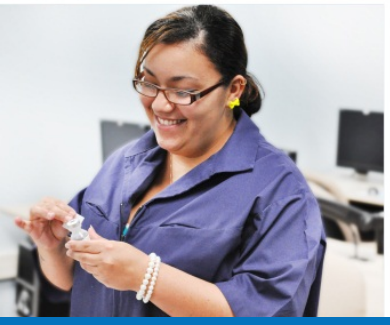
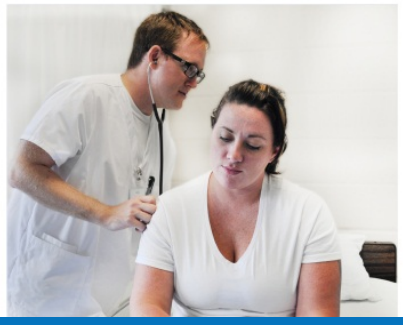
HPOG

Health Profession Opportunity Grants

Using Labor Market Information to Design Job-Driven Training Programs





Building Pathways to a Brighter Future

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Using Labor Market Information to Design Job-Driven Training Programs

The purpose of this paper is to provide technical assistance to Health Profession Opportunity Grants (HPOG) programs on using data to understand and respond to employer demand, develop career pathways, and become job-driven. It provides a step-by-step approach to help programs identify and use labor market information and other data to respond to real world job shortages and local community needs. It provides tips on how to measure success and to institutionalize change within an HPOG program to promote and use data to inform good decision-making.

The HPOG program, authorized by the Affordable Care Act, and administered by the U.S. Department of Health and Human Services, Administration for Children and Families, Office of Family Assistance, funds healthcare education and training programs targeting Temporary Assistance for Needy Families (TANF) participants and other low-income individuals to prepare them for high-demand healthcare occupations. Five year grants (October 2010–September 2015) were awarded to 32 HPOG grantees in 23 states. Grantee programs represent a range of organizational types, including four state agencies, nine Workforce Investment Boards, 12 institutions of higher education, two community-based organizations, a Tribal council, and four Tribal colleges. Each program aims to improve job prospects for hard-working adults and help them identify and secure employment leading on a path to self-sufficiency. To do so, they offer a range of community and job-driven employment training opportunities, in approximately 50 distinct occupations, such as nurse aides, registered nurses, medical assistants, pharmacy technicians, and home health aides.

Figure 1: Paper Overview

An important aspect to building a strong HPOG program is understanding employer demand and offering training programs that are driven by available jobs in the community, student skills and abilities, and employer needs. Understanding employer demand has also been a particular focus of the White House, which recently published a report and other materials that provide tips to education and

training programs on how to develop job-driven training programs. These materials, which include a checklist[1] and synthesis report[2] call on programs to, among other things:

- **Work up-front with employers** to determine local hiring needs and design training programs from which employers will hire.
- **Make better use of data** to drive accountability, inform what programs are offered and what is taught, and offer user-friendly information for job seekers to choose programs and pathways that work for them.
- **Measure and evaluate** employment and earning outcomes.
- **Promote a seamless progression** from one educational stepping stone to another, and across work-based training and education.

Throughout this paper an illustrative case example of a hypothetical HPOG program, Springdale Community College (Springdale CC or Springdale), located in an urban center in the Midwest, is highlighted to show how HPOG programs may develop and streamline each step discussed.[3] At the end of the paper are a "cheat sheet" (Appendix A), data template (Appendix B), and a list of helpful websites (Appendix C) HPOG programs can use to help guide them through these steps and use data to respond to employer needs.

Step 1: Identify Relevant Employment Trends

To understand employer demand and the job prospects for their graduates, HPOG programs should first examine traditional labor market information (LMI) for recent employment trends and economic projections on the occupations for which they offer training.

Why trend data is important

HPOG programs may use traditional LMI data to assess historic trends, the current state of, and future projections for specific occupations within their local market. This data will allow programs to understand how their trainings have aligned with growing occupations and help determine whether those

Step 1: Identify Relevant Employer Trends

- **Why?** Use traditional LMI data to assess historic trends, the current state and future of specific occupations.
- **What?** Access data through local, state, and federal government agencies.
- **How?** Track key indicators by classification, industry, and growth. Have a comparison group to assess against.

[1] The White House (2014). *Ready to Work: New Actions to Expand Job-Driven Training and Broaden the Pathway to the Middle Class*. Washington, DC. Retrieved from: http://www.whitehouse.gov/sites/default/files/docs/ready_to_work_factsheet.pdf

[2] U.S. Departments of Labor, Commerce, Education and Health and Human Services (July 2014). *What Works in Job Training: A Synthesis of the Evidence*. Washington, DC. Retrieved from: http://www.dol.gov/asp/evaluation/jdt/jdt.pdf

[3] Data accessed and analyzed by the hypothetical Springdale Community College for its service area is actual local data for the Detroit metropolitan area (City of Detroit and surrounding suburban counties)

offerings should be adjusted to meet future projections. By analyzing this data, HPOG programs can identify sectors of the healthcare industry likely to experience higher or lower growth and potential employer partners.

Data availability and limitations

Traditional LMI data is gathered and disseminated through several state and federal government agencies, along with private companies. Data provided by government agencies is readily available and free to the public. Commonly used LMI indicators come from the federal Bureau of Labor Statistics through its Occupational Employment Statistics[4] program and the Occupational Outlook Handbook.[5] The Bureau of Labor Statistics also provides a State Labor Market Information Contact List where grantees can find their own state agency to access state and local LMI data.[6]

- **The Occupational Employment Statistics** gather information from employers through an ongoing survey that provides annual updated national, state, and sub-state statistics on employment and wages by occupation.
- **The Occupational Outlook Handbook** provides national ten-year projections of the employment levels for each occupation. It is revised by Bureau of Labor Statistics economists every two years. The Occupational Outlook Handbook also provides links to the required knowledge, skills, and abilities required for each occupation. The Occupational Outlook Handbook does not project labor shortages, surpluses, or future wage levels, so HPOG programs focused on high-growth occupations should not assume from reviewing the Occupational Outlook Handbook that their program is necessarily filling a labor shortage.[7]
- **State labor agencies** work with Bureau of Labor Statistics to gather labor market information and publish their own figures and employment projections. The information they provide often includes more state and sub-state level details. However, there is variation across states in the amount of data they provide and rural areas often have more limited details than urban areas. In cases of limited data, it may be best to reach out directly to the local workforce investment board or the state labor agency to inquire if more specific data can be provided.

Key indicators

Each occupation tracked in traditional LMI data is provided a unique Standard Occupational Classification code.[8] These codes are arranged at different levels from major groups (e.g., 31-0000 Healthcare Support Occupations) to detailed occupations (e.g., 31-1014 Nursing Assistants). This code

[4] Bureau of Labor Statistics (April 2014). *Occupational Employment Statistics*. Retrieved from: http://www.bls.gov/oes/
[5] Bureau of Labor Statistics (January 2014). *Occupational Outlook Handbook*. Retrieved from: http://www.bls.gov/ooh/
[6] Bureau of Labor Statistics (October 2014). *State Labor Market Information Contact List*. Retrieved from: http://www.bls.gov/bls/ofolist.htm
[7] Bureau of Labor Statistics (December 2013). *Employment Projections Frequently Asked Questions*. Retrieved from: http://www.bls.gov/emp/ep_faq_001.htm
[8] Bureau of Labor Statistics (March 2010). *Standard Occupational Classification*. Retrieved from: http://www.bls.gov/soc/

system is used across government agencies, so information for over 800 different occupations can be compiled from multiple sources. However, SOC codes are updated approximately every ten years, so they may not clearly identify newly emerged occupations.

Traditional LMI data includes an array of indicators that HPOG programs can check to ensure that their offerings are in line with employer demand. In general, programs should gather and analyze the most reliable local data (county, regional, or state) available. The following are important indicators for HPOG programs to monitor:

- **Occupational employment over the previous decade.** Using federal Occupational Employment Statistics or state-level statistics, programs can look at the recent trends in occupational growth for their program offerings and compare them to statewide and national trends. These trend data are also used in developing the national and state occupational employment projections.
- **Occupational employment by industry.** HPOG programs can examine with precision what industries tend to hire the occupations for which they train individuals. For example, an HPOG program can see what percentage of registered nurses work in hospitals compared to physicians' offices. The Occupational Employment Statistics data include occupational profiles with information on the industries for each occupation.
- **Outlook for future employment growth.** Using either the federal Occupational Outlook Handbook for national figures or state-level projections, HPOG programs can examine the outlook for their occupations. Outlook statistics typically include projected employment growth and the average number of job openings expected each year due to both growth and replacement. National and state projections can be readily accessed through O*NET OnLine.

Springdale Community College focused its HPOG training programs on the nursing and health information occupations. It is interested in accessing data to make better training decisions. It accessed Occupational Employment Statistics data to see the national employment trends for their occupations over the last 10 years. It accessed Occupational Outlook Handbook data and found the national growth projections for these occupations over the next decade. It also looked at state labor data for their region to compare local trends and projections to the national figures they collected from the Occupational Employment Statistics and Occupational Outlook Handbook data sources.

Interpreting traditional LMI data

An important part of interpreting traditional LMI data is to have a comparison group. As an example of regional occupational projections, Figure 2 displays the projected changes for three occupations of interest for Springdale, compared to the projected changes for all occupations. Within Springdale's region, for example, the workforce for registered nurses and nursing assistants is projected to grow faster than the overall rate for all occupations (10.9 percent). Medical records and health information technicians are expected to grow slower than the overall rate.

As Springdale reviewed the data, they found that the number of projected annual registered nurse openings is nearly 1,400 in the region they serve, with about half coming from growth in registered nursing employment and the rest due to turnover and replacement within the registered nursing workforce. A similar but smaller trend is projected for nursing assistants. However, the number of projected openings for health information technicians is very modest and most of the openings are due to replacement rather than growth. Based on these indicators, Springdale surmised that both registered nursing and nursing assistants are high-growth occupations worthy of more recruiting and training resources from the community college, with health information technicians being a more difficult occupation to justify.

Figure 2: Workforce Projections for Select Occupations (Springdale CC Region)

Occupation (Standard Occupational Code)	2010 Employment	2020 Projected Employment	Ten year percent change	Average Annual Openings	Openings Due to Growth	Openings Due to Replacement
Registered Nurse (29-1141	38,710	45,495	17.5%	1,381	680	701
Nursing Assistant (31-1014)	22,385	25,415	13.5%	593	305	288
Medical Records and Health Information Technician (29-2071)	2,100	2,310	10.1%	64	21	43
All Occupations	1,812,620	2,010,600	10.9%	63,829	20,949	42,880

Source: Michigan Department of Technology, Management, and Budget. *Michigan Labor Market Information, MI Fast Facts*. Retrieved from: http://www.milmi.org/

Step 2: Identify Real-Time Labor Market Trends

Labor market information includes not only traditional public sources but also more timely indicators of current market activity. These types of indicators, known as "real-time LMI" can help HPOG programs assess employer demand.

Why real-time data is valuable

HPOG programs may use real-time data to supplement traditional LMI data. Traditional LMI data sources take time to gather and release survey results and tend to make employment projections that follow previous trends. By comparison, real-time data provide the latest information about local employer hiring needs, including required education and credentials for specific occupations when they are specified. Real-time data is able to identify emerging occupations and trends before they become visible through traditional data sources.

Step 2: Identify Real-Time Labor Market Trends

- **Why?** Use real-time data to get up to the minute information about occupations of interest.
- **Where?** Data is available through online companies that charge licensing fees to access it.
- **How?** Review job posting trends and their education/experience requirements. Compare them against traditional LMI.

Data availability and limitations

Real-time LMI is currently only available from a limited number of online companies, which charge a licensing fee to access their data. Their data is often drawn through an internet algorithm that examines job postings from multiple online job websites and is able to identify and remove duplicate postings. The resulting data allows users to analyze the job postings within their local market and examine specific trends. However, the number of postings that become eventual job hires is not always clear, as some employers may continuously post as a method to collect resumes for future openings. Alternatively, some employers may hire new workers through alternative routes and not create an online job posting. Another challenge is that some postings may be too general to identify the exact skill set the employer is seeking.

There are challenges with selecting a real-time LMI firm to work with, as data methodologies vary across firms, and certain firms have their own specialties. The cost of a one-year license may range from $5,000 to $10,000, creating a financial barrier for HPOG programs with scarce resources for this type of analysis.[9] Programs may consider partnering with organizations, such as other training programs, their local workforce investment board, or their state labor market information agency to share costs or obtain reports from agencies currently using such tools.

[9] Jobs for the Future (April 2012). *Vendor Product Review: A Consumer's Guide to Real-Time Labor Market Information.* Retrieved from: http://www.jff.org/sites/default/files/publications/VendorProductReview_041712.pdf

Key indicators

The range of indicators available for examination varies across real-time LMI firms. However the following indicators can provide valuable insight to HPOG programs to assess the healthcare workforce needs of employers:

- **Job posting volume by occupation.** HPOG programs can identify emerging occupations by examining local job posting trends by occupation. Certain real-time LMI firms allow users to breakdown posting data by industry or employer for additional insight.
- **Job Requirements.** Real-time LMI can also indicate the required skill sets, credentials, or levels of experience and education necessary across job postings. This can inform HPOG programs about the number of relevant postings for new graduates with limited experience.

Springdale also wanted to use real-time data to inform training offerings. They coordinated with their local workforce investment board and other post-secondary educational institutions to share the costs of obtaining a license to access a website that specializes in healthcare job posting data. Springdale chose this website over others because of its data methodology, allowing Springdale to accurately track job posting volume and breakdown job postings by specific employers. This allowed Springdale to also identify potential employer partners who are currently hiring in the community.

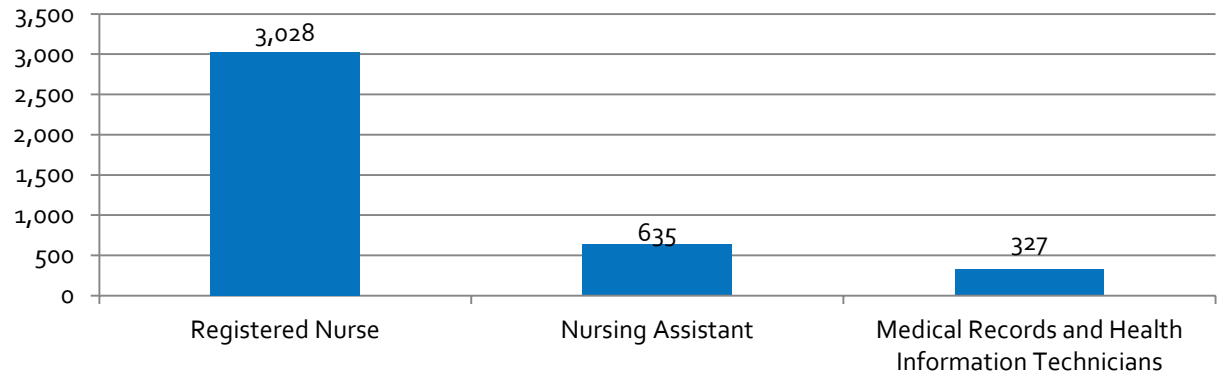
Interpreting real-time data

When examining real-time data, it is often valuable to compare it to traditional employment projections to see if findings are consistent. Since it is not always clear exactly how many actual jobs are available from postings, grantees should focus on the relative volume of postings rather than the specific totals. They can also explore posting data to understand the qualifications employers are seeking in job applicants. This way, grantees can use the information from real-time data to complement information from traditional data.

Figure 3 shows the job postings for the occupations of interest to Springdale. Registered nurses had the most job postings within the healthcare field by a wide margin – over 3,000 during the second quarter of 2014. Compared to regional projections from traditional LMI, the number of regional registered nursing job postings was more than twice the average number of projected job openings, indicating that registered nurses may be in more demand in this region than the traditional data alone supported. The number of postings for nursing assistants during this quarter more narrowly exceeded projected openings.

For health information technicians, the number of postings was more than five times as much as the projected number of openings. The real-time data, therefore, indicates that health information technicians may be more of a high-growth occupation in the Springdale region than what the traditional LMI showed and a possible quality investment of the HPOG program's training resources.

Figure 3: Job Postings for Select Occupations (Springdale CC Region)



Source: Workforce Intelligence Network for Southeast Michigan (2014). *Real-time Quarterly Workforce Indicators Q2 2014*. Retrieved from: http://win-semich.org/data-research/quarterly-reports/ (using data from Burning Glass Labor/Insight)

Step 3: Understand Wage Variation

After identifying and reviewing employment trends within an HPOG program's service area, the program should examine available occupational wage data to understand the earning potential for career pathways within the region.

Step 3: Understand Wage Variation

- **Why?** To pursue occupations that guide participants along a career pathway that offers increasing wage opportunities.
- **What?** Public and commercial data sources that include median and average wage levels.
- **How?** Review median wages by occupation, location quotient, and wage ranges.

Why wage data is important

HPOG programs should consider examining wage data to avoid pursuing or overemphasizing training for occupations that may be high growth, but offer low wages with limited career opportunities. HPOG programs that promote career pathway development can use wage data to see how expected wages may increase for program participants as they gain new skills and credentials, allowing them to move into higher wage occupations and achieve lasting self-sufficiency.

Data availability and limitations

Statistics on wage levels by occupation are available from both public and commercial data sources. The Bureau of Labor Statistics publishes detailed wage data for many sub-state regions, using surveys such as the **Occupational Employment Statistics** program, the **National Compensation Survey**, and the **Current Population Survey**.[10] This data includes median and average wage levels along with measures of local concentration of specific occupations. Notably, urban areas have more geographically detailed and precise data than rural areas, the latter of which are often grouped into

[10] Bureau of Labor Statistics (December 2013). *Overview of BLS Wage Data by Area and Occupation*. Retrieved from: http://www.bls.gov/bls/blswage.htm

large regions and have wide estimates due to fewer survey responses. Also, wage data alone does not account for other forms of employee compensation, such as bonuses or fringe benefits.

Real-time LMI data from commercial websites can also supplement publicly-available data. By accessing real-time wage data, HPOG programs can compare wages from job postings to wages currently earned by people in those occupations. However, HPOG programs should be aware that some online postings do not contain wage data, and the wage data from postings may not exactly match actual openings, if employers maintain a posting to collect resumes for future opportunities.

Key indicators

HPOG programs tracking the wages of certain occupations may review the following indicators:

- **Median wage by occupation:** A basic statistic to measure the local compensation level of an occupation is its median wage.[11] Unlike wage averages, which can be skewed by outliers, medians can serve as a reliable indicator to compare wages across occupations.
- **Location quotient:** Important to understanding the wage level of an occupation is measuring the concentration of that occupation within the local market. Location quotient is the ratio of the prevalence of an occupation within an area to its prevalence nationwide.
    - For example, if pediatricians account for 0.0241% of workers in a region and 0.0233% of workers nationwide, its location quotient is 1.03 (0.0241% / 0.0233% = 1.03).
    - Location quotients with values greater than one indicate greater than average prevalence, while values below one indicate below average prevalence.
    - Markets with high location quotient values for low wage jobs tend to have even lower wages for those jobs because of the high supply of workers.[12]
- **Wage ranges***:* For entry-level positions, median wages may not be realistic, especially for occupations with lengthy average tenures. Therefore, it is important to also understand the range of wages for these jobs. For example, reviewing the interquartile range (from the 25th to 75th percentile) can help an HPOG program understand the potential for increased wages for a program graduate within a particular occupation.

Springdale is very interested in career pathways in the nursing field and wanted to know, for nursing assistants considering additional education, how much greater local registered nurse wages are compared to nursing assistant wages. Springdale is also interested in the concentration level of their occupations, as they are concerned about potentially oversaturating the market with job candidates. Fortunately, the Bureau of Labor Statistics data provides detailed figures for the Springdale region that

[11] The statistical median is the middle value in a series of values ordered from smallest to largest.
[12] Bureau of Labor Statistics (April 2011). *Using Location Quotients to Analyze Occupational Data*. Retrieved from: http://www.bls.gov/opub/btn/archive/using-location-quotients-to-analyze-occupational-data-pdf.pdf

address these areas of interest. However, if Springdale were in a more rural area where detailed Bureau of Labor Statistics data was not available, they may have also contacted their state labor agency or local workforce investment board to see if more local wage data was accessible.

Interpreting wage data

When examining wage data, it is important for HPOG programs to be able to interpret multiple indicators, as occupational wages are affected by many variables. Within the Springdale region, there was considerable wage variation across nursing and health information technician occupations. As shown in Figure 4, the median wage for registered nurses was nearly 2.5 times as high as nursing assistants and nearly twice that of health information technicians.

The location quotients for registered nurses and nursing assistants were very similar and indicate that concentrations of these occupations are each over 30 percent greater than the national average, although these occupations are not necessarily oversaturated. On the other hand, the location quotient for health information technicians is more than 30 percent below the national average.

In terms of the wage ranges for these occupations, health information technicians had the widest range. For health information technicians, the relative interquartile range was 57 percent, meaning that employees at the 75th percentile made 57 percent more than employees at the 25th percentile. By comparison, the relative interquartile ranges for registered nurses and nursing assistants were 47 percent and 30 percent, respectively. This indicates that health information technicians could experience greater wage increases, compared to registered nurses and nursing assistants, as their tenure and experience grows.

Figure 4: Wage Data for Select Occupations (Springdale CC Region)

Occupation	Location Quotient	Wage Data					
		Average	10th Percentile	25th Percentile	Median Wage	75th Percentile	90th Percentile
Registered Nurse (29-1141)	1.38	$33.46	$25.05	$28.43	$32.48	$36.01	$42.50
Nursing Assistants (31-1014)	1.34	$13.01	$9.59	$11.26	$13.02	$14.62	$16.95
Medical Records and Health Information Technicians (29-2071)	0.66	$18.08	$11.96	$13.73	$16.90	$21.54	$26.90

Source: Bureau of Labor Statistics (May 2013). *Occupational Employment Statistics*. Retrieved from: http://www.bls.gov/oes/tables.htm

Step 4: Measure Local Training Capacity

Along with measuring employer demand for healthcare occupations, it is important for HPOG programs to assess their local region's current capacity to fill future workforce needs. Using survey data of community colleges and other higher educational institutions, it is possible to determine the degree to which new graduates can meet workforce demand.

Step 4: Measure Local Training Capacity

- **Why?** To ensure training programs are meeting workforce needs and not oversaturating the labor market.
- **What?** Access program completion data through federal government agencies.
- **How?** Track the number of local program graduates and their levels of education.

Why measuring current training capacity is important

HPOG programs that have identified high growth occupations should examine the current training capacity of their local area to see if other training programs are already graduating the necessary number of workers. Without examining their environment, programs risk investing in additional training where there is already sufficient capacity, leading to an oversaturation of new graduates. If programs can invest resources in training for occupations where there is a lack of new graduates, they can help address these shortfalls.

Data availability and limitations

The primary data source to measure the number of local program graduates is the Integrated Postsecondary Education Data System.[13] Integrated Postsecondary Education Data System data is collected by the U.S. Department of Education's National Center for Education Statistics through surveys of every college, university, and technical and vocational institution that participates in federal student financial aid programs. Among the data available through the Integrated Postsecondary Education Data System includes program completions (degrees and non-degree certificates of less than two years). Collecting this information can help HPOG programs track how many graduates are being produced by other programs.

Program completion data is grouped by Classification of Instructional Program codes, which are similar to college majors.[14] To match this data to specific occupations, federal agencies created a crosswalk between Classification of Instructional Program codes and Standard Occupational Classification codes assigned to detailed occupations.[15] One challenge with matching these codes is that some Classification of Instructional Program codes match multiple Standard Occupational Classification

[13] U.S. Department of Education, National Center for Education Statistics (2013) *Integrated Postsecondary Education Data System.* Retrieved from: http://nces.ed.gov/ipeds/

[14] U.S. Department of Education, National Center for Education Statistics. *CIP 2010: What is the CIP?* Retrieved from: http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55

[15] U.S. Department of Education, National Center for Education Statistics. *CIP 2010: Resources*. Retrieved from: http://nces.ed.gov/ipeds/cipcode/resources.aspx?y=55

codes and vice versa. For example, a graduate of health aide program (Classification of Instructional Program 51.2601) may become either a nursing assistant (Standard Occupational Classification 31-1014) or a psychiatric aide (Standard Occupational Classification 31-1013). Therefore, HPOG programs should be thoughtful about how they match program completion data to occupations of interest.

Another challenge with the Integrated Postsecondary Education Data System is that it does not include information about where graduates ultimately gain employment. Therefore, an area with many educational institutions may appear oversaturated with new graduates, but many of their graduates may be gaining employment outside their region.

Key indicators

HPOG programs tracking community training capacity may review the following indicators:

- **Program graduates by occupation.** A basic statistic for measuring training capacity is the number of students who graduate from all local programs each year. This data is available from the Integrated Postsecondary Education Data System and can isolate the graduate totals for educational institutions within an HPOG program's region. Graduate totals can then be converted to specific occupations to see how many potential new workers are entering the labor market.
- **Program graduates by education level.** The program graduate totals can also be split by education level. This is particularly useful for occupations, such as registered nurses, that can enter the workforce with either 2-year or 4-year degrees.

Springdale is interested in how many students graduated from other educational institutions in their area. Using data from the Integrated Postsecondary Education Data System, it identified 30 institutions that graduated students in one of its occupations of interest. As a community college offering post-secondary certificates and associate's degrees, Springdale was also interested in seeing the breakdown of new graduates by their level of education.

Interpreting program training data

When interpreting program training data, HPOG programs should be cognizant of the strengths and weaknesses of the data. Springdale took a conservative approach to its analysis and assumed that all program graduates who matched one of the occupations of interest would choose that occupation, even if they were qualified for others. This approach allowed Springdale to avoid interpreting a supply-demand imbalance where one did not exist.

As shown in Figure 5, the number of registered nurse graduates in the Springdale region in 2013 far exceeded the number of graduates for the other two occupations. Among registered nurse graduates, over half graduated with a bachelor's degree or higher. On the other hand, none of the local nursing assistant graduates had an education greater than a post-secondary award/certificate. Over half of the

health information technician graduates had at least a 2-year degree. Compared to the real-time job posting data, all three occupations had new graduate totals below the number of listed postings.

Figure 5: Regional Program Graduates for Select Occupations, 2013 (Springdale CC Region)

Occupation (Standard Occupational Classification code)	Education Level			Total Program Graduates
	Less than 2 year award/certificate	Associate's degree	Bachelor's degree or higher	
Registered Nurse (29-1141)	4	1,136	1,324	2,464
Nursing Assistant (31-1014)	462	0	0	462
Medical Records and Health Information Technician (29-2071)	144	162	9	315

Source: U.S. Department of Education, National Center for Education Statistics (2013). *Integrated Postsecondary Education Data System*. Retrieved from: http://nces.ed.gov/ipeds/

Step 5: Work with Employers to Verify Demand

Discussing key data findings with employers is an important step for HPOG programs to verify employer needs. These discussions can help confirm whether findings match employer expectations and provide HPOG programs with other insights, such as barriers employers may be facing in making new hires.

Step 5: Work with Employers to Verify Demand

- **Why?** To verify individual employer needs, expectations, and compensation packages.
- **Where?** Find employers through local resources (i.e., chambers of commerce or workforce investment boards)
- **How?** Invite employers to advisory committees, focus groups, or request regular feedback on training programs. Discuss employer specific skill needs and identify employer challenges.

Why confirming data findings with employers is important

Labor market information is aggregated across entire industries and can mask variation among individual employers. Within the healthcare industry, employment growth has varied considerably by setting with ambulatory care facilities, such as physician offices, growing faster than hospitals in recent years. Therefore, it is important for HPOG programs to have direct communication with employers to discuss hiring expectations and worker compensation relative to their data findings.

Where to find local employers

To identify local employers with which to partner, HPOG programs may coordinate with their local workforce investment boards, chambers of commerce, sector-based associations, or other local employer-based organizations. They can also use online directories such as the CareerOneStop Employer Locator from the U.S. Department of Labor, or real-time data resources to find specific

employers. For example, by analyzing job postings from the real-time data, Springdale was able to identify several potential healthcare employers to work with, including a local non-profit hospital system.

How to verify employer needs

Once an HPOG program has identified employers with which it wants to collaborate there are a variety of ways in which the program may engage the employer. This may include inviting the employer to participate on HPOG program advisory committees, holding employer focus groups, requesting employer feedback on training curricula, attending sector-specific job fairs, or scheduling regular meetings to solicit feedback on training, employer skills needs, and/or job openings.

When meeting with employers, HPOG programs should bring information on the broader employment environment and specific local findings to the table, informed by both labor market data analyses and discussions with other employers. If programs are well informed about the details of their local labor market, they are more likely to be viewed by the employer as a trustworthy and reliable partner that can help them overcome their own workforce challenges. Specifically, HPOG programs should:

- Provide an overview of the occupations for which they offer training.
- Share how many participants have received degrees for these occupations.
- Discuss the employment projections and wage data for these occupations. Ask if these numbers match the employer's labor market expectations.
- Solicit information from the employer about their own hiring expectations, including the specific types of training and professional experiences they are seeking in new hires, performance of employees who have graduated from the program, and job retention rates.
- Use existing industry competency model frameworks to engage employers about their specific skill and competency needs—health models available include Allied Health, Electronic Health Records, and Long-term Care, Supports, and Services.
- Ask about specific hiring issues they have and how possible partnerships with or adjustments by the HPOG program could help overcome them.
- Invite the employer to be a program advisor for areas such as curriculum review.

For example, Springdale identified a local nonprofit hospital system as a potential partner. During their discussions about Springdale's nursing programs, the hospital shared two important examples of their hiring challenges that also affect Springdale's training programs:

- The hospital plans to adopt the Institute of Medicine's recommendation to increase the percentage of nurses with a baccalaureate degree to 80 percent by 2020.[16] This presents a challenge to Springdale as it only awards associates level nursing degrees.

- The hospital expressed frustration with the variation in knowledge and expertise among new information technology hires with their new electronic health record system. Although Springdale trains health information technicians, employers like this hospital had difficulty validating the competencies of potential candidates.

Step 6: Use Evidence to Make Program Decisions

After HPOG programs have collected evidence of employer demand from traditional labor market sources, real-time sources, and directly from local employers, they should analyze and synthesize this information to make strategic decisions about their training programs. These include both internal decisions about program changes and external decisions, such as building new partnerships to improve participant outcomes.

Step 6: Use Evidence to Make Program Decisions

- **How?** Synthesize and analyze traditional and real-time LMI, wage data, and employer feedback. Use results to adapt training offerings, modify participant recruitment materials, and build employer and other community partnerships.

How programs can use evidence to change program offerings

HPOG programs can use the compilation of this evidence to make a variety of important decisions. They may use it to:

- Alter their training offerings, including not only expanding offerings for high growth, high wage occupations but also winding down programs for occupations with little evidence of potential growth.

- Determine if their curriculum is still appropriate or whether it needs to be adjusted to meet employer skill needs.

- Adapt marketing materials to potential participants, showcasing in demand, high wage occupations in their region that can help individuals become self-sufficient with occupations that offer family-sustaining wages and real promotion opportunities.

- Target their enrollment and training efforts, specifically within rural areas, to meet precise projected job openings with employer partners.

Springdale used the statistics gathered from its LMI research, such as occupational growth projections, to develop marketing materials that inform prospective TANF and low-income students about job

[16] Institute of Medicine of the National Academies (October 2010). *The Future of Nursing: Leading Change, Advancing Health*. Retrieved from: http://www.iom.edu/Reports/2010/The-Future-of-Nursing-Leading-Change-Advancing-Health.aspx

opportunities along with educational requirements, time investment, and potential careers available through the HPOG program. Having this information allowed Springdale to boost recruitment efforts, as well as guide program participants into health occupations that are in demand and pay well in their region.

How programs can use evidence to develop new partnerships

Evidence of employer demand can also help HPOG programs develop new partnerships with external organizations. For example, employer discussions about hiring barriers and necessary prior experiences may lead programs to develop new on-the-job training opportunities with employer partners. Similarly, programs may collaborate with employers and other educational institutions to use or develop industry-recognized credentials. Existing certifications can be researched by occupation in the CareerOneStop Certification Finder tool. Finally, programs can create advisory boards, which include their local workforce investment board, employer partners, or other employer organizations to provide input and necessary feedback on program offerings.

For example, using the evidence it gathered and information shared during its meeting with the local hospital partner, Springdale developed two new strategies that could help address the hospital's needs, while also creating a new pipeline of job opportunities for HPOG program graduates:

- Recognizing the hiring shift of local hospitals to nurses with baccalaureate degrees, Springdale reached out to local four-year colleges and universities to streamline the process of transferring coursework so that Springdale registered nurse graduates can more easily pursue higher degrees.
- Springdale worked with its peer institutions to modify their curricula and skills trainings to address specific employer concerns. They also worked together to develop credentials for its health information technician graduates. These credentials would be earned through tailored coursework and training with modern electronic health record systems and an internship with one of the employers who provided input on the credentials. This approach would allay the concerns of its employer partners, increase the competencies of health information technician candidates, and create new pathways for program participants to find gainful employment.

Step 7: Measure Results

An important aspect to using data to drive training and partnership approaches is to also collect and assess data to ensure these data-driven strategies are working for the HPOG program and continue to respond to local and employer needs.

> ***Step 7: Measure Results***
>
> - **Why?** To assess the efficacy of data-driven approaches and ensure measures of success for the program and participants.
> - **How?** Assess process and outcome measures and track and survey program graduates as they enter the workforce.

Why it is important to track performance and compare to labor market trends

HPOG programs, like many other workforce training programs, have performance measurement systems that allow them to track the progress of program participants. This allows them to monitor how many enrollees and graduates they have for different occupations. If a HPOG program has placed a new emphasis on a particular high-growth occupation, performance measures should reflect better job placement rates for program graduates.

Enhanced data collection through follow-up surveys can allow programs to identify the long-term effects of program participation, in terms of higher wages, lower public assistance eligibility, and greater productivity. This data can then be used to calculate the return on investment for the program to help justify its value to participants, employers, and the public.

Key measures for assessing program performance

HPOG programs should assess both process and outcome measures to evaluate their strategies and the overall success of their program. Process measures are typically collected on a regular basis for most programs, but outcome measures require additional effort to collect. For HPOG programs that emphasize career pathways, collection of these outcome measures is important to assess long-term progress.

- **Process measures.** These include statistics that track the progress of participants while they are enrolled in the training program, such as enrollment totals, student grades, program completion rate, performance evaluations, achievement of certification or licensure, and placement rate of graduates into their first job.
- **Outcome measures.** These include statistics that require additional follow-up to understand how graduates are progressing in their careers after they have left the program, such as entry-level and subsequent job titles, future wages, and additional training opportunities they have pursued for advancement, as well as job retention rate.

Beyond the process measures it collects through its reporting system, Springdale expanded its follow-up efforts with program graduates and employers through surveys and occasional focus groups. Specifically, Springdale implemented a blind survey of employers asking them about the performance of program graduates they hired, without identifying either the worker or the employer. Focus groups with graduates allowed them to receive direct feedback from former students about resources or opportunities that could have enhanced their success after graduation. For example, nursing assistant graduates informed Springdale that it needs to expand its on-the-job training opportunities to a broader set of employers, since some nursing assistants struggled to find employment immediately after graduation due to their limited experiences.

Step 8: Make the Process Systematic

After gathering data on employer demand, using the data to make programmatic decisions, and measuring the results, the next challenge for HPOG programs is to make this process systematic and replicable.

Step 8: Make the Process Systematic

- **Why?** To monitor employment shifts in a changing healthcare environment.
- **What?** To make data a regular component of decision-making and evaluation processes.
- **How?** Create logic models, keep leaders informed, dedicate staff time, and leverage partnerships.

Why using data to drive accountability must be ongoing

Being data-driven requires HPOG programs to not treat the previous steps as one-time events. Programs should put processes in place that allow them to regularly monitor data and be able to act upon it. This is especially important for occupations in the healthcare industry, which is experiencing significant changes that affect employer demand, due in part, to changes in federal and state policy (i.e., implementation of the Affordable Care Act) and changes in American demographics, as the population ages and uses more healthcare services.

Strategies to become more systematic

There are many ways that HPOG programs can implement systematic approaches to becoming more data-driven in their decision-making. HPOG programs may consider:

- **Creating program logic models.** Building a logic model can help program staff come to consensus around program goals, missions, and objectives. Infusing the importance of data collection and analysis into this process can help create a system through which staff understand the importance of being data-driven and aim to act upon it within the program's larger goals and objectives. Incorporating data analysis into the program logic model also creates opportunities to regularly revisit and adjust goals based on program success and the latest data findings. Programs, therefore, can become more flexible and adaptable to important changes in the employment environment.

- **Maintaining employer engagement.** Programs should continue conversations with employer partners on many issues, including how best to measure student success and competency, from the employer's perspective. For example, programs should receive input about how employers measure the knowledge, skills, and abilities of their workers and job applicants. With this information, programs can align their own student assessment efforts with employer performance measures.

- **Leading with data findings.** Program leaders should be able to communicate important data findings with key stakeholders. One strategy to update program leaders on important trends would be to integrate data review annually into board meetings or similar venues where program leaders meet. This could coincide with major labor market data releases, so that leaders could discuss key findings in a timely manner.

- **Dedicating staff resources.** A barrier for many programs to monitor and use data for decision-making is insufficient staff time or resources to complete these tasks. Programs may consider carving out staff time to conduct data analyses, which may ultimately help conserve resources that may have otherwise been spent on building or implementing training that is not best suited for the program's current regional environment.

- **Building partnerships and leveraging community resources.** Another way to systematize these approaches is by partnering with other local stakeholders that collect and use similar data. In doing so, HPOG programs may be able to access information that they may not have otherwise been able to use to inform program development. For example, if an HPOG program cannot dedicate staff time to data collection and analysis, the program may consider working with other entities (i.e., local workforce investment boards) who already collect this information and discuss the possibility of sharing important labor market indicators as part of a partnering agreement.

After completing the first round of data analysis and using it to support strategic decisions, Springdale quickly realized that it needed more expertise to help them stay on top of important labor market trends, measure the progress and outcomes of participants, and facilitate meetings with employer partners. Instead of hiring its own dedicated analyst, Springdale chose to partner with data analysts at their local workforce investment board to perform these tasks and work with the leadership team to ensure that program decisions were continuously supported by data.

Conclusion

The purpose of this paper is to offer HPOG programs a step-by-step guide to help them identify, translate, and use data and labor market information to inform training program offerings and build strong partnerships with local employers. Understanding and using traditional, real-time, and wage related data to verify employer demand can help ensure programs offer education and training opportunities that are job-driven and will lead to promising career pathways for program participants.

Appendix A: "Cheat Sheet" on Identifying and Analyzing Data

Use this "cheat sheet" to help your program make data-driven, informed programmatic decisions and complete the template at Appendix B.

	Relevant data sources	Key Indicators	Helpful tip
Step 1: Identify relevant employment trends	Occupational Employment Statistics (OES) Occupational Outlook Handbook (OOH) State Labor Agencies	• Occupational employment over the previous decade • Occupational employment by industry • Outlook for future employment growth	• Use a comparison group to help interpret data
Step 2: Identify real-time labor market trends	A limited number of online companies, which charge a licensing fee to access data.	• Job posting volume by occupation • Education and experience requirements	• Compare real-time data to traditional employment projections
Step 3: Understand wage variation	Employment and wage data based on the Occupational Employment Statistics	• Median wage by occupation • Location quotient • Wage ranges	• Interpret multiple indicators and understand numerous variables affecting wage data
Step 4: Measure local training capacity	Integrated Postsecondary Education Data System	• Program graduates by occupation • Program graduates by education level	• Know that there are strengths and weaknesses to the data
	Helpful tips		
Step 5: Work with employers to verify demand	• Find employers through local resources (i.e., chambers of commerce or workforce investment boards) • Invite employers to advisory committees, focus groups, etc. • Discuss employer specific skills needs and challenges.		
Step 6: Use evidence to make program decisions	• Synthesize and analyze traditional, real-time and wage data. • Compare that against employer feedback. • Adapt training offerings, curricula, recruitment materials, accordingly.		
Step 7: Measure results	• Assess process measures. • Analyze outcome measures. • Track and survey program graduates.		
Step 8: Make the process systematic	• Create program logic models. • Maintain employer engagement • Lead with data. • Dedicate resources. • Leverage community resources.		

Appendix B: Template on Identifying and Analyzing Data

Use this template to help your program make data-driven, informed programmatic decisions. In working through the sections below, your program will identify the top occupations for which you want to offer training and collect and analyze labor market information, wage data, employer information, and current training capacity to inform whether your program is responding to employer and community needs and is leading program participants to career pathways. Steps one through five listed below and the key data indicators within each step mirror information shared in the paper above. The final step at the bottom of this table matches information shared in steps six through eight of the paper and will help you analyze whether the data you have collected supports the program decisions you hope to make. Springdale's regional data for both nursing assistant and health information technician occupations are added as examples to show you how to fill-in and use this table.[17]

Occupation(s)	Step 1: Identify Relevant Employment Trends					Step 2: Identify Real Time Labor Market Trends	
	Total Baseline Employment (current or most recent year)	Total Employment by Industry (e.g., share within hospitals)[18]	Percent Change in Total Employment: Previous 10 years[19]	Percent Change in Total Employment: Next 10 years	Average Annual Job Openings: Next 10 years	Number of Job Postings	Education and Experience Requirements from Job Postings (e.g., share requiring 4 year degree)
Springdale, Nursing Assistants (31-1014)	22,385	N/A	24%	17.5%	593	635	0% require 4-year degree
Springdale, Health Information Technicians (29-2071)	2,100	N/A	-20%	10.1%	64	327	5% require a 4-year degree
HPOG Program Occupation No. 1							
HPOG Program Occupation No. 2							
HPOG Program Occupation No. 3							

[17] Example data for Springdale Community College is actual local data for the Detroit metropolitan area (City of Detroit and surrounding suburban counties).

[18] For the Springdale Community College example, the Michigan Department of Technology, Management, and Budget does not provide statistics on occupational employment by industry. However, some other states make this information publically available.

[19] The Michigan Department of Technology, Management, and Budget does not provide historical statistics on occupational employment. Percentages were calculated from the Department's baseline data and historic data from the Occupational Employment Statistics published by the federal Bureau of Labor Statistics.

Occupation(s)	Step 3: Understand Wage Variation			Step 4: Measure Local Training Capacity		Step 5: Work with Employers to Verify Demand
	Median Wage	Location Quotient[20]	Wage Ranges (e.g., 25th to 75th percentiles)	Total Recent Graduates (current or most recent year)	Total Recent Graduates by Education Level (e.g., share with a 4 year degree)	Summary of Employer Hiring Expectations and Current Issues
Springdale, Nursing Assistants (31-1014)	$13.02	1.34	$11.26 - $14.62	462	0% with 4-year degree	Employer partners verified demand and explained how hiring needs will vary across the healthcare industry as staffing models evolve.
Springdale, Health Information Technicians (29-2071)	$16.90	0.66	$13.73 - $21.54	315	2.9% with 4-year degree	Employer partners, particularly hospitals, verified the number of job postings. Employers explained that they expect hiring demand to remain strong but expressed frustration with verifying skills.
HPOG Program Occupation No. 1						
HPOG Program Occupation No. 2						
HPOG Program Occupation No. 3						

[20] Location quotient is the ratio of the prevalence of an occupation within an area to its prevalence nationwide. Location quotients with values greater than one indicate greater than average prevalence, while values below one indicate below average prevalence.

Analyze Key Data Indicators								
Occupation(s)	Does LMI show strong growth for this occupation?		Is this an occupation with a career pathway?		Is there sufficient employer demand?		Is there enough local training capacity?	
	Y/N	Explanation	Y/N	Explanation	Y/N	Explanation	Y/N	Explanation
Springdale, Nursing Assistants (31-1014)	Yes	Both traditional and real-time data show greater than average growth.	Yes	Nursing assistants, through additional training, can progress to higher levels in the nursing field.	Yes	Employer partners intend to hire at high levels, but patterns may vary across the healthcare industry.	No	Number of program graduates is below the number of postings and projected annual openings.
Springdale, Health Information Technicians (29-2071)	Yes	After previous employment decline, real-time data (but not traditional data) shows a large number of openings.	Yes	The range of wages indicates the possibility of income growth as employees gain skills and experience.	Yes	Due to implementation of new medical record systems, employer partners intend to maintain high hiring levels.	No	Number of program graduates is narrowly below the number of job postings.
HPOG Program Occupation No. 1								
HPOG Program Occupation No. 2								
HPOG Program Occupation No. 3								

Appendix C: Helpful Websites in Gathering Public Labor Market Information

Use these websites to gather labor market data and information from public sources. Organizations interested in proprietary data should contact those vendors or partner organizations directly.

Information Source	Organization	Link
Occupational Employment Statistics	U.S. Department of Labor, Bureau of Labor Statistics	http://www.bls.gov/oes/
Occupational Outlook Handbook	U.S. Department of Labor, Bureau of Labor Statistics	http://www.bls.gov/ooh/
State and Regional LMI (directory of state labor agencies)	State Labor Agencies	http://www.bls.gov/bls/ofolist.htm
Integrated Postsecondary Education Data System	U.S. Department of Education, National Center for Education Statistics	http://nces.ed.gov/ipeds/
Standard Occupational Classification Codes	U.S. Department of Labor, Bureau of Labor Statistics	http://www.bls.gov/soc/
Classification of Instructional Program Codes	U.S. Department of Education, National Center for Education Statistics	http://nces.ed.gov/ipeds/cipcode/
O*NET Online (descriptions of occupations linked to LMI)	U.S. Department of Labor, Employment and Training Administration	http://www.onetonline.org/
CareerOneStop (compilation of LMI from many sources for the U.S. and states)	U.S. Department of Labor, Employment and Training Administration	http://www.careeronestop.org