

Illinois Talent Pipeline Management Pilot Project

Technical Abstract

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Technical Abstract for Talent Pipeline Management Pilot Project
Prepared by the Illinois Community College Board

I. Project Purpose:

The purpose of this project was to explore the flow of certificate and degree completers from selected programs in the career clusters of Health Science, Manufacturing, Information Technology and Transportation, Distribution and Logistics from a local community college into a local area. Typically we have identified whether an individual obtained employment after program completion, but this project added a more comprehensive picture by looking at attachment to specific employers and by working with an employer collaborative to identify employers within the area.

By engaging with Vermillion Advantage, a strong local employer collaborative in Vermillion County, this project sought to map the flow of talent into the local employer area based on completion data in selected programs from a local community college. Data was accessed from multiple state partners including the Illinois Community College Board (ICCB) and the Illinois Department of Employment Security (IDES).

In collaboration with the Department of Commerce and Economic Opportunity (DCEO) and Vermillion Advantage the project tracked employment into the local area and examined job attachment of these completers with identified employers by connecting student records with employer UI identification information. This allowed mapping of talent flow into the local area as well as analysis of wage earnings related to job attachment. The involvement of the local employer collaborative allowed for more detailed information on local area employment data and area employers.

II. Data Sources

Primary state agency databases and method for identifying local area businesses used for this analysis included the following:

1. Illinois Community College Board (ICCB) annual completer records for individuals who have been awarded a certificate or diploma in selected programs. The Classification of Instruction Program (CIP) numbers were identified for mapping to the local area based on major employment industries within the area.
2. Illinois Department of Employment Security (IDES) Unemployment Insurance (UI) wage record files (containing worker Social Security Numbers, name, UI account number, wages, and employer Federal Employer Identification Number [FEIN]) are matched with selected employer characteristics (FEIN, UI accounts, North American Industry Classification System [NAICS] code, and ZIP Code).
3. Vermillion Advantage, a local employer collaborative within Vermillion County Illinois, and DCEO worked closely to help identify and inform regarding specific business and industry within the local area of employment. The participation of this group allowed for better identification of employers within the area.

It's important to note Illinois State Board of Education was also approached as part of the project and will continue to be invited to participate as scale up opportunities become available. High school career preparation/training and transition to higher education and employment are key metrics in any talent pipeline analysis. While ISBE did not share microdata they were able to provide summary data related to the selected programs in the career clusters.

III. Methodology

The following basic steps were utilized for analysis in this project after the execution of a Shared Data Agreement between ICCB and IDES:

Step 1 – Identification of programs for pilot project

Through collaboration with Vermillion Advantage, state partners identified the specific career clusters that should be included in the pilot. These were based on the area's dominant employment sectors and included Healthcare, Manufacturing, Information Technology and Transportation, Distribution and Logistics (TDL). To provide a sufficient time horizon to enter the employment sector and to identify job attachment, completer records were selected from fiscal years 2011 and 2012. Further, completers only from selected CIPs were included from a local community college for the project. The project looked at certificate and/or degree attainment related to the following CIP codes (numbers are duplicated in the following tables):

Health Science

CIP	2010 CIP Title	Total Completers
510707	Health Information/Medical Records Technology/Technician	12
510710	Medical Office Assistant/Specialist	14
510713	Medical Insurance Coding Specialist/Coder	2
510716	Medical Administrative/Executive Assistant and Medical Secretary	31
510910	Diagnostic Medical Sonography/Sonographer and Ultrasound Technician	15
510911	Radiologic Technology/Science - Radiographer	28
513801	Registered Nursing/Registered Nurse	76
513901	Licensed Practical/Vocational Nurse Training	106
513902	Nursing Assistant/Aide and Patient Care Assistant/Aide	413

Information Technology

CIP	2010 CIP Title	Total Completers
110201	Computer Programming/Programmer, General	1
110202	Computer Programming, Specific Applications	1
110801	Web Page, Digital/Multimedia and Information Resources Design	1
110901	Computer Systems Networking and Telecommunications	8

Manufacturing

CIP	2010 CIP Title	Total Completers
150613	Manufacturing Engineering Technology/Technician	2
470105	Industrial Electronics Technology/Technician	12

470303	Industrial Mechanics and Maintenance Technology	30
480501	Machine Tool Technology/Machinist	1
480508	Welding Technology/Welder	14

Transportation, Distribution and Logistics

CIP	2010 CIP Title	Total Completers
470603	Autobody/Collision and Repair Technology/Technician	9
470604	Automobile/Automotive Mechanics Technology/Technician	53
490205	Truck and Bus Driver/Commercial Vehicle Operator and Instructor	66

Step 2: Identification of completers in programs with the selected CIP codes

The ICCB identified completions from the selected CIP codes for FY11 and FY12 for the selected college. Individuals completing certificates and/or degrees in both FY11 and FY12 were assigned to the FY12 ICCB Cohort.

Step 3: Matching completer records to identify subsequent post-secondary activity

After completing the extract of the selected records, the ICCB conducted a data match with the National Student Clearinghouse (NSC) to identify completers from FY11 and FY12 who continued and had subsequent post-secondary activity at either 2 or 4 year institutions through February 2016. The purpose for this match was to identify and distinguish those who completed a program and had no subsequent post-secondary activity from those who pursued additional post-secondary instruction after completion in FY11 or FY12.

Step 4: Sharing completer and subsequent post-secondary activity between partners

After data matching with NSC, ICCB prepared a file to share with IDES for matching with IDES records (through Unemployment Insurance (UI) data). This file removed duplication and provided specific data elements for IDES. Individuals with a completion in the identified CIPs in both fiscal years of the pilot were assigned to FY12. The following data elements were provided to IDES as a part of the project:

Data field	Values and Description
ICCB SSN	
ICCB Last Name	
ICCB First Name	
ICCB Exit Cohort	An exit cohort was assigned to each student record based on the second quarter of the last year a certificate and/or degree was earned.
Continued Post-Secondary Enrollment	Y = Yes (student enrolled in additional post-secondary instruction after ICCB Exit Cohort quarter per match with National Student Clearinghouse) N = No (student did not enroll in additional post-secondary instruction after ICCB Exit Cohort quarter per match with National Student Clearinghouse)
Age Range	Student's age group during FY of exit cohort based on the following subgroups: 16 & Under, 17-20, 21-24, 25-30, 31-39, 40-55 and Over 55 Unknown was indicated if Date of Birth wasn't available
Sex	Sex indicated as Male or Female

Ethnicity	Ethnicity information provided in full text format
Dual Enrollment	Y = Yes (student level was classified as Dual Enrollment during FY of exit cohort) N = No (student level was not classified as Dual Enrollment during FY of exit cohort)
Dual Credit	Y = Yes (student enrolled in Dual Credit Course during FY of exit cohort) N = No (student did not enroll in Dual Credit Course during FY of exit cohort)
FY11 Cluster	Indicates the Career Pathway cluster in which the student earned a certificate or degree in FY11 according to ICCB records. N/A is indicated if no certificate or degree in Manufacturing, Information Technology, Health Science or Transportation, Distribution & Logistics was awarded during the FY noted.
FY12 Cluster	Indicates the Career Pathway cluster in which the student earned a certificate or degree in FY12 according to ICCB records. N/A is indicated if no certificate or degree in Manufacturing, Information Technology, Health Science or Transportation, Distribution & Logistics was awarded during the FY noted.

Step 5: Matching ICCB and IDES data

Using student last name, first name and SSNs as the common identifier between ICCB and IDES UI data, the two data sets are matched by IDES to job and earnings histories for completers. An “anchor quarter” was established based on the fiscal year and quarter in which the certificate and/or degree was awarded. The job and earnings histories represent the four quarters prior to the anchor point, the quarter of the anchor and eight quarters post anchor. IDES also worked closely with DCEO and Vermillion Advantage to obtain information related to area employers – specifically to help better identify employers who would usually be placed in a different areas based on the home office of the employer. For example, wage data will often place a business based on the corporate headquarters of the business’s home office. With this, employment placement in a region can be skewed by the location of the headquarters of the business. Through the collaboration within this project a more granular examination of employment flows was possible. This allowed for analysis of talent flowing to the employer collaborative, into Vermillion County (but not to the collaborative) and to employers outside the area. Due to the numbers of completers involved, analysis focused on the healthcare completers and looked at the sector of employment for these completers within Vermillion County or outside the area.

The job and earnings histories reflect the coupling of a completer’s SSN to a unique employer ID. The first instance when a SSN/Employer ID coupling appears in the history signifies a job hire for the individual. When this coupling is no longer observed in the history, then the individual is considered a job separation. The time lapse between job hire and job separation is the duration of job stability. For this project individuals were considered connected to a specific career when they were employed for at least three consecutive quarters with the same employer. The earnings measure is linked to a specific job stability window, i.e., three consecutive quarters.

Step 6: Generate Preliminary Data Tables and Internal Review

After successful data matching between ICCB and IDES records an internal sharing and review of the results of the findings were disseminated.

Step 7: Creation, review and release of the Talent Pipeline Management Project paper

To disseminate the findings of the project, the Talent Pipeline Management Project Summary paper was created. This paper was reviewed internally by collaborating agencies and the paper was also shared with identified experts in the field to solicit feedback regarding the paper's findings and additional questions posed by the paper.

IV. Contact Information

We encourage others to replicate and improve on this process. Additional questions and comments are welcomed. Questions regarding this analysis should be directed to the following staff:

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