

Oregon Healthcare Workforce Committee

AGENDA

February 5, 2014

Wilsonville Training Center, Wilsonville, OR 97070

29353 SW Town Center Loop, E Room 211

9:30 am – 12:30 pm

Meeting Objectives:

- Approve summary of December meeting
- Advance work on Health Policy Board deliverables
- Discuss topics relevant to Committee charter

#	Time	Agenda Item	Presenter(s)	Action Item
1	9:30	Welcome	Lisa Dodson	
2	9:35	Approval of December 11 Meeting Summary	Lisa Dodson	X
3	9:40	OHA Updates <ul style="list-style-type: none"> • Medicaid Primary Care Loan Repayment • 2014 Legislative Session • New Website 	Marc Overbeck Lisa Angus	
4	9:50	Other Updates—Members	All	
5	10:00	Discussion: Workgroup C—Financial Incentive Programs Recommendations	Lisa Dodson Marc Overbeck	
6	10:30	Review of Demographic Profiles of Population and Health Care Workforce	Lisa Angus	
7	11:00	Break (including time for Workgroups to schedule activity, if needed)	All	
8	11:10	Discussion: Workgroup D—Industry Trends	Ann Malosh	
9	11:30	Presentation: OR Public Health Workforce Needs Assessment	Danna Drum, Oregon Public Health Division	
10	12:00	Brief Updates on Other Workgroups—Projections, Workgroup A, Workgroup B	Workgroup Leads and Staff	
11	12:10	Public Comment	Any	
12	12:20	Emerging Issues	Committee Members	
13	12:30	Adjourn/Next Meeting April 2, 2014	Lisa Dodson	

Meeting Materials

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Agenda 5. A. Draft White Paper <li style="padding-left: 20px;">B. Summary of LRP and LF in Oregon 6. A. Demographic Profile Slides <li style="padding-left: 20px;">B. Demographic Tables | <ol style="list-style-type: none"> 8. Workgroup D materials (<i>forthcoming</i>) 9. Public Health Presentation 10. A. Projections Update (<i>forthcoming</i>) <li style="padding-left: 20px;">B. SB 879 Sites Info Sheet <li style="padding-left: 20px;">C. SB 879 Students Info Sheet <li style="padding-left: 20px;">D. SB 879 HP Programs Info Sheet |
|---|---|

INCENTIVE PROGRAMS

INTRODUCTION

The World Health Organization defines incentives as “all the rewards and punishments that providers face as a consequence of the organizations in which they work, the institutions under which they operate and the specific interventions they provide.”

Incentives are the factors and/or conditions within health professionals’ work environments that enable and encourage them to stay in their job location and, in their profession. Incentives are an important means of attracting and retaining healthcare workers to locations that may be less generally appealing to many professionals.

Incentives can be positive, or negative (disincentives or coercion), and can be financial or non-financial. Certain other characteristics that may be broadly described as “intangibles” may also have an incentive or disincentive effects.

Financial incentives involve monetary values, such as salaries, pensions, bonuses, allowances, loans, etc. Non-financial incentives may include work autonomy, scope of practice issues, flexibility of scheduling and work hours, career development opportunities, sabbatical and leave, planned career breaks, recreational opportunities, educational opportunity for children, etc.

Incentives are usually directed specifically at the healthcare provider, however, the effectiveness of various incentives are affected by a number of factors, including age, gender, length of time since training of the provider, personal value systems, number and age of dependents, place of origin, and location of practice. Other significant factors include the prevailing workforce availability, economic conditions, availability and quality of local services.

CHARACTERISTICS OF EFFECTIVE INCENTIVE PROGRAMS

- Sustainable
- Include financial and non-financial components
- Involve input from all relevant stakeholders in the design phase
- Are transparent, fair and consistent
- Are specifically tailored for their purpose
- Are regularly evaluated and reviewed for impact
- Reach and motivate the target population
- Acknowledges and acts on unintended consequences

ADDITIONAL FACTORS

In a comprehensive literature review of the interventions used to address the maldistribution of healthcare professionals, Wilson et al identified the following five categories of intervention: Selection, Education, Coercion, Incentives, and Support. In addition to providing incentives and disincentives to influence the workforce, educational institutions must have their own

incentives to select an adequate population of students with the aptitude and characteristics likely to enter care to underrepresented populations. Educational institutions must also have education programs in place to support, prepare and encourage students to consider and be well prepared for these practices. The widespread presence of a “hidden curriculum” that subtly and persistently discourages students from pursuing primary care careers and care to underserved populations is well described, and must be addressed.

REFERENCES:

Wilson NW, Couper ID, De Vries E, Reid S, Fish T, Marais BJ. A critical review of interventions to redress the inequitable distribution of healthcare professionals to rural and remote areas. *Rural and Remote Health* **9: 1060**. (Online) 2009. Available: <http://www.rrh.org.au>

Jones JA, Humphreys JS, Adena MA. Rural GPs' ratings of initiatives designed to improve rural medical workforce recruitment and retention. *Rural and Remote Health* **4: 314**. (Online) 2004. Available: <http://www.rrh.org.au>

Campbell N, McAllister L, Eley D. The influence of motivation in recruitment and retention of rural and remote allied health professionals: a literature review. *Rural and Remote Health* **12: 1900**. (Online) 2012. Available: <http://www.rrh.org.au>

Royston PJ, Mathieson K, Leafman J, Ojan-Sheehan O. Medical student characteristics predictive of intent for rural practice. *Rural and Remote Health* **12: 2107**. (Online) 2012. Available: <http://www.rrh.org.au>

Devine SG, Williams G, Nielsen I. Rural Allied Health Scholarships: do they make a difference? *Rural and Remote Health* **13: 2459**. (Online) 2013. Available: <http://www.rrh.org.au>

Renner DM, Westfall JM, Wilroy L, Ginde AA. The influence of loan repayment on rural healthcare provider recruitment and retention in Colorado. *Rural and Remote Health* **10: 1605**. (Online) 2010. Available: <http://www.rrh.org.au>

Lee Y, Barnard A, Owen C. Initial evaluation of rural programs at the Australian National University: understanding the effects of rural programs on intentions for rural and remote medical practice. *Rural and Remote Health* **11: 1602**. (Online) 2011. Available: <http://www.rrh.org.au>

O'Toole K, Schoo AM. Retention policies for allied health professionals in rural areas: a survey of private practitioners. *Rural and Remote Health* **10: 1331**. (Online) 2010. Available: <http://www.rrh.org.au>

Colegrove DJ, Whitacre BE. Interest in rural medicine among osteopathic residents and medical students. *Rural and Remote Health* **9: 1192**. (Online) 2009. Available: <http://www.rrh.org.au>

DRAFT

State and Federally Funded Primary Care Financial Assistance Programs Available to Clinicians in Oregon

Program	Entities Responsible:	Description	Program Length	Who Qualifies (Disciplines):	Requirements	Loan Repayment Funding	Program Financing	References
National Health Service Corp (NHSC) LRP	* HRSA for funding and federal administration; * OHA/PCO for recommendation of approval of sites and outreach within state	Primary care providers working at an NHSC approved site with a HPSA score of 14 or above can receive loan repayment towards qualified education loans. <i>*Minimum HPSA score may vary depending on application cycle.</i>	2 years, with the option to apply for a continuation (up to 7 years). Participants can be full-time; minimum 40 hrs/week, no fewer than 4 days/week or half-time; minimum 20 hrs/week, no fewer than 2 days/week.	Physician (MD/DO), Dentist (DMD/DDS), Nurse Practitioner (NP), Certified Nurse Midwife (CNM), Physician Assistant (PA), Registered Dental Hygienist (RDH), Health Service Psychologist (HSP), Licensed Clinical Social Worker (LCSW), Psychiatric Nurse Specialist (PNS), Marriage and Family Therapist (MFT) and Licensed Professional Counselor (LPC).	US citizen or national, practicing in a qualified discipline, licensed to practice in the state, qualifying education loans and must work in a NHSC approved facility.	Sites with a HPSA score of 14 or above: Full-time participants can receive up to \$50,000 for a 2 year commitment; half-time participants can receive up to \$50,000 for a 4 year commitment.	100% Federal Funding (\$4.7 million in FY2013)	Section 338B of the Public Health Service Act (42 USC 254I-1)
National Health Service Corp (NHSC) SP	* HRSA for funding and federal administration; * OHA/PCO for recommendation of approval of sites and outreach within state	Scholarships are awarded to students pursuing primary health care professions training in eligible disciplines in return for a commitment to provide health care to communities in need, upon graduation and completion of training.	For each school year, or partial school year of financial support received, students agree to provide primary health services for one year at an approved NHSC site located in a HPSA.	Physician (MD/DO), Dentist (DMD/DDS), Nurse Practitioner (NP), Certified Nurse Midwife (CNM) and Physician Assistant (PA)	US citizen or national enrolled or accepted in the eligible primary care disciplines' degree program at a US accredited school.	Tax free payment is made (up to 4 years) for tuition, required fees and other reasonable educational costs. Scholarship recipients also receive a taxable monthly living stipend.	100% Federal Funding (\$1.1 million in FY2013)	Title III, Section 338A of the Public Health Service Act (42 USC 254I)

<p>Nursing Education Loan Repayment Program (NELRP)</p>	<p>* HRSA for funding and federal administration; * OHA/PCO for recommendation of approval of sites and outreach within state</p>	<p>NELRP helps to alleviate the critical shortage of nurses by offering loan repayment assistance to RNs and ANPs, in exchange for a commitment to work at a critical shortage facility. Nurse faculty can also receive loan repayment if they work full-time at an accredited school of nursing.</p>	<p>A minimum of 2 years of service is required, with the option of a third year of service available.</p>	<p>Registered Nurse (RN) and Advanced Nurse Practitioner (ANP)</p>	<p>Must be a licensed RN or ANP, employed full-time (minimum of 32 hrs/week) at a public or private non-profit critical shortage facility. Faculty must be employed as a full-time nurse faculty member at a public or private non-profit school of nursing.</p>	<p>For RNs and ANPs: Funding preference will be given to nurses based on the greatest financial need, the type of facility, and the HPSA designation of the facility. For faculty: Funding preference is given to faculty with the greatest financial need and to faculty working at nursing schools with at least 50% of students from a disadvantaged background. *NELRP participants will receive 60% of their total outstanding qualifying educational loan balance for a 2 year commitment. Participants may receive an additional 25% of their original loan balance for a third year of service.</p>	<p>100% Federal Funding</p>	<p>Section 846 of the Public Health Service Act (42 United States Code (U.S.C.) section 297n), and 42 Code of Federal Regulations (C.F.R.) section 57.312.</p>
--	---	---	---	--	--	---	-----------------------------	--

<p>Oregon Partnership State Loan Repayment Program (SLRP)</p>	<p>* HRSA for funding to state * OR Office of Rural Health for administration of program</p>	<p>This program is a loan repayment opportunity for health professionals who commit to working in a HPSA for a minimum of 2 years.</p>	<p>Minimum 2 year service commitment, with the option to apply for a 1 year extension- up to 5 years.</p>	<p>Physician (MD/DO), Nurse Practitioner (NP), Physician Assistant (PA), Dentist (DMD/DDS), Registered Dental Hygienist (RDH), Licensed Clinical Social Worker (LCSW), Licensed Professional Counselor (LPC) and Psychologist (PSY)</p>	<p>US citizen, must work full-time (minimum 40 hrs/week) at an approved site in a HPSA.</p>	<p>Participants can receive a maximum award of \$35,000 per year, or 25% of total loan debt, whichever is a smaller amount.</p>	<p>50% Federal Funding. The program is funded through a grant from the Bureau of Health Professions, National Health Service Corps, with a 1:1 dollar match from the practice site. (\$300,000 federal; to be matched with an additional amount of local money.)</p>	<p>Public Health Service Act, Title III, Section 3381, 42 U.S.C. 254 q-1(h). Section 10503 of the Affordable Care Act (P.L. 111-148)</p>
<p>Federal Faculty Loan Repayment Program</p>	<p>* HRSA for funding and federal administration; * OHA/PCO for recommendation of approval of sites and outreach within state</p>	<p>Faculty members from disadvantaged backgrounds with a professional health care degree or certificate may receive loan repayment assistance in exchange for teaching at educational institutions that provide training for health care professionals.</p>	<p>Minimum 2 year contract; participants can apply for sequential contracts.</p>	<p>Physician (MD/DO), Registered Nurse and Nurse Practitioner (RN/NP), Dentist (DMD/DDS), Registered Dental Hygienist (RDH), Physician Assistant (PA), Mental Health professions (Clinical Psychology, Clinical Social Work, Marriage and Family Therapy, Professional Counseling), Audiology, Optometry, Occupational and Physical Therapy (OT/PT), Pharmacy, Podiatry, Speech Language Pathologist (SLP), Medical Laboratory Technology, Radiologic Technology, Dietician, and Veterinary disciplines.</p>	<p>US citizen or national, school produced certification to demonstrate disadvantaged background, full-time or part-time faculty position for a minimum of 2 years.</p>	<p>Participants can receive up to \$40,000 towards repayment of student loans for a 2 year service commitment.</p>	<p>100 % Federal Funding</p>	<p>Section 738(a) of the Public Health Service Act (42 USC 293b(a))</p>

<p>Oregon Loan Forgiveness</p>	<p>OR Office of Rural Health</p>	<p>This loan forgiveness program provides loans to students studying to be physicians, nurse practitioners or physician assistants who are committed to working in a rural area. This program focuses on the idea that rural communities may be able to "grow" their own by identifying star students who want to become medical professionals.</p>	<p>For each year that loans are received, participants agree to practice in a rural setting in Oregon, at a pre-approved site.</p>	<p>Physicians (MD/DO), Physician Assistant (PA), and Nurse Practitioner (NP)</p>	<p>US Citizen or national, must have completed the first year of education in a qualified discipline, and must complete a service agreement that outlines their commitment to practicing in a rural service following their training and residency.</p>	<p>Participants will receive up to \$35,000 annually for expenses related to their medical education.</p>	<p>100% State Funding (\$1 million in 2013-15 biennium)</p>	<p>ORS 442.573</p>
<p>Primary Care Services Loan Repayment Program (currently unfunded)</p>	<p>OR Office of Rural Health</p>	<p>Program designed to help provide supports for clinicians to serve in underserved areas, particularly rural.</p>	<p>For NP and PA participants, there was a 2 year commitment, with an option of completing up to 4 years. For all other disciplines, there was a minimum of 3 years, with an option of continuing up to 5 years.</p>	<p>Physician (MD/DO), Physician Assistant (PA), Nurse Practitioner (NP), Dentist (DMD/DDS), Pharmacist (PharmD), and Naturopath (ND)</p>	<p>US citizen or national, practicing in a qualified discipline, licensed to practice in the state, qualifying education loans and must work in health professional shortage area.</p>	<p>Participants could receive partial loan repayment (1/3 of the outstanding loan balance, or \$25,000), if they participated in a minimum 3 year service commitment.</p>	<p>\$100% State Funding (\$1 million for 2013-15 biennium)</p>	<p>ORS 442.550 - 442.565 & SB 404</p>

<p>Scholars for a Health Oregon Initiative</p>	<p>*OHSU</p>	<p>Program established to address the high cost of tuition for students and the maldistribution of providers throughout the state.</p>	<p>Students receiving awards must agree to practice in a rural setting for one year longer than the student received funding.</p>	<p>Students in one of the following clinical degree programs: Physician (MD), Dentist (DMD), Masters of Physician Assistant Studies, Masters of Nursing (MN) in Nurse Anesthesia, Family Nurse Practitioner, Nurse Midwifery, Psychiatric Mental Health Nurse Practitioner.</p>	<p>All students in qualifying programs may apply; priority given to those considered of Oregon heritage under OHSU's admission guidelines; other priorities also apply, including diversity of background, first-generation college student, and rural heritage</p>	<p>Participants eligible to receive funding to cover full tuition and fees for 2014-15 student academic year. Stipends are not covered.</p>	<p>\$100% State Funding (\$2.5 million for 2013-15 biennium)</p>	<p>Senate Bill 2 (2013 Session), Chapter 511, Oregon Laws 2013)</p>
<p>Medicaid Primary Care Provider Loan Repayment Program (MPCLRP)</p>	<p>* OHA as accountable state agency * OR Office of Rural Health for daily administration of program</p>	<p>Program designed to meet the goals of Oregon's health care transformation, to provide financial incentives to new providers to serve Medicaid patients</p>	<p>3 years, with the option to apply for up to an additional two years. Participants can be full-time; minimum 40 hrs/week, no fewer than 4 days/week or half-time; minimum 20 hrs/week, no fewer than 2 days/week.</p>	<p>Physician (MD/DO), Dentist (DMD/DDS), Nurse Practitioner (NP), Physician Assistant (PA), Expanded Practice Dental Hygienist, Psychiatrist, Clinical Social Worker, Marriage and Family Therapist (MFT).</p>	<p>Provider practicing in a qualified discipline, licensed to practice in the state, qualifying education loans, written commitment to serving Medicaid patients.</p>	<p>Participants eligible to receive 20% annually of unpaid health professional loans, up to \$35,000 per year for three years, with ability to request up to two additional years of service; priority may be given for working in a HPSA with a score of 10 or higher, in a recognized Patient Centered Primary Care Home, and for percentage of Medicaid eligible patients in area and clinic.</p>	<p>100% State Funding (\$3.6 million for 2013-15 biennium)</p>	<p>ORS 442.550 - 442.565 OAR 409-037</p>

Oregon healthcare workforce diversity profile

Project update for Healthcare Workforce Committee

February 5, 2014



Background

Committee's current charter (revised September 2013) calls for:

"A demographic and geographic profile of Oregon focused on race, ethnicity, and languages spoken, overlaid with a similar profile of Oregon's current health care workforce."

by April 30, 2014.

Biennial reports based on information from licensing boards include race, ethnicity, and language data but do not focus on the topic.



Collaborators

- OHA Office of Equity & Inclusion
- OHA Office of Health Analytics
- OHA/Multnomah County Program Design & Evaluation Services group

Workplan

- Start with the basics: comparison of population and provider distribution by race, ethnicity, and language
 - *Progress report for Committee feedback February 5*
- Further analyses to explore:
 - Provider subgroups (e.g. primary care providers)
 - Geographic or population subgroups (e.g. 5 most diverse areas of the state, HPSAs)
- *Final working draft for Committee feedback April 2*
- Deliver to OHPB at end of April

Final Product

- Aiming for a short brief (approx. 4 pages) with some appendices
- North Carolina has a nice example, at right

**The Diversity of
North Carolina's Health Care Workforce**

Victoria McGee and Erin Fraher August 2012
North Carolina Health Professions Data System, Cecil G. Sharp Center for Health Services Research, University of North Carolina at Chapel Hill

Introduction

Racial and ethnic diversity among health care professionals is vital to maintaining high quality health care that is accessible, equitable, and culturally competent.¹⁻⁵ The provision of culturally competent health care requires not only a health care workforce that is prepared to interact with the variety of cultures represented in North Carolina's population, but also requires a workforce that represents the population and communities they serve.^{5,6,7,8}

Methods

To assess North Carolina's capacity to deliver health care through a racially and ethnically diverse health care workforce, descriptive analyses were conducted using 1994-2009 North Carolina licensure data housed within the North Carolina Health Professions Data System (NC HPDS). The data used in this analysis, including race/ethnicity, were self-reported at time of initial licensure or subsequent renewal by health professionals licensed to practice in North Carolina as of October 31 of each year. Data include active, in-state, non-federal, non-resident-in-training physicians and active, in-state practitioners in the other professions. Primary care includes general practice, family practice, general internal medicine, pediatrics

- One in three (33%) North Carolina residents is nonwhite compared to 17% of health professionals.
- There is an overall lack of diversity among North Carolina's health professionals, and while some professions have lagged behind, licensed practical nurses (LPN) and primary care physicians (PCP) can be considered "best practice" professions.

Figure 1. Diversity of North Carolina's Population Compared to Diversity of Selected Health Professions, 2009

Profession	White (%)	African American/Black (%)	Hispanic/Latino (%)	Asian/Pacific Islander (%)	American Indian/Alaska Native (%)	Other/Multiracial (%)
NC Population	67%	23%	7%	1%	0%	2%
Licensed Practical Nurse	69%	17%	12%	1%	0%	1%
Primary Care Physician	72%	13%	10%	1%	0%	1%
Respiratory Therapist	64%	18%	12%	1%	0%	5%
Rehabilitation Therapist	64%	18%	12%	1%	0%	5%
Physician	68%	16%	12%	1%	0%	3%
Pharmacist	68%	16%	12%	1%	0%	3%
Surgeon	68%	16%	12%	1%	0%	3%
Nurse Practitioner	68%	16%	12%	1%	0%	3%
Dental Hygienist	64%	18%	12%	1%	0%	5%

Oregon Health Authority

5

Primary information sources

- **Population data** from the American Community Survey
 - Random sample of all households in Oregon
 - Used 5-year ACS estimates (data collected over 60-month period 2008-2012) in order to:
 - Increase reliability for less populated areas and small population subgroups
 - Allow for examination of race/ethnicity and language by county
 - Major challenges:
 - not as current as 1-year data
 - Languages grouped into 4 very general categories

6

Primary information sources (2)

- **Workforce data** from boards participating in Oregon Healthcare Workforce Database
 - Medical Board
 - Board of Dentistry
 - Board of Nursing
 - Board of Pharmacy
 - Physical Therapy Board
 - Occupational Therapy Board
 - Board of Examiners of Licensed Dietitians
- Data period: Dec 2011 – June 2013 (*renewal cycles vary*)
- Major challenges or shortcomings:
 - **Almost 13% missing R/E data** – not entered by licensee or not collected by board
 - Limited set of health providers

First cut of data

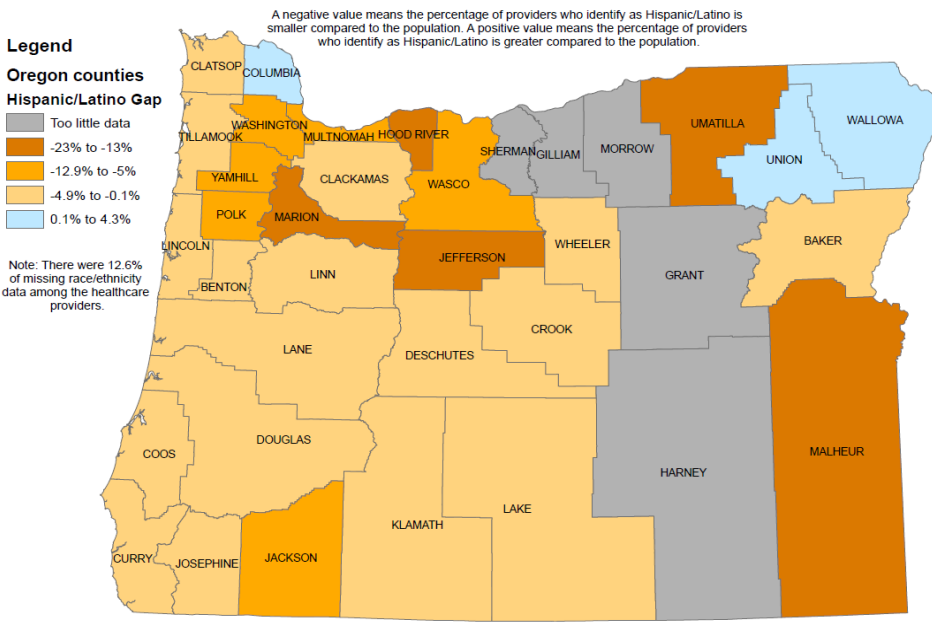
Population & provider ethnicity

		Total	Hispanic/Latino	
Oregon	Providers	76,382	4,077	5.3%
	Population	3,836,628	449,888	11.7%
Baker	Providers	268	9	3.4%
	Population	16,092	559	3.5%
Benton	Providers	1,840	74	4.0%
	Population	85,501	5,486	6.4%
Clackamas	Providers	6,592	392	5.9%
	Population	377,206	29,137	7.7%
Clatsop	Providers	689	40	5.8%
	Population	37,068	2,820	7.6%

Full table provided as handout



Gap in Hispanic/Latino Representation within Healthcare Providers Compared to County Population



Population & provider race

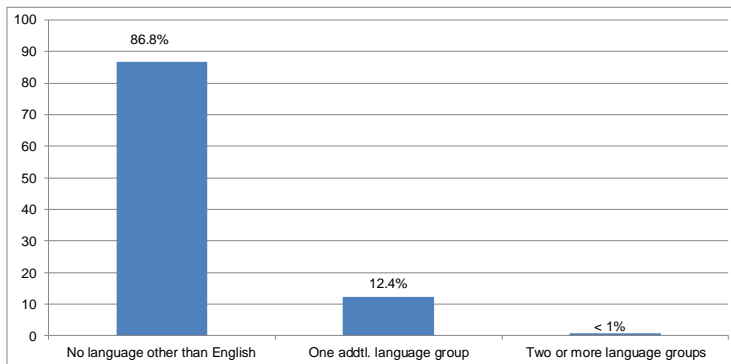
Missing data is a significant problem

	Total	White	%	Black/AA	%	AI/AN	%	Missing (no data)	%
With missing data included in the percentages									
Provider	1,840	1,358	73.8%	11	0.6%	7	0.4%	199	10.8%
Pop.	85,501	71,390	83.5%	818	1.0%	541	0.6%		
Excluding missing data from the percentages									
Provider	1,641	1,358	82.8%	11	0.7%	7	0.4%	199	
Pop.	85,501	71,390	83.5%	818	1.0%	541	0.6%		

How to handle this when comparing providers and population?



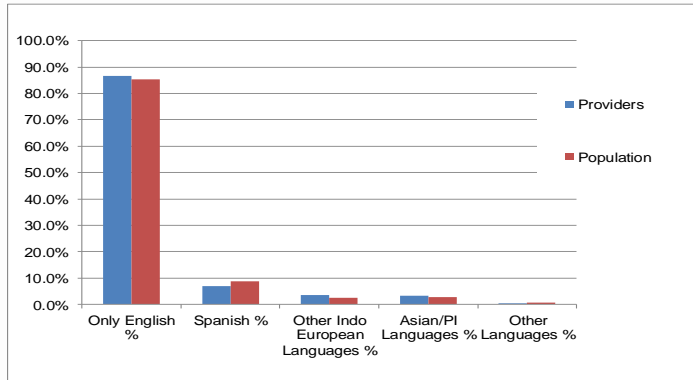
Provider languages spoken



Language proficiency or certification not known; beginning to collect in 2014



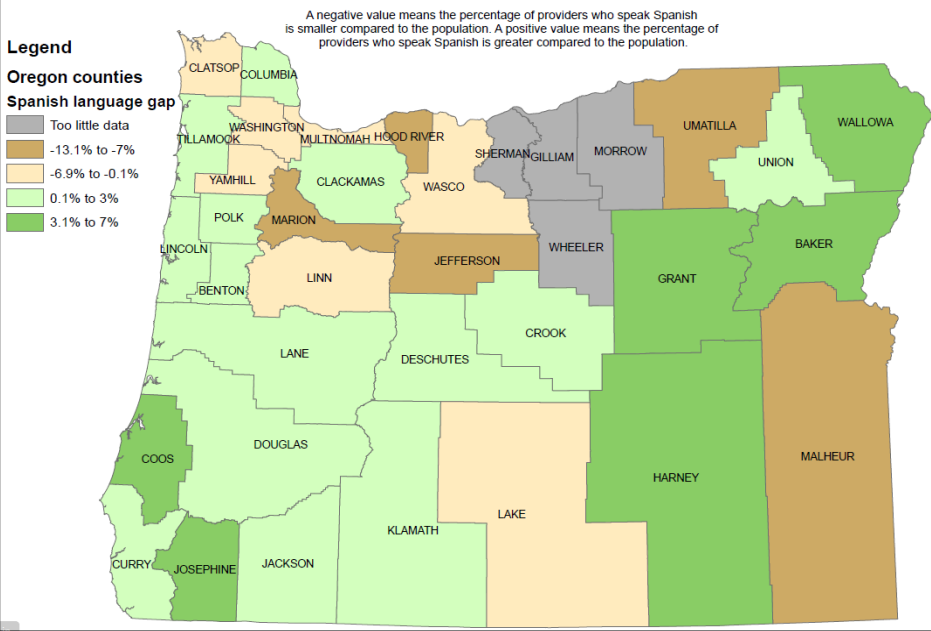
Population & provider language (2)



Proportions look somewhat similar but most groups are very broad; don't know if there is a real match for language need



Gap in Spanish Language Spoken by Healthcare Providers Compared to County Population



Population & provider language

SPEAK A LANGUAGE OTHER THAN ENGLISH			Total*	Only English speakers	%	Spanish or Spanish Creole	%
Oregon	Total	Providers	76,382	66,293	86.8%	5,344	7.0%
		Population	3,601,649	3,071,950	85.3%	314,426	8.7%
Baker	Total	Providers	268	245	91.4%	15	5.6%
		Population	15,292	14,784	96.7%	355	2.3%
Benton	Total	Providers	1,840	1,639	89.1%	113	6.1%
		Population	81,692	72,048	88.2%	3792	4.6%
Clackamas	Total	Providers	6,592	5,592	84.8%	456	6.9%
		Population	356,026	314,785	88.4%	19,365	5.4%
Clatsop	Total	Providers	689	627	91.0%	34	4.9%
		Population	35,097	32,324	92.1%	1,821	5.2%

Next steps

- Determine most appropriate way to work with provider race data
- Further analyses to explore:
 - Provider subgroups (e.g. primary care providers)
 - Geographic or population subgroups (e.g. 5 most diverse areas of the state, HPSAs)
- *Final working draft for Committee feedback April 2*
- Deliver to OHPB at end of April

Discussion

- Questions?
- Reactions?
- Ideas for other ways to look at these data?

License Type in Oregon by Ethnicity/Race group

Board	License Type	Hispanic/ Latino	Non Hispanic/Latino								Missing (no data)
			White	Black/AA	AI/AN	Asian	NH/PI	Other	Multiracial	Refused/ Declined	
Oregon Board of Dentistry	Dental Hygienist	2.4%	68.4%	0.4%	0.1%	5.0%	0.1%	0.2%	1.4%	4.7%	17.3%
	Dentists	2.7%	76.0%	0.5%	0.5%	8.5%	0.4%	0.5%	1.6%	7.7%	1.6%
	Faculty Dentist	25.0%	75.0%	-	-	-	-	-	-	-	-
	Volunteer Dental Hygienist	-	-	-	-	-	-	-	-	-	100.0%
	Volunteer Dentist	-	66.7%	-	-	16.7%	-	-	-	-	16.7%
Oregon Board of Examiners of Licensed Dietitians	Licensed Dietitian	0.9%	56.0%	-	0.5%	2.8%	-	-	0.7%	2.1%	36.9%
Oregon Board of Pharmacy	Pharmacist	44.6%	38.2%	0.3%	0.3%	9.8%	0.3%	0.2%	1.0%	4.9%	0.3%
	Pharmacy Tech	6.0%	73.7%	1.1%	1.0%	6.7%	0.1%	0.4%	3.0%	5.7%	2.3%
Oregon Medical Board	DO license	2.4%	74.8%	1.1%	0.1%	6.2%	0.1%	1.4%	0.1%	3.4%	10.3%
	Doctor of Podiatric Medicine	1.4%	75.3%	-	-	4.8%	-	1.4%	-	6.8%	10.3%
	MD Volunteer Emeritus	-	50.0%	50.0%	-	-	-	-	-	-	-
	Registered Nurse	2.8%	68.2%	0.8%	0.1%	9.1%	0.1%	2.0%	0.4%	4.5%	11.9%
	Physician Assistant	3.0%	78.8%	0.5%	0.4%	1.8%	0.2%	1.3%	0.5%	2.4%	11.0%
Oregon Occupational Therapy Licensing Board	Occupational Therapist	1.2%	80.0%	0.1%	0.3%	3.3%	0.3%	1.0%	1.0%	12.1%	0.8%
	Occupational Therapy Assistant	0.9%	85.0%	-	1.4%	1.4%	-	0.5%	0.5%	9.3%	0.9%
Oregon Physical Therapist Licensing Board	Physical Therapist	1.6%	83.7%	0.1%	0.2%	4.2%	0.3%	0.1%	1.3%	4.5%	4.0%
	Physical Therapist Assistant	1.4%	83.9%	1.0%	0.4%	1.8%	0.3%	-	1.0%	5.7%	4.4%
Oregon State Board of Nursing	Certified Nursing Assistant	9.2%	54.3%	4.1%	1.0%	3.9%	-	2.0%	2.6%	3.4%	19.6%
	Certified Registered Nurse Anesthetists	2.4%	66.1%	0.3%	-	2.7%	-	1.7%	0.3%	11.2%	15.3%
	Clinical Nurse Specialist	1.4%	77.9%	1.4%	0.7%	1.4%	-	-	0.7%	3.4%	13.1%
	Licensed Practical Nurse	4.1%	65.1%	1.8%	0.9%	2.9%	-	1.5%	3.0%	3.5%	17.3%
	Nurse Practitioner	2.5%	66.2%	0.5%	0.2%	2.3%	-	0.6%	1.8%	3.3%	22.6%
	Registered Nurse	2.3%	73.1%	0.6%	0.5%	2.6%	-	1.0%	1.7%	4.8%	13.3%

Oregon Healthcare Workforce Race/Ethnicity by and County

County		Total	Hispanic/ Latino	
Oregon	Providers	76,382	4,077	5.3%
	Population	3,836,628	449,888	11.7%
Baker	Providers	268	9	3.4%
	Population	16,092	559	3.5%
Benton	Providers	1,840	74	4.0%
	Population	85,501	5,486	6.4%
Clackamas	Providers	6,592	392	5.9%
	Population	377,206	29,137	7.7%
Clatsop	Providers	689	40	5.8%
	Population	37,068	2,820	7.6%
Columbia	Providers	262	22	8.4%
	Population	49,317	2,035	4.1%
Coos	Providers	1,282	64	5.0%
	Population	62,937	3,456	5.5%
Crook	Providers	168	10	6.0%
	Population	21,102	1,544	7.3%
Curry	Providers	241	13	5.4%
	Population	22,344	1,258	5.6%
Deschutes	Providers	3,150	129	4.1%
	Population	158,884	11,827	7.4%
Douglas	Providers	1,717	79	4.6%
	Population	107,391	5,042	4.7%
Gilliam	Providers	11	1	9.1%
	Population	1,904	120	6.3%
Grant	Providers	108	4	3.7%
	Population	7,366	217	2.9%
Harney	Providers	99	4	4.0%
	Population	7,359	299	4.1%
Hood River	Providers	475	31	6.5%
	Population	22,207	6,546	29.5%

County		Total	Hispanic/ Latino	
Oregon	Providers	76,382	4,077	5.3%
	Population	3,836,628	449,888	11.7%
Jackson	Providers	4,131	231	5.6%
	Population	203,613	21,894	10.8%
Jefferson	Providers	195	12	6.2%
	Population	21,746	4,286	19.7%
Josephine	Providers	1,341	70	5.2%
	Population	82,636	5,274	6.4%
Klamath	Providers	952	66	6.9%
	Population	66,350	6,990	10.5%
Lake	Providers	92	6	6.5%
	Population	7,886	560	7.1%
Lane	Providers	6,991	330	4.7%
	Population	351,794	26,125	7.4%
Lincoln	Providers	773	34	4.4%
	Population	45,992	3,662	8.0%
Linn	Providers	1,491	74	5.0%
	Population	116,871	9,097	7.8%
Malheur	Providers	584	60	10.3%
	Population	31,057	9,793	31.5%
Marion	Providers	7,090	434	6.1%
	Population	315,391	76,429	24.2%
Morrow	Providers	49	3	6.1%
	Population	11,146	3,515	31.5%
Multnomah	Providers	21,357	1,047	4.9%
	Population	737,110	79,791	10.8%
Polk	Providers	589	40	6.8%
	Population	75,448	9,122	12.1%
Sherman	Providers	5	-	0.0%
	Population	1,865	112	6.0%

County		Total	Hispanic/ Latino	
Oregon	Providers	76,382	4,077	5.3%
	Population	3,836,628	449,888	11.7%
Tillamook	Providers	309	15	4.9%
	Population	25,254	2,262	9.0%
Umatilla	Providers	1,000	58	5.8%
	Population	75,846	17,966	23.7%
Union	Providers	451	23	5.1%
	Population	25,670	1,016	4.0%
Wallowa	Providers	124	5	4.0%
	Population	6,938	157	2.3%
Wasco	Providers	688	36	5.2%
	Population	25,113	3,784	15.1%
Washington	Providers	9,863	569	5.8%
	Population	531,818	83,085	15.6%
Wheeler	Providers	12	-	0.0%
	Population	1,287	24	1.9%
Yamhill	Providers	1,393	92	6.6%
	Population	99,119	14,598	14.7%

Providers missing county information: 77

Oregon Healthcare Workforce Race/Ethnicity by Region

Region		Total	Hispanic/Latino		
Oregon		Providers	76,382	4,077	5.3%
		Population	3,836,628	449,888	11.7%
1	Northeast (Columbia Basin)	Providers	1,843	95	5.2%
		Population	124,546	19,698	15.8%
2	Hood River Valley	Providers	1,711	97	5.7%
		Population	113,736	20,148	17.7%
3	Southeast (High Desert)	Providers	1,727	136	7.9%
		Population	112,652	17,642	15.7%
4	Deschutes	Providers	3,150	129	4.1%
		Population	158,884	11,827	7.4%
5	North Coast	Providers	2,033	111	5.5%
		Population	157,631	10,779	6.8%
6	Southern Willamette Valley	Providers	3,331	148	4.4%
		Population	202,372	14,583	7.2%
7	Lane	Providers	6,991	330	4.7%
		Population	351,794	26,125	7.4%
8	Southwest	Providers	2,864	147	5.1%
		Population	167,917	9,988	5.9%
9	Jackson	Providers	4,131	231	5.6%
		Population	203,613	21,894	10.8%
10	Douglas	Providers	1,717	79	4.6%
		Population	107,391	5,042	4.7%
11	Marion	Providers	7,090	434	6.1%
		Population	315,391	76,429	24.2%
12	Western Willamette Valley	Providers	1,982	132	6.7%
		Population	174,567	23,720	13.6%
13	Multnomah	Providers	21,357	1,047	4.9%
		Population	737,110	79,791	10.8%
14	Clackamas	Providers	6,592	392	5.9%
		Population	377,206	29,137	7.7%
15	Washington	Providers	9,863	569	5.8%
		Population	531,818	83,085	15.6%

Providers missing region information=77

Oregon Healthcare Workforce: Languages Spoken Other than English

SPEAK A LANGUAGE OTHER THAN ENGLISH			Total*	Only English speakers	%	Spanish or Spanish Creole	%	Other Indo-European languages	%	Asian and Pacific Island languages	%	Other languages	%
Oregon	Total	Providers	76,382	66,293	86.8%	5,344	7.0%	2,681	3.5%	2,394	3.1%	308	0.4%
		Population	3,601,649	3,071,950	85.3%	314,426	8.7%	92,658	2.6%	102,474	2.8%	20,141	0.6%
Baker	Total	Providers	268	245	91.4%	15	5.6%	7	2.6%	2	0.7%	1	0.4%
		Population	15,292	14,784	96.7%	355	2.3%	88	0.6%	61	0.4%	4	0.0%
Benton	Total	Providers	1,840	1,639	89.1%	113	6.1%	52	2.8%	44	2.4%	7	0.4%
		Population	81,692	72,048	88.2%	3,792	4.6%	1,907	2.3%	2,931	3.6%	1,014	1.2%
Clackamas	Total	Providers	6,592	5,592	84.8%	456	6.9%	268	4.1%	291	4.4%	35	0.5%
		Population	356,026	314,785	88.4%	19,365	5.4%	10,209	2.9%	10,008	2.8%	1,659	0.5%
Clatsop	Total	Providers	689	627	91.0%	34	4.9%	17	2.5%	16	2.3%	4	0.6%
		Population	35,097	32,324	92.1%	1,821	5.2%	513	1.5%	303	0.9%	136	0.4%
Columbia	Total	Providers	262	229	87.4%	14	5.3%	15	5.7%	6	2.3%	2	0.8%
		Population	46,534	44,304	95.2%	1,198	2.6%	542	1.2%	234	0.5%	256	0.6%
Coos	Total	Providers	1,282	1,146	89.4%	83	6.5%	38	3.0%	25	2.0%	3	0.2%
		Population	59,767	57,102	95.5%	1,614	2.7%	682	1.1%	299	0.5%	70	0.1%
Crook	Total	Providers	168	156	92.9%	9	5.4%	0	0.0%	3	1.8%	0	0.0%
		Population	20,023	19,074	95.3%	711	3.6%	188	0.9%	24	0.1%	26	0.1%
Curry	Total	Providers	241	217	90.0%	14	5.8%	8	3.3%	3	1.2%	0	0.0%
		Population	21,457	20,363	94.9%	727	3.4%	240	1.1%	51	0.2%	76	0.4%
Deschutes	Total	Providers	3,150	2,859	90.8%	212	6.7%	66	2.1%	23	0.7%	9	0.3%
		Population	149,386	139,529	93.4%	7,483	5.0%	1,483	1.0%	825	0.6%	66	0.0%
Douglas	Total	Providers	1,717	1,569	91.4%	72	4.2%	40	2.3%	40	2.3%	6	0.3%
		Population	101,906	97,853	96.0%	2,158	2.1%	1,108	1.1%	571	0.6%	216	0.2%
Gilliam	Total	Providers	11	10	90.9%	1	9.1%	0	0.0%	0	0.0%	0	0.0%
		Population	1,801	1,685	93.6%	100	5.6%	16	0.9%	0	0.0%	0	0.0%
Grant	Total	Providers	108	99	91.7%	5	4.6%	2	1.9%	2	1.9%	0	0.0%
		Population	7,030	6,917	98.4%	74	1.1%	22	0.3%	9	0.1%	8	0.1%
Harney	Total	Providers	99	89	89.9%	8	8.1%	2	2.0%	1	1.0%	1	1.0%
		Population	6,965	6,805	97.7%	77	1.1%	29	0.4%	26	0.4%	28	0.4%
Hood River	Total	Providers	475	385	81.1%	80	16.8%	16	3.4%	2	0.4%	2	0.4%
		Population	20,763	14,735	71.0%	5,713	27.5%	210	1.0%	105	0.5%	0	0.0%

Oregon Healthcare Workforce: Languages Spoken Other than English

SPEAK A LANGUAGE OTHER THAN ENGLISH			Total*	Only English speakers	%	Spanish or Spanish Creole	%	Other Indo-European languages	%	Asian and Pacific Island languages	%	Other languages	%
Jackson	Total	Providers	4,131	3,634	88.0%	305	7.4%	124	3.0%	82	2.0%	13	0.3%
		Population	191,672	173,541	90.5%	14,103	7.4%	2,060	1.1%	1,649	0.9%	319	0.2%
Jefferson	Total	Providers	195	179	91.8%	11	5.6%	3	1.5%	1	0.5%	0	0.0%
		Population	20,183	16,516	81.8%	3,012	14.9%	51	0.3%	123	0.6%	481	2.4%
Josephine	Total	Providers	1,341	1,192	88.9%	91	6.8%	43	3.2%	25	1.9%	2	0.1%
		Population	78,426	74,898	95.5%	1,951	2.5%	1,126	1.4%	335	0.4%	116	0.1%
Klamath	Total	Providers	952	833	87.5%	72	7.6%	30	3.2%	16	1.7%	6	0.6%
		Population	62,454	57,277	91.7%	3,835	6.1%	748	1.2%	389	0.6%	205	0.3%
Lake	Total	Providers	92	89	96.7%	2	2.2%	1	1.1%	0	0.0%	0	0.0%
		Population	7,594	7,216	95.0%	321	4.2%	20	0.3%	20	0.3%	17	0.2%
Lane	Total	Providers	6,991	6,288	89.9%	415	5.9%	198	2.8%	112	1.6%	24	0.3%
		Population	333,659	302,766	90.7%	16,941	5.1%	6,331	1.9%	6,021	1.8%	1,600	0.5%
Lincoln	Total	Providers	773	696	90.0%	42	5.4%	18	2.3%	18	2.3%	2	0.3%
		Population	43,739	40,836	93.4%	2,118	4.8%	355	0.8%	344	0.8%	86	0.2%
Linn	Total	Providers	1,491	1,379	92.5%	71	4.8%	19	1.3%	27	1.8%	2	0.1%
		Population	109,257	101,880	93.2%	5,428	5.0%	1,088	1.0%	640	0.6%	221	0.2%
Malheur	Total	Providers	584	507	86.8%	58	9.9%	13	2.2%	7	1.2%	1	0.2%
		Population	28,833	21,704	75.3%	6,630	23.0%	217	0.8%	218	0.8%	64	0.2%
Marion	Total	Providers	7,090	6,207	87.5%	550	7.8%	192	2.7%	167	2.4%	29	0.4%
		Population	292,013	219,175	75.1%	58,626	20.1%	8,203	2.8%	5,075	1.7%	934	0.3%
Morrow	Total	Providers	49	45	91.8%	3	6.1%	1	2.0%	0	0.0%	0	0.0%
		Population	10,350	7,417	71.7%	2,836	27.4%	56	0.5%	41	0.4%	0	0.0%
Multnomah	Total	Providers	21,357	18,050	84.5%	1528	7.2%	974	4.6%	919	4.3%	96	0.4%
		Population	690,968	555,741	80.4%	57,689	8.3%	31,011	4.5%	38,903	5.6%	7,624	1.1%
Polk	Total	Providers	589	509	86.4%	55	9.3%	14	2.4%	12	2.0%	3	0.5%
		Population	70,758	62,467	88.3%	6,090	8.6%	1,000	1.4%	1,025	1.4%	176	0.2%
Sherman	Total	Providers	5	5	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
		Population	1,753	1,668	95.2%	72	4.1%	12	0.7%	1	0.1%	0	0.0%
Tillamook	Total	Providers	309	272	88.0%	23	7.4%	9	2.9%	6	1.9%	4	1.3%
		Population	23,951	22,301	93.1%	1,450	6.1%	147	0.6%	42	0.2%	11	0.0%

Oregon Healthcare Workforce: Languages Spoken Other than English

SPEAK A LANGUAGE OTHER THAN ENGLISH			Total*	Only English speakers	%	Spanish or Spanish Creole	%	Other Indo-European languages	%	Asian and Pacific Island languages	%	Other languages	%
Umatilla	Total	Providers	1,000	885	88.5%	79	7.9%	26	2.6%	13	1.3%	3	0.3%
		Population	70,290	55,741	79.3%	13,162	18.7%	667	0.9%	470	0.7%	250	0.4%
Union	Total	Providers	451	412	91.4%	27	6.0%	11	2.4%	4	0.9%	1	0.2%
		Population	24,081	22,765	94.5%	843	3.5%	213	0.9%	257	1.1%	3	0.0%
Wallowa	Total	Providers	124	114	91.9%	9	7.3%	0	0.0%	1	0.8%	0	0.0%
		Population	6,608	6,375	96.5%	136	2.1%	70	1.1%	19	0.3%	8	0.1%
Wasco	Total	Providers	688	625	90.8%	45	6.5%	10	1.5%	7	1.0%	2	0.3%
		Population	23,552	19,945	84.7%	2,996	12.7%	232	1.0%	231	1.0%	148	0.6%
Washington	Total	Providers	9,863	8,283	84.0%	724	7.3%	427	4.3%	488	4.9%	46	0.5%
		Population	493,829	378,887	76.7%	60,444	12.2%	20,155	4.1%	30,218	6.1%	4,125	0.8%
Wheeler	Total	Providers	12	9	75.0%	3	25.0%	0	0.0%	0	0.0%	0	0.0%
		Population	1,243	1,224	98.5%	16	1.3%	2	0.2%	1	0.1%	0	0.0%
Yamhill	Total	Providers	1,393	1,218	87.4%	115	8.3%	37	2.7%	31	2.2%	4	0.3%
		Population	92,697	79,239	85.5%	10,582	11.4%	1,677	1.8%	1,005	1.1%	194	0.2%

Providers: they are licensees who are working in Oregon and who have renewed or obtained a license from the following Boards: Oregon Medical Board (renewal period: Oct-Dec 2011), Oregon State Board of Nursing (renewal dates range between late 2011 and Aug 2013), Oregon Board of Dentistry (Jan 1-March 31 2013 for dentists, July 1-Sep 30 2013 for dental hygienists), Oregon Occupational Therapy Licensing Board (March 1-May 1 2013), Oregon Physical Therapist Licensing Board (Jan 1-March 31 2013), Oregon Board of Pharmacy (April 1- June 31 2013 for pharmacists, July 1 - Sept 30 2013 for certified pharmacy technicians), Oregon Board of Licensed Dietitians (renewals through July 2013).

The following Boards are on a 2-year renewal cycle, so the numbers reflected here are representing a portion of the total providers: Oregon Medical Board, Oregon State Board of Nursing, Oregon Board of Dentistry, and Oregon Occupational Therapy Licensing Board.

Providers reported languages other than English and they were classified into the four ACS language groups. Some providers were classified in more than one language group.

English only speaking providers did not report any other language other than English.

* Population total are for people 5 years old and over - 5 YR ACS estimates (2008-2012)

NOTE: columns are mutually exclusive for population data; they are not for healthcare workforce data as one provider may have been classified in more than one language group.

Oregon Healthcare Workforce - Languages Spoken other than English

Regions		Total	Only English	%	Languages other than English								
					Spanish/ Creole	%	Other Indo- European Languages	%	Asian/Pacific Island Languages	%	All other languages	%	
Oregon		Providers	76,375	66,293	86.8%	5,342	7.0%	2,680	3.5%	2,394	3.1%	308	0.4%
		Population	3,601,649	3,071,950	85.3%	314,426	8.7%	92,658	2.6%	102,474	2.8%	20,141	0.6%
1	Northeast (Columbia Basin)	Providers	1,843	1,656	89.9%	130	7.1%	44	2.4%	20	1.1%	5	0.3%
		Population	116,271	99,665	85.7%	14,496	12.5%	1,038	0.9%	807	0.7%	265	0.2%
2	Hood River Valley	Providers	1,710	1,513	88.5%	157	9.2%	32	1.9%	15	0.9%	4	0.2%
		Population	81,903	68,092	83.1%	12,518	15.3%	555	0.7%	303	0.4%	515	0.6%
3	Southeast (High Desert)	Providers	1,727	1,518	87.9%	140	8.1%	46	2.7%	24	1.4%	8	0.5%
		Population	105,846	93,002	87.9%	10,863	10.3%	1,014	1.0%	653	0.6%	314	0.3%
4	Deschutes	Providers	3,149	2,859	90.8%	211	6.7%	66	2.1%	23	0.7%	9	0.3%
		Population	149,386	139,529	93.4%	7,483	5.0%	1,483	1.0%	825	0.6%	66	0.0%
5	North Coast	Providers	2,033	1,824	89.7%	113	5.6%	59	2.9%	46	2.3%	12	0.6%
		Population	149,321	139,765	93.6%	6,587	4.4%	1,557	1.0%	923	0.6%	489	0.3%
6	Southern Willamette Valley	Providers	3,331	3,018	90.6%	184	5.5%	71	2.1%	71	2.1%	9	0.3%
		Population	190,949	173,928	91.1%	9,220	4.8%	2,995	1.6%	3,571	1.9%	1,235	0.6%
7	Lane	Providers	6,990	6,288	90.0%	415	5.9%	198	2.8%	112	1.6%	24	0.3%
		Population	333,659	302,766	90.7%	16,941	5.1%	6,331	1.9%	6,021	1.8%	1,600	0.5%
8	Southwest	Providers	2,864	2,555	89.2%	188	6.6%	89	3.1%	53	1.9%	5	0.2%
		Population	159,650	152,363	95.4%	4,292	2.7%	2,048	1.3%	685	0.4%	262	0.2%
9	Jackson	Providers	4,131	3,634	88.0%	305	7.4%	124	3.0%	82	2.0%	13	0.3%
		Population	191,672	173,541	90.5%	14,103	7.4%	2,060	1.1%	1,649	0.9%	319	0.2%
10	Douglas	Providers	1,716	1,569	91.4%	71	4.1%	40	2.3%	40	2.3%	6	0.3%
		Population	101,906	97,853	96.0%	2,158	2.1%	1,108	1.1%	571	0.6%	216	0.2%
11	Marion	Providers	7,090	6,207	87.5%	550	7.8%	192	2.7%	167	2.4%	29	0.4%
		Population	292,013	219,175	75.1%	58,626	20.1%	8,203	2.8%	5,075	1.7%	934	0.3%
12	Western Willamette Valley	Providers	1,982	1,727	87.1%	170	8.6%	51	2.6%	43	2.2%	7	0.4%
		Population	163,455	141,706	86.7%	16,672	10.2%	2,677	1.6%	2,030	1.2%	370	0.2%
13	Multnomah	Providers	21,356	18,050	84.5%	1,528	7.2%	974	4.6%	919	4.3%	96	0.4%
		Population	690,968	555,741	80.4%	57,689	8.3%	31,011	4.5%	38,903	5.6%	7,624	1.1%
14	Clackamas	Providers	6,590	5,592	84.9%	456	6.9%	267	4.1%	291	4.4%	35	0.5%
		Population	356,026	314,785	88.4%	19,365	5.4%	10,209	2.9%	10,008	2.8%	1,659	0.5%
15	Washington	Providers	9,863	8,283	84.0%	724	7.3%	427	4.3%	488	4.9%	46	0.5%
		Population	493,829	378,887	76.7%	60,444	12.2%	20,155	4.1%	30,218	6.1%	4,125	0.8%

Oregon Public Health Workforce Gaps and Training Needs

Oregon Health Policy Board
Health Care Workforce Committee
February 5, 2014

Presented by:
Danna Drum, M.Div.
Performance Management Program



OFFICE OF THE STATE PUBLIC HEALTH DIRECTOR
Public Health Division

Objectives

- Overview of Gaps in Public Health Workforce
- Workforce Training Needs Assessment Results for Current Workforce
- Next Steps

Gaps in Public Health Workforce

- 59 percent of local health departments are very or extremely concerned about finding well-qualified applicants*
- 62 percent of local health departments are concerned about retaining well-qualified employees*
- 70 percent of local health departments are concerned about retaining currently funded positions*
- 37 percent of respondents said health director position difficult to fill
- Only 50 percent of local health departments report having all nursing jobs filled*
- In 2005, NACCHO estimated that approximately 20 percent of the local health department employees eligible for retirement by 2010

(*Local Health Department Survey, the University of Illinois at Chicago, 2012)

Upcoming Gaps in Oregon's Public Health Workforce

Organizational Role by Time to Retirement

		Retire				Total
		Less than 1 year	1 to 2 years	3 to 4 years	5 + years	
Executive leader (senior management, chief administrators)	n	2	6	6	32	46
	%	4.5	7.1	6.7	3.8	4.3
Non-supervisory staff	n	33	50	52	608	743
	%	75.0	58.8	58.4	71.7	69.7
Office director /program manager	n	3	8	4	46	61
	%	6.8	9.4	4.5	5.4	5.7
Program coordinator	n	2	13	14	92	121
	%	4.5	15.3	15.7	10.8	11.4
Supervisor	n	4	8	13	70	95
	%	9.1	9.4	14.6	8.3	8.9
Total	n	44	85	89	848	1066
	%	100.0	100.0	100.0	100.0	100.0

From Oregon Workforce Training Needs Assessment, 2013

Current Situation in Oregon

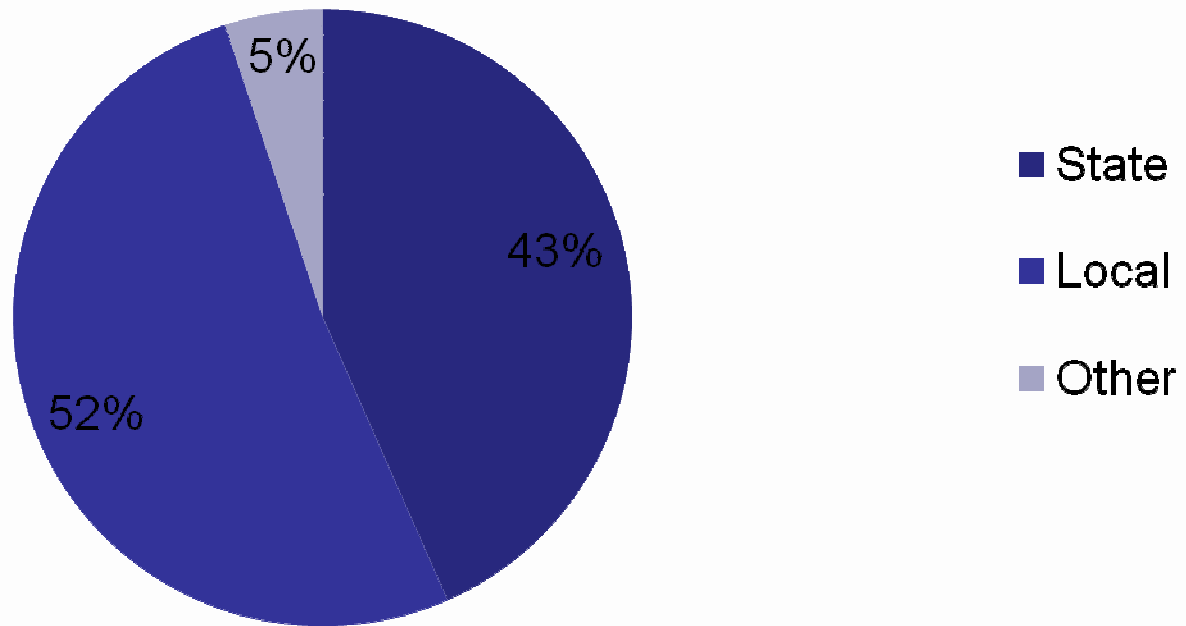
- Seven local public health administrators were hired in last 12 months
- Currently, three local health departments have interim administrators
- Two local public health administrator recruitments currently open
- Total of 11 vacancies in last 12 months just in administrator or equivalent position – approximately 1/3 of local health departments
- Can take many months to fill these positions
- Anecdotally, similar trends for Environmental Health Specialists and Supervising Nurses

Training Needs Assessment

- Recognition of overall need for coordinated workforce development planning
- Public Health Accreditation requires workforce development plan
- Northwest Center for Public Health Practice (NWCPHP) developed training needs assessment for regional assessment based on Council on Linkages Between Academia and Public Health Practices Competencies
- Adapted assessment for Oregon
- Electronic Survey – Phase 1
- Key Informant Interviews – Phase 2
- Reports distributed Fall 2013

Survey Respondents

Type of Health Department



Survey Respondents

- Mostly female
- 51% Age 40-59
- 84% White
- 76% Non-supervisors

Respondent Characteristics

Time in PH or related field:

46% 10 years or more
15% 3 year or less

Time in Organization:

33% 10 years or more
19% 3 year or less

Time in Position:

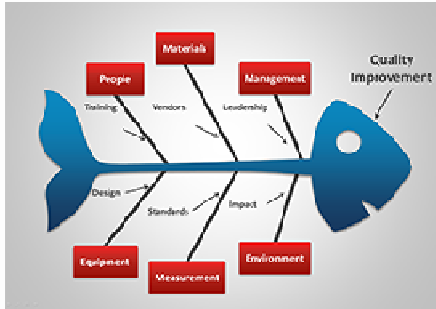
20% 10 years or more
27% 1 to 3 year

Time to Retirement:

79% 5 years or more
21% 4 years or less



Training Programs Supervisors Want for Employees They Supervise



Performance Management

74%

	Costs	All (1)	Facilities (2)	Financial Services (3)	Cost
General Administration	2,000,000	(2,000,000.00)			
Activities	5,000,000	171,428.57	(5,171,428.57)		
Financial Services	3,000,000	114,285.71	69,570.79	(5,183,856.50)	
Outpatient Care		635,714.29	3,478,539.40	1,910,313.90	\$6,024,567.59
Stem Cell Services		5,714.29	695,707.88	254,708.52	\$1,234,126.69
Diagnostic Services		3,857.14	347,853.94	382,062.78	\$1,077,773.86
Other Services	400,000.00		576,756.57	636,771.30	\$1,613,527.87
Total	10,000,000	0.00	0.00	0.00	\$10,000,000.00

ITA TABLE	Salary Dollars	Revenue	Patient Revenue
General Administration	0		
Activities	3,000,000		
Financial Services	2,000,000	3,000	
Outpatient Care	12,000,000	150,000	30,000,000
Stem Cell Services	5,000,000	50,000	4,000,000
Diagnostic Services	6,000,000	15,000	6,000,000
Other Services	7,000,000	25,000	10,000,000
Total	35,000,000	215,000	50,000,000

Evidence-Based Public Health

73%



Health Impact Assessments

60%

Other Training Topics Supervisors Wanted for Employees They Supervise



Clinical/Laboratory Skills



Health Technology/Informatics



Equity and Social Justice

Council on Linkages Competency Domains

- Analytic/Assessment
- Communication
- Community Dimensions of Practice
- Cultural Competency
- Financial Planning
- Management
- Leadership
- Systems Thinking
- Policy Development
- Program Planning
- Public Health Sciences

Stratification by Roles

Tier 1

- Non-Supervisory Staff

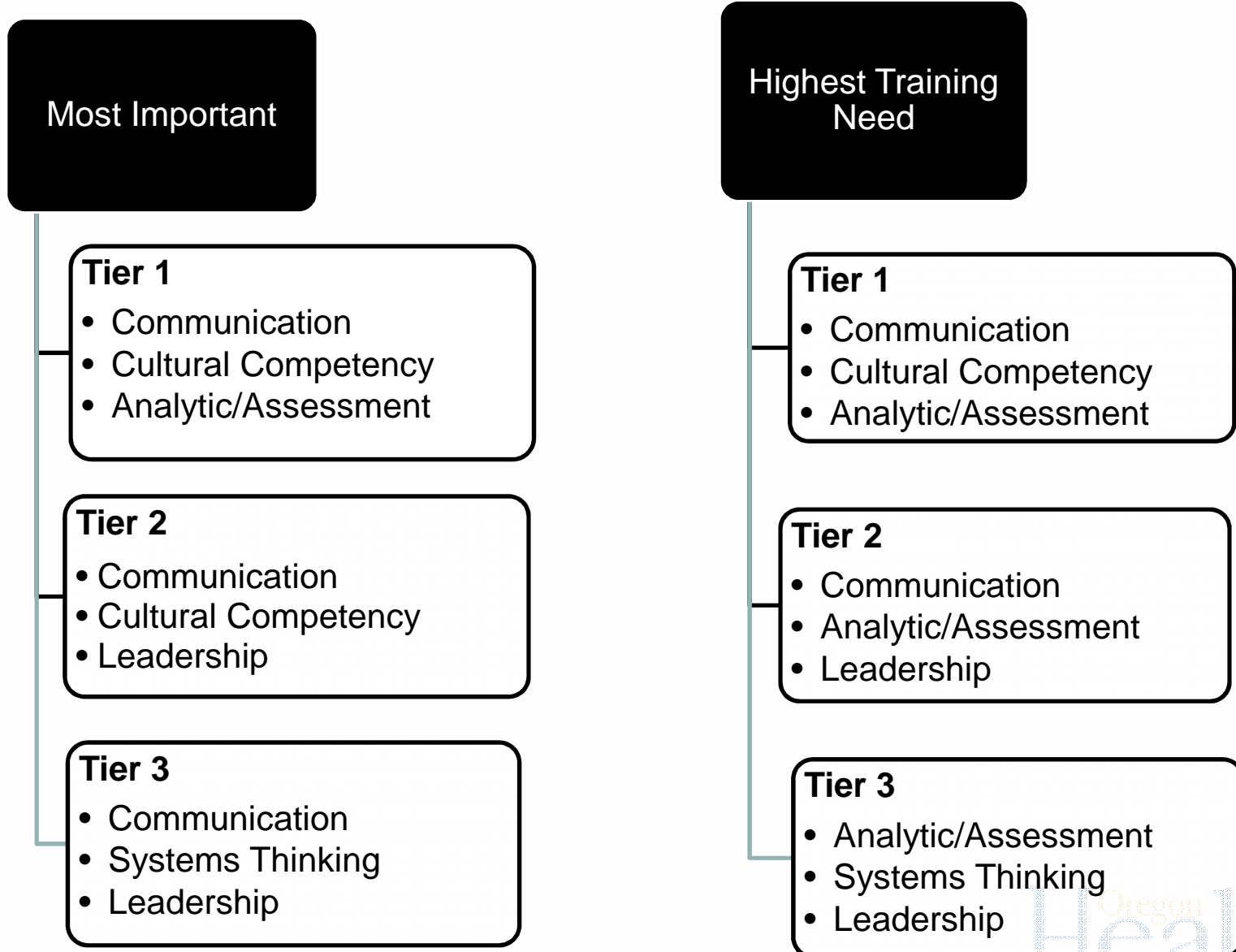
Tier 2

- Supervisors
- Program Coordinators
- Office Directors/Program Managers

Tier 3

- Executive Leaders

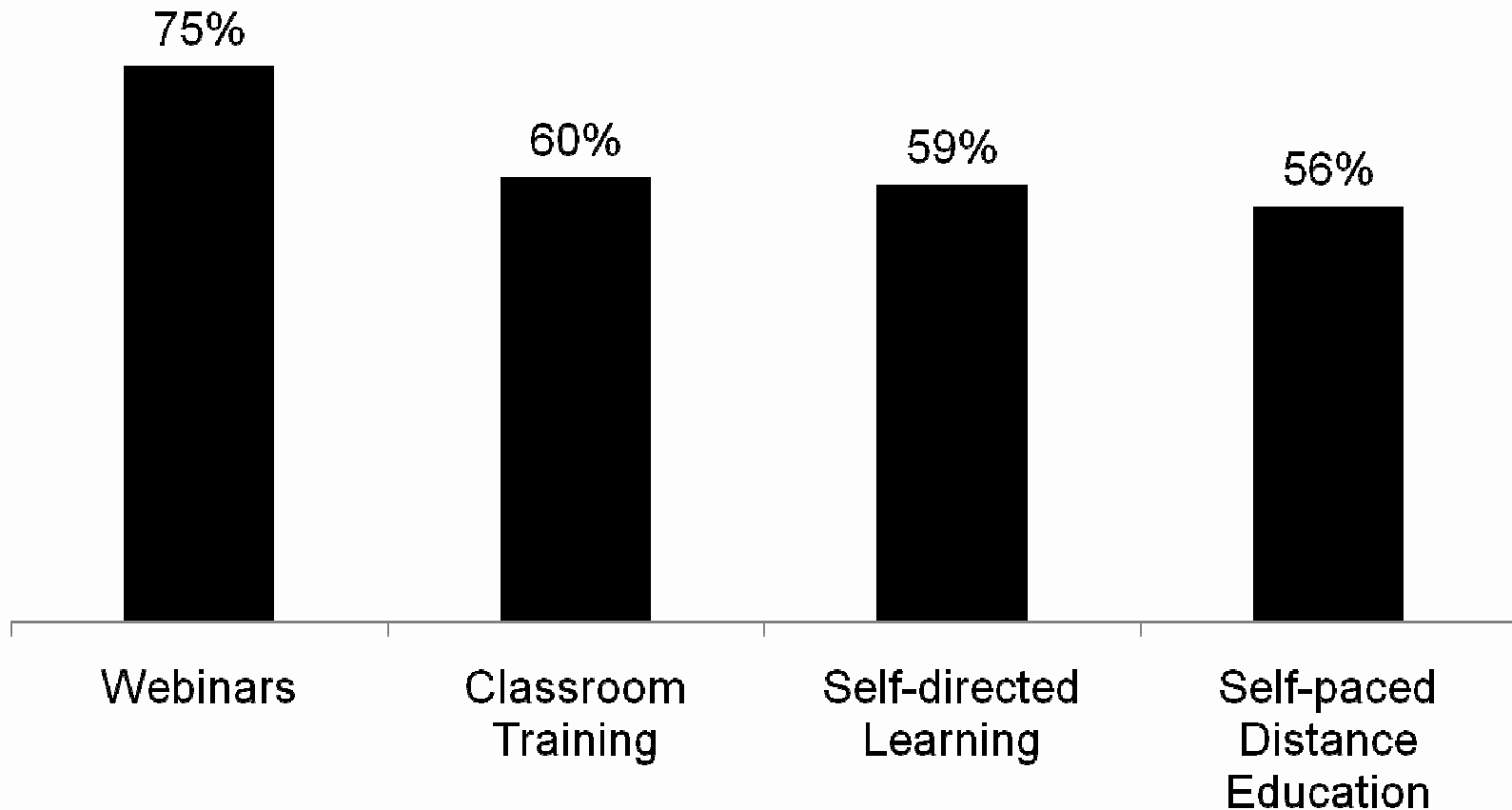
Domains



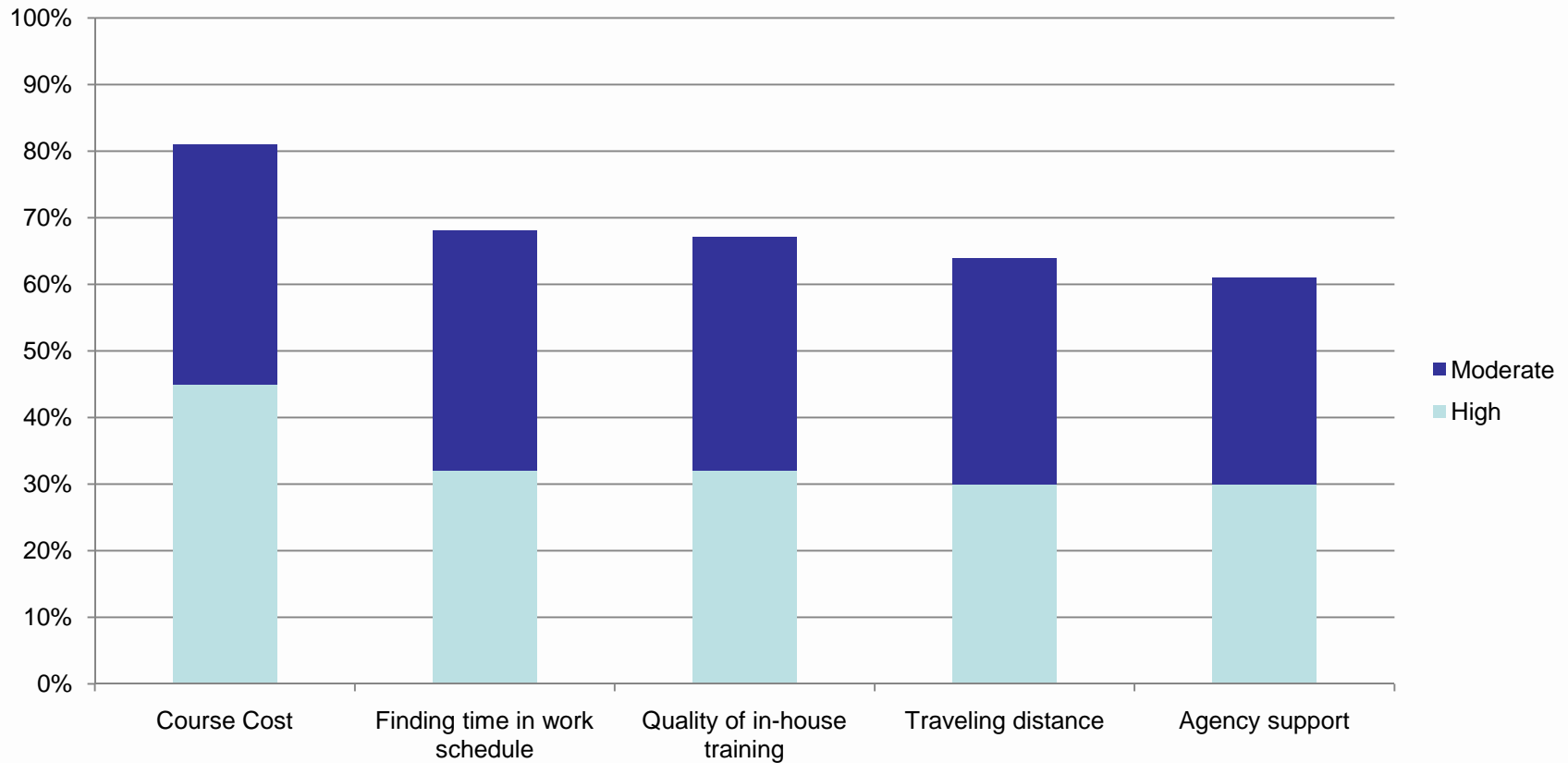
Top Competencies for Training

Tier 1	Tier 2	Tier 3
<ul style="list-style-type: none">• Using information technology to collect, store and retrieve data• Developing effective communications campaigns for the target audience• Responding to the needs of diverse populations	<ul style="list-style-type: none">• Developing effective communications campaigns for the target audience• Using social media as a communication tool• Evaluating programs for effectiveness and quality	<ul style="list-style-type: none">• Incorporating emerging trends of the fiscal, social, and political environments into strategic planning• Conducting return on investment analyses• Establishing measuring and reporting systems for organizational improvement

Preferred Mode of Training Formats



Barriers to Attending Training



Mentoring

	Very Valuable/ Valuable	Moderately Valuable	Little Value/No Value	N/A
How was the mentor experience?	47.2	6.5	3.3	43.0
Mentor of <u>your choosing</u> ?	59.5	19.1	10.9	10.5
Mentor chosen <u>by your employer</u> ?	36.9	23.0	27.7	12.3
What value does your organization currently place on mentoring?	15.1	19.4	51.2	14.4

Leaders Say – These Skills Are Needed



Communication

- Articulating value of public health
- Communicating to the public
- Communicating data



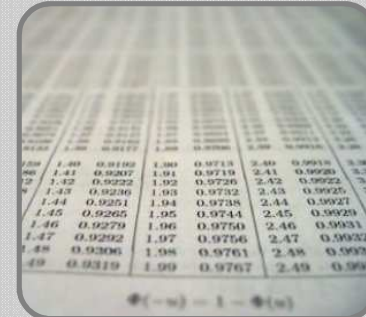
Community Collaboration

- Integrating with health care system
- Community engagement
- Working with community partners



Systems Thinking

- System development
- Change management
- Flexibility



Analytic/ Assessment

- Advanced skills
- Translating and applying data
- Informatics

Leaders Say . . .

- **Systematic changes in health care and public health will drive needed skills**
 - ACA expected to affect skills needed
 - Anticipating collaboration with health care organizations
 - Movement away from direct service

Leaders Say . . .

- They want to train existing employees to gain new skill sets.
- Recruitment and retention requires opportunities for training and job advancement.
- They want a menu of training options that incorporate individual learning styles.
- Extended and protected time for training and on-site training are ideal.
- Quality improvement and performance management activities have provided greatest ROI for professional development expenditures.

Next Steps

- Public Health Workforce Development Work Group
 - Multiple public health workforce development stakeholders
 - Recommend voluntary adoption of competencies
 - Training plan for current workforce needs
 - Recommend next steps for addressing future workforce needs
- Training Collaborations
 - Leadership training collaboration with Northwest Portland Area Indian Health Board
- Training is only one piece of the puzzle – succession planning, recruitment, human resources policies, compensation, etc.

Questions??

Danna Drum, M.Div.

Performance Management and Quality Improvement Manager

danna.k.drum@state.or.us

(971) 673-1223

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

February 2014

Prepared for:
The Oregon Health Authority

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

Revised 2/2/2014

Oregon Healthcare
Workforce Institute



OREGON
HEALTH & SCIENCE
UNIVERSITY



[This page intentionally left blank]

Table of Contents

Executive Summary	iii
Background	1
Projection Methodology	3
Data Sources	4
Findings	7
Discussion	17
Policy Implications	19
Appendices	21
Appendix A: Summary of Recent Studies Projecting Primary Care Clinician Demand as a Result of Health Care Reform	22
Appendix B: Number of Clinician FTEs by County	23
Appendix C: Estimated Population Changes by Insurance Coverage Type	25
Appendix D: Annual County-Level Clinician Projection Counts by Scenario	27
Appendix E: County Ranking by Projected Percentage Change in the Clinician Workforce by Scenario 2013-2020	39
Endnotes	42

[This page intentionally left blank]

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.

[This page intentionally left blank]

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.

One 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

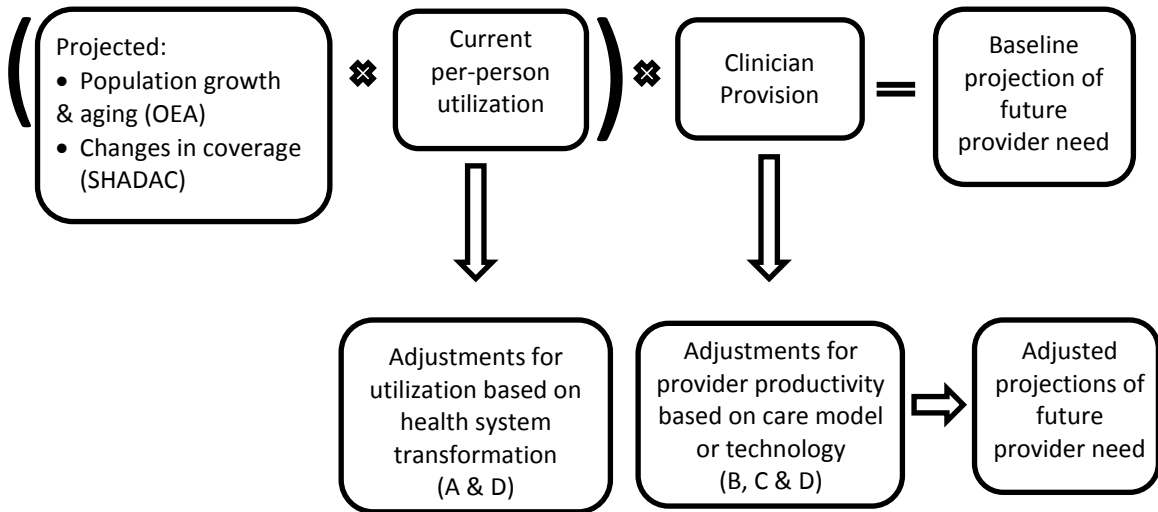
reasonable range of estimates based on current trends and how potential changes in care delivery or policy might affect those trends.

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 coverageⁱⁱⁱ. 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

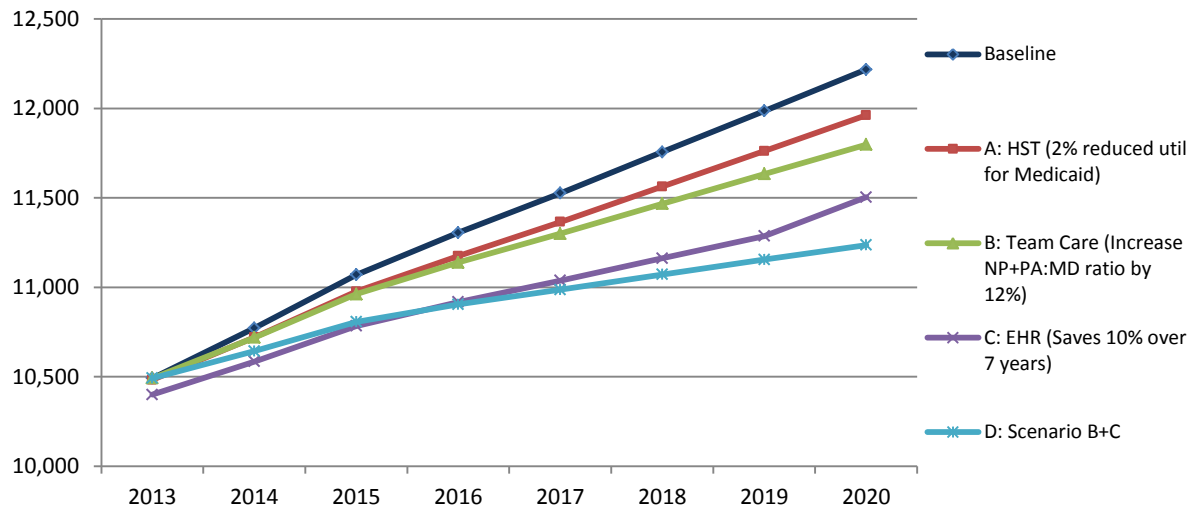
The impacts of alternative workforce scenarios are estimated by adjusting the baseline conditions of the projection model. Again, these scenarios include (A) Oregon’s health system transformation goal of reducing Medicaid growth by 2 percent, (B) team-based care, (C) full implementation of health IT, 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

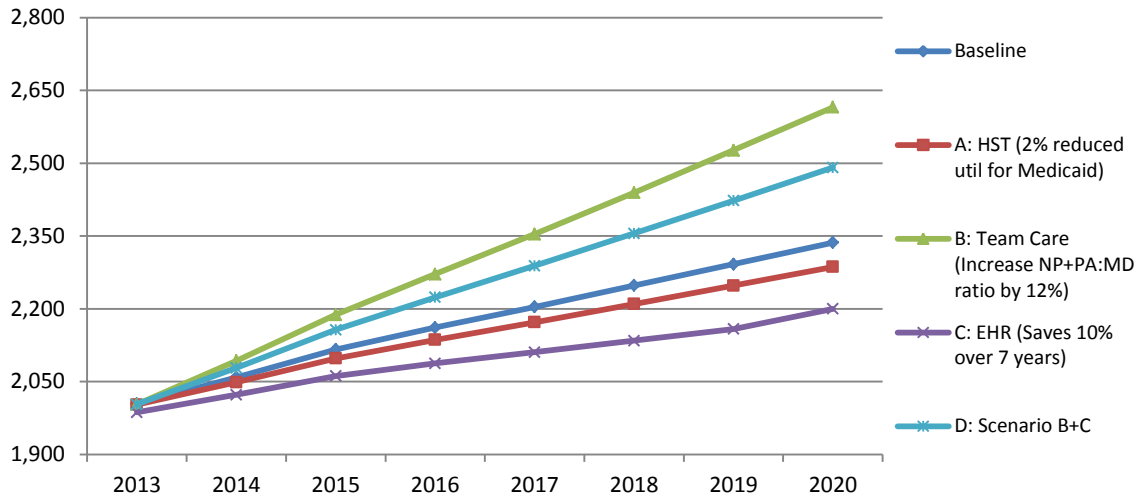
Oregon's Physicians: Relative to the baseline projection, demand for Oregon's physicians drops under each of the four alternate scenarios (see Figure 2). Incorporating a two percent reduction in Medicaid utilization changes the demand for physicians from a 16 percent to 14 percent growth rate between 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



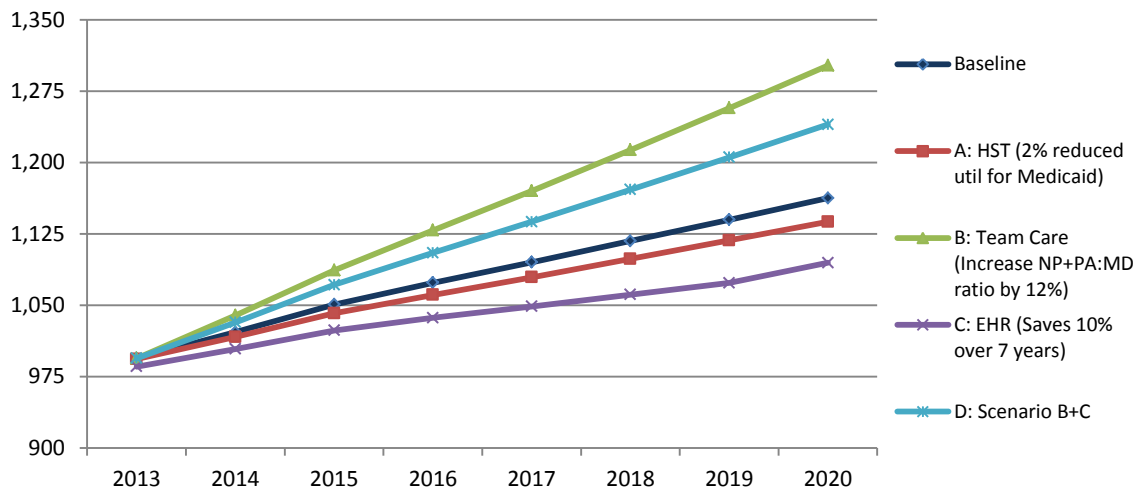
Oregon's Nurse Practitioners: The demand projected for Oregon's nurse practitioners drops from a 16 percent (baseline) growth rate to 14 percent when adjusted for the two percent reduction in Medicaid growth (scenario A) (see Figure 3). Adjusting for team-based care, which increases the roles of non-physician 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 25 percent, 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/HealthCareWorkforceCommittee.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 uncharted 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.

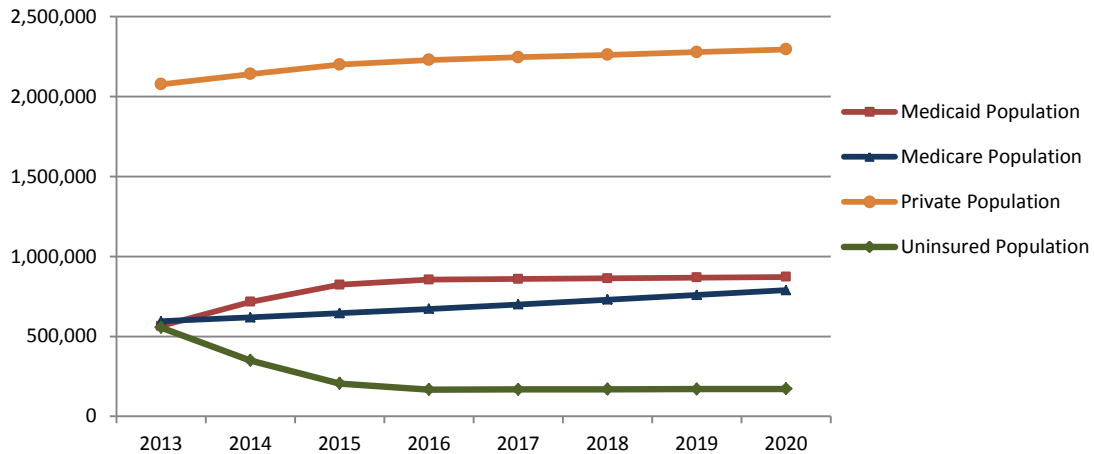
Appendix B1: Number of Clinician FTEs by County (2012)

County	Clinician FTE			Total
	Physician	NP	PA	
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	6	7
		A: HST (2% reduced util for Medicaid)	5	6	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	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	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	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	4
		B: Team Care (Increase NP+PA:Physician ratio by 12%)	4	4	4	4	4	4	4	4	4
		C: HIT (Saves 10% over 7 years)	4	4	4	4	4	4	4	4	4
		D: Scenario B+C	4	4	4	4	4	4	4	4	4
	NP	Baseline	0	0	0	0	0	0	0	0	0
		A: HST (2% reduced util for Medicaid)	0	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	0
		C: HIT (Saves 10% over 7 years)	0	0	0	0	0	0	0	0	0
		D: Scenario B+C	0	0	0	0	0	0	0	0	0
	PA	Baseline	4	4	4	4	4	5	5	5	5
		A: HST (2% reduced util for Medicaid)	4	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	5
		C: HIT (Saves 10% over 7 years)	4	4	4	4	4	4	4	4	4
		D: Scenario B+C	4	4	4	4	5	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
Walla Walla	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

- ¹ State Health Access Data Assistance Center (2005). *Pent-Up Demand for Health Care Services among the Newly Insured*. State Health Access Data Assistance Center, 2221 University Avenue, Suite 345, University of Minnesota, Minneapolis, MN, 55414. Available at http://www.azahcccs.gov/reporting/Downloads/HRSAGrant/publications/SHADAC_FINAL_REPORT.pdf
- ² Baicker, K. and Finkelstein, A. (2011). The effects of Medicaid coverage - Learning from the Oregon experiment, *New England Journal of Medicine*, August 25, 2011; 365:683-685.
- ³ Long, S.K., Stockley, K and Dahlen, H. (2012). Massachusetts Health Reforms: Uninsurance Remains Low, Self-Reported Health Status Improves As State Prepares To Tackle Costs, *Health Affairs*, 31, no.2 (2012):444-451.
- ⁴ Commonwealth of Massachusetts, Division of Health Care Finance and Policy (2010). *Primary Care in Massachusetts: An Overview of Trends and Opportunities (July 2010)*. Accessed 10/27/2013 at <http://archives.lib.state.ma.us/handle/2452/50110>
- ⁵ Association of American Medical Colleges (2011). *State Physician Workforce Data Book (November 2011)*. Available at <https://www.aamc.org/download/263512/data>.
- ⁶ Staiger, D.O., Auerbach, D.I., and Buerhaus, B.I. (2011). Health Care Reform and the Health Care Workforce - The Massachusetts Experience, *The New England Journal of Medicine*, 365:e24. Available at <http://www.nejm.org/doi/full/10.1056/NEJMp1106616>.
- ⁷ Fields D., Leshen E, and Patel K (2010). Driving quality gains and cost savings through adoption of medical homes. *Health Affairs*, 29(5): 819–826.
- ⁸ Grumbach K, and Grundy P (2010). *Outcomes of Implementing Patient Centered Medical Home Interventions: A Review of the Evidence from Prospective Evaluation Studies in the United States*. Washington DC: Patient-Centered Primary Care Collaborative.
- ⁹ Oregon Health Authority (2012). (Information Brief) *Oregon's 1115 Medicaid Waiver to Implement Health System Transformation*. Available at <http://www.oregon.gov/oha/OHPB/Documents/cms-waiver-brief.pdf>.
- ¹⁰ Auerbach, D.I., Chen, P.G., Friedberg, M.W., Reid, R., Lau, C., Buerhaus, P.I., and Mehrotra A., (2013). Nurse-managed health centers and patient-centered medical homes could mitigate expected primary care physician shortage, *Health Affairs*, 32, no.11:1933-1941.
- ¹¹ Green, L.V., Savin, S., and Lu, Y. (2013). Primary care physician shortages could be eliminated through use of teams, nonphysicians, and electronic communication, *Health Affairs*, 32, no.1:11-19.
- ¹² Weiner, J.P., Yeh, S., and Blumenthal, D. (2013). The impact of health information technology and e-health on the future demand for physician services, *Health Affairs*, Nov. 32(11):1998–2004.
- ¹³ Green, L.V., Savin, S., and Lu, Y. (2013). Primary care physician shortages could be eliminated through use of teams, nonphysicians, and electronic communication. *Health Affairs*, 32, no.1:11-19.
- ¹⁴ U.S. Department of Health and Human Services, Office of the National Coordinator. *Health IT Dashboard*. Accessed November 2013. Available at <http://dashboard.healthit.gov>.
- ¹⁵ Oregon Office for Health Policy and Research (2013). *Oregon Health Professions: Occupational and County Profiles: 2013*. Oregon Health Authority, Salem, OR. Available at <http://www.oregon.gov/oha/OHPR/RSC/Docs/Workforce/2012%20Workforce%20Report/2012%20Workforce%20Report.pdf>.

- ¹⁶ Salsberg, E (2013). *Projecting Future clinician Supply and Demand: Advances and Challenges*. National Health Policy Forum, Washington DC. Available at <http://bhpr.hrsa.gov/healthworkforce/supplydemand/supplyanddemand.pdf>.
- ¹⁷ Kirch, D.G., Henderson, M.K., and Dill, M.J. (2012). Physician workforce projections in an era of health care reform, *Annual Review of Medicine*, 63: 435-445.
- ¹⁸ Oregon Office for Health Policy and Research (2013). *Oregon Health Professions: Occupational and County Profiles: 2013*. Oregon Health Authority, Salem, OR. Available at <http://www.oregon.gov/oha/OHPR/RSCH/docs/Workforce/2012%20Workforce%20Report/2012%20Workforce%20Report.pdf>.
- ¹⁹ Oregon Health Authority (2013). *Provider Access Questions from the Physician Workforce Survey*. Accessed November 2013. Available at <http://www.oregon.gov/oha/Metrics/Pages/measure-provider.aspx>
- ²⁰ Oregon Health Care Workforce Committee (2013). *5-Year Strategic Plan for Primary Care Provider Recruitment in Oregon*. Available at http://www.oregon.gov/oha/OHPR/HPB/Workforce/Docs/HB_2366_Report_and_Appendices.pdf
- ²¹ Oregon Health Authority (2013). *Health IT Task Force*. Accessed November 2013. Available at <http://healthit.oregon.gov/Initiatives/Pages/Task-Force.aspx>
- ²² Hofer, A.N., Abraham, J.M., and Moscovice, I. (2011). Expansion of coverage under the Patient Protection and Affordable Care Act and primary care utilization, *Milbank Quarterly*, 89, no. 1: 69-89.
- ²³ Association of American Medical Colleges (2010). *The Impact of Health Care Reform on the Future supply and Demand for Physicians Updated Projections Through 2020*. AAMC, June 2010, Washington, DC. Available at: https://www.aamc.org/download/158076/data/updated_projections_through_2025.pdf.
- ²⁴ Virginia Department of Health Professions (2010). *Physician Forecasting in Virginia 2008-2030*. Henrico, Virginia. Available at: <http://www.dhp.virginia.gov/hwdc/docs/Physician2008/ForecastingSupplyAndDemand8-23-2010%20.pdf>.
- ²⁵ Petterson, S.M., Liaw, W.R., Phillips, R.L., Rabin, D.L., Meyers, D.S., and Basemore, A.W. (2012). Projecting US primary care physician workforce needs: 2010-2025, *Annals of Family Medicine*, 10:503-509.
- ²⁶ Robert Graham Center (2013). *State Workforce Projections*. Accessed 10/22/2013 at <http://www.graham-center.org/online/graham/home/tools-resources/state-wrkfrj-proj-intro/state-wrkfrj-proj.html>
- ²⁷ Robert Graham Center (2013). *Oregon: Projecting Primary Care Physician Workforce*. Accessed 10/22/2013 at http://www.graham-center.org/online/etc/medialib/graham/documents/tools-resources/oregon-pdf.Par.0001.File.dat/Oregon_final.pdf.
- ²⁸ Huang, E.S. and Finegold, K. (2013). Seven million Americans live in areas where demand for primary care may exceed supply by more than 10 percent, *Health Affairs*, 32, no.3 (Online edition).
- ²⁹ Bodenheimer, T. (2013). Primary care: Proposed solutions to the physician shortage without training more physicians. *Health Affairs*, 32 no. 11:1881-1886.
- ³⁰ Yarnall KSH, Østbye T, Krause KM, Pollak KI, Gradison M, Michener JL. (2009). Family physicians as team leaders: “time” to share the care, *Preventing Chronic Disease*, 6, no.2. Available at http://www.cdc.gov/pcd/issues/2009/apr/08_0023.htm.

³¹ Altschuler, J., Margolius, D., Bodenheimer, T., and Brumbach, K. (2012). Estimating a reasonable patient panel size for primary care physicians with team-based task delegation, *Annals of Family Medicine*, vol. 10, no. 5: 396-400.

³² Weiner, J.P., Yeh, S., and Blumenthal, D. (2013). The impact of health information technology and e-health on the future demand for physician services,” *Health Affairs*, Nov. 32(11):1998–2004.

³³ Green, L.V., Savin, S., and Lu, Y. (2013). Primary care physician shortages could be eliminated through use of teams, nonphysicians, and electronic communication. *Health Affairs*, 32, no.1:11-19.

³⁴ Cherry D., Lucas, C., and Decker, S.L. (2010). Population aging and the use of office-based physician services. *NCHS data brief, no. 41*. National Center for Health Statistics, Hyattsville, MD.

Important updates for hospitals, clinics, and other entities that provide clinical training opportunities for students

If your facility provides clinical training opportunities for students in the health professions (e.g., those training to become nurses, medical assistants, physicians, etc.), please review the following for information on the new standardized administrative requirements established under [Oregon Administrative Rules 409-030-0100](#).

Beginning July 1, 2014, health profession students will need to meet a standardized, universal set of administrative requirements prior to doing clinical training in Oregon. For most students, satisfying the requirements once will be sufficient for all subsequent clinical training experiences. The requirements include immunizations, screenings, trainings, and proof of coverage under insurance policies (see the attached Quick Reference Guide) and will replace any similar requirements that each facility had previously established. The consensus requirements were developed with input from a wide range of training programs, clinical sites, and regulatory agencies.

The hope is that with these standardized requirements, your facility will be able to reduce the administrative burden that comes with training students in a clinical setting. Students and health profession programs will be clear about the basic expectations prior to any training experiences, you can expect consistent preparation of the requirements across all programs, and less time will be needed to review requirements and negotiate with or educate the health profession programs on your specific requirements.

Record keeping

Each health profession program (e.g., college or training program) will be responsible for verifying and maintaining the evidence and documentation of the administrative requirements for each student, with documents available to you at your request. Out-of-state students are also subject to these rules, and efforts are being made to notify programs nationwide of the requirements for Oregon students.

Completion of the administrative requirements only ensures administrative clearance for students. Your facility will still make all final clearance and placement decisions.

Setting additional requirements

If you are responsible for reviewing students' administrative requirements, please note that you cannot set additional requirements within the categories covered under the new standard requirements. For example, you cannot require proof of an immunization that is not listed in the requirements or require that students utilize a 12-panel drug screen instead of a 10-panel drug screen. However, any in-house preparations for students or unique onboarding procedures, trainings or orientation sessions at your facility can continue.

In rare and extenuating circumstances (e.g., a public health emergency situation, such as an outbreak that requires a new or different vaccination) your facility may temporarily institute a site-specific variation or change to a standard requirement, provided that you notify all affected parties and the Oregon Health Authority in advance of any changes. Once instituted, a change or variation will remain in place until next annual review of the rules, at which point a decision will be made to spread the change or variation to all students at all facilities, or to strike down the change.

Exemptions for clinical sites

A number of facilities have requirements that are set at the federal level (e.g., Department of Veterans' Affairs facilities) or are otherwise separately developed (e.g., state prisons and correctional facilities).

Students wishing to do a clinical rotation at those sites will need to meet the administrative requirements set forth by those facilities. Please see the attached Quick Reference Guide.

Additionally, if your facility has fewer or less stringent requirements for newly hired, non-student employees, you may be able to request an exemption from specific categories of these rules. For example, if you do not require a new hire at your facility to complete a background check, you may request an exemption from the rules so that students do not have to complete a background check either. However, students would still need to follow these requirements for the other categories (immunizations, trainings, and evidence of insurance policies). If you think you may qualify, please follow the steps in OAR 409-030-0150 to submit a written request.

Affected students

These new requirements apply to students training in the selected professions who are participating in clinical training experiences at an off-site facility that is listed in these rules (see attached Quick Reference Guide for details on both). Out-of-state students are also subject to these rules, and efforts are being made to notify programs nationwide of the requirements for students doing clinicals in Oregon.

Requirements for instructors

It is up to you to determine if you will require instructors from the health profession program who physically accompany students during clinical training at your facility to abide by these rules as well. However, you cannot require instructors to meet requirements that are above and beyond those listed in the rules (e.g., additional immunizations or a more extensive background check).

Background

As dictated in [SB 879 \(2011\)](#), the standardized set of administrative requirements was determined through a comprehensive and extensive process that involved experts, a wide variety of stakeholders, and public input. The intention of SB 879 was: to mitigate inconsistencies that currently exist across clinical facilities; to promote efficient solutions to reduce costs for students, health profession programs and clinical facilities; and to ensure patient, clinical staff and student safety.

For more background information, including a list of FAQs, please visit:

<http://www.oregon.gov/oha/OHPR/Pages/sct.aspx>.

If you have additional questions, please email: Clinical.TrainingReq@state.or.us

Oregon Administrative Requirements for Health Profession Students Quick Reference Guide

Facilities:

Clinical facilities that must accept the standardized administrative requirements include:

- Ambulatory care settings (e.g., clinics, private practices, FQHCs, and primary care homes)
- Ambulatory surgical centers
- Hospice settings
- Hospital and emergency departments
- Long term care facilities
- Residential care facilities
- Skilled nursing facilities

Clinical facilities that are exempt from these rules include:

- chiropractic, acupuncture, and massage therapy clinics
- federal facilities, including Department of Veterans' Affairs, Indian Health Service facilities, and federal prisons
- health management or administrative departments;
- public elementary and secondary schools (grades K-12);
- radiosurgery clinical placements
- state prisons and correctional facilities

Students:

Students in the following health professions must complete the requirements prior to undergoing any clinical training.

- Audiologists
- Clinical laboratory science specialists, including medical technologists, clinical lab scientists, medical lab technologists, and clinical lab assistants
- Dental hygienists
- Dentists and dental assistants
- Denturists
- Dieticians
- Emergency medical services providers
- Hemodialysis technicians
- Marriage and family therapists
- Medical assistants
- Medical imaging practitioners and limited x-ray machine operators
- Nurses, including registered nurses, practical nurses, advanced practice nurses, nurse practitioners, nursing assistants, medication aides and any other licensed assistive nursing personnel
- Occupational therapists and occupational therapy assistants
- Optometrists
- Pharmacists and pharmacy technicians
- Physical therapists, physical therapist aides, and physical therapist assistants
- Physician assistants
- Physicians (Medical/Osteopathic and Naturopathic)
- Podiatrists
- Polysomnographic technologists
- Professional counselors
- Psychologists
- Regulated social workers
- Respiratory care practitioners
- Speech-language pathologists and speech-language pathologist assistants
- Surgical technologists

List of Administrative Requirements:

For additional information, documentation requirements, and exceptions please see [Oregon Administrative Rules 409-030-0100 to 409-030-0250](#).

Immunizations:

Evidence requires documented receipt of vaccine or documented immunity via titer or valid history of disease, or a record from the Oregon ALERT Immunization Information System. Per CDC guidelines.

- ✓ *Required* Hepatitis B (Hep B)
- ✓ *Required* Measles, mumps and rubella (MMR)
- ✓ *Required* Tetanus, diphtheria, pertussis (Tdap)
- ✓ *Required* Varicella
- ✓ *Recommended* Polio
- ✓ *Recommended* Influenza (seasonal flu)

Screenings:

- ✓ Tuberculosis (TB)
 - Facility choice of skin test or IGRA Blood test in accordance with CDC guidelines
- ✓ Substance Abuse
 - 10-panel drug screen, which must include screens for the following eight substances: Amphetamines, including methamphetamines; Barbiturates; Benzodiazepines; Cocaine; Marijuana; Methadone; Opiates; Phencyclidine.
- ✓ Criminal Background Check:
 - Must include Social Security Number trace, state/national criminal background history, sex offender registry check, and OIG LEIE check.

Trainings:

- ✓ CPR/Basic Life Support (BLS) for healthcare providers. It is recommended that trainings comply with the American Heart Association standard
- ✓ Bloodborne Pathogen training (OSHA)
- ✓ OSHA-recommended safety guidelines, including the following. Schools must verify student familiarity or exposure to topics:
 - Fire and electrical safety;
 - Personal protective equipment;
 - Hazard communications; and
 - Infection prevention practices.
- ✓ *Site-specific* privacy and confidentiality practices. Will occur at EACH facility.
- ✓ *Site-specific* orientation and on-boarding. For example, facility-specific protocols for safety, security, standards of behavior, etc. Will occur at EACH facility.

Insurance and Liability Coverage:

Students or health profession programs must demonstrate that students have:

- ✓ Professional liability insurance coverage and general liability insurance coverage, or
- ✓ A combined policy that includes professional and general liability coverage

The coverage must remain in place for the entire duration of each placement. The health profession program may offer coverage for students through a self-insurance program or the student may obtain coverage individually. It is also recommended but not required that the student obtain some form of health insurance coverage.

Important updates for health profession students undergoing clinical training in the state of Oregon

If you are a health profession student (e.g., training to become a nurse, physician, medical assistant, etc.) and you plan to undergo clinical training opportunities or externships at clinical facilities (e.g., hospitals, long-term care facilities, etc.) in Oregon, please review the following for information on the new standardized administrative requirements established under [Oregon Administrative Rules 409-030-0100](#).

Beginning July 1, 2014, health profession students will need to meet a standardized, universal set of administrative requirements prior to doing clinical training in Oregon. For most students, satisfying the requirements once will be sufficient for all subsequent clinical training experiences. The requirements include immunizations, screenings, trainings, and proof of coverage under insurance policies (see the attached Quick Reference Guide) and will replace any similar requirements that each facility had previously established. The consensus requirements were developed with input from a wide range of training programs, clinical sites, and regulatory agencies.

The hope is that with these standardized requirements, you will be able to reduce the potential burden of managing multiple requirements across different clinical sites. You will clearly know the expectations prior to any training experiences and all clinical sites will now accept a standard preparation of the requirements listed in these rules. In the long run, these changes will also reduce your costs, as you will not need to unnecessarily repeat trainings, screenings, or tests for each new clinical training experience.

Record keeping responsibility

You will need to work with your educational program (e.g., college or training program) to gather and maintain all the required evidence and documentation demonstrating completion of the administrative requirements. All documents need to be verified by your program prior to the start of any clinical training at an off-site facility. The clinical facilities will then request the documentation from your program as needed.

Completion of the administrative requirements only ensures administrative clearance for you at the clinical site. The clinical facility will still make all final clearance and placement decisions.

Affected students

These new requirements apply to you if you are training in one of the selected professions and you plan on participating in clinical training experiences at an off-site facility in Oregon that is listed in these rules (see attached Quick Reference Guide for details on both). Out-of-state students are also subject to these rules, and efforts are being made to notify programs nationwide of the requirements for students doing clinical in Oregon.

However, a small number of students studying in the following programs or facilities will be exempt from the background check requirements in this rule and will instead need to follow the State Background Check Unit (BCU) rules, found in OAR 407-007-0200.

- A student enrolled in a Board of Nursing approved nursing assistant training program in which the instruction and training occurs solely in a nursing facility, or
- Students who provide care, have access to client information or client funds at a facility licensed or certified by either the Oregon Health Authority's Addictions and Mental Health Division, or the Public Health Department, to provide services for individuals with developmental disabilities

Exceptions for on-site clinical training

If your health profession program offers clinical training opportunities on-site at your facility, you do not need to complete these requirements in advance of the on-site training. For example, students at OHSU do not need to complete these requirements prior to any clinical training at OHSU.

Changes and variations to the requirements

These rules prevent clinical facilities from setting additional requirements within the categories covered under the new standard requirements. For example, they cannot require proof of an immunization that is not listed in the requirements or require that you utilize a 12-panel drug screen instead of a 10-panel drug screen. However, each facility can continue to conduct in-house preparations for students or unique onboarding procedures, trainings or orientation sessions.

In rare and extenuating circumstances (e.g., a public health emergency situation, such as an outbreak that requires a new or different vaccination) the clinical facility may temporarily institute a site-specific variation or change to a standard requirement, provided that it notifies all affected parties and the Oregon Health Authority in advance of any changes. Once instituted, a change or variation will remain in place until next annual review of the rules, at which point a decision will be made to spread the change or variation to all students at all facilities, or to strike down the change.

Exemptions for clinical facilities

A number of facilities have requirements that are set at the federal level (e.g., Department of Veterans' Affairs facilities) or are otherwise separately developed (e.g., state prisons and correctional facilities). If you wish to do a clinical rotation at those sites, you will need to meet the administrative requirements set forth by those facilities. Please see the attached Quick Reference Guide.

Additionally, if the clinical facility has fewer or less stringent requirements for newly hired, non-student employees, it may request an exemption from specific categories of these rules. For example, if it does not require a new hire at the facility to complete a background check, the facility may request an exemption from the rules so that students do not have to complete a background check either. However, students would still need to follow these requirements for the other categories (immunizations, trainings, and evidence of insurance policies).

Background

As dictated in [SB 879 \(2011\)](#), the standardized set of administrative requirements was determined through a comprehensive and extensive process that involved experts, a wide variety of stakeholders, and public input. The intention of SB 879 was: to mitigate inconsistencies that currently exist across clinical facilities; to promote efficient solutions to reduce costs for students, health profession programs and clinical facilities; and to ensure patient, clinical staff and student safety.

For more background information, including a list of FAQs, please visit: <http://www.oregon.gov/oha/OHPR/Pages/sct.aspx>.

If you have additional questions, please email: Clinical.TrainingReq@state.or.us

Oregon Administrative Requirements for Health Profession Students Quick Reference Guide

Facilities:

Clinical facilities that must accept the standardized administrative requirements include:

- Ambulatory care settings (e.g., clinics, private practices, FQHCs, and primary care homes)
- Ambulatory surgical centers
- Hospice settings
- Hospital and emergency departments
- Long term care facilities
- Residential care facilities
- Skilled nursing facilities

Clinical facilities that are exempt from these rules include:

- chiropractic, acupuncture, and massage therapy clinics
- federal facilities, including Department of Veterans' Affairs, Indian Health Service facilities, and federal prisons
- health management or administrative departments;
- public elementary and secondary schools (grades K-12);
- radiosurgery clinical placements
- state prisons and correctional facilities

Students:

Students in the following health professions must complete the requirements prior to undergoing any clinical training.

- Audiologists
- Clinical laboratory science specialists, including medical technologists, clinical lab scientists, medical lab technologists, and clinical lab assistants
- Dental hygienists
- Dentists and dental assistants
- Denturists
- Dieticians
- Emergency medical services providers
- Hemodialysis technicians
- Marriage and family therapists
- Medical assistants
- Medical imaging practitioners and limited x-ray machine operators
- Nurses, including registered nurses, practical nurses, advanced practice nurses, nurse practitioners, nursing assistants, medication aides and any other licensed assistive nursing personnel
- Occupational therapists and occupational therapy assistants
- Optometrists
- Pharmacists and pharmacy technicians
- Physical therapists, physical therapist aides, and physical therapist assistants
- Physician assistants
- Physicians (Medical/Osteopathic and Naturopathic)
- Podiatrists
- Polysomnographic technologists
- Professional counselors
- Psychologists
- Regulated social workers
- Respiratory care practitioners
- Speech-language pathologists and speech-language pathologist assistants
- Surgical technologists

List of Administrative Requirements:

For additional information, documentation requirements, and exceptions please see [Oregon Administrative Rules 409-030-0100 to 409-030-0250](#).

Immunizations:

Evidence requires documented receipt of vaccine or documented immunity via titer or valid history of disease, or a record from the Oregon ALERT Immunization Information System. Per CDC guidelines.

- ✓ *Required* Hepatitis B (Hep B)
- ✓ *Required* Measles, mumps and rubella (MMR)
- ✓ *Required* Tetanus, diphtheria, pertussis (Tdap)
- ✓ *Required* Varicella
- ✓ *Recommended* Polio
- ✓ *Recommended* Influenza (seasonal flu)

Screenings:

- ✓ Tuberculosis (TB)
 - Facility choice of skin test or IGRA Blood test in accordance with CDC guidelines
- ✓ Substance Abuse
 - 10-panel drug screen, which must include screens for the following eight substances: Amphetamines, including methamphetamines; Barbiturates; Benzodiazepines; Cocaine; Marijuana; Methadone; Opiates; Phencyclidine.
- ✓ Criminal Background Check:
 - Must include Social Security Number trace, state/national criminal background history, sex offender registry check, and OIG LEIE check.

Trainings:

- ✓ CPR/Basic Life Support (BLS) for healthcare providers. It is recommended that trainings comply with the American Heart Association standard
- ✓ Bloodborne Pathogen training (OSHA)
- ✓ OSHA-recommended safety guidelines, including the following. Schools must verify student familiarity or exposure to topics:
 - Fire and electrical safety;
 - Personal protective equipment;
 - Hazard communications; and
 - Infection prevention practices.
- ✓ *Site-specific* privacy and confidentiality practices. Will occur at EACH facility.
- ✓ *Site-specific* orientation and on-boarding. For example, facility-specific protocols for safety, security, standards of behavior, etc. Will occur at EACH facility.

Insurance and Liability Coverage:

Students or health profession programs must demonstrate that students have:

- ✓ Professional liability insurance coverage and general liability insurance coverage, or
- ✓ A combined policy that includes professional and general liability coverage

The coverage must remain in place for the entire duration of each placement. The health profession program may offer coverage for students through a self-insurance program or the student may obtain coverage individually. It is also recommended but not required that the student obtain some form of health insurance coverage.

Important updates for colleges, educational training programs, and other entities that train students in clinical health profession

If your educational program oversees health profession students (e.g., those training to become nurses, physicians, medical assistants, etc.) who participate in clinical training opportunities or externships at off-site clinical facilities (e.g., hospitals, long-term care facilities, etc.), please review the following for information on the new standardized administrative requirements established under [Oregon Administrative Rules 409-030-0100](#).

Beginning July 1, 2014, health profession students will need to meet a standardized, universal set of administrative requirements prior to doing clinical training in Oregon. For most students, satisfying the requirements once will be sufficient for all subsequent clinical training experiences. The requirements include immunizations, screenings, trainings, and proof of coverage under insurance policies (see the attached Quick Reference Guide) and will replace any similar requirements that each facility had previously established. The consensus requirements were developed with input from a wide range of training programs, clinical sites, and regulatory agencies.

The hope is that with these standardized requirements, your educational program will be able to reduce the administrative burden that comes with assisting students in obtaining clinical training clearance at an off-site facility. You and your students will know the expectations prior to any training experiences and all clinical sites will now accept a standard preparation of the requirements listed in these rules. Less time will be needed for you to review documents, manage requirements across multiple facilities, or negotiate with each clinical facility.

Record keeping responsibility

Your educational program (e.g., college or training program) will be responsible for verifying and maintaining the evidence and documentation of the administrative requirements for each student. Clinical facilities will request them from you as needed, for those students conducting training at their facilities.

Completion of the administrative requirements only ensures administrative clearance for students. The clinical facility will still make all final clearance and placement decisions.

Affected students

These new requirements apply to students training in the selected professions who are participating in clinical training experiences at an off-site facility that is listed in these rules (see attached Quick Reference Guide for details on both). Out-of-state students are also subject to these rules, and efforts are being made to notify programs nationwide of the requirements for students doing clinicals in Oregon.

Exceptions for on-site clinical training

If your health profession program offers clinical training opportunities on-site at your facility, students do not need to complete these requirements in advance of the on-site training. For example, students at OHSU do not need to complete these requirements prior to any clinical training at OHSU.

Changes and variations to the requirements

Clinical facilities cannot set additional requirements within the categories covered under the new standard requirements. For example, they cannot require proof of an immunization that is not listed in the requirements or require that students utilize a 12-panel drug screen instead of a 10-panel drug screen. However, each facility can continue to conduct in-house preparations for students or unique onboarding procedures, trainings or orientation sessions.

In rare and extenuating circumstances (e.g., a public health emergency situation, such as an outbreak that requires a new or different vaccination) the clinical facility may temporarily institute a site-specific variation or change to a standard requirement, provided that it notifies all affected parties and the Oregon Health Authority in advance of any changes. Once instituted, a change or variation will remain in place until next annual review of the rules, at which point a decision will be made to spread the change or variation to all students at all facilities, or to strike down the change.

Exemptions for clinical facilities

A number of facilities have requirements that are set at the federal level (e.g., Department of Veterans' Affairs facilities) or are otherwise separately developed (e.g., state prisons and correctional facilities). Students wishing to do a clinical rotation at those sites will need to meet the administrative requirements set forth by those facilities. Please see the attached Quick Reference Guide.

Additionally, if the clinical facility has fewer or less stringent requirements for newly hired, non-student employees, it may request an exemption from specific categories of these rules. For example, if it does not require a new hire at the facility to complete a background check, the facility may request an exemption from the rules so that students do not have to complete a background check either. However, students would still need to follow these requirements for the other categories (immunizations, trainings, and evidence of insurance policies). If you think a clinical facility hosting your students may qualify, please consult with that facility and follow the steps in OAR 409-030-0150 to submit a written request.

Requirements for instructors

It is up to each clinical facility to determine if it will require instructors from your program (and all programs) who physically accompany students during clinical training to abide by these rules as well. However, it cannot require instructors to meet requirements that are above and beyond those listed in the rules (e.g., additional immunizations or a more extensive background check).

Background checks for students

A small number of students studying in the following programs or facilities will be exempt from the requirements for background checks listed in these rules, and will instead need to follow the State Background Check Unit (BCU) rules, found in OAR 407-007-0200.

- A student enrolled in a Board of Nursing approved nursing assistant training program in which the instruction and training occurs solely in a nursing facility, or
- Students who provide care, have access to client information or client funds at a facility licensed or certified by either the Oregon Health Authority's Addictions and Mental Health Division, or the Public Health Department, to provide services for individuals with developmental disabilities

Background

As dictated in [SB 879 \(2011\)](#), the standardized set of administrative requirements was determined through a comprehensive and extensive process that involved experts, a wide variety of stakeholders, and public input. The intention of SB 879 was: to mitigate inconsistencies that currently exist across clinical facilities; to promote efficient solutions to reduce costs for students, health profession programs and clinical facilities; and to ensure patient, clinical staff and student safety.

For more background information, including a list of FAQs, please visit:
<http://www.oregon.gov/oha/OHPR/Pages/sct.aspx>.

If you have additional questions, please email: Clinical.TrainingReq@state.or.us

Oregon Administrative Requirements for Health Profession Students Quick Reference Guide

Facilities:

Clinical facilities that must accept the standardized administrative requirements include:

- Ambulatory care settings (e.g., clinics, private practices, FQHCs, and primary care homes)
- Ambulatory surgical centers
- Hospice settings
- Hospital and emergency departments
- Long term care facilities
- Residential care facilities
- Skilled nursing facilities

Clinical facilities that are exempt from these rules include:

- chiropractic, acupuncture, and massage therapy clinics
- federal facilities, including Department of Veterans' Affairs, Indian Health Service facilities, and federal prisons
- health management or administrative departments;
- public elementary and secondary schools (grades K-12);
- radiosurgery clinical placements
- state prisons and correctional facilities

Students:

Students in the following health professions must complete the requirements prior to undergoing any clinical training.

- Audiologists
- Clinical laboratory science specialists, including medical technologists, clinical lab scientists, medical lab technologists, and clinical lab assistants
- Dental hygienists
- Dentists and dental assistants
- Denturists
- Dieticians
- Emergency medical services providers
- Hemodialysis technicians
- Marriage and family therapists
- Medical assistants
- Medical imaging practitioners and limited x-ray machine operators
- Nurses, including registered nurses, practical nurses, advanced practice nurses, nurse practitioners, nursing assistants, medication aides and any other licensed assistive nursing personnel
- Occupational therapists and occupational therapy assistants
- Optometrists
- Pharmacists and pharmacy technicians
- Physical therapists, physical therapist aides, and physical therapist assistants
- Physician assistants
- Physicians (Medical/Osteopathic and Naturopathic)
- Podiatrists
- Polysomnographic technologists
- Professional counselors
- Psychologists
- Regulated social workers
- Respiratory care practitioners
- Speech-language pathologists and speech-language pathologist assistants
- Surgical technologists

List of Administrative Requirements:

For additional information, documentation requirements, and exceptions please see [Oregon Administrative Rules 409-030-0100 to 409-030-0250](#).

Immunizations:

Evidence requires documented receipt of vaccine or documented immunity via titer or valid history of disease, or a record from the Oregon ALERT Immunization Information System. Per CDC guidelines.

- ✓ *Required* Hepatitis B (Hep B)
- ✓ *Required* Measles, mumps and rubella (MMR)
- ✓ *Required* Tetanus, diphtheria, pertussis (Tdap)
- ✓ *Required* Varicella
- ✓ *Recommended* Polio
- ✓ *Recommended* Influenza (seasonal flu)

Screenings:

- ✓ Tuberculosis (TB)
 - Facility choice of skin test or IGRA Blood test in accordance with CDC guidelines
- ✓ Substance Abuse
 - 10-panel drug screen, which must include screens for the following eight substances: Amphetamines, including methamphetamines; Barbiturates; Benzodiazepines; Cocaine; Marijuana; Methadone; Opiates; Phencyclidine.
- ✓ Criminal Background Check:
 - Must include Social Security Number trace, state/national criminal background history, sex offender registry check, and OIG LEIE check.

Trainings:

- ✓ CPR/Basic Life Support (BLS) for healthcare providers. It is recommended that trainings comply with the American Heart Association standard
- ✓ Bloodborne Pathogen training (OSHA)
- ✓ OSHA-recommended safety guidelines, including the following. Schools must verify student familiarity or exposure to topics:
 - Fire and electrical safety;
 - Personal protective equipment;
 - Hazard communications; and
 - Infection prevention practices.
- ✓ *Site-specific* privacy and confidentiality practices – will occur at EACH facility.
- ✓ *Site-specific* orientation and on-boarding (e.g., facility-specific protocols for safety, security, standards of behavior, etc.) – will occur at EACH facility.

Insurance and Liability Coverage:

Students or health profession programs must demonstrate that students have:

- ✓ Professional liability insurance coverage and general liability insurance coverage, or
- ✓ A combined policy that includes professional and general liability coverage

The coverage must remain in place for the entire duration of each placement. The health profession program may offer coverage for students through a self-insurance program or the student may obtain coverage individually. It is also recommended but not required that the student obtain some form of health insurance coverage.