolation of Oregon data

There are a number of reasonable ways to extrapolate the data to 2019. I did a linear extrapolation of the log of the data, which essentially means extending the average percent increase to extrapolated years. There is a complication because there was a drastic change in 2014 in Oregon due to the Medicaid expansion. Thus I did three different calculations:

- Used 2010 to 2014 data to extrapolate
- Used 2010 to 2013 data to extrapolate
- Used 2010 to 2013 data to extrapolate, then added a % bump by comparing the 2014 extrapolation to 2014 CMS value

The results are shown in table A1b. There is a wide range of estimated Oregon personal health care expenditures from this – as low as \$38.1 billion (2010 to 2013 extrapolation) to as high as \$43.2 billion (sum of 2010 to 2014 extrapolation of individual categories).

Table A1a. Health care expenditures in Oregon and the nation.¹³

Health care expenditures in Oregon and the nation (in \$ millions)

Oregon	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
total personal (PHCE)	25,824	25,825	27,757	29,314	31,920					
Medicare	5,181	5,478	5,779	6,068	6,506					
Medicaid	3,698	3,992	4,137	4,716	6,929					
private health ins	10,236	10,121	10,609	10,042	10,272					
other	6,709	6,234	7,232	8,488	8,213					
National										
PHCE	2,181,556	2,254,864	2,347,229	2,409,060	2,533,610	2,686,167	2,813,469	2,928,254	3,048,270	3,207,029
Medicare	488,821	511,849	533,666	553,598	579,488	606,194	628,908	658,912	696,186	742,650
Medicaid	365,767	373,679	388,421	405,894	446,929	484,238	503,281	518,070	531,272	549,632
federal share	247,271	228,185	223,868	234,364	274,290	304,543	317,863	323,554	331,715	347,883
state share	118,495	145,494	164,553	171,530	172,638	179,695	185,418	194,515	199,556	201,749
private health ins	725,323	752,634	778,468	781,541	818,892	874,497	926,461	967,515	1,009,934	1,064,112
other	601,646	616,702	646,674	668,027	688,302	721,238	754,819	783,758	810,879	850,635
out-of-pocket	301,397	310,229	323,063	330,410	339,918	353,807	367,277	374,480	388,789	406,507
Public Health (PH)	75,696	74,425	77,188	81,482	84,365	85,700	88,450	92,052	94,466	97,805
PH federal share	14,185	10,729	10,846	10,333	10,833	11,329	11,781	12,603	12,055	13,292
PH state share	61,511	63,696	66,342	71,149	73,531	74,371	76,669	79,449	82,411	84,513
admin	180,339	188,377	195,520	205,864	230,773	241,844	255,562	264,055	296,787	288,888
Investment	152,127	158,749	163,161	163,111	159,557	164,014	167,047	181,517	190,167	201,662
Research	49,125	49,575	48,380	46,689	46,035	46,387	47,340	50,295	53,603	56,552
SE	103,002	109,174	114,781	116,422	113,521	117,627	119,707	131,222	136,564	145,110

¹³ Oregon data is from CMS National Health Expenditures Accounts - [Health expenditures by state of residence: summary tables, 1991-2014 \(ZIP\)](#). National data is from [National Health Expenditures by type of service and source of funds, CY 1960-2019 \(ZIP\)](#)

Table A1b. The highlighted values are extrapolations from the CMS data. The first group is extrapolated (log-linear) from 2010 to 2014 data. The second group uses just 2010 to 2013 data, and 2014 values are extrapolated. The third group uses the % change in 2014 values (CMS to extrapolated from 2010 to 2013) to calculate a “bump” for each category. This % bump is added to the 2010 to 2013 extrapolated values from the 2013 extrapolation.

Oregon PHCE (extrapolated values highlighted)

2010 to 2014 extrapolation	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
total PHCE	25,824	25,825	27,757	29,314	31,920	33,071	34,943	36,921	39,011	41,219
Medicare (line 2 in Table 1)	5,181	5,478	5,779	6,068	6,506	6,838	7,230	7,645	8,083	8,547
Medicaid (line 3 in Table 1)	3,698	3,992	4,137	4,716	6,929	7,004	8,075	9,309	10,732	12,373
private health ins (line 4 in Table 1)	10,236	10,121	10,609	10,042	10,272	10,252	10,251	10,250	10,249	10,248
other	6,709	6,234	7,232	8,488	8,213	9,072	9,743	10,463	11,237	12,067
sum - individual categories	25,824	25,825	27,757	29,314	31,920	33,166	35,299	37,667	40,301	43,235
2010 to 2013 extrapolation										
total PHCE	25,824	25,825	27,757	29,314	30,391	31,798	33,270	34,809	36,420	38,106
Medicare (line 2 in Table 1)	5,181	5,478	5,779	6,068	6,409	6,756	7,122	7,508	7,914	8,343
Medicaid (line 3 in Table 1)	3,698	3,992	4,137	4,716	4,988	5,385	5,813	6,275	6,774	7,313
private health ins (line 4 in Table 1)	10,236	10,121	10,609	10,042	10,223	10,213	10,202	10,192	10,181	10,171
other	6,709	6,234	7,232	8,488	8,813	9,598	10,454	11,386	12,402	13,507
sum - individual categories	25,824	25,825	27,757	29,314	30,433	31,952	33,591	35,361	37,271	39,334
2010 to 2013 with "bump"										
total PHCE	25,824	25,825	27,757	29,314	31,920	33,397	34,943	36,560	38,252	40,023
Medicare (line 2 in Table 1)	5,181	5,478	5,779	6,068	6,506	6,858	7,230	7,622	8,035	8,470
Medicaid (line 3 in Table 1)	3,698	3,992	4,137	4,716	6,929	7,480	8,075	8,717	9,410	10,158
private health ins (line 4 in Table 1)	10,236	10,121	10,609	10,042	10,272	10,261	10,251	10,240	10,230	10,219
other	6,709	6,234	7,232	8,488	8,213	8,945	9,743	10,612	11,558	12,588
sum - individual categories	25,824	25,825	27,757	29,314	31,920	33,545	35,299	37,191	39,232	41,436

Appendix 2 – Using national and Oregon per capita expenditures to estimate and extrapolate Oregon recent expenditures

Another reasonable method to get an estimate of Oregon expenditures is to calculate per capita PHCE in both Oregon and the nation for 2010 to 2014, and then use national per capita values and the Oregon ratio to estimate 2015 to 2019 values. From 2010 to 2014, Oregon per capita personal health care expenditures averaged 96.2% of national values, with a low of 92.0% in 2011 to a high of 101.1% in 2014 (after Oregon had a substantial Medicaid expansion). I also calculated two extrapolations of the ratios to 2015-19, one using 2010 to 2014 values, the other using 2010 to 2013 values.

Table A2a presents the estimates using these various methods to estimate Oregon PHCE for 2015 to 2019.

Table A2a. Oregon PHCE calculated from per capita national values for 2015 to 2019

Oregon personal health care expenditures - 2015 to 2019 estimated from national per capita values (line 10 of Table 1)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
at average % of national (96.2%)	25,824	25,825	27,757	29,314	31,920	32,723	34,690	36,353	37,958	40,032
at maximum % of national (100.2%)	25,824	25,825	27,757	29,314	31,920	34,076	36,125	37,857	39,528	41,688
at minimum % of national (91.5%)	25,824	25,825	27,757	29,314	31,920	31,010	32,874	34,450	35,971	37,936
2010 to 2014 extrapolation trend	25,824	25,825	27,757	29,314	31,920	34,178	36,850	39,264	41,673	44,661
2010 to 2013 extrapolation trend	25,824	25,825	27,757	29,314	30,795	33,218	35,577	37,663	39,723	42,311

Note that the calculations presented in Tables A1b and A2a are only for PHCE, so they do not include expenditures on PH, admin, or SE, whether it is public or private. In order to estimate these costs, we will look at Oregon’s per capita share of each of these expenditures. From national CMS values, we will exclude federal expenditures on PH, admin, and research. The values in table A2a are calculated as if Oregon expenditures per capita are the national average of what is paid by a state or directly by residents of a state. At this point, I have no data that would help decide how Oregon values might differ from these national averages.

From Table A2b, the best estimate of what should be added to PHCE to get THE in the state is \$5.9 billion. Of this, \$4.3 billion would also be counted in HCE.

We can calculate the ratio of Oregon’s per capita expenses for each year for each category reported by CMS to the national per capita value. Such value can be calculated for PHCE by Medicare, Medicaid, private insurers, and other for the years 2010 to 2014. The ratios range from 85.4% (Medicaid in 2010) to 123.1% (Medicaid in 2014). Assuming that the ratio of Oregon’s per capita values of these expenditures to national values are within this range, I estimate that what should be added to PHCE in Oregon is between \$5.1 and \$7.3 billion.

With this, the estimated THE in Oregon in 2019 was between \$42.8 and \$50.5 billion. Note that insurance overhead (or admin) does not have a separate line in Table 1, but instead it is the total of the differences between PHCE and HCE in lines 1 through 7.

Table A2b. Expenditures besides PHCE that are part of Oregon’s total health care expenditures, if Oregon’s per capita costs are the average of national values for expenditures that are not made by the federal government.

Oregon's per capita share of other health care expenditures to add to personal health care expenditures (PHCE)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
public health (line 8 of Table 1)	764	793	826	886	916	933	974	1,016	1,057	1,087
insurance overhead (“admin”)	1,970	2,050	2,126	2,229	2,499	2,643	2,833	2,965	3,366	3,256
SE (line 9 of Table 1)	1,077	1,149	1,213	1,249	1,201	1,259	1,295	1,439	1,497	1,592
total	3,810	3,992	4,166	4,364	4,617	4,836	5,102	5,419	5,920	5,934

Appendix 3- Medicaid expenditures from recent data (line 3 in Table 1)

The most credible recent Oregon Medicaid expenditure data is reported through the Medicaid Budget and Expenditure System (MBES).¹⁴ The MBES reports contain much more detailed data than is needed for this analysis – I only use a few lines of information from the report. Table A3a presents Oregon Medicaid expenditures from MBES reports. MAP is the Medical Assistance Program, while ADM is administrative expenditures within the state. Medicaid pays Medicare premiums for dual eligible beneficiaries, so those expenditures are not part of personal health care expenditures.

Table A3a. Oregon Medicaid expenditures from MBES.

Oregon Medicaid expenditures from MBES data (\$ millions)										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total MAP expenditures	3,973	4,386	4,543	5,071	6,784	8,027	8,317	8,313	8,877	9,427
ADM expenditures	296	294	379	530	507	541	497	513	504	510
Medicare premiums	101	121	129	122	140	164	175	201	192	218
enrollment (1000s)	519	596	621	627	887	1,067	1,071	997	960	960
per beneficiary expend	8,226	7,853	7,926	8,932	8,220	8,030	8,230	8,852	9,772	10,351

Table A3b shows how the actual recent data compares to PHCE reported by CMS, and the various extrapolations presented in Table A1a. The personal Medicaid expenditures shown in the first row do not include the ADM expenditures nor the Medicare premiums paid by Medicaid. The geometric mean of the highest and lowest estimates is \$9,512, which is just 3% higher than the actual value.

While none of the methods of extrapolating from CMS data agree very well with actual values, the extrapolation using 2010 to 2013 data and adding in a “bump” due to the Medicaid expansion in 2014 works best. The discrepancy is primarily caused by the fact that Medicaid enrollment increased in every year from 2010 to 2016, and very rapidly in 2014 and 2015, but then subsequently decreased. The 2010 to 2014 data gives no indication that this was likely to happen.

¹⁴ <https://www.medicaid.gov/medicaid/financial-management/state-expenditure-reporting-for-medicaid-chip/expenditure-reports-mbescbes/index.html> and <https://www.medicaid.gov/medicaid/national-medicaid-chip-program-information/medicaid-chip-enrollment-data/medicaid-enrollment-data-collected-through-mbes/index.html>

Table A3b. Oregon Medicaid personal health care expenditures. The first row is from MBES reports, but does not include expenditures reported as administrative, nor does it include Medicare premiums paid by Medicaid.

Oregon Medicaid personal health care expenditures

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Actual personal	3,872	4,265	4,414	4,949	6,644	7,863	8,142	8,112	8,685	9,209
projected (with 2014)	3,698	3,992	4,137	4,716	6,929	7,004	8,075	9,309	10,732	12,373
projected (w/o 2014)	3,698	3,992	4,137	4,716	4,988	5,385	5,813	6,275	6,774	7,313
projected (with "bump")	3,698	3,992	4,137	4,716	6,929	7,480	8,075	8,717	9,410	10,158

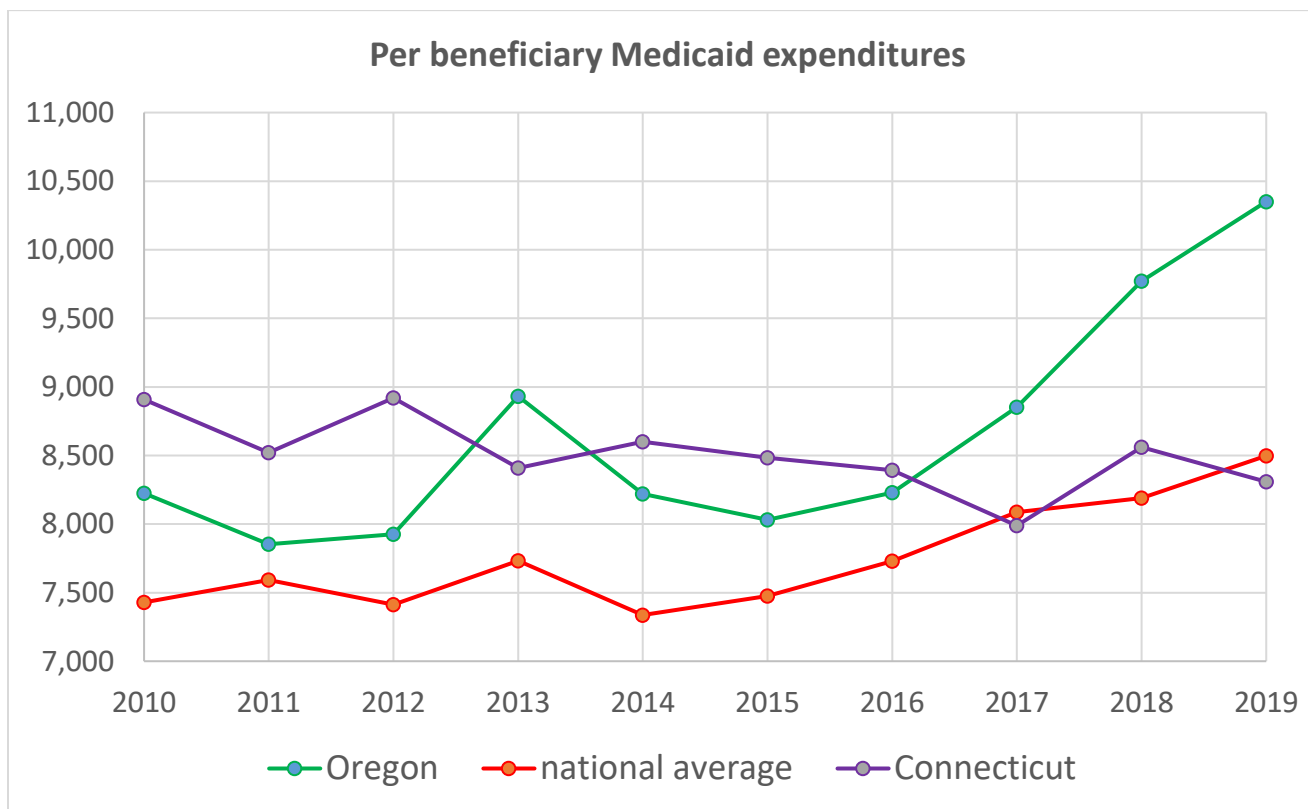
It is useful to also compare Oregon Medicaid expenditures to what was happening in this time frame in other states. In particular, I will make a comparison to national values and to values in Connecticut. While most states, including Oregon, were expanding their use of capitated Medicaid managed care organizations (MCOs), which Oregon calls Coordinated Care Organizations (CCOs), Connecticut stands out because it is the only state that stopped using MCOs during this time period.

Connecticut had used capitated MCOs for Medicaid for well over a decade, but in 2012 it dropped them and went to what they call “managed fee-for-service.”¹⁵ When they changed from capitated MCOs to managed fee-for-service, per capita expenditures declined, provider participation increased, and both beneficiaries and providers were more satisfied. Connecticut Medicaid covers a range of optional services that are not required by Medicaid.

Figure 1 shows per Medicaid beneficiary expenditures in Oregon, Connecticut, and the nation from 2010 to 2019. Between 2012 and 2013, Oregon implemented CCOs. There was a large increase in per beneficiary expenditures as CCOs amassed their required reserves. Connecticut dropped MCOs in 2012, though they were not essentially phased out until 2013.

¹⁵ https://www.cga.ct.gov/hs/related/20210201_Joint%20Informational%20Forum,%20Medicaid%20101/Presentation%20-%20Kate%20McEvoy,%20DSS.pdf

Figure 1. Per beneficiary Medicaid expenditures in Oregon, Connecticut, and the nation.



Connecticut’s per Medicaid beneficiary expenditures went from 125% of the national average in 2010-2012 (prior to dropping MCOs) to 106% in 2019, while Oregon went from 107% of the national average in 2010-2012 (prior to establishing CCOs) to 122% in 2019. Since no state besides Connecticut dropped Medicaid MCOs, the data showing the cost-saving advantage of doing so is not very robust, but it is certainly suggestive. Per capita Medicaid expenditures in Oregon rose substantially more than the national average – most of this increased rise was in 2019 and 2019..

Appendix 4- Medicare expenditures from recent data (line 2 in Table 1)

Estimating Oregon Medicare expenditures is a little more convoluted than for Medicaid. The Kaiser Family Foundation (KFF) has a site that allows one to get Medicare enrollment data for a state, and also expenditures by traditional Medicare, for 2013 to 2019.¹⁶ Medicare Trustees provide national data for enrollment and expenditures for parts A, B, C, and D separately for the full range of years.¹⁷ The Trustees also report part A and B expenditures by state. To estimate Oregon Medicare Advantage expenditures (part C), I use national average per part C enrollee expenditures and Oregon part C enrollment. I also assume that Oregon part D Medicare expenditures are the extrapolated fraction (2010 to 2014 data from CMS) of national Medicare expenditures that total Medicare expenditures are. Medicare PHCE are calculated by subtracting administrative costs that are estimated by a best fit to national data that varies by % of Medicare Advantage enrollees, and using Oregon’s actual Medicare Advantage enrollment %.

Table A4a presents the results. The last row is Oregon Medicare HCE calculated from national per capita expenditures, as if Oregon per capita Medicare expenditures continued with their same trend relative to national values as presented in CMS Oregon data from 2010 to 2014. These values agree very well with the values calculated as described in the previous paragraph (fourth row).

Table A4a. Oregon Medicare expenditures. The first row gives actual values of parts A & B expenditures reported by Medicare Trustees. The second and third row use national per member expenditures multiplied by Oregon enrollment in those particular parts.

Oregon Medicare expenditures										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
traditional Medicare parts A & B				2,881	3,010	3,229	3,378	3,555	3,754	3,970
Advantage parts A & B				2,911	3,079	3,308	3,558	3,801	4,144	4,817
part D				764	877	1,005	1,131	1,144	1,101	1,140
HCE for Oregon Medicare				6,555	6,966	7,543	8,067	8,500	8,999	9,927
OR Medicare PHCE from HCE				6,101	6,482	7,018	7,500	7,898	8,352	9,189
CMS Oregon Medicare PCHE	5,181	5,478	5,779	6,068	6,506	6,838	7,230	7,645	8,083	8,547
HCE from national per capita	5,507	5,828	6,155	6,455	6,934	7,408	7,936	8,454	9,144	9,919

¹⁶ <https://www.kff.org/statedata/custom/>

¹⁷ [2020 Expanded and Supplementary Tables and Figures \(ZIP\)](#)

You can see that this method agrees well with CMS data for the overlapping years (2013 and 2014). The values calculated by the method described in the paragraph above are slightly greater and growing faster than those calculated by extrapolating CMS values (7.5% greater by 2019).

Appendix 5 – Private Health Insurance expenditures (line 4 in Table 1)

Recent private health insurance information is much more difficult to interpret. Table A5a presents the publicly available data I could find that could help make estimates for 2019. The first row is personal health care expenditures from CMS. The next two rows are Oregon and national enrollment values reported by CMS, and the fourth row is the ratio of the fraction of Oregonians enrolled in private insurance to the fraction of the U.S. population enrolled in private insurance. Oregon had a slightly higher fraction, but it became nearly identical in 2014, likely due to the Medicaid expansion.

Table A5a. Private health insurance expenditures in Oregon. The first three rows are CMS data, with 2015 to 2019 values in row 1 a simple extrapolation. Row 5 is data that is publicly available from Oregon’s Division of Financial Regulation in the Department of Consumer and Business Services (DCBS).¹⁸ The extrapolation uses 2012 to 2016 data. The next row presents an extrapolation using only 2012 to 2015 data. The last two rows are national per capita values multiplied by Oregon population.

Oregon private insurance data (highlighted values are extrapolated)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
PHCE from CMS	10,236	10,121	10,609	10,042	10,272	10,252	10,252	10,252	10,252	10,252
enrollment from CMS	2,413	2,401	2,453	2,437	2,427					
national PI enrollment	185,745	184,972	187,828	187,646	192,318					
OR to natl PI enroll ratio	105%	104%	105%	104%	101%					
premiums from DCBS			8,186	8,680	9,053	10,015	11,610	12,147	13,214	14,375
2012 to 2015 extrapolation							10,532	11,236	11,987	12,788
PCHE at natl per capita	9,008	9,371	9,697	9,732	10,206	10,974	11,768	12,374	12,955	13,683
PI HCE at natl pc	10,185	10,597	10,935	10,974	11,551	12,319	13,205	13,955	14,780	15,368

The fifth row shows premiums from the Division of Financial Regulation in Oregon’s Department of Consumer and Business Services (DCBS). In general, we should find

¹⁸ <https://stage-dfr.oregon.gov/business/reg/reports-data/annual-health-insurance-report/Pages/premiums.aspx>

premiums = PCHE (private insurance part) – patient cost sharing + admin

The reasons that values in row 5 might be smaller than those in row 1 include large amounts of patient cost sharing (which would appear as OOP) and insurance company losses. Another reason might be that the premiums don't include expenditures by self-insured employers. I expect that DCBS could help explain these numbers. I also expect that DCBS has more recent private insurance data available – more recent enrollment data by company and type of health insurance is indeed publicly available from DCBS.

Row 5 of Table A5a shows extrapolated values for 2017 to 2019 – extrapolated from 2012 to 2016 data. The next row shows values extrapolated from 2012 to 2015 data, since expenditures in 2016 appeared as if they might be anomalously high. Row 7 shows private insurance PHCE if Oregon's per capita expenditures were the national average, and row 8 shows the same thing from private insurance HCE. These data suggest that estimating private health insurance expenditures from the extrapolation of premiums reported by DCBS may even be an underestimate.

The main conclusion that I draw from this is that the Task Force could really use serious help from DCBS in order to estimate one of the most important numbers necessary for determining what revenue a single-payer system would need. Or perhaps self-insured companies (or their third-party administrators) faithfully report claims to the All-Payer All Claims database (APAC)? The APAC data could at least help substantially with estimating PHCE if this is so.

The best I can estimate from these data is that PHCE by private insurers in 2019 was between \$10.2 and \$13.7 billion, and HCE expenditures were between \$12.7 and \$15.4 billion.

Appendix 6 - Public Health expenditures and other state & local expenditures (not Medicaid or CHIP) – lines 6 & 8 in Table 1

The values shown in Table 1 or Table A2b for public health expenditures (PH) may seem high, so in this appendix I explore data related to public health. The way data is reported, this also leads naturally to an exploration of PHCE in the “Other state and local” category listed by CMS.

The values in table A2a are calculated as if Oregon PH were at the same per capita value as what CMS reports as the states’ share of national PH – data that is available through 2019. CMS uses Census Bureau data from the quinquennial (5-year) Census of Governments and from its annual survey of state and local government finances.¹⁹ Table A6a shows information from a variety of sources.

Table A6a. The first three rows shows information from the U.S. census of governments.¹⁹ The next three rows are Oregon’s per capita share of national health expenditures in public health and “other state & local” personal health care expenditures (not Medicaid or CHIP).

Oregon expenditures on public health and "other" state and local expenditures

	2012	2013	2014	2015	2016	2017	2018	2019
state govt - U.S. census	1,503	1,535	676	500	726	846	787	878
local govt - U.S. census	739	713	771	778	863	827	843	874
state & local - U.S. census	2,242	2,248	1,447	1,278	1,589	1,673	1,630	1,752
public health (PH) - CMS	826	886	916	933	974	1,016	1,057	1,087
"other state/local"	465	469	469	488	499	509	521	541
total from CMS	1,291	1,355	1,385	1,422	1,473	1,525	1,578	1,628
PH – from America’s Health Rankings	226	235	266	305	331	336	360	
PH from state budget			252	273	309	344	356	
"other" st/loc PHCE per capita	118	119	118	121	121	122	124	128

¹⁹ <https://www.census.gov/data/tables/2017/econ/gov-finances/summary-tables.html> and <https://www.census.gov/programs-surveys/gov-finances/newsroom/updates.html>

The U.S. census data for Oregon government expenditures on health is shown in the first three rows of Table A6a, with 2019 values an extrapolation using 2014 to 2018 values. The 2012 and 2013 data for Oregon state government expenditures is anomalously high, for reasons I don't quite understand. The next three rows show Oregon's share of national per capita values for these two categories from CMS NHE reports. The totals are in good agreement, except for 2012 and 2013.

The seventh row is from America's Health Rankings,²⁰ which gives per capita public health expenditures for each state. The next row is public health expenditures from the Oregon Health Authority budget.²¹ The biennial budget numbers have been split into years so that there is a modestly constant annual expenditure growth but which still totals correctly for the two years, rather than just splitting the biennial budget in half each year. These data agree, so it is clear that the AHR data are state expenditures and do not include county government expenditures.

To check the feasibility of these numbers, I looked in more detail at Lane County's budget. The Lane County Health and Human Services (HHS) budget for 2018/19 (single year) was \$121 million,²² of which only 12.4% is labeled "public health", but another 52.8% seems, by label, to fit into the "health" portion of HHS. The total health related portion is \$206 per capita in Lane County, which would be \$870 million for the state at the same per capita rate. This value agrees very well with the U.S. census local government number. It seems that the CMS values for public health expenditures may be high if we only use numbers that are labeled as "public health" in Oregon, but the combination of state and local health expenditures that are not Medicaid or CHIP is relatively consistent with what I have called Oregon's share of national per capita values.

I expect that the Association of Oregon Counties would have better data from which to estimate health care expenditures in the local part of "other state and local expenditures" and Oregon public health expenditures.

Another question relates to the U.S. census of governments data for state expenditures. Those expenditures, not counting Medicaid and CHIP, are more than double what OHA lists for public health. I expect that OHA can help clarify whether those other health expenditures occur, and if so, towards what they are designated.

²⁰ https://www.americashealthrankings.org/explore/annual/measure/PH_funding/state/OR

²¹ <https://www.oregon.gov/oha/Budget/OHA-2019-21-WM-Presentation-PHD.pdf>

²² https://lanecounty.org/UserFiles/Servers/Server_3585797/File/Budget/2018-2019%20Adopted%20Budget/Health%20&%20Human%20Services.pdf

Appendix 7 – comparison to the RAND Oregon study

Table A7a shows a comparison of 2020 Oregon expenditure projections from the RAND report²³ compared with the 2019 estimates presented in this paper. Expenditures under RAND for “other state & local”, public health, structures & equipment, and “other private” are zero, since it appears that RAND did not include these categories in their study.

Table A7. Oregon expenditure values in categories listed in the RAND report. The RAND projections are for 2020, while the values in this paper are an estimate for what occurred in 2019, so I have added columns to compare for the same year. The last four categories of expenditures were not included in the RAND report, but are likely to be important for a state single-payer system.

	RAND – 2020		This paper inflated to 2020	this paper - 2019		RAND deflated to 2019
	billions	per cap		billions	per cap	
premiums & OOP	13.8	3,272	19.2	18.3	4,342	13.2
federal Medicaid & CHIP	6.5	1,541	8.0	7.6	1,805	6.2
Marketplace APTCs & CSRs ²⁴	0.5	119			0	0.5
Medicare	10.6	2,513	10.1	9.6	2,276	10.1
other federal programs	3.0	711	2.1	2.0	480	2.9
total federal	20.6	4,884	20.2	19.2	4,561	19.7
state Medicaid & CHIP	1.8	427	2.8	2.7	628	1.7
other state & local		0	0.5	0.5	120	0
public health		0	1.2	1.1	269	0
structures & equipment		0	1.7	1.7	393	0
other private		0	3.3	3.2	750	0
total	36.2	8,583		46.7	11,063	

²³ https://www.rand.org/pubs/research_reports/RR1662.html

²⁴ Advance Premium Tax Credits and Cost-Sharing Reductions. This is federal support to individuals, but in the analysis of this paper, the APTC is already accounted in premiums paid to private insurers and the CSR is accounted as part of OOP

National health expenditures have increased at an average annual rate of 4.8% since 2019, so it would not be unreasonable to increase the estimates from this paper by that amount (shown in the column labeled “this paper inflated to 2020), or decrease RAND’s projections by that amount (shown in the column RAND deflated to 2019).

The most important point is that the estimates in this paper differ from RAND’s estimates by \$12 billion. For the purposes of the Task Force, it is important to understand why. A lot of the discrepancy can be understood because of expenditures left out of the RAND report. I will discuss the differences in more detail below.

I will first make a comment about Medicaid expenditures. When RAND made its projections, the latest data was probably from 2014. Oregon’s Medicaid per capita Medicaid expenditures have increased substantially faster than the national average since 2014, which explains about half of the larger actual Medicaid expenditures relative to RAND projections. Oregon’s Medicaid enrollment growth since 2014 has been slightly greater than the national average, so that explains another small amount of the difference. But the discrepancy in Medicaid expenditures is small, and is relatively unimportant for estimating necessary revenue.

The most important discrepancies are in “premiums & OOP” (out-of-pocket) and “other private.” It may be possible for someone in OHA or DCBS to discern this information, perhaps from the All Payer All Claims (APAC) data base. I don’t know whether claims paid by self-insured employers are reported in APAC, but OHA/DCBS should know. It is likely that a reasonable estimate could be made for claims that are not reported in APAC. I also don’t know if “other private” expenditures would be reported.

There is nothing in the RAND report about “other private” expenditures, and my estimate comes solely from Oregon’s per capita share of national expenditures in this category. I have not found any other data from which to do any sort of validity check on this value. But it is hard to imagine that Oregon is so different from the national average that this value is not at least several billion dollars.

The premiums and out-of-pocket expenditures is perhaps the most important single number to begin an estimate of necessary revenue. Again, the out-of-pocket value presented here comes solely from a relationship of other Oregon per capita expenditures to national values. If the APAC data base includes information about expenditures by self-insured employees, APAC should be a good source of information for the PHCE in this category. DCBS should be able to help estimate the insurer overhead, and thus help calculate the HCE and THE in this category.

There is a potential clue in the RAND report regarding a large portion of the discrepancy in the “premiums & OOP” category. On p. 82, RAND has a section titled “Expanding the Scope of Benefits to Include Adult Dental, Vision, and Other Benefits.” In that section, they say

We estimate that adding these additional health benefits to Single Payer and HCIP would increase annual covered spending by \$400 to \$700 per person in 2020

Presumably they left these expenditures out of the status quo as well. At the top end of their range, this would explain 2/3 of the discrepancy between the estimates in this paper and RAND estimates for this category. RAND notes that most of the expenditures for the additional health benefits are for dental, and Table 1 shows that Oregon share of per capita national dental expenditures is in the middle of this range.

Another 10% of the discrepancy can probably be explained because I did not account for the Marketplace Tax Credits and Cost Sharing Reductions separately, and these are likely accounted for as part of “premiums & OOP” in my analysis.

For equity purposes, structures & equipment expenditures should probably be part of what the single-payer covers, so it seems important to have a credible estimate for this category. In this analysis, the value comes solely from a relationship of other Oregon per capita expenditures to national values, with no validity check made. It is likely that OHA and/or DCBS has at least some data that may help with this estimate.

It is not clear how the Task Force envisions the single payer working with public health. It is also not clear how CMS apportions health expenditures by counties into “public health” or “other state and local” expenditures. Data presented in this paper suggests that CMS puts more of the expenditures into public health than what is labeled in that manner by the state of Oregon or the counties. I expect that the Association of Oregon Counties can help with estimates, at least for the combination of public health and other state & local expenditures.

Appendix 8 - Expenditures on practitioners and on administrative overhead

Table A8 presents information about 2019 expenditures in Oregon on compensation for physicians and nurses, on admin (insurer overhead), and on administrative tasks in provider offices. Information about the size of the physician work force comes from the Association of Medical Colleges²⁵ and the Kaiser Family Foundation.²⁶ Physician compensation is from Medscape,²⁷ and includes salary, bonus, and profit-sharing for employed physicians, and earnings after taxes and deductible business expenses, but before income taxes for self-employed physicians. The Medscape values are national averages, but I used Bureau of Labor Statistics²⁸ values to verify that employed Oregon physician compensation was within 1% of the national average. Compensation for nurses includes all RNs (including nurse anesthetists, nurse midwives, and nurse practitioners, who are listed in a separate BLS category) and all LPNs.

Table A8. Compensation to physicians and nurses, administrative costs in provider offices and by insurers.

Oregon expenditures on administration and practitioners in 2019			
	status quo	single-payer	savings
admin (insurer overhead)	3,708	618	3,090
hospital administration	2,912	1,839	1,073
clinics and physician office admin	1,489	894	596
total administration	8,109	3,351	4,758
physicians	3,636	3,636	0
nurses	3,945	3,945	0
total on physicians & nurses	7,581	7,581	0

²⁵ https://store.aamc.org/downloadable/download/sample/sample_id/305/

²⁶ <https://www.kff.org/other/state-indicator/total-active-physicians/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>

²⁷ <https://www.medscape.com/slideshow/2020-compensation-overview-6012684#19>

²⁸ <https://www.bls.gov/oes/current/oes291141.htm>, and similar sites for each BLS occupational category needed for this analysis.

The admin savings is calculated in a manner similar to a December 2020 Congressional Budget Office (CBO) report.²⁹ The admin expenditures are from Table 1 (admin = HCE – PHCE – PH). I assumed that a well-designed single payer system could have payer administrative costs approaching the efficiency of traditional Medicare, with 2% overhead.

Hospital administrative expenditures are calculated using the CBO's estimate of 19%, and their estimate that single-payer would lower this to 12%.³⁰ Total hospital expenditures in Oregon are treated as being Oregon's share of national per capita spending. A similar analysis is used for clinics and physician office administrative expenditures, where CBO estimates the status quo administrative costs of 15% and 9% with single-payer. Note that the CBO estimates of administrative costs and the savings achievable by single payer are substantially less than what other researchers have projected,³¹ so these values are conservative.

I have not attributed any single-payer savings to compensation for physicians and nurses. This is consistent with the CBOs analysis. Even though the CBO projects that physicians and nurses would spend noticeably less time on administrative tasks if a single-payer system were implemented, they expect that practitioners would use that extra time to provide more patient care. We expect that a system would compensate practitioners with an amount that is, on average, the same as with the status quo. But we expect that the CBO analysis is also correct in expecting that primary care provider compensation would tend to increase, and compensation to specialist physicians would tend to decrease. Details of how much this would occur were beyond the scope of the CBO report, and are far outside the scope of this paper.

²⁹ <https://www.cbo.gov/system/files/2020-12/56811-Single-Payer.pdf>

³⁰ Other research estimates hospital administrative costs are about 25% of expenditures, and a single-payer system that paid hospitals with a global budget could reduce this to 12%. A single-payer system that did not use global budgets would see less savings, in line with what the CBO estimated. See <https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2013.1327>

³¹ [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(19\)33019-3/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)33019-3/fulltext)