Oregon Health Policy Board

AGENDA

February 4, 2013
Market Square Building
1515 SW 5th Avenue, 9th floor
1:00 p.m. to 3:00 p.m.

Live web streamed at: OHPB Live Web Streaming

#	Time	Item	Presenter	Action Item
1	1:00	Welcome, call to order and roll **Action item:** 1/7/13 minutes	Chair Mike Bonetto	X
2	1:05	Director's Report	Tina Edlund, OHA	
3	1:15	Workforce Committee update: Projections of Provider Demand 2013-2020	Peter Graven, Center for Health Systems Effectiveness Jo Isgrigg, Ore. Healthcare Workforce Institute Lisa Angus, OHA	
4	1:45	Health System Transformation: Quarterly Progress Report	Lori Coyner, OHA	
5	2:15	2014 Workplan: • Direction • Calendar • Next steps	Diana Bianco	
6	2:45	Public testimony	Chair	
7	3:00	Adjourn	Chair	

Next meeting:
March 4, 2013
8:30 a.m. to noon
Market Square Building
1515 SW 5th Avenue, 9th floor

Oregon Health Policy Board
DRAFT Minutes
January 7, 2014
9 a.m.
Conference Call

Item
Welcome and Call To Order Eric Parsons called the Oregon Health Policy Board (OHPB) meeting to order. All Board members were present except Carla McKelvey. Tina Edlund and Leslie Clement were present from the Oregon Health Authority (OHA). **Consent Agenda:** The meeting minutes from December 3, 2013 were unanimously approved.
Adjourn

Next meeting:
February 4, 2014
1:00 p.m. to 5:00 p.m.
Market Square Building
1515 SW 5th Ave, 9th Floor
Portland, OR 97201

The Projected Demand for Physicians, Nurse Practitioners, and Physician Assistants in Oregon: 2013-2020

February 2014

Prepared for:
The Oregon Health Authority

Prepared by:
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Oregon Health & Science University, Center for Health System Effectiveness
Oregon Healthcare Workforce Institute

Revised 2/2/2014

Oregon Healthcare Workforce Institute

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Executive Summary

This study estimates the number of physicians, nurse practitioners, and physician assistants needed in Oregon between 2013 and 2020 to address the demand for health services created by Oregon's health system transformation, federal health reform, and a growing and aging population. The study uses unique data from Oregon-specific sources, including Oregon's All Payer, All Claims database and the Oregon Health Care Workforce Licensing Database, to identify utilization by type of health insurance coverage and to allow for the estimation of clinician demand at the state and county level.

Baseline clinician demand projections were estimated by applying observed rates of utilization of health care services per-person and per-clinician providing this care to population projections of coverage changes. Adjustments to the model were developed to estimate the potential workforce impacts of Oregon's health system transformation, team-based care, full implementation of health information technologies, and a combination of team-based care and health information technologies.

The baseline projection between 2013 and 2020 for all three health professions is 16% growth over current demand. At the county level, the 2013-2020 baseline projections ranged from 9.3% additional demand in Umatilla County to 28.5% in Curry County. In addition, Wheeler, Coos, Tillamook, Wallowa, and Josephine counties have estimated demand rates at 25% or greater for all three professions. The variation in growth rates is driven by differing proportions of uninsured (and other coverage types) in areas that feed the providers in those counties.

Adjusting for a two percent reduction in Medicaid utilization—corresponding to the Oregon's commitment to reduce Medicaid cost growth—the demand for physicians, nurse practitioners and physician assistants drops slightly to a 14% growth rate. For all three professions, the implementation of the full-range of health information technologies reduces demand to an 11% growth rate.

The demand shift among clinicians is seen in the team-based care scenario where projected physician demand drops to a 12% growth rate while simultaneously increasing that of nurse practitioners and physician assistants to 31%. Combining both team-based care and health information technologies further reduces the projected physician demand curve to a 7% growth rate, but increases the projected demand for both nurse practitioners and physician assistants by 24% between 2013 and 2020.

These projections, specifically at the county-level, help inform workforce capacity adjustment efforts such as directing finite public and private resources for technical assistance, health profession education, workforce development, and recruitment and retention efforts to areas of greatest need. The findings demonstrate that projected clinician demand varies widely under possible scenarios. These projections also highlight the critical links among provider access, workforce capacity, health profession education, payment structures, and delivery system design that are important components in meeting the goals of the Triple Aim.

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The Projected Demand for Physicians, Nurse Practitioners, and Physician Assistants in Oregon: 2013-2020

The importance of understanding the dynamics of the demand for and supply of health care providers in Oregon has never been greater. The ability of state and federal health reforms to meet the stated "Triple Aim" of better health, better care and lower costs will depend in large part on the health care workforce and its capacity to meet the increase in demand for health services that is likely to accompany expansions in health insurance coverage. At the same time, health care delivery models are being substantially reconsidered and redesigned. This study aims to address the question of how many clinicians will be needed in Oregon after health care reform.

Background

Expansions in health insurance coverage tend to lead to increases in the use of health care services, particularly primary care services.[1] For example, recent findings from the Oregon Health Study show that Oregonians gaining access to Medicaid coverage increased their use of health care services by 35 percent, with primary and preventive care a large share of that increase. Additionally, those with Medicaid coverage were 70 percent more likely to have a regular place of care and 55 percent more likely to have a regular physician than those without coverage.[2] Similar outcomes were reported after Massachusetts passed legislation to expand access to health insurance coverage in 2006. Between 2006 and 2010, the number of state survey respondents reporting a regular source of care increased from 86 to 90 percent and the number visiting a physician for preventive services within the previous 12 months increased from 70 to 76 percent.[3]

Massachusetts's experience with health care reform underscores the need to anticipate the effect of coverage expansion and other changes on health care delivery systems. That state's expansion efforts did not address health care workforce implications and, following implementation, the state's health care infrastructure showed signs of strain. Although the proportion of residents without a primary care provider decreased by 10 percent between 2006 and 2008, the share of family medicine and internal medicine physician offices accepting new patients also declined, by 10 and 22 percent, respectively from 2005 to 2009. In 2009, more than one in five residents reported difficulty obtaining health care, even though Massachusetts has the highest primary care physician-to-population ratio of all 50 states.[4,5] Immediately following its reforms, Massachusetts saw stronger growth among health care administrative personnel, such as financial and business managers, than among its clinician workforce.[6]

The question of whether the supply of clinicians will be sufficient to meet demand is being raised nationwide with increasing urgency in both the health care literature and popular media, with approaches ranging from pure opinion pieces to complex simulation models. Opinions and conclusions vary widely along with the methods used, with some studies projecting grave shortages and others suggesting only minor increases in capacity are needed.

Once reason for the variation of conclusions is the rapid, ongoing changes in the way health care is delivered and financed. These operational changes will likely impact demand in ways that are not yet clear. Evidence from primary care home models and care coordination initiatives suggests that practices which emphasize case management, patient-centered care, and technology reduce costs by preventing hospitalizations and emergency department visits.[7,8] These models have very different implications for how many and what kind of health professionals and non-clinical personnel would be needed.

Several recent national studies which estimate the future demand for different types of health care providers are described in Appendix A. Building on that literature, this study uses a utilization-based macro-simulation model to project clinician demand specific to Oregon through 2020. The model encompasses physicians, physician assistants and nurse practitioners, making the projections broader than several national studies focused solely on physicians. The model also incorporates demographic trends and the expected impact of insurance coverage expansion through state and federal health care reforms. At the same time, this study includes additional analyses to investigate and further refine the projected workforce impacts of new care delivery practices, such as team-based staffing and increased use of technology.

Unlike other studies that use national data to identify state workforce needs, this study uses data from Oregon sources, including Oregon's All Payer, All Claims database and the Oregon Health Care Workforce Licensing Database, to identify Oregon-specific utilization by type of coverage and to allow for the examination of workforce demand at the county level. This wealth of data provides the opportunity to focus on Oregon and its counties, exploring regional need to a degree unavailable in national studies.

Even with these data sources, this study is not intended to produce definitive figures on the number of providers needed in Oregon in a given year. Instead, the goal is to produce a

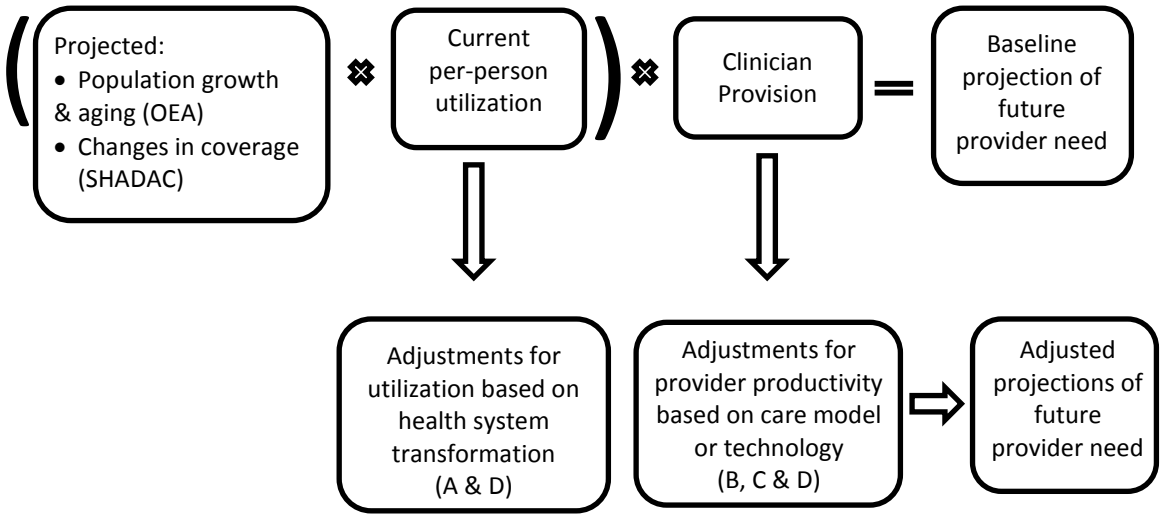
reasonable range of estimates based on current trends and how potential changes in care delivery or policy might affect those trends.

Projection Methodology

Conceptually, the model generates projections by applying observed/existing relationships between patients and clinicians (physicians, nurse practitioners, and physician assistants) to widely-accepted population projections. There are two factors describing these relationships: utilization of health care services per-person and the number of clinicians providing this care.

Both components of the utilization factor come from Oregon's All Payer, All Claims database (APAC). Utilization itself is measured by submitted claims information. This is divided by number of individual persons on whose behalf the claims were submitted. The resulting ratio describes of the per capita rate of health care services utilization (see Figure 1).

Figure 1: Projection Model



The clinician provision factor is generated by dividing the number of clinician full-time equivalents (FTE), identified as average weekly work hours in the 2012 Oregon Health Care Workforce Licensing Database (see Appendix B), by the aggregate amount of claims submitted (from APAC). This ratio describes the number of clinicians providing the services represented by the claims data. Utilization for Medicare FFS and the uninsured is not currently captured in APAC and is thus imputed. For Medicare FFS this is done using the per-person spending of

Data Sources

All-Payer, All-Claims Database: Health care utilization data comes from the Oregon All-Payer, All-Claims Database (APAC). By statute, commercial health insurance carriers, third party administrators and certain Medicaid and Medicare programs are required to report medical and pharmacy claims as well as diagnoses, procedures performed and provider location and specialty on a quarterly basis. For more information, go to: http://www.oregon.gov/oha/OHPR/RSCH/Pages/APAC.aspx#Informational_Documents.

SHADAC Projection Model: Changes in insurance coverage projections are generated by the State Health Access and Data Assistance Center (SHADAC) projection model. This complex spreadsheet model incorporates national and state-level policy and demographic information in order to forecast the impact of policy changes on health insurance coverage. For more information, go to: http://www.shadac.org/publications/predicting-health-insurance-impacts-complex-policy-changes-new-tool-states.

Clinician Data: Workforce data for active licensed physicians (MD/DO), nurse practitioners, and physician assistants practicing in Oregon were extracted from the Oregon Health Care Workforce Licensing Database as submitted by the Oregon Medical Board in February 2012 and the Oregon State Board of Nursing in January 2012. These data are collected by the Oregon Office for Health Policy and Research and analyzed with the assistance of experts from the Oregon Healthcare Workforce Institute and Oregon Center for Nursing. For more information, go to: http://www.oregon.gov/oha/OHPR/RSCH/docs/Workforce/2012%20Workforce%20Report/2012%20Workforce%20Report.pdf.

Population Data: Demographic information comes from the American Community Survey (ACS). The ACS is an ongoing survey administered by the U.S. Census Bureau and, similar to the decennial census but at a greater frequency, provides snapshots of the population. Additional demographic data comes from the Oregon Office of Economic Analysis' (OEA) August 2012 Economic and Revenue Forecast. For more information go to: http://www.oregon.gov/DAS/oea/pages/index.aspx

Medicare Advantage enrollees in their area. For the uninsured, this is done using the results of the Oregon Health Study, which suggests that the uninsured used 76 percent as much health care services as those with Medicaid.

This methodology is innovative in its ability to use information on sub-state utilization and the types of clinicians in each area.[i] Additionally, because the utilization data captures both the location of the resident and the clinician, the projections incorporate the existing patient flows throughout the state. In Multnomah County, for example, the existing clinician provision factor and the projected increase in utilization indicate that many of the patients who are treated there reside outside the county.

Baseline projections: Population projections (population size and coverage status) are taken from the State Health Access Data Assistance (SHADAC) Projection Model. This model was developed to help states understand the potential impacts of the Affordable Care Act on different segments of the population. Baseline demographic information is taken from the 2010 American Community Survey and the 2009 Medical Expenditure Panel Survey. The total number of people is then projected out to the year 2020 using annual growth rates generated by the August 2012 Oregon Economic and Revenue Forecast. The

[i] This detail is recommended in the "Better Health Care Worker Demand Projections: A Twenty-First Century Approach" report (pg. 18) from the Bipartisan Policy Center at http://bipartisanpolicy.org/library/report/better-health-care-worker-demand-projections-twenty-first-century-approach

distribution of insurance coverage by type is estimated using results from the economics literature and the policy and administrative aims of the Patient Protection and Affordable Care Act (ACA) (see Appendix C).

Total utilization is projected by multiplying the population projections by the utilization-per-person factor. The workforce figures are then generated by multiplying the utilization projections by the clinician provision factor. These components can then be disaggregated by geographic factors (county), insurance type (private, Medicare, Medicaid and uninsured) and provider type (physician, nurse practitioner, or physician assistant). These forecasts comprise the baseline projections.

Adjustments to the baseline model were developed to estimate the potential workforce impacts of four scenarios: (A) Oregon's health system transformation efforts, (B) team-based care, (C) full implementation of health IT, and (D) a combination of team-based care and health IT.

(A) Health System Transformation: This scenario adjusts the baseline demand projections to reflect Oregon's efforts to reduce the growth rate in per capita Medicaid spending by 2 percentage points.[9] This model incorporates a 5.4 percent growth rate in utilization for all insurance categories except Medicaid. Among Medicaid patients, utilization is assumed to grow at a rate of 4.4 percent 2013 and then 3.4 percent for 2014 through 2020. Furthermore, utilization is assumed to grow at a uniform 5.4 percent rate for each of the three clinician types.

(B) Team-Based Care: Scenario B estimates the impact of team-based care, or greater use of non-physician providers, on clinician demand. In this scenario, the ratio of nurse-practitioners and physician assistants to physicians is increased by 12 percent over eight years.[10,11]

(C) Health Information Technology: This scenario incorporates the impact of the implementation of electronic health records and related technologies on clinician productivity. Specifically, interoperable electronic health records, clinical decision support, provider order entry, and web-based secure patient messaging are assumed to increase clinician productivity by 10 percent.[12,13] Based on data showing that 38 percent of office-based providers in Oregon were already using an electronic health record in 2012, this productivity factor is applied to 62 percent of clinicians and phased in over the seven years projection period (2014 to 2020).[14]

(D) Team-Based Care and Health Information Technology: The final modification combines elements of scenarios B and C. First, with the implementation of team-based care (scenario B), the physician utilization is adjusted downward while the utilization of nurse practitioners and physician assistants is adjusted upward. Second, with the incorporation of health information technology (scenario C), the productivity of all clinicians is increased.

Additional Scenarios (Not Modeled): Of course, these four scenarios are far from a complete enumeration of all potential changes to the health care system that may affect utilization. Due to data limitations, the alternate scenarios do not incorporate other potential changes such as: increased focus on prevention activities; changes in population health status (other than population aging); moving more care into community settings that do not employ licensed health professionals; or delegation of clinical care to providers other than physician assistants and nurse practitioners, such as pharmacists, registered nurses, or traditional health workers. This study's focus on physicians, nurse practitioners, and physician assistants is partly a necessary response to limited evidence but also a recognition that these providers serve as the point of entry to care for many patients, especially those with new coverage.

Findings

Baseline Projections of Clinician Demand: Under the baseline conditions, demand in Oregon for physicians, nurse practitioners, and physician assistants will increase by 16 percent between 2013 and 2020,. This translates into an estimated additional 1,726 physician FTEs, 332 nurse practitioner FTEs, and 168 physician assistant FTEs (see Table 1). (The additional FTEs projected do not include the number of additional clinicians needed to replace those who leave the workforce due to retirement, relocation, reduction in work hours, etc.)

Table 1: Baseline FTE Demand Projections by Clinician Type: 2013-2020

Clinician	Value	2013	2014	2015	2016	2017	2018	2019	2020
Physician	Count	10,491.6	10,772.0	11,069.6	11,304.6	11,526.2	11,755.5	11,985.9	12,217.3
	Change (Cumulative)		280	578	813	1,035	1,264	1,494	1,726
NP	Count	2,004.3	2,058.8	2,116.3	2,161.4	2,203.9	2,247.9	2,292.1	2,336.4
	Change (Cumulative)		54	112	157	200	244	288	332
PA	Count	994.3	1,021.8	1,050.7	1,073.6	1,095.2	1,117.6	1,140.0	1,162.6
	Change (Cumulative)		27	56	79	101	123	146	168
Total	Count	13,490	13,852	14,237	14,540	14,825	15,121	15,418	15,716
	Change (Cumulative)		362	746	1,049	1,335	1,631	1,928	2,226

The change in anticipated provider demand is driven by the change in utilization.[ii] This change can be broken down into changes in population size, population aging, and health insurance coverage[iii]. The proportion of the change in FTE demand attributed to each of those factors is shown in Table 2.

[ii] Because medical inflation affects both the utilization and the productivity of clinicians, it does not contribute on net to a change in FTE demand.

[iii] To attribute FTE demand to the various factors, the percentage change in the population statewide is identified. Next, the change in enrollment in Medicare is used to represent the effect of aging. Finally, after subtracting medical inflation from the utilization change, the remainder of the increase in utilization is attributed to other coverage changes including Medicaid expansion. As the SHADAC report indicates, private insurance also increases over this period due to PPACA.

Table 2: Proportion of Change in FTE Demand by Factor: 2013-2020

Factor	2013	2014	2015	2016	2017	2018	2019	2020
Population Growth	47%	29%	43%	53%	58%	58%	59%	59%
Population Aging (Medicare only)	43%	26%	15%	18%	23%	25%	23%	22%
Coverage Changes	11%	45%	43%	28%	19%	17%	18%	18%
Total (rounded)	100%	100%	100%	100%	100%	100%	100%	100%

In 2013, population growth and population aging account for 90 percent of the change in clinician FTE demand, with health insurance coverage expansion accounting for the remaining share. With implementation of the ACA in 2014, the share of change attributable to changes in coverage climbs to 45 percent of the total change in clinician FTE demand. Once the expansion is fully phased in after 2016, population growth and aging again become the predominant factors driving demand.

The Projected Demand for Oregon's Clinicians by Scenario: 2013-2020

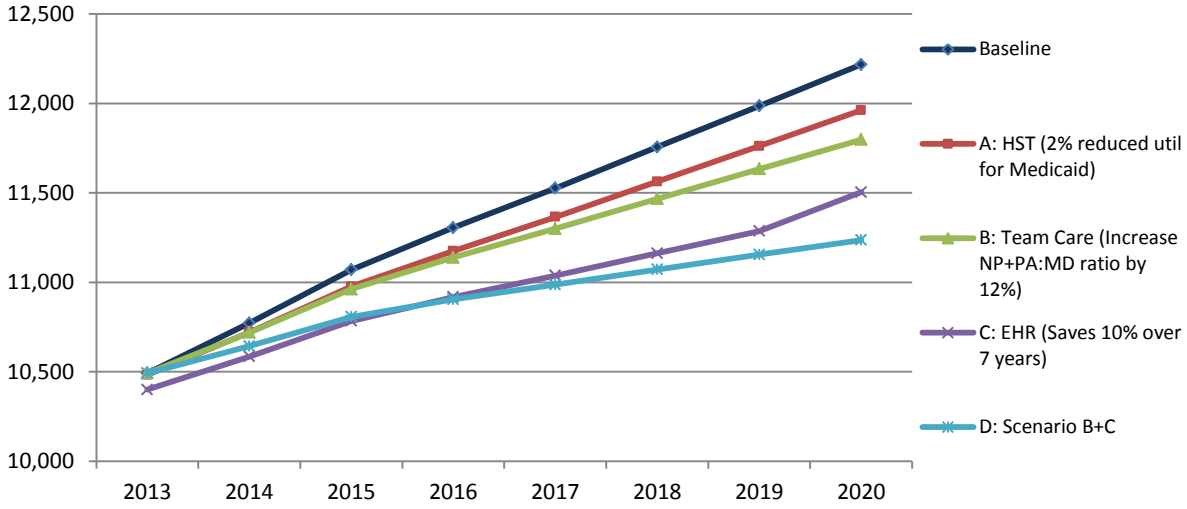
The impacts of alternative workforce scenarios are estimated by adjusting the baseline conditions of the projection model. Again, these scenarios include (A) Oregon's health system transformation goal of reducing Medicaid growth by 2 percent, (B) team-based care, (C) full implementation of health IT, and (D) a combination of team-based care and health IT. The baseline and adjusted projections are presented by profession in Table 3.

Table 3: Total FTE Demand Projection by Clinician Type and Scenario: 2013-2020

Clinician	Projection Scenario	2013	2014	2015	2016	2017	2018	2019	2020
Physician	Baseline	10,492	10,772	11,070	11,305	11,526	11,756	11,986	12,217
	A: HST (2% reduced utilization for Medicaid)	10,482	10,720	10,976	11,175	11,365	11,562	11,761	11,962
	B: Team Care (Increase NP+PA:Physician ratio by 12%)	10,492	10,719	10,961	11,138	11,300	11,467	11,633	11,798
	C: HIT (Saves 10% over 7 years)	10,400	10,584	10,783	10,918	11,037	11,162	11,286	11,504
	D: Scenario B+C	10,492	10,643	10,807	10,905	10,986	11,072	11,155	11,236
NP	Baseline	2,004	2,059	2,116	2,161	2,204	2,248	2,292	2,336
	A: HST (2% reduced utilization for Medicaid)	2,002	2,048	2,098	2,136	2,172	2,210	2,248	2,286
	B: Team Care (Increase NP+PA:Physician ratio by 12%)	2,003	2,093	2,188	2,271	2,354	2,439	2,527	2,615
	C: HIT (Saves 10% over 7 years)	1,987	2,023	2,062	2,087	2,110	2,134	2,158	2,200
	D: Scenario B+C	2,003	2,078	2,157	2,224	2,288	2,355	2,423	2,491
PA	Baseline	994	1,022	1,051	1,074	1,095	1,118	1,140	1,163
	A: HST (2% reduced utilization for Medicaid)	993	1,017	1,042	1,061	1,079	1,099	1,118	1,138
	B: Team Care (Increase NP+PA:Physician ratio by 12%)	994	1,039	1,087	1,129	1,170	1,213	1,257	1,302
	C: HIT (Saves 10% over 7 years)	986	1,004	1,024	1,037	1,049	1,061	1,073	1,095
	D: Scenario B+C	994	1,032	1,071	1,105	1,138	1,172	1,206	1,240

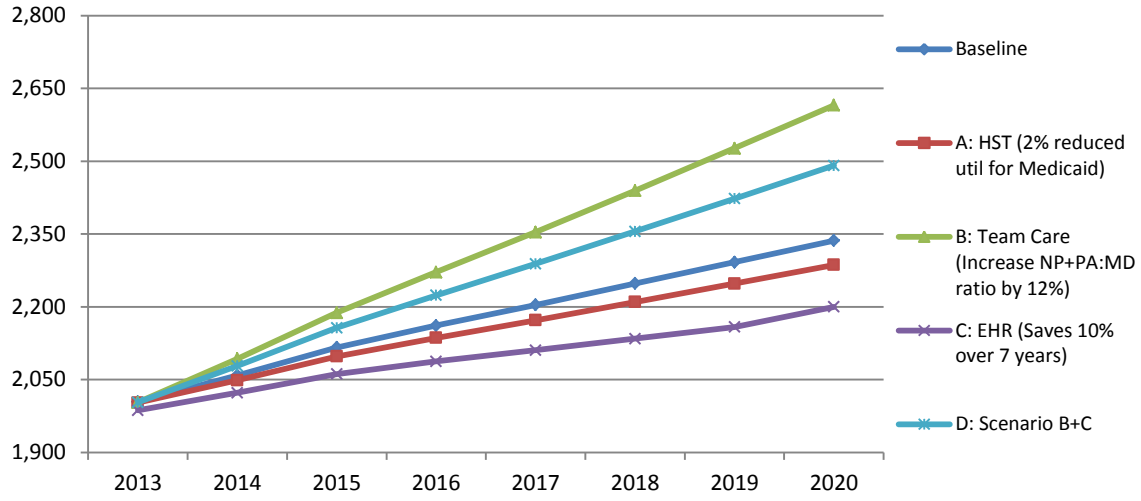
Oregon's Physicians: Relative to the baseline projection, demand for Oregon's physicians drops under each of the four alternate scenarios (see Figure 2). Incorporating a two percent reduction in Medicaid utilization changes the demand for physicians from a 16 percent to 14 percent growth rate between 2013 and 2020 (scenario A). When adjusted for team-based care, the demand drops to a 12 percent projected growth rate (scenario B). Implementing the full range of health information technologies, (interoperable electronic health records, clinical decision support, provider order entry, and web-based secure patient messaging) reduces the demand to an 11 percent growth rate (scenario C). Combining both team-based care and health information technology further reduces the projected seven-year demand curve to a 7 percent growth rate (scenario D).

Figure 2: Projected FTE Demand for Physicians by Scenario: 2013-2020



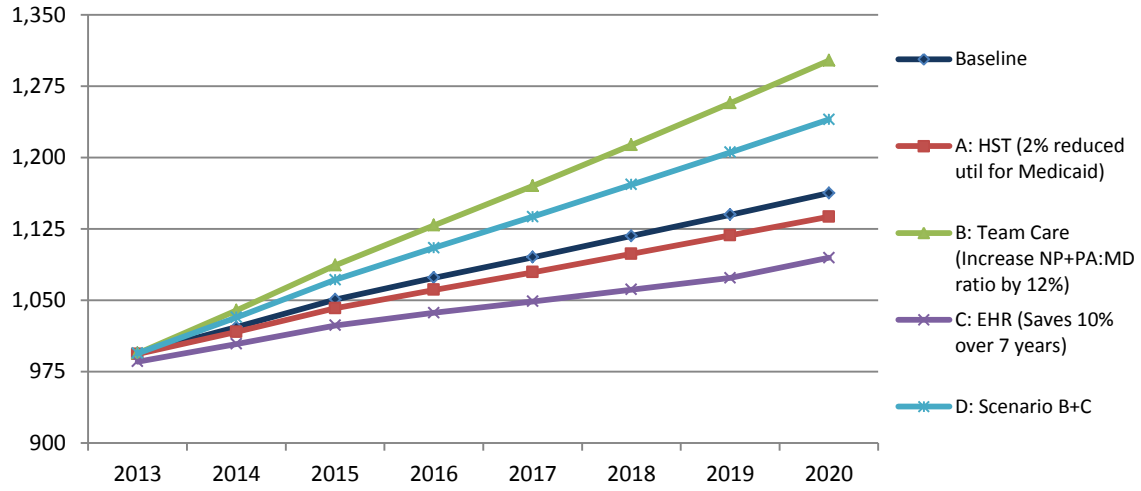
Oregon's Nurse Practitioners: The demand projected for Oregon's nurse practitioners drops from a 16 percent (baseline) growth rate to 14 percent when adjusted for the two percent reduction in Medicaid growth (scenario A) (see Figure 3). Adjusting for team-based care, which increases the roles of non-physician providers, the projected growth rate for nurse practitioners increases to 31 percent (scenario B). By fully implementing health information technologies, the projected growth drops to 11 percent (scenario C). By combining team-based care and health information technologies, the projected demand for nurse practitioners in Oregon increases to 24 percent (scenario D), meaning that Oregon would need 488 additional nurse practitioner FTEs between 2013 and 2020.

Figure 3: Projected FTE Demand for Oregon's Nurse Practitioners by Scenario: 2013-2020



Oregon's Physician Assistants: When adjusted for the two percent reduction in Medicaid growth, the demand curve for Oregon's physician assistants drops from 16 percent to 14 percent relative to the baseline (scenario A) (see Figure 4). The projected demand for physician assistants rises to 31 percent when the model is adjusted for team-based care (scenario B). Implementing interoperable electronic health records and other health information technologies reduces the projected demand growth rate for physician assistants to 11 percent (scenario C). Combining both team-based care and health information technology increases the projected growth rate for physician assistants to 25 percent between 2013 and 2020 (scenario D), meaning that Oregon would need an additional 246 physician assistants by 2020.

Figure 4: Projected FTE Demand for Oregon's Physician Assistants: 2013-2020



The baseline projection for demand between 2013 and 2020 for all three health professions in Oregon is 16 percent. Projected demand for all three clinicians drops to a 14 percent growth rate when incorporating a two-percent reduction in Medicaid utilization, and to an 11 percent growth rate with full-range implementation of health information technologies.

The demand shift among providers is seen in the team-based care scenario. Under these conditions, projected physician demand drops to a 12 percent growth rate while simultaneously that of nurse practitioners and physician assistants increases to 31 percent. Combining both team-based care and health information technology further reduces the projected physician demand curve to a 7 percent growth rate, but increases the projected demand for both nurse practitioners and physician assistants to 24 and 25percent, respectively, between 2013 and 2020.

The Projected Clinician Demand by County: 2013-2020

Oregon has a unique advantage of drawing on the wealth of data from the APAC database and the clinician data in the Oregon Health Care Workforce Licensing Database to estimate clinician demand for Oregon's 36 counties. For example, under baseline conditions, FTE demand in Curry, Wheeler, Coos, Tillamook, Wallowa, and Josephine counties is estimated to increase by 25 percent or higher for all three clinician types between 2013 and 2020. Tables 6, 7 and 8 group the counties into quartiles based on the percent change in projected physician, nurse practitioner, and physician assistant FTE demand by scenario. See Appendix D for the table of county-level annual projection counts for physicians, nurse practitioners, and physician assistants by each scenario and Appendix E for the table of county rankings by projected percentage change in the clinician workforce by scenario from 2013 to 2020.

Under the baseline conditions, demand for physician, nurse practitioner, and physician assistant FTEs at the county level is projected to range from 28.5 percent growth in Curry County to 9.3 percent growth in Umatilla County. Adjusting the projection model for a 2 percent reduction in Medicaid utilization, the county level FTE demand estimates for physicians, nurse practitioners, and physician assistants range from 27 percent growth in Curry County to 3.8 percent in Jefferson County.

By incorporating team-based care into the projections model, the estimated physician FTE demand tops out at 22.3 percent in Coos County and eliminates increased physician demand for

Morrow (-0.2%), Columbia (-2.6%), Wheeler (-14.4%), and Gilliam (-28.3%) counties. By fully implementing health information technologies, the physician FTE demand ranges from 22.1 percent in Curry County to 3.8 percent in Umatilla County. Combining both team-based care and health information technologies, the estimated physician FTE demand growth rate reaches 16.5% percent in Coos County and eliminates physician demand in Umatilla (-1.1%), Jefferson (-2.0%), Morrow (-5%), Columbia (-7.3%), Wheeler (-18.5%), and Gilliam (-31.7%) counties.

In shifting to team-based care, the estimated FTE demand for nurse practitioners and physician assistants range from 43.9 percent in Curry County to 22.4 percent in Umatilla County. Under full implementation of health information technologies, the nurse practitioner and physician assistant FTE demand estimates vary from 22.1 percent in Curry County to 3.8 percent in Umatilla County.

Combining both team-based care and health information technologies, the estimated FTE demand for nurse practitioners and physician assistants range from a high of 37.0 percent in Curry County to a low of 16.6 percent in Umatilla County.

Table 4: Percent Change Quartiles in Physician FTE Demand by County and Scenario (2013-2020)

Projected Physician Demand	Baseline	A: HST (2% reduced util. for Medicaid)	B: Team Care (NP+PA: MD ratio up by 12%)	C: HIT (Saves 10% over 7 years)	D: Scenarios B+C
Q1: < 9.6%	Umatilla	Jefferson, Klamath, Polk, Umatilla	Columbia, Gilliam, Jefferson, Klamath, Malheur, Morrow, Polk, Umatilla, Wheeler	Hood River, Jefferson, Klamath, Malheur, Marion, Morrow, Multnomah, Polk, Umatilla, Washington	Clackamas, Columbia, Crook, Gilliam, Harney, Hood River, Jefferson, Klamath, Lake, Malheur, Marion, Morrow, Multnomah, Polk, Umatilla, Union, Wasco, Washington, Wheeler, Yamhill
Q2: 9.6%-14.1%	Jefferson, Klamath, Morrow, Polk, Washington	Hood River, Malheur, Marion, Morrow, Multnomah, Union, Wasco, Washington, Yamhill	Clackamas, Harney, Hood River, Lake, Marion, Multnomah, Union, Wasco, Washington, Yamhill	Benton, Clackamas, Columbia, Lake, Lane, Union, Wasco, Yamhill	Baker, Benton, Clatsop, Deschutes, Douglas, Jackson, Josephine, Lane, Lincoln, Linn, Tillamook, Wallowa
Q3: 14.1%-19.1%	Clackamas, Hood River, Malheur, Marion, Multnomah, Union, Wasco, Yamhill	Benton, Clackamas, Columbia, Deschutes, Douglas, Gilliam, Harney, Jackson, Lake, Lane	Baker, Benton, Clatsop, Crook, Deschutes, Douglas, Jackson, Lane, Lincoln, Linn, Wallowa	Baker, Clatsop, Crook, Deschutes, Douglas, Gilliam, Grant, Harney, Jackson, Josephine, Lincoln, Linn	Coos, Curry, Grant
Q4: > 19.1%	Baker, Benton, Clatsop, Columbia, Coos, Crook, Curry, Deschutes, Douglas, Gilliam, Grant, Harney, Jackson, Josephine, Lake, Lane, Lincoln, Linn, Tillamook, Wallowa, Wheeler	Baker, Clatsop, Coos, Crook, Curry, Grant, Josephine, Lincoln, Linn, Tillamook, Wallowa, Wheeler	Coos, Curry, Grant, Josephine, Tillamook	Coos, Curry, Tillamook, Wallowa, Wheeler	

Table 5: Percent Change Quartiles in Nurse Practitioner FTE Demand by County and Scenario (2013-2020)

Projected Nurse Practitioner Demand	Baseline	A: HST (2% reduced util. for Medicaid)	B: Team Care (NP+PA: MD ratio up by 12%)	C: HIT (Saves 10% over 7 years)	D: Scenarios B+C
Q1: < 15.2%	Hood River, Jefferson, Klamath, Marion, Multnomah, Polk, Umatilla, Washington	Clackamas, Hood River, Jefferson, Klamath, Malheur, Marion, Multnomah, Polk, Umatilla, Union, Wasco, Washington, Yamhill		Benton, Clackamas, Columbia, Deschutes, Gilliam, Harney, Hood River, Jefferson, Klamath, Lake, Lane, Linn, Malheur, Marion, Multnomah, Polk, Sherman, Umatilla, Union, Wasco, Washington, Yamhill	
Q2: 15.2%-21.1%	Benton, Clackamas, Columbia, Deschutes, Gilliam, Harney, Lake, Lane, Linn, Malheur, Sherman, Union, Wasco, Yamhill	Baker, Benton, Columbia, Crook, Deschutes, Douglas, Gilliam, Grant, Harney, Jackson, Lake, Lane, Linn, Sherman		Baker, Clatsop, Coos, Crook, Douglas, Grant, Jackson, Josephine, Lincoln, Tillamook, Wallowa, Wheeler	Jefferson, Klamath, Polk, Umatilla
Q3: 21.1%-28.7%	Baker, Clatsop, Coos, Crook, Curry, Douglas, Grant, Jackson, Josephine, Lincoln, Tillamook, Wallowa, Wheeler	Clatsop, Coos, Curry, Josephine, Lincoln, Tillamook, Wallowa, Wheeler	Hood River, Jefferson, Klamath, Multnomah, Polk, Umatilla, Washington	Curry	Benton, Clackamas, Columbia, Gilliam, Hood River, Lake, Lane, Malheur, Marion, Multnomah, Union, Wasco, Washington, Yamhill
Q4: > 28.7%			Baker, Benton, Clackamas, Clatsop, Columbia, Coos, Crook, Curry, Deschutes, Douglas, Gilliam, Grant, Harney, Jackson, Josephine, Lake, Lane, Lincoln, Linn, Malheur, Marion, Tillamook, Union, Wallowa, Wasco, Wheeler, Yamhill		Baker, Clatsop, Coos, Crook, Curry, Deschutes, Douglas, Grant, Harney, Jackson, Josephine, Lincoln, Linn, Tillamook, Wallowa, Wheeler

Table 6: Percent Change Quartiles in Physician Assistant FTE Demand by County and Scenario (2013-2020)

Projected Physician Assistant Demand	Baseline	A: HST (2% reduced util. for Medicaid)	B: Team Care (NP+PA: MD ratio up by 12%)	C: HIT (Saves 10% over 7 years)	D: Scenarios B+C
Q1: < 14.9%	Hood River, Jefferson, Klamath, Morrow, Multnomah, Polk, Umatilla, Washington	Clackamas, Hood River, Jefferson, Klamath, Malheur, Marion, Morrow, Multnomah, Polk, Umatilla, Union, Wasco, Washington, Yamhill		Benton, Clackamas, Columbia, Gilliam, Hood River, Jefferson, Klamath, Lake, Lane, Linn, Malheur, Marion, Morrow, Multnomah, Polk, Umatilla, Union, Wasco, Washington, Yamhill	
Q2: 14.9%-21.1%	Benton, Clackamas, Columbia, Deschutes, Gilliam, Harney, Lake, Lane, Linn, Malheur, Marion, Union, Wasco, Yamhill	Baker, Benton, Columbia, Crook, Deschutes, Douglas, Gilliam, Harney, Jackson, Lake, Lane, Linn		Baker, Clatsop, Coos, Crook, Deschutes, Douglas, Harney, Jackson, Josephine, Lincoln, Tillamook, Wallowa, Wheeler	Jefferson, Klamath, Polk, Umatilla
Q3: 21.1%-28.5%	Baker, Clatsop, Coos, Crook, Douglas, Jackson, Josephine, Lincoln, Tillamook, Wallowa, Wheeler	Clatsop, Coos, Curry, Josephine, Lincoln, Tillamook, Wallowa, Wheeler	Hood River, Jefferson, Klamath, Morrow, Multnomah, Polk, Umatilla, Washington	Curry	Benton, Clackamas, Columbia, Gilliam, Hood River, Lake, Lane, Malheur, Marion, Morrow, Multnomah, Union, Wasco, Washington, Yamhill
Q4: > 28.5%	Curry		Baker, Benton, Clackamas, Clatsop, Columbia, Coos, Crook, Curry, Deschutes, Douglas, Gilliam, Harney, Jackson, Josephine, Lake, Lane, Lincoln, Linn, Malheur, Marion, Tillamook, Union, Wallowa, Wasco, Wheeler, Yamhill		Baker, Clatsop, Coos, Crook, Curry, Deschutes, Douglas, Harney, Jackson, Josephine, Lincoln, Linn, Tillamook, Wallowa, Wheeler

Discussion

This study produces a range of demand projections for physicians, nurse practitioners, and physician assistants specific to Oregon and its 36 counties. Additionally, adjustments to the projection model provide valuable information on how potential changes in care delivery, practices, or policies may affect health care utilization and provider demand.

The findings demonstrate that projected clinician demand varies widely under different, plausible scenarios. This range of estimates may be especially relevant in Oregon, given the variety and scope of health system transformation activities already underway. The expansion of team-based care, where the handling of less complex cases is shifted to nurse practitioners and physician assistants, has the potential to decrease the demand for physicians in Oregon significantly while increasing the demand for non-physician providers. This is an important consideration given that between 2010 and 2012, Oregon's physician workforce decreased by 3 percent (313) while the number of nurse practitioners increased by 11 percent (218) and the number of physician assistants increased by 6 percent (54). [15]

Additionally, the full implementation of interoperable electronic health records and other health information technology may produce practice efficiencies that allow clinicians to maintain a higher case load than could otherwise be achieved without electronic communication.

These projections highlight the intricate and critical links between provider access, workforce capacity, health profession education, payment structures, and delivery system design, all important components in meeting the goals of the Triple Aim. For example, the number of clinicians and practices choosing to implement team-based care and health information technologies is likely to depend on changes in the payment model that encourage increased access, better patient outcomes, and innovation.

Because of the timeline, the number and nature of analytic factors, and the inclusion of all physicians, nurse practitioners, and physician assistants working in Oregon (as opposed to only primary care clinicians), the findings from this study do not easily lend themselves to comparison with recent national studies (summarized in Appendix A) that project demand as a result of health care reform. Still it does appear that in general, Oregon is in a better position when compared to national projections.

Caveats and Limitations of the Study

Projecting the demand for the health care workforce is a complex methodological process that is unable to take into account all factors, such as developments in medical knowledge and social forces.[16,17] For example, data from the 2012 Workforce Licensing Database, used to generate baseline conditions, tell us how many health care providers are practicing in Oregon but do not address whether an area has adequate supply for its population.

The projected clinician demand represents new FTEs and does not include the additional clinicians needed in Oregon to replace those who, during this time period, will be lost to attrition or outflow (e.g. retirement, reduction in practice hours, relocation out-of-state). This is important to note as 14.6 percent of Oregon's physicians, nurse practitioners, and physician assistants are 65 years of age or older and another 27.3 percent are between 55 and 64 years of age.[18]

Furthermore, the model does not incorporate information on settings where current clinicians practice (private clinics, safety-net sites, etc.) or the extent to which they accept different payer sources (commercial, Medicaid, Medicare). In 2012, approximately 85% of Oregon's physicians reported that they accepted new Medicaid clients with no limitations or some restrictions.[19]

This study also relies on current health care utilization to predict future use. Thus, if unforeseen technological advances enable clinicians to deliver more care in the same amount of time, these projections will overstate demand. Similarly, both the baseline and alternative scenario projections rely on static estimates of utilization-per-person and utilization-per-provider. If population health declines over time in ways not captured by aging, these projections will underestimate utilization per person. (If population health improves, the opposite will be true.) Additionally, a critical driver of near-future demand will come from the provision of health insurance to the previously uninsured. We have assumed—based on Oregon experience—that this population currently uses 76% of the care it would receive if covered by Medicaid. If this figure is closer to 100% then much more moderate growth is needed. However, if the population of newly-insured Oregonians requires more services than suggested by the Oregon Health Study, demand for providers will be greater than estimates here indicate.

Another limitation of these projections is that we are not able to disaggregate provider type (physician, nurse practitioner, physician assistant) by practice specialty (primary vs. non-primary care). While we are able observe the number of clinicians and their practice type in an area by

their license data, we are not able to link this information to the utilization data. As a result, we are unable to generate accurate estimates of the amount of utilization provided by clinician and practice type. Furthermore, the utilization data suggest that providers do not always fall into one practice type of care, as measured by the billed claims. For example, between 36-40 percent of clinicians would be categorized as primary care providers based on the practice specialties they report in the licensing database. In comparison, in the APAC data 71.3 percent% of claims are paid to clinicians whose taxonomies identify them as providing primary care services. This conceptual ambiguity leads to empirical difficulties when trying to match services and providers by specialty, resulting in more generalized projections.

Policy Implications

There are several policy implications that result from this study. First and foremost, these projections underscore the need for Oregon to engage proactive measures to address potential inadequacies in the supply, recruitment and retention of clinicians.

Importantly, some steps have already been taken. For example, the Oregon Health Policy Board's statutorily-created Health Care Workforce Committee was created in 2009 to coordinate efforts in Oregon to educate, recruit and retain health care professionals in order "to meet the demand created by the expansion in health care coverage, system transformation and an increasingly diverse population." This work includes the Committee's development of a statewide strategic plan to recruit primary care providers.[20] Additionally, the $4 million Medicaid Primary Care Provider Loan Repayment Program, a component of Oregon's 2012 waiver from the Centers for Medicaid and Medicare Services, provides debt relief to primary care providers who commit to serving Medicaid beneficiaries in underserved areas and can be used as an incentive to recruit new or out-of-state clinicians.[iv] This new initiative joins a handful of other federal and state programs designed to increase the primary care workforce in Oregon.[v]

[iv] More information about the Oregon Health Care Workforce Committee, the Medicaid Primary Care Provider Loan Repayment Program, and other health workforce-related efforts is available at http://www.oregon.gov/OHA/OHPR/HPB/Pages/workforce/HealhCareWorkforceCommittee.aspx

[v] Information relating to ongoing federal and state health care workforce recruitment and retention incentive programs can be found at http://www.oregon.gov/oha/OHPR/PCO/Pages/index.aspx and http://www.ohsu.edu/xd/outreach/oregon-rural-health/index.cfm

Technical assistance and expertise for practice redesign and strategic planning is a valuable resource for clinicians who have little time to research the steps of transition into team-based care models. The Oregon Health Authority's Transformation Center and the Patient-Centered Primary Care Institute, a public-private partnership, provide technical support and learning opportunities for clinics and health systems engaging in transformation. Moreover, resources to assist with purchasing and maintenance of interoperable electronic health records, clinical decision support tools, provider order entry, and secure patient messaging systems may be necessary, especially for small or rural practices. Federal incentive payments for meaningful use for HIT are helping with technology adoption, and Oregon is developing concrete plans to support health information exchange across the state.[21]

These projections, specifically at county-level, are designed to inform adjustments to workforce capacity. They may also help policy makers and administrators direct finite resources—both public and private—for clinician education and workforce development. They may also help target recruitment and retention efforts to areas of greatest need.

The use of Oregon's APAC database in conjunction with the Oregon Health Care Workforce Licensing Database creates a unique opportunity for Oregon in projecting clinician demand specific to the state and county levels. Monitoring the balance of health service utilization and provider supply through the APAC and health professions' licensing database is extremely valuable in informing and evaluating policy responses in unchartered territory.

APPENDICES

Appendix A:
Summary of Recent Studies Projecting Primary Care Clinician Demand as a Result of Health Care Reform

Several recent studies have estimated the demand for different individual and combined elements of health care services.[22,23,24] For example, one recent study from the American Medical Association assessed that the national primary care physician workforce would need to increase by 24 percent to meet projected health care utilization demand in 2025.[25] Sixty-three percent of the estimated increase was due to the growth and aging of the population and 15 percent was due to insurance coverage expansion in 2014-2015.

Recently, the Robert Graham Center released a report on primary care physician workforce (defined as those specializing in family medicine, internal medicine, general practice, and geriatrics) projections to 2030 for all 50 states.[26] Using national data, and taking into account the newly insured population resulting from the ACA as well as the growing and aging population, the Center projected that Oregon would need a 38% increase in the primary care physician workforce by 2030 in order to maintain current utilization rates.[27]

Looking more broadly at primary care clinicians, a study by the University of Chicago projected that between 2010 and 2014, a 2.5 percent increase (or 7,200) overall in the number of primary care physicians, physician assistants and nurse practitioners would be needed to meet the demand for increased health care services as a result of coverage expansion in the ACA.[28] Nationally, the geographic variation in projected increase in primary care provider demand ranged from 0.7 percent to 5 percent across states and from zero to 76 percent in primary care service areas.

Other recent studies submit that workforce shortages may be eased by integrating care teams into redesigned delivery structures and greater use of health information technologies (health IT). For example, one study estimated that up to 24 percent of a clinician's time in providing preventive, chronic and acute care to adult patients can be saved by reallocating work to other licensed and non-licensed staff, such as registered nurses, pharmacists, and medical assistants.[29,30,31]

A recent study at Johns Hopkins University suggested that the full implementation of health IT (including interoperable electronic health records, clinical decision support, provider order entry, and web-based secure patient messaging), could reduce future national physician demand by four percent to 19 percent, depending on the level of health IT penetration.[32] The authors further estimated an additional seven percent demand reduction by integrating both health IT and the delegation of care from physicians to nurse practitioners and physician assistants.

A 2013 Columbia University study focused on the need for primary care physicians into 2025, but incorporated into their projection model the supply of non-physician providers, shared practice settings and electronic health records.[33] The authors concluded that by pooling patients among two to three physicians and diverting as little as 20 percent of demand to non-physician providers and/or using electronic health records, most if not all of the projected primary care shortage could be eliminated.

Appendix B: Number of Clinician FTEs by County

The projection model identifies by county the (2012) population to clinician FTE ratio and the patient flow adjusted ratio, which captures both the location of the resident and the clinician (see Table 1). The adjusted patient flow-to-clinician ratios for Benton, Deschutes, Jackson, Lane, Marion, Multnomah, Wasco and Washington counties, home to regional health centers, reflect referral and commute patterns of patients from other counties. For example, the number of patients who obtained care in Multnomah County in 2012 is 56 percent greater than the number of residents in the county.

Determining clinician demand for Oregon's border counties represents a unique challenge as the APAC utilization data does not capture those patients who reside outside of Oregon but obtain health services within Oregon. For example, the ratios for Clackamas County are not able to count those Kaiser Permanente patients who reside in Southwest Washington but obtain hospital care at Kaiser Sunnyside Medical Center in Clackamas, Oregon.

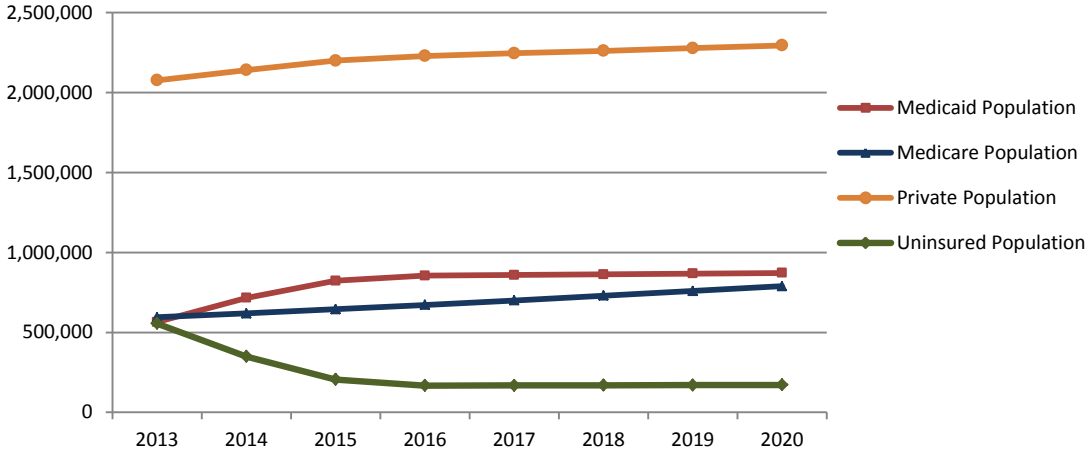
Appendix B1: Number of Clinician FTEs by County (2012)

County	Clinician FTE			
	Physician	NP	PA	Total
Baker	36.3	4.1	5.3	45.7
Benton	313.5	44.2	43.2	400.9
Clackamas	788.4	142.5	53.0	984.0
Clatsop	89.2	20.7	8.7	118.6
Columbia	15.5	15.1	9.3	39.8
Coos	144.2	31.9	7.1	183.3
Crook	15.2	3.1	6.1	24.4
Curry	31.9	12.4	4.4	48.7
Deschutes	478.1	82.3	95.6	656.0
Douglas	211.0	58.0	20.4	289.5
Gilliam	0.6	1.0	1.1	2.8
Grant	7.6	1.0	0.0	8.6
Harney	9.5	4.1	1.0	14.6
Hood River	66.4	7.1	5.1	78.7
Jackson	572.2	126.0	53.1	751.3
Jefferson	19.2	8.9	2.9	31.0
Josephine	145.7	31.7	19.1	196.5
Klamath	153.3	28.6	14.1	196.0
Lake	8.0	2.0	1.1	11.2
Lane	901.5	152.0	74.9	1,128.4
Lincoln	75.5	17.6	13.5	106.6
Linn	139.9	14.3	12.5	166.7
Malheur	66.3	12.2	16.1	94.6
Marion	713.0	121.0	69.5	903.5
Morrow	4.0	0.0	4.1	8.1
Multnomah	3,637.2	680.7	273.8	4,591.7
Polk	64.0	19.7	14.3	97.9
Sherman	0.0	1.0	0.0	1.0
Tillamook	36.5	10.3	4.1	50.9
Umatilla	118.4	34.3	14.6	167.3
Union	69.8	19.2	1.0	90.1
Wallowa	11.6	4.1	0.8	16.5
Wasco	80.2	16.5	12.1	108.8
Washington	1,287.4	243.1	117.9	1,648.4
Wheeler	0.9	1.0	1.3	3.2
Yamhill	179.8	32.3	12.9	224.9
Total	**10,491.6**	**2,004.3**	**994.3**	**13,490.2**

Appendix C: Estimated Population Changes by Insurance Coverage Type

The projection model estimates the changes in Oregon's population by insurance coverage type. In the short term, between 2013 and 2016, Oregon's uninsured population is estimated to decrease by 70 percent (or 388,160 individuals) as state and federal health reforms are implemented (see Figure C1). Simultaneously, Oregon's insured population (private, Medicare, and Medicaid) is estimated to grow 16 percent (or 519,086 individuals).

Figure C1: Change in Oregon's Population by Coverage Type: 2013-2020



Over the seven years between 2013 and 2020, Oregon's insured population (private, Medicare, and Medicaid) is estimated to grow by 22 percent while the uninsured population is estimated to decrease by 69.1 percent (see Table C1). Of particular note regarding Oregon's aging population and the associated utilization of health care services, the Medicare population is estimated to increase from 15 percent of the total population in 2013 to 19 percent in 2020 (or by 194,245 individuals).[34]

Table C1: Projected Change in Oregon's Population by Coverage Type: 2013-2020

Insurance Type	Values	2013	2014	2015	2016	2017	2018	2019	2020
Medicaid	Population	564,677	715,673	823,312	855,038	858,993	863,248	867,755	872,070
	Change in Population		150,996	107,640	31,726	3,955	4,255	4,507	4,314
Medicare	Population	594,454	618,670	645,189	671,420	699,539	729,367	758,983	788,699
	Change in Population		24,216	26,519	26,231	28,119	29,828	29,616	29,716
Private	Population	2,077,271	2,140,857	2,200,102	2,229,030	2,245,622	2,261,446	2,277,896	2,294,756
	Change in Population		63,586	59,245	28,928	16,593	15,824	16,449	16,860
Uninsured	Population	555,668	349,349	205,711	167,508	168,405	169,315	170,353	171,424
	Change in Population		-206,319	-143,638	-38,203	897	910	1,038	1,071
Total	Population	3,792,069	3,824,548	3,874,314	3,922,995	3,972,559	4,023,377	4,074,987	4,126,949
	Change in Population		32,479	49,766	48,681	49,564	50,818	51,610	51,962

Appendix D: Annual County-Level Clinician Projection Counts by Scenario

Annual Change in the Projected FTE Counts of Clinicians by County by Scenario: 2013 to 2020

County		Scenario	2013	2014	2015	2016	2017	2018	2019	2020
Baker	Physician	Baseline	36	38	39	40	41	42	43	44
		A: HST (2% reduced util for Medicaid)	36	38	39	40	41	42	43	44
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	36	38	39	40	41	41	42	43
		C: HIT (Saves 10% over 7 years)	36	37	38	39	40	40	41	42
		E: Scenario B+C	36	37	38	39	39	40	40	41
	NP	Baseline	4	4	4	5	5	5	5	5
		A: HST (2% reduced util for Medicaid)	4	4	4	4	5	5	5	5
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	4	4	5	5	5	5	5	6
		C: HIT (Saves 10% over 7 years)	4	4	4	4	4	5	5	5
		E: Scenario B+C	4	4	4	5	5	5	5	5
	PA	Baseline	5	6	6	6	6	6	6	7
		A: HST (2% reduced util for Medicaid)	5	6	6	6	6	6	6	6
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	5	6	6	6	6	7	7	7
		C: HIT (Saves 10% over 7 years)	5	5	6	6	6	6	6	6
		E: Scenario B+C	5	6	6	6	6	7	7	7
Benton	Physician	Baseline	313	324	335	343	351	358	366	374
		A: HST (2% reduced util for Medicaid)	313	324	334	341	348	355	362	369
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	313	323	332	339	344	350	355	361
		C: HIT (Saves 10% over 7 years)	311	319	327	332	336	340	345	352
		E: Scenario B+C	313	321	327	331	335	338	341	344
	NP	Baseline	44	46	47	48	49	51	52	53
		A: HST (2% reduced util for Medicaid)	44	46	47	48	49	50	51	52
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	44	47	49	51	53	55	57	59
		C: HIT (Saves 10% over 7 years)	44	45	46	47	47	48	49	50
		E: Scenario B+C	44	46	48	50	51	53	55	56
	PA	Baseline	43	45	46	47	48	49	50	51
		A: HST (2% reduced util for Medicaid)	43	45	46	47	48	49	50	51
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	43	45	48	50	52	54	56	58
		C: HIT (Saves 10% over 7 years)	43	44	45	46	46	47	47	48
		E: Scenario B+C	43	45	47	49	50	52	53	55
Clackamas	Physician	Baseline	788	810	833	850	866	882	898	914
		A: HST (2% reduced util for Medicaid)	788	807	828	843	857	872	886	901
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	788	807	826	839	851	863	875	887
		C: HIT (Saves 10% over 7 years)	781	796	811	821	829	837	845	860
		E: Scenario B+C	788	801	814	822	827	833	839	844
	NP	Baseline	143	146	151	154	156	159	162	165
		A: HST (2% reduced util for Medicaid)	142	146	150	152	155	158	160	163
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	143	149	156	162	167	173	179	185
		C: HIT (Saves 10% over 7 years)	141	144	147	148	150	151	153	156
		E: Scenario B+C	143	148	154	158	163	167	172	176
	PA	Baseline	53	55	56	57	58	59	60	61
		A: HST (2% reduced util for Medicaid)	53	54	56	57	58	59	60	61
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	53	55	58	60	62	64	67	69
		C: HIT (Saves 10% over 7 years)	53	54	55	55	56	56	57	58
		E: Scenario B+C	53	55	57	59	61	62	64	66

County		Scenario	2013	2014	2015	2016	2017	2018	2019	2020
Clatsop	Physician	Baseline	89	92	95	98	101	104	106	109
		A: HST (2% reduced util for Medicaid)	89	92	95	97	100	103	105	108
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	89	92	94	96	98	101	103	105
		C: HIT (Saves 10% over 7 years)	88	91	93	95	96	98	100	103
		E: Scenario B+C	89	91	93	94	96	97	99	100
	NP	Baseline	21	21	22	23	23	24	25	25
		A: HST (2% reduced util for Medicaid)	21	21	22	23	23	24	24	25
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	21	22	23	24	25	26	27	28
		C: HIT (Saves 10% over 7 years)	21	21	22	22	22	23	23	24
		E: Scenario B+C	21	22	23	23	24	25	26	27
	PA	Baseline	9	9	9	10	10	10	10	11
		A: HST (2% reduced util for Medicaid)	9	9	9	10	10	10	10	11
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	9	9	10	10	11	11	11	12
		C: HIT (Saves 10% over 7 years)	9	9	9	9	9	10	10	10
		E: Scenario B+C	9	9	10	10	10	11	11	11
Columbia	Physician	Baseline	15	16	17	17	17	18	18	19
		A: HST (2% reduced util for Medicaid)	15	16	16	17	17	17	18	18
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	15	16	16	16	16	15	15	15
		C: HIT (Saves 10% over 7 years)	15	16	16	17	17	17	17	17
		E: Scenario B+C	15	16	16	15	15	15	15	14
	NP	Baseline	15	16	16	17	17	17	18	18
		A: HST (2% reduced util for Medicaid)	15	16	16	16	17	17	17	17
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	15	16	17	18	18	19	20	20
		C: HIT (Saves 10% over 7 years)	15	15	16	16	16	17	17	17
		E: Scenario B+C	15	16	17	17	18	18	19	19
	PA	Baseline	9	10	10	10	11	11	11	11
		A: HST (2% reduced util for Medicaid)	9	10	10	10	10	10	11	11
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	9	10	10	11	11	12	12	13
		C: HIT (Saves 10% over 7 years)	9	10	10	10	10	10	10	11
		E: Scenario B+C	9	10	10	11	11	11	12	12
Coos	Physician	Baseline	144	151	157	162	167	172	177	182
		A: HST (2% reduced util for Medicaid)	144	150	156	161	166	171	176	181
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	144	150	156	160	164	168	172	176
		C: HIT (Saves 10% over 7 years)	143	148	153	157	160	163	167	172
		E: Scenario B+C	144	149	153	157	159	162	165	168
	NP	Baseline	32	33	35	36	37	38	39	40
		A: HST (2% reduced util for Medicaid)	32	33	35	36	37	38	39	40
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	32	34	36	38	40	41	43	45
		C: HIT (Saves 10% over 7 years)	32	33	34	35	35	36	37	38
		E: Scenario B+C	32	34	35	37	38	40	41	43
	PA	Baseline	7	7	8	8	8	8	9	9
		A: HST (2% reduced util for Medicaid)	7	7	8	8	8	8	9	9
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	7	8	8	8	9	9	10	10
		C: HIT (Saves 10% over 7 years)	7	7	8	8	8	8	8	8
		E: Scenario B+C	7	7	8	8	9	9	9	10

County		Scenario	2013	2014	2015	2016	2017	2018	2019	2020
Crook	Physician	Baseline	15	16	16	17	17	18	18	19
		A: HST (2% reduced util for Medicaid)	15	16	16	17	17	17	18	18
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	15	16	16	16	17	17	17	17
		C: HIT (Saves 10% over 7 years)	15	15	16	16	17	17	17	18
		D: Scenario B+C	15	15	16	16	16	16	16	17
	NP	Baseline	3	3	3	3	4	4	4	4
		A: HST (2% reduced util for Medicaid)	3	3	3	3	4	4	4	4
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	3	3	4	4	4	4	4	4
		C: HIT (Saves 10% over 7 years)	3	3	3	3	3	4	4	4
		D: Scenario B+C	3	3	3	4	4	4	4	4
	PA	Baseline	6	6	7	7	7	7	7	8
		A: HST (2% reduced util for Medicaid)	6	6	7	7	7	7	7	7
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	6	6	7	7	7	8	8	8
		C: HIT (Saves 10% over 7 years)	6	6	6	7	7	7	7	7
		D: Scenario B+C	6	6	7	7	7	8	8	8
Curry	Physician	Baseline	32	33	35	36	37	38	40	41
		A: HST (2% reduced util for Medicaid)	32	33	35	36	37	38	39	40
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	32	33	34	35	36	37	38	38
		C: HIT (Saves 10% over 7 years)	32	33	34	35	36	37	37	39
		D: Scenario B+C	32	33	34	34	35	35	36	37
	NP	Baseline	12	13	14	14	14	15	15	16
		A: HST (2% reduced util for Medicaid)	12	13	13	14	14	15	15	16
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	12	13	14	15	15	16	17	18
		C: HIT (Saves 10% over 7 years)	12	13	13	14	14	14	15	15
		D: Scenario B+C	12	13	14	14	15	16	16	17
	PA	Baseline	4	5	5	5	5	5	5	6
		A: HST (2% reduced util for Medicaid)	4	5	5	5	5	5	5	6
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	4	5	5	5	5	6	6	6
		C: HIT (Saves 10% over 7 years)	4	5	5	5	5	5	5	5
		D: Scenario B+C	4	5	5	5	5	6	6	6
Deschutes	Physician	Baseline	478	496	514	527	540	553	566	579
		A: HST (2% reduced util for Medicaid)	478	494	510	522	533	544	556	568
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	478	493	507	517	526	535	544	553
		C: HIT (Saves 10% over 7 years)	474	487	500	509	517	525	533	545
		D: Scenario B+C	478	489	500	506	511	517	522	527
	NP	Baseline	82	85	88	91	93	95	97	100
		A: HST (2% reduced util for Medicaid)	82	85	88	90	92	94	96	98
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	82	87	91	95	99	103	107	112
		C: HIT (Saves 10% over 7 years)	82	84	86	88	89	90	92	94
		D: Scenario B+C	82	86	90	93	97	100	103	106
	PA	Baseline	96	99	103	105	108	110	113	116
		A: HST (2% reduced util for Medicaid)	96	99	102	104	107	109	111	114
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	96	101	106	111	115	120	125	130
		C: HIT (Saves 10% over 7 years)	95	97	100	102	103	105	106	109
		D: Scenario B+C	96	100	105	108	112	116	120	123

County		Scenario	2013	2014	2015	2016	2017	2018	2019	2020
Douglas	Physician	Baseline	211	223	234	240	245	250	255	260
		A: HST (2% reduced util for Medicaid)	211	221	230	234	238	241	245	248
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	211	222	231	236	239	242	246	249
		C: HIT (Saves 10% over 7 years)	209	220	228	232	235	238	240	245
		D: Scenario B+C	211	220	228	231	232	234	235	237
	NP	Baseline	58	61	64	66	67	69	70	72
		A: HST (2% reduced util for Medicaid)	58	61	63	64	65	66	67	68
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	58	63	67	70	72	75	77	80
		C: HIT (Saves 10% over 7 years)	58	60	63	64	65	65	66	67
		D: Scenario B+C	58	62	66	68	70	72	74	76
	PA	Baseline	20	22	23	23	24	24	25	25
		A: HST (2% reduced util for Medicaid)	20	21	22	23	23	23	24	24
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	20	22	23	24	25	26	27	28
		C: HIT (Saves 10% over 7 years)	20	21	22	22	23	23	23	24
		D: Scenario B+C	20	22	23	24	25	25	26	27
Gilliam	Physician	Baseline	1	1	1	1	1	1	1	1
		A: HST (2% reduced util for Medicaid)	1	1	1	1	1	1	1	1
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	1	1	1	1	1	1	0	0
		C: HIT (Saves 10% over 7 years)	1	1	1	1	1	1	1	1
		D: Scenario B+C	1	1	1	1	1	1	0	0
	NP	Baseline	1	1	1	1	1	1	1	1
		A: HST (2% reduced util for Medicaid)	1	1	1	1	1	1	1	1
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	1	1	1	1	1	1	1	1
		C: HIT (Saves 10% over 7 years)	1	1	1	1	1	1	1	1
		D: Scenario B+C	1	1	1	1	1	1	1	1
	PA	Baseline	1	1	1	1	1	1	1	1
		A: HST (2% reduced util for Medicaid)	1	1	1	1	1	1	1	1
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	1	1	1	1	1	1	1	2
		C: HIT (Saves 10% over 7 years)	1	1	1	1	1	1	1	1
		D: Scenario B+C	1	1	1	1	1	1	1	1
Grant	Physician	Baseline	8	8	8	9	9	9	9	9
		A: HST (2% reduced util for Medicaid)	8	8	8	8	9	9	9	9
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	8	8	8	8	9	9	9	9
		C: HIT (Saves 10% over 7 years)	8	8	8	8	8	8	9	9
		D: Scenario B+C	8	8	8	8	8	9	9	9
	NP	Baseline	1	1	1	1	1	1	1	1
		A: HST (2% reduced util for Medicaid)	1	1	1	1	1	1	1	1
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	1	1	1	1	1	1	1	1
		C: HIT (Saves 10% over 7 years)	1	1	1	1	1	1	1	1
		D: Scenario B+C	1	1	1	1	1	1	1	1
	PA	Baseline	0	0	0	0	0	0	0	0
		A: HST (2% reduced util for Medicaid)	0	0	0	0	0	0	0	0
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	0	0	0	0	0	0	0	0
		C: HIT (Saves 10% over 7 years)	0	0	0	0	0	0	0	0
		D: Scenario B+C	0	0	0	0	0	0	0	0

County		Scenario	2013	2014	2015	2016	2017	2018	2019	2020
Harney	Physician	Baseline	9	10	10	11	11	11	11	11
		A: HST (2% reduced util for Medicaid)	9	10	10	10	10	11	11	11
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	9	10	10	10	10	11	11	11
		C: HIT (Saves 10% over 7 years)	9	10	10	10	10	10	11	11
		D: Scenario B+C	9	10	10	10	10	10	10	10
	NP	Baseline	4	4	4	5	5	5	5	5
		A: HST (2% reduced util for Medicaid)	4	4	4	4	4	5	5	5
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	4	4	5	5	5	5	5	6
		C: HIT (Saves 10% over 7 years)	4	4	4	4	4	4	5	5
		D: Scenario B+C	4	4	5	5	5	5	5	5
	PA	Baseline	1	1	1	1	1	1	1	1
		A: HST (2% reduced util for Medicaid)	1	1	1	1	1	1	1	1
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	1	1	1	1	1	1	1	1
		C: HIT (Saves 10% over 7 years)	1	1	1	1	1	1	1	1
		D: Scenario B+C	1	1	1	1	1	1	1	1
Hood River	Physician	Baseline	66	67	68	70	71	73	75	76
		A: HST (2% reduced util for Medicaid)	66	67	68	69	71	72	74	75
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	66	67	68	69	70	72	73	74
		C: HIT (Saves 10% over 7 years)	66	66	66	67	68	69	70	72
		D: Scenario B+C	66	66	67	68	68	69	70	71
	NP	Baseline	7	7	7	7	8	8	8	8
		A: HST (2% reduced util for Medicaid)	7	7	7	7	8	8	8	8
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	7	7	8	8	8	9	9	9
		C: HIT (Saves 10% over 7 years)	7	7	7	7	7	7	8	8
		D: Scenario B+C	7	7	7	8	8	8	8	9
	PA	Baseline	5	5	5	5	5	6	6	6
		A: HST (2% reduced util for Medicaid)	5	5	5	5	5	6	6	6
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	5	5	5	6	6	6	6	7
		C: HIT (Saves 10% over 7 years)	5	5	5	5	5	5	5	6
		D: Scenario B+C	5	5	5	6	6	6	6	6
Jackson	Physician	Baseline	572	594	615	631	647	663	679	695
		A: HST (2% reduced util for Medicaid)	572	590	609	624	637	651	666	680
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	572	590	608	621	633	645	657	669
		C: HIT (Saves 10% over 7 years)	567	583	599	610	619	629	639	655
		D: Scenario B+C	572	586	600	608	615	623	630	637
	NP	Baseline	126	131	135	139	142	146	150	153
		A: HST (2% reduced util for Medicaid)	126	130	134	137	140	143	147	150
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	126	133	140	146	152	158	165	171
		C: HIT (Saves 10% over 7 years)	125	128	132	134	136	139	141	144
		D: Scenario B+C	126	132	138	143	148	153	158	163
	PA	Baseline	53	55	57	59	60	62	63	65
		A: HST (2% reduced util for Medicaid)	53	55	57	58	59	60	62	63
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	53	56	59	62	64	67	70	72
		C: HIT (Saves 10% over 7 years)	53	54	56	57	58	58	59	61
		D: Scenario B+C	53	56	58	60	62	65	67	69

County		Scenario	2013	2014	2015	2016	2017	2018	2019	2020
Jefferson	Physician	Baseline	19	19	20	20	20	21	21	21
		A: HST (2% reduced util for Medicaid)	19	19	19	19	19	20	20	20
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	19	19	19	19	20	20	20	20
		C: HIT (Saves 10% over 7 years)	19	19	19	19	20	20	20	20
		D: Scenario B+C	19	19	19	19	19	19	19	19
	NP	Baseline	9	9	9	9	9	10	10	10
		A: HST (2% reduced util for Medicaid)	9	9	9	9	9	9	9	9
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	9	9	9	10	10	10	11	11
		C: HIT (Saves 10% over 7 years)	9	9	9	9	9	9	9	9
		D: Scenario B+C	9	9	9	10	10	10	10	11
	PA	Baseline	3	3	3	3	3	3	3	3
		A: HST (2% reduced util for Medicaid)	3	3	3	3	3	3	3	3
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	3	3	3	3	3	3	3	4
		C: HIT (Saves 10% over 7 years)	3	3	3	3	3	3	3	3
		D: Scenario B+C	3	3	3	3	3	3	3	3
Josephine	Physician	Baseline	146	152	159	164	168	173	177	182
		A: HST (2% reduced util for Medicaid)	146	152	158	162	166	170	174	179
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	146	151	157	161	164	168	171	174
		C: HIT (Saves 10% over 7 years)	144	150	155	158	161	164	167	171
		D: Scenario B+C	146	150	155	157	159	162	164	166
	NP	Baseline	32	33	35	36	37	38	39	40
		A: HST (2% reduced util for Medicaid)	32	33	34	35	36	37	38	39
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	32	34	36	37	39	41	43	44
		C: HIT (Saves 10% over 7 years)	31	33	34	34	35	36	36	37
		D: Scenario B+C	32	33	35	37	38	39	41	42
	PA	Baseline	19	20	21	22	22	23	23	24
		A: HST (2% reduced util for Medicaid)	19	20	21	21	22	22	23	23
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	19	20	22	23	24	25	26	27
		C: HIT (Saves 10% over 7 years)	19	20	20	21	21	22	22	23
		D: Scenario B+C	19	20	21	22	23	24	25	26
Klamath	Physician	Baseline	153	159	164	166	168	169	171	172
		A: HST (2% reduced util for Medicaid)	153	157	161	162	163	163	164	165
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	153	158	162	164	164	165	166	166
		C: HIT (Saves 10% over 7 years)	152	156	159	160	160	161	161	162
		D: Scenario B+C	153	157	160	160	160	159	159	159
	NP	Baseline	29	30	30	31	31	32	32	32
		A: HST (2% reduced util for Medicaid)	29	29	30	30	30	30	31	31
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	29	30	32	33	33	34	35	36
		C: HIT (Saves 10% over 7 years)	28	29	30	30	30	30	30	30
		D: Scenario B+C	29	30	31	32	32	33	34	34
	PA	Baseline	14	15	15	15	15	16	16	16
		A: HST (2% reduced util for Medicaid)	14	14	15	15	15	15	15	15
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	14	15	16	16	16	17	17	18
		C: HIT (Saves 10% over 7 years)	14	14	15	15	15	15	15	15
		D: Scenario B+C	14	15	15	16	16	16	17	17

County		Scenario	2013	2014	2015	2016	2017	2018	2019	2020
Lake	Physician	Baseline	8	8	9	9	9	9	9	10
		A: HST (2% reduced util for Medicaid)	8	8	9	9	9	9	9	9
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	8	8	9	9	9	9	9	9
		C: HIT (Saves 10% over 7 years)	8	8	8	9	9	9	9	9
		D: Scenario B+C	8	8	8	9	9	9	9	9
	NP	Baseline	2	2	2	2	2	2	2	2
		A: HST (2% reduced util for Medicaid)	2	2	2	2	2	2	2	2
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	2	2	2	2	2	3	3	3
		C: HIT (Saves 10% over 7 years)	2	2	2	2	2	2	2	2
		D: Scenario B+C	2	2	2	2	2	2	3	3
	PA	Baseline	1	1	1	1	1	1	1	1
		A: HST (2% reduced util for Medicaid)	1	1	1	1	1	1	1	1
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	1	1	1	1	1	1	1	2
		C: HIT (Saves 10% over 7 years)	1	1	1	1	1	1	1	1
		D: Scenario B+C	1	1	1	1	1	1	1	1
Lane	Physician	Baseline	901	933	965	988	1,010	1,032	1,054	1,076
		A: HST (2% reduced util for Medicaid)	901	929	956	976	995	1,014	1,033	1,053
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	901	929	957	976	992	1,010	1,027	1,044
		C: HIT (Saves 10% over 7 years)	894	917	940	955	967	980	992	1,013
		D: Scenario B+C	901	923	943	955	965	975	985	994
	NP	Baseline	152	157	163	167	170	174	178	181
		A: HST (2% reduced util for Medicaid)	152	157	161	165	168	171	174	177
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	152	160	168	175	182	189	196	203
		C: HIT (Saves 10% over 7 years)	151	155	158	161	163	165	167	171
		D: Scenario B+C	152	159	166	172	177	182	188	193
	PA	Baseline	75	78	80	82	84	86	88	89
		A: HST (2% reduced util for Medicaid)	75	77	80	81	83	84	86	87
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	75	79	83	86	90	93	97	100
		C: HIT (Saves 10% over 7 years)	74	76	78	79	80	81	82	84
		D: Scenario B+C	75	78	82	85	87	90	93	95
Lincoln	Physician	Baseline	76	79	82	84	86	89	91	94
		A: HST (2% reduced util for Medicaid)	75	78	81	83	86	88	90	92
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	76	78	80	82	84	86	87	89
		C: HIT (Saves 10% over 7 years)	75	77	80	81	83	84	86	88
		D: Scenario B+C	76	77	79	81	82	83	84	85
	NP	Baseline	18	18	19	20	20	21	21	22
		A: HST (2% reduced util for Medicaid)	18	18	19	19	20	20	21	21
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	18	19	20	21	21	22	23	24
		C: HIT (Saves 10% over 7 years)	17	18	18	19	19	20	20	21
		D: Scenario B+C	18	18	19	20	21	22	22	23
	PA	Baseline	14	14	15	15	15	16	16	17
		A: HST (2% reduced util for Medicaid)	14	14	15	15	15	16	16	17
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	14	14	15	16	17	17	18	19
		C: HIT (Saves 10% over 7 years)	13	14	14	15	15	15	15	16
		D: Scenario B+C	14	14	15	16	16	17	17	18

County		Scenario	2013	2014	2015	2016	2017	2018	2019	2020
Linn	Physician	Baseline	140	145	150	154	157	161	165	169
		A: HST (2% reduced util for Medicaid)	140	144	149	152	156	159	163	167
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	140	144	149	152	155	159	162	165
		C: HIT (Saves 10% over 7 years)	139	142	146	148	151	153	156	159
		D: Scenario B+C	140	143	147	149	151	153	155	157
	NP	Baseline	14	15	15	16	16	17	17	17
		A: HST (2% reduced util for Medicaid)	14	15	15	16	16	16	17	17
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	14	15	16	17	17	18	19	19
		C: HIT (Saves 10% over 7 years)	14	15	15	15	15	16	16	16
		D: Scenario B+C	14	15	16	16	17	17	18	18
	PA	Baseline	12	13	13	14	14	14	15	15
		A: HST (2% reduced util for Medicaid)	12	13	13	14	14	14	15	15
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	12	13	14	14	15	16	16	17
		C: HIT (Saves 10% over 7 years)	12	13	13	13	13	14	14	14
		D: Scenario B+C	12	13	14	14	15	15	16	16
Malheur	Physician	Baseline	66	67	69	70	72	73	75	76
		A: HST (2% reduced util for Medicaid)	66	67	68	69	70	71	73	74
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	66	67	68	69	70	71	72	73
		C: HIT (Saves 10% over 7 years)	66	66	67	68	69	70	70	72
		D: Scenario B+C	66	66	67	67	68	68	69	69
	NP	Baseline	12	12	13	13	13	14	14	14
		A: HST (2% reduced util for Medicaid)	12	12	13	13	13	13	13	14
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	12	13	13	14	14	15	15	16
		C: HIT (Saves 10% over 7 years)	12	12	12	13	13	13	13	13
		D: Scenario B+C	12	13	13	13	14	14	15	15
	PA	Baseline	16	16	17	17	17	18	18	19
		A: HST (2% reduced util for Medicaid)	16	16	17	17	17	17	18	18
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	16	17	17	18	19	19	20	21
		C: HIT (Saves 10% over 7 years)	16	16	16	16	17	17	17	18
		D: Scenario B+C	16	17	17	18	18	19	19	20
Marion	Physician	Baseline	713	726	743	758	773	788	804	820
		A: HST (2% reduced util for Medicaid)	712	722	735	747	759	772	785	798
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	713	723	736	747	759	770	782	794
		C: HIT (Saves 10% over 7 years)	707	714	723	732	740	749	757	772
		D: Scenario B+C	713	718	726	732	738	744	750	756
	NP	Baseline	121	123	126	129	131	134	136	139
		A: HST (2% reduced util for Medicaid)	121	123	125	127	129	131	133	135
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	121	125	130	135	140	145	150	156
		C: HIT (Saves 10% over 7 years)	120	121	123	124	126	127	128	131
		D: Scenario B+C	121	124	128	132	136	140	144	148
	PA	Baseline	69	71	72	74	75	77	78	80
		A: HST (2% reduced util for Medicaid)	69	70	72	73	74	75	77	78
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	69	72	75	78	80	83	86	90
		C: HIT (Saves 10% over 7 years)	69	70	71	71	72	73	74	75
		D: Scenario B+C	69	71	74	76	78	81	83	85

County		Scenario	2013	2014	2015	2016	2017	2018	2019	2020
Morrow	Physician	Baseline	4	4	4	4	4	4	5	5
		A: HST (2% reduced util for Medicaid)	4	4	4	4	4	4	4	4
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	4	4	4	4	4	4	4	4
		C: HIT (Saves 10% over 7 years)	4	4	4	4	4	4	4	4
		D: Scenario B+C	4	4	4	4	4	4	4	4
	NP	Baseline	0	0	0	0	0	0	0	0
		A: HST (2% reduced util for Medicaid)	0	0	0	0	0	0	0	0
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	0	0	0	0	0	0	0	0
		C: HIT (Saves 10% over 7 years)	0	0	0	0	0	0	0	0
		D: Scenario B+C	0	0	0	0	0	0	0	0
	PA	Baseline	4	4	4	4	4	5	5	5
		A: HST (2% reduced util for Medicaid)	4	4	4	4	4	4	4	5
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	4	4	4	5	5	5	5	5
		C: HIT (Saves 10% over 7 years)	4	4	4	4	4	4	4	4
		D: Scenario B+C	4	4	4	4	5	5	5	5
Multnomah	Physician	Baseline	3,637	3,714	3,800	3,871	3,939	4,009	4,080	4,151
		A: HST (2% reduced util for Medicaid)	3,634	3,695	3,767	3,825	3,882	3,941	4,000	4,060
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	3,637	3,697	3,766	3,819	3,868	3,919	3,970	4,020
		C: HIT (Saves 10% over 7 years)	3,605	3,649	3,702	3,739	3,772	3,807	3,842	3,908
		D: Scenario B+C	3,637	3,671	3,713	3,739	3,761	3,784	3,806	3,829
	NP	Baseline	681	695	711	724	737	750	764	777
		A: HST (2% reduced util for Medicaid)	680	692	705	716	727	738	749	760
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	681	707	736	762	788	815	842	870
		C: HIT (Saves 10% over 7 years)	675	683	693	700	706	712	719	731
		D: Scenario B+C	681	702	725	746	766	787	807	829
	PA	Baseline	274	280	286	291	297	302	307	312
		A: HST (2% reduced util for Medicaid)	274	278	284	288	292	297	301	306
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	274	284	296	306	317	328	339	350
		C: HIT (Saves 10% over 7 years)	271	275	279	281	284	287	289	294
		D: Scenario B+C	274	282	292	300	308	316	325	333
Polk	Physician	Baseline	64	65	66	67	68	70	71	72
		A: HST (2% reduced util for Medicaid)	64	64	65	65	66	67	67	68
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	64	64	65	65	66	66	67	67
		C: HIT (Saves 10% over 7 years)	63	64	64	65	66	66	67	68
		D: Scenario B+C	64	64	64	64	64	64	64	64
	NP	Baseline	20	20	20	21	21	21	22	22
		A: HST (2% reduced util for Medicaid)	20	20	20	20	20	20	21	21
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	20	20	21	22	22	23	24	25
		C: HIT (Saves 10% over 7 years)	19	20	20	20	20	20	20	21
		D: Scenario B+C	20	20	21	21	22	22	23	24
	PA	Baseline	14	15	15	15	15	16	16	16
		A: HST (2% reduced util for Medicaid)	14	14	14	15	15	15	15	15
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	14	15	15	16	16	17	17	18
		C: HIT (Saves 10% over 7 years)	14	14	14	15	15	15	15	15
		D: Scenario B+C	14	15	15	15	16	16	17	17

County		Scenario	2013	2014	2015	2016	2017	2018	2019	2020
Sherman	Physician	Baseline	0	0	0	0	0	0	0	0
		A: HST (2% reduced util for Medicaid)	0	0	0	0	0	0	0	0
		B: Team Care (Increase NP+PA:Physician ratio by 12%)								
		C: HIT (Saves 10% over 7 years)	0	0	0	0	0	0	0	0
		D: Scenario B+C								
	NP	Baseline	1	1	1	1	1	1	1	1
		A: HST (2% reduced util for Medicaid)	1	1	1	1	1	1	1	1
		B: Team Care (Increase NP+PA:Physician ratio by 12%)								
		C: HIT (Saves 10% over 7 years)	1	1	1	1	1	1	1	1
		D: Scenario B+C								
	PA	Baseline	0	0	0	0	0	0	0	0
		A: HST (2% reduced util for Medicaid)	0	0	0	0	0	0	0	0
		B: Team Care (Increase NP+PA:Physician ratio by 12%)								
		C: HIT (Saves 10% over 7 years)	0	0	0	0	0	0	0	0
		D: Scenario B+C								
Tillamook	Physician	Baseline	37	38	39	41	42	43	45	46
		A: HST (2% reduced util for Medicaid)	37	38	39	40	42	43	44	45
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	37	38	39	40	41	42	43	44
		C: HIT (Saves 10% over 7 years)	36	37	38	39	40	41	42	43
		D: Scenario B+C	37	37	38	39	40	40	41	42
	NP	Baseline	10	11	11	11	12	12	13	13
		A: HST (2% reduced util for Medicaid)	10	11	11	11	12	12	12	13
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	10	11	11	12	13	13	14	14
		C: HIT (Saves 10% over 7 years)	10	10	11	11	11	12	12	12
		D: Scenario B+C	10	11	11	12	12	13	13	14
	PA	Baseline	4	4	4	5	5	5	5	5
		A: HST (2% reduced util for Medicaid)	4	4	4	5	5	5	5	5
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	4	4	5	5	5	5	6	6
		C: HIT (Saves 10% over 7 years)	4	4	4	4	5	5	5	5
		D: Scenario B+C	4	4	5	5	5	5	5	5
Umatilla	Physician	Baseline	118	120	121	123	125	126	128	129
		A: HST (2% reduced util for Medicaid)	118	119	120	121	122	123	124	126
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	118	119	120	120	121	122	122	123
		C: HIT (Saves 10% over 7 years)	117	117	118	119	119	120	120	122
		D: Scenario B+C	118	118	118	118	118	117	117	117
	NP	Baseline	34	35	35	36	36	37	37	38
		A: HST (2% reduced util for Medicaid)	34	34	35	35	35	36	36	36
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	34	35	36	37	39	40	41	42
		C: HIT (Saves 10% over 7 years)	34	34	34	34	35	35	35	35
		D: Scenario B+C	34	35	36	37	38	38	39	40
	PA	Baseline	15	15	15	15	15	16	16	16
		A: HST (2% reduced util for Medicaid)	15	15	15	15	15	15	15	15
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	15	15	15	16	16	17	17	18
		C: HIT (Saves 10% over 7 years)	14	14	15	15	15	15	15	15
		D: Scenario B+C	15	15	15	16	16	16	17	17

County		Scenario	2013	2014	2015	2016	2017	2018	2019	2020
Union	Physician	Baseline	70	73	75	77	78	79	80	81
		A: HST (2% reduced util for Medicaid)	70	72	75	76	77	78	79	79
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	70	72	74	76	76	77	78	78
		C: HIT (Saves 10% over 7 years)	69	71	73	74	75	75	75	77
		D: Scenario B+C	70	72	73	74	74	74	75	75
	NP	Baseline	19	20	21	21	21	22	22	22
		A: HST (2% reduced util for Medicaid)	19	20	21	21	21	21	22	22
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	19	20	21	22	23	24	24	25
		C: HIT (Saves 10% over 7 years)	19	20	20	20	21	21	21	21
		D: Scenario B+C	19	20	21	22	22	23	23	24
	PA	Baseline	1	1	1	1	1	1	1	1
		A: HST (2% reduced util for Medicaid)	1	1	1	1	1	1	1	1
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	1	1	1	1	1	1	1	1
		C: HIT (Saves 10% over 7 years)	1	1	1	1	1	1	1	1
		D: Scenario B+C	1	1	1	1	1	1	1	1
Wallowa	Physician	Baseline	12	12	13	13	13	14	14	15
		A: HST (2% reduced util for Medicaid)	12	12	12	13	13	14	14	14
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	12	12	12	13	13	13	13	14
		C: HIT (Saves 10% over 7 years)	11	12	12	12	13	13	13	14
		D: Scenario B+C	12	12	12	12	13	13	13	13
	NP	Baseline	4	4	4	5	5	5	5	5
		A: HST (2% reduced util for Medicaid)	4	4	4	5	5	5	5	5
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	4	4	5	5	5	5	6	6
		C: HIT (Saves 10% over 7 years)	4	4	4	4	5	5	5	5
		D: Scenario B+C	4	4	5	5	5	5	5	6
	PA	Baseline	1	1	1	1	1	1	1	1
		A: HST (2% reduced util for Medicaid)	1	1	1	1	1	1	1	1
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	1	1	1	1	1	1	1	1
		C: HIT (Saves 10% over 7 years)	1	1	1	1	1	1	1	1
		D: Scenario B+C	1	1	1	1	1	1	1	1
Wasco	Physician	Baseline	80	82	83	85	87	89	91	93
		A: HST (2% reduced util for Medicaid)	80	81	82	84	85	87	89	91
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	80	81	82	84	85	86	88	89
		C: HIT (Saves 10% over 7 years)	79	80	81	82	83	85	86	88
		D: Scenario B+C	80	80	81	82	83	83	84	85
	NP	Baseline	17	17	17	18	18	18	19	19
		A: HST (2% reduced util for Medicaid)	17	17	17	17	18	18	18	19
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	17	17	18	18	19	20	21	22
		C: HIT (Saves 10% over 7 years)	16	17	17	17	17	17	18	18
		D: Scenario B+C	17	17	18	18	19	19	20	20
	PA	Baseline	12	12	13	13	13	13	14	14
		A: HST (2% reduced util for Medicaid)	12	12	12	13	13	13	13	14
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	12	13	13	14	14	15	15	16
		C: HIT (Saves 10% over 7 years)	12	12	12	12	13	13	13	13
		D: Scenario B+C	12	12	13	13	14	14	15	15

County		Scenario	2013	2014	2015	2016	2017	2018	2019	2020
Washington	Physician	Baseline	1,287	1,313	1,342	1,367	1,390	1,414	1,438	1,462
		A: HST (2% reduced util for Medicaid)	1,287	1,309	1,335	1,356	1,377	1,399	1,420	1,442
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	1,287	1,306	1,329	1,347	1,363	1,380	1,396	1,413
		C: HIT (Saves 10% over 7 years)	1,276	1,290	1,308	1,320	1,331	1,342	1,354	1,377
		D: Scenario B+C	1,287	1,297	1,311	1,319	1,325	1,332	1,339	1,346
	NP	Baseline	243	248	253	258	262	267	271	276
		A: HST (2% reduced util for Medicaid)	243	247	252	256	260	264	268	272
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	243	252	262	271	280	290	299	309
		C: HIT (Saves 10% over 7 years)	241	244	247	249	251	253	256	260
		D: Scenario B+C	243	250	258	266	273	280	287	294
	PA	Baseline	118	120	123	125	127	130	132	134
		A: HST (2% reduced util for Medicaid)	118	120	122	124	126	128	130	132
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	118	122	127	132	136	141	145	150
		C: HIT (Saves 10% over 7 years)	117	118	120	121	122	123	124	126
		D: Scenario B+C	118	121	125	129	132	136	139	143
Wheeler	Physician	Baseline	1	1	1	1	1	1	1	1
		A: HST (2% reduced util for Medicaid)	1	1	1	1	1	1	1	1
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	1	1	1	1	1	1	1	1
		C: HIT (Saves 10% over 7 years)	1	1	1	1	1	1	1	1
		D: Scenario B+C	1	1	1	1	1	1	1	1
	NP	Baseline	1	1	1	1	1	1	1	1
		A: HST (2% reduced util for Medicaid)	1	1	1	1	1	1	1	1
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	1	1	1	1	1	1	1	1
		C: HIT (Saves 10% over 7 years)	1	1	1	1	1	1	1	1
		D: Scenario B+C	1	1	1	1	1	1	1	1
	PA	Baseline	1	1	1	1	1	2	2	2
		A: HST (2% reduced util for Medicaid)	1	1	1	1	1	2	2	2
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	1	1	1	2	2	2	2	2
		C: HIT (Saves 10% over 7 years)	1	1	1	1	1	1	1	2
		D: Scenario B+C	1	1	1	1	2	2	2	2
Yamhill	Physician	Baseline	180	183	187	191	195	199	204	208
		A: HST (2% reduced util for Medicaid)	180	182	185	189	192	196	199	203
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	180	182	186	189	192	195	198	202
		C: HIT (Saves 10% over 7 years)	178	180	182	185	187	189	192	196
		D: Scenario B+C	180	181	183	185	187	188	190	192
	NP	Baseline	32	33	34	34	35	36	37	37
		A: HST (2% reduced util for Medicaid)	32	33	33	34	35	35	36	37
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	32	33	35	36	38	39	40	42
		C: HIT (Saves 10% over 7 years)	32	32	33	33	34	34	34	35
		D: Scenario B+C	32	33	34	35	36	38	39	40
	PA	Baseline	13	13	13	14	14	14	15	15
		A: HST (2% reduced util for Medicaid)	13	13	13	13	14	14	14	15
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	13	13	14	14	15	15	16	17
		C: HIT (Saves 10% over 7 years)	13	13	13	13	13	14	14	14
		D: Scenario B+C	13	13	14	14	14	15	15	16

Appendix E: County Ranking by Projected Percentage Change in the Physician, Nurse Practitioner, and Physician Assistant Workforce by Scenario: 2013-2020

Appendix E1:
County Ranking by Projected Percentage Change in the Physician Workforce by Scenario: 2013-2020

Baseline		A: HST (2% reduced util for Medicaid)		B: Team Care (Increase NP+PA:Physician ratio by 12%)		C: HIT (Saves 10% over 7 years)		D: Scenario B+C	
County	% Change	County	% Change	County	% Change	County	% Change	County	% Change
Curry	28.50%	Curry	26.96%	Coos	22.31%	Curry	22.07%	Coos	16.49%
Wheeler	26.59%	Wheeler	26.07%	Grant	21.23%	Wheeler	20.26%	Grant	15.46%
Coos	26.42%	Coos	25.26%	Curry	20.38%	Coos	20.09%	Curry	14.65%
Tillamook	25.65%	Wallowa	24.32%	Josephine	19.72%	Tillamook	19.36%	Josephine	14.02%
Wallowa	25.49%	Tillamook	24.17%	Tillamook	19.72%	Wallowa	19.21%	Tillamook	14.02%
Josephine	24.95%	Josephine	22.66%	Wallowa	19.09%	Josephine	18.70%	Wallowa	13.42%
Lincoln	24.13%	Lincoln	22.44%	Baker	18.64%	Lincoln	17.92%	Baker	12.99%
Crook	23.69%	Clatsop	21.15%	Linn	18.12%	Crook	17.50%	Linn	12.49%
Douglas	23.35%	Crook	20.57%	Lincoln	18.00%	Douglas	17.18%	Lincoln	12.38%
Grant	23.23%	Baker	20.24%	Douglas	17.85%	Grant	17.06%	Douglas	12.24%
Clatsop	22.52%	Grant	19.48%	Clatsop	17.66%	Clatsop	16.39%	Clatsop	12.06%
Baker	22.46%	Linn	19.12%	Jackson	16.96%	Baker	16.33%	Jackson	11.39%
Jackson	21.53%	Jackson	18.98%	Lane	15.78%	Jackson	15.45%	Lane	10.26%
Deschutes	21.06%	Deschutes	18.91%	Deschutes	15.66%	Deschutes	15.01%	Deschutes	10.15%
Harney	21.03%	Douglas	17.89%	Benton	15.20%	Harney	14.97%	Benton	9.72%
Linn	20.90%	Benton	17.85%	Crook	14.60%	Linn	14.85%	Crook	9.15%
Gilliam	20.18%	Gilliam	17.68%	Lake	13.97%	Gilliam	14.17%	Lake	8.54%
Columbia	20.09%	Lane	16.87%	Harney	13.24%	Columbia	14.08%	Harney	7.85%
Lake	19.68%	Columbia	16.24%	Clackamas	12.46%	Lake	13.70%	Clackamas	7.11%
Lane	19.38%	Harney	15.60%	Union	12.38%	Lane	13.41%	Union	7.03%
Benton	19.19%	Lake	15.44%	Yamhill	12.18%	Benton	13.23%	Yamhill	6.84%
Union	16.44%	Clackamas	14.33%	Hood River	12.16%	Union	10.61%	Hood River	6.82%
Wasco	16.21%	Union	13.88%	Marion	11.33%	Wasco	10.40%	Marion	6.03%
Clackamas	15.91%	Hood River	13.24%	Wasco	11.23%	Clackamas	10.11%	Wasco	5.94%
Yamhill	15.67%	Yamhill	13.10%	Multnomah	10.52%	Yamhill	9.88%	Multnomah	5.26%
Malheur	15.36%	Wasco	13.00%	Washington	9.74%	Malheur	9.59%	Washington	4.52%
Marion	15.02%	Marion	12.10%	Malheur	9.43%	Marion	9.26%	Malheur	4.22%
Hood River	14.70%	Washington	12.07%	Klamath	8.57%	Hood River	8.96%	Klamath	3.40%
Multnomah	14.12%	Malheur	11.78%	Polk	5.20%	Multnomah	8.41%	Polk	0.19%
Morrow	13.63%	Multnomah	11.74%	Umatilla	3.89%	Morrow	7.95%	Umatilla	-1.06%
Washington	13.56%	Morrow	10.02%	Jefferson	2.91%	Washington	7.88%	Jefferson	-1.99%
Polk	12.34%	Klamath	7.65%	Morrow	-0.23%	Polk	6.72%	Morrow	-4.98%
Klamath	12.32%	Polk	6.76%	Columbia	-2.63%	Klamath	6.70%	Columbia	-7.27%
Jefferson	11.07%	Umatilla	6.20%	Wheeler	-14.43%	Jefferson	5.51%	Wheeler	-18.50%
Umatilla	9.31%	Jefferson	3.76%	Gilliam	-28.27%	Umatilla	3.84%	Gilliam	-31.69%
Sherman	NA	Sherman	NA	Sherman	NA	Sherman	NA	Sherman	NA
Grand Total	**16.45%**	**Grand Total**	**14.12%**	**Grand Total**	**12.45%**	**Grand Total**	**10.62%**	**Grand Total**	**7.09%**

Appendix E2:
County Ranking by Projected Percentage Change in the Nurse Practitioner Workforce by Scenario: 2013-2020

Baseline		A: HST (2% reduced util for Medicaid)		B: Team Care (Increase NP+PA:Physician ratio by 12%)		C: HIT (Saves 10% over 7 years)		D: Scenario B+C	
County	% Change	County	% Change	County	% Change	County	% Change	County	% Change
Curry	28.50%	Curry	26.96%	Curry	43.92%	Curry	22.07%	Curry	37.07%
Wheeler	26.59%	Wheeler	26.07%	Wheeler	41.78%	Wheeler	20.26%	Wheeler	35.03%
Coos	26.42%	Coos	25.26%	Coos	41.59%	Coos	20.09%	Coos	34.84%
Tillamook	25.65%	Wallowa	24.32%	Tillamook	40.73%	Tillamook	19.36%	Tillamook	34.02%
Wallowa	25.49%	Tillamook	24.17%	Wallowa	40.55%	Wallowa	19.21%	Wallowa	33.86%
Josephine	24.95%	Josephine	22.66%	Josephine	39.95%	Josephine	18.70%	Josephine	33.29%
Lincoln	24.13%	Lincoln	22.44%	Lincoln	39.03%	Lincoln	17.92%	Lincoln	32.41%
Crook	23.69%	Clatsop	21.15%	Crook	38.54%	Crook	17.50%	Crook	31.94%
Douglas	23.35%	Crook	20.57%	Douglas	38.15%	Douglas	17.18%	Douglas	31.57%
Grant	23.23%	Baker	20.24%	Grant	38.01%	Grant	17.06%	Grant	31.44%
Clatsop	22.52%	Grant	19.48%	Clatsop	37.22%	Clatsop	16.39%	Clatsop	30.69%
Baker	22.46%	Linn	19.12%	Baker	37.15%	Baker	16.33%	Baker	30.62%
Jackson	21.53%	Jackson	18.98%	Jackson	36.11%	Jackson	15.45%	Jackson	29.63%
Deschutes	21.06%	Deschutes	18.91%	Deschutes	35.59%	Deschutes	15.01%	Deschutes	29.14%
Harney	21.03%	Douglas	17.89%	Harney	35.55%	Harney	14.97%	Harney	29.10%
Linn	20.90%	Benton	17.85%	Linn	35.41%	Linn	14.85%	Linn	28.96%
Gilliam	20.18%	Sherman	17.78%	Gilliam	34.61%	Gilliam	14.17%	Gilliam	28.20%
Columbia	20.09%	Gilliam	17.68%	Columbia	34.50%	Columbia	14.08%	Columbia	28.09%
Lake	19.68%	Lane	16.87%	Lake	34.05%	Lake	13.70%	Lake	27.66%
Sherman	19.50%	Columbia	16.24%	Lane	33.71%	Sherman	13.52%	Lane	27.34%
Lane	19.38%	Harney	15.60%	Benton	33.49%	Lane	13.41%	Benton	27.14%
Benton	19.19%	Lake	15.44%	Union	30.41%	Benton	13.23%	Union	24.20%
Union	16.44%	Clackamas	14.33%	Wasco	30.16%	Union	10.61%	Wasco	23.96%
Wasco	16.21%	Union	13.88%	Clackamas	29.82%	Wasco	10.40%	Clackamas	23.64%
Clackamas	15.91%	Hood River	13.24%	Yamhill	29.55%	Clackamas	10.11%	Yamhill	23.38%
Yamhill	15.67%	Yamhill	13.10%	Malheur	29.20%	Yamhill	9.88%	Malheur	23.05%
Malheur	15.36%	Wasco	13.00%	Marion	28.82%	Malheur	9.59%	Marion	22.68%
Marion	15.02%	Marion	12.10%	Hood River	28.46%	Marion	9.26%	Hood River	22.34%
Hood River	14.70%	Washington	12.07%	Multnomah	27.81%	Hood River	8.96%	Multnomah	21.72%
Multnomah	14.12%	Malheur	11.78%	Washington	27.19%	Multnomah	8.41%	Washington	21.13%
Washington	13.56%	Multnomah	11.74%	Polk	25.83%	Washington	7.88%	Polk	19.83%
Polk	12.34%	Klamath	7.65%	Klamath	25.80%	Polk	6.72%	Klamath	19.81%
Klamath	12.32%	Polk	6.76%	Jefferson	24.40%	Klamath	6.70%	Jefferson	18.48%
Jefferson	11.07%	Umatilla	6.20%	Umatilla	22.43%	Jefferson	5.51%	Umatilla	16.60%
Umatilla	9.31%	Jefferson	3.76%	Sherman	NA	Umatilla	3.84%	Sherman	NA
Morrow	NA	Morrow	NA	Morrow	NA	Morrow	NA	Morrow	NA
Grand Total	**16.57%**	**Grand Total**	**14.17%**	**Grand Total**	**30.56%**	**Grand Total**	**10.74%**	**Grand Total**	**24.34%**

Appendix E3:
County Ranking by Projected Percentage Change in the Physician Assistant Workforce by Scenario: 2013-2020

Baseline		A: HST (2% reduced util for Medicaid)		B: Team Care (Increase NP+PA:Physician ratio by 12%)		C: HIT (Saves 10% over 7 years)		D: Scenario B+C	
County	% Change	County	% Change	County	% Change	County	% Change	County	% Change
Curry	28.50%	Curry	26.96%	Curry	43.92%	Curry	22.07%	Curry	37.07%
Wheeler	26.59%	Wheeler	26.07%	Wheeler	41.78%	Wheeler	20.26%	Wheeler	35.03%
Coos	26.42%	Coos	25.26%	Coos	41.59%	Coos	20.09%	Coos	34.84%
Tillamook	25.65%	Wallowa	24.32%	Tillamook	40.73%	Tillamook	19.36%	Tillamook	34.02%
Wallowa	25.49%	Tillamook	24.17%	Wallowa	40.55%	Wallowa	19.21%	Wallowa	33.86%
Josephine	24.95%	Josephine	22.66%	Josephine	39.95%	Josephine	18.70%	Josephine	33.29%
Lincoln	24.13%	Lincoln	22.44%	Lincoln	39.03%	Lincoln	17.92%	Lincoln	32.41%
Crook	23.69%	Clatsop	21.15%	Crook	38.54%	Crook	17.50%	Crook	31.94%
Douglas	23.35%	Crook	20.57%	Douglas	38.15%	Douglas	17.18%	Douglas	31.57%
Clatsop	22.52%	Baker	20.24%	Clatsop	37.22%	Clatsop	16.39%	Clatsop	30.69%
Baker	22.46%	Linn	19.12%	Baker	37.15%	Baker	16.33%	Baker	30.62%
Jackson	21.53%	Jackson	18.98%	Jackson	36.11%	Jackson	15.45%	Jackson	29.63%
Deschutes	21.06%	Deschutes	18.91%	Deschutes	35.59%	Deschutes	15.01%	Deschutes	29.14%
Harney	21.03%	Douglas	17.89%	Harney	35.55%	Harney	14.97%	Harney	29.10%
Linn	20.90%	Benton	17.85%	Linn	35.41%	Linn	14.85%	Linn	28.96%
Gilliam	20.18%	Gilliam	17.68%	Gilliam	34.61%	Gilliam	14.17%	Gilliam	28.20%
Columbia	20.09%	Lane	16.87%	Columbia	34.50%	Columbia	14.08%	Columbia	28.09%
Lake	19.68%	Columbia	16.24%	Lake	34.05%	Lake	13.70%	Lake	27.66%
Lane	19.38%	Harney	15.60%	Lane	33.71%	Lane	13.41%	Lane	27.34%
Benton	19.19%	Lake	15.44%	Benton	33.49%	Benton	13.23%	Benton	27.14%
Union	16.44%	Clackamas	14.33%	Union	30.41%	Union	10.61%	Union	24.20%
Wasco	16.21%	Union	13.88%	Wasco	30.16%	Wasco	10.40%	Wasco	23.96%
Clackamas	15.91%	Hood River	13.24%	Clackamas	29.82%	Clackamas	10.11%	Clackamas	23.64%
Yamhill	15.67%	Yamhill	13.10%	Yamhill	29.55%	Yamhill	9.88%	Yamhill	23.38%
Malheur	15.36%	Wasco	13.00%	Malheur	29.20%	Malheur	9.59%	Malheur	23.05%
Marion	15.02%	Marion	12.10%	Marion	28.82%	Marion	9.26%	Marion	22.68%
Hood River	14.70%	Washington	12.07%	Hood River	28.46%	Hood River	8.96%	Hood River	22.34%
Multnomah	14.12%	Malheur	11.78%	Multnomah	27.81%	Multnomah	8.41%	Multnomah	21.72%
Morrow	13.63%	Multnomah	11.74%	Morrow	27.27%	Morrow	7.95%	Morrow	21.21%
Washington	13.56%	Morrow	10.02%	Washington	27.19%	Washington	7.88%	Washington	21.13%
Polk	12.34%	Klamath	7.65%	Polk	25.83%	Polk	6.72%	Polk	19.83%
Klamath	12.32%	Polk	6.76%	Klamath	25.80%	Klamath	6.70%	Klamath	19.81%
Jefferson	11.07%	Umatilla	6.20%	Jefferson	24.40%	Jefferson	5.51%	Jefferson	18.48%
Umatilla	9.31%	Jefferson	3.76%	Umatilla	22.43%	Umatilla	3.84%	Umatilla	16.60%
Grant	NA	Grant	NA	Grant	NA	Grant	NA	Grant	NA
Sherman	NA	Sherman	NA	Sherman	NA	Sherman	NA	Sherman	NA
Grand Total	**16.93%**	**Grand Total**	**14.53%**	**Grand Total**	**30.96%**	**Grand Total**	**11.08%**	**Grand Total**	**24.72%**

Endnotes

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The Demand for Physicians, NPs, and PAs in Oregon: 2013-2020

Presented to Oregon Health Policy Board
February 4, 2014

Oregon Health Authority

OHSU OREGON HEALTH & SCIENCE UNIVERSITY

Oregon Healthcare Workforce Institute

How Many Providers Will We Need?

- Concern about access to care providers for the newly insured, as well as an aging, diversifying, and growing population
- Changes in how care is delivered and financed will likely impact demand for different professionals and skill sets, but how?
- Request from OHPB to project future demand while adjusting for potential changes related to health care transformation.

Existing Projections

Recently published projections and opinions vary:

- AAMC says 91,000 additional physicians needed nationwide by 2020 (evenly split PC and non-PC)
- Scott Gottlieb & Ezekiel Emanuel disagree ("No, there won't be a doctor shortage" NYT opinion piece, Dec. 4)
- Robert Graham Center (AAFP) says 1,174 additional primary care physicians needed in Oregon by 2030 (or 38% increase)
- Green et al. argue that operational and technological innovations could eliminate primary care physician shortages

Existing Projections

- Empirical models, expert opinion, and everything in between
- Many projection studies focus solely on physicians or primary care
- Nationally, the AMA Masterfile is most common source for data on physicians; MEPS used frequently as basis for estimating utilization
- State-specific figures often obtained by applying national models to state-level data

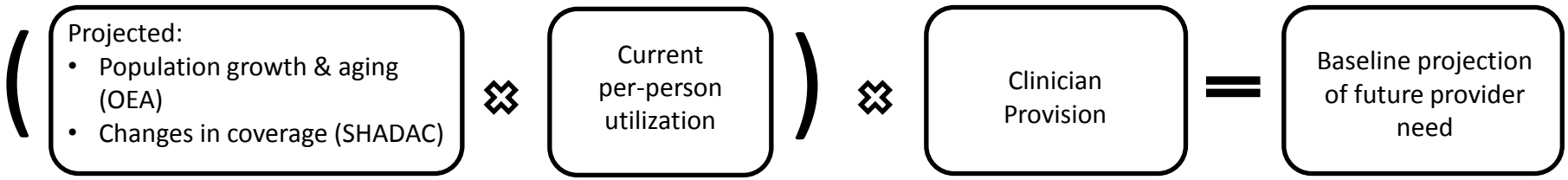
Current Project

- Takes advantage of robust, state-level data resources:
  - Utilization from Oregon's All-Payer, All-Claims (APAC) data system
  - Provider data from the Oregon Healthcare Workforce Licensing Database (OR HCWF), including location and hours worked
  - Detailed projections of changes in insurance coverage through 2020 from State Health Access Data Assistance Center (SHADAC, University of Minnesota)
  - Demographic forecasts from State Office of Economic Analysis (SOEA)
- Incorporates findings from the Oregon Health Insurance Experiment
- Produces state and county projections
- Incorporates scenarios for changes in care delivery and health systems transformation

Projection Model Components

- Current Utilization: Claims per person (APAC)
  - With assumptions for uninsured, Medicare FFS
- Current Provision: Claims per clinician hour, measured as full-time equivalents (FTE) (APAC and OR HCWF)
- Population and insurance coverage projections (SHADAC & OEA)

Projection Model



Alternate Scenarios

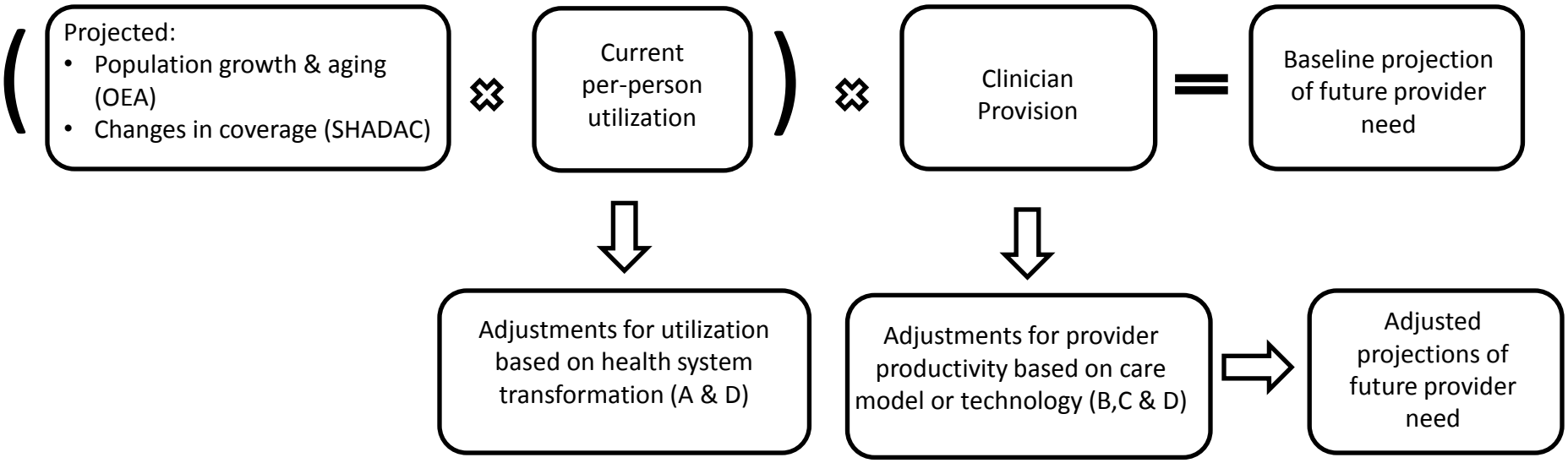
A. Medicaid transformation
   - 2% off growth rate for Medicaid utilization for 2013 & 2014

B. Team care/greater use of non-physician providers
   - The ratio of nurse-practitioners and physician assistants to physicians is increased by 12% over eight years

C. Health information technology
   - Increased adoption of full range of health IT/EHRs; increases provider productivity by 10%; phased in for 62% of clinicians evenly over 7 years

D. Scenarios B & C combined

Projection Model



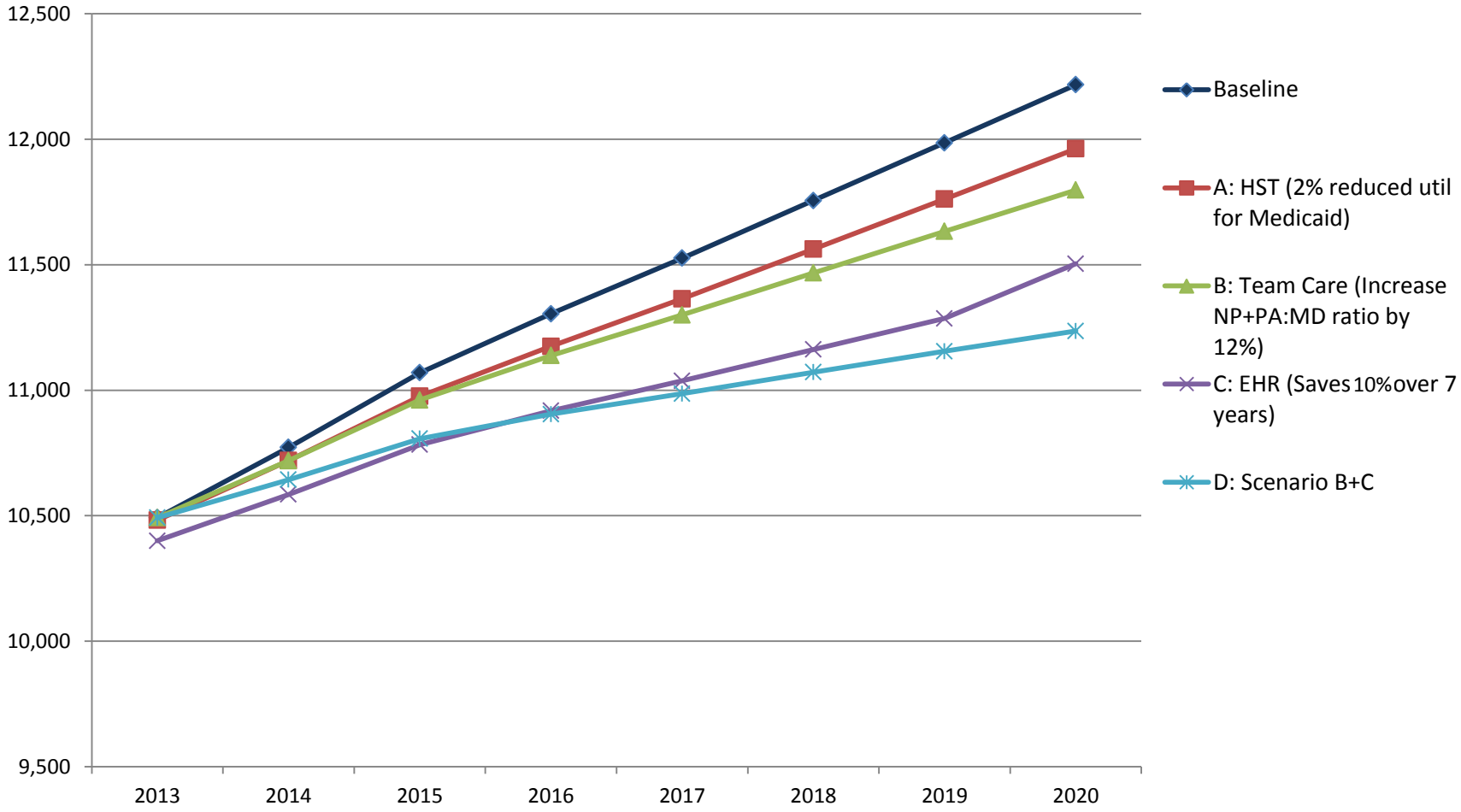
- Components (projections, utilization, provisions) can be disaggregated by county (and other factors)

Additional Methodology Notes

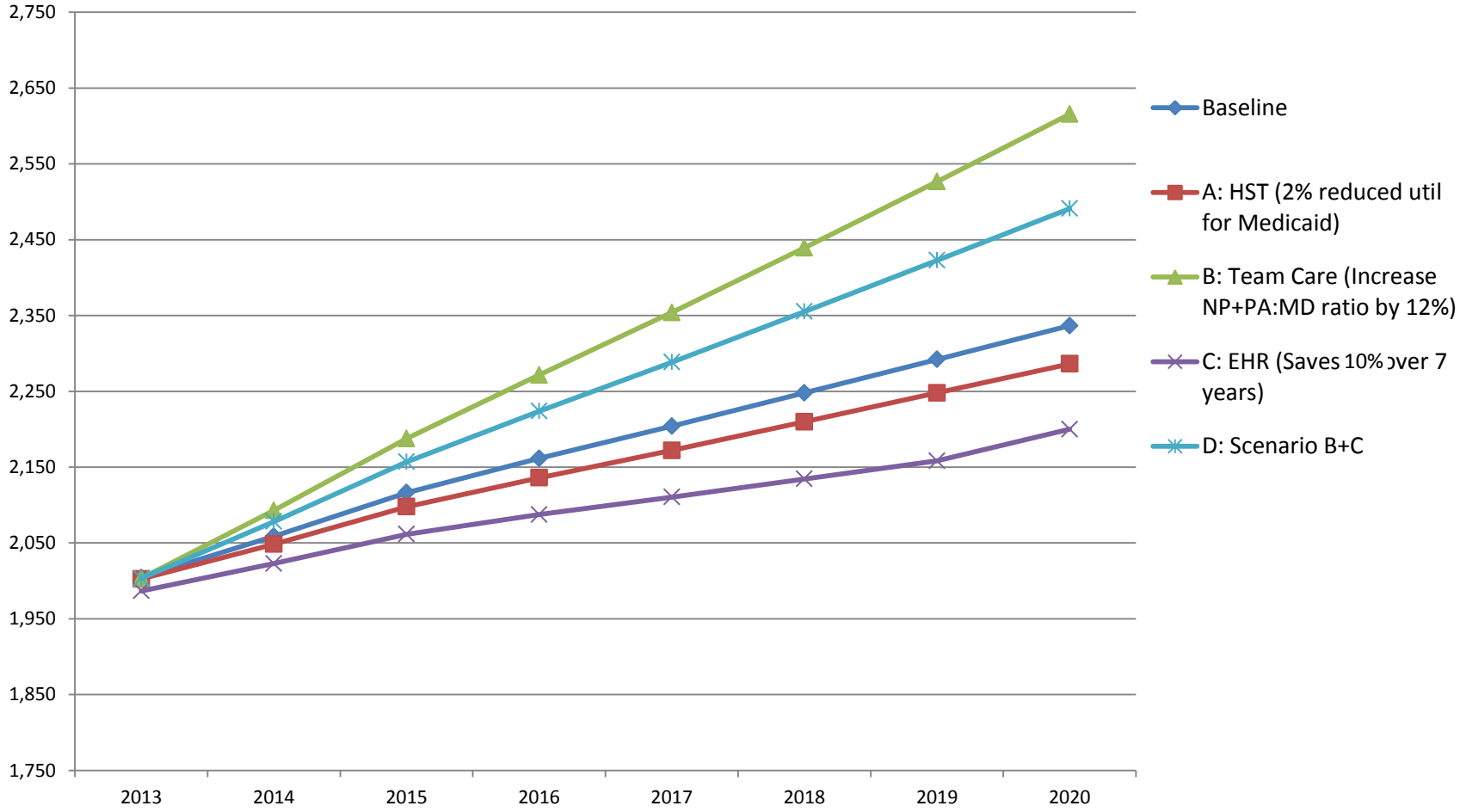
- Focused on physicians, NPs, and PAs
  - These professions typically serve as point of entry to care and practice relatively independently in Oregon
  - Lacking evidence and workforce data on other licensed professions

- Imputed most significant utilization not currently captured in APAC
  - Uninsured at 75% of Medicaid (Oregon Health Study)
  - Medicare FFS at rate of Medicare Advantage for specific area

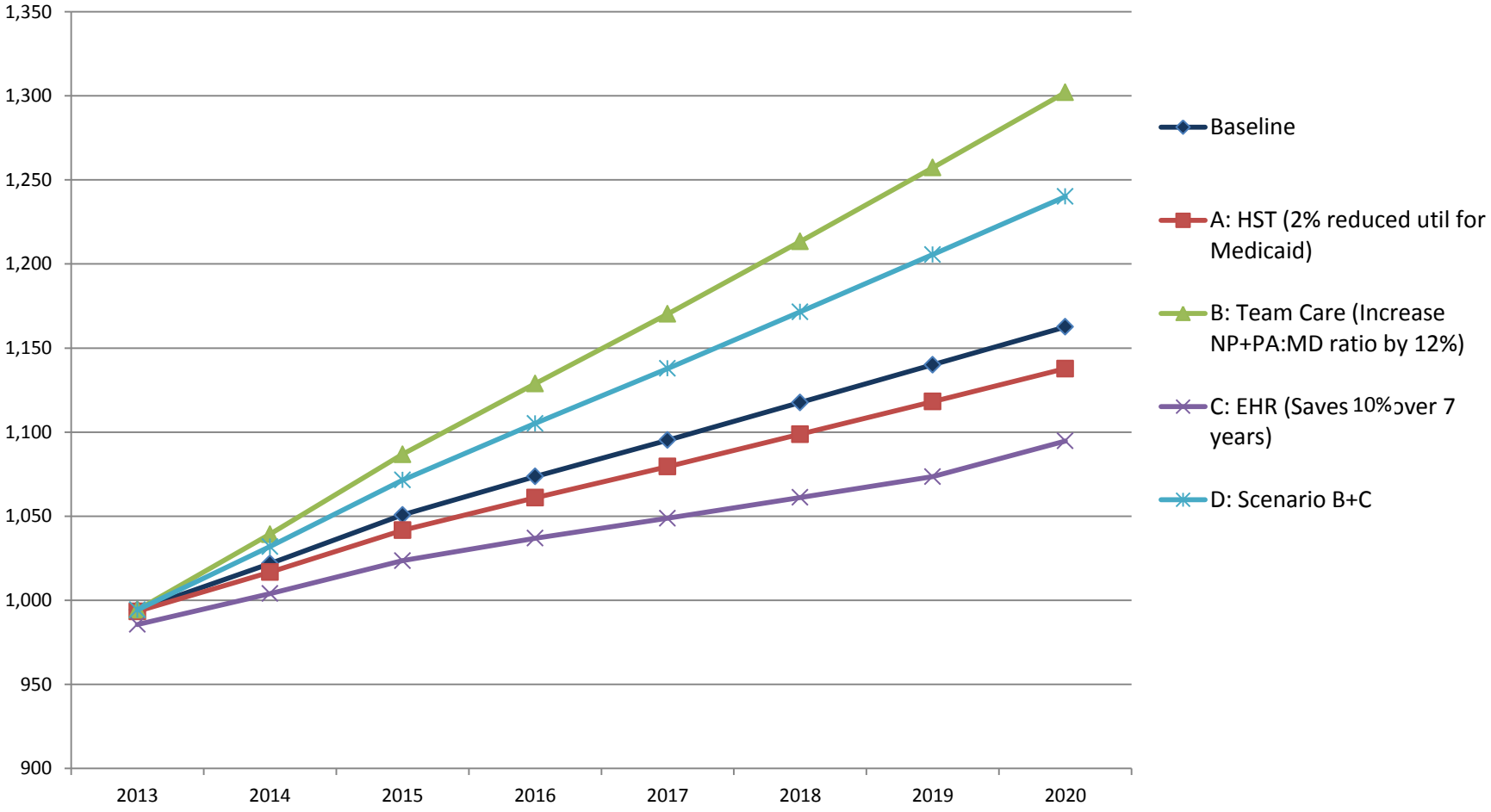
Projected FTE Demand for Oregon's Physicians by Scenario: 2013-2020



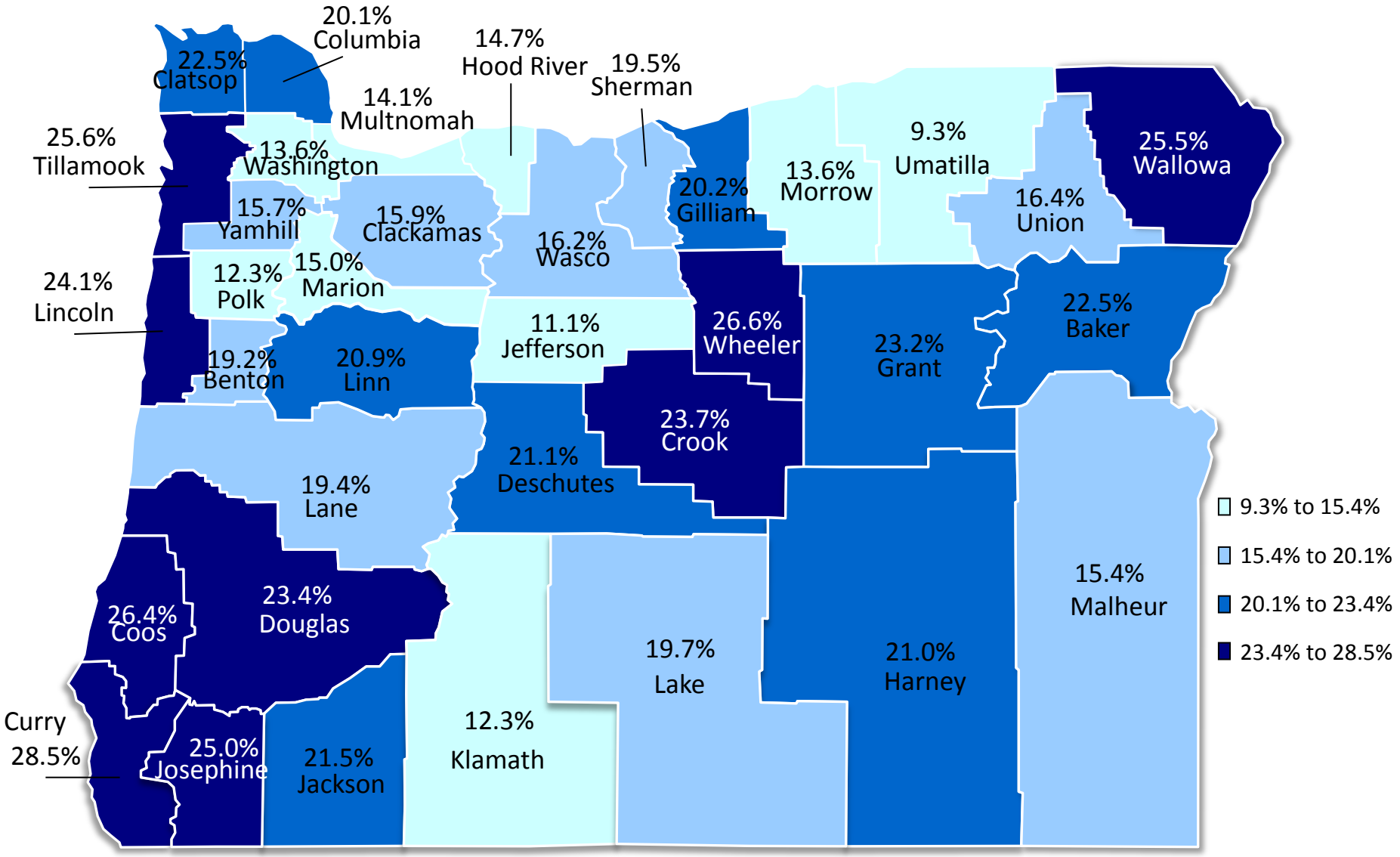
Projected FTE Demand for Oregon's Nurse Practitioners by Scenario: 2013-2020



Projected FTE Demand for Oregon's Physician Assistants by Scenario: 2013-2020

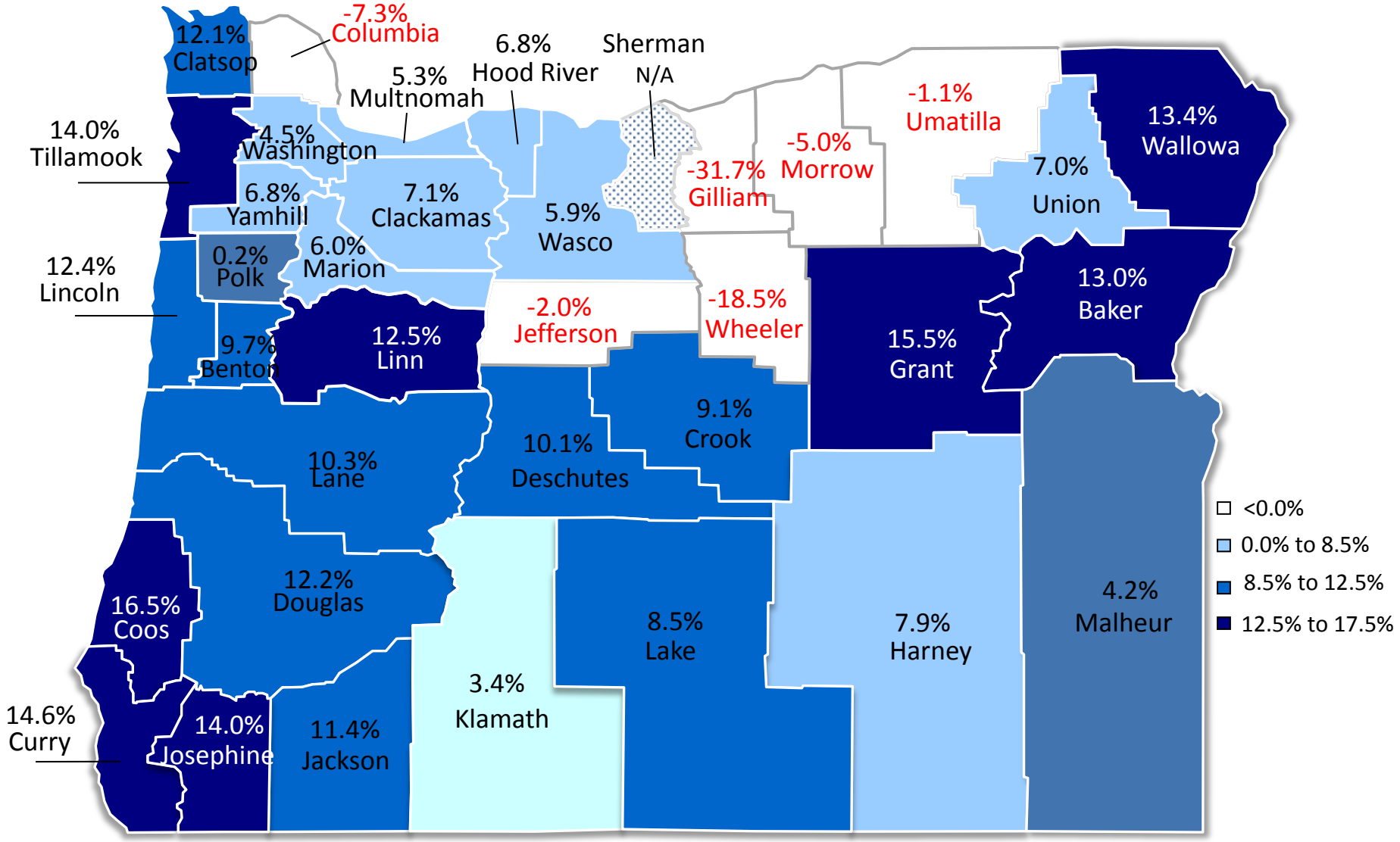


Baseline Projected FTE Demand for Oregon's Physicians, NPs, and PAs: 2013-2020



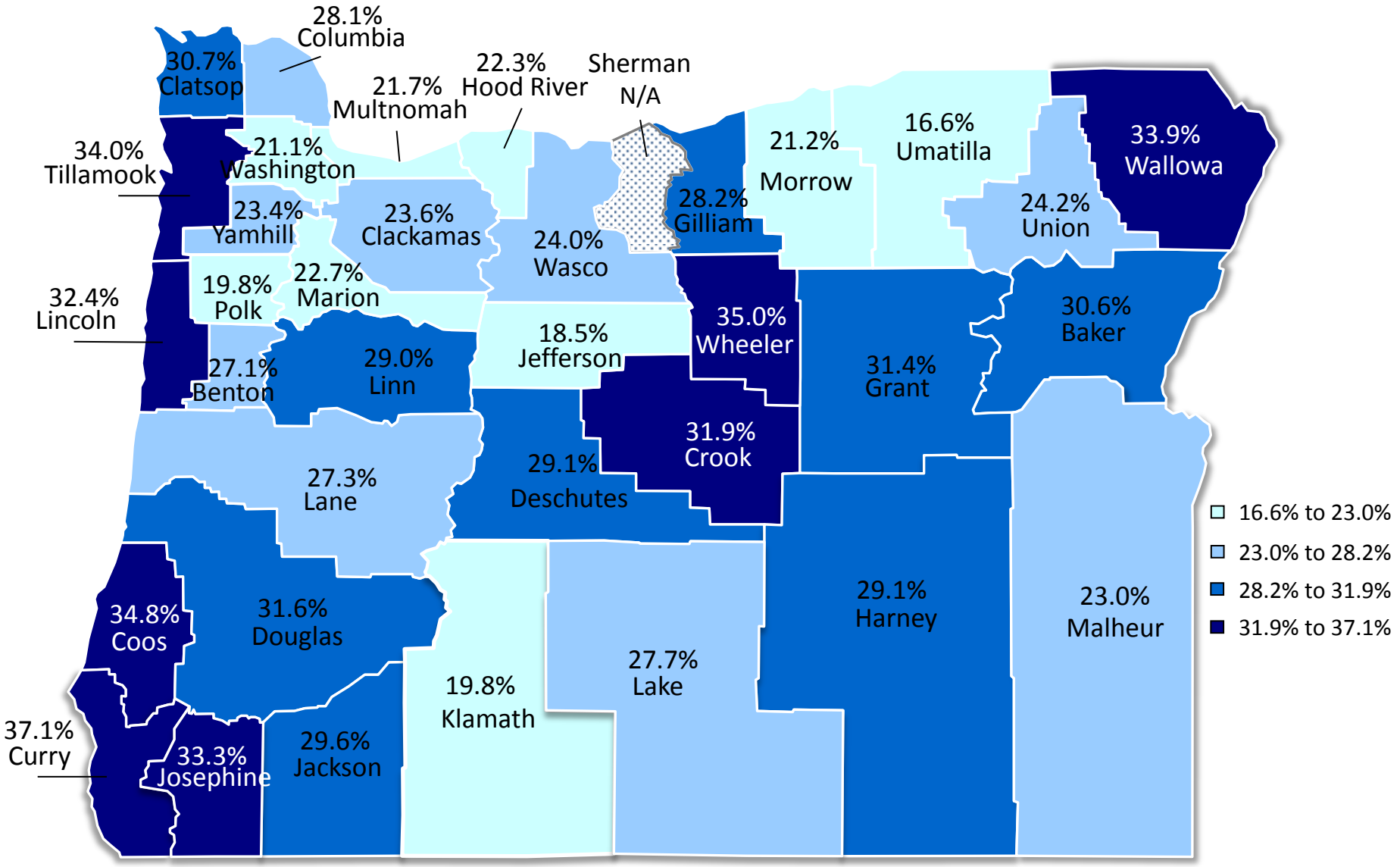
Projected FTE Demand for Physicians Under Scenario D: 2013-2020

(Team Care + Health IT/EHR)



Projected FTE Demand for NPs and PAs Under Scenario D: 2013-2020

(Team Care + Health IT/EHR)



Findings Summary

- Baseline projections suggest a 16% growth in demand for the three clinician types.
- Alternate scenarios change projections significantly:
  - Est. physician demand varies from low of 7% growth under combined scenario (D) to high of 16% under baseline
  - Est. NP and PA demand varies from low of 11% growth under HIT scenario (C) to high of 24% under combined scenario (D)
- Coverage expansion accounts for a little less than half of additional projected demand in 2013 and 2014 but population growth & aging are most significant factors thereafter

Caveats & Limitations

- Uncertainty around some model elements
- Many factors unaccounted for, for example:
  - Other health professionals who are likely to play an increasing role in new models
  - Developments in medical knowledge and technology
  - Social forces
- Using 2012 provider count as a baseline incorporates current issues with mal-distribution
- Represents projected demand for clinicians. Supply issues (e.g., attrition) will be a factor.

Policy Implications

- Projected demand varies considerably under different, plausible scenarios but all produce estimates that outpace supply growth in recent years
- No one strategy will be enough to meet demand.
- Target finite resources to areas of greatest need.

Policy Implications

- Use proactive diversified approach to increase workforce capacity
  - Investments in workforce education & training, including new roles such as Traditional Health Workers
  - Financial support and technical assistance for practice redesign (e.g. PCPCH Institute & multi-payer agreement; EHR incentives)
  - Recruitment incentive programs such as the recent Medicaid primary care provider loan repayment program

Thoughts, comments, and questions?

Health System Transformation Quarterly Progress Report February 2014

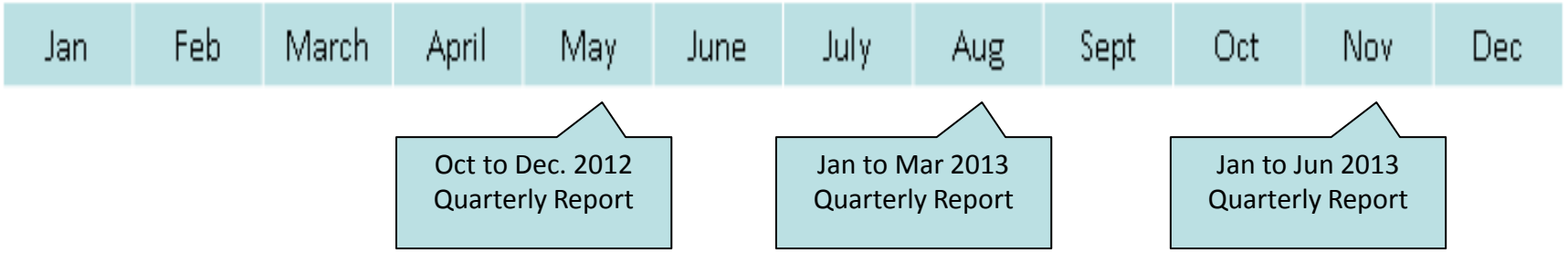
Oregon Health Policy Board
February 4, 2014

Lori Coyner
Director of Accountability and Quality

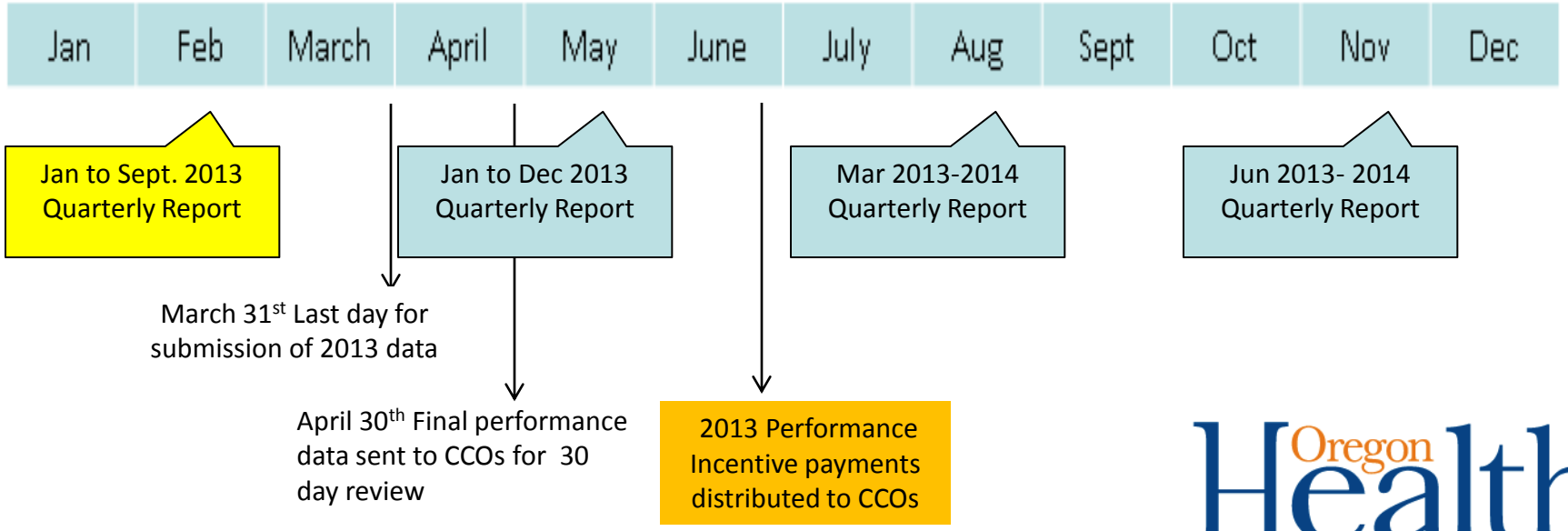
Oregon Health Authority

Accountability and Transparency Timeline 2013-2014

2013



2014



Oregon Health Authority

Oregon Health Authority Accountability

State Performance Measures

- Annual assessment of statewide performance on 33 measures
- Financial penalties to the state if quality goals are not achieved

CCO Incentive Measures

- Annual assessment of CCO performance on 17 measures
- Will compare performance in 2013 to 2011 baseline
- Monthly data shared with CCOs so data can be validated and progress can be monitored throughout the year
- 2013 quality pool funds allocated to CCOs in June 2014

Oregon Health Authority

What is new in this progress report

- ✓ Progress data (Jan to September 2013) for 10 of the 17 CCO incentive metrics.
- ✓ Progress data (Jan to September 2013) for 25 of the 33 state performance metrics.
- ✓ CCO-level progress data (Jan to September 2013) compared to 2011 baseline
- ✓ Cost and utilization data by CCO

Oregon Health Authority

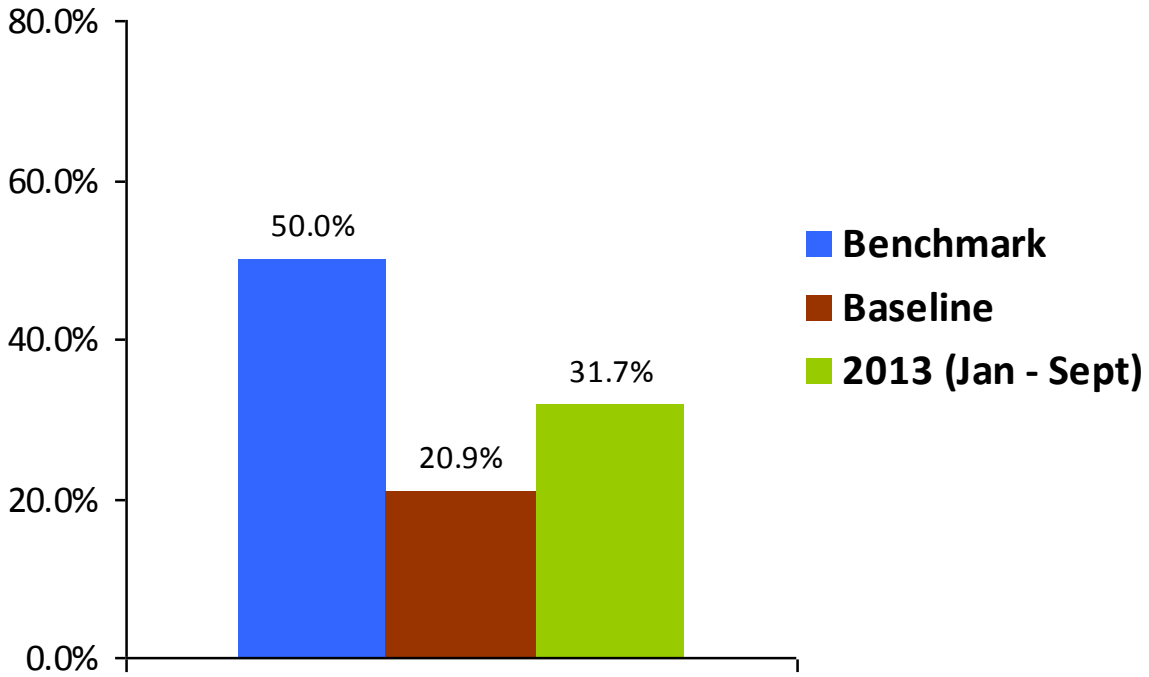
Progress data show: Improved Developmental Screening

- ✓ Connecting health and early learning provides timely opportunities for improving children's outcomes.
- ✓ The percentage of children who were screened for the risk of developmental, behavioral and social delays increased from a 2011 baseline of 21% to 32% in the first nine months of 2013.

Oregon Health Authority

What progress data indicate -

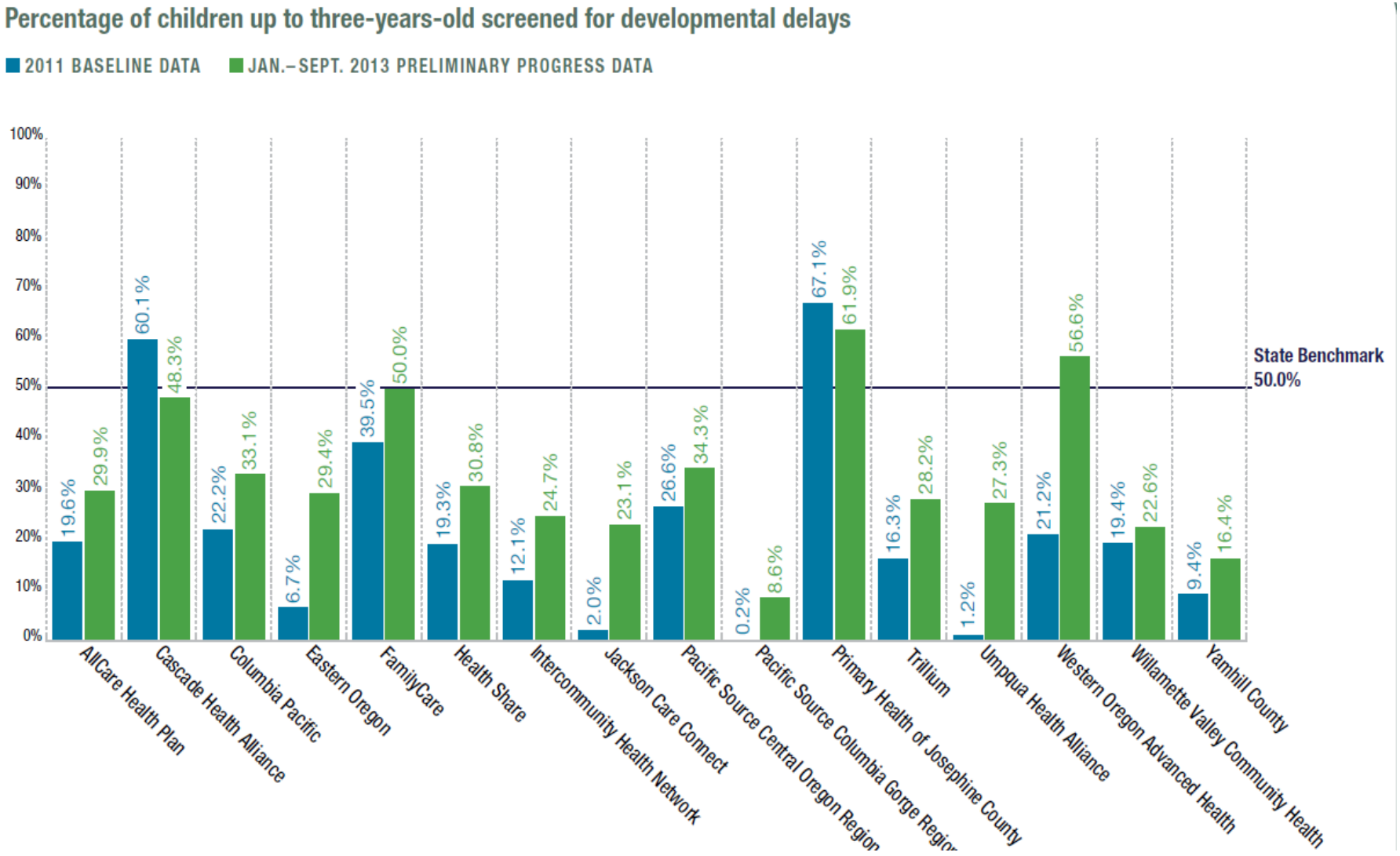
- ✓ **Developmental Screening is up. First nine months indicate that developmental screenings are up by 52% since 2011.**



Oregon Health Authority

What progress data indicate

- ✓ **Developmental Screening is up. Some CCOs show large improvements and three are at or over the benchmark for 2013**



Progress data show: Primary Care Increases

- ✓ Outpatient primary care visits for CCO members' increased and spending for primary care is up.
- ✓ Enrollment in patient-centered primary care homes has increased by 51% since 2012, the baseline year for that program.

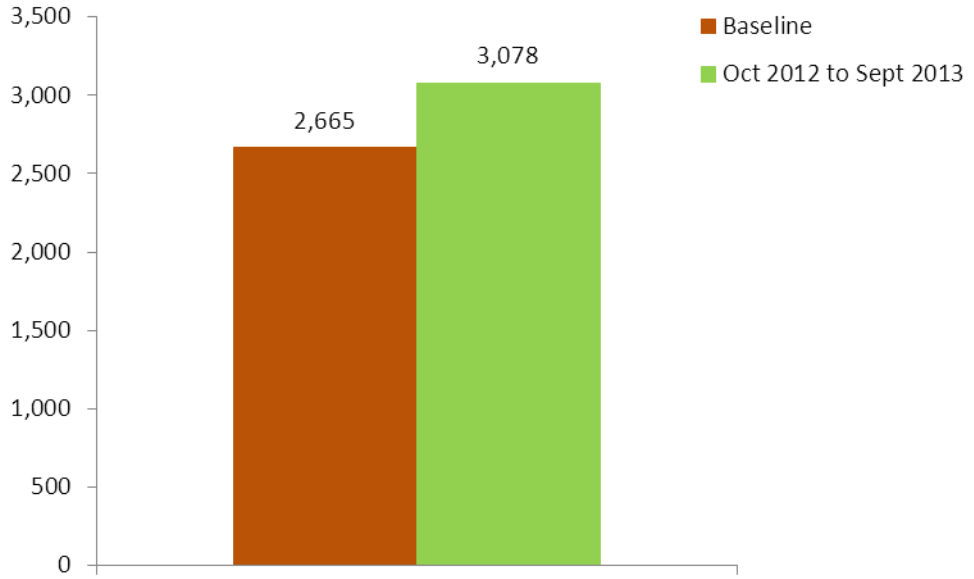
Oregon Health Authority

What progress data indicate

- ✓ **CCO primary care visits are up nearly 16% from 2011 baseline.**

Ambulatory Care: Primary care medical visits (includes immunizations/injections)

Rate primary care visits per 1,000 members

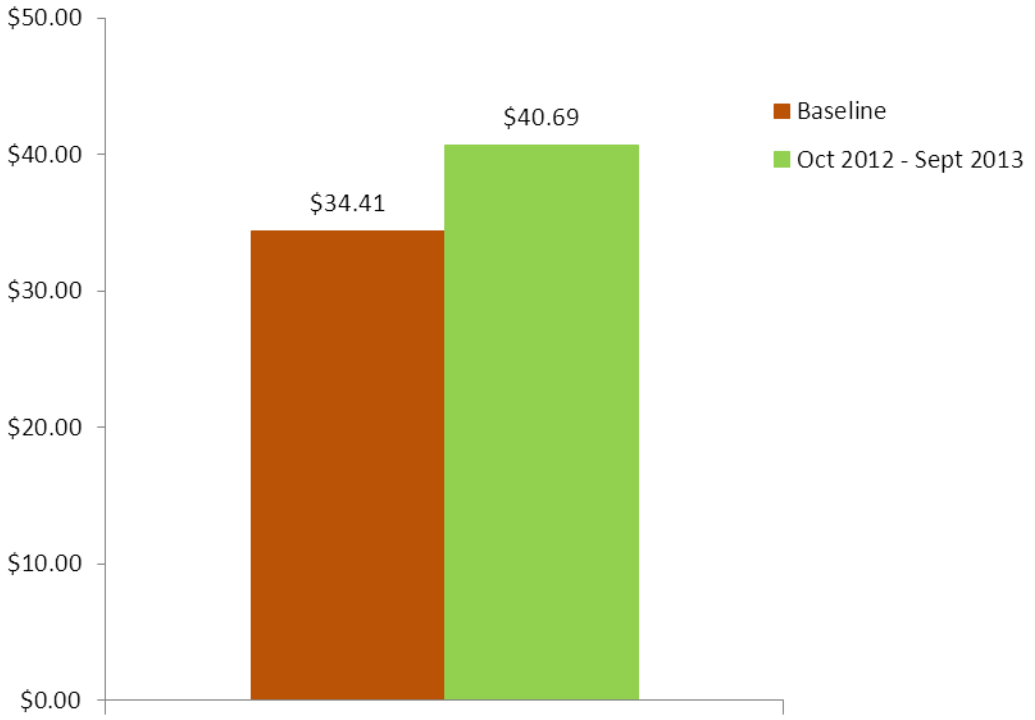


Oregon Health Authority

What progress data indicate - Change

- ✓ **CCO primary care costs are up over 18% from 2011 baseline.**

CCO primary care cost per member per month (pmpm)

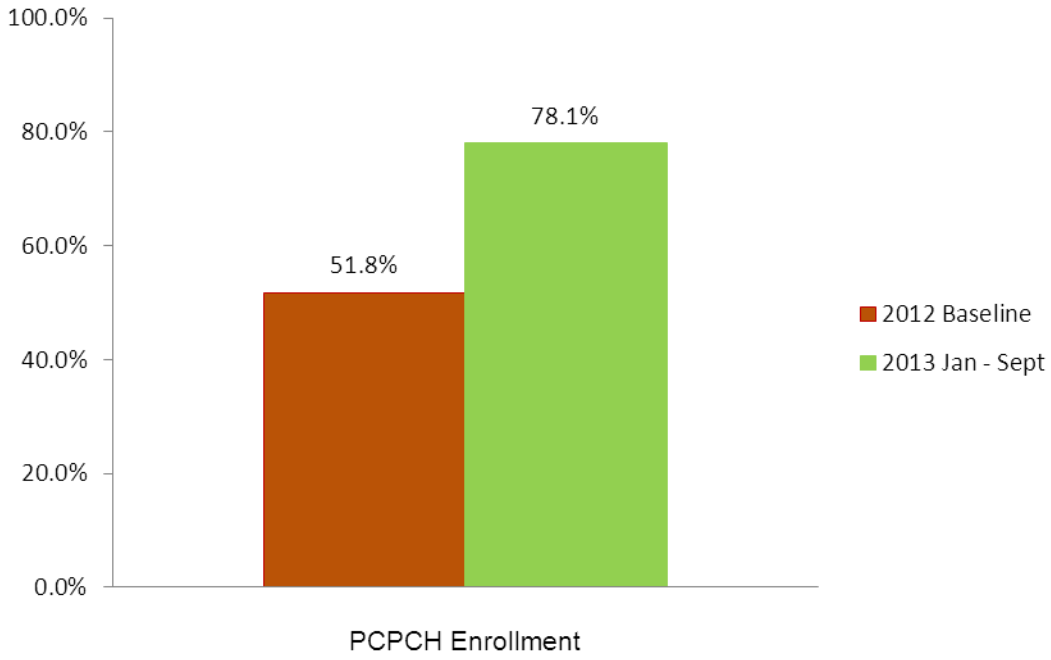


Oregon Health Authority

What progress data indicate

- ✓ **Enrollment in Patient-Centered Primary Care Homes (PCPCH) has increased markedly.**
  Over 75% of members are enrolled in a PCPCH.

Percentage of patients who were enrolled in a recognized patient-centered primary care home

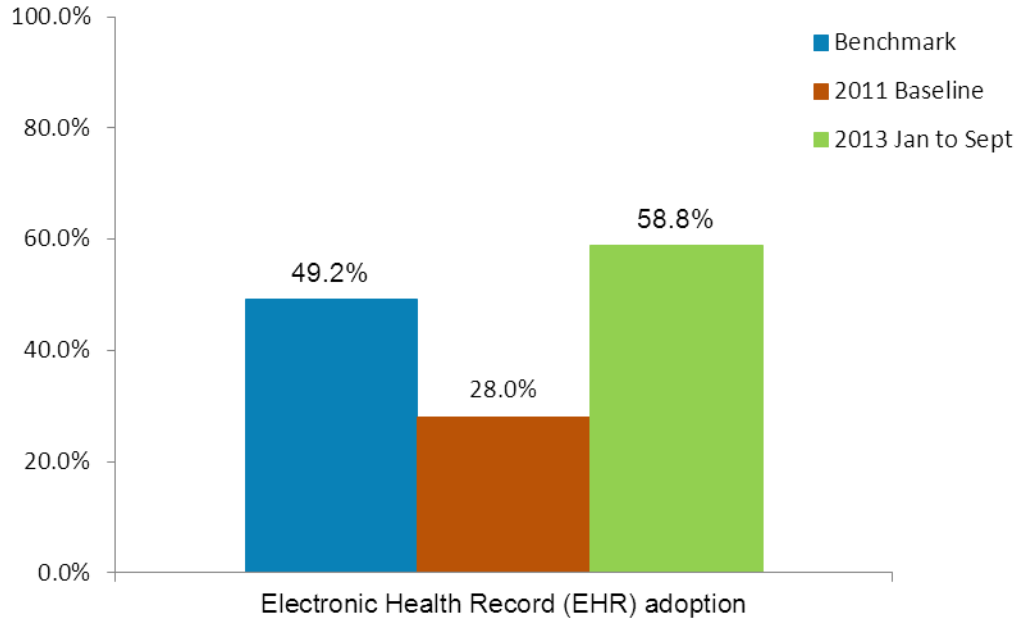


Oregon Health Authority

What progress data indicate

- ✓ **Adoption of electronic health records (EHR) has dramatically increased since 2011.**

Percentage of eligible individual providers within a CCO's network and service area who qualify for an EHR incentive payment from Medicaid or Medicare.



Oregon Health Authority

Progress data show: Better care, lower costs

- ✓ Data continues to show reduced ED visits and spending.
- ✓ This data shows we are lowering unnecessary hospitalizations for conditions that can better be treated elsewhere.
- ✓ Data shows improvements in hospital readmissions due to community efforts to achieve the highest quality care.

Oregon Health Authority

What progress data indicate

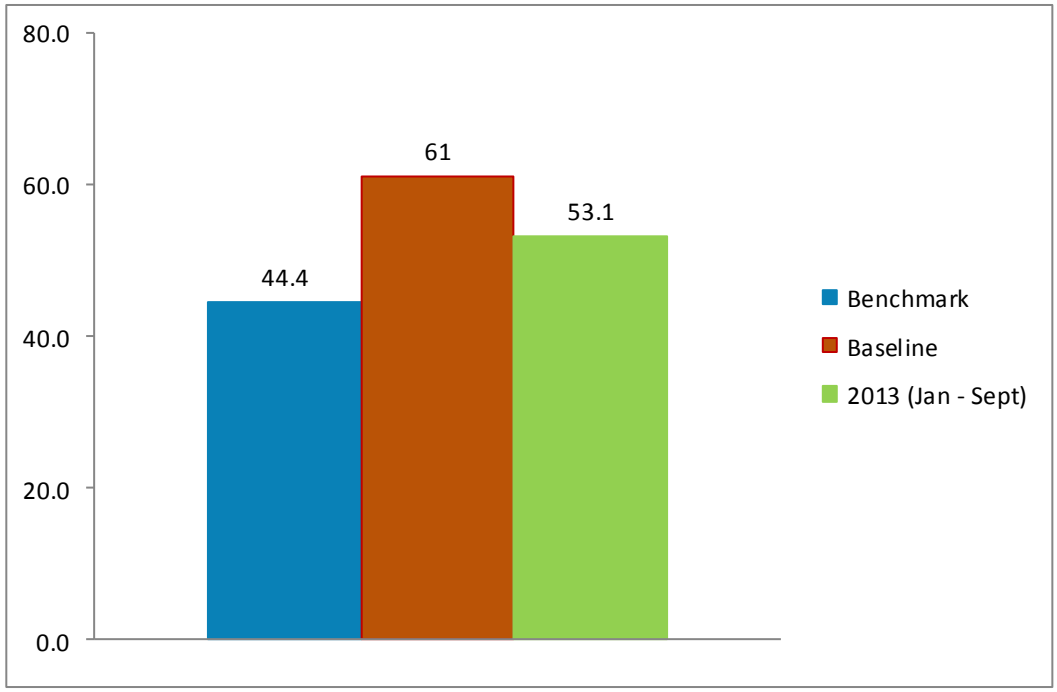
- ✓ **Emergency department (ED) utilization is down. First nine months indicate that ED utilization is down 13% from rate in 2011.**

Ambulatory Care:
ED utilization

Rate of patient visits to the ED per 1,000 member months

Lower is better

Benchmark: 2012 national Medicaid 90th percentile.

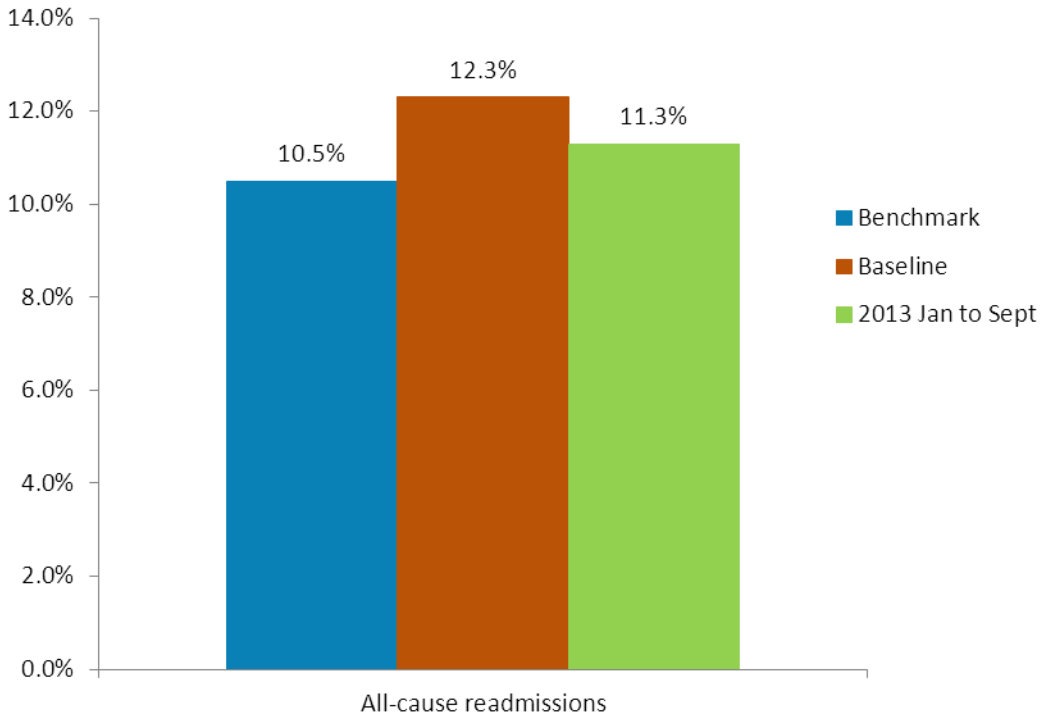


Oregon Health Authority

What progress data indicate

✓ All-cause readmissions are currently down by 8%.

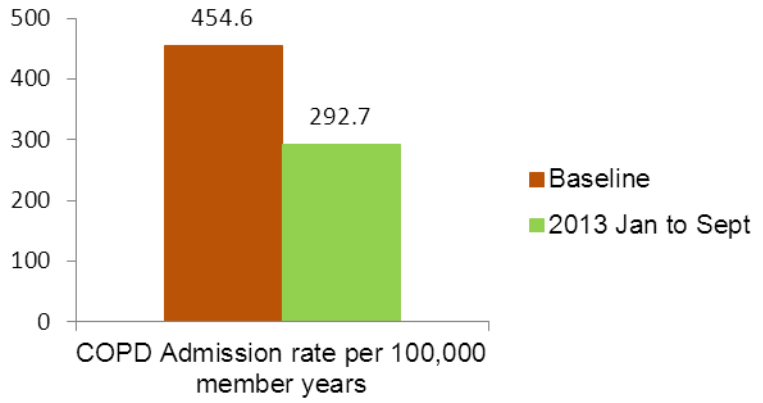
Percentage of adults who had a hospital stay and were readmitted for any reason within 30 days of discharge.

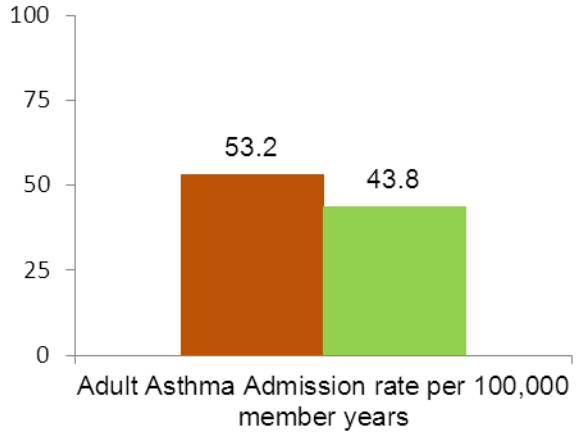


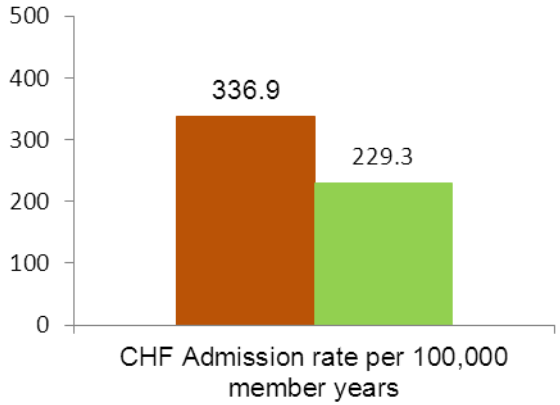
Oregon Health Authority

What progress data indicate

- ✓ **Potentially avoidable hospitalizations for chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF), and adult asthma are currently down.**





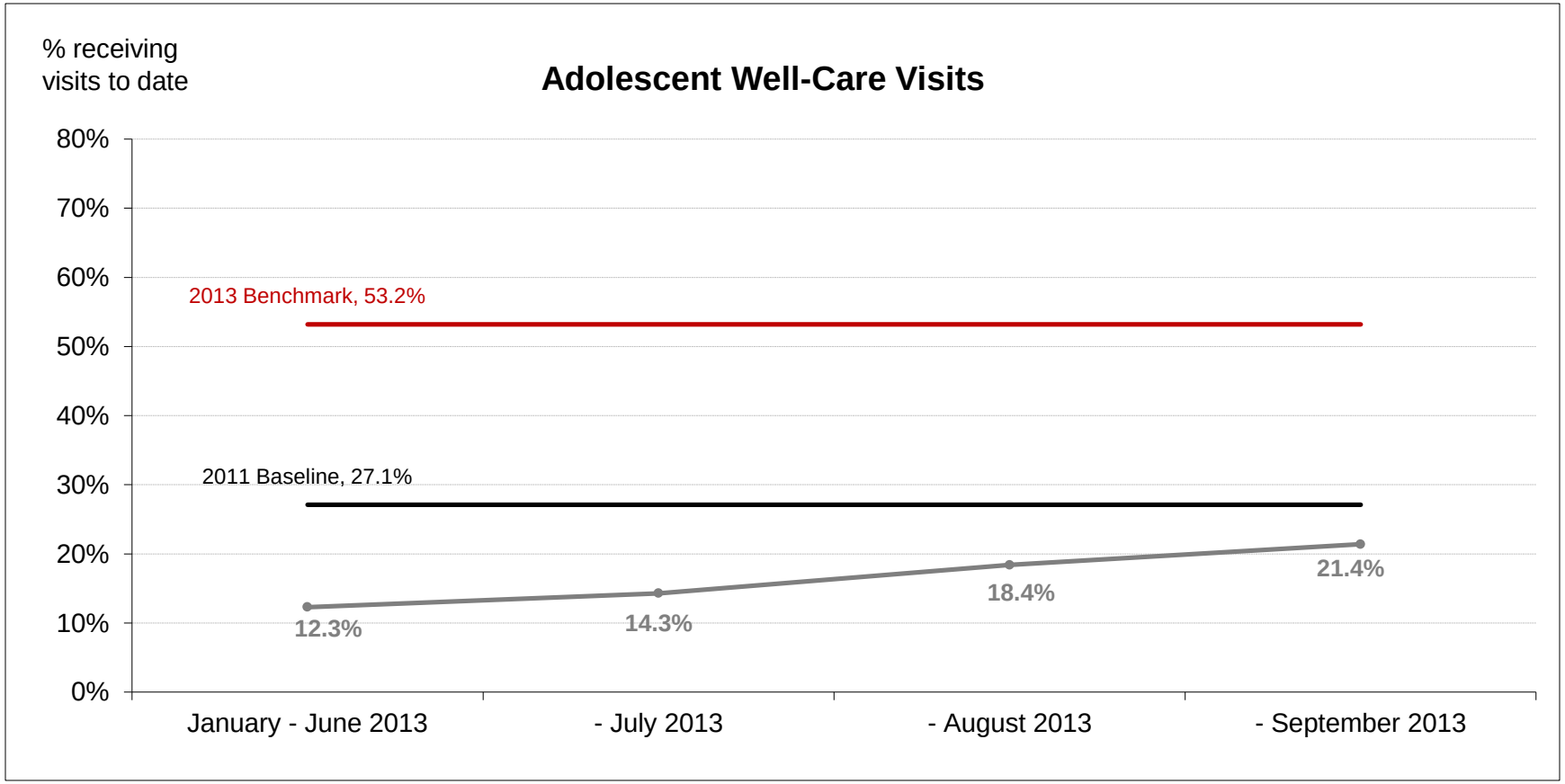


Caveats for selected metrics

- ✓ **Adolescent well-care visits:** Current data shows a lower rate than baseline, but data does not include the fall months when many adolescent well-child visits occur. The percentages have been increasing with time and will be indicative of care with a full year of data.

Oregon Health Authority

Statewide Adolescent Well-Care Visits Over Time



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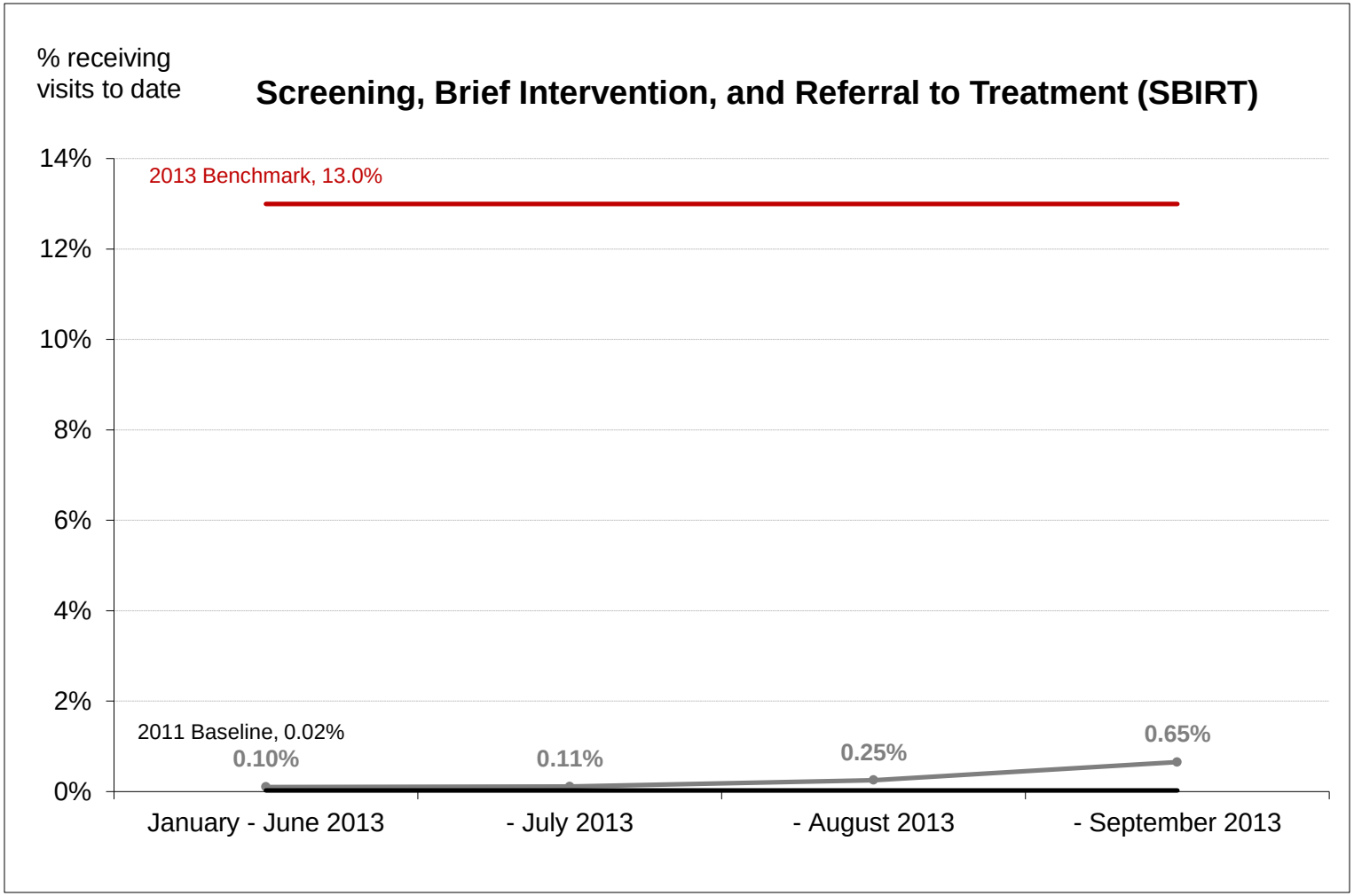
Caveats for selected metrics

- ✓ **Screening, brief intervention and referral to treatment (SBIRT)** was effectively zero at baseline. Some CCOs have shown significant improvement over baseline. We expect to see continued increases in SBIRT data in the next report with a full year of data.

Oregon Health Authority

Statewide SBIRT Over Time



Oregon Health Authority

Caveats

- **Progress data includes dates up through September 2013, which is only nine months of the measurement year. Progress will not be linear. Data can and will change due to:**
  - **Claims lag.** Much of this data comes from billing information and bills may be submitted long after the date on which the service was provided.
  - **Seasonality.** Health conditions and health care-seeking behaviors are seasonal (e.g., cold and flu season impacts on COPD, CHF and asthma)
  - **Improvement efforts.** These data are from the first nine months of the year when CCOs were just beginning to impact the Medicaid delivery system and implement quality improvement activities. Some metrics (for example, SBIRT) represent changes in work flow and patterns that aren't likely to be reflected in the earlier months of implementation.

Next Steps

- Continue to aggregate and produce state-level data for each of the state's 33 performance measures.
- Prepare and publicly report CCO-level progress reports all performance metrics, including quality, utilization and cost data.
- Prepare and publicly report performance metrics by race and ethnicity for CY 2013.
- **Full data for calendar year 2013 will be included in the next report.**

Oregon Health Authority

For More Information

Current quarterly progress report and all data and technical specifications are posted online at Health.Oregon.gov

Contact

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Oregon Health Authority

JOHN A. KITZHABER, MD
Governor

January 30, 2014

Oregon Health Policy Board
500 Summer Street NE
Salem, OR 97301

Dear Oregon Health Policy Board members:

Thank you for your recommendations to align Oregon's health system transformation with the Affordable Care Act (ACA) implementation. It's imperative we transform care for all Oregonians and your recommended strategies build on our triple aim goals of better care, better health and lower costs that we have begun to implement in the Oregon Health Plan with Coordinated Care Organizations. I look forward to your progress in advancing the recommendations contained in your final report, which represent fundamental next steps for Oregon's continued health system transformation evolution.

As you further develop and advance your recommendations, I would like the Oregon Health Authority, the Policy Board and the Oregon Insurance Division to consider how these strategies could be implemented. The recommendations could include any additional legislative or regulatory actions necessary to ensure the strategies you have outlined can contribute to creating a more effective, efficient health care system. These recommendations should be completed no later than December 1, 2014.

Thanks for your leadership over the past several years, Oregon has made significant strides in reforming its health care delivery system and much of that progress has resulted from your hard work and recommendations. Across the state, communities have begun transforming to deliver more effective, efficient care. We have an amazing opportunity to leverage your efforts to ensure that every Oregonian has the opportunity for better health and better care at a lower cost.

Sincerely,

John A. Kitzhaber, M.D.
Governor

SPK/gg

254 STATE CAPITOL, SALEM OR 97301-4047 (503) 378-3111 FAX (503) 378-8970
WWW.OREGON.GOV

Recommendations for aligning Affordable Care Act implementation with Oregon's health system reform

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16 December 2013

Prepared by
Oregon Health Policy Board

Prepared for
Governor John Kitzhaber, M.D.

Table of Contents

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Managing Director, Manatt Health Solutions

Diana Bianco
Principal, Artemis Consulting

David Cusano
Senior Research Fellow, Georgetown Health Policy Institute

Executive Summary

Introduction

In a June 2013 letter, Governor Kitzhaber asked the Oregon Health Policy Board (OHPB) for recommendations to better align Oregon's implementation of the Affordable Care Act (ACA) with Oregon's current health system reform efforts and to spread the triple aim goals – better health, better care and lower costs – across all markets. The letter charged OHPB with providing recommendations which:

- Move the marketplace toward one characterized by coordinated care and growth rates of total health care that are reasonable and predictable;
- Mitigate cost shift, decrease premiums, and increase transparency and accountability;
- Enhance the Oregon Insurance Division (OID) rate review process;
- Align care model attributes within the Public Employees' Benefit Board (PEBB), Oregon Educators Benefit Board (OEBB) and Cover Oregon Qualified Health Plans (QHPs).

OHPB convened on five occasions over five months during 2013 to develop a process, review policy options, and recommend actions that met the Governor's charge. Manatt Health Solutions and Georgetown University's Health Policy Institute, supported by the Robert Wood Johnson Foundation, provided technical and policy guidance. They also recommended strategies to align transparency, cost containment and quality improvement, and analyzed the evidence for the effectiveness and feasibility of key policy options. OHBP also chartered a Coordinated Care Model Alignment Workgroup consisting of board members from PEBB, OEBB and Cover Oregon to make recommendations for moving the marketplace toward one characterized by coordinated care. This document describes the board's recommended next strategies and actions to address the Governor's charge.

OHPB Process

At its August 6th meeting, OHPB agreed on a timeline and process framework based on the coordinated care model principles and the triple aim goals. OHPB also adopted additional principles to guide its response to the Governor. These principles are:

- Leveraging the coordinated care model;
- Enhancing transparency;
- Promoting and ensuring shared accountability;
- Focusing on outcomes;
- Improving quality and access;
- Containing costs.

Manatt Health Solutions, in collaboration with Oregon Health Authority (OHA) and Oregon Insurance Division (OID) staff, provided OHPB with an overview of potential policy options and related levers, including policy options used by other states. OHPB discussed options through a facilitator, and reviewed and refined potential strategies through a public and transparent iterative process. The board examined potential policy recommendations through the lens of feasibility and effectiveness, and discussed specific actions, accountabilities, and timelines for each strategy.

Recommended Strategies

OHPB recommends three principal strategies as first steps to satisfy the Governor's charge and provide next steps for Oregon's long-term vision for health system transformation:

1. Create system-wide transparency and accountability through a robust measurement framework, including a public-facing health system dashboard, which tracks the effect of ACA implementation and Oregon's health system reforms.
2. Move the health care marketplace toward a fixed and sustainable rate of growth.
3. Improve quality and contain costs by expanding an innovative and outcome-focused primary, preventive and chronic care infrastructure.

The Board also recommends actions to the Oregon Insurance Division (OID) regarding communication outreach strategies that work for health plans and consumers and administrative simplification.

Finally, the Board endorses specific actions to move the foundation of Oregon's health system transformation – the coordinated care model – forward by spreading the model to the broader marketplace.

The full report can be found at http://www.oregon.gov/oha/OHPB/Pages/2013-OHPB-Meetings.aspx

Recommended Strategies and Actions

Strategy 1:
Measure the impact of Affordable Care Act implementation and Oregon's health system reforms

The goal of this strategy is to enhance transparency and accountability, measure the performance of Oregon's health care system, and provide information so that patients, purchasers and providers have accurate information about price and quality. Oregon should use the All-Payer-All-Claims Database (APAC) and other tools to understand the evolving health care landscape and to produce accurate and actionable data to inform policies that enable consumers, providers, and purchasers to pursue the triple aim.

Recommended actions: by March 1, 2014, a quarterly health system dashboard and measurement framework is in place.

- OHA and OID use APAC and other data sources to create a measurement framework to enhance transparency and accountability. The framework includes multiple tiers of data, which will include a dashboard with measures of utilization, cost, coverage, quality, and health equity.
- The measurement framework and dashboard are publicly available and contain validated statewide, plan, and health care entity-level data by market segment, health care setting, demographics, geography, diagnosis, and other variables. For specific elements of the dashboard, refer to the draft dashboard elements on page 17.
- OHA and OID engage in rulemaking as necessary to enable future collection of health care entity- and clinical-level data for inclusion in the measurement framework.

The board further recommends that OHA and OID jointly create a technical advisory group (TAG) that will provide input on the use of APAC and other related data sources. The TAG will also identify additional data collection needs and redundant data collection activities, advise on measure specifications, and inform data validation processes that are accurate and reliable in support of an effective measurement framework and dashboard.

Recommended actions: by April 1, 2014, an APAC technical advisory group (TAG) is appointed and its charter is endorsed.

- TAG members are appointed by the Commissioner of OID and Director of OHA, and serve at the pleasure of those offices.
- OHA provides OHPB with regular reports regarding the TAG and the dashboard and measurement framework.
- OHA consults via written correspondence with stakeholders including the Oregon Health Leadership Council, the Oregon Business Association and Cover Oregon's Board of Directors regarding the TAG's work and the dashboard and measurement framework.
- The TAG consists of but is not limited to stakeholders and technical experts from individual health entities, health plans, Cover Oregon, PEBB and OEBB.

Finally, this first strategy includes a recommendation to use a small set of focused dashboard metrics in rate filings in order to provide enhanced transparency in the OID rate review process.

Recommended actions: by January 21, 2014, OID, in consultation with OHA and stakeholders, identifies and has in place a small set of focused metrics from the dashboard and measurement framework for informal inclusion in 2015 rate filings.

- The metrics included represent key drivers of health care costs.
- These metrics are used for informational purposes to inform a broader narrative and promote market-wide transparency and alignment; they are not tied to rate decisions.

Strategy 2: Move the marketplace toward a sustainable and fixed rate of growth

The goal of this strategy is to contain health care costs, to improve the affordability and sustainability of health care coverage, and improve Oregon's economic climate by measuring the true cost of the health care system. Oregon should formulate or endorse a sustainable rate of growth methodology aimed at containing and lowering the total cost of health care that includes, but is not limited to, costs for health care entities, individuals and health plans.

OHA and OID should create a sustainable rate of growth workgroup that will develop an accurate and stakeholder-driven sustainable rate of growth methodology for the total cost of care and advise on related processes and timelines.

Recommended actions: by January 31, 2014, a sustainable rate of growth workgroup is appointed and its charter is endorsed.

- OHA and OID establish a sustainable rate of growth workgroup to advise a methodology development process.
- The workgroup members are appointed by and serve at the pleasure of the Commissioner of OID and Director of OHA.
- OHA reports quarterly to OHPB regarding progress toward developing a sustainable rate of growth methodology.
- The workgroup consults with stakeholders regarding the methodology and related components of this strategy. Stakeholders include but are not limited to the Oregon Health Leadership Council, the Oregon Student Public Interest Research Group and the Oregon Business Association, PEBB and OEBB

Recommended actions: by December 31, 2014, a sustainable rate of growth methodology is endorsed, measurement begins and potential accountability mechanisms are recommended.

- Sustainable rate of growth measurement includes but is not limited to measurements of health entities and health plan premiums year over year.
- OHA and OID ensure financial modeling is conducted, and that it shows the potential effect of a sustainable rate of growth benchmark on different market segments, the delivery system and overall financial implications.
- Because there is shared responsibility for the total cost of care, OHA and OID explore the benefit of and make recommendations to the Governor's office and 2015 Legislature about potential mechanisms to hold health plans and health entities accountable for cost increases beyond the sustainable rate of growth benchmark.

Strategy 3: Expand and improve primary, preventive and chronic care infrastructure

In order to improve quality and further spread the triple aim, Oregon should assess the infrastructure supporting the use of primary, preventive and chronic care. Potential measures could include tracking utilization and expenditures in preventive, chronic and basic health services as well as reporting on innovative models of care adoption (e.g., patient-centered primary care home), primary care workforce and payment methodologies providing incentives for coordinated care. These data can help Oregon better understand these care systems and recognize opportunities to increase care access points, improve care coordination, and support innovative payment mechanisms. Aligning payment incentives across the system and sharing best practices can generate cost savings statewide. Further, this work should be conducted in the context of a sustainable fixed rate of growth. Increasing resources directed toward primary, preventive and chronic care in Oregon should directly support a sustainable fixed rate of growth of the total cost of care and will help provide better health, better care.

Recommended actions: by December 1, 2014, baseline data related to primary, preventive and chronic care infrastructure are collected.

- OHA develops a timeline and process to develop baseline data related to primary, preventive and chronic care infrastructure using the measurement framework articulated in strategy No.1.
- An assessment of the primary care workforce in new models of care measurement may be included.

Recommended actions: by December 31, 2014, OHA, in consultation with OID, makes recommendations to increase resources directed toward primary, preventive and chronic care.

- OHA and OID explore the benefit of and make recommendations to the Governor's office and 2015 Legislature regarding mechanisms to increase the proportion of total resources directed toward primary, preventive and chronic care infrastructure.
- Recommendations are inclusive of innovative models of care delivery; e.g., patient-centered primary care homes and accountability mechanisms are based on outcomes and foster flexibility.

Recommended actions: by December 1, 2015, OHA concludes "standardization initiative" to align metrics reporting requirements for all coverage entities at primary care provider level.

- OHA develops a timeline and process to align metrics reporting requirements at the primary care provider level.
- Ensure metrics reporting alignment work is in consultation with and builds upon the health plan metrics workgroup required by HB 2118 (2013).

Recommended actions for implementing coordinated care model (CCM) principles in PEBB, OEBB, Cover Oregon and broader market

PEBB, OEBB, and Cover Oregon are responsible for offering high-quality and affordable health insurance plans to a vast number of Oregonians in all regions of the state. Increasing alignment and collaboration among these organizations creates a significant opportunity to positively affect the delivery system statewide. Adopting principles of the coordinated care model within plans offered by PEBB, OEBB and Cover Oregon will help move the marketplace toward one characterized by coordinated care and move toward achieving the triple aim.

Recommended actions: by December 31, 2016, coordinated care model principles are embedded in PEBB and OEBB purchasing strategies and incorporated in individual and small group commercial plans sold in Oregon.

- Purchasing strategies include, but are not limited to, the development of request for proposals (PEBB and OEBB), request for applications (Cover Oregon), contracts, renewals, and other means where appropriate.
- A shared timeline among PEBB, OEBB, and Cover Oregon provides a framework for alignment with key dates, opportunities for input and development periods.
- OHA and OID ensure that the same standards and principles adopted for plans sold inside the Oregon Health Insurance Exchange (Cover Oregon) are implemented consistently for those sold outside the exchange.

To identify potential opportunities for joint strategic planning, shared learning, and organizational alignment related to the adoption and implementation of coordinated care model principles and attributes in PEBB, OEBB, and Cover Oregon, OHA, in consultation with Cover Oregon and OID, should create a Coordinated Care Model Alignment Accountability Workgroup.

Recommended actions: Coordinated Care Model Alignment Accountability Workgroup appointed and charter endorsed before May 1, 2014.

- The workgroup is appointed by and serves at the pleasure of the Director of OHA. The group reports bi-annually to OHPB and its authority is to make recommendations to OHPB, PEBB, OEBB, Cover Oregon, OID and OHA regarding:
    - Guiding implementation of CCM workgroup recommendations;
    - Assisting in implementation of CCM principles across multiple markets;
    - Providing a "coordinated care model tool-kit" for large group purchasers;
    - Assisting with metrics alignment.

Recommendations for administrative simplification and meaningful communication outreach strategies for the Oregon Insurance Division

To meet the Governor's charge, OID should identify opportunities for administrative simplification and ensure there are meaningful and effective communication outreach tools in place that work for consumers and health plans.

Recommended OID actions for administrative simplification:

- OID identifies opportunities and mechanisms for administrative simplification in the rate review process related to Oregon's reforms and ACA implementation. Potential mechanisms and opportunities include:
    - Clarifying filing requirements to reduce amount of additional correspondence with insurers during rate review;
    - Integration of ACA-related rate filing requirements in the rate filing standards;
    - Elimination of redundant and/or outdated filing requirements from the rate filing standards and adoption of associated administrative rules necessary to make these changes.
- OHA & OID identify opportunities to support administrative simplification for OID rate review through the measurement framework developed under Strategy #1.
- OID uses data available from the All Payer All Claims database.

Recommended OID actions for meaningful communication outreach strategies for consumers:

- OID engages in a stakeholder-driven, public process to identify meaningful communication outreach strategies that work for consumers and health plans. Potential outreach strategies include:
    - Revision of consumer disclosure form used as part of the rate review process;
    - Media campaign to better inform consumers about the free assistance available from the OID's consumer advocates.
- OID implements meaningful and effective communications outreach strategies and process to measure success of new outreach strategies.
- OID reports the process and changes implemented to make outreach strategies more effective and meaningful for consumers to the 2014 and 2015 OHPB.

Manatt Health Solutions and Georgetown Health Policy Institute Memorandum: Aligning Strategies for Transparency, Cost Containment, and Quality Improvement

To: **Oregon Health Policy Board**

From: **Joel Ario, Manatt Health Solutions**
David Cusano, Georgetown Health Policy Institute

Date: **October 18, 2013**

Re: **Aligning Strategies for Transparency, Cost Containment, and Quality Improvement**

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1. GOVERNOR'S CHARGE

The Governor has asked the Oregon Health Policy Board (Board) to make recommendations for how to better align Affordable Care Act (ACA) implementation with Oregon's current reform efforts and ensure Triple Aim goals are met across all markets. The Triple Aim requires simultaneous focus on three goals:

(i) Better care for patients,
(ii) Better health outcomes at the community level, and
(iii) Lower costs or improved value.

In order to achieve the Triple Aim, the Governor asked the Board to consider strategies that would:

(i) Move the marketplace toward models of coordinated care,
(ii) Achieve reasonable and predictable growth rates in total health care spending,
(iii) Mitigate cost shifting,
(iv) Decrease health insurance premiums,
(v) Increase transparency and accountability,
(vi) Enhance the insurance rate review process, and
(vii) Align care model attributes across public and private purchasers.

2. BOARD PROCESS

The Board initiated consideration of the Governor's charge at its August 6, 2013 Board meeting, where a framework and four month timeline was presented and the Board began discussing potential recommendations and strategies for meeting the Governor's alignment goals. The Board discussion and input from stakeholder groups began to highlight some common themes, which became a list of ten potential strategies by early September.

At its September 10, 2013 meeting, the Board heard a presentation on the Rhode Island reform model and had a facilitated discussion of the ten potential strategies. The Board added an 11th strategy and requested an analysis of the feasibility and effectiveness of each strategy for its October meeting. The 11 strategies were divided into the following categories:

Accountability and Measurement

1. Strengthen and utilize All Payer All Claims database to set baselines for measurement and potential goals around outcomes (e.g. ER utilization, readmission rates) in individual and small group market;

Cost Containment

2. Incent or set goals with accountability for PCPCH and/or health home model expansion;
3. Promote increase in primary care spending;
4. Promote wellness incentives and expand to individual market;
5. Identify potentially unnecessary regulatory burdens and streamline and simplify rate review process;
6. Growth rates of total cost of care expenditures that are reasonable and predictable (identified by OHB during the September 10, 2013 meeting);

Transparency

7. Enhanced tools for consumers (rate comparison charts, pre-service pricing disclosure, etc.);
8. Enhanced bad debt/charity care analysis and timely reporting;
9. Enhanced disclosure of hospital and/or provider pricing;

Quality Improvement

10. Promote alternative payment methodologies (APMs) and collect relevant data to support APM development; and
11. Incent or set goals to promote value-based benefit designs

At its October 1, 2013 meeting, the Board considered a memorandum analyzing the feasibility and effectiveness of each strategy, and then had a facilitated discussion aimed at narrowing the list to a handful of top priorities. That discussion, combined with ongoing input from other stakeholders, made it clear that the Board was most interested in three broad strategies for meeting the Governor's charge:

1. Developing a broad measurement framework to better understand the evolving health care landscape and to establish clear metrics for measuring progress and achieving alignment across the marketplace for shared goals
2. Achieving reasonable and predictable growth rates in health care spending across market segments through a shared responsibility model that holds health plans and other health care entities accountable under a common framework
3. Focusing more resources on coordinated care models that promote primary care services and best evidence practices for preventive care and chronic care, with metrics that measure outcomes and allow flexibility in methods

The Board discussion also highlighted the value of alignment across purchasers and market segments, and embraced reforms in the insurance rate review process to streamline administrative requirements and enhance transparency through timely and effective communication tools.

With each reform priority, the Board also reviewed draft models for how to how best to pursue the priority in terms of responsible agencies, timelines, and specific work products. The Board provided additional direction in these areas and requested further analysis at its November meeting as to the public policy case for each strategy and a work plan for how to move forward.

This memorandum focuses on why it makes sense for Oregon to pursue major initiatives in the three areas noted above: building a common measurement framework, achieving reasonable and predictable growth rates in total health care costs, and promoting coordinated care models across market segments.

3. ANALYSIS

Before analyzing each of the three key priorities on its own terms, it should be noted that the Board has taken a bold approach to the Governor's charge. Instead of selecting a list of narrow initiatives that would advance a handful of discrete reforms, the Board has chosen three broad strategies that go to the essence of what ails our health care system, even as they put the state in some uncharted waters.

With the first strategy, there is a starting point – Oregon's all payer all claims data base (APAC) – that is common across other states, but the Board's initiative pushes the concept of a common measurement framework further than other states have to date. This creates real challenges, but there also is no question that the balkanization of our health care system is a real impediment to improvement and that agreement on how to measure progress across market segments is critically important.

Similarly, there is broad consensus on the importance of bending the cost curve, but the Board's concept of developing a sustainable fixed rate of growth (SRG) and applying it across the entire health care system puts Oregon in a precedent-setting class with one other state, Massachusetts, that is attempting something similar, though there are other states, such as Maryland with its hospital rate-setting commission, that have pursued elements of this strategy.

The Board's emphasis on primary care is a bit more tested approach, but even here the focus on a specific patient-centered primary care home model (PCPCH) is pushing the envelope, as is the drive toward standardized reporting on key metrics across the marketplace.

In many states, the trail-blazing nature of these reforms would meet resistance from various stakeholders seeking more pedestrian approaches that had already been proven effective in other states. That is not the Oregon way. Indeed, Oregon has often been a national leader on health reform initiatives. But even in Oregon, there are trade-offs, and one of them is that none of the three primary strategies is yet defined enough to be translated into statutory or regulatory language this year. In each case, the next steps on the work plan involve collaborative work among stakeholders to refine the strategy before full implementation.

In sum, the Board is aiming high, taking on three fundamental challenges that go to the heart of what needs to change in our health care system, following in the footsteps of the state's Medicaid waiver in pursuing alignment across the marketplace, and encouraging new levels of stakeholder collaboration on measuring outcomes, bending the cost curve, and expanding coordinated care models.

The rest of this memorandum summarizes the ways in which Oregon will be able to draw on research and action in other states to advance its public policy objectives.

A. Measure the impact of aligning ACA implementation and Oregon's state-specific health reform efforts

Oregon's efforts to align ACA implementation with its Medicaid waiver and other state –specific reform initiatives require collaboration across market segments and that collaboration will be impeded without a common measurement framework to assess progress and hold all parties accountable under a shared responsibility framework. The state has already laid significant groundwork for this effort with its all payer all claims database (APAC), which offers a strong starting point for developing a measurement framework that can assess progress in coverage, utilization, cost, and quality.

A number of states have invested in APAC databases, and at least 12 states have passed APAC legislation with comprehensive reporting requirements for claims data.[1] Other states that do not have APAC databases are considering legislation to establish them.[2] States with these databases are at various stages of development in using them to measure utilization and outcomes by analyzing claims data from a full range of services, including primary care, specialty care, outpatient services, inpatient stays, laboratory testing, dental services, and pharmacy data, across multiple payers.[3]

As Oregon capitalizes on its investment in its APAC database, the state will be able to draw on the experience of other states in developing a consensual measurement framework that crosses market sectors to assess progress in key areas of coverage, utilization, cost, and quality. Use of APAC databases is one area where the states already are laboratories of democracy, testing different approaches and learning from each other.

B. Move the marketplace toward a sustainable and fixed rate of growth

The Governor's charge is clear in calling for "reasonable and predictable" growth rates in total health care spending, building on a core principle of the coordinated care model at the center of the state's Medicaid waiver: to maintain costs at a sustainable fixed rate of growth (SRG). Extending SRG to the commercial sector presents a number of challenging issues, but failure to meet this

[1] *See* http://www.apcdcouncil.org/sites/apcdcouncil.org/files/All-Payer%20Claims%20Databases%20State%20Initiatives%20to%20Improve%20Health%20Care%20Transparency.pdf

[2] *Id.*

[3] *See* http://apcdcouncil.org/sites/apcdcouncil.org/files/APCD%20and%20Health%20Reform%20Fact%20Sheet_FINAL_0.pdf

challenge could lead to a new round of cost shifting in which cost reductions in Medicaid lead to cost increases for commercial payers, including insurers and self insured employers. Additionally, the Triple Aim demands systemic changes that hold down costs at the same time that care is enhanced and outcomes are improved.

Oregon's effort to develop an SRG methodology that constrains total health care spending is cutting edge, but not unprecedented. Massachusetts, the only state that has had an ACA-like exchange since 2006, has been exploring an overall limit on spending as an important complement to the coverage expansion achieved through the Massachusetts Connector. In 2012, Massachusetts enacted legislation that establishes a target health care cost growth rate, on a calendar year basis, for average total per person medical spending in the Commonwealth.[4] This target growth rate for total per capita medical expenditures includes all spending from public and private sources, all categories of medical expenses, all non-claims-related payments to providers, all patient cost-sharing amounts, and the net cost of private health insurance.[5]

The target health care cost growth rate is directly tied to growth in the Commonwealth's economy – specifically the potential gross state product (PGS). PGS is the highest level of economic growth that can be sustained over the long term without an increase in inflation; it is also equal to the economic output under full employment.[6] The target health care cost growth rate, as a percentage of PGS, is set forth under the legislation for each calendar year.

The legislation also creates the Health Policy Commission, whose responsibilities include (i) establishing an annual cost growth benchmark and monitoring progress through annual cost trends hearings and (ii) requiring clinics, hospitals, ambulatory surgical centers, physician organizations, accountable care organizations, and payers exceeding the growth rate in a given year to file performance improvement plans.

The market dynamics in Massachusetts are different than those in Oregon. For example, Oregon has a more competitive commercial insurance market, as well as different dynamics in its delivery system with respect to large hospital systems. These factors and others will make the Oregon solution different than the Massachusetts one, but Oregon will be able to learn from the Massachusetts approach as it moves forward at a pace that is a couple years ahead of Oregon's proposed work plan.

As the ACA brings major coverage gains in many states, it is likely that other states will also be looking at systemic approaches to cost containment. For example, Maryland, which operates the nation's only all-payer hospital rate regulation system, recently submitted a new federal waiver to allow the state to move away from fee-for-service reimbursement toward health care delivery that

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[4] *See* https://malegislature.gov/Laws/SessionLaws/Acts/2012/Chapter224; *See also* Blue Cross Blue Shield of Massachusetts Foundation summary of the Act at http://bluecrossmafoundation.org/publication/summary-chapter-224-acts-2012

[5] *See* A. Goslin and E. Rodman, "Summary of Chapter 224 of the Acts of 2012," Blue Cross Blue Shield of Massachusetts Foundation, September 2012, p. 2.

[6] *Id.*

emphasizes prevention, quality care, and value within a Triple Aim framework. Other states are sure to follow suit as ACA implementation requires new strategies for cost containment to make coverage expansions affordable.

C. Expand and improve primary and preventive care infrastructure

Primary care services, including preventive care and chronic care management, are hallmarks of Oregon's current reform strategy. Studies suggest that preventive care[7] and chronic disease management services[8] may result in a healthier population and a decrease in overall utilization. For example, studies have indicated that an emphasis on primary care is essential to optimal preventive care and that effective primary care reduces unnecessary hospitalization and emergency room admissions.[9] Additionally, States with higher ratios of primary care physicians to population have better health outcomes, including decreased mortality from cancer, heart disease, or stroke.[10]

One approach for improving access to primary care services is through the medical home model. For example, both WellPoint and United Health have established medical home programs. WellPoint predicts that its new medical home program could reduce its projected medical costs in 2015 by up to 20 percent based on analysis of its current medical home pilot projects.[11] UnitedHealthcare estimates that its medical home program will result in savings equal to at least twice as much as the program's cost.[12]

Oregon has already taken several important steps toward supporting the patient-centered primary care home (PCPCH) model. PCPCH adoption is currently a metric in the Medicaid market and will

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[7] *See, e.g.*, Andrea Klemes, DO, et. al., "Personalized Preventive Care Leads to Significant Reductions in Hospital Utilization," American Journal of Managed Care, December 18, 2012. Stating that:

> The MDVIP model of personalized preventive care allows the physician to take a more proactive, rather than reactive, approach; we believe this increased physician interaction is the reason for the lower hospital utilization and ultimately lower healthcare costs seen here.

Found at: http://www.ajmc.com/publications/issue/2012/2012-12-vol18-n12/Personalized-Preventive-Care-Leads-to-Significant-Reductions-in-Hospital-Utilization#sthash.0gmVVacD.dpuf

[8] *See, e.g.*, Niall Brennan, et. al., "Improving Quality and Value in the U.S. Health Care System," Brookings Institute, August 2009. Stating that:

> A large body of evidence shows that [disease management] can improve quality of care. Evidence on the impact of [disease management] programs on overall health care costs varies depending on the targeted condition, the populations included, and the types of interventions used. While some programs have not proven cost-effective, other interventions have the potential to improve quality and reduce costs (page 10).

Found at: http://www.brookings.edu/research/reports/2009/08/21-bpc-qualityreport

[9] *See* http://www.acponline.org/advocacy/current_policy_papers/assets/primary_shortage.pdf

[10] *Id.*

[11] *See* http://www.pcpcc.org/sites/default/files/media/benefits_of_implementing_the_primary_care_pcmh.pdf

[12] *Id.*

be included in the soon to be released Public Employees' Benefit Board (PEBB) request for proposals. Further, the Oregon Health Authority (OHA) and the Oregon Health Leadership Council (OHLC) have convened a series of meetings to develop a consensus-based strategy to support primary care homes in Oregon.

With research clearly linking access to primary care services with decreased utilization and improved health outcomes, Oregon's PCPCH program could serve as a model for a concerted effort across all markets to achieve the improved outcomes associated with the medical home model, especially if there also is flexibility for alternative approaches to be used as long as they can achieve similar outcomes on key metrics for preventive care and targeted, coordinated care for those with chronic conditions.

Proposed Measurement Framework

Overall State Dashboard

Quarterly display of trends in sentinel measures

Utilization

1. Utilization per 1,000 members
   - Hospital Admissions
   - Inpatient Days
   - Outpatient Visits
   - Emergency Department Visits
   - Professional Claims
   - Rx Scripts
   - Ancillary Claims
2. Most Frequent Episode Treatment Groups
3. Primary Care Visits
4. Uninsured Hospital Admissions
5. Hospital Readmissions

Cost

1. Per member per month
   - Total
     - Line of business
     - Paid & patient amount
   - Inpatient
   - Outpatient
   - Emergency Department
   - Professional
   - Prescription Drug
   - Ancillary
2. Most Expensive Episode Treatment Groups
3. Primary Care PMPM
4. Insurance Premium Increases
   - Member Share

Enrollment

1. Coverage Enrollment by line of business
2. Medicaid newly eligible
3. Cover Oregon enrollment

Quality

1. Selected PQIs and CCO Metrics
   - As determined by HB 2118 work group, OHA, and OID.
2. Health Status*

Access

1. Provider accepting new patients*
2. Ability to get appointment*
3. Medical debt*
4. Uninsurance rates*
5. Hospital uncompensated care
   - Bad debt
   - Charity care

Satisfaction

1. Patient satisfaction measures*

*Measures updated annually or biennially.

Drill Down Dashboards & Additional Resources

Drill down displays of above measures broken out by available subcategories such as: line of business, gender, age, race and ethnicity, geography, income, category of service, market segment, plan, health care entity, and specific procedures.

Plus additional break outs of metrics and data not highlighted in the overall state dashboard.

Recommended Strategies and Actions Timeline