Oregon Early Learning Workforce: Two Years Beyond Baseline Comparison of 2012 and 2014

This brief was produced jointly by:

Oregon Center for Career Development in Childhood Care and Education
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Oregon State University

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Introduction

In Oregon, as in the rest of the nation, increased awareness of the importance of early learning and development has been accompanied by recognition of the critical role played by those who teach and care for young children. Oregon's ability to reach goals such as school readiness for all children entering kindergarten is linked to the knowledge and skill of its early learning workforce. Yet prior to 2012 Oregon lacked data to answer basic questions about those who work in early learning and development programs. We have not been able to answer such basic questions as:

- How many persons work in early learning and development programs?
- What positions do these persons hold?
- What is their gender, race, ethnicity, and primary language?
- What is their education level? How many hold postsecondary degrees?
- How much training do they receive in a year?
- How engaged are they in professional development?

In the late 2000s, members of the Oregon Child Care Research Partnership articulated questions they thought a state should be able to answer about its early learning workforce. The group then identified the information they would need to collect from members of the workforce in order to be able to answer these questions. The Early Learning Division (ELD), Oregon Department of Education, and the Oregon Center for Career Development in Childhood Care and Education (OCCD) at Portland State University designed a data sharing system that would link professional development and regulatory data on a daily basis. They ensured that the new system was designed to store the information needed to answer the policy-relevant questions about the workforce that partners had articulated. In 2012, ELD implemented the new system in which all staff working in regulated child care facilities submitted documentation of training hours to OCCD and that data began being linked with regulatory data managed by ELD. Electronic linking of professional qualification and licensing data has allowed Oregon to answer basic questions about the early learning workforce employed in regulated centers and home-based early learning facilities[1].

Baseline 2012 data on the workforce were reported (OCCD & OCCRP, 2014) with a follow up report one year after baseline (OCCD & OCCRP, 2015). Working together, OCCD, ELD, and the Oregon Child Care Research Partnership at Oregon State University (OSU) have analyzed the data for a third year, 2014. As with the previous reports, this brief answers questions that partners have determined to be most critical for supporting decision makers as Oregon works to improve outcomes for its youngest children. This brief is the third of what will be annual reports on the workforce. In this third report, we compare findings with the baseline. This comparison provides a measure of the impact of early childhood investments on the workforce by viewing changes in important workforce characteristics.

Findings in the first portion of the brief are based on an analysis of data collected from individual workforce members and stored in the Oregon Registry Online database (e.g., age, education, and training). In the second portion of the report, findings are based on data about the workforce collected from child care facilities (e.g., compensation and retention).

[1] Home-based child care providers are typically identified by their regulatory status: a) small home-based providers are known as registered family child care and b) large home-based providers are known as certified family child care. We use the terms small and large home-based providers rather than the regulatory titles throughout this report.

FINDINGS BASED ON DATA COLLECTED FROM INDIVIDUAL WORKFORCE MEMBERS

Definition and Size of the 2014 Workforce

Importance of this information: The knowledge and skills of those persons who work directly with young children strongly impacts the learning and development of the young children enrolled in early learning and development programs. A critical step in supporting young children's development is identifying and describing those who work directly with them in childhood care and education facilities.

How measured: Partners identified the positions associated with direct work with children. To be included in the workforce individuals had to be:

- employed in regulated facilities, and
- working directly with children and families, operationalized by employment in the following positions – Aide I, Aide II, Assistant I, Assistant II, Director, Head Teacher, Provider, Teacher, Teacher's Aide, Site Directors/Supervisor,[2] and
- known to be working in regulated facilities in 2014. This criterion was based on the individual's end date, hire date, and start date information.[3]

22,101 people worked in Oregon regulated early learning facilities in 2014. This represents an increase of 1,228 individuals since 2012.

2012	2013	2014
20,873	23,488	22,101

Workforce by Type of Care and Position

Importance of this information: Members of the workforce play distinct roles and regulatory requirements vary by the position held so it is important to describe workforce characteristics by position held. Accurately describing the workforce by type of care and position within each type provides information needed for effective targeting of investments.

How measured: Workforce counts were created by type of care and by position within each type. We report counts of those employed in centers, large family homes, and small family homes.

Number of Persons in the Workforce by Type of Care

In 2014, center staff comprised the majority of the workforce with 73% of individuals working in child care centers. Large family child care homes comprised 13% of the workforce, and small family child care homes comprised 14% of the workforce. All individuals in small family homes were listed in the position of provider as small family child care home providers seldom hire staff. The data show a slight decrease in the

[2] Using positions defined by the Office of Child Care for use in licensing, we determined the positions in which individuals primarily work directly with children and thus meet our definition for the child care workforce.

[3] For 2014: End date needed to be greater than 12/31/13; hire date needed to be less than 12/31/14; and start date also needed to be less than 12/31/14.

number/percentage of persons employed in small home-based facilities and slight increases in both center and large home-based members of the workforce between 2012 and 2014.

Table 1

Workforce by Type of Care	2012		2014		Difference 2012 to 2014	
	N	% of workforce	N	% of workforce	N	% of workforce
Center	15,069	72%	16,208	73%	1139	1%
Large Home-Based	2,295	11%	2,763	13%	468	2%
Small Home-Based	3,509	17%	3,130	14%	-379	-3%
	20,873		22,101		1,228	

Note: Percentages throughout this brief are rounded.

Number of Persons in the Workforce by Position

Table 2 shows the number of individuals who worked in each type of care by position. Percentages are of individuals within each type of care (for example, 6% of center staff were directors in 2014). Within centers we saw a slight decrease in directors and teachers. This decrease may be associated with changes in position titles rather than a decrease in persons running programs. Within large home-based facilities we saw a decrease in providers and an increase in those in the assistant II position. We also saw a decrease of 379 in the number of small home-based providers.

Table 2

Workforce by Position	2012		2014		Difference 2012 to 2014	
	N	% of persons within type of care	N	% of persons within type of care	N	%
Center Staff						
Director	1,176	8%	1,015	6%	-161	-2%
Site Director / Supervisor	41	0%	208	1%	167	1%
Head Teacher	2,283	15%	2,538	16%	255	1%
Teacher	7,672	51%	7,784	48%	112	-3%
Aide II	1,071	7%	1,284	8%	213	1%
Aide I	2,826	19%	3,379	21%	553	2%
Large Home-Based Staff						
Provider	745	33%	806	29%	61	-4%
Assistant II	735	32%	1,023	37%	288	5%
Assistant I	815	36%	934	34%	119	-2%
Small Home-Based Staff						
Provider	3,509	---	3,130	---	-379	---

Characteristics of the 2014 Child Care Workforce

Importance of this information: Oregon's young children are increasingly diverse in terms of race, ethnicity, and primary language (Ryan, 2013; U.S. Census, 2011). There is growing evidence of the importance of young children being cared for by persons with knowledge and experience of the child's culture and language (McCabe et al., 2014). It is important to describe the race, ethnicity, and primary language of members of the early learning workforce in order to assess the extent to which children from diverse backgrounds have access to teachers and providers with shared culture and language.

How measured: Data on race, ethnicity, and primary language were asked of providers on the Oregon Registry Online database (ORO) Enrollment form. Completion of this form was optional for those who did not participate in a program managed by OCCD (e.g., Betty Gray Early Childhood Training and Certification Scholarships, or Education Awards). In addition, completion of questions about race/ethnicity and primary language was optional due to the nature of the information. Thus, confidence in the estimates is limited by being based on incomplete data although each year we have seen an increase in the percentage reporting demographic information.

Findings on workforce demographics were based on data from those workforce members who provided that information. As can be seen in Table 3, over 63% of workforce members provided all data for gender, race/ethnicity, and primary language in 2014. This reflects an increase in the number reporting demographic data compared to 2012. Since 99% of individuals had age data, age was not included in the analysis of missing data in the following table.

Table 3

Available Demographics (gender, race/ethnicity, and language)	2012		2014		Difference 2012 to 2014	
	N	%	N	%	N	%
All Demographics	11,150	53%	13,814	63%	2664	10%
Some Demographics	2,404	12%	1,845	8%	-559	-4%
No Demographics	7,319	35%	6,442	29%	-877	-6%

Demographic Characteristics of the Workforce

In Table 4 below, the number reported in the shaded row for each characteristic is the number of workforce members in each year that provided information on that individual characteristic. When viewing the demographic characteristics of the workforce, the consistency in the findings from 2012 to 2014 is striking. Increased numbers provided demographic information and there was substantial turnover (persons exiting and entering the workforce), so the similarities in findings strengthen our confidence in the reliability of reported demographic data in describing the workforce.

Table 4

Demographics	2012	2014	Difference in Number or Percent
Age	**20,820**	**21,997**	
Mean (SD)	38.44 (13.58)	37.89 (13.74)	0.0
Range	18 to 91	18 to 90	
Gender	**12,605**	**15,064**	
Male	5%	6%	1%
Female	95%	94%	-1%
Race/Ethnicity	**11,310**	**14,047**	
American Indian	2%	1%	-1%
Asian	4%	4%	0%
Black	3%	3%	0%
Hispanic/Latino/Spanish	14%	15%	1%
Native Hawaiian	1%	1%	0%
White	75%	74%	-1%
Multiracial	0%	1%	1%
Other	1%	1%	0%
Primary Language	**12,487**	**14,900**	
English	85%	85%	0%
Spanish	10%	10%	0%
Russian	2%	1%	-1%
Vietnamese	1%	1%	0%
Chinese (Traditional)	1%	1%	0%
Other	2%	2%	0%

Race/Ethnicity by Type of Care

Approximately one-fourth (26%) of Oregon's workforce are Non-White including those who are Hispanic. Small home-based providers are slightly more likely to be Non-White (28%). Although the overall number of individuals in the workforce increased, the distribution of White to Non-White remained fairly consistent from 2012 to 2014 for centers and small home-based providers. For large home-based staff, a 5% increase was seen in the percent of Non-White including Hispanic staff from 2012 to 2014. Again, as in 2012, the workforce is more diverse than the general adult population in Oregon.

Table 5

White/Non-White by Type of Care	2012 N = 11,255		2014 N = 14,047		Difference 2012 to 2014	
	White	Non-White	White	Non-White	White	Non-White
Center	76%	24%	75%	25%	-1%	1%
Large Home-Based	78%	22%	73%	27%	-5%	5%
Small Home-Based	73%	27%	72%	28%	-1%	1%

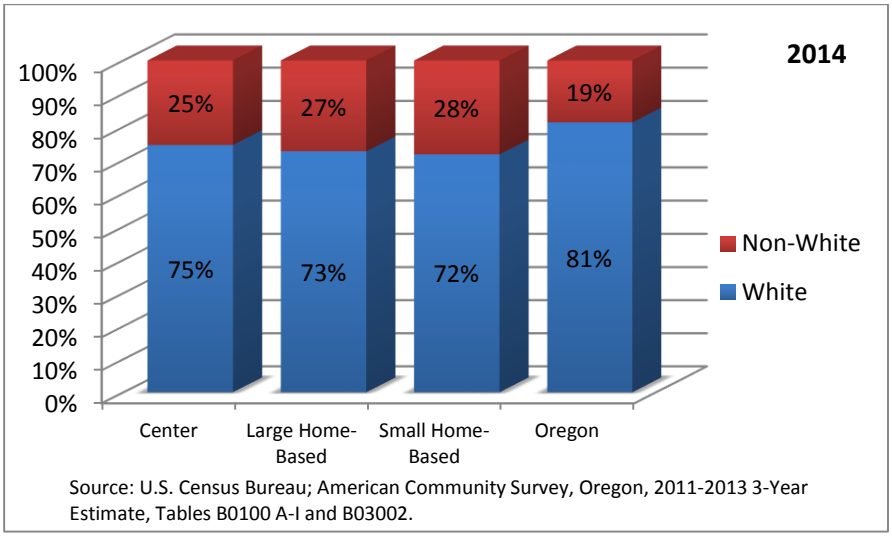

Figure 1

Primary Language by Type of Care

As seen in Table 6, the difference between small home-based providers and the rest of the workforce remained substantial with just under a third of small home-based members having a primary language other than English. Although the overall number of individuals in the workforce increased, the distribution of primary language spoken remained fairly consistent from 2012 to 2014. Fifteen percent of Oregonians age five years and older speak a language other than English.

Table 6

Primary Language by Type of Care	2012 N = 12,487		2014 N = 14,900		Difference 2012 to 2014	
	English	Non-English	English	Non-English	English	Non-English
Center	89%	12%	88%	12%	-1%	1%
Large Home-Based	90%	10%	88%	12%	-2%	2%
Small Home-Based	71%	29%	70%	30%	-1%	1%

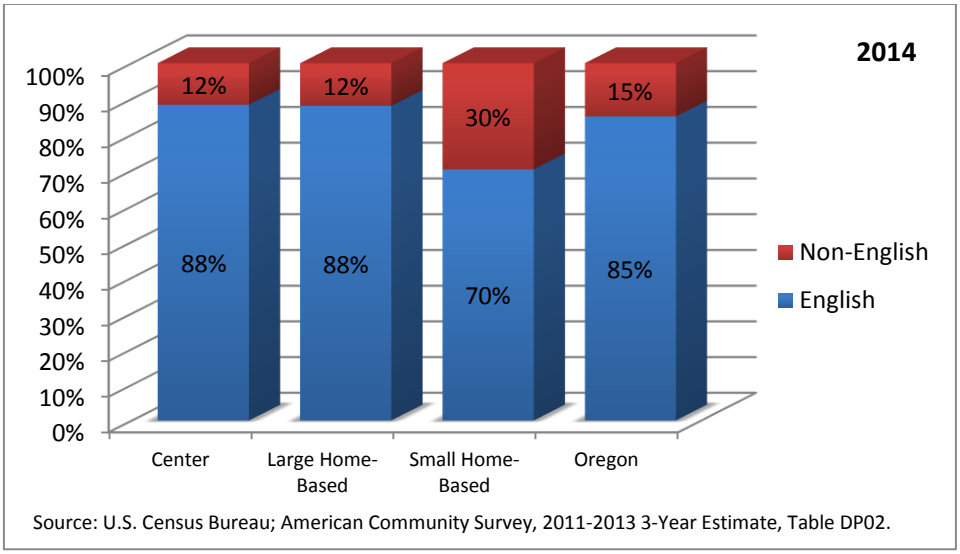

Figure 2

Gender by Type of Care

As seen in Table 7, the workforce continued to be predominantly female although there was a slight increase in males, especially in large home-based facilities. Although the percentages only showed slight increases for males in the workforce, the number of males increased from 613 to 858 from 2012 to 2014.

Table 7

Gender by Type of Care	2012 N = 12,605		2014 N = 15,064		Difference 2012 to 2014	
	Female	Male	Female	Male	Female	Male
Center	94%	6%	94%	6%	0%	0%
Large Home-Based	94%	6%	92%	8%	-2%	2%
Small Home-Based	99%	1%	99%	1%	0%	0%

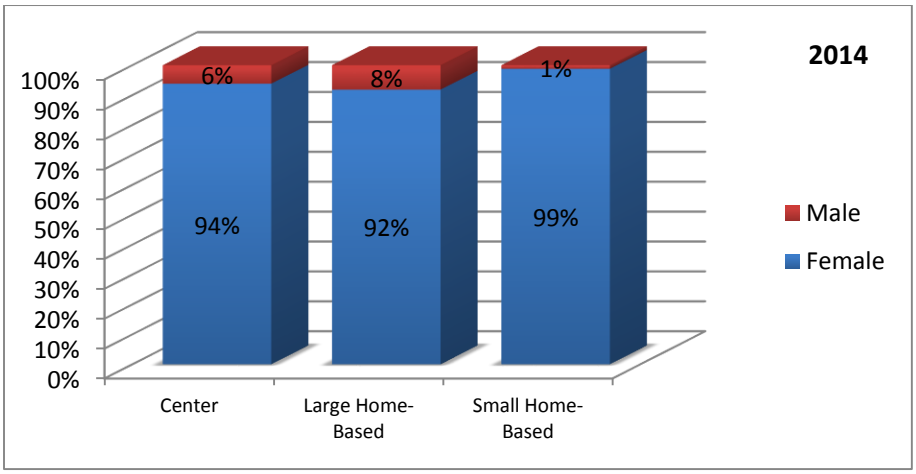

Figure 3

Education of Workforce

Importance of this information: Research has consistently found large positive associations between level of education of parents and teachers and the achievements and behavior of young children (Shonkoff & Phillips, 2000). Research has not yet identified a specific level of education (i.e. bachelors) associated with more positive outcomes (Early et al., 2006; Early et al., 2007; Vu, Jeon, & Howes, 2008). Yet, having less than high school has been found to be associated with less positive outcomes and more education with more positive ones (Ryan & Whitebook, 2012).

How measured: Data on education level was entered into ORO from multiple sources and verified by OCCD. In order to earn a step on the Oregon Registry Career Lattice (Registry) persons reported education and submitted documentation of coursework as well as degrees. Other workforce members self-reported education through the ORO Enrollment form when they applied for a program managed by OCCD or when they submitted information needed to meet regulatory requirements for the position they held. A final group submitted documentation of college credits to meet regulatory training requirements. In light of the fact that the Registry and other programs at OCCD are voluntary, this process resulted in missing education data on 32% (7,008) of the 2014 workforce. This was a decrease in workforce individuals missing education compared to 2012 (38%) and 2013 (37%). Therefore, our confidence in the estimate of level of education is limited but continues to grow.

Level of Education for the 2014 Workforce

Although we observed a slight increase in the percentage of the workforce with a bachelor's degree or higher, the percentage with some college or more (some college, associate's, or bachelor's) dropped slightly from 69% to 68% of the workforce from 2012 to 2014. As seen in Table 8, two-thirds of the workforce had education levels beyond a high school diploma or GED.

Table 8

Education of Workforce	2012		2014		Difference 2012 to 2014	
	N	%	N	%	N	%
Less than High School Diploma/GED	418	3%	536	4%	118	1%
High School Diploma or GED	3,521	27%	4,264	28%	743	1%
Some college, certificate, or foreign degree	2,910	22%	3,019	20%	109	-2%
Associate's degree	1,933	15%	2,026	13%	93	-2%
Bachelor's degree or higher	4,186	32%	5,248	35%	1062	3%
	12,968		**15,093**		**2,125**	

Education Level by Type of Care

As can be seen in Table 9, in 2014 there continued to be wide differences in education levels across types of care, with 73% of center staff having more than a high school diploma or GED compared with 61% of those in large home-based and 41% of those in small home-based facilities. We observed a drop in the percentages with some college or an associate's degree, but the drop in percentage represented small numbers of workforce members except in the case of small home-based workforce members where the number with some college or an associate's degree was substantially smaller.

Table 9

Education by Type of Care	2012		2014		Difference 2012 to 2014	
	N	% of persons within type of care	N	% of persons within type of care	N	%
Center						
Less than High School Diploma/GED	178	2%	237	2%	59	0%
High School Diploma or GED	2,335	24%	2,789	24%	454	0%
Some college, certificate, or foreign degree	2,018	21%	2,283	20%	265	-1%
Associate's degree	1,544	16%	1,657	14%	113	-2%
Bachelor's degree or higher	3,581	37%	4,530	39%	949	2%
Large Home-Based						
Less than High School Diploma/GED	44	3%	67	4%	23	1%
High School Diploma or GED	402	29%	586	35%	184	6%
Some college, certificate, or foreign degree	381	28%	377	22%	-4	-6%
Associate's degree	169	12%	182	11%	13	-1%
Bachelor's degree or higher	371	27%	482	28%	111	1%
Small Home-Based						
Less than High School Diploma/GED	196	10%	232	12%	36	2%
High School Diploma or GED	784	40%	889	47%	105	7%
Some college, certificate, or foreign degree	511	26%	359	19%	-152	-7%
Associate's degree	220	11%	187	10%	-33	-1%
Bachelor's degree or higher	234	12%	236	12%	2	0%

Note: No data on education were available for 4,712 (29%) individuals in centers, 1,069 (39%) in large home-based care, and 1,227 (39%) in small home-based care in 2014.

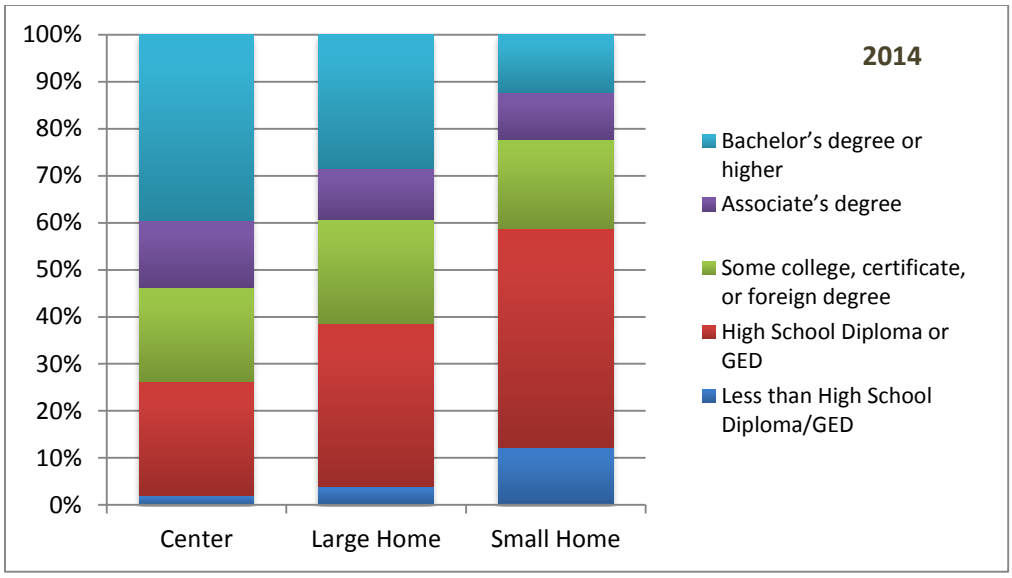

Figure 4

Education Level by Type of Care and Race/Ethnicity

In 2014, the percentage of the workforce with a bachelor's or higher degree ranged from 42% of White staff working in centers to 7% of Non-White providers in small home-based settings. In Figure 5, the difference in education level between White and Non-White are shown for each type of care. In each case, Non-White workforce members have lower levels of education.

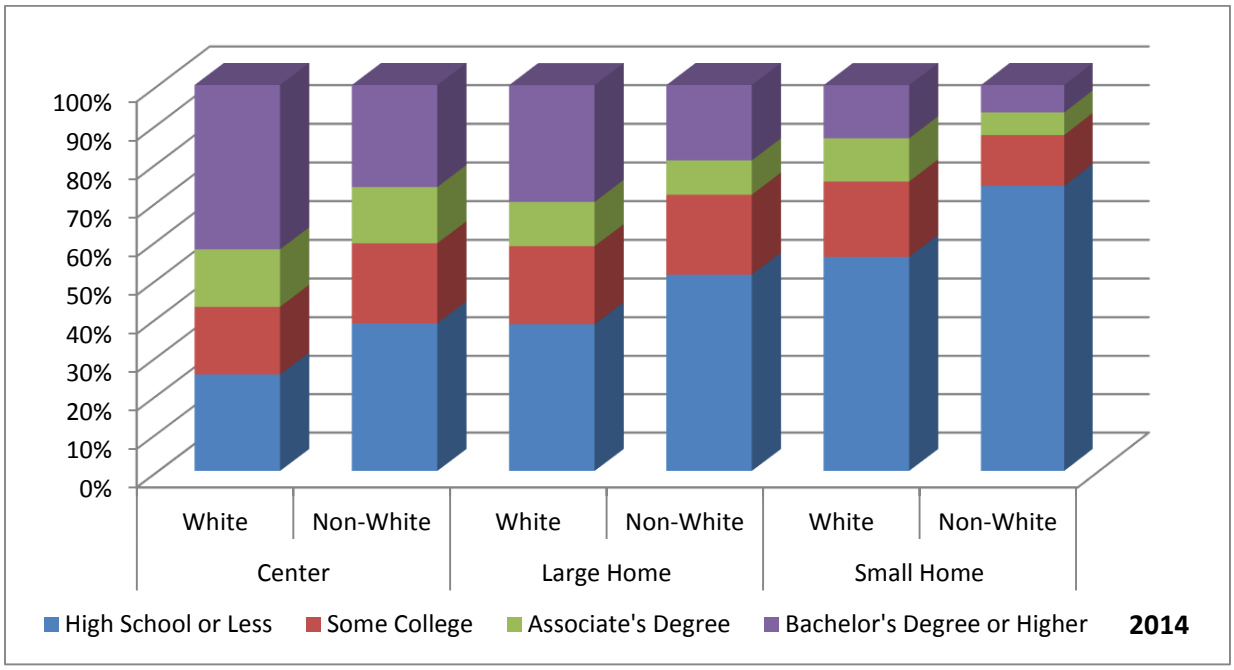

Figure 5

Education Level by Location

When examining education levels across metropolitan and non-metropolitan areas we again saw only small differences between 2012 and 2014 (see Table 10). Workforce members in metropolitan areas were more likely to have a bachelor's degree or higher but there was a slight increase in the percentage with a bachelor's degree or higher in non-metropolitan areas. Non-metropolitan individuals were slightly more likely to have some college or only a high school diploma or GED than individuals in metropolitan areas.

Table 10

Education by Location	2012		2014		Difference 2012 to 2014	
	Metro (10,838)	Non-Metro (2,027)	Metro (12,357)	Non-Metro (2,356)	Metro	Non-Metro
Less than High School Diploma/GED	3%	3%	4%	3%	1%	0%
High School Diploma or GED	26%	31%	28%	29%	2%	-2%
Some college, certificate, or foreign degree	22%	27%	19%	25%	-3%	-2%
Associate's degree	14%	20%	12%	18%	-2%	-2%
Bachelor's degree or higher	35%	20%	37%	24%	2%	4%

Note: In 2014, there were 522 individuals who could not be given a metropolitan/nonmetropolitan distinction because they lived out of state. An additional 6,866 were missing education data.

Note: We use the Office of Management and Budget Core Based Statistical Area classification for counties to distinguish between individuals who live in urban and rural areas. Counties are classified as metropolitan if they include an urbanized area of 50,000 inhabitants or more, plus outlying counties with close economic or social ties to the central county. Nonmetropolitan counties include two groups: micropolitan and noncore. Micropolitan counties include at least one urban cluster of between 10,000 and 49,000 people, plus outlying counties. Noncore counties have no population cluster larger than 10,000.

Percentage of Center Staff that have a Bachelor's Degree or Higher

When we examined the percentage of staff with a bachelor's degree or higher, we saw that teachers and directors were more likely to have a bachelor's degree than were other staff, see Table 11. For all positions, except site director/supervisors and aide IIs, the percentages with bachelor's degrees increased between 2012 and 2014.

Table 11

Percent with Bachelor's or Higher	2012		2014		Difference 2012 to 2014	
	N	% of persons within type of care	N	% of persons within type of care	N	%
Center Staff						
Director	464	51%	487	56%	23	5%
Site Director / Supervisor	16	57%	96	53%	80	-4%
Head Teacher	818	44%	1,099	48%	281	4%
Teacher	1,880	37%	2,342	40%	462	3%
Aide II	122	21%	149	18%	27	-3%
Aide I	281	23%	357	24%	76	1%
Large Home-Based						
Provider	180	29%	221	31%	41	2%
Assistant II	128	28%	185	28%	57	0%
Assistant I	63	22%	76	24%	13	2%
Small Home-Based						
Provider	234	12%	236	12%	2	---

Note: There were 7,008 (32%) individuals who had not submitted data on education.

Training of the Workforce

Importance of this information: Studies have shown recent training to predict quality in both centers and home-based facilities (Raikes et al., 2005) and may be especially important to the quality of family child care (Burchinal, Howes, & Kontos, 2002; Hughes-Belding et al., 2012).

How measured: Providers submitted documentation of training hours to OCCD in order to meet regulatory requirements. We reported training hours only for those positions for which training hours were required. Hours may be underrepresented due to transitions in the data collection and how safety set training hours were entered.

Average Training and Child Development Hours by Position

Training hour requirements varied by type of care and by position, with not all positions required to have training hours. In Table 12 below, the positions with shaded rows were required to have 15 hours of training annually with the exception of small home-based workforce members who were required to have 8 hours over two years. Those site directors/supervisors who also served as teachers were counted in these data as teachers. Those who served only as a site director/supervisor (without teaching responsibility) were described in the line titled "Site Director/Supervisor". They were not required to have training hours and the same was true for aides in centers and assistants in large home-based facilities. It is interesting to note that the individuals in positions with required hours all exceeded what was required and that those in position without required hours had substantial numbers of training hours.

Table 12

Average Training Hours by Position	2012		2014		Difference in Hours 2012 to 2014	
	Total	Child Dev[a]	Total	Child Dev[a]	Total	Child Dev[a]
Center Staff						
Director (N = 841)[b]	**22.8**	17.9	**27.0**	20.0	**4.2**	1.4
Site Director/Supervisor (N = 171)	**17.2**	14.7	**25.3**	19.1	**8.1**	3.0
Head Teacher (N = 2,226)	**20.7**	18.7	**26.8**	23.1	**6.0**	2.9
Teacher (N = 6,050)	**18.8**	17.4	**21.7**	19.0	**2.9**	1.8
Aide II (N = 938)	**15.5**	14.1	**22.5**	19.6	**7.0**	1.9
Aide I (N = 1,751)	**14.3**	12.9	**14.3**	12.9	**0.0**	-0.2
Large Home-Based Staff						
Provider (N = 705)	**22.5**	20.2	**28.4**	23.2	**5.9**	0.7
Assistant II (N = 749)	**18.3**	17.0	**20.9**	18.9	**2.5**	-0.4
Assistant I (N = 364)	**12.3**	11.9	**13.6**	13.0	**1.2**	1.1
Small Home-Based Staff						
Provider[c] (N = 2,017)	**12.9**	11.8	**14.4**	12.6	**1.5**	0.2

[a] The Office of Child Care categorizes training hours directly related to work with children as Child Development Hours. We show these hours separately from total hours.
[b] N = the number of individuals in each position that had training hours for 2014.
[c] Includes all small home-based providers regardless of renewal cycle. Small home-based providers are on a two-year licensing cycle, the training hours listed are for the 2014 calendar year.

Training Hours By Location & Position

As can be seen in Table 13, the number of training hours increased in both metropolitan and non-metropolitan areas. The pattern of more training hours in non-metropolitan than metropolitan areas was found in both years. For the most part, the average number of training hours and percentage increases between 2012 and 2014 were greater in non-metropolitan than in metropolitan areas.

Table 13

Average Training Hours by Location and Position	2012		2014		Difference in Hours 2012 to 2014	
	Metro	Non-Metro	Metro	Non-Metro	Metro	Non-Metro
Center Staff						
Director	**22.2**	26.1	**25.5**	33.4	**3.3**	3.7
Site Director/Supervisor	**16.9**	19.3	**23.7**	33.8	**6.8**	10.7
Head Teacher	**20.1**	24.1	**25.3**	34.9	**5.2**	3.8
Teacher	**18.2**	22.7	**20.6**	28.4	**2.4**	2.8

Continued on next page

Table 14 (continued)

Average Training Hours by Location and Position	2012		2014		Difference in Hours 2012 to 2014	
	Metro	Non-Metro	Metro	Non-Metro	Metro	Non-Metro
Aide II	**14.5**	19.3	**19.8**	30.4	**5.3**	8.2
Aide I	**13.5**	18.0	**13.3**	19.2	**-0.2**	1.3
Large Home-Based Staff						
Provider	**22.9**	20.2	**28.2**	30.8	**5.3**	5.0
Assistant II	**18.2**	20.2	**20.6**	20.1	**2.4**	-1.0
Assistant I	**12.5**	12.1	**13.7**	13.0	**1.2**	0.2
Small Home-Based Staff						
Provider[a]	**12.6**	14.1	**14.4**	14.4	**1.7**	-1.6

[a] Includes all small home-based providers regardless of renewal cycle. Small home-based providers are on a two-year licensing cycle, the training hours listed are for the 2014 calendar year.

Professional Engagement of the Workforce

Importance of this information: Perceiving oneself as a member of a profession (in a career or following a calling) has been shown to predict observed quality (Kontos, Howes, Shinn, & Galinsky, 1995). Oregon has three major professional development initiatives for which data were available: a) Registry[4], b) Education Award (monetary award based on achieving a step on the Registry), and c) Betty Gray Early Childhood Training and Certification (BGECTC) scholarship program. Engaging in one or more of these professional development initiatives indicated a teacher or caregiver's engagement in professional activity.

How measured: Oregon's three major professional development initiatives are managed by OCCD. Participation in each of the initiatives was documented in the workforce member's record. To further understand participation in these professional development initiatives, we calculated the percentage of the workforce who participated in these initiatives by type of care.

Persons were considered enrolled in the Registry when they applied, documented competency, and were awarded a step. This does not include those that were automatically assigned a step 1 or 2 because of their participation in a program such as the one to earn an enhanced subsidy rate that did not require applying for a step. Although the vast majority of enrolled persons earned a step 3-12, a small number earned a step 1-2.

[4] In addition to those who work directly with children in a regulated facility, the Registry includes others employed in the field of early childhood such as trainers, home visitors, staff of Child Care Resource and Referral agencies, and others. Thus enrollment is far greater than the workforce members whose participation is reported in this brief.

Engagement in Professional Development Initiatives

As can be seen in Table 14, workforce members were more likely to have enrolled in the Registry or received an Education Award than to have received a Betty Gray Early Childhood Training and Certification scholarship in 2014. The number of workforce members who received an Education Award increased by 7% and the number enrolled in the Registry increased by 10% from 2012 to 2014.

Table 14

Engagement in Professional Development Initiatives	2012		2014		Difference 2012 to 2014	
	N	% of workforce	N	% of workforce	N	%
Enrolled in the Registry[a]	4,601	22%	7,087	32%	2,486	10%
Received one or more Education Awards	3,838	18%	5,602	25%	1,764	7%
Received one or more BGECTC scholarships	2,044	10%	1,874	8%	-170	-2%

[a] Persons were considered enrolled in the Registry when they applied, documented competency, and were awarded a step. This does not include those that were automatically assigned a step 1 or 2.

Professional Development Initiatives by Type of Care

Participation in professional development initiatives varies by type of care. In 2014, center staff (35%) were more likely to be enrolled in the Registry than large home-based providers (29%) and small home-based caregivers (21%). We saw the same pattern in receipt of Education Awards (27% of center staff, 24% of large home-based, and 19% of small home-based providers). We saw a different pattern in receipt of Betty Gray scholarships. Large home-based providers were the most likely to have received at least one scholarship (12%) whereas center staff and small home-based providers were less likely to do so (8% each). Between 2012 and 2014, there were increases in Registry enrollment and Education Awards for all types of care, whereas receipt of BGECTC scholarships stayed the same or decreased.

Table 15

Professional Development Initiatives by Type of Care	2012		2014		Difference 2012 to 2014	
	N	% of persons within type of care	N	% of persons within type of care	N	%
Center						
Enrolled in the Registry[a]	3,483	23%	5,620	35%	2137	12%
Received one or more Education Awards	2,878	19%	4,370	27%	1492	8%
Received one or more BGECTC scholarships	1,458	10%	1,303	8%	-155	-2%
Large Home-Based						
Enrolled in the Registry[a]	535	23%	798	29%	263	6%
Received one or more Education Awards	452	20%	650	24%	198	4%
Received one or more BGECTC scholarships	306	13%	332	12%	26	-1%

Continued on next page

Table 15 (continued)

Professional Development Initiatives by Type of Care	2012		2014		Difference 2012 to 2014	
	N	% of persons within type of care	N	% of persons within type of care	N	%
Small Home-Based						
Enrolled in the Registry [a]	583	17%	669	21%	86	4%
Received one or more Education Awards	508	14%	582	19%	74	5%
Received one or more BGECTC scholarships	280	8%	239	8%	-41	0%

[a] Persons were considered enrolled in the Registry when they applied, documented competency, and were awarded a step. This does not include those that were automatically assigned a step 1 or 2.

Number of Professional Development Initiatives

One-third of the workforce (33%) participated in one or more professional development supports in 2014, with 7% participating in all three. Only small percentages of the workforce participated in only the Registry, only the BGECTC scholarship program, or a combination of those two programs (6%, 1%, and 1% respectively). Over half of those who participated in at least one of the professional development initiatives combined enrollment of the Registry with receipt of an Education Award.

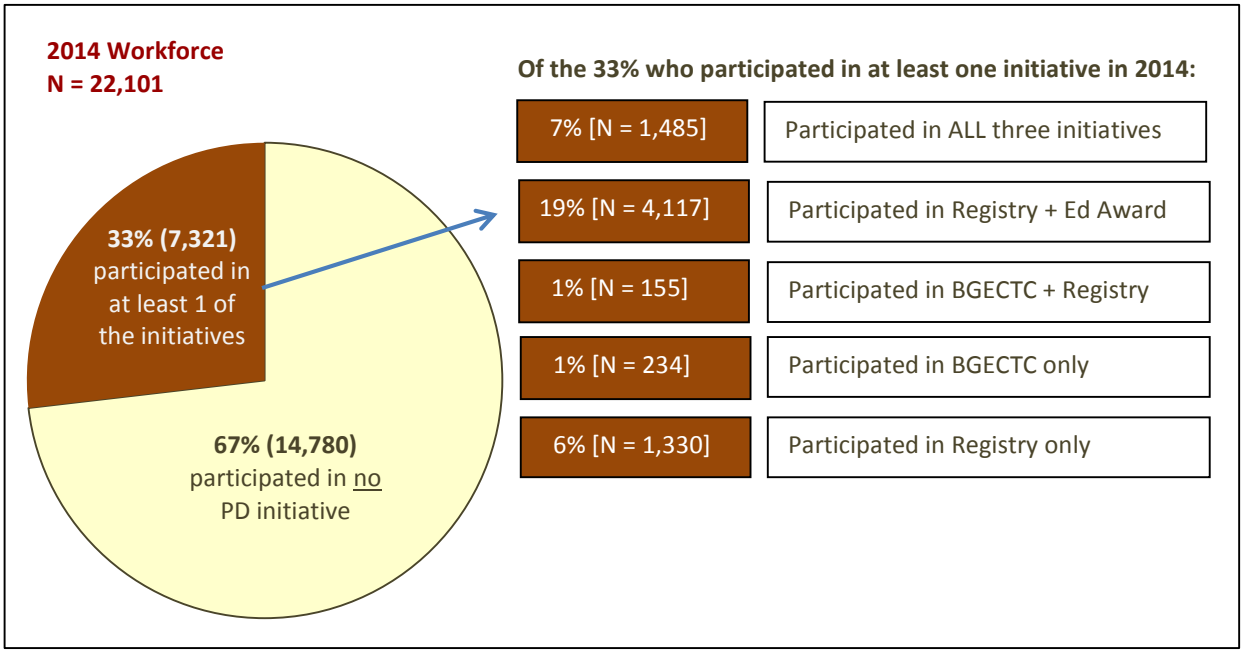

Figure 6

Table 16

Combinations of Professional Development Initiatives	2012 N = 20,873		2014 N = 22,101		Difference 2012 to 2014	
	N	%	N	%	N	%
None	15,826	76%	14,780	67%	-1046	-9%
All Three	1,419	7%	1,485	7%	66	0%
Betty Gray & Registry Step	194	1%	155	1%	-39	0%
Education Award & Registry Step	2,403	12%	4,117	19%	1714	7%
Betty Gray only	430	2%	234	1%	-196	-1%
Registry Step Only	585	3%	1,330	6%	745	3%

Note: Percentages are rounded, thus totals may exceed 100%.

Workforce and Oregon's Registry

Importance of this information: Oregon aims to enroll each member of the workforce in the Registry. Not only does enrollment support professionalism, but having staff with steps on the Registry is required for a facility's achievement of a level 3, 4, or 5 in the Quality Rating and Improvement System. The step level of staff affects how high a rating a program can achieve.

How measured: Persons were considered enrolled in the Registry when they applied, documented competency, and were awarded a step. This does not include those that were automatically assigned a step 1 or 2 because of their participation in a program such as the one to earn an enhanced subsidy rate that did not require applying for a step. Although the vast majority of enrolled persons earned a step 3-12, a small number earned a step 1-2.

Enrollment in the registry was explored by type of care, position, and location (metro/non-metro). We also measured the percentage of those who used college credits or degrees to document professional development required for a step.

Registry by Type of Care

Overall, 32% of the entire workforce (7,087 individuals) were enrolled in the Registry in 2014 but as can be seen in Table 17, participation varied by type of care. Thirty-five percent of center staff participated in the Registry, compared to 29% of large home-based staff and 21% of small home-based providers.

Table 17

Registry Participation by Type of Care[a]	2012		2014		Difference 2012 to 2014	
	N	% of persons within type of care	N	% of persons within type of care	N	%
Center	3,483	23%	5,620	35%	2,137	12%
Large Home-Based	535	23%	798	29%	263	6%
Small Home-Based	583	17%	669	21%	86	4%
Total	**4,601**	**22%**	**7,087**	**32%**	**2,486**	**10%**

[a] Persons were considered enrolled in the Registry when they applied, documented competency, and were awarded a step. This does not include those that were automatically assigned a step 1 or 2.

Registry by Position

The 2014 data showed that although 35% of the center-based workforce participated in the Registry, participation varied by position. Fifty-six percent of center directors and head teachers and 39% of teachers had enrolled in the Registry whereas only 7-23% of aides in centers did. As seen in Table 18, 58% of large home-based providers had enrolled in the Registry whereas only 5-27% of their assistants did. Only 21% of small home-based providers had enrolled in the Registry. For all but one position, the percentage enrolled in the Registry was greater in 2014 than in 2012.

Viewing participation by position showed increased Registry enrollment between 2012 and 2014 for all positions except large home-based assistant IIs whose participation dropped from 8% in 2012 to 5% in 2014.

Table 18

Registry Participation by Position	2012		2014		Difference 2012 to 2014	
	N	% of persons in that position	N	% of persons in that position	N	%
Center Staff						
Director	446	38%	570	56%	124	18%
Site Director/Supervisor	7	17%	89	43%	82	26%
Head Teacher	888	39%	1,414	56%	526	17%
Teacher	1,875	24%	3,023	39%	1148	15%
Aide II	92	9%	289	23%	197	14%
Aide I	175	6%	235	7%	60	1%
Large Home-Based Staff						
Provider	364	49%	471	58%	107	9%
Assistant II	106	14%	276	27%	170	13%
Assistant I	65	8%	51	5%	-14	-3%
Small Home-Based Staff						
Provider	583	17%	669	21%	86	4%
Total	**4,601**	**22%**	**7,087**	**32%**	**2486**	**10%**

Note: Percentages are rounded.

Registry by Location

In both 2012 and 2014, workforce members in non-metropolitan areas were more likely to have a step on the Oregon Registry than those in metropolitan areas. Thirty-one percent of people in metropolitan areas were enrolled in the Registry versus 38% of people in non-metropolitan areas.

Table 19

Registry Participation by Location	2012		2014		Difference 2012 to 2014	
	N	%	N	%	N	%
Metropolitan	3,707	22%	5,584	31%	1877	9%
Non-Metropolitan	884	26%	1,315	38%	431	12%

Notes: Metropolitan and non-metropolitan were determined using Office of Management and Budget Core Based Statistical Area classification for counties, see note for Table 10 for more information. In 2014, there were 522 Registry participants who could not be given a metropolitan/nonmetropolitan designation because they lived out of state.

Use of College Courses to Fulfill Training and Registry Requirements

Importance of this information: Knowledge and competency of the workforce is a major contributor to the quality of early learning environments. As opposed to single workshops, college courses provide a broader and more in-depth exposure to the knowledge needed for work with young children (Raikes et al., 2006). Also, college credits facilitate the workforce member's progress toward a certificate or degree. Although there are mixed findings on the importance of a bachelor's degree to quality, there is recognition that postsecondary education in early childhood or a related field is foundational (Tout, Zaslow, & Berry, 2006).

How measured: Documentation of college credit and training hours were submitted to OCCD in order to meet regulatory requirements. Persons were considered enrolled in the Registry when they applied, documented competency, and were awarded a step. This does not include those that were automatically assigned a step 1 or 2.

Training Hours through Credit Courses

The majority of workforce members continued to use community-based training rather than college courses for their training hours (see Table 20). However, there was a slight increase in the use of college credits to meet training requirements for workforce members in 2014 for some positions. The following table shows the percentage of staff who received some of their annual training hours through credit courses for 2012 and 2014.

Table 20

Training Hours through Credit Courses	2012		2014		Difference 2012 to 2014	
	N	% of position	N	% of position	N	%
Center Staff						
Director	**25**	**3%**	**59**	**7%**	**34**	**4%**
Site Director/Supervisor	3	9%	6	4%	3	-5%
Head Teacher	**92**	**5%**	**174**	**8%**	**82**	**3%**
Teacher	**280**	**6%**	**577**	**10%**	**297**	**5%**
Aide II	42	6%	82	9%	40	3%
Aide I	73	6%	121	7%	48	1%
Large Home-Based Staff						
Provider	**47**	**8%**	**52**	**7%**	**5**	**-1%**
Assistant II	**27**	**5%**	**43**	**6%**	**16**	**1%**
Assistant I	16	5%	18	5%	2	0%
Small Home-Based Staff						
Provider	20	1%	47	2%	27	1%

Note: College credit were taken in a calendar year, 2012 or 2014.

Registry and College Credit Hours

In 2012 and 2014, about half of workforce members who were enrolled in the Registry had college credit hours (see Table 21).

Table 21

Registry and College Credit Hours	2012 (N = 4,601)		2014 (N = 7,087)		Difference 2012 to 2014	
	N	%	N	%	N	%
Percent of Registry enrollees with college credit hours	2,514	55%	3,868	55%	1354	0%

Note: College credits could have been taken prior to the time of the study (2012 or 2104)

Predictors of Participation in Professional Development Initiatives

What workforce member characteristics predict that a person participates in one or more of the following: Registry, Betty Gray Early Childhood Training and Certification scholarship, Education Awards?

Importance of this information: Increased understanding of who does and does not participate in professional development initiatives can strengthen efforts to target limited professional development resources. Findings from this analysis will assist in identifying those we are reaching as well as those we are not reaching.

How measured: We used a logit analysis to model how workforce members' characteristics predicted engagement in professional development initiatives. Professional engagement was measured as a 1 if workforce members had engaged in at least one initiative (Registry, BGECTC, Education Awards), and a 0 if they had participated in no initiatives.

The characteristics associated with participation in at least one professional development initiative are discussed and presented in the table below. The numbers in Table 22 describe the probability of engaging in an initiative associated with a change in that characteristic, controlling for the values on other characteristics. This enables us to assess the impact of each particular characteristic on probability of participating in professional development. Asterisks note the significance of the association. For example, in 2014 if the workforce member were an aide in a center the probability of engaging in an initiative was 11.7% less than the probability of a small home-based provider participating in professional development. The two asterisks show an association is highly significant, meaning it very unlikely that the difference was due to chance and highly likely to represent a real difference indicating a characteristic is associated with the probability of participating.

Table 22

Variable description	**2012** (N = 10,898)	**2014** *(N = 13,417)*
Age	0.003**	0.004**
Aide at a center	-0.158**	-0.117**
Director at a center	0.096**	0.095**
Teacher at a center	0.052**	0.080**
Assistant at large home-based care	-0.065**	-0.006
Provider at large home-based care	0.196**	0.171**
Non-Metro [1=Non-Metro, 0=Metro]	0.071**	0.079**
Training 1-8 hours	-0.017	-0.080**
Training 9-15 hours	0.007	0.077**
Training 16-25 hours	0.043**	0.157**
Training >25 hours	0.175**	0.330**
Gender [1=Female, 0=Male]	0.117**	0.060**
Race/Ethnicity [1=Non-White, 0=White]	-0.032*	-0.013
Primary language [1=Non-English, 0=English]	-0.008	-0.019
Some college, Certificate, foreign degree	0.155**	0.248**
Associate's Degree	0.242**	0.221**
Bachelor's Degree	0.174**	0.225**

* Significant at the .05 level; ** Significant at the .01 level

Note: Marginal effects reflect the predicted probability of engaging in an initiative for a change in a characteristic. The sample size for the model is significantly lower than the 22,101 (2014) total sample due to significant missing data on education, ethnicity, and primary language. Since in 2012 the results of an imputed missing data model yielded similar results to a model run without imputation, we did not impute missing values in 2014.

Age
Older members of the workforce were significantly more likely to participate in an initiative than were younger members of the workforce. As age increased, the likelihood of participating in an initiative also increased. There was no change in the size or significance of this predictor between 2012 and 2014.

Position
All positions were compared to a small home-based provider. In 2012, aide at a center and assistant at large home-based care facility were significantly less likely to participate in any initiative, while center directors, center teachers and providers at large home-based care facilities had a greater probability of participating in at least one initiative. In 2014, only being an aide at a center made a workforce member significantly less likely to participate in any initiative. Assistants in large-based homes were no longer significantly more likely to participate in any initiative, although center directors, teachers and providers in large home-based care were.

Non-Metropolitan
Those living in non-metropolitan areas of Oregon were more likely than those living in metropolitan areas to engage in an initiative in both 2012 and 2014.

Training Hours
Those with training hours were compared to those with no training hours. In 2012, those with training hours greater than 15 hours were significantly more likely to have participated in an initiative than were those without any training hours. In 2014, those with any training hours earned in that year were significantly more likely to have participated in an initiative than were those with no training hours.

Gender
Being female was significantly associated with participating in an initiative in both 2012 and 2014. If the workforce member was female they were about 12% more likely to participate in one or more initiatives in 2012 and about 6% more likely to do so in 2014.

Race/Ethnicity
Race/ethnicity was significantly and negatively associated with engagement in an initiative in 2012, but not in 2014. If the workforce member was Non-White, the probability of engaging in an initiative was down to 1% in 2014 compared to 3% in 2012.

Primary Language
Having a primary language other than English was not significantly associated with participation in professional engagement although the direction was negative in both 2012 and 2014.

Education
Education comparisons were to those with a high school diploma or less. In both 2012 and 2014, workforce members who had some college, a certificate, or a degree higher than a high school diploma were significantly more likely to participate in at least one initiative compared to those with a high school diploma or less.

FINDINGS BASED ON DATA ABOUT THE WORKFORCE COLLECTED FROM CHILD CARE FACILITIES

The following section of the brief contains findings based on analysis of data collected from child care facilities about their employees. Compensation data were only collected from centers. Home-based providers have business income, but not typically wages. Therefore, compensation is not an appropriate characteristic for describing home-based providers.

Compensation Received by the Workforce

Importance of this information: Lower levels of compensation have been shown to be associated with higher teacher turnover, lower teacher morale, and lower levels of observed quality (Cochran, 2007; Torquati, Raikes, & Huddleston-Casas, 2007; Peisner-Feinberg et al., 2000). Stability of teachers and caregivers affects children both directly and indirectly. Directly, continuity in teachers is critical for children's ability to feel secure and to ensure that the adult knows the children. Indirectly, children are affected negatively when teachers and caregivers leave because of the negative impacts on staff morale and increased difficulty for remaining staff to train and integrate new teachers into the program. Nationally, as in Oregon, childhood care and education teacher wages are substantially lower than those occupations held by persons with similar education and experience (U.S. Bureau of Labor Statistics, 2013).

Average Low and High Hourly Wage received by Center Teachers, by Facility

How measured: At the time of the annual recertification visit, Licensing Specialists had center directors fill out a form that provided information on wages and benefits. Directors were asked to report the lowest and highest teacher/head teacher wage and the benefits they provided to teaching staff. Thus, data were available at the facility-level rather than that of the individual teacher level.

Between 2012 and 2014, center teachers experienced a slight increase in average wages, greater for those earning higher wages than those at the entry level. It is important to note that a smaller percentage of centers reported wages in 2014 than did in 2012. For context, Oregon's minimum wage was $8.80 in 2012 and $9.10 in 2014.

Table 23

Teacher/Head Teacher Wages	2012		2014		Difference 2012 to 2014	
	Low	High	Low	High	Low	High
Median	**9.50**	13.61	**10.25**	14.50	**0.75**	0.89
Mean	**10.33**	14.96	**11.00**	15.94	**0.67**	0.98
Range (Lowest Low - Highest High)	**8.00**	45.00	**8.95**	42.50	---	---
Number of Centers Reporting	**805**	814	**567**	567	**-238**	-247
Percent of Centers Reporting	**83%**	84%	**56%**	56%	**-27%**	-28%

Association Between Teacher Education and Teacher Wages, by Facility
How measured: To answer the question of whether teacher education and wages in centers were related we relied on facility-level data. At the facility-level, we used highest wages paid and the percent of teachers who had an associate's degree or higher. These estimates were then divided into three equal parts for both variables. The table below shows how teacher education and wages were related.

The results indicated a relationship between higher education levels and wages. It is important to note that we viewed both teacher education and wages from a center level. For each center, we used the highest teacher wage paid to create three equal groups: lowest, mid, and highest. For education, we divided the percentage of teachers with a degree (associate's degree or higher) into two groups: less than 50% of teachers with degrees and more than 50% of teachers with degrees. We then looked to see if there was an association – *Did centers that paid higher wages also have teachers with higher levels of education*?

As can be seen in Figure 7 below, we found an association between teacher wages and teacher education. Centers who paid the highest wages had larger percentages of teachers with associate's degrees or higher whereas those who paid the lowest wages had smaller percentages of teachers with degrees. Further, correlation results confirmed this association as median education was significantly correlated with the highest center wage (0.190, *p*-value = .001). This correlation would likely be stronger if data were available at the individual-level.

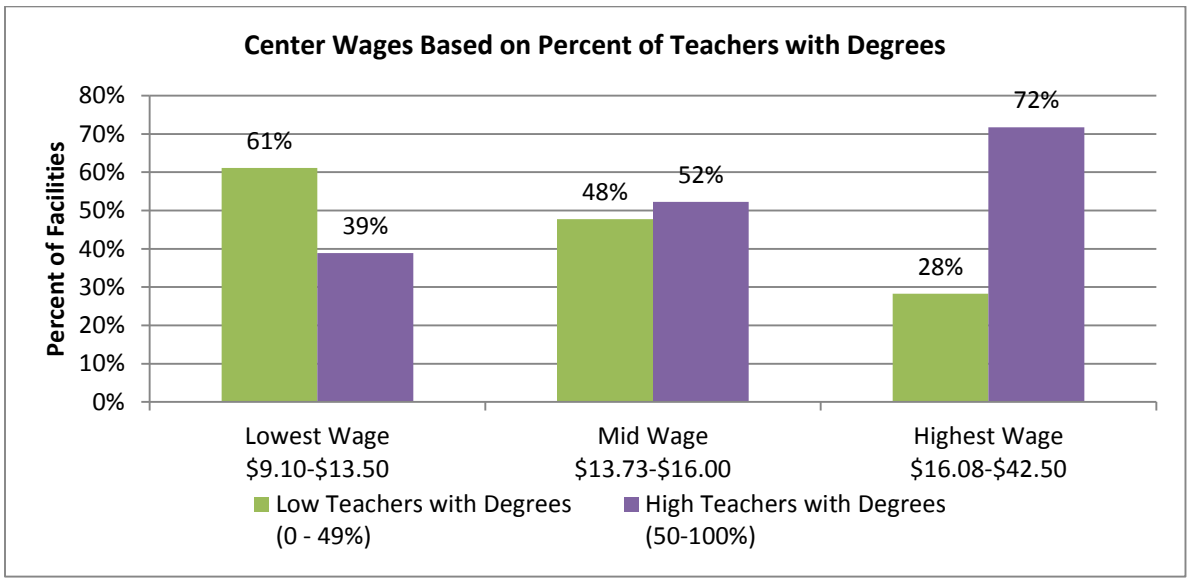

Figure 7

2014

Benefits received by Center Teachers, by Facility

Importance of this information: Access to health and other benefits is vital to family well-being. It has also been linked to retention and staff morale, both of which have been linked to program quality (Whitebook, Sakai, Gerber, & Howes, 2001; Howes & Hamilton, 1993).

How measured: As noted above, center directors were asked to list the benefits they provided to at least some of their teaching staff. The following six categories of benefits were used: 1) health insurance (includes medical, dental, vision, and supplemental), 2) paid time off, 3) retirement options, 4) financial supports for training and education, 5) free or reduced child care, and 6) paid membership in a professional organization.

The 2014 data showed improved provision of benefits to center staff. However, smaller numbers of centers reported in 2014 than in 2012 so we cannot be confident that this is a real improvement.

Table 24

Benefit Counts for Reporting Facilities	2012		2014		Difference 2012 to 2014	
	N	% of facilities	N	% of facilities	N	%
0 benefits	146	17%	65	10%	-81	-7%
1 benefits	269	32%	141	22%	-128	-10%
2 benefits	220	26%	150	24%	-70	-2%
3 benefits	144	17%	118	19%	-26	2%
4 benefits	50	5%	74	12%	24	7%
5 benefits	23	3%	83	13%	60	10%

*Benefit information reported for 852 (88%) of centers in 2012 and 631 (62%) of centers in 2014.

In 2014, we saw substantial improvement in provision of health insurance and, to a lesser extent, other benefits. Again we cannot know if this improvement is due to real change or having fewer facilities report on benefits in 2014.

Table 25

Type of Benefits for Reporting Facilities	2012 N = 852		2014 N = 631		Difference 2012 to 2014	
	N	% of facilities	N	% of facilities	N	%
Medical/Health Insurance	533	37%	444	70%	-89	33%
Paid Time Off	351	41%	359	57%	8	16%
Retirement Options	197	23%	246	39%	49	16%
Training/Education	221	26%	245	39%	24	13%
Free/Reduced Child Care	154	18%	198	31%	44	13%
Membership Professional Org*	0	0%	14	2%	14	2%

*Few facilities reported providing professional membership for staff, however, this was not asked directly on the form. Future data collection will include all categories.

Teacher and Provider Retention in the Workforce

Importance of this characteristic: A higher percentage of teachers who remain in the same center for a year or more provides stability and continuity for children. As noted above teacher turnover negatively impacts children both directly by disrupting the child's relationship with the adult and indirectly by negatively impacting remaining staff and program.

Percentage of Teachers who Remain in the Same Center for a Year or More, by Facility

How measured: Administrative data enabled us to measure retention of the workforce employed in centers and home-based care. For each type of care we created the measure at the facility level. For center staff, we calculated a facility-level percentage of teaching staff whose hire date was one or more years prior to the most recent licensing renewal. In addition to the facility-level measure, we also calculated a workforce measure of retention by analyzing the percentage of total teachers who were at their facility for a year or more.

At a facility-level, in the average center, 75% of teachers were at their center for more than one year in 2014. As seen in Table 26, about half of centers (48%) retained 75% or more of their head teachers and teachers. Low level of stability (less than 25% of teachers retained) was an issue for 9% of facilities in 2014.

Table 26

Center Retention: Percent of Centers Birth through School Age at Each Level of Teacher Retention

Percent of Teachers Retained at Centers	2012		2014		Difference 2012 to 2014	
	N of facilities	% of facilities	N of facilities	% of facilities	N of facilities	% of facilities
0% of teachers over a year	71	8%	66	7%	-5	-1%
1% – <25% of teachers over a year	17	2%	18	2%	1	-0%
25% – <50% of teachers over a year	126	15%	146	16%	20	1%
50% – <75% of teachers over a year	187	22%	253	27%	66	5%
75% – 99% of teachers over a year	141	17%	183	20%	42	3%
100% of teachers over a year	308	36%	257	28%	-51	-8%
	850 facilities		**923 facilities**			

*In 2014, 95 facilities did not have any teachers reported and therefore retention was unable to be calculated.

School age programs have unique challenges related to retention, therefore we looked at their level of retention separately. Out of all facilities, 164 programs serve only school age children. These school age only programs have lower retention than programs that serve a variety of age groups. For instance, in the average school age only center, 60% of teachers were at their center for more than one year in 2014. In comparison, 76% of teachers who were not in school age only programs were at their centers for more than one year. Almost half (47%) of school age only facilities had 50% or less of their teachers at the center for more than one year, compared to 20% of facilities that are not school age only.

Median Number of Years Home-Based Providers Provide Care in the Same Community

How measured: Calculating retention for home-based providers was more complicated because home-based providers could move within their own community, thus not disrupting the child's relationship with the provider. Thus, unless a provider moved outside a 10-mile radius or had more than a 30-day gap in service, we did not count the move as a disruption. Years of operation were determined by subtracting the date the facility was certified or registered from the date of the most recent renewal. Note this retention measure is not a measure of how long the average home-based provider continuously maintains their child care business as it does not capture those who enter, stay a limited period of time, and exit. We measure the time that those currently providing care have been providing that care at that home or a home within a 10-mile radius of the original home.

The median number of years providing care remained consistent from 2012 to 2014. Large home-based providers averaged 5.0 years of providing care and small home-based providers averaged 8.0 years of providing care in 2014. It is important to note that Oregon created large home-based providers in 2002 and there has been a steady increase in their number since that time. Oregon has had registered small home-based providers since 1993.

Table 27

Home-Based Retention: Number of Years Providing Care in the Same Community

	2012	2014	Difference 2012 to 2014
Large Home-Based Providers (N = 522)			
Median Number of Years	**5.0**	**5.0**	**0.00**
Range of Years	**2 - 10**	**1 - 28**	**---**
Small Home-Based Providers (N = 2,551)			
Median Number of Years	**8.0**	**8.0**	**0.00**
Range of Years	**0 - 46**	**0 - 34**	**---**

CHALLENGE TO PROFESSIONALIZATION OF THE WORKFORCE PRESENTED BY TURNOVER

Turnover is complex and of high policy relevance due to its impacts on multiple individuals and organizations. High turnover negatively impacts:

1. **Children**, as it represents a loss for them; it decreases the stability and continuity of children's relationship with adults.
2. **Centers,** as they need to recruit and train new staff.
3. The **professional development system** designed to support, train, educate, and professionalize the workforce, as those supported leave and those entering require basics.

In addition, it has the potential to weaken support for investments in professional development as policy makers might worry about the effectiveness of their investments if large numbers of those served leave the workforce.

Data allow us to examine the extent to which turnover is a challenge in Oregon. We have two distinct although related measures of turnover/retention: an individual workforce member measure and facility-

level measures by type of facility. In this section, we look at retention from both perspectives and then discuss possible implications of the findings.

Individual Child Care Workforce Member Measure of Turnover

Turnover of Workforce Members

How measured: A person is considered part of the workforce in a given year if they worked any part of that year based on ORO start, hire, and end dates. We created a longitudinal database of anyone who has been part of the workforce from 2012 through 2014. By matching data for multiple years using a person's unique identification number, we are able to see which years the person has been in the workforce.

It is important to note, however, that during the first few years of establishing the Oregon Registry Online database (linking Oregon Registry and licensing data), data accuracy issues were still being resolved as the system matured. Although initial analysis shows some trends in retention and turnover of workforce members that are worth noting, implications of this analysis should be taken with caution. As more years of data are collected over time, confidence in trends associated with turnover will increase.

No single measure can capture turnover fully. Having multiple years of workforce data makes it possible to view turnover from multiple perspectives. We introduce each turnover measure by defining the question it answers.

How did the 2014 workforce differ from the 2013 workforce?

Eighty-two percent of individuals in the 2014 workforce remained in the workforce from the previous year; in other words, 18,203 individuals were in both the 2013 and 2014 workforces. Eighteen percent of the 2014 workforce (5,606) entered, that is they were employed in 2014 but had not worked in a regulated facility in 2013. Comparing individuals to the 2013 workforce, 24% of the 2013 workforce exited prior to 2014; that is they were not employed in a regulated facility in 2014 although they had been in 2013.

Combining data from multiple years enables us address additional questions that provide insight into turnover in the workforce. By matching data for multiple years using a person's unique identification number, we are able to track each person and look at trends over time. Having longitudinal data allows us to increase our understanding of turnover.

Looking at more than one year, what percentage of the workforce remains from one year to the next year?

Combining two years of data, we looked at the stability of the workforce across those two years, see Table 28. Of the 27,707 total individuals who were in the workforce in either 2013 or 2014, 20% left the workforce after 2013 and 14% entered the workforce in 2014. Sixty-five percent of individuals were in the workforce for both 2013 and 2014 years. This was a similar trend to what was found when comparing the 2012 and 2013 years.

Table 28

Changes in Workforce	Combined 2012 and 2013 Workforce	Percent	Combined 2013 and 2014 Workforce	Percent
Left Workforce (previous year only)	4,221	15%	5,606	20%
Entered Workforce (current year only)	6,836	25%	3,898	14%
Remained in Workforce (both years)[5]	16,652	60%	18,203	65%
Total*	**27,709***	**100%**	**27,707***	**100%**

* Total includes individuals in both years of data. For example, the 'Combined 2013 and 2014 Workforce' includes the number of individuals in 2014, plus those who exited in 2013 for a combined total of 27,707 individuals in the workforce during those two years.

How stable is the workforce over time? What percent of individuals remain in the workforce over three years?

Looking at the workforce over all three years of available data, 31,607 individuals were members of the workforce at some point during 2012 to 2014. As seen in Table 29, 12,255 individuals (39%) remained in the workforce for all three years, and 10,345 individuals (33%) remained in the workforce for two years. Of the 28% of individuals who were in the workforce for only one year, almost half (3,898) were new in 2014 and we would expect that a substantial portion of those who entered would remain in the workforce.

Another way to understand these findings is to look at the percentage of the 2014 workforce that was in the workforce all three years. Of the 22,101 individuals in the 2014 workforce, 55% had been in the workforce all three years. It is also important to note that a significant percentage of individuals who were marked as in the workforce for three years were likely in the workforce for many years prior to 2012 when workforce data were first collected.

Table 29

Number of Years in Workforce	N	Percent
One Year	9,007	28%
Two Years	10,345	33%
Three Years*	12,255	39%
Total	**31,607**	**100%**

*Data was limited to three years, yet individuals likely worked more than three years.

Having longitudinal data on the workforce provides additional evidence that retention is a concern. Additional research is needed to understand turnover including how it varies by characteristics of workforce members such as position, type of care, race/ethnicity, and education.

[5] Of the persons included in the "Remained in Workforce" category, 321 were in the 2012 and 2014 workforce, but not in the 2013 workforce. This is either because they were employed in a position in 2013 that is not included in our definition (e.g., substitute) or they had dropped out of the workforce that year. Because of their ongoing attachment to the early learning workforce, they are being included as persons who remained in the workforce.

What effect did turnover and growth have on the percentage of workforce members who had participated in professional development?

As noted earlier in this report, 24% of the 2013 workforce had left the workforce by 2014. In addition, 3,898 individuals joined the workforce in 2014. As can be seen in Table 30, the effect of turnover on professionalization of the workforce is complex. Those who remained in the workforce ("stayers") had the highest percentages of participation in professional development. Surprisingly, some of the "enterers" had also participated in professional development even though they had not been in the workforce the previous year.

Table 30

Professional Engagement	"Leavers" N = 5,606		"Enterers" N = 3,898		"Stayers"* N = 18,203	
	N	% of Leavers	N	% of Enterers	N	% of Stayers
Enrolled[a] in the Registry	861	**15%**	489	**13%**	6,598	**36%**
Received one or more Education Awards	703	**13%**	237	**6%**	5,365	**29%**
Received one or more BGECTC scholarships	300	**5%**	55	**1%**	1,819	**10%**

*Note: If person in both years, data reported in 2014 were used.

Child Care Facility-Level Measure of Retention

At the facility level, we asked if there were an association between compensation offered (both wages and benefits) at the center and level of retention.

Association Between Center Retention and Teacher Wages, by Facility

How measured: To answer the question of whether retention levels and wages in centers were related we relied on facility-level data on highest wage paid and the percent of teachers who were at the center for more than one year at the time of licensing renewal. These estimates were then divided into three equal parts for both variables. The table below shows how retention scores and wages were related.

To look at the association between teacher retention and wages we viewed both retention and wages from a facility or center level. For each center, we had teacher wages and a measure of the percent of teachers who had been at the center for a year or more. We looked for a relationship between teacher retention (percent retained) in a center and the wages the center paid teachers. Using retention scores we created three equal groups: lowest, mid, and highest. We then looked to see if there was an association – *Did those centers that had higher levels of retention also pay higher wages?*

As can be seen in Figure 8 below, we found an association between teacher wages and teacher retention. In centers with the lowest level of retention, the largest percentage (46%) also paid the lowest wages. In centers in the group with the highest level of retention, the largest percentage (47%) also paid the highest wage. Interestingly, the centers in the mid group in terms of retention were fairly spread out in terms of wages paid. Further, correlation results confirmed this association as teacher retention level was significantly correlated with the highest center wage (0.168, *p*-value = .001).

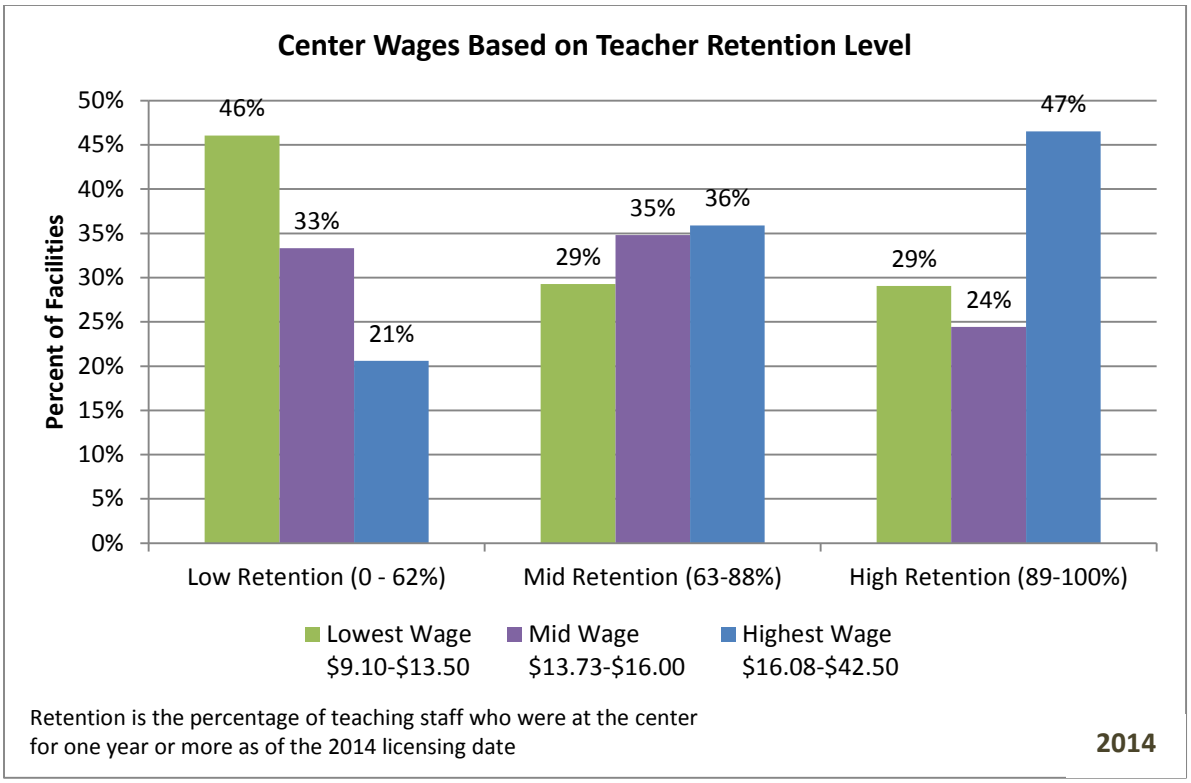

Figure 8

Association Between Center Retention and Benefits Offered, by Facility
How measured: To answer the question of whether retention levels and benefits in centers were related we relied on facility-level data on the number and type of benefits offered and the percent of teachers who were at the center for more than one year at the time of licensing renewal. Retention estimates were divided into three equal parts, whereas benefits were explored using the number of benefits offered and whether medical benefits were offered.

To look at the association between teacher retention and benefits we viewed both retention and benefits from a facility or center level. For each center, we had the number of benefits offered and a measure of the percent of teachers who had been at the center for a year or more. Using retention scores we created three equal groups: lowest, mid, and highest. We then looked to see if there was an association – *Did those centers that had higher levels of retention offer more benefits?*

As can be seen in Figure 9 below, we did not find an association between benefits and teacher retention. The level of retention of teachers does not appear to be related to the number of benefits offered by the center. Further, correlation results confirmed this as the teacher retention level was not correlated with the number of benefits (0.040, *p*-value = .35).

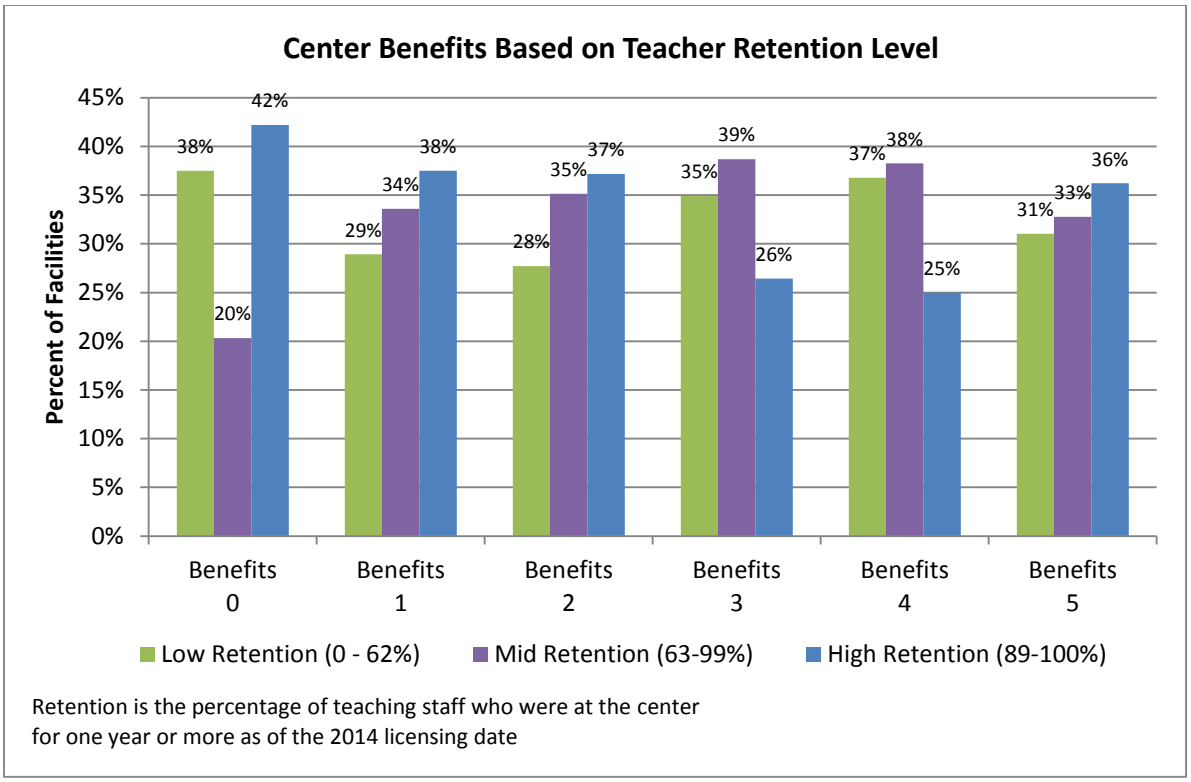

Figure 9

To explore this further, we looked at whether the level of retention was related to a center offering health/medical benefits. Using the three retention groups, we sought to answer the question – *Were centers that had higher levels of retention more likely to offer health benefits?*

As can be seen in Figure 10 below, we found a slight association between health benefits and teacher retention. In centers with the highest level of retention, the largest percentage (73%) also offered health benefits. In centers in the group with the lowest level of retention, a smaller percentage (63%) offered health benefits. Further, correlation results confirmed this association as the teacher retention level was slightly correlated with offering health benefits (0.10, *p*-value < .05).

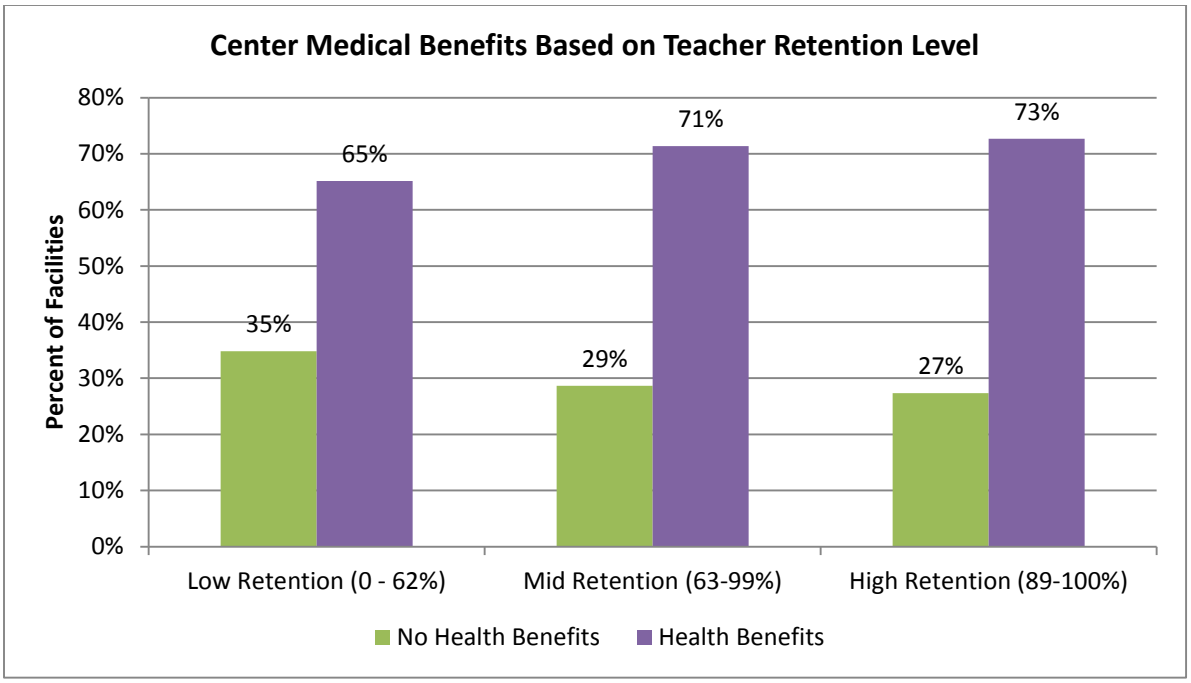

Figure 10

Reflections on Retention and Its Challenges to Professional Development

As noted at the beginning of this section, high levels of turnover raise concerns for children, early learning centers, and the professional development system. Data enable us to explore turnover/retention at the level of the individual and at the level of the facility (center, large- or small-home based program).

When viewing turnover/retention from the level of the individual, we found that 76% of the total 2013 workforce (all types of care and all positions who work with children included) were still in the 2014 workforce—a 76% retention rate. The same rate for K-12 school teachers nationally was 92% in the 2012-2013 academic year. However, that rate was only 85% in schools where the base salary rate was less than $30,000 (Goldring, Taie, & Riddles, 2014). Using longitudinal data, we found that over two years about 65% of the workforce remained and that dropped to about 40% over three years. That is, of everyone who was in the workforce at any time during the three years 2012 through 2014, about 40% were there all three years.

In terms of professional development, Oregon aims to train, support, educate, and professionalize the workforce including having all workforce members enroll in the Oregon Registry. Turnover or low retention rates challenge achievement of these goals to the extent that we lose those in whom we have made professional development investments. Luckily the group that remained in the workforce (stayers) had higher levels of participation in professional development than did those who did not remained (leavers). But maintaining and hopefully growing the overall percentage of the workforce that has participated in professional development and enrolled in the Registry requires reaching large numbers of workforce members, especially if retention rates remain low and growth in the size of the workforce high.

When viewing retention from the facility level, we found an interesting relationship between retention and wages paid. Centers that had teacher retention rates below 63% were far more likely to pay the lowest wage, whereas centers that had retention rates greater than 89% were more likely to pay the highest wages.

With both early learning centers and K-12 schools, low salaries were associated with low rates of retention. For early learning, an additional challenge was that two-thirds of centers appeared to have a base salary under $30,000 (an annualized estimate of $15.21 per hour), the amount associated with low rates of retention in K-12 (Goldring, Taie, & Riddles, 2014).

Low levels of retention decrease stability for children, increase recruitment and training costs for centers, and challenge efforts to professionalize the workforce. In order to reach Oregon's goal of a stable professionalized workforce it seems clear that compensation issues need to part of the conversation. It would also seem that different quality engagement strategies are needed for facilities with higher levels of education, higher wages, and high levels of retention from those with the combination of lower levels of education, lower wages, and lower levels of retention. It seems unlikely that one strategy will work with facilities with such different conditions.

Study Limitations

The data used in this study were collected in the third year of a major transformation of Oregon's early learning system. Creation of the Oregon Registry Online (ORO) has enabled the state to collect workforce training and other data from all persons working in regulated child care facilities starting in 2012. Linking individual data with facility licensing data on a daily basis allowed Oregon to associate each person with the facility in which they were employed at the time that facility was licensed. As with any major system transformation, there were challenges and these challenges likely resulted in missing or incomplete data. Missing data on key descriptors such as education, race, ethnicity, gender, and primary language were a major limitation, yet the percentage with these data has steadily increased and is now at 63% overall. In addition, data were available only for the members of the workforce employed in regulated facilities. Thus, it did not include data on those employed in programs exempt from licensing such as part-day preschools.

Similarly, data at the facility-level were collected only from regulated facilities. Data were collected at the time of license renewal. The data captured a characteristic related to the workforce but was based on a characteristic of the facility. Compensation provided an example that was related to the workforce but measured at the facility level. The findings represent facility averages such as the lowest teacher wage paid or the highest teacher wage paid by centers. Were such data to be collected from individuals, more analyses could be conducted as the characteristic would be associated with an individual workforce member rather than with the facility which employed these workforce members.

Conclusion

As of 2012, Oregon has had in place a system that allows it to answer policy-relevant questions about the early learning workforce employed in regulated child care and education facilities. This brief describes the 2014 workforce and compares it with the 2012 workforce. We measured turnover as change over one year, 2013 to 2014. Having a measure of turnover provides critical information for designing the training system. Comparing the 2014 and 2013 workforce, 24% of the 2013 workforce exited; that is they were not employed in a regulated facility in 2014. Eighteen percent of the 2014 workforce entered, that is they were employed in 2014 but had not worked in a regulated facility in 2013. The 24% turnover rate in early learning facilities compares with a 8% national teacher turnover rate in K-12 and a 15% rate in K-12 schools with a base salary of $30,000 or less. Low wages are associated with high turnover rates in both early learning and K-12. High turnover rates harm children and challenge professional development investments; although in Oregon's early learning workforce we find that those in whom we made professional development investments were mainly in the group who remained in the workforce.

Findings also support assessment of quality improvement efforts. In 2013, Oregon launched its Quality Rating and Improvement System (QRIS) and QRIS includes investments in individuals and facilities. Having 2012 baseline data allows Oregon to measure the impact of those investments on critical measures of workforce characteristics. This 2014 report is a measure of the impact of these investments. Workforce members earned higher numbers of training hours and slightly more of these hours were from college courses. Numbers participating in professional development increased substantially with over 2,400 more workforce members having steps on the Oregon Registry in 2014 than did in 2012.These findings enable decision makers to assess both the strengths and weaknesses of this workforce as well as change over time, information that is critical for making informed decisions about investments in professional development.

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