Demographic Analysis of Female Workers in the Healthcare, Manufacturing and Skilled Trades Industries

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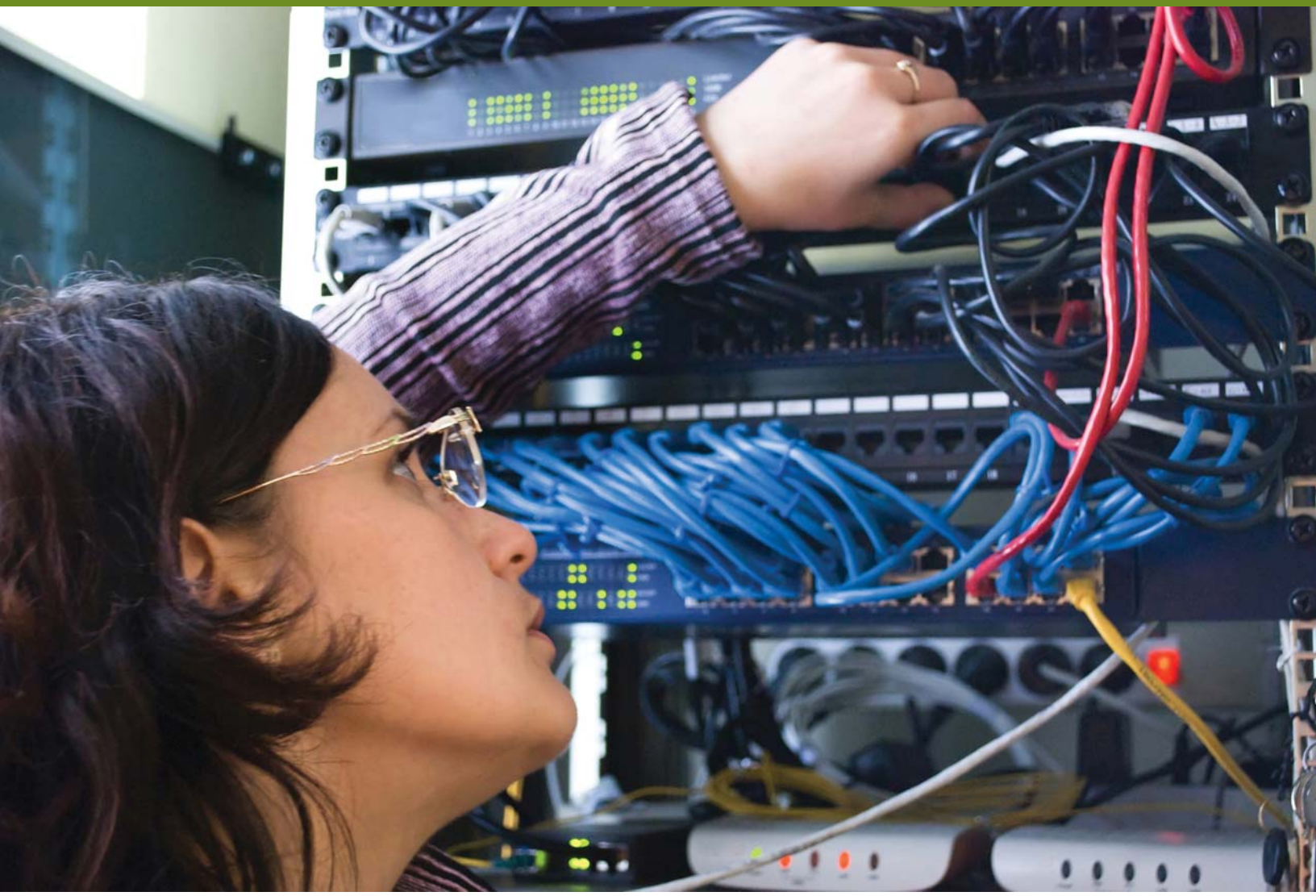

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INTRODUCTION

Low- and mid-skill jobs that pay well but require no more than two years of post-high school education can provide a path to economic success for individuals and their families. Many of these mid-wage and mid-skill jobs can be found in healthcare, production, and the skilled trades, specifically construction and extraction, and installation, maintenance, and repair. Many of these jobs offer an opportunity to earn higher wages than low-skill jobs but don't require a significant investment in education.

But how often are the paths to economic success provided by these low- and mid-skill occupations in traveled by women? In our 2014 Demographic Analysis of Workers in the Healthcare, Manufacturing, and Skilled Trades, we looked at jobs in healthcare, production, and the skilled trades, specifically construction and extraction, and installation, maintenance, and repair. In this addendum, we look at female workers in these occupations. To explore whether female workers are gaining the same economic advantages as their male counterparts, we ask the following questions:

- What is the percentage of women in manufacturing, the skilled trades, and healthcare compared to the workforce overall?
- How do the percentages break down by race and Hispanic origin?
- What are the wage profiles for occupations most frequently filled with women?
- How well represented are women among high opportunity occupations?

To answer these questions, we use several data sources, including the U.S. Census Bureau's Equal Employment Opportunity (EEO) file, a special tabulation of the American Community Survey (ACS), to identify and describe people working in over 200 occupations within these four sectors. The most recent EEO data file compiles ACS data from the years 2006 to 2010. The occupations we include are only those which require no more than two years of formal post-secondary education. For more information about the methodology and data sources used in this study, see the Methodology section in the main report.

KEY TERMS AND DEFINITIONS

Region: The Portland-Vancouver-Hillsboro MSA includes seven counties: Clackamas, Columbia, Multnomah, Washington, and Yamhill Counties in Oregon and Clark and Skamania Counties in Washington.

Labor force and workforce: The Bureau of Labor Statistics defines the labor force as the sum of employed and unemployed persons. Those not in the labor force include people who are neither employed nor unemployed, including retired persons, students, those taking care of children or other family members, and others who are neither working nor seeking work.

For the purposes of this study, we have used the "workplace geography" file for the Portland MSA, which includes all people who were actively working in the MSA during the time the American Community Survey was administered. Thus we use the term "employed workforce" to describe these workers.

Standard Occupational Classification (SOC) system is used by Federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data. All workers are classified into one of 840 detailed occupations according to their occupational definition. To facilitate classification, detailed occupations are combined to form 461 broad occupations, 97 minor groups, and 23 major groups. Detailed occupations in the SOC with similar job duties, and in some cases skills, education, and/or training, are grouped together.

Low-Wage Occupation: Occupations with a median annual wage that is below the median annual wage for all occupations in the Portland-Vancouver-Hillsboro MSA as reported by the Bureau of Labor Statistics.

High-Wage Occupation: Occupations with a median annual wage that is above the median annual wage for all occupations in the Portland-Vancouver-Hillsboro MSA as reported by the Bureau of Labor Statistics.

High-Opportunity Occupation: An occupation that meets the following criteria: requires two or fewer years of post-secondary education, pays an annual median wage of at least $48,303, one hundred twenty-five percent of the region's annual median wage for all occupations, and has anticipated growth of one hundred or more new openings within the next ten years.

Race and Ethnicity: For this study, workers are divided into seven mutually exclusive race/ethnicity groups based on their response to the EEO Tabulation ACS survey.[6]

- **Hispanic -** Hispanic or Latino of all races
- **White -** white alone, non-Hispanic
- **Native Hawaiian or Pacific Islander -** Native Hawaiian or Other Pacific Islander alone, non-Hispanic
- **Other -** Other, non-Hispanic
- **Black or African American -** Black or African American alone or in combination with other races, non-Hispanic
- **American Indian or Alaskan Native -** American Indian or Alaskan Native alone or in combination with other races, non-Hispanic
- **Asian -** Asian alone or in combination with other races, non-Hispanic

FINDINGS BY SECTOR

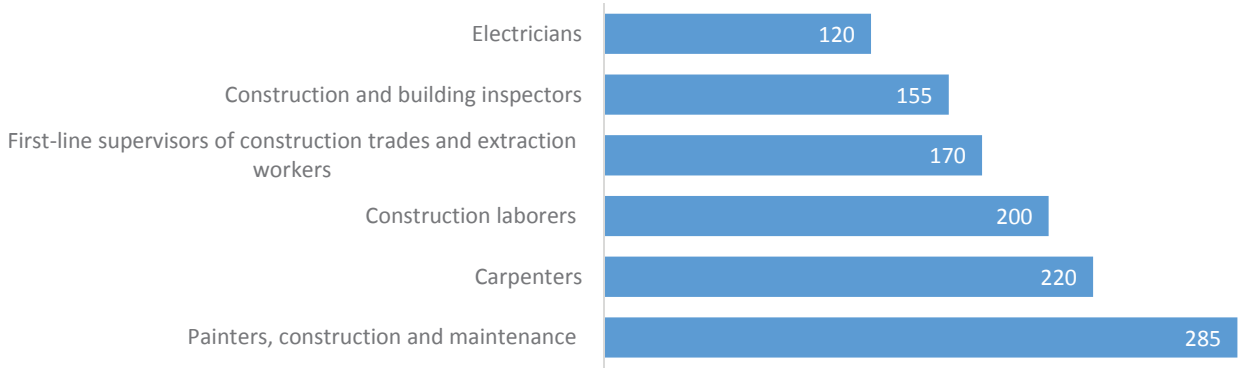
Between 2006 and 2010, there were just over one million people in the civilian workforce in the seven-county Portland-Vancouver-Hillsboro MSA. Forty-six percent of those workers were female.

Female workers were underrepresented to various degrees in low- and mid-skill construction and extraction (3%); production (30%); and installation, maintenance, and repair occupations (6%). However, female workers were overrepresented in low- and mid-skill healthcare occupations, where seventy-two percent of all workers were female.

Construction and Extraction

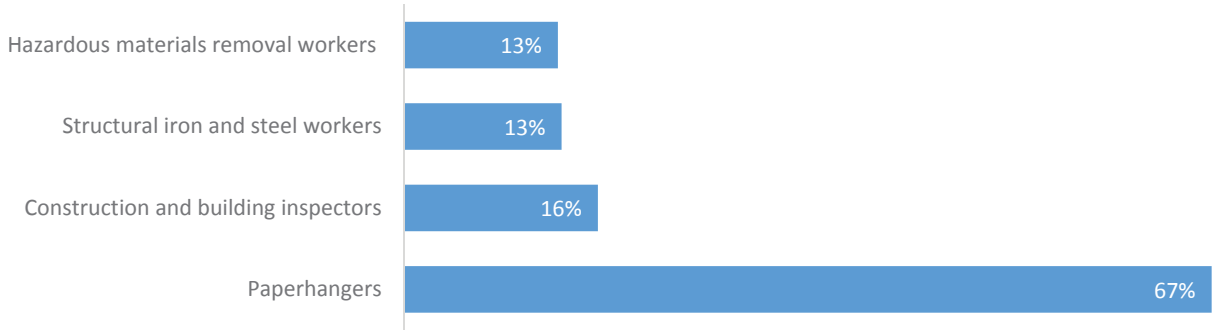
Between 2006 and 2010, three percent of all construction and extraction workers in the Portland-Vancouver-Hillsboro MSA were female. Fewer than half a percent of all employed women in the Portland-Vancouver-Hillsboro MSA worked in construction and extraction during that time. Six construction and extraction occupations had one hundred or more female employees between 2006 and 2010. (Figure 1) The occupation with the most female workers was painters, construction and maintenance (285).

Figure 1: Low- and mid-skill construction and extraction occupations with 100 or more female workers, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates



Source: US Census, *Equal Opportunity Tabulation*, Table EEO-ALL08W

Figure 2: Low- and mid-skill construction and extraction occupations where female workers are more than ten percent of workforce, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates



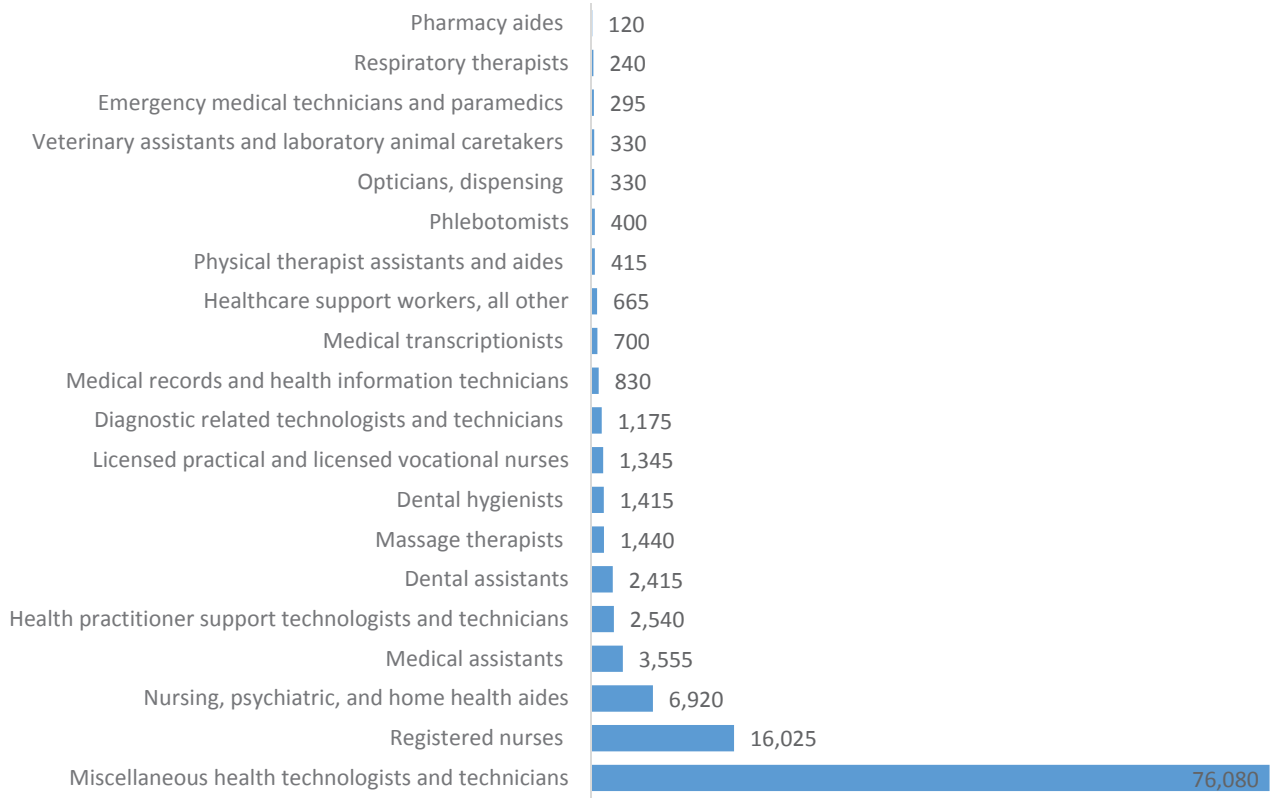
Source: US Census, *Equal Opportunity Tabulation*, Table EEO-ALL08W

Female workers comprised more than ten percent of the workforce in four construction and extraction occupations. (Figure 2) The occupation with the largest percentage of female workers was paperhangers (67%). However, paperhangers is not a large occupation, employing just twenty female workers.

Healthcare

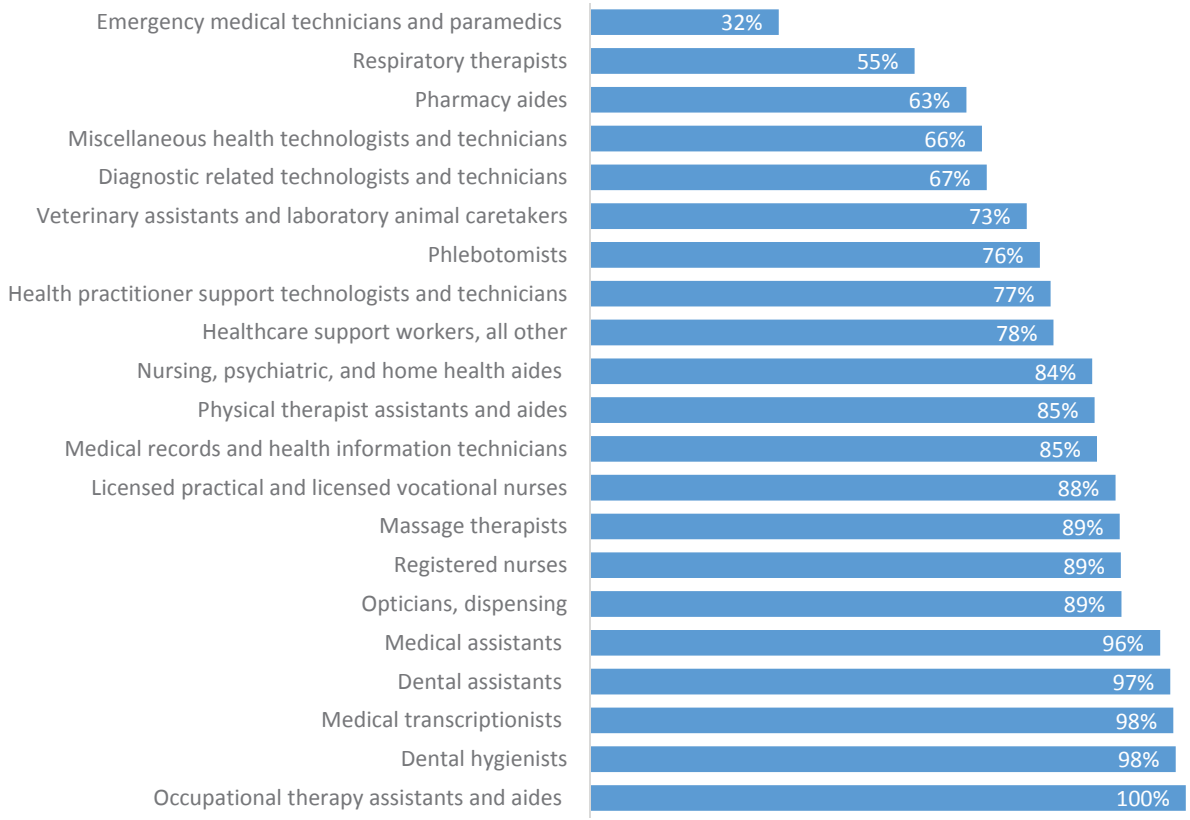
Women continue to dominate low- and mid-skill healthcare occupations. Between 2006 and 2010, seventy-two percent of all workers in low- and mid-skill healthcare occupations were female. In fact, twenty-four percent of all employed women in the region's total workforce worked in a low- or mid-skill healthcare occupation. (Figure 3) Twenty healthcare occupations had one hundred or more female workers. Ten occupations had between one hundred and one thousand female employees, seven had between one thousand and four thousand female employees, and three had more than six thousand, five hundred female employees. More than sixteen thousand women were employed as registered nurses, while more than seventy-six thousand, or sixteen percent of all employed women in the region's total workforce, were employed as miscellaneous health technologists and technicians.

Figure 3: Low- and mid-skill healthcare occupations with 100 or more female workers, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates



Source: US Census, *Equal Opportunity Tabulation*, Table EEO-ALL08W

Figure 4: Low- and mid-skill healthcare occupations where female workers are more than ten percent of workforce, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates



Source: US Census, *Equal Opportunity Tabulation*, Table EEO-ALL08W

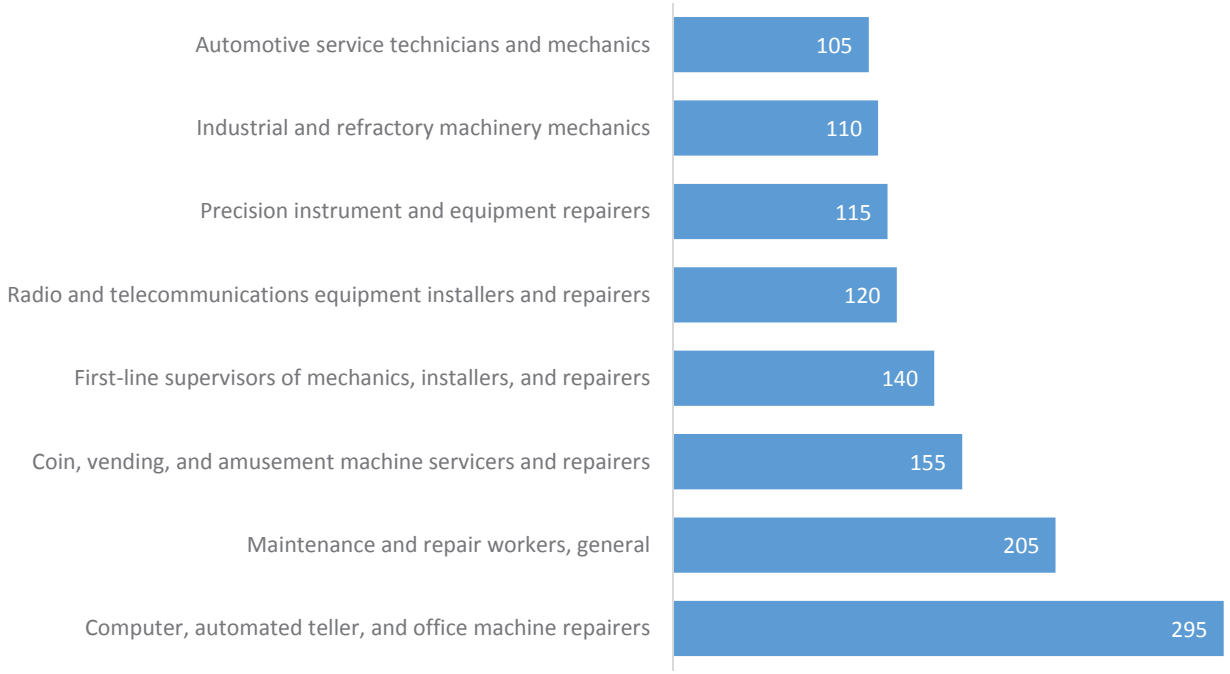
Female workers comprised ten percent or more of workers in twenty-one low or mid-skill healthcare occupations and fifty percent or more in twenty occupations. (Figure 4) Five occupations were more than ninety-five percent female.

Installation, Maintenance, and Repair

Between 2006 and 2010, three percent of installation, maintenance, and repair workers were female. During that time, fewer than half a percent of all employed women in the Portland-Vancouver-Hillsboro MSA worked in installation, maintenance, and repair. Eight installation, maintenance, and repair occupations employed one hundred or more female workers. (Figure 5)

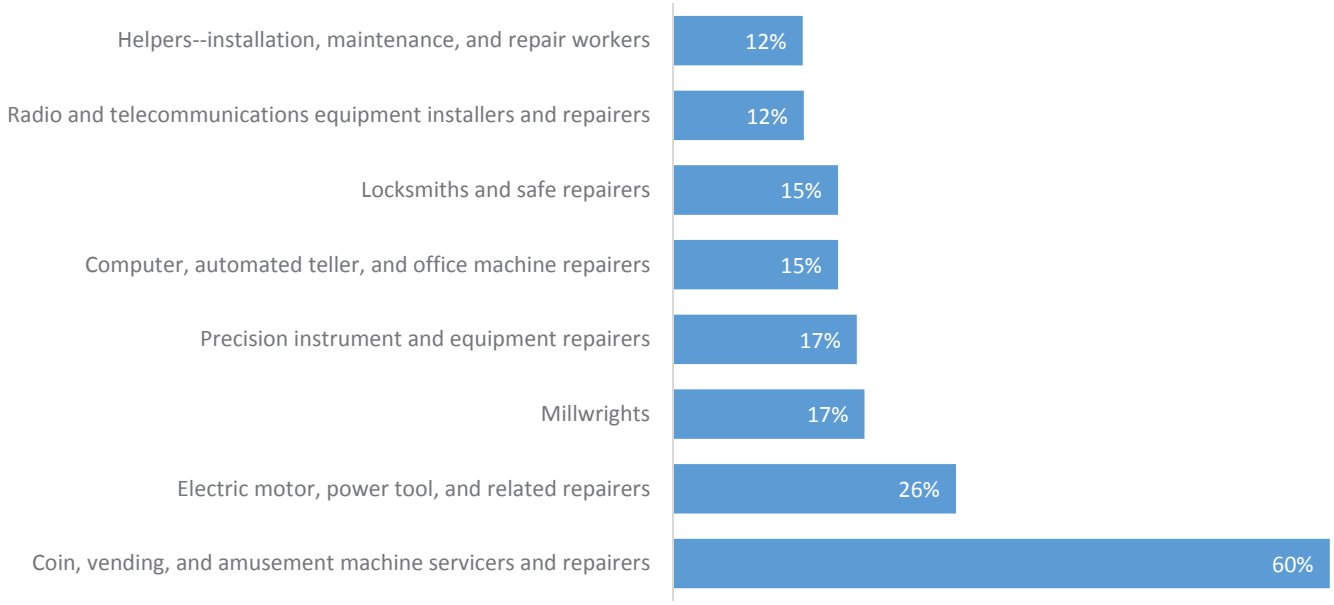
Female workers comprised ten percent or more of all workers in eight installation, maintenance, and repair occupations. (Figure 6) More than a quarter of electric motor, power tool, and related repairers were women as were sixty percent of all coin, vending machine, and amusement machine servicers and repairers. Together, two hundred women, or sixteen percent of all female workers employed in installation, maintenance, and repair occupations were employed in those two occupations.

Figure 5: Low- and mid-skill installation, maintenance, and repair occupations with 100 or more female workers, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates



Source: US Census, *Equal Opportunity Tabulation*, Table EEO-ALL08W

Figure 6: Low- and mid-skill installation, maintenance, and repair occupations where female workers are more than ten percent of workforce, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates



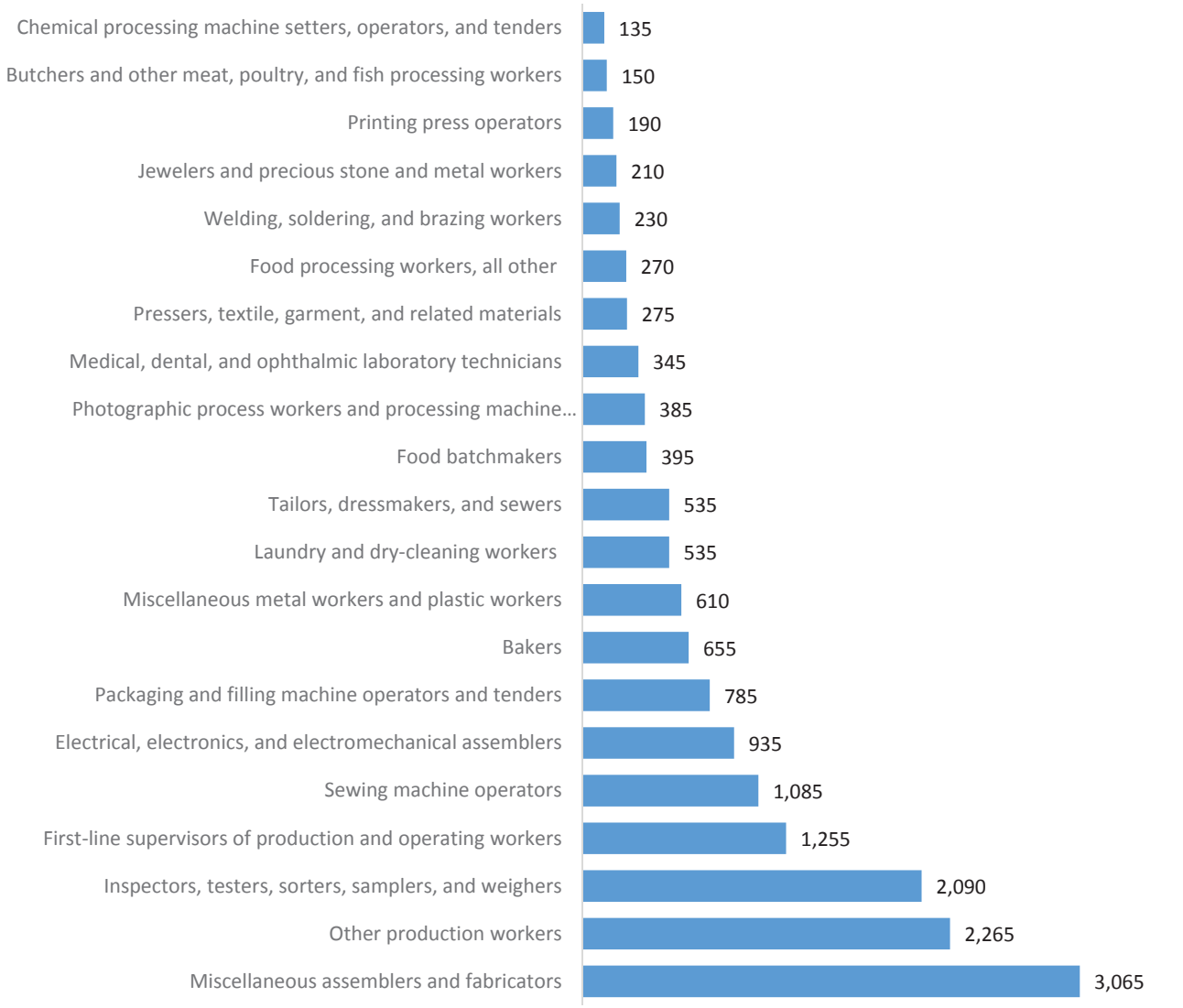
Source: US Census, *Equal Opportunity Tabulation*, Table EEO-ALL08W

Production

More than six percent of all employed workers in the Portland-Vancouver-Hillsboro MSA were employed in production between 2006 and 2010. However, just four percent of employed women worked in production. Twenty-one production occupations employed one hundred or more female workers. (Figure 7)

Female workers comprised ten percent or more of all workers in forty-five production occupations. (Figure 8) Put another way, female workers comprised ten percent or more of all workers in sixty-three percent of low- and mid-skill production occupations.

Figure 7: Low- and mid-skill production occupations with 100 or more female workers, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates



Source: US Census, *Equal Opportunity Tabulation*, Table EEO-ALL08W

Figure 8: Low- and mid-skill production occupations where female workers are more than ten percent of workforce, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates

Source: US Census, *Equal Opportunity Tabulation*, Table EEO-ALL08W

RACE AND HISPANIC ORIGIN

Between 2006 and 2010, the percentage of women in the total Portland-Vancouver-Hillsboro MSA workforce by race and Hispanic origin was roughly similar to that of the total workforce. However, Hispanic women were slightly underrepresented compared to Hispanic men. While 9.3% of the total workforce was Hispanic, eleven percent of male workers were Hispanic while just eight percent of female workers were Hispanic. When you look at all Hispanic workers, thirty-nine percent were female and sixty-two were male. For other racial and ethnic groups, the percentage of male and female workers was roughly equal. (Table 1)

Employment in construction and extraction for white women and women of color was roughly proportional to their employment in the total workforce. Female construction and extraction workers are more likely to be white than their male counterparts. Between 2006 and 2010, eighty percent of female construction and extraction workers were white, compared to just seventy-six percent of male workers. (Table 2)

Employment in installation, maintenance, and repair occupations for white women and women of color was roughly proportional to their employment in the total workforce. In this field, female workers are more likely to be white than their male counterparts but the difference was slight. Between 2006 and 2010, seventy-nine percent of female installation, maintenaince, and reapir workers were white, compared to eighty-three percent of male workers. (Table 2)

Women of color were overrepresented in low-and mid-skill

Table 1: Employed workforce by sex, race and Hispanic origin, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates

	White	*Hispanic*	*Asian*	*Black or African American*	*American Indian*	*Native Hawaiian and other Pacific islander*	*Other*	*Total*
Female	80.9%	7.7%	6.6%	2.5%	1.4%	0.4%	0.5%	46.4%
Male	78.5%	10.7%	6.1%	2.7%	1.3%	0.4%	0.5%	53.6%
Total employed workforce, Portland MSA	79.6%	9.3%	6.3%	2.6%	1.4%	0.4%	0.5%	100%

Source: US Census, *Equal Employment Opportunity Tabulation*

Table 2: Employed workforce, low- and mid-skill occupations, by race and Hispanic origin, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates

	Female		*Male*	
	White	*Non-white*	*White*	*Non-white*
Construction and Extraction	80.3%	20.7%	75.7%	24.4%
Healthcare	68.6%	31.3%	64.6%	35.4%
Installation, maintenance, and repair	79.3%	20.7%	82.5%	17.4%
Production	57.3%	42.8%	71%	29%
Total employed workforce, Portland MSA	80.9%	19.1%	78.5%	21.5%

Source: US Census, *Equal Employment Opportunity Tabulation*

healthcare occupations compared to their presence in the region's total workforce. While fewer than twenty percent of all employed female workers were non-white between 2006 and 2010, more than thirty percent of women employed in low-and mid-skill healthcare occupations were women of color. White women were slightly overrepresented in healthcare when compared to their male counterparts. Sixty-nine percent of female workers were white, compared to sixty-five percent of male workers. (Table 2)

Employment in installation, maintenance, and repair for white women and women of color was roughly proportional to their employment in the total workforce.

In installation, maintenance, and repair, eighty percent of female workers were white, compared to eighty three percent of male workers. (Table 2)

Female workers in production occupations were more than twice as likely to be women of color than workers in the total workforce. While fewer than twenty percent of all female workers in the metro region were women of color, they accounted forty-three percent of female production workers. Women of color were overrepresented compared to their male counterparts in production. Fifty-seven percent of female production workers were white, compared to seventy–one percent of male production workers. (Table 2)

WAGE PROFILES

While low- and mid-skill jobs in construction and extraction, healthcare, and the skilled trades can pay well, not all do. Data aren't available for all occupations in these fields but we do have some information about the jobs with the highest representation of female workers.

Between 2006 and 2010, four of the six construction and extraction jobs with one hundred or more female employees were high-wage, meaning they paid an annual median wage that is higher than the region's total median wage. The occupation with the most female employees, painters, paid an annual median wage that was ninety-five percent of the region's annual median wage. (Table 3) Data are available for three of the four construction and extraction occupations where women are more than ten percent of the workforce. The annual median wage for all three was higher than the overall median wage. The occupation with the highest percentage of female workers, construction and building inspectors, paid an annual median wage equal to one hundred and seventy-one percent of the region's annual median wage for all occupations. (Table 4)

Many of the healthcare professions with large percentages of female workers are high-wage occupations. The two professions with the highest number of female workers, registered nurses and miscellaneous health technologists and technicians, both pay an annual median wage that is higher than the region's average. Even registered nurses earning an

Table 3: Wage profile for low- and mid-skill construction and extraction occupations with more than one hundred female workers, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates

	Number of female workers	*Annual 10th percentile wage*	*Annual 25th percentile wage*	*Annual median wage*	*Annual 75th percentile wage*	*Annual 90th percentile wage*
Painters, construction and maintenance	285	$23,310	$31,320	$36,610	$44,300	$53,590
Construction laborers	200	$23,200	$27,890	$38,050	$50,030	$57,890
Carpenters	220	$22,310	$30,840	$42,120	$55,810	$68,240
First-line supervisors of construction trades and extraction workers	170	$33,720	$49,660	$64,250	$83,190	$100,030
Construction and building inspectors	155	$47,990	$55,850	$65,910	$74,720	$86,820
Electricians	120	$47,790	$59,820	$76,920	$87,050	$93,140
Total employed workforce, Portland MSA		$19,840	$25,750	$38,650	$60,980	$91,690

Source: US Census, *Equal Employment Opportunity Tabulation*, Table EEO-ALL01W; Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Employment Statistics*

Table 4: Wage profile for low- and mid-skill construction and extraction occupations with ten percent or more female workers, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates

	Percent of workforce that is female	*Annual 10th percentile wage*	*Annual 25th percentile wage*	*Annual median wage*	*Annual 75th percentile wage*	*Annual 90th percentile wage*
Hazardous materials removal workers	12.7%	$27,680	$33,970	$43,070	$52,740	$59,200
Structural iron and steel workers	13.0%	$28,870	$40,000	$61,970	$76,690	$87,630
Construction and building inspectors	16.0%	$47,990	$55,850	$65,910	$74,720	$86,820
Total employed workforce, Portland MSA		$19,840	$25,750	$38,650	$60,980	$91,690

Source: US Census, *Equal Employment Opportunity Tabulation*, Table EEO-ALL01W; Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Employment Statistics*

Table 5: Wage profile for low- and mid-skill healthcare occupations with one hundred or more female workers, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates

	Number of female workers	*Annual 10th percentile wage*	*Annual 25th percentile wage*	*Annual median wage*	*Annual 75th percentile wage*	*Annual 90th percentile wage*
Dental assistants	2,415	$31,590	$34,560	$39,630	$45,540	$51,770
Dental hygienists	1,415	$65,850	$73,430	$83,100	$90,580	$95,080
Diagnostic related technologists and technicians	1,175	*Data for sub occupations listed below.*				
Cardiovascular technologists and technicians		$36,310	$44,950	$67,920	$82,810	$91,960
Diagnostic medical sonographers		$67,480	$76,580	$85,300	$93,670	$106,000
Nuclear medicine technologists		$65,020	$73,710	$82,980	$90,210	$94,590
Radiologic technologists		$50,290	$56,830	$66,610	$75,780	$87,760
Magnetic resonance imaging technologists		$57,430	$67,880	$79,770	$88,540	$93,790
Emergency medical technicians and paramedics	295	$26,540	$32,100	$41,060	$51,200	$60,480
Licensed practical and licensed vocational nurses	1,345	$40,530	$44,800	$51,090	$56,320	$59,740
Massage therapists	1,440	$24,680	$31,310	$52,910	$71,520	$86,740
Medical assistants	3,555	$26,540	$30,840	$35,020	$39,910	$45,300
Medical records and health information technicians	830	$28,660	$34,670	$42,240	$48,430	$57,890
Medical transcriptionists	700	$26,810	$34,020	$41,380	$46,750	$53,470
Miscellaneous health technologists and technicians	76,080					
Orthotists and prosthetists		$41,970	$46,620	$60,520	$75,050	$89,700
Hearing aid specialists		$40,520	$48,460	$54,910	$65,230	$104,040
Health technologists and technicians, all other		$29,260	$35,340	$44,420	$54,440	$64,090
Nursing, psychiatric, and home health aides	6,920	*Data for sub occupations listed below.*				
Home health aides		$19,870	$21,160	$23,310	$28,100	$34,370
Psychiatric aides		$24,120	$28,200	$30,980	$34,940	$40,460
Nursing assistants		$21,130	$23,740	$27,980	$33,390	$37,800
Orderlies		$26,090	$29,470	$33,110	$36,270	$38,560
Opticians, dispensing	330	$23,850	$27,550	$33,040	$38,870	$50,040
Pharmacy aides	120	$19,600	$25,150	$27,950	$30,880	$38,670
Phlebotomists	400	$27,750	$32,250	$37,520	$43,160	$46,700
Physical therapist assistants and aides	415	*Data for sub occupations listed below.*				
Physical therapist aides		$24,450	$25,740	$27,840	$29,930	$35,030
Physical therapist assistants		$40,650	$45,520	$52,840	$59,620	$69,540
Registered nurses	16,025	$60,200	$71,040	$83,750	$95,810	$110,870
Respiratory therapists	240	$51,730	$58,080	$65,510	$71,800	$75,860
Veterinary assistants and laboratory animal caretakers	330	$18,820	$19,120	$21,800	$26,550	$29,270
Total employed workforce, Portland MSA		$19,840	$25,750	$38,650	$60,980	$91,690

Source: US Census, *Equal Employment Opportunity Tabulation*, Table EEO-ALL01W; Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Employment Statistics*

Table 6: Wage profile for low- and mid-skill healthcare occupations with ten percent or more female workers, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates

	Number of female workers	*Annual 10th percentile wage*	*Annual 25th percentile wage*	*Annual median wage*	*Annual 75th percentile wage*	*Annual 90th percentile wage*
Dental assistants	97.4%	$31,590	$34,560	$39,630	$45,540	$51,770
Dental hygienists	98.3%	$65,850	$73,430	$83,100	$90,580	$95,080
Emergency medical technicians and paramedics	31.7%	$26,540	$32,100	$41,060	$51,200	$60,480
Licensed practical and licensed vocational nurses	88.2%	$40,530	$44,800	$51,090	$56,320	$59,740
Massage therapists	88.9%	$24,680	$31,310	$52,910	$71,520	$86,740
Medical assistants	95.7%	$26,540	$30,840	$35,020	$39,910	$45,300
Medical records and health information technicians	85.1%	$28,660	$34,670	$42,240	$48,430	$57,890
Medical transcriptionists	97.9%	$26,810	$34,020	$41,380	$46,750	$53,470
Opticians, dispensing	89.2%	$23,850	$27,550	$33,040	$38,870	$50,040
Pharmacy	63.2%	$19,600	$25,150	$27,950	$30,880	$38,670
Phlebotomists	75.5%	$27,750	$32,250	$37,520	$43,160	$46,700
Registered nurses	89.1%	$60,200	$71,040	$83,750	$95,810	$110,870
Respiratory therapists	54.5%	$51,730	$58,080	$65,510	$71,800	$75,860
Veterinary assistants and laboratory animal caretakers	73.3%	$18,820	$19,120	$21,800	$26,550	$29,270
Nursing, psychiatric, and home health aides	84.3%	*Data for sub occupations listed below.*				
Home health aides		$19,870	$21,160	$23,310	$28,100	$34,370
Psychiatric aides		$24,120	$28,200	$30,980	$34,940	$40,460
Nursing assistants		$21,130	$23,740	$27,980	$33,390	$37,800
Orderlies		$26,090	$29,470	$33,110	$36,270	$38,560
Diagnostic related technologists and technicians	66.6%	*Data for sub occupations listed below.*				
Cardiovascular technologists and technicians		$36,310	$44,950	$67,920	$82,810	$91,960
Diagnostic medical sonographers		$67,480	$76,580	$85,300	$93,670	$106,000
Nuclear medicine technologists		$65,020	$73,710	$82,980	$90,210	$94,590
Radiologic technologists		$50,290	$56,830	$66,610	$75,780	$87,760
Magnetic resonance imaging technologists		$57,430	$67,880	$79,770	$88,540	$93,790
Miscellaneous health technologists and technicians	65.8%	*Data for sub occupations listed below.*				
Orthotists and prosthetists		$41,970	$46,620	$60,520	$75,050	$89,700
Hearing aid specialists		$40,520	$48,460	$54,910	$65,230	$104,040
Health technologists and technicians, all other		$29,260	$35,340	$44,420	$54,440	$64,090
Total employed workforce, Portland MSA		$19,840	$25,750	$38,650	$60,980	$91,690

Source: US Census, *Equal Employment Opportunity Tabulation*, Table EEO-ALL01W; Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Employment Statistics*

annual wage in the lowest tenth percentile can expect to earn one hundred and sixty percent of the region's annual median wage. Miscellaneous health technologists and technicians includes three subcategories whose annual median wages are one hundred and fifteen percent to one hundred and sixty percent of the region's annual median wage. (Tables 5 & 6)

Eighty-eight percent of female workers employed in installation, maintenance, and repair work in high-wage occupations. The two professions which pay below the region's average, have annual median wages that are ninety-two and ninety-four percent of the region's total. (Tables 7)

The three installation, maintenance, and repair occupations with the highest percentage of female workers pay an average annual wage between eighty-eight percent (electric motor, power tool, and related repairers) and one hundred fifty-eight percent (millwrights) of the region's annual wage. (Table 8)

Table 7: Wage profile for low- and mid-skill installation, maintenance, and repair occupations with more than one hundred female workers, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates

	Number of female workers	*Annual 10th percentile wage*	*Annual 25th percentile wage*	*Annual median wage*	*Annual 75th percentile wage*	*Annual 90th percentile wage*
Automotive service technicians and mechanics	105	$25,670	$32,670	$42,850	$53,710	$61,460
Coin, vending, and amusement machine servicers and repairers	155	$24,120	$29,400	$36,370	$46,680	$54,220
Computer, automated teller, and office machine repairers	295	$23,470	$27,970	$35,590	$44,960	$54,320
First-line supervisors of mechanics, installers, and repairers	140	$38,930	$49,140	$62,870	$75,120	$90,770
Maintenance and repair workers, general	205	$24,580	$30,330	$39,150	$52,000	$61,780
Radio and telecommunications equipment installers and repairers	120	*Data for sub occupations listed below.*				
Radio, cellular, and tower equipment installers and repairers		$40,700	$44,880	$55,890	$69,920	$75,360
Telecommunications equipment installers and repairers, except line installers		$43,190	$55,380	$65,090	$71,350	$75,140
Total employed workforce, Portland MSA		$19,840	$25,750	$38,650	$60,980	$91,690

Source: US Census, *Equal Employment Opportunity Tabulation*, Table EEO-ALL01W; Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Employment Statistics*

Table 8: Wage profile for low- and mid-skill installation, maintenance, and repair occupations with ten percent or more female workers, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates

	Percent of workers who are female	*Annual 10th percentile wage*	*Annual 25th percentile wage*	*Annual median wage*	*Annual 75th percentile wage*	*Annual 90th percentile wage*
Coin, vending, and amusement machine servicers and repairers	59.6%	$24,120	$29,400	$36,370	$46,680	$54,220
Computer, automated teller, and office machine repairers	15.0%	$23,470	$27,970	$35,590	$44,960	$54,320
Electric motor, power tool, and related repairers	25.7%	$19,090	$23,420	$33,950	$45,470	$57,860
Helpers--installation, maintenance, and repair workers	11.8%	$19,220	$20,860	$25,280	$36,700	$52,330
Locksmiths and safe repairers	15.0%	$21,180	$24,110	$32,300	$39,020	$53,480
Millwrights	17.4%	$38,080	$47,150	$61,190	$70,310	$75,500
Radio and telecommunications equipment installers and repairers	11.9%	*Data for sub occupations listed below.*				
Radio, cellular, and tower equipment installers and repairers		$40,700	$44,880	$55,890	$69,920	$75,360
Telecommunications equipment installers and repairers, except line installers		$43,190	$55,380	$65,090	$71,350	$75,140
Total employed workforce, Portland MSA		$19,840	$25,750	$38,650	$60,980	$91,690

Source: US Census, *Equal Employment Opportunity Tabulation*, Table EEO-ALL01W; Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Employment Statistics*

Data are not available for all of the production occupations with large numbers of female employees. The occupations for which data are available tend to pay annual median wages far below the region's total. At least a quarter of female workers employed in production work at jobs that pay an annual median wage that is seventy-five percent or less of the region's total wage. (Table 8)

Of the six occupations where women are ten percent or more of the workforce, just one, jewelers and precious stone and metal workers, was high-wage. The other twenty-nine occupations were low wage. (Table 9)

Table 9: Wage profile for low- and mid-skill production occupations with more than one hundred female workers, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates

	Number of workers who are female	*Annual 10th percentile wage*	*Annual 25th percentile wage*	*Annual median wage*	*Annual 75th percentile wage*	*Annual 90th percentile wage*
Pressers, textile, garment, and related materials	275	$18,830	$19,140	$20,410	$23,120	$26,980
Laundry and dry-cleaning workers	535	$19,030	$19,660	$22,150	$24,950	$33,560
Sewing machine operators	1,085	$18,980	$19,560	$22,640	$28,500	$36,170
Food processing workers, all other	270	$19,100	$19,860	$23,660	$32,400	$37,320
Food batchmakers	395	$19,210	$21,090	$26,450	$31,500	$41,830
Packaging and filling machine operators and tenders	785	$19,400	$22,350	$28,590	$36,340	$44,050
Bakers	655	$20,250	$22,970	$29,250	$37,110	$44,040
Printing press operators	190	$22,800	$27,390	$35,210	$48,450	$59,140
Photographic process workers and processing machine operators	385	$19,840	$22,830	$36,800	$47,500	$57,410
Inspectors, testers, sorters, samplers, and weighers	2,090	$24,220	$29,590	$37,390	$46,720	$60,050
Jewelers and precious stone and metal workers	210	$33,070	$36,760	$52,410	$72,930	$84,840
First-line supervisors of production and operating workers	1,255	$36,840	$44,290	$57,260	$72,160	$87,090
Welding, soldering, and brazing workers	230					
Welders, cutters, solderers, and brazers		$28,560	$34,430	$41,280	$46,820	$54,830
Welding, soldering, and brazing machine setters, operators, and tenders		$30,890	$34,640	$41,000	$45,960	$49,190
Total employed workforce, Portland MSA		$19,840	$25,750	$38,650	$60,980	$91,690

Source: US Census, *Equal Employment Opportunity Tabulation*, Table EEO-ALL01W; Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Employment Statistics*

Table 10: Wage profile for low- and mid-skill production occupations with more than ten percent of female workers, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates

	Percent of workers who are female	*Annual 10th percentile wage*	*Annual 25th percentile wage*	*Annual median wage*	*Annual 75th percentile wage*	*Annual 90th percentile wage*
Bakers	45.2%	$20,250	$22,970	$29,250	$37,110	$44,040
Cutting, punching, and press machine setters, operators, and tenders, metal and plastic	10.6%	$20,900	$25,120	$32,610	$40,850	$49,370
Engine and other machine assemblers	25.0%	$30,850	$35,210	$41,510	$46,750	$53,180
Etchers and engravers	20.0%	$19,840	$21,910	$25,540	$31,040	$35,970
Extruding and drawing machine setters, operators, and tenders, metal and plastic	23.5%	$25,340	$29,300	$35,920	$45,090	$54,580
Extruding, forming, pressing, and compacting machine setters, operators, and tenders	21.2%	$19,110	$19,900	$23,200	$30,130	$37,080
First-line supervisors of production and operating workers	18.1%	$36,840	$44,290	$57,260	$72,160	$87,090
Food and tobacco roasting, baking, and drying machine operators and tenders	46.4%	$24,460	$25,820	$28,070	$30,330	$38,800
Food batchmakers	67.5%	$19,210	$21,090	$26,450	$31,500	$41,830
Food cooking machine operators and tenders	41.7%	$22,770	$26,180	$30,750	$37,430	$43,350
Food processing workers, all other	43.9%	$19,100	$19,860	$23,660	$32,400	$37,320
Furnace, kiln, oven, drier, and kettle operators and tenders	10.0%	$29,870	$36,350	$42,340	$46,220	$48,700
Helpers--production workers	20.4%	$19,410	$22,010	$27,180	$34,360	$41,810
Inspectors, testers, sorters, samplers, and weighers	35.6%	$24,220	$29,590	$37,390	$46,720	$60,050
Jewelers and precious stone and metal workers	55.3%	$33,070	$36,760	$52,410	$72,930	$84,840
Laundry and dry-cleaning workers	44.4%	$19,030	$19,660	$22,150	$24,950	$33,560
Molders, shapers, and casters, except metal and plastic	12.6%	$20,980	$27,110	$33,760	$41,900	$50,930
Packaging and filling machine operators and tenders	57.9%	$19,400	$22,350	$28,590	$36,340	$44,050
Photographic process workers and processing machine operators	70.6%	$19,840	$22,830	$36,800	$47,500	$57,410
Prepress technicians and workers	38.6%	$29,060	$36,030	$45,290	$56,330	$65,480
Pressers, textile, garment, and related materials	72.4%	$18,830	$19,140	$20,410	$23,120	$26,980
Print binding and finishing workers	23.1%	$20,680	$24,700	$30,910	$38,770	$47,480
Printing press operators	11.1%	$22,800	$27,390	$35,210	$48,450	$59,140
Rolling machine setters, operators, and tenders, metal and plastic	15.8%	$26,290	$41,140	$48,510	$55,350	$59,630
Sewing machine operators	83.8%	$18,980	$19,560	$22,640	$28,500	$36,170
Shoe and leather workers and repairers	39.1%	$20,890	$23,150	$26,710	$30,570	$36,000
Tool and die makers	15.0%	$30,240	$41,530	$52,370	$63,230	$78,170
Upholsterers	19.6%	$21,970	$25,510	$30,710	$42,320	$46,250
Molders and molding machine setters, operators, and tenders, metal and plastic	13.3%					
Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic		$20,890	$23,540	$30,940	$38,280	$46,390
Foundry mold and coremakers		$22,460	$26,850	$34,320	$41,220	$46,360
Total employed workforce, Portland MSA		$19,840	$25,750	$38,650	$60,980	$91,690

Source: US Census, *Equal Employment Opportunity Tabulation*, Table EEO-ALL01W; Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Employment Statistics*

Table 11: High-opportunity occupations, Portland-Vancouver-Hillsboro MSA

Occupation	*Sector*	*Projected openings*	*Annual median wage*	*Percent female*
Electricians	Construction & Extraction	1,125	$76,920	2.7%
Plumbers, Pipefitters, and Steamfitters	Construction & Extraction	702	$71,850	n/a
Construction and Building Inspectors	Construction & Extraction	122	$65,910	16%
Brickmasons and Blockmasons	Construction & Extraction	170	$64,610	2.3%
First-Line Supervisors of Construction Trades and Extraction Workers	Construction & Extraction	1,044	$64,250	2.6%
Structural Iron and Steel Workers	Construction & Extraction	107	$61,970	n/a
Operating Engineers/Other Construction Equipment Operators	Construction & Extraction	346	$60,210	n/a
Tapers	Construction & Extraction	138	$59,250	n/a
Sheet Metal Workers	Construction & Extraction	472	$50,590	1.8%
Cement Masons and Concrete Finishers	Construction & Extraction	276	$48,660	0%
Diagnostic Medical Sonographers	Healthcare	125	$85,300	n/a
Registered Nurses	Healthcare	3,254	$83,750	89.1%
Dental Hygienists	Healthcare	473	$83,100	98.3%
Radiologic Technologists	Healthcare	188	$66,610	n/a
Respiratory Therapists	Healthcare	108	$65,510	54.5%
Healthcare Practitioners and Technical Workers, All Other	Healthcare	143	$57,970	n/a
Massage Therapists	Healthcare	371	$52,910	89.9%
Licensed Practical and Licensed Vocational Nurses	Healthcare	304	$51,090	88.2%
Surgical Technologists	Healthcare	109	$49,280	n/a
Electrical/Electronics Repairers, Commercial/Industrial	Installation, Maintenance & Repair	135	$65,860	0%
Telecommunications Equipment Installers and Repairers, Except Line Installers	Installation, Maintenance & Repair	201	$65,090	5.8%
First-Line Supervisors of Mechanics, Installers, and Repairers	Installation, Maintenance & Repair	302	$62,870	7.4%
Industrial Machinery Mechanics	Installation, Maintenance & Repair	710	$56,170	3.7
Heating, Air Conditioning, Refrigeration Mechanics and Installers	Installation, Maintenance & Repair	401	$50,720	1%
Mobile Heavy Equipment Mechanics, Except Engines	Installation, Maintenance & Repair	186	$50,220	n/a
Bus and Truck Mechanics and Diesel Engine Specialists	Installation, Maintenance & Repair	254	$49,850	0.2%
First-Line Supervisors of Production and Operating Workers	Production	460	$57,260	18.1%
Computer Numerically Controlled Machine Tool Programmers	Production	104	$53,720	n/a

Source: Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Employment Statistics;* Oregon Employment Department; Washington Department of Employment Security

HIGH-OPPORTUNITY OCCUPATIONS

We identified twenty-eight high-opportunity occupations, which offer better opportunities for economic advancement. To be classified as high opportunity, an occupation must require two or fewer years of post-secondary education, pay an annual median wage of at least $48,303, one hundred twenty-five percent of the region's annual median wage for all occupations, and have anticipated growth of one hundred or more new openings within the next ten years. Twenty-eight occupations meet these criteria: ten in construction and extraction, nine in healthcare, seven in installation, maintenance, and repair, and two in production. (Table 11)

Data about the sex of workers is not available for all high opportunity occupations. In the occupations for which we have data, forty-one percent of workers are female. This varies considerably across the four sectors. The majority of female workers, ninety-one percent, employed in high opportunity occupations worked in healthcare. Eighty-nine percent of all workers employed in high opportunity healthcare occupations were female. Eighteen percent of production workers and three percent of construction and extraction and installation, maintenance, and repair workers employed in high opportunity occupations were female.

Among female workers employed in high opportunity occupations, white workers were overrepresented. Between 2006 and 2010, eighty-one percent of all employed female workers in the Portland-Vancouver-Hillsboro MSA were white. Eighty-seven percent of female workers employed in high opportunity occupations in healthcare, production, and the skilled trades were white. (Table 12)

Table 12: Female workers in high-opportunity occupations, by race and Hispanic origin, Portland-Vancouver-Hillsboro MSA, 2006-2010 five-year estimates

	Female workers	*White*	*% White*	*Nonwhite*	*% Non-white*
Installation, maintenance, and repair	339	279	82.3%	60	17.7%
Production	1,255	890	70.9%	270	21.5%
Healthcare	21,640	19,010	87.8%	2,615	12.1%
Construction & extraction	485	470	96.9%	24	4.9%
Total	23,719	20,649	87.1%	2,969	12.5%

Source: US Census, *Equal Employment Opportunity Tabulation*, Table EEO-ALL01W; Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Employment Statistics*

FINDINGS

This report examines the role of female workers in low- and medium-skill occupations in four sectors, including construction and extraction; health care; installation, maintenance, and repair; and production. The report profiles the female workforce in these sectors and identifies "high opportunity occupations" that are both high-wage and projected to grow in the next decade.

Our main findings are as follows:

Female workers were underrepresented to various degrees in low- and mid-skill construction and extraction (3% of workers); production (30% of workers); and installation, maintenance, and repair (6% of workers). However, female workers were overrepresented in low- and mid-skill healthcare occupations (72% of workers).

Women continue to dominate low- and mid-skill healthcare occupations. Twenty-four percent of all employed women in the region's total workforce worked in a low- or mid-skill healthcare occupation.

Women of color were overrepresented in low-and mid-skill healthcare occupations compared to their presence in the region's total workforce. While fewer than twenty percent of all employed female workers were non-white between 2006 and 2010, more than thirty percent of those employed in low-and mid-skill healthcare occupations were women of color.

Female workers in production occupations were more than twice as likely to be women of color than workers in the total workforce. While fewer than twenty percent of all female workers in the metro region were women of color, they accounted forty-three percent of female production workers.

Many of the healthcare professions with large percentages of female workers are high-wage occupations. The two professions with the highest number of female workers, registered nurses and miscellaneous health technologists and technicians, both pay an annual median wage that is higher than the region's average. Even registered nurses earning an annual wage in the lowest tenth percentile can expect to earn one hundred and sixty percent of the region's annual median wage.

Eighty-eight percent of female workers employed in installation, maintenance, and repair work in high-wage occupations.

At least a quarter of female workers employed in production work at jobs that pay an annual median wage that is seventy-five percent or less of the region's total median wage.

Women of color are over represented in low- and mid-skill healthcare and production occupations. Healthcare occupations tend to be higher paying and offer greater economic opportunity than productions jobs, which ten to be low paying.

Forty-one percent of workers in high-opportunity occupations were female. This varies considerably across the four sectors. The majority of female workers, ninety-one percent, employed in high opportunity occupations worked in healthcare. Eighteen percent of production workers and three percent of construction and extraction and installation, maintenance, and repair workers employed in high opportunity occupations were female.

Among female workers employed in high opportunity occupations, white workers were overrepresented. Between 2006 and 2010, eighty-one percent of all employed female workers in the Portland-Vancouver-Hillsboro MSA were white. Eighty-seven percent of female workers employed in high opportunity occupations in healthcare, production, and the skilled trades were white.

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