

What training programs are most successful?

This paper is one in a multi-part series using data produced from the pilot Michigan Workforce Longitudinal Data System (WLDS). The WLDS is created by combining administrative records from multiple state databases, covering topics such as workforce development, education, and unemployment insurance. Once matured, WLDS data can be leveraged to answer a number of important questions related to the workforce and education, from the employment outcomes of Michigan’s students to the effectiveness of state assistance programs.

In this part of the series, we examine several of the occupational training programs offered through the Michigan Workforce Development Agency. In addition to highlighting the demographic characteristics of training participants, this paper will discuss a number of important workforce outcomes for each training program including completion and employment rates, the time it takes trainees to find employment, and median earnings.

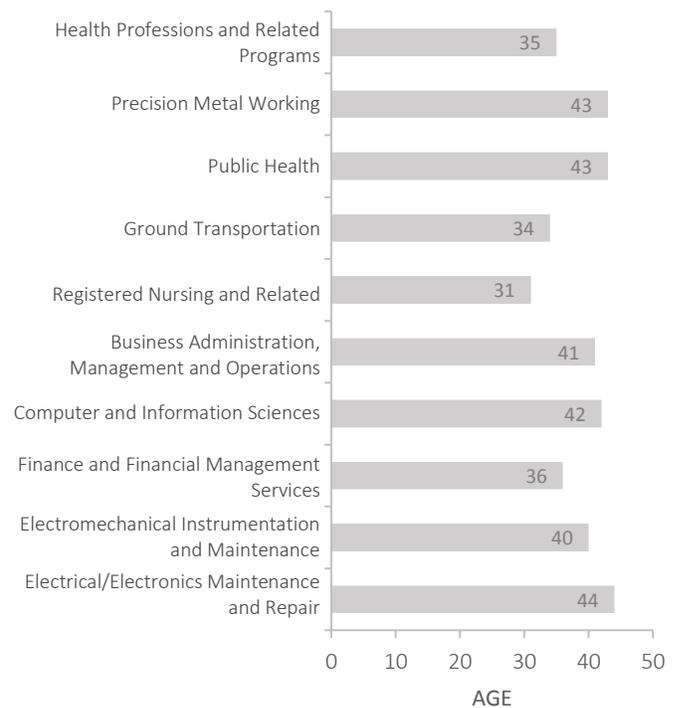
As a technical note, the initial run of WLDS data used a small, select population of Michigan Works! customers as the base upon which the pilot data system was built. For the purposes of this paper, the base population consisted of Michigan Works! customers who exited a training program during the study’s target period of July 1, 2009 to June 30, 2011. Additionally, this paper focuses solely on the top ten training programs by enrollment over this two year period. Consequently, the data presented in this paper does not display outcomes for every training program offered through the Workforce Development Agency.

Demographic Characteristics

Before assessing training program outcomes, this paper will first provide some basic

demographic information to describe the individuals that participated in training, as well as examine how these characteristics vary across training programs. Figure 1 examines the median age of training participants. Demonstrating a wide range in the median ages among programs, those who enrolled in the Electrical Maintenance

Figure 1: Median Age by Program



and Repair Technology program have the highest median age of 44 years old, while those in the Registered Nursing program have the lowest median age of 31. The median age of all training programs participants is 38 years of age.

Cross-program differences are even greater when disaggregating trainees by sex, which is demonstrated in Figure 2. Overall, the number of female and male training program participants is divided almost evenly among the sexes, with females making up 53 percent of trainees and males 47 percent. However, the majority of programs tend to be heavily comprised of one sex over the other. For instance, healthcare programs such as Health Professions, Public Health, and Registered Nursing are predominantly made up of women, with over 80 percent of the enrolled population within these fields being female. Inversely, Precision Metal Working, Ground Transportation, Electromechanical Instrumentation, and

Figure 2: Sex by Program

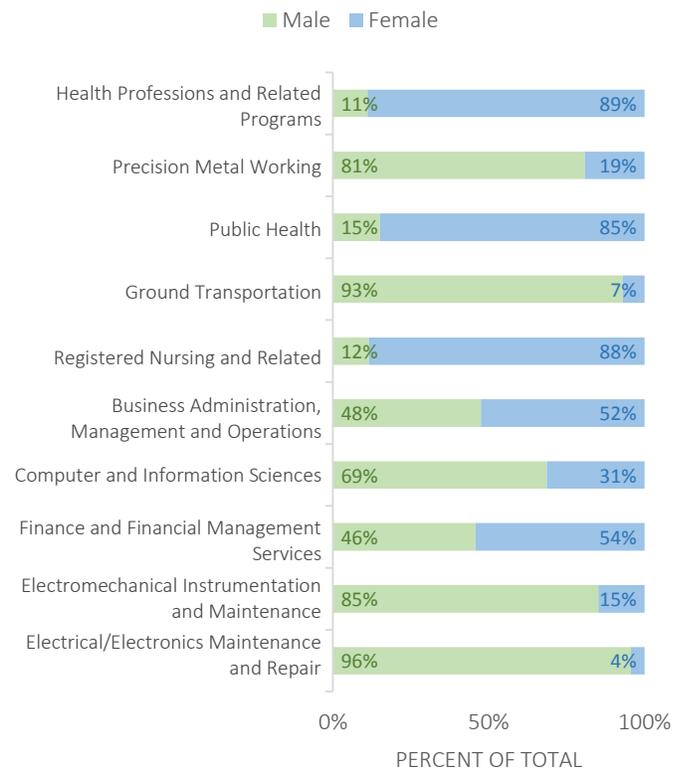
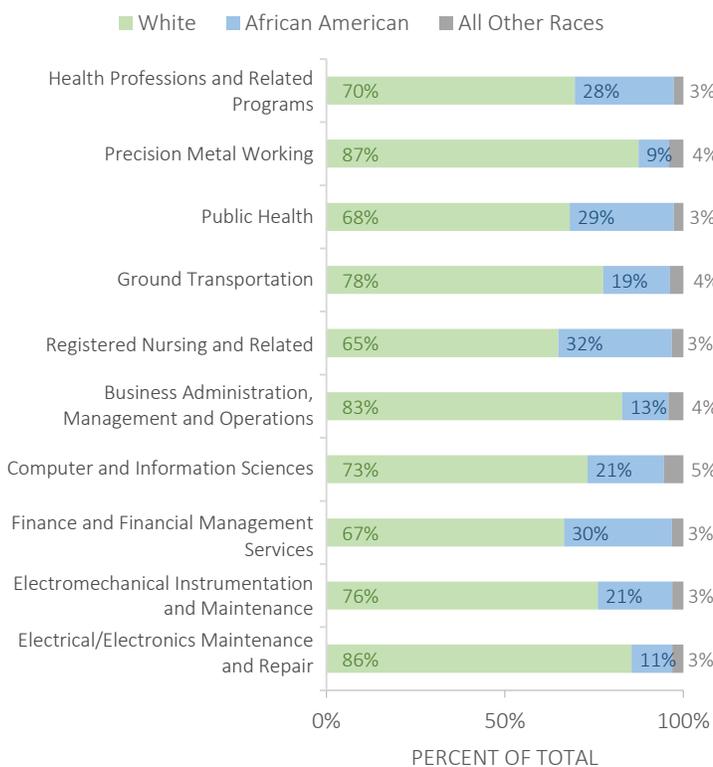


Figure 3: Race by Program



Electrical Maintenance and Repair programs are each at least 80 percent male. Those enrolled within the Business and Finance programs, however, are divided nearly equally between males and females.

Figure 3 displays the percentage of program participants that is made up by each of three racial categories: White, African American and All Other Races. When focusing on the racial diversity among the over 23,000 total training program participants, 75 percent of individuals are white, 22 percent are African American, and the remaining 3 percent are Asian, Native Hawaiian and Other Pacific Islander, or American Indian Alaskan. This compares to U.S. Census Bureau 2014 American Community Survey estimates for race in Michigan as a whole, where 79 percent of the population is white, 14 percent are African

American, and 7 percent are comprised of all other racial categories.

When breaking down the racial composition of each training program, there is once again considerable variance from one program to the next. In each of the training programs, a majority of the individuals in each program are white, while African Americans make up between 9 and 32 percent of program participants. The percentage of trainees from all other racial categories has little variance from one program to the next, ranging from 3 percent to 5 percent. African Americans make up nearly 32 percent of those enrolled in the Registered Nursing program, the highest African American percentage among all ten programs. The Precision Metal Working program, on the other hand, has the lowest percentage of African Americans, who make up only 9 percent of trainees.

Training Program Outcomes

Figure 4 displays the enrollment levels for each of the ten training programs, as well as the completion rates for each program. Over 23,000 Michigan Works! customers enrolled across the ten training programs, with levels of enrollment varying widely from one program to the next. With over 5,000 trainees, about 20 percent of all training program participants, the Health Professions program has the largest enrollment of all training programs. Two other healthcare programs, Public Health (2,628 trainees) and Registered Nursing (2,227 trainees) are included in the top five programs by enrollment, giving the three healthcare programs a combined 39 percent of all trainees. Conversely, the Electromechanical Instrumentation and Maintenance (1,033 trainees) and Electrical

Figure 4: Enrollment and Completion Rate by Program

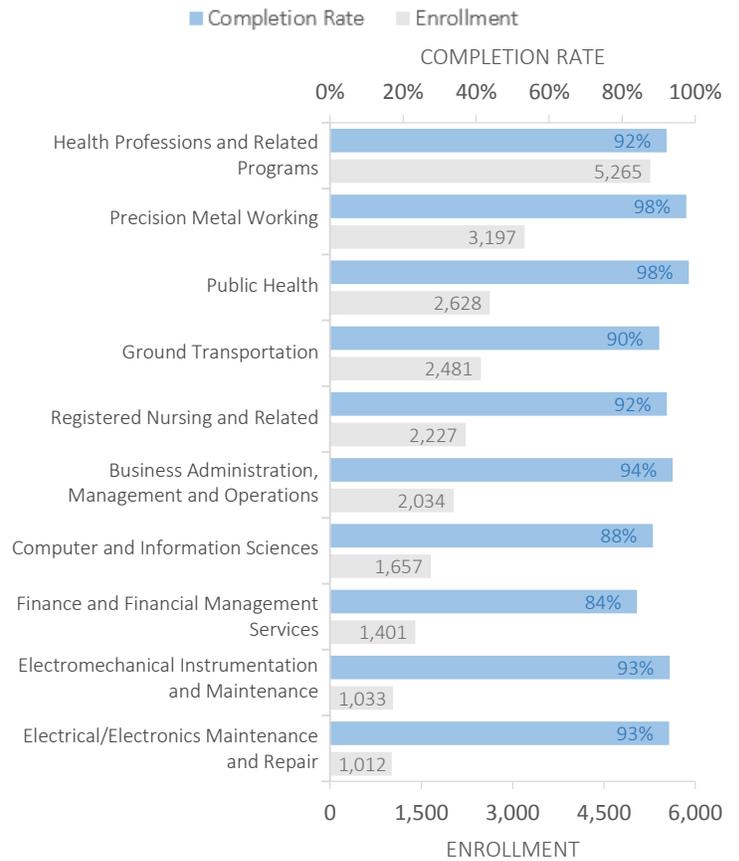


Figure 5: Employment by Program

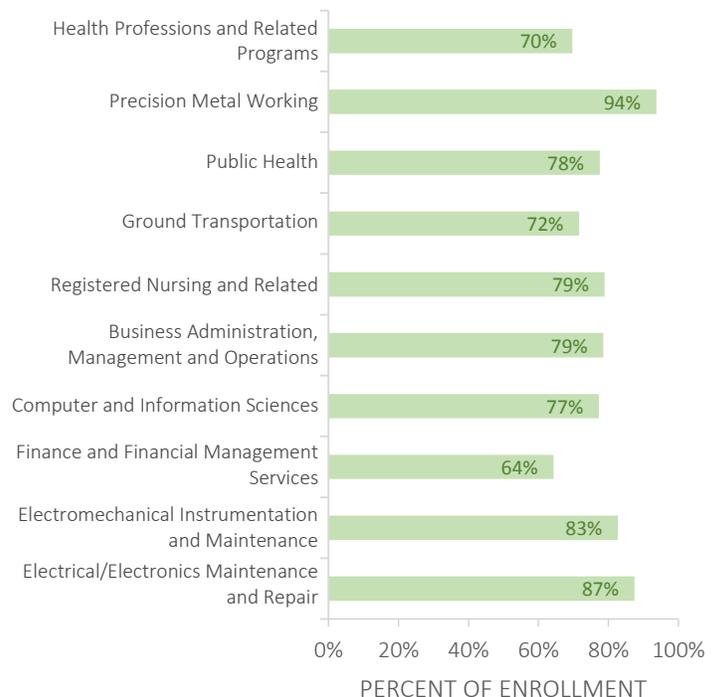
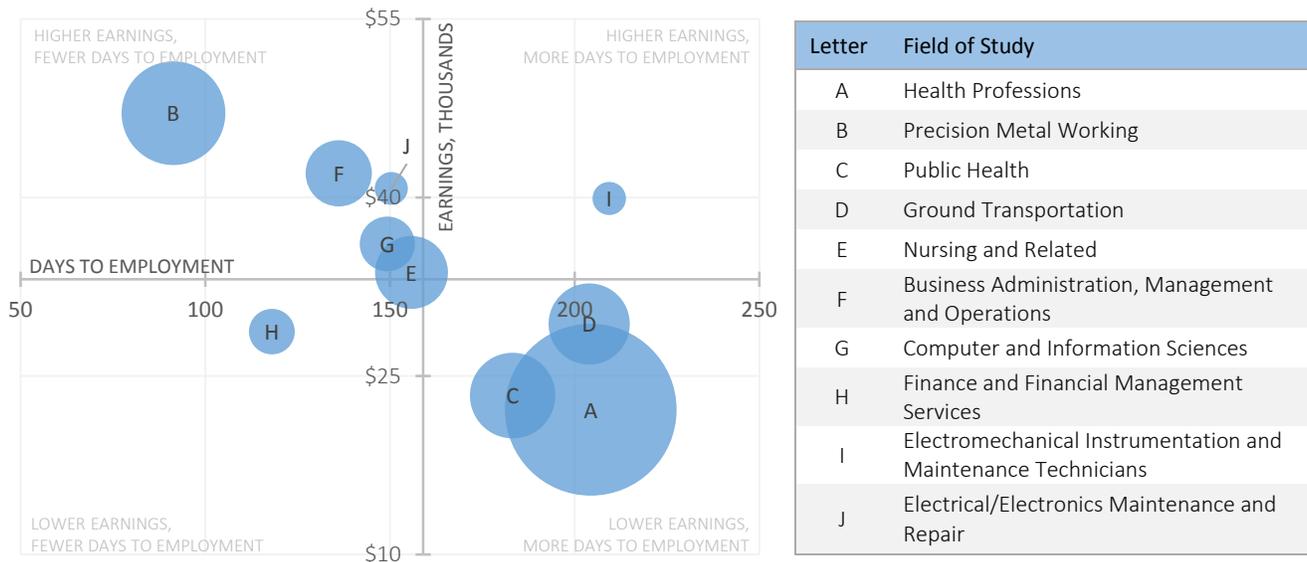


Figure 6: Median Earnings and Time to Employment by Program



Maintenance and Repair Technology (1,012 trainees) programs contain the lowest total enrollment.

Figure 4 also demonstrates that all programs have relatively high completion rates, i.e. the percentage of enrollees that finish training. In fact, every program has a completion rate greater than 80 percent. Across programs, individuals who have enrolled in the Public Health program have the highest completion rate of more than 98 percent, while the Finance and Financial Management Services program has the lowest completion rate at 84 percent. The completion rate for all trainees is more than 92 percent, again showing that there’s an overall high rate of completion among these ten training programs.

In Figure 5, we begin to examine the labor market outcomes of trainees, by examining the employment percentage for each program. This employment rate is the percentage of program completers who found employment after exiting training. Across all ten training programs, the overall employment rate is 78 percent,

demonstrating that a large number of those who completed their training programs successfully found work. The program with the highest overall employment percentage is the Precision Metal Working program, where 94 percent of trainees completed training and found a job. Comparatively, the program with the lowest employment of 64 percent is the Finance and Financial Management Services program.

Finally, Figure 6 displays two crucial labor market outcomes for those trainees that found a job: time to employment and annual earnings. The x-axis displays average days to employment after exiting training for each of the ten training programs, while the y-axis displays median annual earnings. The size of each bubble indicates the level of enrollment in each program.

The average time to employment varies widely across the ten programs, which can be seen along the x-axis. Trainees who completed the Precision Metal Working program had the lowest time to employment, taking only 91 days to find a job. Conversely, those completing an

Electromechanical Instrumentation and Maintenance program had the longest average time at 209 days, making a difference of almost four months between the two programs. The average time to employment across all ten programs was 159 days.

There is also a considerable variation in the median annual earnings of those trainees who found jobs, which can be seen along the y-axis. For example, the program with the highest median annual earnings is the Precision Metal Working training program, which has median earnings of \$47,090, and the second highest were Business programs with annual earnings of \$42,033. Inversely, the program with the lowest median annual earnings is the Health Professions programs, where median earnings is \$22,168. The overall median wage across all ten programs was \$33,133.

When comparing the earnings with time to employment in Figure 6, two notable patterns emerge. First, there is a strong negative correlation between the two outcomes. Those programs with high earnings tend to have lower

times to employment, and those programs with lower earnings tend to have higher times to employment. Thus, most programs tend to perform either below or above average along both dimensions. Only the Electromechanical Instrumentation and Maintenance (high earnings, high time to employment) and Finance (low earnings, low time to employment) programs represent exceptions.

The second pattern to emerge, the enrollment size of the each program does not appear to be correlated with employment outcomes. For example, Health Professions and Precision Metal Working are the two programs with the highest levels of enrollment. Yet, the former is among the worst performers in terms of earnings and time to employment, while the latter has the best performance of all ten programs. Moreover, programs with similar enrollment levels, such as Ground Transportation, Nursing, and Business, have very disparate employment outcomes. Consequently, Figure 6 presents little evidence that stronger performing programs attracted more trainees during the period of this study.

Conclusion

Using a limited data set of Michigan Works! customers, this paper has demonstrated how WLDS data can play an important role in evaluating workforce training programs. Once expanded, Michigan's WLDS will provide critical information that helps trainees and stakeholders understand how training program choices influence labor market success. Beyond providing demographic information and key labor market outcomes, the WLDS data can also be disaggregated to assist at the local level, as well as used to evaluate how labor market outcomes change over time. In summary, future development of the WLDS will allow stakeholders to answer a number of important questions related to the economic outcomes of Michigan's workforce training programs.

This paper is the product of a partnership between multiple state agencies. The WLDS is managed by the Michigan Workforce Development Agency, while all research and analysis is conducted by the Michigan Bureau of Labor Market Information and Strategic Initiatives. Data for the WLDS is provided by the Michigan Workforce Development Agency, Michigan Center for Educational Performance and Information, and Michigan Unemployment Insurance Agency.