

# PARTICIPANT EMPLOYMENT AND EARNINGS OUTCOMES

1ST QUARTER 2007 – 2ND QUARTER 2012

## PARTNERS FOR A COMPETITIVE WORKFORCE (PCW)

Partners for a Competitive Workforce (PCW) is a partnership in the Ohio, Kentucky, Indiana tri-state region focused on meeting employer demand by growing the skills of our current and future workforce. The initiative brings together education and training providers, community organizations, and businesses to build career pathways in the health care, manufacturing, and construction industry sectors. Each career pathway organizes a set of educational stepping stones and support services that enable individuals to enter and advance in careers in an industry sector. The pathways establish linkages between developmental education, certificate and training programs, and academic degree programs, and easy articulation of credits across institutions and “stackable” certificates to enable students to progress seamlessly from one level to the next.

Since 2008, PCW’s partners have served more than 6,100 individuals across three career pathway partnerships. Of that total, 5,000 jobseekers have taken some form of training with a 90 percent completion rate. Over 4,600 have earned credentials, 82 percent have obtained employment and 75 percent have retained employment after 12 months. In addition, more than 1,000 incumbent workers have taken some form of training and have earned over 950 credentials.

This report analyzes data on participant employment and earnings outcomes. Overall, PCW’s partners’ programs make a big impact on participants and the region. Based on the available data, these programs have increased monthly earnings in the Cincinnati area by \$614,807 and

have cumulatively contributed \$7.3 million dollars a year to the area, just in the form of higher participant earnings.

PCW’S partners facilitate a number of different programs—ranging from short, job-readiness training to incumbent worker training that leads to an associate degree. Many participants completed multiple programs. This report primarily classifies participants by the most time-intensive program they completed. There are 3,852 completers in the sample studied. Table 1 shows the number of completers by exit type: As you can see, occupational certificate and job-readiness training together account for 75 percent of completers. “Other certificate” and the National Career Readiness Certificate (NCRC) are the next most common exit types. Less than 2.5 percent of participants earned an associate degree or occupational license.

**Table 1.**

Completers, by longest program completed		
Highest exit type	Completers	
	Count	Percent
Associate degree	66	1.7
Occupational license	27	0.7
Occupational certificate	1,557	40.4
Other certificate	601	15.6
NCRC	275	7.1
Job-readiness training	1,326	34.4
<b>Total completers</b>	<b>3,852</b>	<b>100.0</b>

<sup>1</sup> Associate degrees include nursing and health information technology; occupational licenses are primarily state tested nursing assistants who had already completed training but not yet passed the state license; occupational certificates include manufacturing programs such as CNC operators, welders, bio-science technicians, pharmaceutical technicians, electro-mechanical technicians and Manufacturing Skills Certification Systems (MSSC) certificates; occupational certificates also include construction programs such as carpentry, electrician, plumbing, HVAC, and pre-apprenticeship certificates (e.g. NCCER); other certificates include non-occupation specific e.g., CPR or OSHA 10.

## ESTIMATES OF PROGRAMS' EFFECTS AS COMPARED TO JOB-READINESS TRAINING ALONE

The most important questions for a workforce development effort like PCW are what impact the programs had on participants and whether that impact is greater than that of existing programs. To get at answers, the employment and earnings outcomes of completers who went beyond job-readiness training were compared to the outcomes of job-readiness-only completers. This makes sense because the job-readiness programs, while important, are the most similar to services generally available to individuals in regions not served by PCW'S partners.

People from many different backgrounds and levels of work experience participated in the PCW'S partners' programs. To help make apples-to-apples comparisons, participants in the more intensive programs were matched to job-readiness-only participants on: age, quarterly weeks worked and earnings in the year prior to intake, quarter last exited PCW'S partners' programs, gender, minority status, and presence or lack of a criminal record. Figures 1 and 2 show the average difference between participants and their matches in the change in outcome between the quarter indicated and the quarter immediately prior to intake, which is often called a difference-in-difference estimate of program effects. These estimates are reported by quarter after exit. Estimated effects that are not statistically significant at the 5 percent level are smaller and italicized.

All programs except the associate degree are tied to significantly higher monthly earnings four quarters after exit. (The estimated effect for associate degrees is \$546, but, with relatively few associate degree completers with data, it is statistically insignificant.) Increases ranged from \$148 for other certificates to \$706 for occupational licenses. Given that the number of completers with data available decreases with each quarter, there is no strong evidence about whether or not the program effects fade over time, which is common with many workforce development programs. The number of participants with data is very stable across quarters for the occupational license group, for whom the average effect on earnings increases strongly over time.

The effects on employment rates are not as strong as the effects on earnings. The quarters after exit show statistically significant increases in the likelihood of being employed, ranging from 9.3 percentage points for Other certificates three quarters after final exit, to 33.8 percentage points for occupational licenses, after two quarters. However, only occupational license completers have a statistically significant difference from job readiness alone four quarters after program exit. These results show that PCW'S partners programs helped participants find employment faster, but the long-run effects on likelihood of employment are not as dramatic.

<sup>2</sup> The data on earnings and employment reported here comes from the State of Ohio Unemployment Insurance system (UI) and covers quarter 1, 2007, through quarter 2, 2012. Completers who entered a PCW partners' program prior to April 2007 or who exited after March 2012 could not be included. The UI data covers only people employed in Ohio. As a result, the total number of completers employed has been underestimated because those working in Kentucky or Indiana are not included. To lessen this problem, only people who lived in Ohio at the time of intake are included in the figures. Another limitation is that not all of the data on participants is complete, especially regarding occupational licensure. It is likely that many participants earned occupational licenses without it being recorded in the system, and would be classified as completing occupational certificates with no record of licensure.

Figure 1.

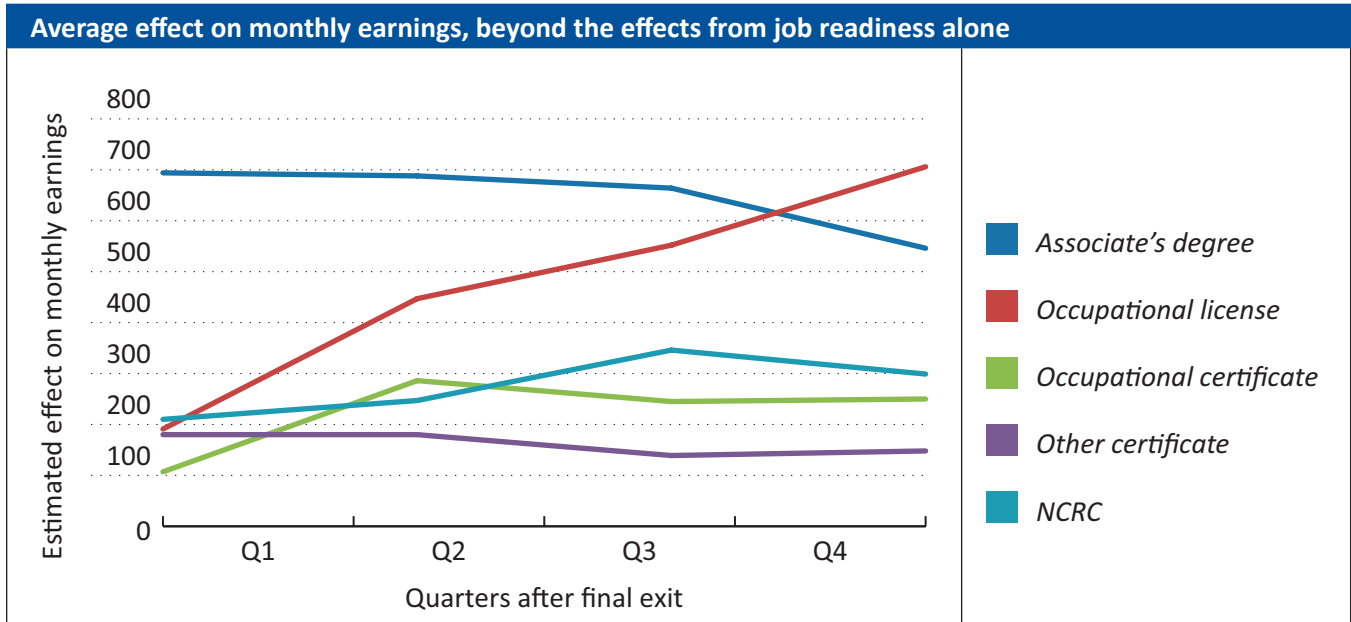


Figure 2.

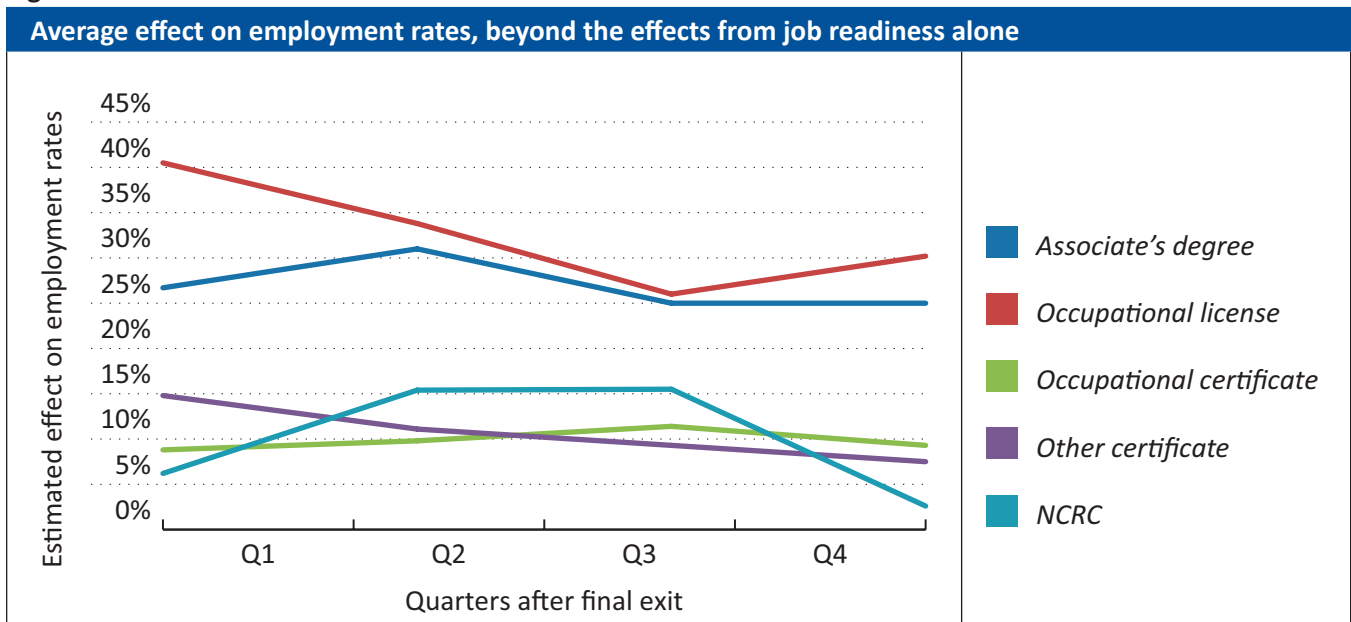


Table 2.

**Average effect on monthly earnings and employment rates, beyond the effects from job readiness alone**

Highest exit type	Monthly earnings (\$s)				Employment rates			
	Quarters after final exit				Quarters after final exit			
	1	2	3	4	1	2	3	4
Associate degree	694	688	664	546	26.7%	31.0%	25.0%	25.0%
Occupational license	191	447	552	706	40.5%	33.8%	26.0%	30.2%
Occupational certificate	107	286	245	250	8.8%	9.8%	11.4%	5.5%
Other certificate	180	180	139	148	14.8%	11.1%	9.3%	7.5%
NCRC	210	247	346	299	6.2%	15.4%	15.5%	2.6%

Note: Numbers that are smaller and italicized indicate estimated effects that are not significantly different from zero at the 5 percent level.

**Table 3.**

Average effect on weeks worked per month, beyond the effects from job readiness alone, and the number of completers with data								
Highest exit type	Weeks worked per month				Number of completers			
	Quarters after final exit				Quarters after final exit			
	1	2	3	4	1	2	3	4
Associate degree	1.06	1.04	<i>0.99</i>	<i>0.43</i>	30	29	26	19
Occupational license	1.08	1.65	1.34	1.07	21	21	21	19
Occupational certificate	0.40	0.80	0.63	<i>0.36</i>	1,511	1,458	1,328	1,163
Other certificate	0.78	0.62	0.50	0.47	572	552	513	469
NCRC	0.34	0.61	0.63	<i>0.21</i>	265	249	172	111

Note: Numbers that are smaller and italicized indicate estimated effects that are not significantly different from zero at the 5 percent level.

Table 3 shows comparable results for the number of weeks worked per month and the number of completers included in the estimates. Aside from the associate degree programs, which primarily served people already employed, there are statistically significant effects in the number of weeks worked per month for the first three quarters, ranging from 0.34 weeks for NCRC in the first quarter after exit to 1.65 weeks for occupational licenses in the second quarter after exit. Four quarters after exit, the effects are all positive, but the estimated effects for associate degrees, occupational certificates, and NCRC are not statistically significant.

On the whole, a few patterns emerge: The effects on wages from the associate degree and occupational license programs are more than double those from any other program. And notably, NCRC effects are only a little smaller than those from occupational certificates. For example, in the 2nd quarter after exit, the effect on monthly earnings was \$247 and \$286 for NCRC and occupational certificates, respectively. The comparable figures for weeks employed are 0.61 and 0.80.

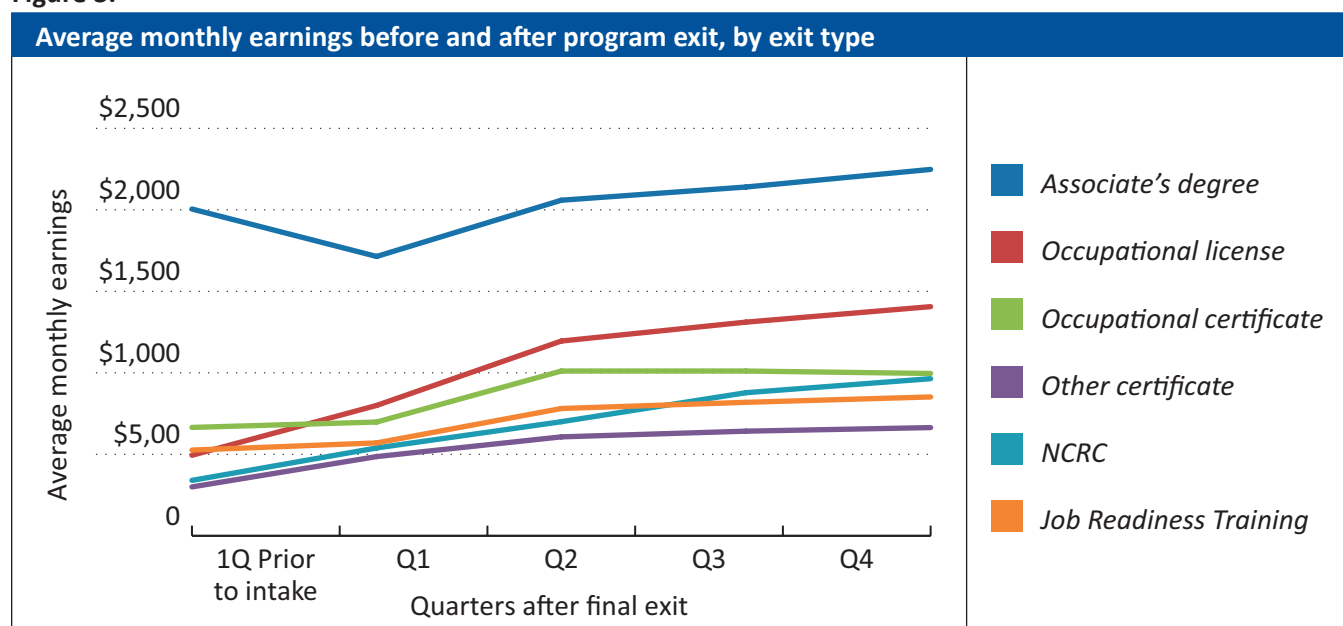


## OUTCOMES FOR ALL PROGRAMS

The previous section compares participants in PCW'S partners' core programs to individuals receiving job-readiness training alone. The next section depicts participant outcomes with no comparison. The graphs and tables below show average monthly earnings, employment rates,

and weeks worked per month, by type of program completed for the quarter before intake and four quarters after exit. Included are the results of job-readiness training completers—the comparison group in the prior section.

**Figure 3.**



**Table 4.**

**Average monthly earnings before and after program exit, by exit type**

Highest exit type	Average monthly earnings (\$s)					Change from 1 qtr. prior to 4Q after
	1 qtr. prior to intake	Quarters after final exit				
		1	2	3	4	
Associate degree	2,005	1,714	2,059	2,140	2,248	243
Occupational license	494	800	1,196	1,311	1,406	911
Occupational certificate	665	698	1,011	1,011	996	331
Other certificate	300	486	607	642	664	364
NCRC	340	539	700	878	964	623
Job-readiness training	526	570	781	819	852	326

Figure 4.

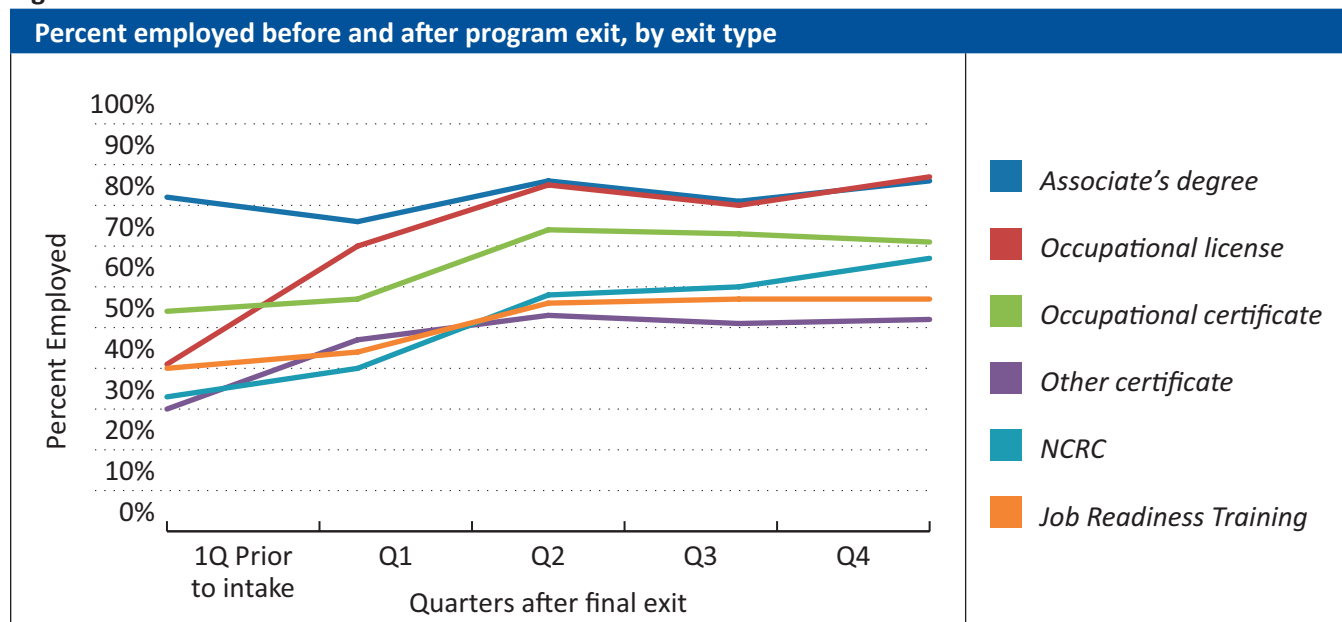


Table 5.

**Percent employed before and after program exit, by exit type**

Highest exit type	Percent employed					Change from 1 qtr. prior to 4 qtrs. after
	1 qtr. prior to intake	Quarters after final exit				
		1	2	3	4	
Associate degree	82%	76%	86%	81%	86%	4%
Occupational license	41%	70%	85%	80%	87%	46%
Occupational certificate	54%	57%	74%	73%	71%	17%
Other certificate	30%	47%	53%	51%	52%	22%
NCRC	33%	40%	58%	60%	67%	34%
Job-readiness training	40%	44%	56%	57%	57%	17%

The outcomes follow the patterns one would expect: Earnings, employment rates, and weeks worked are highest for associate degree completers, followed by occupational license and certificate completers. The outcomes of NCRC and job-readiness training completers are generally very similar to one another. The differences described in

the above between NCRC and job-readiness training completers are primarily due to the weaker work histories of NCRC participants prior to intake. Other certificate completers' outcomes tend to be just below those of NCRC and job-readiness training participants.

Figure 5.

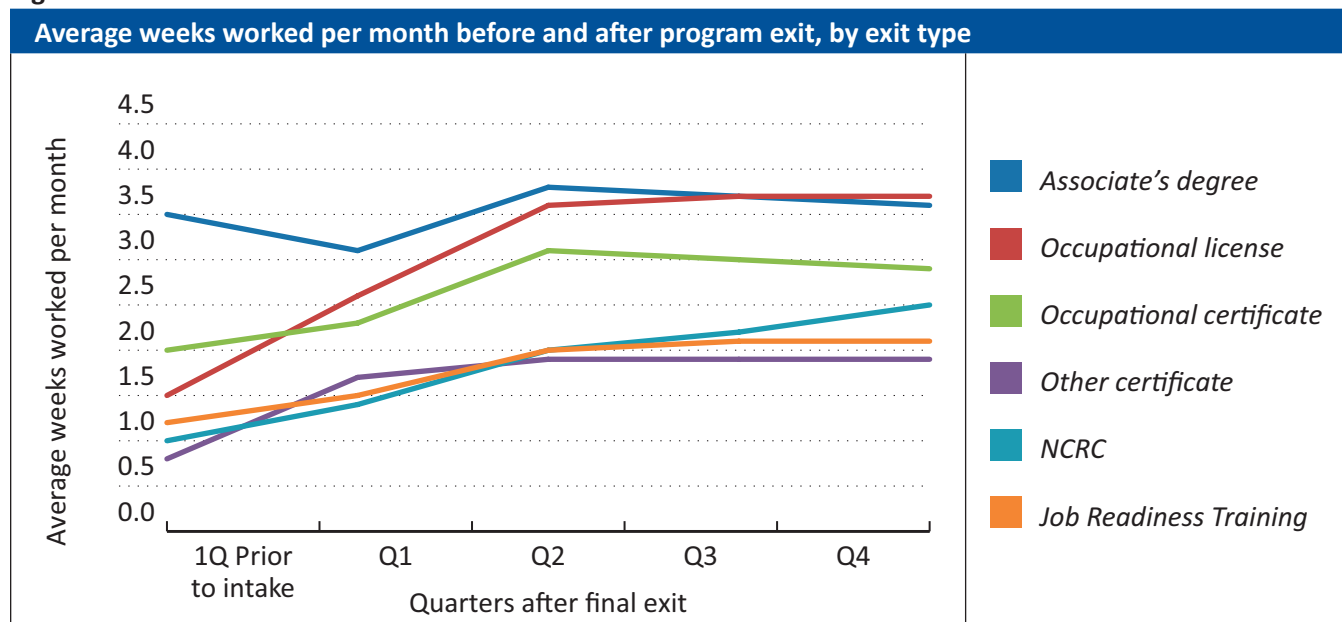


Table 6.

**Average weeks worked per month before and after program exit, by exit type**

Highest exit type	Average weeks worked per month					Change from 1 qtr. prior to 4 qtrs. after
	1 qtr. prior to intake	Quarters after final exit				
		1	2	3	4	
Associate degree	3.5	3.1	3.8	3.7	3.6	0.1
Occupational license	1.5	2.6	3.6	3.7	3.7	2.2
Occupational certificate	2.0	2.3	3.1	3.0	2.9	0.9
Other certificate	0.8	1.7	1.9	1.9	1.9	1.1
NCRC	1.0	1.4	2.0	2.2	2.5	1.5
Job-readiness training	1.2	1.5	2.0	2.1	2.1	0.8



## PARTICIPANT OUTCOMES BY SECTOR

PCW worked closely with employer partners to develop programs in health care, construction, and manufacturing. Table 7 gives the number of participants by sector, with data for one quarter prior to intake and four quarters after final exit. The “all” columns include every participant, even those whose sector cannot be identified. The health care sector is by far the largest, with twice as many

participants as manufacturing (1,155 vs. 554). Note that outcome fields that have fewer than 10 participants should not be given much weight.

Figure 6—showing average monthly earnings four quarters after exit, by sector and exit type—reveals that average earnings are what one would expect:

Figure 6.

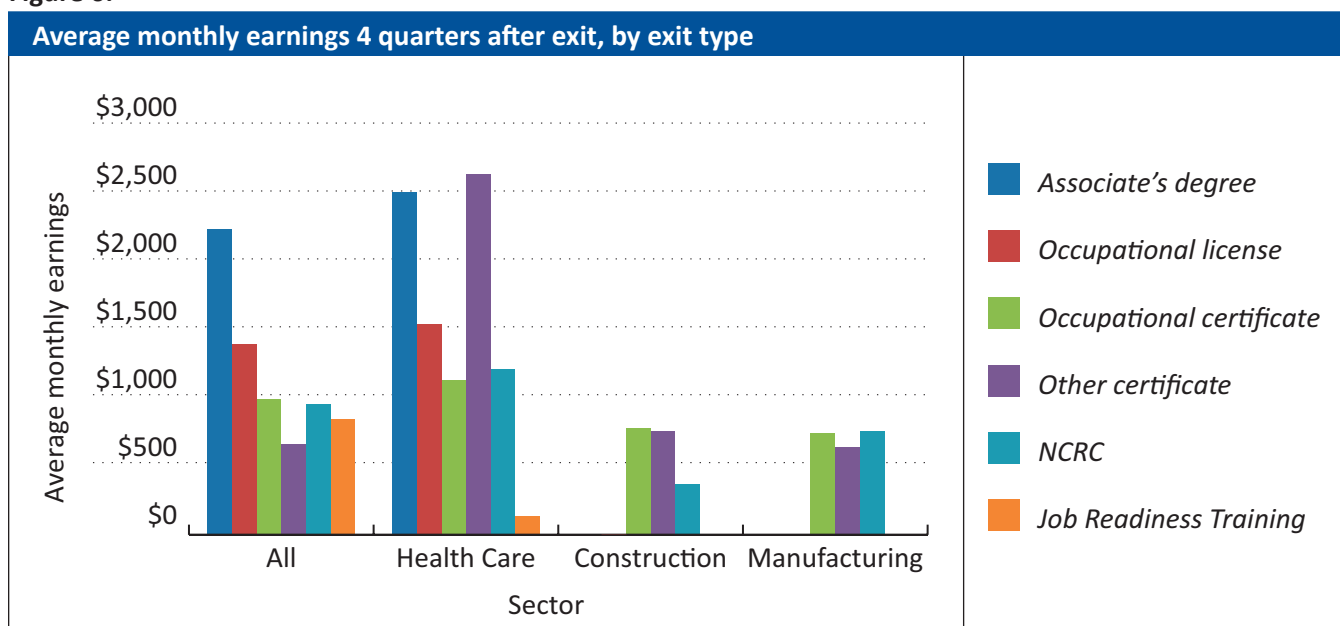
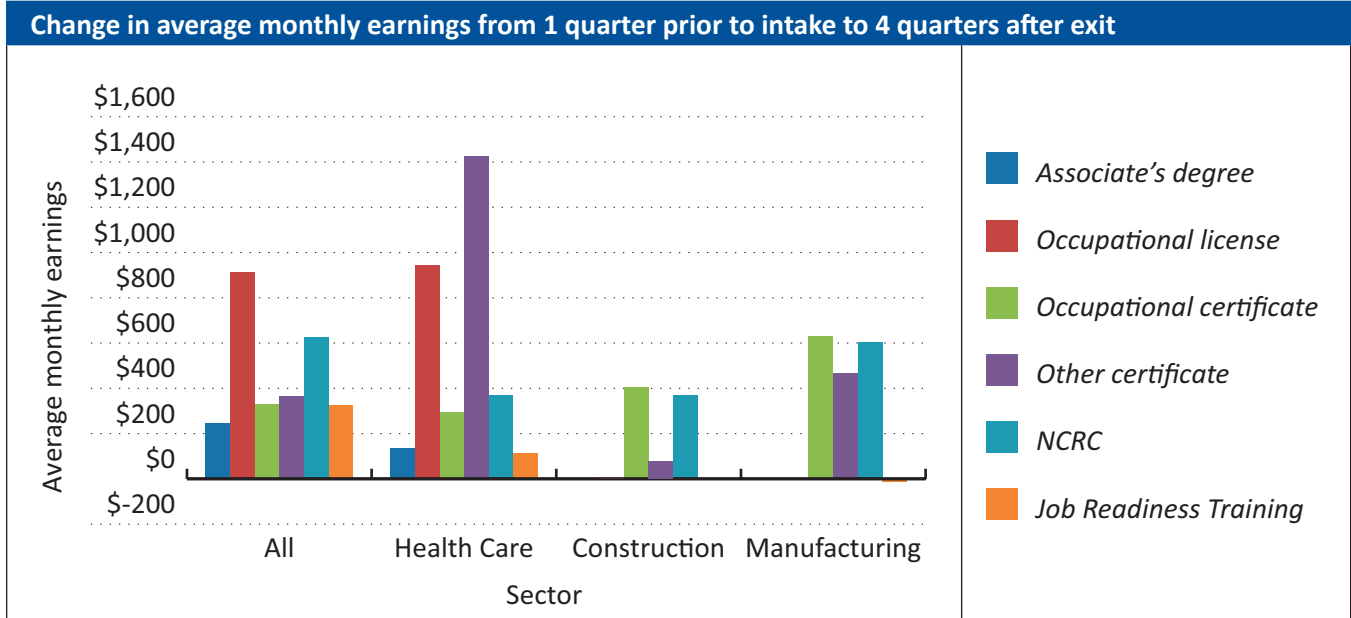


Table 7.

**Number of participants with data by quarter considered**

Highest exit type	All		Health Care		Construction		Manufacturing	
	1 qtr. prior to intake	4 qtrs. after final exit	1 qtr. prior to intake	4 qtrs. after final exit	1 qtr. prior to intake	4 qtrs. after final exit	1 qtr. prior to intake	4 qtrs. after final exit
Associate degree	66	50	53	42	0	0	0	0
Occupational license	27	23	16	15	2	2	0	0
Occupational certificate	1,557	1,196	986	730	9	9	39	39
Other certificate	601	488	11	5	118	103	348	291
NCRC	275	114	54	23	2	2	139	54
Job-readiness training	1,326	1,066	35	6	0	0	28	7
<b>Total</b>	<b>3,852</b>	<b>2,937</b>	<b>1,155</b>	<b>821</b>	<b>131</b>	<b>116</b>	<b>554</b>	<b>391</b>

Figure 7.



The more intensive the exit type, the higher the earnings. People who earn certificates that are neither occupational nor NCRC are the exception, earning about \$300 less per month than NCRC completers and about \$200 less per month than job-readiness training completers.

In Figure 7, we see how average monthly earnings changed from one quarter prior to intake to four quarters after exit, which provides a rough estimate of the positive effects of PCW'S partners' programs on earnings. While associate degree participants had high earnings, the increase overall was only \$243 per month. This is not surprising because 82 percent of associate degree participants were already employed at the time of intake. The occupational license participants, who are primarily connected to the health care sector, saw earnings increase about \$942. Within each sector, the earnings gain from the NCRC is comparable to that from occupational certificates. Comparing across

sectors, the increase in earnings from completing an NCRC or occupational certificate were about \$200 higher in manufacturing than in construction or health care. Few job readiness participants were tied to a specific sector in the database, but overall, job readiness training is associated with increases in earnings close to those of NCRC and occupational certificates. When job readiness participants were linked to a sector training programs, earnings increases were weak in the database. If participants become tied to a sector in the database after enrolling in a certificate program, job readiness completers that are tied to industry sectors may represent certificate program dropouts who completed job readiness training.

Figures 6 and 7 focus on earnings, but similar patterns emerge when looking at employment rates or weeks worked per month. The three panels of Table 8 provide figures for all three of the outcomes.

**Table 8. Outcomes by sector and exit type**

<b>A. Health Care</b>									
<b>Highest exit type</b>	Average monthly earnings			Percent Employed			Avg. weeks worked/month		
	1 qtr. prior to intake	4 qtrs. after final exit	Change	1 qtr. prior to intake	4 qtrs. after final exit	Change	1 qtr. prior to intake	4 qtrs. after final exit	Change
Associate degree	\$2,384	\$2,520	\$136	96%	90%	-6%	4.25	3.91	(0.34)
Occupational license	\$607	\$1,550	\$942	38%	93%	56%	1.73	4.13	2.40
Occupational certificate	\$842	\$1,135	\$292	62%	75%	13%	2.53	3.20	0.66
Other certificate	\$1,231	\$2,655	\$1,424	64%	100%	36%	2.36	4.33	1.97
NCRC	\$850	\$1,217	\$367	50%	61%	11%	1.74	2.81	1.07
Job-readiness training	\$138	\$248	\$111	23%	33%	10%	0.57	0.83	0.26


<b>B. Construction</b>									
<b>Highest exit type</b>	Average monthly earnings			Percent Employed			Avg. weeks worked/month		
	1 qtr. prior to intake	4 qtrs. after final exit	Change	1 qtr. prior to intake	4 qtrs. after final exit	Change	1 qtr. prior to intake	4 qtrs. after final exit	Change
Associate degree									
Occupational license	\$0	\$0	\$0	0%	0%	0%	0.00	0.00	0.00
Occupational certificate	\$382	\$785	\$403	40%	60%	20%	0.97	1.93	0.96
Other certificate	\$682	\$760	\$78	44%	56%	11%	0.85	1.78	0.93
NCRC	\$0	\$369	\$369	0%	50%	50%	0.00	2.17	2.17
Job-readiness training									

<b>C. Manufacturing</b>									
<b>Highest exit type</b>	Average monthly earnings			Percent Employed			Avg. weeks worked/month		
	1 qtr. prior to intake	4 qtrs. after final exit	Change	1 qtr. prior to intake	4 qtrs. after final exit	Change	1 qtr. prior to intake	4 qtrs. after final exit	Change
Associate degree									
Occupational license									
Occupational certificate	\$116	\$746	\$630	33%	56%	23%	0.68	2.09	1.41
Other certificate	\$174	\$642	\$467	26%	52%	25%	0.57	1.87	1.30
NCRC	\$163	\$765	\$601	24%	67%	42%	0.70	2.43	1.73
Job-readiness training	\$9	\$0	-\$9	14%	0%	-14%	0.13	0.00	-0.13

## CONCLUSIONS

PCW'S partners' programs make a big impact on participants and the region. Based on the available data, these programs have increased monthly earnings in the Cincinnati area by \$614,807 and have cumulatively contributed \$7.3 million dollars a year to the area, just in the form of higher participant earnings. Since only Ohio residents with data have been counted in this study, and since it is assumed that all of PCW'S partners' job-readiness participants would have gotten comparable services if PCW did not exist, these results are likely an underestimate of actual regional effects. They may also be overestimated, to an extent, if the effects wear off over time, though the data presented here show few signs of that.

A number of programs produced substantial increases in participant earnings: For example, the estimated impact of completing an occupational license, rather than job training alone, is \$706 per month, a year after completion. The earnings increase for NCRC completers is comparable to that of occupational certificate completers—about \$275 per month higher than results from job-readiness training alone. And the NCRC and occupational certificates have similar effects across sectors, suggesting that the NCRC can prepare individuals for a variety of opportunities.

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WORKFORCE**   
MANAGED BY UNITED WAY  
OF GREATER CINCINNATI

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