

ANALYSIS OF BCDSS SKILLS TRAINING PROGRAM PLACEMENTS: 2020 UPDATE

Submitted to:

Baltimore City Department of Social Services
Family Investment Administration
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Submitted by:

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June 2020

The author of this report is Susan Christiansen, PhD ABD. She accepts full responsibility for the accuracy of the data presented, statements made, and conclusions reached.

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1.0 Executive Summary

The Jacob France Institute (JFI) was retained by the Baltimore City Department of Social Services (BCDSS) Family Investment Administration (FIA) to update an analysis conducted in 2018 to analyze the pre- and post-training employment and wage dynamics of BCDSS Temporary Cash Assistance (TCA) recipients participating in selected skills training. BCDSS provided both programmatic and administrative data (described in Section 2.0 below), which JFI used to link with Unemployment Insurance (UI) wage records data, which show employment, employment sector, and pre- and post-training earnings.

The main findings are as follows:

- There are indications that BCDSS job training program participants experience increases in employment rates and median earnings after successful program completion.
- Missing data for program participants' completion status is the greatest limitation of this report. Following up with vendors to collect missing data would greatly enhance future iterations of this report.
- Committing to updating this analysis either annually or biennially would increase the sample size of program completers and non-completers and clarify the early trends identified in this report.
- Finding ways to communicate the contents of this report to vendors may help improve training program and job placement efforts and increase future data reporting.

2.0 Data Sources

There are three data sources used in this report: BCDSS-created participant data; Unemployment Insurance (UI) wage record data; and the Quarterly Census of Employment and Wages (QCEW).

BCDSS provided data on participants, including: 1. Individual demographic information (age, sex, marital status, education level, race); 2. Programmatic information (training program provider, cost, enrollment date, participant end date, end result); and 3. Records of any employment gained post-participation. The contents of this file are discussed in greater detail in Section 3.0.

JFI has access to UI wage record data via a data agreement with the Maryland Department of Labor (DOL). DOL approved the research use of the data for this study. Data include individuals' quarterly earnings and employer identification code. However, these data do not include federal government employees and only include Maryland civilian workers who are covered under the UI law, thus excluding independent contractors and other uncovered employment. Additionally, these data only include aggregate earnings and no indication of the type of employment (full-time, part-time, seasonal, etc.) or the hours worked to receive the reported earnings.

The QCEW database is administered by the Bureau of Labor Statistics and publishes quarterly employment data for approximately 95 percent of jobs in the US.¹ Specific to the purposes of this report, QCEW can link the employer code from the UI wage record data to the employer's North American Industry Classification System (NAICS) code, which identifies the employer's industry subsector in which the individuals in this report are employed.

3.0 Methodology and Preliminary Findings

The BCDSS delivered participant data to JFI during the first quarter of 2020. There were 3,261 records with valid training program exit or completion dates between January 2016 and December 2019. After editing the file to remove duplicate entries and participants with missing social security numbers (SSN) or program reference dates, the number of usable records totaled 2,488. Of these records, 957 records indicated whether the person completed or dropped out of the training program. In order to have a minimum of two months of wage record data post-program exit, the sample was further limited to those who exited their training program prior to June 30, 2019. This yielded a final sample of 831 training program participants. If the completion status of the other 1,531 program participants could be collected, it would greatly increase the accuracy of results, and especially comparisons between the completers and non-completers in future iterations of this report.

Table 1 below compares selected demographic characteristics of the program completers and non-completers in this sample. The demographic breakdown of the two groups is very similar, with both groups including mostly Black/African American females who have never been married with a median education of the 12th grade.

The main difference in the two groups is that the count of program completers in the sample is nearly three times that of non-completers. This ratio of program completers to non-completers is not representative of reality, however, but rather due to how the data are collected. Individuals who have enrolled in training programs can be categorized into three groups: those who have completed, those who have dropped out (or have been removed from the program), and those who have started the program but have not yet finished. Individual job training programs report data to BCDSS on program participation and completion. Since there was a sizable group of individuals in this last category with program start dates over a year ago, it seems plausible that at least some training programs are waiting to report on these individuals because there is still some chance they may complete the training program. Thus, the exact program completion rate is still to be determined and completion rates of either the entire population or by training program should not be calculated with these data.

There could be many confounding variables related to the performance of completers and non-completers. Although an analysis of those variables is beyond the scope of this report, including results for the non-completers provides a helpful point of comparison and provides an argument for increased data collection on completion status for program participants in the future.

¹ Available at: <https://www.bls.gov/cew/home.htm>.

Table 1: Selected Demographic Characteristics by Program Completion Status

	Program Completers		Program Non-Completers	
	Count	Percent	Count	Percent
Total	614	100.0%	217	100.0%
Female	590	96.1%	209	96.3%
Black/African American	577	94.0%	205	94.5%
Never Married	558	90.9%	198	91.2%
	Mean/Median	Range	Mean/Median	Range
Median highest grade	12th grade	none to graduate degree	12th grade	1st grade to graduate degree
Mean age	30.86 years	17.3 to 71.1	30.03 years	19.2 to 59.4
Mean total cost of training	\$3,162	\$264 to \$4,750	\$3,616	\$1,400 to \$4,750

Once individuals were identified as program completers or non-completers, their records were matched to the Maryland UI wage record data. All quarterly wages were inflated to 2019 wages to clarify wage trends across time. Because the data cover four years of training programs, where possible, data were analyzed by training program exit year. Regardless of program exit year, all individuals were matched to the four quarters of wage data prior to their training program exit.

In order to make more consistent comparisons *within* program exit year, the same number of quarters of wages post-program exit were pulled for each person within the training program exit year regardless of when in the calendar year they exited the program: twelve quarters for individuals with 2016 program exits, eight quarters for 2017 program exits, four quarters for 2018 program exits, and two quarters for program exits through the second quarter of 2019.

In addition to the Maryland UI wage record data, participants were also matched with the QCEW database to examine employer industry affiliation via NAICS codes. For individuals with wages from multiple employers within one calendar quarter, wages were aggregated and allocated to the NAICS code with the highest wages. Once these matches were finalized, various cuts of the data were done to look at employment and earnings by available subgroups.

There are three main complications of this analysis. The first is that there are many combinations of earning patterns during the quarters before and after program exit. In this analysis, we include four quarters of wages prior to program exit, wages during the exit quarter, and between two and twelve quarters of wages after program exit depending on program exit year. Because each individual either has or does not have earnings each quarter, there is a minimum of two to the seventh, or 128, potential combinations of earning patterns across the minimum seven quarters of wages in 2019.

For cases in which there are earnings in all seven quarters, the comparison of pre versus post earnings is simple. But how does one categorize someone who only had earnings in the first quarter after program entry but not the second quarter? And can one compare the change in

earnings for someone who has four quarters of earnings to someone who only has earnings in two of the seven quarters? In order to best address this complication, this report includes both the percent of individuals with wages as well as the median wages (for those with non-zero wages) for each quarter in the analysis. Caution should be exercised when comparing data across time as the individuals contributing to the employment and wage statistics change each quarter.

The second main complication is that the sample size is small enough that a lot of the reporting by subgroups is suppressed because the sample size is less than five. This is a larger problem with program non-completers, as the overall sample size is much smaller. Collecting the program completion status for all program participants and collecting larger amounts of data over longer time periods will yield more accurate reporting in the future.

The final complication of this analysis is that employment and wages fluctuate substantially and employment and income patterns are not as clear for individuals who exited their programs in 2018 or 2019 with only four or two quarters of employment data post-program exit, respectively. Caution should be exercised when reviewing results with fewer longitudinal data points.

JFI crafted the methodology for this analysis with these complications as a main driver for their decisions.

4.0 Results

Because of the complexity of earning patterns described in Section 3.0, Figures 1a and 1b below explain the simplified breakdown of earning pattern categories. Each program participant was categorized into one of four earning pattern groups: employment both pre- and post-program completion, employment only pre-program completion, employment only post-program completion, and no record of employment pre- or post-program completion.

The earning patterns for program completers in Figure 1a are more consistent across years than for program non-completers in Figure 1b. In general, program completers have a higher percent of wages both pre- and post-program completion and program non-completers have a higher percent of no reported wages. Because the number of quarters of available data post-program completion decreases with each program exit year, it is not surprising that the proportion missing post-completion wages is higher for 2018 and 2019 program exits.

Figure 1a: Completers Work Status Pre- and Post-
Training Exit by Program Exit Year, 2016-2019

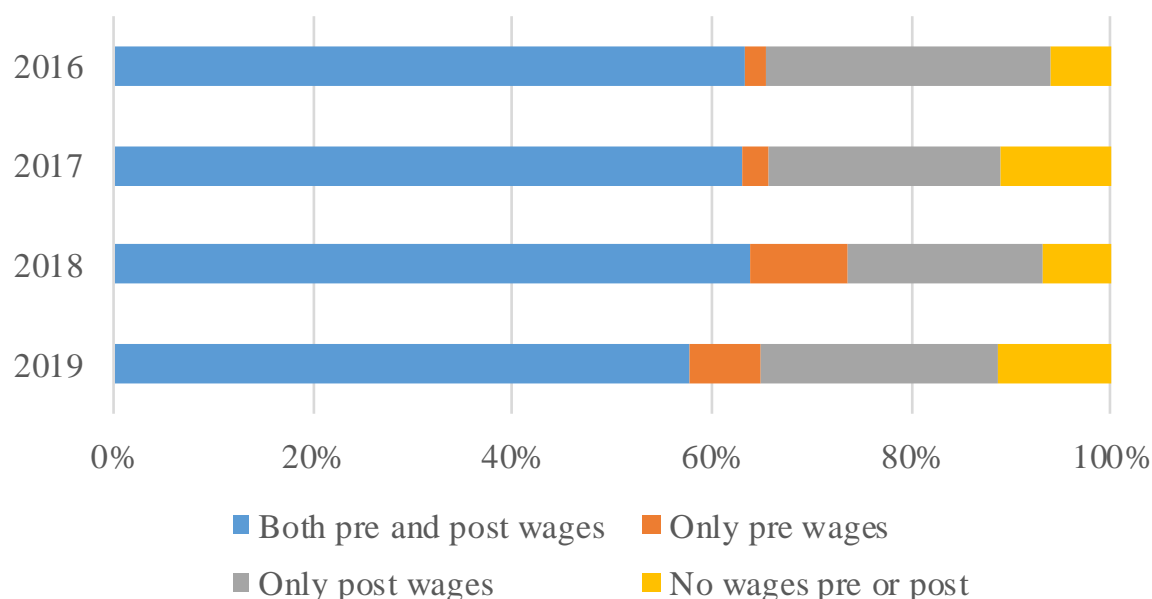
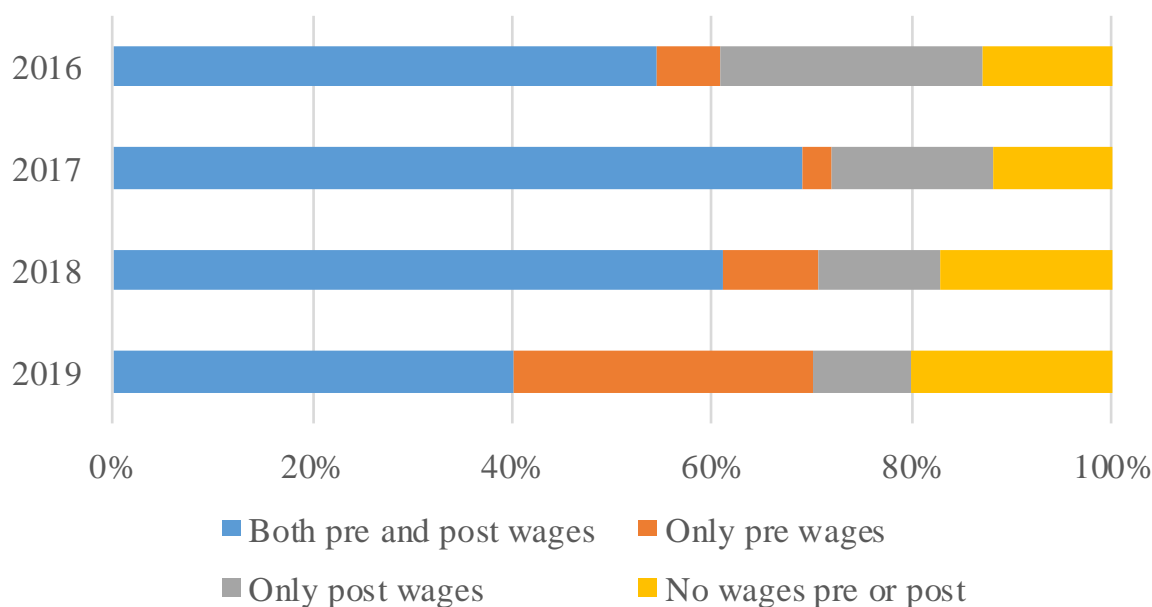


Figure 1b: Non-Completers Work Status Pre- and Post-
Training Exit by Program Exit Year, 2016-2019



4.1 All Participants by Completion Status

The first section of results examines the pool of all participants by completion status and has three separate components: employment analysis, median wage analysis, and employment industry analysis.

Table 2 lists the percent of participants with wages by completion status, program exit year, and quarter relative to exit quarter (where “-1” is the calendar quarter prior to program exit, “Exit” is the calendar quarter of program exit, and “+1” is the calendar quarter following program exit). Relative quarters are used instead of calendar quarters to more easily compare employment experience within the exit year. The total count of individuals by completion status and exit year is also included in this table for reference. Figures 2a and 2b graph the data reported in Table 2 for completers and non-completers, respectively.

When reviewing these and following tables, it is important to remember that UI wage data do not capture all employment, as explained in Section 2. Additionally, it is important to keep in mind that there is significant fluctuation in employment in this population and a consistent percent employed across time at the subgroup level does not translate to consistent employment of individuals.

There is a general decrease in the percent employed through either the quarter prior to exit (“-1”) or the exit quarter and general increase in the percent employed after program exit. This is not surprising as one might expect a loss of employment might spur one to pursue TCA benefits and job training. The 2016 pre-exit employment rates for program non-completers was much lower than that for 2016 program completers, but otherwise, the percent with wages prior to program exit looks roughly similar across the two groups in Figures 2a and 2b.

Although both groups generally have a higher percent of participants with earnings in the wage records after program completion regardless of completion status, there is generally a higher percent with wages for program completers than program non-completers after program exit.

It is not surprising the percent employed starts decreasing eventually, especially for those who exited in 2016. The UI wage data used are only for Maryland residents, so it does not capture employment if people move out of state or permanently exit the labor force.

Beyond the scope of this report but still important to note is that the non-completer group also had a jump in the percent with wages in the quarter immediately following program exit. It could be that non-completers found a job and subsequently quit the training program. This does not mean, however, that the job training programs do not help the completers, since those who complete the program may differ in important ways from those who do not complete. It may merit follow-up on why some individuals do not complete the training or what differences may exist between completers and non-completers to better understand this trend.

Table 2: Percent of All Participants with Wages by Completion Status, Program Exit Year, and Quarter Relative to Exit Quarter

[illegible]

Figure 2a: Percent of Completers with Wages by Program Exit Year and Quarter Relative to Exit Quarter

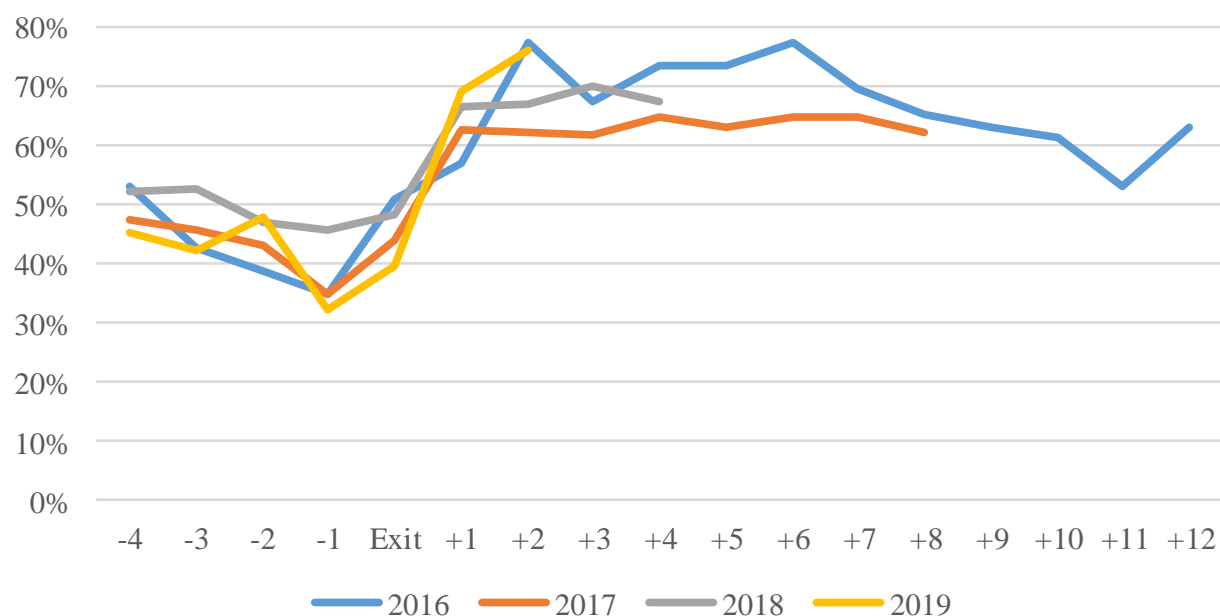


Figure 2b: Percent of Non-Completers with Wages by Program Exit Year and Quarter Relative to Exit Quarter

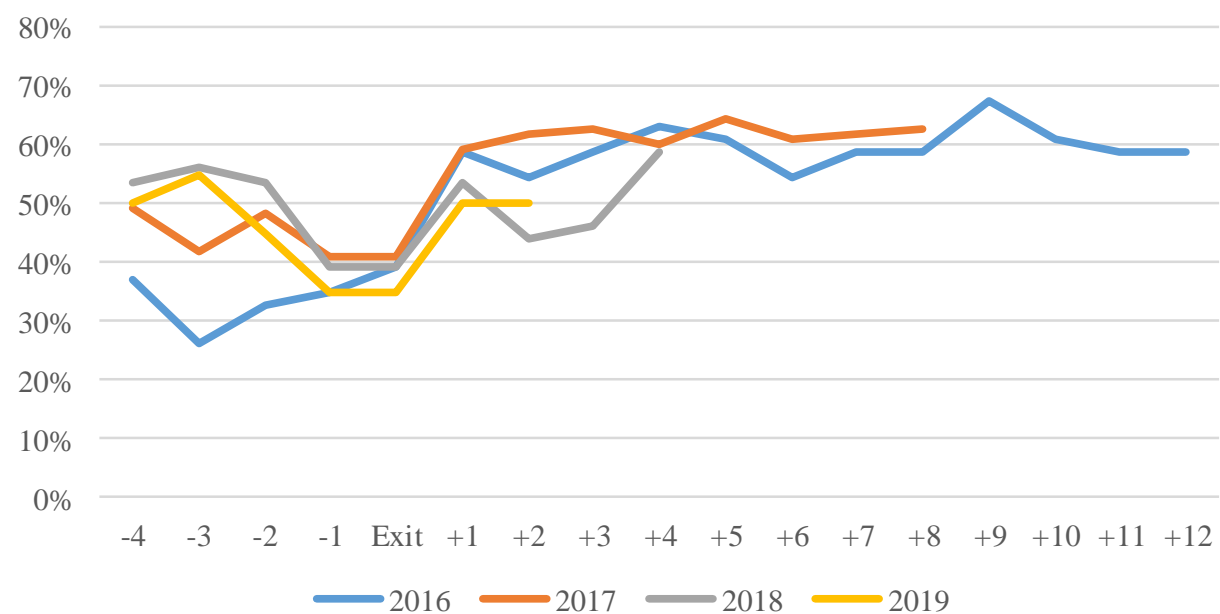


Table 3 is similar to Table 2, but reports median wages instead of percent employed. Figures 3a and 3b are the graphical representation of the data in Table 3, showing the trend in median earnings by relative quarter and program completion status.

Although the percent with any wages in the UI wage records data dipped during the quarter prior to and the quarter of program exit in Figures 2a and 2b, there is an even greater dip in median earnings in Figures 3a and 3b during these same quarters. This is to be expected because people could be working fewer total hours in the quarters in which they lose their job and participate in a job training program, leading to lower median wages, versus a simple binary wage record match to define employment.

Because dates of employment loss and gain are likely fairly independent of the start and end dates of a calendar quarter, one would expect a more gradual change in quarterly income as one loses and gains employment. For individuals who find new work within the next calendar quarter, they would not show up as having zero quarterly wages in these data, but they would show lower quarterly wages than during previous quarters with the former employer.

For this reason, it is important to look at both measures in Tables 2 and 3 because Table 2 could understate the burden of unemployment in the population at the time of program exit.

Figures 3a and 3b show that earnings for both completers and non-completers are higher in the two quarters after program exit than the quarters before. This figure also shows median earnings being higher for completers than non-completers. However, because of the sample size and because all individuals do not have wages in each quarter, caution must be exercised when comparing these groups.

Table 3: Median Wages of All Participants with Wages by Completion Status, Program Exit Year, and Quarter Relative to Exit Quarter

[illegible]

Figure 3a: Median Wages of Completers by Program Exit Year and Quarter Relative to Exit Quarter

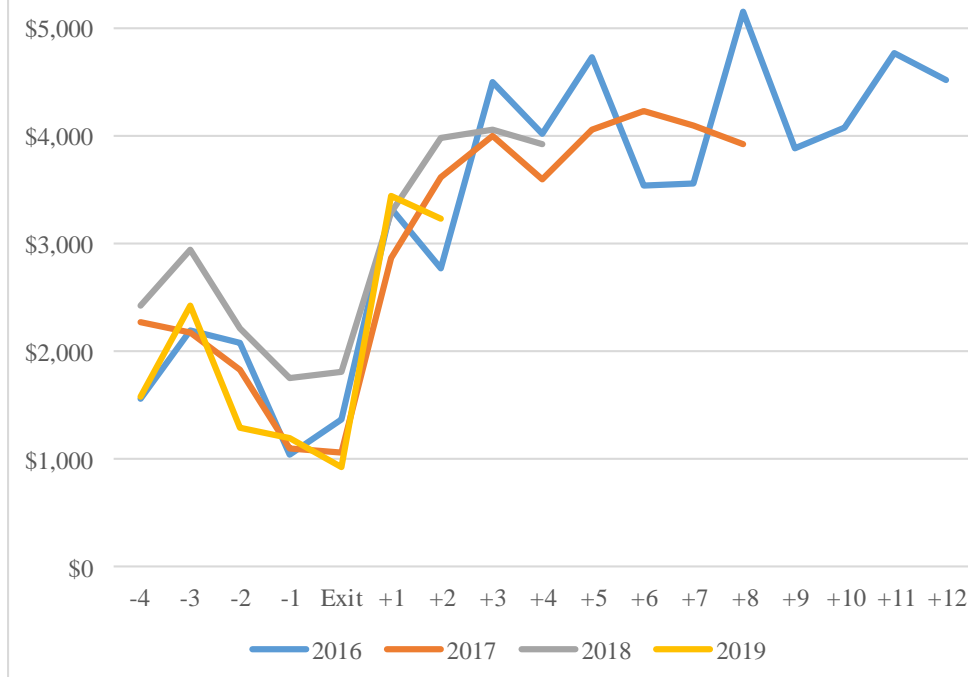
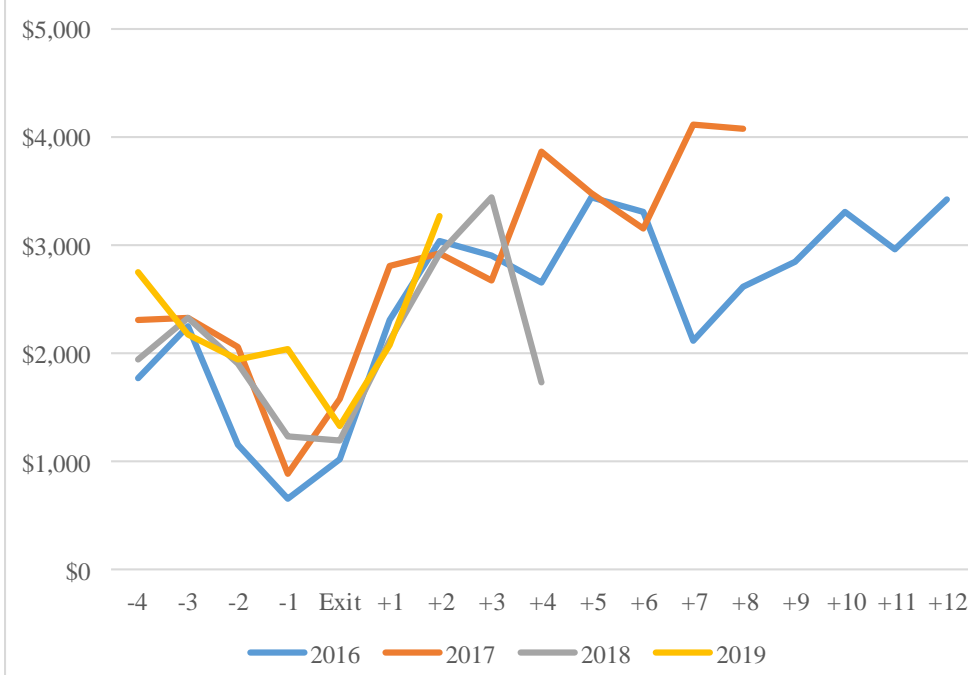


Figure 3b: Median Wages of Non-Completers by Program Exit Year and Quarter Relative to Exit Quarter



The final analysis of all participants by completion status examines the employers' NAICS codes. Table 4 shows the breakdown of employment industry one quarter after program exit (“+1”) by employer NAICS or industry code, program completion status, and program exit year.

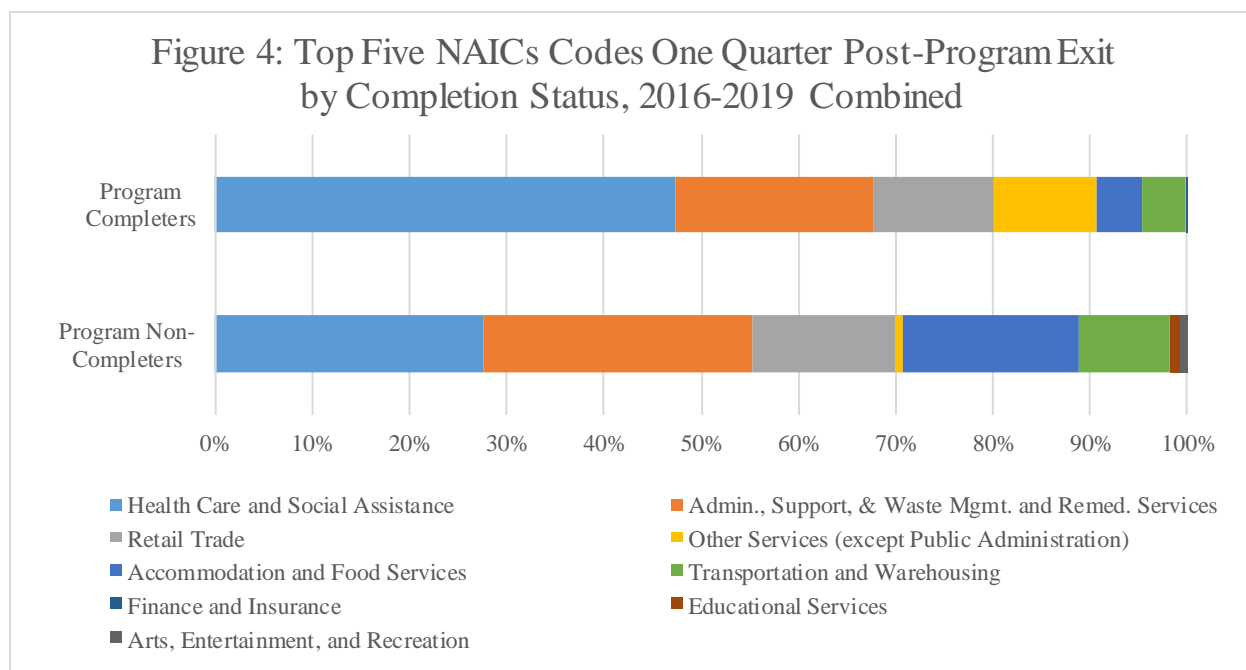
As discussed previously in Section 2, keep in mind that the NAICS codes represent the industry of the *employer* and not the industry of the actual job position. For example, someone who works as a pharmacy tech for a drugstore would be listed as having an employer in retail although the actual job position is in health care. Additionally, not all individuals have employment that can be matched to a NAICS code in the QCEW database, so the industry analysis has a smaller sample size than the employment and median wage analyses.

For program completers, Health Care and Social Assistance was consistently the most frequent employer NAICS code across the four year time period. There is much more variation for program non-completers, with the top employer NAICS code switching each year.

Figure 4 categorizes the data from Table 4 into program completers and non-completers for the four years combined to show the percent breakdown by employer NAICS code. In this aggregate figure, it is clear that program completers have nearly twice as frequent employment in the Health Care and Social Assistance industries. The group of non-completers has a much higher rate of employment in Administrative/Support industries, potentially suggesting that non-completers may engage in more temporary work, which is frequently categorized into this industry.

Table 4: Top Five Employer NAICS Codes One Quarter After Program Exit by Completion Status, Exit Year

Status	Year	Rank	Count	NAICS Code	Description
Program Completers	2016	1	13	62	Health Care and Social Assistance
		2	5	72	Accommodation and Food Services
		3	4	44-45	Retail Trade
		3	4	56	Admin., Support, & Waste Mgmt. and Remed. Services
		5	1	52	Finance and Insurance
	2017	1	58	62	Health Care and Social Assistance
		2	23	56	Admin., Support, & Waste Mgmt. and Remed. Services
		3	19	44-45	Retail Trade
		4	17	81	Other Services (except Public Administration)
		5	11	48-49	Transportation and Warehousing
	2018	1	82	62	Health Care and Social Assistance
		2	29	56	Admin., Support, & Waste Mgmt. and Remed. Services
		3	19	44-45	Retail Trade
		4	18	81	Other Services (except Public Administration)
		5	12	72	Accommodation and Food Services
	2019	1	18	62	Health Care and Social Assistance
		2	17	56	Admin., Support, & Waste Mgmt. and Remed. Services
		3	5	48-49	Transportation and Warehousing
		4	3	44-45	Retail Trade
		4	3	81	Other Services (except Public Administration)
Program Non-Completers	2016	1	6	44-45	Retail Trade
		1	6	56	Admin., Support, & Waste Mgmt. and Remed. Services
		3	5	72	Accommodation and Food Services
		4	4	48-49	Transportation and Warehousing
		4	4	62	Health Care and Social Assistance
	2017	1	22	62	Health Care and Social Assistance
		2	16	56	Admin., Support, & Waste Mgmt. and Remed. Services
		3	10	72	Accommodation and Food Services
		4	7	48-49	Transportation and Warehousing
		5	4	44-45	Retail Trade
	2018	1	9	56	Admin., Support, & Waste Mgmt. and Remed. Services
		2	4	44-45	Retail Trade
		2	4	72	Accommodation and Food Services
		4	2	62	Health Care and Social Assistance
		5	1	61	Educational Services
		5	1	71	Arts, Entertainment, and Recreation
		5	1	81	Other Services (except Public Administration)
	2019	1	4	62	Health Care and Social Assistance
		2	3	44-45	Retail Trade
		3	2	72	Accommodation and Food Services
		4	1	56	Admin., Support, & Waste Mgmt. and Remed. Services



4.2 Employment by Completion Status and Vendor

This section examines employment outcomes by completion status and vendor. Note that the results can only be reported by vendor when the sample size meets the minimum disclosure limitations, so the total sample size represented in this analysis is smaller than in previous analyses.²

Tables 5 and 6 further breakdown the results of Table 2 and report the percent of participants with employment in the UI wage record data by vendor, program completion year, and quarter relative to program exit for program completers and non-completers, respectively. Figures 5 and 6 display these data graphically. As was also the case in Table 2, not all individuals have data for all time points in Tables 5 and 6. The sample size, which is noted in the “Total” column for each vendor, is also fairly small for some vendors and some years. Because of these limitations, interpretations of these results should be made with caution.

Table 5 and Figure 5 show that there is a general U-shaped trend for program completers by program vendor showing a decrease in employment through program exit followed by a general increase in employment. The CCBC—2016 and Johns Hopkins—2018 cohorts had an especially large increase in employment following program completion. However, most cohorts experienced modest gains in employment relative to pre-program employment. For example, those with the highest percent employment post-completion (such as Caroline Center—2017 and It Works—2016) also had among the highest percent employment prior to program entry.

² JFI’s agreement with DOL requires that no fewer than five individuals contribute to each aggregate reported result. Thus, JFI cannot publish any figures for any subgroup with fewer than five individuals to protect participants’ personal information.

Table 6 and Figure 6 report employment by vendor for program non-completers. Although there is still a slight general trend of decreasing employment prior to program exit followed by increasing employment rates, this trend is far more subtle than the trends seen in Table 5 and Figure 5 for program completers. This suggests that at least some people likely dropped out of their training program because they found employment. It could be that some aspect of interaction with the training program prior to dropout helped them secure new employment, but data to verify that are not available. As was also the case for data for program-completers, there is less variability for program non-completers across vendors in employment rates following program exit than prior to program exit.

Figures 5 and 6 especially highlight the quarter-to-quarter variability in employment, which is typical when the sample groups are smaller. This provides evidence that increasing the sample size will help to yield more accurate results. Again, employment in the later quarters after program exit could be decreasing partially due to people moving out of state or permanently exiting the labor force.

Table 5: Percent of Program Completers with Wages by Training Program, Program Exit Year, and Quarter Relative to Exit Quarter

Training Program	Exit Year	Total	-4	-3	-2	-1	Exit	+1	+2	+3	+4	+5	+6	+7	+8	+9	+10	+11	+12
BCCC	2018	9	11.1%	22.2%	11.1%	44.4%	22.2%	44.4%	44.4%	44.4%	22.2%								
Baltimore Hire Power	2016	7	57.1%	42.9%	42.9%	14.3%	42.9%	57.1%	71.4%	28.6%	57.1%	42.9%	71.4%	28.6%	42.9%	42.9%	28.6%	14.3%	42.9%
Bugg Hardnett & Associates	2017	39	46.2%	38.5%	41.0%	41.0%	56.4%	74.4%	69.2%	61.5%	51.3%	56.4%	53.8%	64.1%	53.8%				
	2018	54	44.4%	38.9%	27.8%	48.1%	57.4%	66.7%	57.4%	55.6%	57.4%								
	2019	6	50.0%	50.0%	50.0%	33.3%	50.0%	50.0%	66.7%										
CCBC	2016	6	16.7%	16.7%		16.7%	50.0%	50.0%	66.7%	33.3%	50.0%	50.0%	66.7%	66.7%	50.0%	66.7%	50.0%	66.7%	66.7%
Caroline Center	2016	9	66.7%	55.6%	55.6%	22.2%	44.4%	66.7%	88.9%	88.9%	77.8%	77.8%	66.7%	66.7%	77.8%	88.9%	66.7%	55.6%	88.9%
	2017	16	68.8%	75.0%	68.8%	50.0%	56.3%	75.0%	81.3%	81.3%	93.8%	93.8%	93.8%	100.0%	93.8%				
	2018	26	73.1%	76.9%	61.5%	46.2%	38.5%	80.8%	84.6%	80.8%	80.8%								
Celebrate Us	2017	41	26.8%	31.7%	34.1%	24.4%	36.6%	39.0%	39.0%	31.7%	48.8%	48.8%	53.7%	41.5%	41.5%				
	2018	19	68.4%	78.9%	68.4%	47.4%	31.6%	52.6%	42.1%	63.2%	57.9%								
It Works	2016	11	81.8%	72.7%	54.5%	63.6%	63.6%	63.6%	90.9%	90.9%	81.8%	81.8%	90.9%	90.9%	72.7%	72.7%	81.8%	81.8%	81.8%
	2017	58	67.2%	58.6%	58.6%	43.1%	46.6%	74.1%	70.7%	74.1%	75.9%	67.2%	74.1%	74.1%	74.1%				
	2018	75	61.3%	68.0%	64.0%	58.7%	54.7%	73.3%	82.7%	88.0%	84.0%								
	2019	22	36.4%	36.4%	40.9%	18.2%	40.9%	68.2%	72.7%										
Johns Hopkins	2017	11	45.5%	36.4%	27.3%	27.3%	54.5%	81.8%	81.8%	81.8%	81.8%	81.8%	81.8%	72.7%	72.7%				
	2018	12	33.3%	25.0%	33.3%	16.7%	41.7%	91.7%	75.0%	75.0%	75.0%								
Maryland Center for Adult Training	2017	21	42.9%	47.6%	52.4%	52.4%	28.6%	66.7%	71.4%	71.4%	71.4%	85.7%	81.0%	76.2%	81.0%				
	2018	17	52.9%	52.9%	35.3%	29.4%	64.7%	70.6%	70.6%	70.6%	64.7%								
	2019	13	69.2%	61.5%	46.2%	38.5%	38.5%	92.3%	92.3%										
Maryland Center for Hospitality Training	2017	25	36.0%	32.0%	16.0%	8.0%	28.0%	48.0%	48.0%	56.0%	56.0%	36.0%	40.0%	48.0%	48.0%				
	2018	25	28.0%	32.0%	36.0%	36.0%	48.0%	48.0%	52.0%	68.0%	60.0%								
	2019	6	50.0%	50.0%	50.0%	50.0%	66.7%	66.7%	83.3%										
New Destiny Health Career Center	2018	9	44.4%	33.3%	44.4%	44.4%	44.4%	55.6%	77.8%	55.6%	55.6%								
SourceBridge	2017	11	36.4%	36.4%	18.2%	18.2%	36.4%	36.4%	45.5%	45.5%	63.6%	81.8%	63.6%	54.5%	36.4%				
	2018	19	63.2%	42.1%	47.4%	31.6%	26.3%	47.4%	52.6%	52.6%	57.9%								
	2019	10	30.0%	30.0%	50.0%	50.0%	20.0%	50.0%	60.0%										

Table 6: Percent of Program Non-Completers with Wages by Training Program, Program Exit Year, and Quarter Relative to Exit Quarter

Training Program	Exit Year	Total	-4	-3	-2	-1	Exit	+1	+2	+3	+4	+5	+6	+7	+8	+9	+10	+11	+12
Baltimore Hire Power	2016	8	25.0%	50.0%	37.5%	25.0%	12.5%	50.0%	50.0%	50.0%	50.0%	50.0%	62.5%	50.0%	62.5%	62.5%	50.0%	50.0%	62.5%
Bugg Hardnett & Associates	2017	43	46.5%	48.8%	48.8%	34.9%	34.9%	48.8%	46.5%	48.8%	53.5%	60.5%	48.8%	51.2%	48.8%				
CCBC	2017	6	83.3%	50.0%	50.0%	50.0%	50.0%	50.0%	83.3%	100.0%	83.3%	83.3%	83.3%	83.3%	100.0%				
Caroline Center	2016	6	50.0%	33.3%	33.3%	33.3%	33.3%	66.7%	66.7%	83.3%	83.3%	66.7%	83.3%	66.7%	66.7%	83.3%	66.7%	66.7%	50.0%
	2017	11	54.5%	54.5%	81.8%	72.7%	45.5%	72.7%	81.8%	81.8%	81.8%	90.9%	72.7%	81.8%	81.8%				
	2018	10	80.0%	80.0%	80.0%	60.0%	40.0%	60.0%	70.0%	70.0%	80.0%								
Initiatives Inc.	2016	10	40.0%	10.0%	40.0%	60.0%	80.0%	60.0%	60.0%	70.0%	80.0%	70.0%	40.0%	50.0%	50.0%	70.0%	60.0%	40.0%	50.0%
It Works	2017	11	72.7%	54.5%	54.5%	54.5%	36.4%	63.6%	72.7%	72.7%	72.7%	72.7%	81.8%	72.7%	81.8%				
	2018	13	53.8%	61.5%	46.2%	30.8%	53.8%	61.5%	38.5%	46.2%	53.8%								
	2019	9	55.6%	66.7%	44.4%	33.3%	44.4%	55.6%	55.6%										
Johns Hopkins	2016	6	66.7%	33.3%	33.3%	16.7%	50.0%	66.7%	66.7%	83.3%	83.3%	83.3%	66.7%	100.0%	83.3%	100.0%	100.0%	100.0%	83.3%
	2017	9	33.3%	33.3%	44.4%	11.1%	11.1%	44.4%	55.6%	55.6%	55.6%	44.4%	55.6%	66.7%	55.6%				
SourceBridge	2016	8	12.5%		12.5%	12.5%	25.0%	62.5%	50.0%	37.5%	50.0%	50.0%	37.5%	62.5%	50.0%	62.5%	62.5%	62.5%	50.0%
	2017	17	35.3%	23.5%	35.3%	35.3%	52.9%	58.8%	64.7%	64.7%	52.9%	58.8%	64.7%	52.9%	52.9%				

Figure 5: Percent of Program Completers with Wages by Training Program, Program Exit Year, and Quarter Relative to Exit Quarter

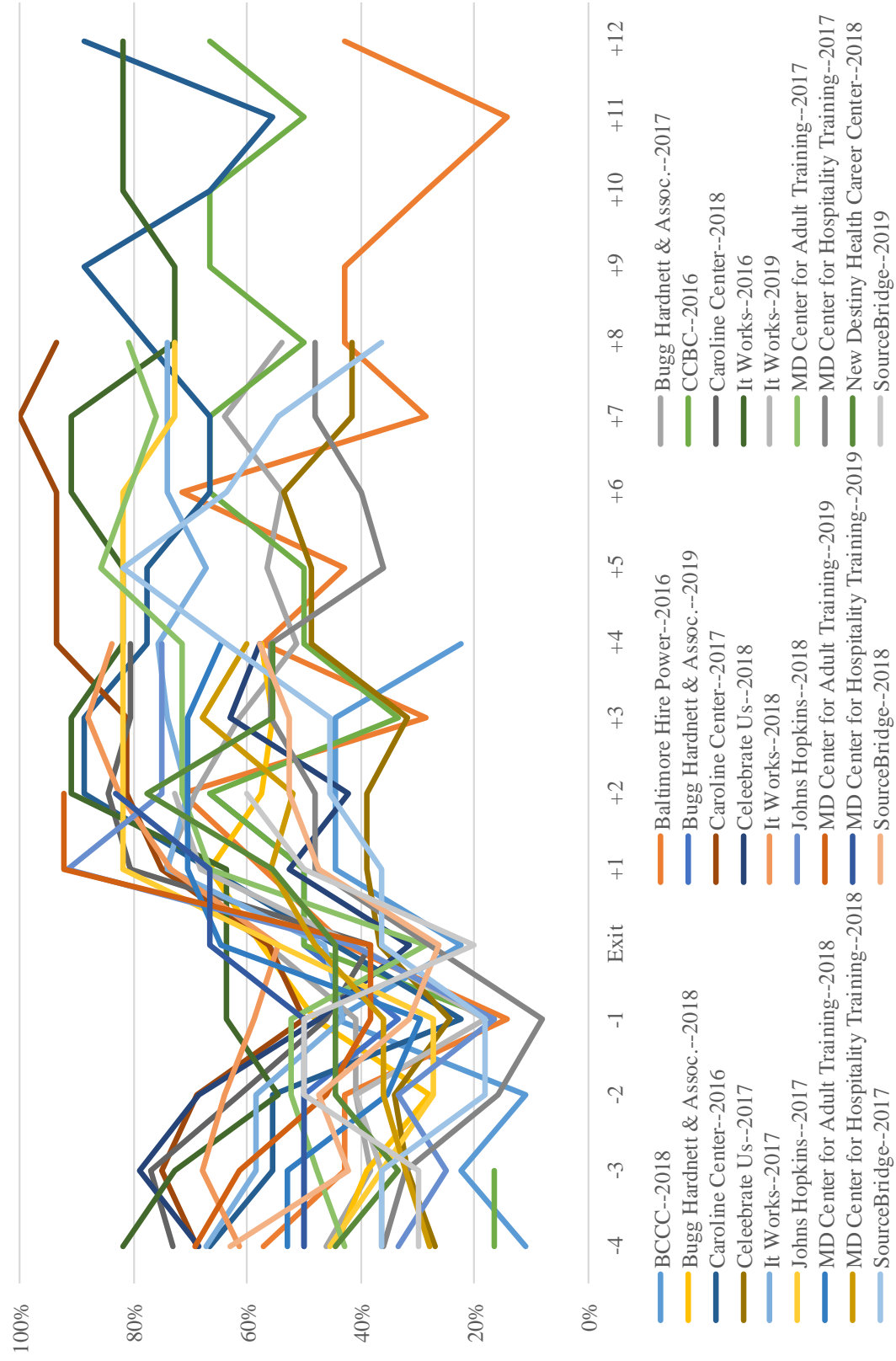
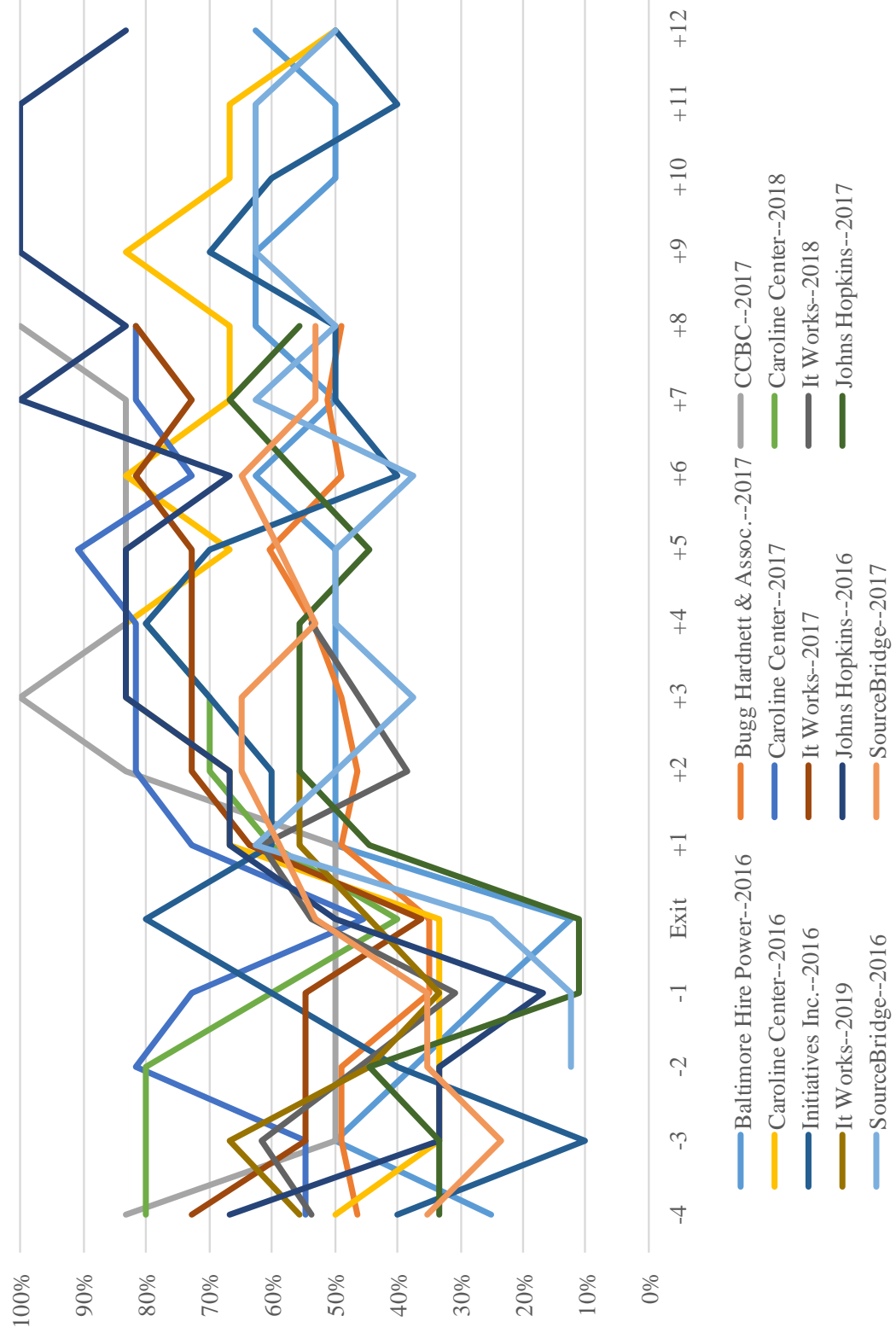


Figure 6: Percent of Program Non-Completers with Wages by Training Program, Program Exit Year, and Quarter Relative to Exit Quarter



4.3 Median Wages by Completion Status and Vendor

This section follows the structure of Section 4.2 but reports median wages instead of employment rates by completion status and vendor. Table 7 and Figure 7 report median wages for program completers and Table 8 and Figure 8 report median wages for program non-completers. Figures 7 and 8 use the same vertical scale to ease comparisons across groups.

Although the same general U-shaped trend in employment rates is seen in the trend for median earnings for program completers in Table 7 and Figure 7, the increase in median earnings seen in Figure 7 is more pronounced than the increase in employment rates in Figure 6. This suggests that even though most program completers experienced modest gains in employment rates following program completion, the larger effect was in helping people find higher-wage employment.

Figure 8 appears very disjointed due to sample size limitations, but the general trend in median wages is still apparent. Although there is the dip in median wages around the time of program exit, the change in median wages for program non-completers is not as apparent as for program completers with the data available.

The Caroline Center—2017 cohort had among the highest median wages for both program completers and program non-completers. This suggests that the population they recruit for their training programs is different from other programs and emphasizes that one must be cautious when comparing results across vendors.

Table 7: Median Wages of Program Completers with Wages by Training Program, Program Exit Year, and Quarter Relative to Exit Quarter

[illegible]

Table 8: Median Wages of Program Non-Completers with Wages by Training Program, Program Exit Year, and Quarter Relative to Exit Quarter

Training Program	Exit Year	Total	-4	-3	-2	-1	Exit	+1	+2	+3	+4	+5	+6	+7	+8	+9	+10	+11	+12
Baltimore Hire Power	2016	8											\$3,777		\$3,760	\$3,116			\$3,220
Buggs Hardnett & Associates	2017	43	\$3,249	\$1,919	\$1,795	\$842	\$887	\$2,233	\$2,739	\$2,220	\$2,784	\$1,909	\$2,951	\$3,871	\$3,023				
CCBC	2017	6	\$2,505						\$4,652	\$4,614	\$6,054	\$6,240	\$3,698	\$4,633	\$2,974				
Caroline Center	2016	6								\$2,581	\$4,654		\$4,752		\$2,230				
	2017	11	\$4,065	\$4,243	\$3,583	\$2,334	\$1,461	\$4,399	\$5,759	\$2,669	\$4,020	\$3,580	\$3,722	\$4,393	\$4,319				
	2018	10	\$2,173	\$3,860	\$4,467	\$1,619		\$2,528	\$2,907	\$4,906	\$4,632								
Initiatives Inc.	2016	10				\$1,395	\$959	\$2,998	\$2,909	\$2,499	\$2,465	\$2,847		\$1,803	\$2,618	\$2,840	\$940		\$4,059
It Works	2017	11	\$1,099	\$2,150	\$3,205	\$671		\$3,681	\$3,393	\$3,665	\$4,255	\$4,891	\$4,755	\$5,258	\$4,597				
	2018	13	\$1,988	\$1,989	\$1,585		\$1,150	\$2,318	\$3,545	\$3,033	\$2,092								
	2019	9	\$3,255	\$1,366				\$2,063	\$4,736										
Johns Hopkins	2016	6								\$2,090	\$2,891	\$3,231		\$1,642	\$4,842	\$3,871	\$3,125	\$3,275	\$4,314
	2017	9							\$958	\$2,470	\$2,808		\$1,857	\$2,233	\$5,299				
SourceBridge	2016	8																	
	2017	17	\$859		\$690	\$2,241	\$1,550	\$2,431	\$2,223	\$2,423	\$3,155	\$3,532	\$3,054	\$4,551	\$4,542	\$2,569	\$2,037	\$2,161	

Figure 7: Median Wages of Program Completers with Wages by Training Program, Program Exit Year, and Quarter Relative to Exit Quarter

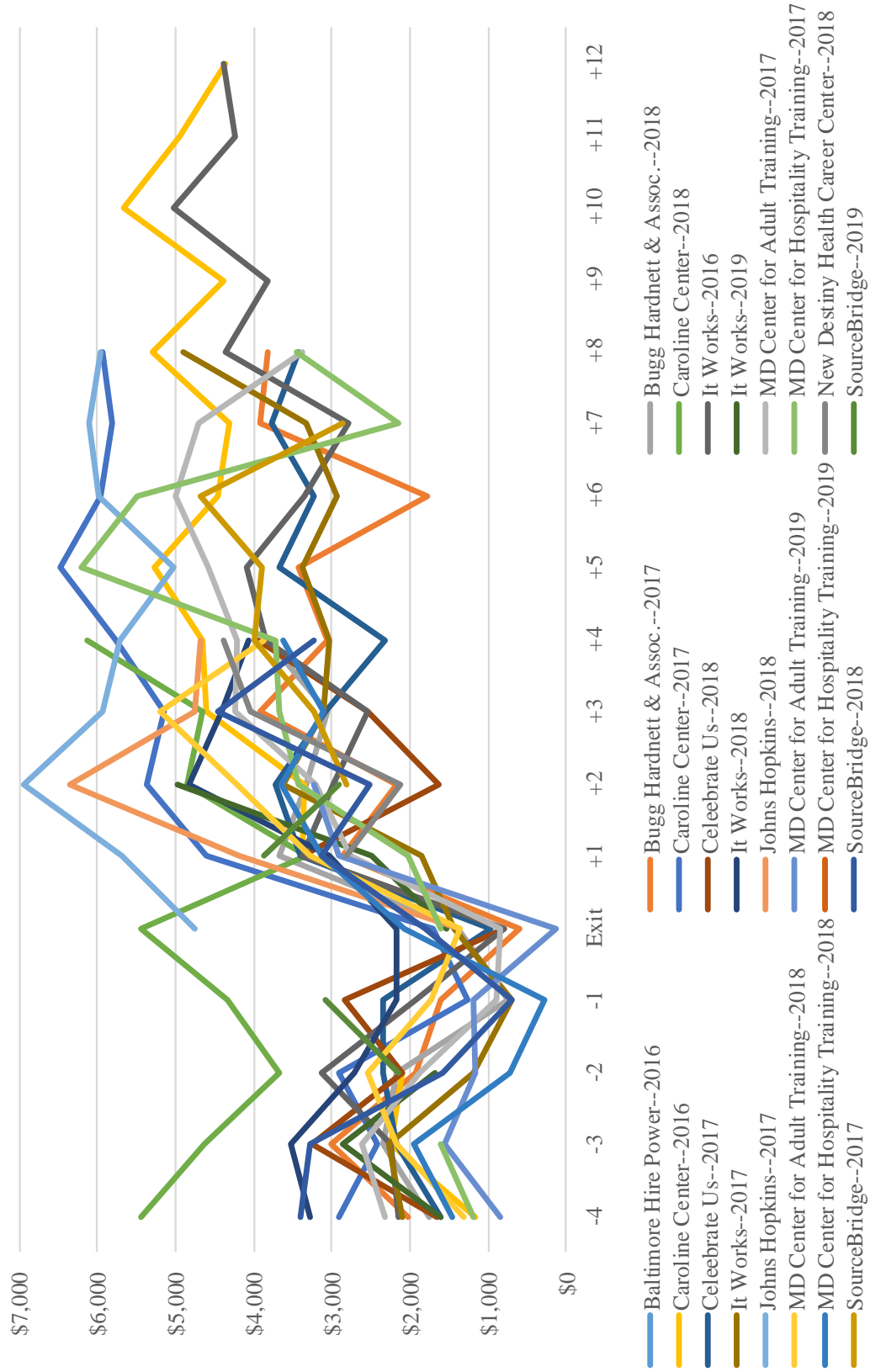
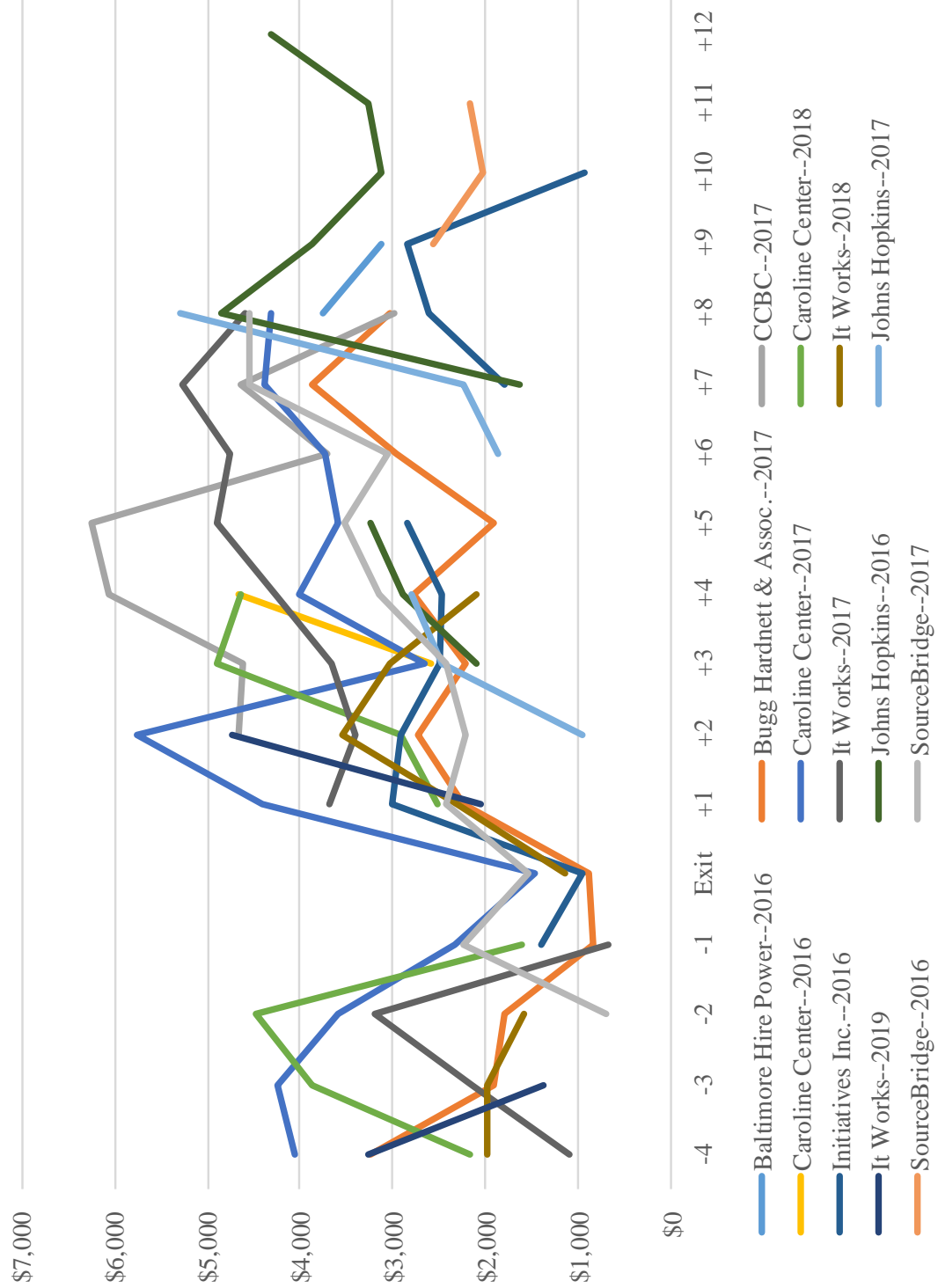


Figure 8: Median Wages of Program Non-Completers with Wages by Training Program, Program Exit Year, and Quarter Relative to Exit Quarter



4.4 Employer NAICS Code by Program Completion Status and Vendor

The final component of this analysis looks at the employer NAICS codes by vendor and completion status for all four years combined, as there were insufficient data to do an annual analysis.

Table 9 and Figure 9 show the data for program completers by vendor. About half of the vendors had a large enough sample size to identify the clear dominant employer industries of completers. Eleven of the fourteen vendors have Health Care and Social Assistance in their top five employer NAICS codes, which is not surprising since it was the most frequent NAICS code for program completers.

Table 10 and Figure 10 report results for program non-completers by vendor. As is also the case in prior sections, the sample size is fairly small for these subgroups, so results should be interpreted with caution. There is more variation in employer NAICS codes across vendors for program non-completers than program completers and a greater proportion of employment in Administration, Support, and Waste Management and Remedial Services than for program completers.

Table 9: Top Five Employer NAICS Codes One Quarter After Program Exit for Program Completers by Training Program, 2016-2019 Combined

Training Program	Rank	Count	NAICS Code	Description
BCCC	1	4	56	Admin., Support, & Waste Mgmt. and Remed. Services
Baltimore Hire Power	1	2	72	Accommodation and Food Services
	2	1	44-45	Retail Trade
	2	1	56	Admin., Support, & Waste Mgmt. and Remed. Services
Bugg Hardnett & Associates	1	28	81	Other Services (except Public Administration)
	2	16	62	Health Care and Social Assistance
	3	8	44-45	Retail Trade
	4	7	56	Admin., Support, & Waste Mgmt. and Remed. Services
	5	4	72	Accommodation and Food Services
CCBC	1	3	62	Health Care and Social Assistance
	2	2	72	Accommodation and Food Services
	3	1	44-45	Retail Trade
	3	1	52	Finance and Insurance
	3	1	56	Admin., Support, & Waste Mgmt. and Remed. Services
Caroline Center	1	22	62	Health Care and Social Assistance
	2	11	44-45	Retail Trade
	3	2	56	Admin., Support, & Waste Mgmt. and Remed. Services
	3	2	72	Accommodation and Food Services
	5	1	31-33	Manufacturing
	5	1	48-49	Transportation and Warehousing
	5	1	61	Educational Services
Celebrate Us	1	7	62	Health Care and Social Assistance
	2	4	48-49	Transportation and Warehousing
	2	4	56	Admin., Support, & Waste Mgmt. and Remed. Services
	2	4	72	Accommodation and Food Services
	5	3	44-45	Retail Trade
Initiatives Inc.	1	1	44-45	Retail Trade
	1	1	56	Admin., Support, & Waste Mgmt. and Remed. Services
It Works	1	74	62	Health Care and Social Assistance
	2	21	56	Admin., Support, & Waste Mgmt. and Remed. Services
	3	8	48-49	Transportation and Warehousing
	4	6	44-45	Retail Trade
	4	6	72	Accommodation and Food Services
Johns Hopkins	1	18	62	Health Care and Social Assistance
	2	3	56	Admin., Support, & Waste Mgmt. and Remed. Services
	3	2	81	Other Services (except Public Administration)
	4	1	44-45	Retail Trade
	4	1	48-49	Transportation and Warehousing
	4	1	52	Finance and Insurance
	4	1	53	Real Estate and Rental and Leasing
Maryland Center for Adult Training	1	22	62	Health Care and Social Assistance
	2	9	56	Admin., Support, & Waste Mgmt. and Remed. Services
	3	4	48-49	Transportation and Warehousing
	4	3	72	Accommodation and Food Services
Maryland Center for Hospitality Training	1	10	56	Admin., Support, & Waste Mgmt. and Remed. Services
	2	6	44-45	Retail Trade
	3	5	72	Accommodation and Food Services
	4	3	62	Health Care and Social Assistance
	5	2	42	Wholesale Trade
	5	2	48-49	Transportation and Warehousing
	5	2	81	Other Services (except Public Administration)
New Destiny Health Career Center	1	6	56	Admin., Support, & Waste Mgmt. and Remed. Services
	2	1	62	Health Care and Social Assistance
SourceBridge	1	7	44-45	Retail Trade
	2	4	56	Admin., Support, & Waste Mgmt. and Remed. Services
	2	4	62	Health Care and Social Assistance
	4	2	48-49	Transportation and Warehousing
	4	2	81	Other Services (except Public Administration)
UMMC	1	1	62	Health Care and Social Assistance

Table 10: Top Five Employer NAICS Codes One Quarter After Program Exit for Program Completers by Training Program, 2016-2019 Combined

Training Program	Rank	Count	NAICS Code	Description
BCCC	1	1	56	Admin., Support, & Waste Mgmt. and Remed. Services
Baltimore Hire Power	1	2	44-45	Retail Trade
	2	1	62	Health Care and Social Assistance
	2	1	72	Accommodation and Food Services
Bugg Hardnett & Associates	1	6	56	Admin., Support, & Waste Mgmt. and Remed. Services
	1	6	62	Health Care and Social Assistance
	3	5	44-45	Retail Trade
	4	3	72	Accommodation and Food Services
	5	2	61	Educational Services
	5	2	81	Other Services (except Public Administration)
CCBC	1	2	62	Health Care and Social Assistance
	2	1	44-45	Retail Trade
	2	1	48-49	Transportation and Warehousing
Caroline Center	1	7	56	Admin., Support, & Waste Mgmt. and Remed. Services
	2	6	62	Health Care and Social Assistance
	3	4	44-45	Retail Trade
	4	2	72	Accommodation and Food Services
	5	1	48-49	Transportation and Warehousing
	5	1	81	Other Services (except Public Administration)
Celebrate Us	1	2	56	Admin., Support, & Waste Mgmt. and Remed. Services
Initiatives Inc.	1	6	62	Health Care and Social Assistance
	2	3	56	Admin., Support, & Waste Mgmt. and Remed. Services
	3	2	72	Accommodation and Food Services
It Works	1	6	62	Health Care and Social Assistance
	2	5	72	Accommodation and Food Services
	3	3	44-45	Retail Trade
	3	3	56	Admin., Support, & Waste Mgmt. and Remed. Services
	5	1	48-49	Transportation and Warehousing
	5	1	61	Educational Services
	5	1	71	Arts, Entertainment, and Recreation
Johns Hopkins	1	4	48-49	Transportation and Warehousing
	2	2	56	Admin., Support, & Waste Mgmt. and Remed. Services
	3	1	62	Health Care and Social Assistance
	3	1	72	Accommodation and Food Services
	3	1	81	Other Services (except Public Administration)
Keller-Greene	1	1	54	Professional, Scientific, and Technical Services
Maryland Center for Adult Training	1	2	48-49	Transportation and Warehousing
	1	2	62	Health Care and Social Assistance
	3	1	54	Professional, Scientific, and Technical Services
Maryland Center for Hospitality Training	1	4	56	Admin., Support, & Waste Mgmt. and Remed. Services
	2	1	72	Accommodation and Food Services
SourceBridge	1	6	72	Accommodation and Food Services
	2	4	56	Admin., Support, & Waste Mgmt. and Remed. Services
	3	2	44-45	Retail Trade
	3	2	62	Health Care and Social Assistance
	5	1	48-49	Transportation and Warehousing
	5	1	51	Information

Figure 9: Top Five Employer NAICS Codes One Quarter After Program Exit for Program Completers by Training Program, 2016-2019 Combined

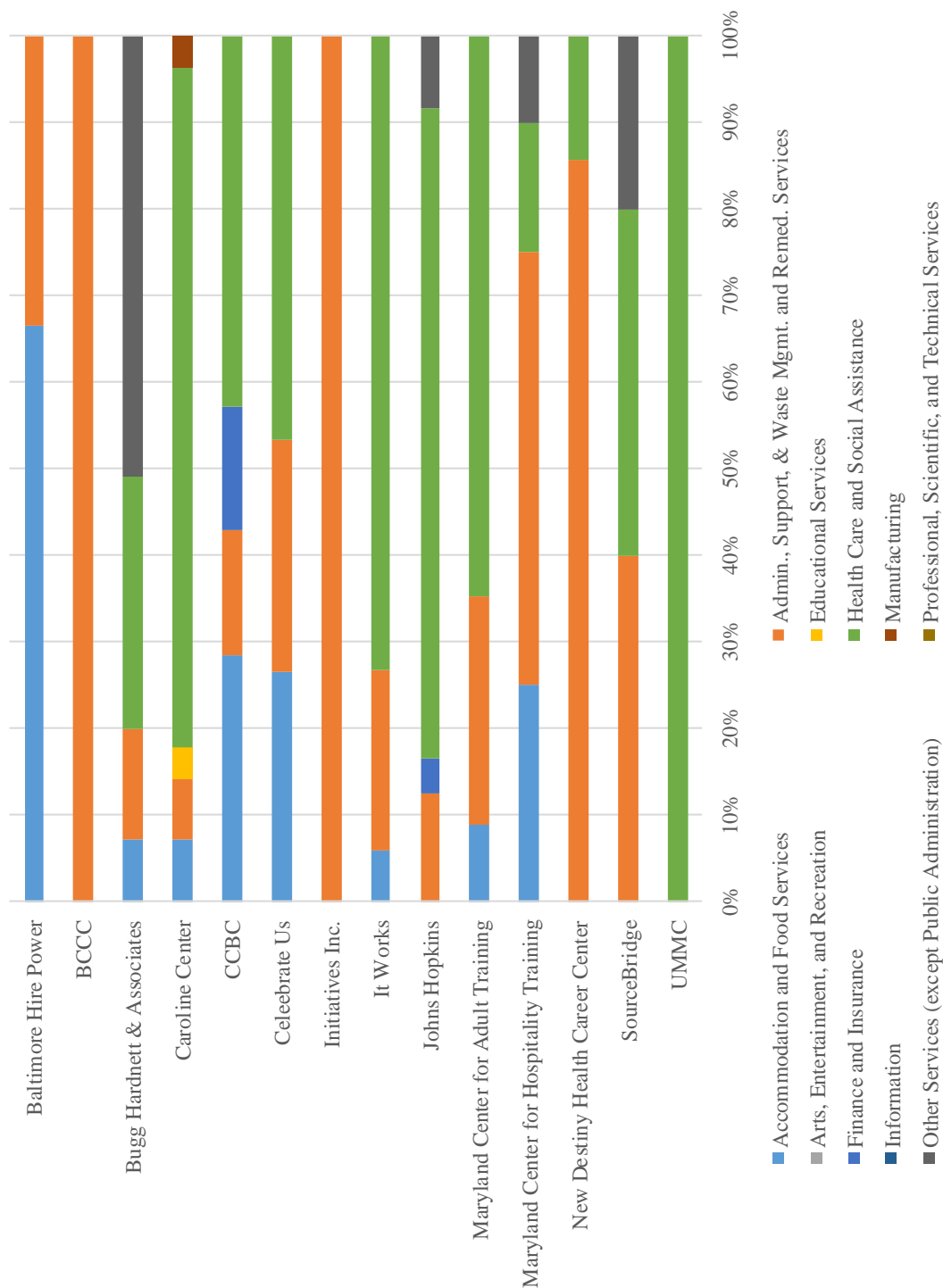
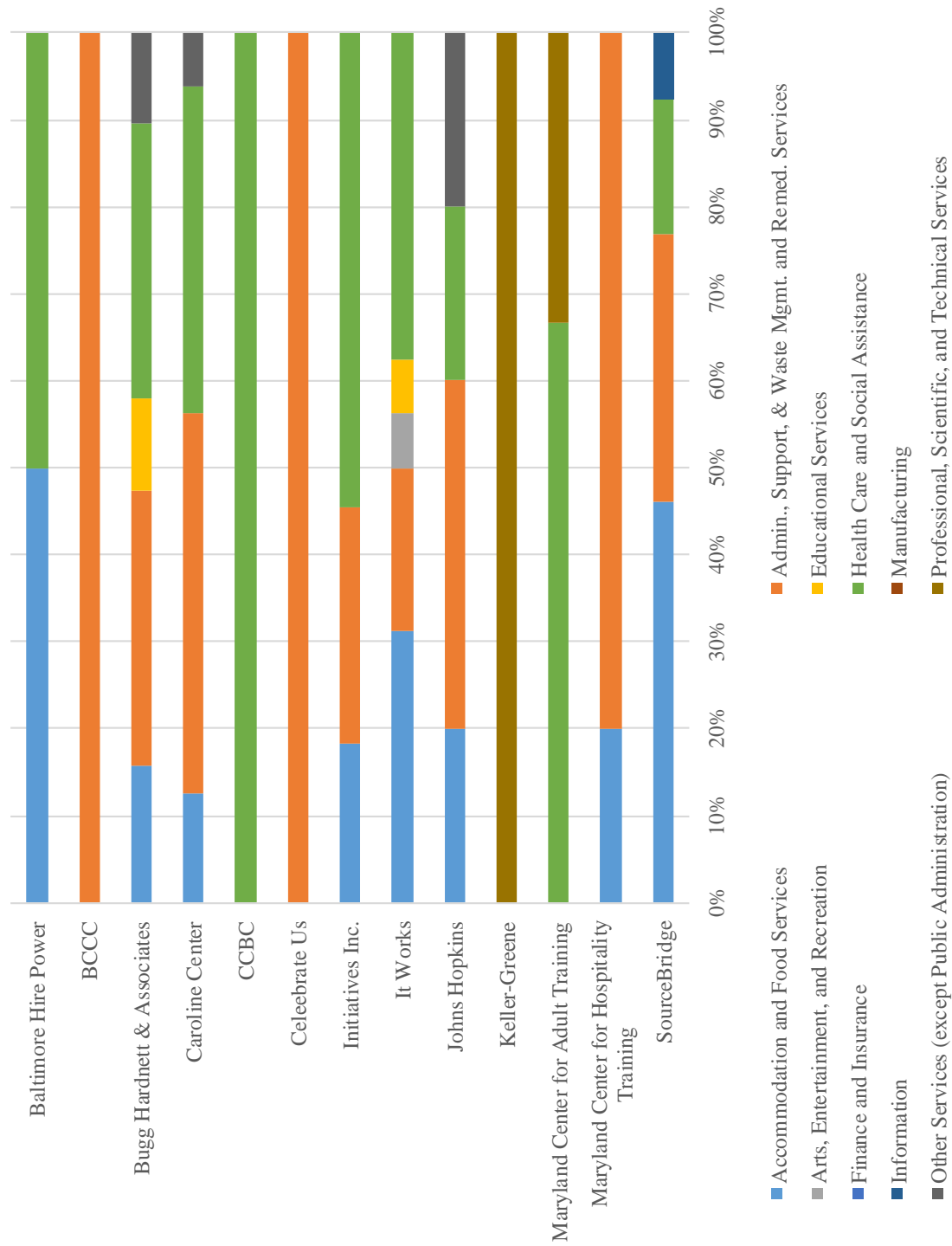


Figure 10: Top Five Employer NAICS Codes One Quarter After Program Exit for Program Completers by Training Program, 2016-2019 Combined



5.0 Conclusions

There are four main findings for this report:

- Despite limitations of the data, there are indications that program participants in job training programs through BCDSS experience increases in both employment rates and median earnings after program completion.
- However, the comparisons between the program completers and program non-completers are limited due to incomplete data on program participants. As described in Section 3.0, JFI received records for 2,488 program participants with valid SSNs, but could only include 831 individuals in this analysis because the remaining participants have not yet been reported as a program completer or non-completer. Following up with the vendors to get these individuals' completion status would greatly enhance future iterations of this report.
- Similarly, revisiting this analysis either annually or biennially would increase the sample size of both program completers and non-completers and increase the number of wage quarters available for program participants. This would help clarify early trends identified in this report and identify ways to better assist program participants.
- It may be worth exploring whether the results of this report could be relayed to the vendors so this work can inform their training program and job placement operations. This may also encourage vendors to increase their reporting of participant completion status in order to obtain more accurate results in the future.

JFI looks forward to discussing these findings and ideas for future analyses that will help BCDSS reach its goals of helping the most vulnerable of the City's residents obtain stable employment.

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