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Career Pathway and Sector-Based Strategies: A Broader Look in **Pathways to Careers in Health Care**

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Career Pathway and Sector-Based Strategies

A Broader Look

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OVERVIEW

Career pathway and sector-based strategies have come of age in the past few years. As discussed in previous literature (e.g., Glover and King 2010; King 2014; King and Prince 2015; Prince, King, and Oldmixon 2017), they evolved from “one-off” efforts intended to rationalize and improve workforce development programmatic relationships with employers and postsecondary institutions in the 1980s and 1990s, often instituted separately, to become more widespread practices throughout much of the workforce system by the 2010s, even before the evidence base was there to fully support their claims to effectiveness. Now, these strategies are firmly ensconced in U.S. workforce development policy and practice. New rigorous evaluation studies are published every year, further documenting their impacts on employment, earnings, and other outcomes of interest.

Several national foundations (such as Annie E. Casey, Ford, Hitachi, JPMorgan Chase); the National Fund for Workforce Solutions; National Governors Association (NGA); and, more recently, the U.S. Department of Labor have fostered the spread of these strategies on a wider basis across many industry sectors and regions and for varying groups of job seekers. And, as the chapters in this volume clearly demonstrate, the U.S. Department of Health and Human Services, through its support for both the Health Profession Opportunity Grants

(HPOG) program and its rigorous research agenda—including HPOG University Partnerships fostering collaborations between local programs and academic researchers, the national and tribal evaluations, and its ongoing Pathways for Advancing Careers and Education evaluation (e.g., Martinson and Gardiner 2014)—has contributed to both our understanding of and the expansion of these strategies, especially in the health care sector, with an intense focus on welfare and other low-income populations.

In this chapter, we clarify what career pathway and sectoral strategies generally entail and offer a brief history of their evolution. We then explain how these strategies have been codified in U.S. workforce policy and provide some examples of how they are being implemented in practice in selected sites around the country. We examine some of the challenges and opportunities that arise in successfully implementing, sustaining, and scaling these strategies, and then conclude with an update on emerging evidence and offer some final observations and recommendations.

STRATEGIES DEFINED

For decades, workforce strategies tended to be focused almost exclusively on the supply side of the labor market. Local programs traditionally outreached and enrolled job seekers ranging from new labor force entrants with few if any skills to workers who were displaced or dislocated from a particular industry by the effects of trade or technological change. These programs devised a set of activities and services to address the needs of these job seekers—often including job readiness and job search and skills training via community and technical colleges—and then sought to place them with employers. Missing from this traditional approach were, at the very least, two major pieces:

- 1) Substantial engagement with employers in key industries and sectors around their common skill needs and efforts to understand the nature of career progression within them—in other words, serious attention to the demand side of the labor market
- 2) Working with key education and training providers, especially community and technical colleges, to get them to structure

their offerings in ways that fostered the provision of credentials meaningful to employers, and sequenced and scheduled so that job seekers/students could more readily navigate them

In a larger sense, the strategies to address these missing pieces can be seen as attempts to rationalize, to more coherently structure opportunities both in the workplace and in our mainline education and training institutions to lead to better outcomes for job seekers and employers. Sector-based strategies arrived on the scene well before career pathway strategies appeared, so we will start by examining them.

According to Conway et al. (2007), whose Economic Opportunities Program team at the Aspen Institute has been a major force in fostering knowledge about such strategies and their diffusion for over a decade, sector-based workforce strategies

- target specific industries and/or clusters of occupations;
- intervene through credible organizations (often workforce intermediaries);
- support workers competing for quality job opportunities as measured by wages, benefits, and advancement opportunities;
- address employer needs and industry competitiveness; and
- create lasting change in labor market systems helping workers and employers.

In sum, sectoral strategies aim to improve the economic situation of workers through increased employment, wages, benefits, and earnings over time while they also seek to improve employers' access to workers with the necessary skills, increase business productivity, and boost regional competitiveness. Further, sectoral strategies act as *integrators* of wider regional economic and workforce development activities (Glover and King 2010).

A key element in the evolution of the definition of sector strategies, however, has been a greater emphasis on designing sector strategies in such a way that they are clearly employer led and demand driven. As the strategy has moved into the next phase of its development, the role of employers has become more clearly articulated, which has, in many cases, also meant that a clearer division of labor among employers, the public workforce development system, and the postsecondary education system is becoming established.

Career pathway strategies generally are of two main types (King and Prince 2015). The first, which is wholly situated within postsecondary institutions, is organized around an articulated set of courses that lets individuals learn skills and earn postsecondary credentials for specific occupations, such as nursing and allied health careers. These pathways identify key entry and exit points that allow individuals to reach a certain point in their pathway, leave for a period of work in the labor market, and subsequently return to pursue further training, with earned credits that “stack” toward completion of a particular diploma or degree (such as an associate’s degree in nursing). Success in this type of pathway—one that most HPOG projects follow—is generally gauged by progress or advancement through the specified course work, credentials earned, job placement and retention, and earnings progression.¹

The second type of career pathway is more employer based and tends to identify occupations that appear to have the career pathways already built in and focuses more on preparing individuals for them based on completion of courses leading to industry-recognized certificates. Success for this pathway is measured by placement and retention in the occupation and earnings gains.

More often than not, today’s career pathway and sectoral strategies, while distinct, are integrated approaches to workforce development in a growing number of communities. As we have previously written,

While many career pathways programs claim to be sector-based, this is rarely the case, and for good reason. Sector-based strategies emerged independently and prior to career pathways as a framework for organizing investment in skills training. Over a relatively short period of time, however, what began as an effort to define advancement paths for workers participating in sector programs became a distinct career pathways approach to training as the workforce development field began digesting the expanding literature on the relationship between income and postsecondary credentials. This shift in emphasis from aggregating employer demand for skills within a sector to one focused on postsecondary credentials marked the beginning of what are known now as career pathway models. (King and Prince 2015, p. 197)

CAREER PATHWAY AND SECTORAL STRATEGIES EVOLUTION IN BRIEF

The early antecedents of sectoral strategies can be found in efforts by the Commonwealth Corporation (formerly called the Bay State Skills Corporation) in the early 1980s, and the Wisconsin Regional Training Partnership and San Antonio's Project QUEST in the early 1990s (for more detail, see King and Prince [2015]). Each sought to engage employers in a much more systematic manner than traditional workforce programs across a varying mix of industries reflecting the local labor markets and serving differing target populations, not to mention different sources of funding and organizational bases. The Annie E. Casey Foundation's innovative JOBS Initiative, an eight-year, sector-based effort, followed in the mid-1990s in six diverse communities: Denver, Milwaukee, New Orleans, Philadelphia, St. Louis, and Seattle (Hebert and Waldron 2007). A number of these and the organizations that ran them, such as the Seattle JOBS Initiative, continue to serve job seekers and employers today.

As more states, localities, foundations, and nonprofit organizations continued to innovate and experiment with these strategies, and as researchers conducted more studies on their implementation and results, they began to coalesce into a complementary set of practices. Washington State adopted a statewide approach in which it supported "skills panels" in every workforce area of the state. Pennsylvania devoted its own state tax revenues and leveraged additional federal and state funds to support the creation and operations of workforce intermediary organizations in communities across the state. The Southwest Industrial Areas Foundation secured foundation and public resources to spread variations of the QUEST model in many other communities, including Austin, El Paso, and the Lower Rio Grande Valley (Texas); Monroe (Louisiana); Oklahoma City (Oklahoma); Tucson (Arizona); and others. And, leading foundations (Annie E. Casey, Ford, Rockefeller, and Hitachi) teamed up with public partners (at one point including the U.S. Department of Labor) to launch the National Fund for Workforce Solutions that was administered for several years by Jobs for the Future in Boston (see Giloth 2004 and Conway and Giloth 2014).

The HPOG program, which is directed and overseen by the Department of Health and Human Services/Administration for Children and Families and incorporates an intentional career pathway approach into the health care sector, is clearly a direct lineal descendant of, and draws much from, these earlier programs.

CODIFICATION INTO U.S. WORKFORCE DEVELOPMENT POLICY

The Workforce Investment Act of 1998 sought to explicitly shift U.S. workforce programs from having an almost exclusive focus on job seekers, skills training, and the supply side of the labor market under its predecessor, the Job Training Partnership Act (JTPA) of 1982, stressing that it had a “dual-customer” focus, serving employers and job seekers equally (see Barnow and King 2005). Yet, the reality in many if not most local areas was that programs continued to stress job seeker services and related outcomes. In fact, under the Workforce Investment Act, there were no performance standards for employers, only participants. As the preceding section notes, some states, local boards, and nonprofits began to design and implement versions of sector-based strategies, later adding career pathway approaches to them. Moreover, states—including Washington State and Pennsylvania—took strong positions in support of such strategies, even creating their own funds to support their creation, operation, and expansion over time (see the discussion below).

Largely influenced by the perceived success of sector and career pathway strategies over the past two decades and growing evidence from rigorous evaluations making the case for them (e.g., King 2014; Smith et al. 2012; Maguire et al. 2010; Martinson and Gardiner 2014; Roder and Elliott 2011, 2014; Smith, King, and Schroeder 2012), the Workforce Innovation and Opportunities Act (WIOA) passed both houses of Congress with surprising bipartisan support and near unanimity and was signed into law by President Obama in July 2014. WIOA further bolstered the status of sectoral and career pathway strategies. The U.S. Department of Labor contracted with several organizations

to provide technical assistance to states and local Workforce Development Boards to foster more widespread adoption of sector strategies in particular.

In addition to the explicit promotion of sectoral strategies and career pathways, key provisions of WIOA that will significantly benefit the strengthening and expansion of these strategies include the following:

- The requirement that state WIOA plans include a description of states' vision for meeting the skilled workforce needs of employers and, similarly, a requirement that local workforce development boards' plans address "how they will better coordinate workforce development programs and economic development"²²
- Expansion of the allowable uses of governors' 15 percent funds "to support and encourage innovative and evidence-based approaches to workforce development," including providing support to local areas "by providing information on and support for the effective development, convening, and implementation of industry or sector partnerships"²³
- Combining what had been core and intensive services under WIA Title I into a single career services category, in which career pathways and sector-based training programs are encouraged
- The requirement that workforce boards promote proven promising practices, including the establishment of industry or sector partnerships
- Promotion of enhanced integrated planning across partners
- Promotion of integrated or contextualized Adult Basic Education, English as a Second Language, and occupational training

It is worth noting that the onus for systematic efforts to implement these strategies rests with the nation's governors. If they do not take the responsibility of investing in and guiding their implementation, it is unclear whether local workforce development boards will. The leading boards, such as the ones profiled here, almost always will do so.

EMERGING PRACTICE IN WORKFORCE INVESTMENT BOARDS

Since receiving an explicit push forward with WIOA's enactment in 2014, along with the renewed resources in the form of governors' discretionary funds, sectoral and career pathway strategies have continued to expand. As part of a research project for the Annie E. Casey Foundation, we identified a handful of local workforce innovation boards (WIBs) that were thought to be relative stand-outs in designing and implementing sectoral and career pathway strategies:

- Opportunity, Inc. (Hampton Roads, Virginia)
- South Central Pennsylvania Works (Harrisburg, Pennsylvania)
- Arizona@Work for Mohave and LaPaz Counties (Kingman, Arizona)
- Larimer County Workforce Development Board (Ft. Collins, Colorado)
- New York City Workforce Development Board (New York)
- The Workforce Development Board (Portland, Oregon)

Each of these WIBs is profiled in greater detail in Appendix 2A, but some common themes are clear. First, most began shifting toward sector-based and career pathway strategies well before federal legislation pushed them in this direction, and the shift appears to have been part of an evolutionary process geared to better serving both job seekers and employers. Second, all of the WIBs feature continuous improvement and an intense data-driven focus. Third, all have substantial employer engagement in key sectors they have prioritized for their strategies, with health care being a primary one. This is not surprising, given the growth and long-term employment potential in that sector. Fourth, it is noteworthy that, in addition to federal resources, strong state commitment and support have played a role in bolstering these strategies in states like Colorado, Oregon, New York, and Pennsylvania. Their governors have taken the WIOA mandates to heart.

OPPORTUNITIES FOR EXPANSION

Entrepreneurial Financing

The current level of public funding still lags far behind the level needed to create a workforce development system that ensures that anyone who wants to advance in the labor market has the skills to do so. However, most successful sector strategies have demonstrated notable innovation in piecing together funding to support their work, and a key to successfully funding sector strategies is a thorough understanding of the range of funding streams that can be creatively leveraged. For example, leveraging state resources to support local sector partnerships enabled South Central Pennsylvania Works (SCPa Works) to capitalize on major Industry Partnership funding made available through the state of Pennsylvania in the mid- to late 2000s, with which it built robust sector partnerships in transportation/logistics, health care, and advanced manufacturing.

Many sector partnerships have looked outside traditional public funding sources to bring in investments from private philanthropy. For example, New York City's efforts have been advanced by the work of the New York City Workforce Funders, a collaborative of more than 60 funders that includes the New York Community Trust, the Rockefeller Foundation, the JPMorgan Chase Foundation, the Taconic Foundation, the W.T. Grant Foundation, and the United Way of New York City.⁴ Since it began in 2001, the Workforce Funders have raised almost \$10 million to support workforce initiatives in New York City over and above federal and state funding. Support from the Workforce Funders allows the city to leverage additional resources and to engage in intermediary activities that would be hard to fund under traditional public workforce funding streams.

Finally, a growing number of partnerships are documenting their "value proposition" for industry, making the case, through rigorous return on investment analyses, that the service they provide merits investment from industry.

Driving New Approaches to Service Delivery and Cultivating Systems Change

As sector strategies have expanded and matured, many of the more successful ones have come to view their work less as an innovative approach to a long-standing problem, and more as an opportunity to think holistically about how the workforce system might be entirely remodeled to fit the needs of the twenty-first-century labor market. The phrase “not business as usual” is heard often in conversations with stakeholders in sector strategies. Instead of a focus on placement, the focus is on training to meet skills in high demand; instead of relationships between individual business services representatives and employers, groups of employers in a given industry identify common skill needs and communicate these to the system; instead of relationships with postsecondary education institutions that were somewhat disconnected and typically ad hoc, postsecondary education is generally a key partner in the sector partnership; and instead of operating in parallel silos, they have worked to incorporate economic development agencies and actors into their partnerships. For each of the themes included in this list, sector strategies represent a significant change in the way the public system operates.

STATE INVESTMENTS IN SUPPORT OF SECTORAL STRATEGIES

Commonwealth Corporation: The Commonwealth Corporation in Massachusetts may well be the earliest of sectoral strategy initiatives, having gotten into the field in the early 1980s. As a quasi-public entity, they provide an excellent example of consistent bipartisan state support for sector strategies that could be replicated in other states.

Washington State Skills Panels: Washington embedded support for sectoral strategies in state policy starting in 1990 and has continued to foster sectorally based skills panels in regions across the state to the present. Washington’s skills panels encompass a wide variety of industry sectors, ranging from the wine industry in Walla Walla in the southwestern corner of the state to interactive media in Seattle to

advanced manufacturing and clean energy in a multistate region. The second generation of its skills panels was launched as the High Skills, High Wages Fund in 2008.

Pennsylvania: Drawing on resources in its general fund, the state of Pennsylvania has invested in over 90 industry partnerships since 2005 (Woolsey and Groves 2013). In addition, state law has codified industry partnerships as a core element of the state's workforce development strategy. While funding levels have varied from year to year, Pennsylvania provided \$1.7 million in grants to 20 sector partnerships in 2014 (DeRenzi and Wilson 2015). The state of Pennsylvania reports that industry itself has contributed more than \$9 million in private funds and over \$30 million in in-kind contributions to support training and other initiatives launched under the auspices of state-sponsored industry partnerships (PA Workforce Development Association, n.d.).

Texas Initiatives: Texas has supported sectoral and broader cluster-based strategies through executive and legislative initiatives for over a decade, only in part due to the urging of the Industrial Areas Foundation and its affiliates. The Texas workforce system has emphasized training for jobs in growth occupations and industry sectors at least since passage of state workforce reform legislation in mid-1995; it continued such a focus with the governor's 2005 Texas Industry Cluster Initiative, which stressed support for economic and workforce development in Advanced Technologies and Manufacturing, Aerospace and Defense, Biotechnology and Life Sciences, Information and Computer Technology, Petroleum Refining and Chemical Products, and Energy. It is also noteworthy that the Texas Association of Workforce Boards (2014) recently put forth a set of recommendations supporting career pathways models for education and workforce development in the state.

In addition, many states have training funds that have been created from Unemployment Insurance (UI) tax diversions or in some cases state general revenues (see King and Smith 2006). These may provide a mechanism for scaling sectoral strategies as well.

Leveraging Data to Inform Strategy, Drive Performance, Ensure Sustainability

Access to a broad range of economic and administrative data can be leveraged to help sector partnerships by clarifying where and how

to direct their focus and resources, managing performance and driving continuous improvement, and establishing the base of evidence needed to justify further investments and to sustain successful efforts.

Whereas decisions about which occupational skills were in highest demand previously tended to rely solely on conversations with employers—which are still vital activities—innovative programs add to these conversations a careful study of labor market information, the inclusion of input from regional economic development agencies, and other strategies. For example, SCPa Works (previously the South Central Workforce Investment Board), representing a broad swath of southern Pennsylvania, including Harrisburg, employs a multifaceted approach to collect, analyze, and use critical data to make decisions around employer engagement, as well as service design and delivery. SCPa Works operates several sector-based programs, including those in advanced materials and diversified manufacturing, health care, information and communication services, and logistics and transportation. For quantitative data, SCPa Works looks at traditional labor market information (LMI) from the state of Pennsylvania regarding in-demand occupations, wages, market penetration, and other key factors. SCPa Works also collects some economic development data derived from a proprietary tool, IMPLAN®. This information is verified with qualitative data collected through direct engagement with employers at industry partnership meetings, and through input from Business Service Representatives.

The move toward identifying evidence of effectiveness based on rigorous evaluation of data has become part of standard operating procedures within the Department of Labor and among many major philanthropic funders over the past decade, and for good reason. Greater capacity to collect and report program data, improved methods for analyzing quantitative data, and the desire to scale up effective programs have placed a premium on the use of data to inform decision making and investments.

CHALLENGES TO SUSTAINING, EXPANDING, AND REPLICATING STRATEGIES

Advancing the adoption of sectoral and career pathway strategies is fraught with challenges. Those interested in sustaining, expanding, and/or replicating sector strategies will need to clear several hurdles on their way to displacing “business as usual” in the workforce development field.

Scarcity of Resources

The biggest challenge is simply the lack of adequate resources. Because sector strategies are such a departure from business as usual, securing funding is not easy and, as previously noted, often requires creativity and innovation. Federal, state, and local funding for workforce development programs has seen steady erosion over the past few decades. With the exception of American Recovery and Reinvestment Act investments in 2009 and the expansion of Pell Grants, federal funding for employment and training programs has remained essentially flat and, since 2000, has declined somewhat from already poor funding levels (Wandner 2015). Until very recently, state and local funding has fared little better than federal support for workforce development programs.

Limitations Imposed by Program Requirements and Funding Silos

Related to the overall level of funding is the persistence of funding silos among programs created to serve very similar, if not the same, populations, despite ongoing and strenuous efforts to bring them into closer alignment. Many of the key components, activities, or services that support effective models may simply not be permitted under particular programs or funding streams, or may be difficult to support and implement across funding streams and platforms. Perhaps the most obvious challenge facing those who are implementing sector strategies is to align funding and coordinate activity between the workforce development and postsecondary education systems. Long considered

one of several venues for skills training, including apprenticeships and on-the-job training, postsecondary institutions have become the venues of choice for workforce development practice in general and, more recently, sector-based programs and career pathways in particular.

Similarly, while more intensive, longer-term training is a component of sector strategies, Temporary Assistance for Needy Families (TANF) and Supplemental Nutrition Assistance Program Employment and Training (SNAP E&T) programs may not readily allow them, despite the presence of a large population in need and growing evidence of the strategies' effectiveness.

In addition, the metrics by which a career pathways or sector-based program may measure success—such as completion of industry-recognized credential, advancement in the labor market, or earnings gains—often work at cross-purposes with the metrics typically used to measure whether or not a workforce development program is successful—placement, earnings gains, and retention.

Competing State and Local Priorities

State or local policy and political priorities may also inhibit expansion of these models, federal provisions notwithstanding. For example, a continuing preference for work-first, labor force attachment approaches on the part of policymakers and administrators can be particularly challenging. The impact of state and local policymaker influence can be seen in the wide variation from state to state in the share of WIA expenditures on skills training (Barnow and King 2005; Mikelson and Nightingale 2004).

Even among policymakers who are generally supportive of demand-driven, skill development-centered approaches, pressure from key constituencies to demonstrate rapid progress in addressing local unemployment issues, economic inequalities, and/or employer skill needs can lead agency officials and other appointees to attempt to closely control sector partnership priorities and activities, thus undermining the employer-driven approach that undergirds the success of leading sector strategies.

Varying Community and Technical College Priorities

Community and technical colleges also exhibit a wide range of priorities and focus. Some college leaders are eager partners in workforce training initiatives and have strong connections with employers and industry associations. For example, Austin Community College in Texas has taken over a nearly abandoned shopping mall and implemented a “career expressway” there in partnership with Capital IDEA, a local sector-based workforce development program, and at the same time organized its entire set of academic offerings into career pathways. Austin Community College’s approach is a break from the more traditional approach taken by community colleges, which are focused largely on performing the traditional academic transfer function to four-year institutions of higher education. As long as this more traditional transfer function holds sway, community colleges may be reluctant to adopt sector-based approaches.

Remaining Relevant to Employers and Industries

Sector strategies are effective only when there is significant employer engagement. As noted above, employer engagement can take many forms, including providing input on training curricula, donating machinery on which to train, providing subject matter experts to assist with instruction, funding worker training, hiring, or some combination of these.

However, gaining and maintaining employer engagement is subject to a number of sometimes uncontrollable factors, not least of which is demand for skills in the targeted industry. The tight labor markets of the late 1990s and early 2000s made for relatively high levels of employer engagement and led to the creation of several particularly innovative workforce development programs (see, for example, Barnow and Hobbie [2013]). With the onset of the Great Recession in late 2007 and early 2008 and the sharply increasing unemployment rates across the board, many sector strategies began to experience difficulties in maintaining employer interest. Larger numbers of skilled workers looking for employment, coupled with the contraction of the overall economy, led to a waning interest in sector-based programs among employers—it made better economic sense to simply place an ad, to which a number

of already-skilled workers would apply, or to hold off on hiring altogether until the economy rebounded. A return to tight labor markets in most of the country means that, once again, conditions are optimal for engaging employers in sector strategies.

The cyclical nature of the economy and employer engagement has been, and will continue to be, a limiting factor in sector strategies' ability to significantly influence the larger workforce development system, unless the approach is systematically adopted as the organizing framework for public investment in workforce development.

Poor Participant Supports

Even when sector partnerships are appropriately funded, implementing support services can be difficult. Integrating the provision of services into sector-based education and training requires coordination between staff who understand the needs brought by the population being served and a postsecondary faculty who may object to the interruption to routine that the provision of these services can represent. Serving, for example, a low-skilled population, the long-term unemployed, or workers with limited English proficiency underscores the importance of bringing the right mix of players to the partnership, particularly community-based organizations and agencies with experience with these populations.

Implementation Barriers

Finally, and somewhat more granular in nature, the following challenges are specific to the day-to-day mechanics of scaling up sector strategies:

- Despite the emerging clarity around a definition of sector strategies, there is still wide variance across the workforce system in the levels of understanding of the basic concepts.
- Even when the concept underpinning a sector approach is reasonably well understood, the skills and capacity to implement it often lag. For example, questions often arise around identifying employer champions, facilitating and sustaining a partnership, and using data effectively.

- Integrating sector strategies into existing state and local strategies also raises questions. Work must be done to clarify that sector strategies are not simply one more program to manage at the local level.
- Hitting the “sweet spot” by identifying skills and occupations that address both employer needs and the needs of the target populations of workers (i.e., those that the public system is funded to serve) represents a significant challenge and is often seen as a deterrent for replicating sector strategies.

The Evidence for Sectoral and Career Pathway Strategies

Before concluding, it is important to point out that the evidence base for the effectiveness of sector-based and career pathway strategies continues to build. An assessment of the more rigorous evaluation studies of these strategies (King 2014) found that, among other effects, they have

- had large, statistically significant effects on program participation, completion, and certification (when measured);
- significantly boosted employment from 2 to 7.5 years postparticipation in many cases and led to increased employment in the sectors targeted, even when the overall employment rate did not increase; and
- produced statistically significant earnings gains of 12–30 percent over 2–7.5 years postparticipation, typically resulting from both increased duration and hours of work as well as higher wages.

Several rigorous evaluations have been since released that bolster those conclusions. MDRC conducted an experimental evaluation of the WorkAdvance Demonstration that ran from 2011 to 2013 in New York (two sites), Ohio, and Oklahoma with support from the Social Innovation Fund.⁵ (Note that only the Northeast Ohio site prioritized health care as a sector.) Hendra et al. (2016) reported on impacts at a little more than two years postrandom assignment, finding that the program

- led to large increases in participation in all services, as well as in training completion and credential acquisition;

- increased earnings, with results varying with the providers' experience in running sector-based programs and the extent to which services offered were demand driven; and
- increased earnings among the long-term unemployed.

The “extent to which WorkAdvance increased employment in targeted sector jobs was the critical factor in explaining the pattern of impacts across the sites. At all the sites, jobs in the targeted sector were generally of higher quality than jobs outside the targeted sector.” Moreover, in a result that resonates with many of the HPOG UP site programs, Hendra et al. (2016, p. ES-13) found that “the Per Scholas program increased income, reduced material hardship, reduced public assistance usage, and increased overall life satisfaction. It is unusual to see such a consistent pattern of impacts across so many domains. At the other sites, only a few impacts on such measures are statistically significant.”

Schaberg (2017) subsequently reexamined the WorkAdvance impacts fully three years postassignment in an effort to determine whether career advancement, as measured by increased earnings, was taking place over time as was intended. She found that earnings impacts still showed considerable cross-site variation and that year-three impacts

- remained strong and continued to increase but only for the most seasoned training provider (Per Scholas in New York City);
- faded but remained significant and positive in Northeast Ohio and Oklahoma, especially for the cohort entering the more “mature” version of the program later in the year; and
- failed to materialize in the remaining New York site.

These results generally offer a somewhat cautionary tale about what to expect from these strategies.

Finally, Elliott and Roder (2017) completed a long-term (six-year) experimental evaluation of Project QUEST, one of the pioneering projects cited earlier. They recently (Roder and Elliott 2019) extended the evaluation to encompass a nine-year period. They found the following:

- Large, statistically significant impacts on earnings over the follow-up period with earnings gains continuing to grow over time: annual gains exceeded \$5,000 in the ninth year.
- Participants worked more consistently and earned higher hourly wages than those in the control group.

- Program participants' earnings grew from an average of \$11,722 to \$33,644 over the course of the evaluation. Those who completed the program earned an average of \$46,580 in the final year of the study, a level of earnings that translated into economic self-sufficiency in San Antonio.
- Those over 34 years of age and those with children experienced the greatest benefits from participation.
- Almost all (96 percent) QUEST participants were still living in Texas; 85 percent remained in the San Antonio area six years postenrollment.

We must be mindful of the fact that the sector-based, career pathway programs that have been evaluated to date likely represent the best-case scenario in terms of fidelity to the intervention's model, consistent and comprehensive data collection, rigor of the evaluation design and time span for measuring the outcomes of greatest interest, as well the education and labor market impacts themselves. While policymakers and the research community anxiously await the impact findings from the National HPOG Impact Evaluation—36-month impacts and 72-month impacts are now scheduled for release in 2019 and 2021, respectively—it may be unrealistic to hope that its results will fully validate those of prior program evaluations. However, we can certainly expect to learn much from a wider, more representative assessment of these strategies in the health care sector.

CONCLUDING OBSERVATIONS AND RECOMMENDATIONS

There is a significant and growing body of solid practice in the sector-based and career pathway strategies, and numerous recommendations for scaling up the field and improving practice can be offered. Our recommendations are categorized according to the four themes outlined above: engaging industry; entrepreneurial financing; new approaches to service delivery; and leveraging data for decision making, performance management, and sustainability.

STRONG INDUSTRY ENGAGEMENT

The term *industry engagement* has evolved considerably over the past two decades and has now come to mean something much more than simply irregular contact with employers around skill needs. Successful sector strategies now not only engage industry but also place core groups of industry employers at the head of their efforts to address the intersection between industry's need for skills and workers' need for opportunities to earn family-supporting incomes. Three main lessons emerge from their experience:

- 1) Initially engage a core group of sector strategies champions and allow them to set the agenda for the partnership and, crucially, to recruit additional employers themselves. Many workforce development boards already do this effectively, particularly Worksystems, Inc., in Portland, Oregon, and the Lancaster County workforce board (profiled in Appendix 2A).
- 2) Involve employer representatives with a deep understanding of the occupation on which training will focus, as well as senior level management, and on a continuous rather than an ad hoc basis. This is critical to keeping employers effectively engaged in the partnerships. The New York Alliance for Careers in Healthcare—an effort jointly sponsored by the NYC Department of Small Business Services and the NYC Workforce Funders—is a good example of this practice.
- 3) Use peer-to-peer mentoring and coaching to link high-performing sector leaders with employers new to the strategy.

FINANCING

Successful sector strategies have demonstrated notable innovation in piecing together funding to support their work. A key value workforce boards can offer to sector partnerships is their thorough understanding of the range of funding streams that can be creatively leveraged. Examples of promising strategies include

- blending and braiding resources from a variety of funding streams, including local, state, and federal programs (e.g., WIOA, TANF, and SNAP Employment and Training);
- leveraging public and business investments to secure flexible, aligned funding from philanthropic partners; and
- documenting impact to build the case for industry investment.

SYSTEMS CHANGE

Delivering services within the context of a sector strategy involves a somewhat different set of skills than administering a traditional employment and training program. Because employer commitment to an effective sector partnership is, by definition, central to the effort, and because, in the more successful sector partnerships, workers benefit from participation in education and training that is part of a career pathway, services provided through a sector strategy are necessarily more involved than programs focused primarily on placement or short-term training. Designing a service delivery for a sector strategy that serves both workers—at multiple education and skill levels—and industry partners could be aided by the following actions:

- Generate support and funding from state level agencies, particularly given the tendency for many of the more successful sector programs to develop in the context of a supportive state policy and funding environment.
- Cultivate strong relationships with agencies that can provide the types of support services most likely to be required by participants while engaged in the training, including assistance with child care, transportation, utilities, and counseling.
- Explicitly incorporate career pathways as the vehicle for delivering training at multiple levels. Doing so may help ensure employers that there is a workforce being trained to meet short- and long-term skill needs, as well as assist workers to build skills, add to experience gained on the job, and advance in their careers.

- Take advantage of WIOA and the substantial change that it represents to provide more guidance on what comprehensive sector-based and career pathway strategies are and can accomplish.
- Support additional research that drills down into the mechanics behind the success experienced by the sector strategies highlighted in this guide.

One of the more frequently noted difficulties faced by sector partnerships is developing an organizational culture that is supportive of a sector approach. Breaking from business as usual involves learning an entirely new lexicon for, and perspective on, the actual work of preparing a workforce to meet the skill needs of employers. Where sector strategies have been successful, they have also

- invested in capacity development for staff through providing them with opportunities to attend industry-related professional development events;
- provided training to help administrators, including workforce board chairs and directors in particular, understand what sector strategies are and how they should be implemented; and
- incorporated an economic development perspective into their activities, including continuous efforts to anticipate industry needs and potential areas for regional economic growth.

IMPROVED DATA UTILIZATION

The Department of Labor, the funding community, and, increasingly, industry, have made a strong case for the better use of data for the purposes of improving outcomes. However, the practice often falls short at the implementation level for a number of reasons, namely, the capacity to collect, report, and analyze data in a way that is useful for sector strategies. This could be addressed at least partially through the following:

- Include among the sector partners an organization, academic or otherwise qualified, for which the primary role is to collect and analyze LMI, economic development data, postsecondary

education data, and all other data relevant to the success of the partnership.

- Ensure the collection of data in such a way that it can be analyzed as part of a rigorous experimental or quasi-experimental evaluation.
- Take advantage of the opportunity afforded by workforce boards and their ability, among other vital roles, to access UI wage data for the purposes of following sector strategy participants into the labor market.
- Achieve long-term sustainability by consistently collecting and reporting data on outcomes and implementation, measuring program impact, and using these findings to make the value proposition to investors; leveraging the experience and guidance of existing national networks, such as the NFWS, NNSP, and the Aspen Institute; and dedicating staff to staying abreast of emerging industry needs, as well as emerging industry sectors, and positioning the partnership to meet these needs.

In conclusion, sector partnerships offer valuable opportunities to move traditional workforce development programs from program administration and oversight to taking more strategic roles in building regional talent pipelines, addressing skill gaps, and creating meaningful career pathways for a range of workers in important regional industries. Continued efforts to replicate promising practices across more boards and to develop evidence of their effectiveness will be critical to sustaining public financing and workforce policies that are supportive of sector strategies.

Needless to say, these observations and recommendations should resonate well with HPOG, which is the embodiment of a sector-based career pathway strategy, and one that has taken full advantage of program/academic partnerships.

Notes

1. Fein (2012) provides an excellent framework for understanding career pathways and their expected outcomes.
2. See https://doleta.gov/wioa/Docs/WIOA_FAQs_Acc.pdf (accessed August 13, 2019).

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3. The tool kit published by the National Skills Coalition in 2005 outlines governors' responsibilities in detail, including supporting sector and career pathway strategies. See DeRenzis and Wilson (2015).
4. For more information, visit the New York City Workforce Funders website at <http://www.nycommunitytrust.org/AboutTheTrust/CollaborativeFunds/NYCWorkforceDevelopmentFund/AbouttheNewYorkCityWorkforceFunders/tabid/661/Default.aspx> (accessed October 1, 2019).
5. Tulsa Community WorkAdvance, a subsidiary of Madison Strategies in New York City, has become the key workforce partner of the Community Action Project of Tulsa County in its *CareerAdvance*[®] Program under HPOG 2.0; for more information, see the chapter by Sommer et al. in this volume.

Appendix 2A

Sector Strategy Case Studies

OPPORTUNITY, INC. (HAMPTON ROADS, VIRGINIA)

Opportunity, Inc. (OI), the workforce board for the Hampton Roads, Virginia, region, has been working to align workforce development and economic development for the past 15 years. Its sector work was recently revived, focusing on information technology (IT), advanced manufacturing, parts and logistics, and health care. It has built out strands of work that include outreach to youth, improved coordination with economic development, and a strengthened focus on serving incumbent workers.

In 2000, OI made a decision to move beyond a “program mentality” toward becoming a more economic development–oriented WIB. This move involved, in part, adopting a sector strategy with the health care, advanced manufacturing, parts and logistics, and IT industries. These initial efforts slowed considerably in the late 2000s with the onset of the recession.

More recently, OI has created a vice president for workforce innovation position to work directly with employers and to serve as the coordinator between OI and the city’s economic development department. Business services representatives from OI meet with individual employers to determine their needs and how best to meet them. OI meets one-on-one with representatives from economic development, and with community college stakeholders, rather than convening these stakeholders in larger, multiparty meetings, believing that these one-on-one meetings provide better opportunities for strategically planning how OI will best serve them and the workforce.

OI has moved away from the role of convener and instead sought out employer associations and other organizations that already regularly convene their members, then worked to get on their agendas. OI views its participation in these meetings as opportunities to sell what it can offer—for example, layoff aversion strategies or sector-based training for incumbent workers. Participation in meetings is simplified by virtue of the fact that many of these employers are already members of the workforce board and therefore have existing working relationships with OI.

Data-Informed Decision Making

Labor market information (LMI) is used to focus the board’s training investments, but OI staff also take into consideration program completion and outcomes data to inform program design. OI views LMI as not only a planning tool but also a service that it offers to business and the community. For example, the OI website invites the public to view their LMI researchers as a resource.

Industry Engagement

In recent years, however, OI’s sector work has been revived with an “industry-focused” ethos. This reengagement with sector work began with the advanced manufacturing industry, which was a driving force behind OI’s work with local community colleges and K–12 systems to create mechatronics training programs, as well as manufacturing-oriented dual-credit programs in high schools. OI credits industry champions and the considerable time and attention they devote to the partnerships between industry and education for its early successes in getting traction.

At present, OI estimates that there are “hundreds” of employers engaged in its various sector strategies, with engagement ranging from simply “understanding that OI is there to help” to, at the upper end of the engagement scale, providing OI-supported on-the-job training (OJT) to incumbent workers. In addition, when OI is unable to meet an employer’s need, it typically is able to refer the employer to other organizations that can assist, considering this service an essential part of its sector work.

Sustainability and Continuous Improvement

At this stage of OI’s efforts to revive the sector approach, sustainability is focused primarily on ensuring that industry partners’ needs are met. OI notes that a key to its success is adopting a more distributive model that makes strategic use of existing resources in the community (e.g., industry associations) and avoids attempting to be all things to all employers.

SOUTH CENTRAL PENNSYLVANIA WORKS (HARRISBURG, PENNSYLVANIA)

South Central Pennsylvania Works (SCPa Works) is the workforce board for an eight-county region with about 1.4 million people and 700,000 workers.¹

SCPa Works has a history of strong sector-based business engagement and service delivery. The board capitalized on major industry partnership funding made available through the state of Pennsylvania in the mid to late 2000s to build robust sector partnerships in transportation/logistics, health care, and advanced manufacturing, which includes major area employers like Hershey's. Those partnerships continue to thrive and provide training essential to the industries' growth. However, changes in capacity, state funding, and focus over the past few years have limited SCPa Works' continuous expansion and innovation in sector partnerships.² Nevertheless, new leadership and a sharper focus have brought a renewed commitment to engage, partner, and serve the employer community in a way that makes more sense to business and will help the regional economy grow.

Key Partners/Industries

Twelve key industries employ 83 percent of Pennsylvania's workforce. The region covered by the South Central Workforce Board includes the three industries noted above, as well as food processing and wood product development. Manufacturing in particular is strongly embedded in the region's economy, history, and culture. SCPa Works is in the process of restructuring its board to ensure maximum input and engagement from those key industries.

Partner Roles

SCPa Works is focused on collaboration with its strategic partners to advance sector partnerships. SCWIB participates in a regional economic development consortium, and leadership from local economic development is currently on the workforce board. In fact, SCPa Works and its partners have a shared focus on being "networked" organizations, which means they intentionally strive to share board members and fully engage as partners in key efforts in the region. For example, SCPa Works has identified key human services representatives for their board who will help support the development of cross-organization strategies that streamline employer engagement while leveraging capacity and organizational strengths.

Data-Informed Decision Making

SCPa Works employs a multifaceted approach to collect, analyze, and use critical data to make decisions around employer engagement, as well as service design and delivery. For quantitative data, SCWIB looks at traditional LMI from the state of Pennsylvania regarding in-demand occupations, wages,

market penetration, and other key factors. It also collects economic development data derived from a tool called IMPLAN®. This information is verified with qualitative data collected through direct engagement with employers at industry partnership meetings and input from business service representatives.

The workforce board is continuously looking for additional methods for collecting quality data. Future efforts will likely include surveys (both a survey of general business trends as well as a detailed inquiry by sector), engagement with a contracting firm to do an in-depth analysis of the key jobs in each sector and the tie between those jobs and regional economic impact, and a potential partnership with other workforce boards in the state to build up research and analysis expertise through the use of data products provided by such groups as EMSI or Burning Glass.

A director of strategic partnerships position was created to work with an enhanced state team developing employer engagement and sector penetration measures and using data to drive its allocation of resources. This type of hard, data-driven conversation about service strategy has not previously happened at SCPa Works. Economic development data, including industry location quotients, are part of their data analysis as well.

SCPa Works produces various products to share data with employers and other partners, but it never does so without first asking employers what data they need and how to package it for maximum usability.

Industry Engagement

Although SCPa Works is using WIOA to bring partners to the table, its director acknowledges that it is going to take time to further expand their existing sector partnerships and build new ones. SCPa Works pushes a key message that employers across industries are all part of an interdependent talent ecosystem that depends on peer firms to develop talent that will move up and across career pathways and employers over time. As a result, employers are encouraged to partner, by sector, through skill development to build a pipeline of talent that benefits all.

The main role SCPa Works envisions for its employer industry partners is clearly articulating their needs to help focus the implementation process. If employers can identify their “pain points,” SCPa Works can offer to relieve them through an array of suggested supply- and demand-side workforce strategies.

Peer discussions among employers about staffing and related human resources issues are key to this approach. For example, it became clear during a health care roundtable conversation that employers did not want more training for RNs but instead needed better training for RN supervisors.

Sector-Based Service Delivery

SCPa Works is realigning its business services to reflect several key priorities:

- Operating the workforce system at the speed of business
- Using information from sector partnerships to drive how funding is allocated and services are delivered
- Capturing and articulating the workforce system's impact on business

The organizational structure is driven by knowledge of sectors and solution development based on identified employer needs. SCPa Works also counts a strong financial and administrative team as a key component of its strategy for serving employers. Developing highly competent staff in those areas ensures compliance issues are adequately addressed, which then frees leadership and service delivery staff to focus on strategic, sector-based priorities. SCPa Works also addresses program and financial compliance on the back end, which leaves those complex and potentially off-putting elements out of the conversation with business.

By building peer groups of employers across sectors, SCPa Works has established a forum for peer problem solving that often runs into areas other than workforce development, including infrastructure, tax credits, and immigration issues. SCPa Works then shares the information back to its partners to identify solutions for the identified challenges. This resource for business helps build trust, which is critical to gathering the input needed to devise effective training and other services provided by the workforce system and its partners.

Sustainability and Continuous Improvement

SCPa Works recognizes meaningful outcome measurement as a critical management tool to drive continuous improvement and is interested in adopting new business services measures. It has adopted market penetration as a key measure, growth in wages over time, and measures that answer the question of how the workforce system is addressing industry workforce needs (e.g., retention, upskilling to fill voids through retirement, attrition, and business expansion).

ARIZONA@WORK FOR MOHAVE AND LAPAZ COUNTIES (KINGMAN, ARIZONA)

Sector-based work in Kingman began in 2008, when the Arizona Commerce Authority, which serves as the state's economic development agency, convened a "sector academy" to determine how the state's workforce boards could develop and sustain sector partnerships. The sector academy identified industry champions, established common objectives, and selected industries that were vital to each workforce board's region (using location quotients) on which to focus their efforts. In addition, teams composed of representatives from the workforce boards, economic development, and education were formed.

The Mohave and LaPaz County workforce development staff, serving Kingman and the surrounding region, selected manufacturing as a priority sector, and members from the regional workforce investment board, Arizona@Work, were selected from the targeted industries. Manufacturing industry partners were convened by a staffer from Mohave County Workforce Development who was tasked with creating an internal sector-strategies team, as well as serving as lead advocate and the primary point of contact between regional manufacturing employers and the county. Also critical to the successful launch of the manufacturing sector initiative in Kingman was the role played by Collaborative Economics, a consulting firm with a deep understanding of sector strategies, which enabled them to also recruit firms to the partnership.

Mohave Workforce Connections held the inaugural convening of regional manufacturing employers and other stakeholders in fall of 2011, and after a series of monthly meetings among these partners, the Kingman and Mohave Manufacturing Association (KAMMA) sector partnership was formed. According to those we interviewed, the initial conversations among the partners were less about discussing workforce development issues, and more about how to become a manufacturing and logistics hub for Northwest Arizona.

Monthly meetings, the distribution of meeting minutes, agenda setting, marketing, and communication were essential components to getting the sector strategy off the ground. Once a working relationship between Mohave Workforce Connections staff and the employer partners was established, work toward creating new curricula and recruiting and training workers began in earnest.

Mohave Workforce Connections (now Arizona@Work for Mohave and LaPaz Counties) provided administrative support to KAMMA, while KAMMA staff worked directly with employers. KAMMA is now an independent 501(c)6 employer association with over 50 paying employer members in addition to the

Mohave County workforce development, economic development, and social services offices. Moreover, KAMMA is now able to act as an advocate locally and at the state level in the interests of manufacturers, including, for example, advocating for the construction of an interchange on Interstate 40 to connect to an industrial park, as well as for the establishment of a foreign trade subzone in the region.

Early Wins

KAMMA's partnership with Mohave Community College (MCC) as its primary training provider produced early wins, including a curriculum for Manufacturing Certified Production Technicians. KAMMA and MCC have also created a "mobile lab" that travels throughout the region in order to provide as many workers as possible with training.

In addition, one of KAMMA's leading employers, Laron, Inc., has opened its apprenticeship program up to workers from competing firms, with the understanding that workers will participate in Laron's class and lab work, and then return to their home firms for OJT. Laron, Inc. signs an agreement with the home firms, agreeing not to compete for those workers from other firms trained through its apprenticeship program for a number of years postapprenticeship.

Data

Arizona@Work Mohave/LaPaz has recently completed a regional workforce development plan, based on its review of current LMI data, with assistance from MCC, and it also uses LMI to target occupations on which to focus investments. It views LMI as a cornerstone of all of its workforce development work in the region.

Employer Engagement

Employer engagement in KAMMA spans the spectrum, from occasionally engaging with KAMMA's service providers, to providing subject matter experts to assist with training, to contributing to curricula development, to, as noted above in the Laron, Inc. example, providing training on-site and, of course, hiring. New sectors, including hospitality and tourism, are currently being explored as potential sector partnerships.

LARIMER COUNTY WORKFORCE DEVELOPMENT BOARD (FT. COLLINS, COLORADO)

Colorado has long been home to a relatively integrated workforce policy framework that stresses strong state direction, business engagement, and local delivery.³ It has also been actively implementing sector partnerships and career pathways for almost a decade. After participating in the National Governors Association’s Policy Academy in 2007, it moved deliberately to tailor a sector strategy for the state and implement it—complete with its own tool kits and targeted technical assistance—over several years.⁴

Key developments include, among others:

- Creation of a *Sector Strategies Steering Committee* of industry leaders and representatives of workforce, education, and economic development agencies, followed by labor market analyses and state start-up grants to support local sector partnerships. This committee was subsequently established as a regular subcommittee of the Colorado Workforce Development Council (CWDC).
- Convening State Sector Partnership Academies (Sector Summits) in 2009, 2013, and 2014 to provide professional development and peer-learning opportunities for the local partnerships.
- Publishing the *Colorado Blueprint 1.0* in late 2011 followed by *Blueprint 2.0* in 2015 to guide the state’s economic growth. Objective V of the *Blueprint* is “To Educate and Train the Workforce of the Future.” The *Blueprint 1.0* was organized around 14 key industries, while *Blueprint 2.0* continued to emphasize these industries with an increased focus on rural areas of the state.⁵
- The Colorado Legislature enacted a series of bills in recent years supporting sector partnerships and career pathways.
 - House Bill 1165 (2013) created a career pathway in and driven by the manufacturing sector partnership.
 - Senate Bill 205 (2014) codified sector partnerships as a component of the state workforce system.
 - House Bill 1274 (2015) required Colorado to develop career pathways in construction, IT, and health care that engage employers through sector partnerships.
- In May 2014, CWDC published an online tool kit, *Creating Career Pathways in Colorado*, to guide creation of career pathways within sector partnerships (Collaborative Economics & The Woolsey Group 2014).

Colorado views sector partnerships as “the way we do business with business” in the state—as a partner, not just a customer—and has offered substantial resources and technical assistance in the form of guides, tool kits, and one-on-one coaching to make this a reality. All these efforts over the past decade have eased Colorado’s implementation of the Workforce Innovation and Opportunity Act (WIOA) with its mandate for sector partnerships and emphasis on career pathways. Colorado currently features some 21 “active or emerging” industry partnerships with more in development.⁶

It is also worth noting not only that Colorado’s workforce system partners actively with the Colorado Department of Economic Development and its education agencies, but that the Colorado Department of Labor and Employment has responsibility for funding streams ranging from WIOA, Wagner-Peysner Employment Services (ES), and Unemployment Insurance to Trade Adjustment Assistance, Veterans Employment and Training, and Migrant and Seasonal Farm Worker programs.

Larimer County Workforce Development Board

The Larimer County Workforce Development Board is located in far North Central Colorado and is based in Ft. Collins.⁷ The board’s area spans both Larimer and Weld Counties. In 2014, the board served over 1,400 employers and 19,000 job seekers. Given Colorado’s funding model, with workforce program allocations going directly to local workforce centers, staffing at the workforce board is kept lean.

Larimer County’s involvement in sector partnerships and career pathway strategies follows the path of Colorado’s as a state, starting with the adoption of these strategies as far back as 2009. However, their engagement in sector partnerships began to coalesce as a result of the first CWDC, which sponsored a sector summit in 2013. Local leaders met with state Colorado Department of Labor and Employment and other officials in a two-day study of labor market data and conditions, facilitated by state consultants (Melville and Woolsey with the Woolsey Group) to determine which sectors offered robust growth, high wages, and career advancement opportunities. The board also held a prep meeting to get ready for the summit with workforce, economic development, business, academic, and other groups.

Larimer County Sector Partnerships

At present, Larimer is focusing on their sector partnerships in manufacturing and health care, each of which receives \$30,000 in support from CWDC to staff and manage the partnerships and convene meetings. Business leads

each partnership, with the Larimer County workforce board in a supporting role. They have established a Committee to Coordinate the Partners featuring single points of contact and are moving forward on creating a portal for partnership information sharing. CWDC announced new state funding to support and implement sector partnerships in spring 2016.

Each of the Larimer County partnerships has taken its own approach to the work in their industry, as noted below. The private sector is driving the partnership in both.

Health care

The Healthcare Partnership, the less formal of the two partnerships, has formed four committees to carry out its work, as follows:

- The Exploring the Healthcare Pipeline focuses on exposing youth to the broad range of career opportunities in health care (e.g., IT, marketing) in addition to nursing and other more traditional frontline, health-related positions.
- The Curriculum Development Committee is focused on creating educational curricula in health care.
- The Behavioral Health Committee is looking at needs and talent development in behavioral health.
- The Healthcare Policy Committee focuses on larger policy issues, including federal law and regulations (e.g., HIPPA, patient release to long-term care, drug policy, tax policy as it affects the health care pipeline).

As noted, the Healthcare Partnership operates relatively informally, without an elected board of directors or formal votes for actions.

Manufacturing

From the beginning, the Manufacturing Partnership opted for a more formal approach, complete with a board of directors, a charter, regularly scheduled meetings, and recorded votes. Only private sector members have an official vote in their proceedings; others (e.g., workforce, education, economic development) have a voice but no vote. Area manufacturers range from auto and electronics assembly to aerospace, breweries, RVs (Winnebago), food and beverage distribution, and small “job shops.” The partnership formed three committees to carry out their work:

- 1) The Manufacturing Rocks Committee is essentially a youth career exposure committee for manufacturing.

- 2) The Higher Education Curriculum Committee examines two- and four-year curricula for relevance to labor market needs, which has, as an ancillary benefit, led to greater engagement on the part of colleges' industry advisory boards. It has also led to teacher internships inside manufacturing workplaces. Ames Community College, Front Range Community College, and Colorado State University (Ft. Collins) have actively participated.
- 3) The Manufacturing Networks Committee has responded to the expressed needs of area manufacturers who wanted to learn from each other. With a special focus on supply chains, the committee has established peer-to-peer learning networks and built greater industry cohesion.

Lessons Learned

Lessons learned to date include the following:

- Each sector is unique and needs to determine its own needs and its own path forward. The simplicity of focusing on job X with certification Y in manufacturing may not translate to health care, a highly regulated sector with strict licensing and credentialing standards.
- Partnerships are more effective when employers are in leadership positions and when they focus on specific actions they can take to move forward. “It has to be about implementation, not just talk” to get and keep employers engaged.
- Starting with an economic development rather than a more traditional workforce development focus led to early sector partnership success. More attention was being paid to adding value for industry. It wasn't just another workforce initiative but was, rather, part of a larger, more holistic effort with real returns for business.
- It is also important that the sector partnerships operate with appropriately shared responsibility. Larimer County workforce functions as the secretariat and provides logistical support to the partnerships, while the private sector focuses on visioning and strategy.

NEW YORK CITY WORKFORCE DEVELOPMENT BOARD (NEW YORK CITY, NEW YORK)

The New York City workforce development area spans all of New York's five boroughs and, due to its unique complexity and size, is expected to operate as a stand-alone board region under the Workforce Innovation and Opportunity Act (WIOA) as well.⁸ Workforce programs operate under the Office of Workforce Development, which was created within Mayor Bill de Blasio's office in 2014, replacing the Office of Human Capital Development that former Mayor Michael Bloomberg established in 2012.

New York has been engaged in a highly collaborative effort since the early 2000s as it sought to shift from a traditional work-first, job placement approach to a sector-based career pathways model focused on ensuring employer needs are met while connecting New York residents to quality jobs with opportunities for career advancement. It served as a Workforce Intermediary Project Pilot site starting in 2003 with support from the New York City Workforce Funders, a collaborative of more than 60 funders that includes the New York Community Trust, Rockefeller Foundation, the JPMorgan Chase Foundation, the Taconic Foundation, the W.T. Grant Foundation, and the United Way of New York City, among others.⁹ Since it began in 2001, the Workforce Funders have raised almost \$10 million to support workforce initiatives in New York City over and above federal and state funding. Support from the Workforce Funders also allows the city to leverage additional resources and to engage in intermediary activities that would be hard to fund under traditional public workforce funding streams.

In 2004, the commissioner of Small Business Services (the city agency then charged with implementation of the Workforce Investment Act's Adult and Dislocated Worker programs) met with local foundations to explore strategies for moving the model forward. Out of that discussion came the first New York City sectors initiative. The pilot focused on the biotech and health care industries. The success of the effort spurred additional investment into sector-based service design.

New York City's commitment to a sector-based approach was reinforced through a grant from the National Fund for Workforce Solutions, then managed by Boston-based Jobs for the Future to engage in capacity building to strengthen the effort among partners locally. The Sectors Strategies Practicum, led by the Aspen Institute and Public/Private Ventures,¹⁰ resulted in a sectors collaborative that has engaged all of the city's workforce development assets to further their common mission. This effort, which emerged from the broadly representative New York City Task Force appointed by the mayor, is now

referred to as New York City's *Career Pathway* model.¹¹ *Career Pathways* has three main pillars:

- 1) Building skills employers seek
- 2) Improving job quality
- 3) Increasing system and policy coordination

The model features a career pathways approach situated within strong industry sector partnerships. They are also explicitly data driven with a data collection and measurement strategy developed for the city by the Aspen Institute. New York City WKDEV accesses quantitative labor market information (LMI) data through the state LMI office as well as a service with the City University of New York (CUNY). It also has a contract with CUNY to analyze and verify these data through the collection of qualitative data via surveys and focus groups with local employers. In addition, partners also factor in local policy changes or initiatives, which, given the magnitude of the city, can drive workforce needs for a particular industry.

New York City's Sector Partnerships

The city partnered with the local National Fund for Workforce Solutions site to establish the New York Alliance for Careers in Healthcare (NYACH), an intermediary organization that works closely with local health care industry/trade associations and unions to identify and respond to employer and worker needs. A second industry partnership, the Tech Talent Pipeline, was also created to focus on the IT sector. NYACH and Tech Talent Pipeline are housed at Small Business Services and integrated into the fabric of the agency's service design and delivery. These partnerships serve as the industry engagement arm of the agency charged with driving system change across the workforce and education systems.

- **Health care.** NYACH collaborates with CUNY to ensure that curricula reflect health care employers' most pressing needs, while also working with area employers to address issues, such as supervision and scheduling, which can negatively affect retention and movement up the career ladder. A registered nurse with close ties to area health care employers and a deep understanding of the industry leads NYACH.
- **IT.** Because IT lacks strong industry associations or unions and has few standardized certifications or career pathways, the Talent Tech Pipeline focuses on identifying specific needs around key competencies such as mobile application development and the need to find quality providers who can create employer-driven curricula in that area.

Contractor-employed business service representatives (BSRs) also interface with employers, and as a result of their connections with NYACH and Talent Tech Pipeline they are more knowledgeable about the skills and competencies needed in those industries. To drive effective BSR outreach to employers, Small Business Services conducts research to identify jobs that require less than a college degree and provides a list of those employers within the defined sales territory to each BSR. The BSR then follows a business development plan that includes activities such as cold calling, attendance at industry events, networking, and relationship building. All activities are designed to strategically build a brand that employers will ultimately trust to save them money.

The city's early success with a sector focus led to the establishment of sector-specific career centers, starting with a focus on transportation, manufacturing, and health care with an ultimate merger of transportation and manufacturing into the Industrial and Transportation Career Center. These centers focus on two to three sectors, with staff developing expertise in them. Most staff work as account managers who are assigned sales territory to prevent duplicative calls on employers. Industry partnerships focus on serving job seekers by forging connections with local support service organizations to provide the wrap-around services required to ensure job seekers are work ready.

The strong emphasis on job quality pushes the NYC Workforce Board staff past the boundaries of traditional workforce development into areas that affect both employer and jobseeker outcomes. These services are also a key component of the Small Business Services office. Industry partnerships provide a valuable forum for addressing employer needs beyond training and skill development.

Challenges and Lessons Learned

One of the biggest challenges NYC has faced in implementing this comprehensive Career Pathways model according to WKDEV staff has been an old one: every agency has its own interests, is tasked to do a particular set of activities and deliver a specific set of services to certain groups, and has program metrics it is held accountable for. Aligning these agencies, many of which answer to a different deputy mayor, around Career Pathways with all of its components and expectations is a tall order and will take time. Lessons learned to date include the following:

- **Leadership and messaging.** Both carrots and sticks are required to reinforce Career Pathways. In New York City, Career Pathways has benefited from considerable bipartisan political leadership spanning several administrations (Bloomberg, de Blasio) since at least 2003. Mayor de Blasio as a vocal and visible champion for the model has

helped a great deal. All of the relevant deputy mayors must also be on board so they can serve as the enforcers when necessary. Agencies now understand the expectation that collaboration is the norm, not operating within their silos. Messaging and a well thought-out communications strategy are also key to affirming the value proposition of Career Pathways to participants, to businesses/employers, to policymakers, to program leaders, and to the wider public.

- **Sustained investment.** High levels of continued investment—public and private/philanthropic—with accompanying flexibility are essential to implementing and sustaining Career Pathways into the future.
- **Leveraging expertise.** Career Pathways has benefited from considerable thought leadership by leading sector experts such as the Aspen Institute’s Workforce Strategies Initiative and the (now defunct) Public/Private Ventures.
- **Systems change orientation.** The focus on both programmatic and systems change is also important. Providing more quality job training will not be sufficient in and of itself. Systems change is necessary as well.

WIOA Effects

The city of New York is working closely with the Department of Youth and Community Development (youth services) and the Department of Small Business Services (adult services) to implement WIOA. The board engages leaders from the private sector, labor unions, community-based organizations, educational institutions, and government agencies to guide and inform the city’s workforce development policies and services, including its sector partnerships and career pathway strategies. Given the work New York has done in both of these areas, WIOA’s implementation appears not to have affected New York City’s sector partnership and career pathway approach very much if at all.

THE WORKFORCE DEVELOPMENT BOARD (PORTLAND, OREGON)

The Workforce Development Board is a public/private partnership representing the city of Portland and Multnomah and Washington counties. Among its many successes, this workforce board led development of a Community Workforce Agreement as part of the Clean Energy Works Portland (CEWP) pilot, which ultimately provided the proof of concept for the statewide Clean

Energy Works Oregon. CEWP had excellent outcomes, owing to an agreement that required workforce development programs to provide industry-recognized credentials and energy efficiency contractors to meet standards for job quality and diverse hiring. The board is also engaged in regional manufacturing sector work in a cooperative effort with the adjoining Southwest Washington Workforce Investment Council.

Portland started its close work with industry in 1998–1999 as part of its Career Pathways work. That initiative was rooted in trying to transmit skills more quickly than traditional degree programs, which often required workers to remove themselves from the labor market for two to four years. Career Pathways efforts focus on the health care and manufacturing industries, two of the larger, better paying industries in the region. These industries also used well-defined, progressive credentials for hiring that work well in career pathways programs.

For several years, the workforce board continued investing its funds in helping redesign and refine curricula for the two industries. Over time (between 2003 and 2004), the industries moved from guiding the workforce discussion to becoming more advisory in nature. The Career Pathways work remained relatively expensive and still required worker disengagement from the labor market, although for less time (from six months to a year). As the Pathways initiative became more institutionalized, the workforce board became more of a funding mechanism than a driver.

Data-Informed Decision Making

The Portland board decided early on that sound data analysis was critical to the success of their sector efforts, and it chose to support four state-funded labor market analysts in the board offices. These analysts are trained in the use of the state's multiple LMI tools, including tools that identify employers by industry and those that provide information on industry trends. Their analysis is communicated via annual *State of the Workforce* reports, which identify, among other things, major employers and their size, earnings trends, demographic trends, and employment trends by major industry.

Industry Engagement

The Portland board's industry engagement efforts begin with research. Board staff consider 12 data elements, focusing primarily on the number of jobs, current and projected openings, growth rate, demographics of labor force, and wages. Working with supportive employers, board staff review the data for accuracy and will move forward only with employer approval.

A change in past approaches to engage industry includes inviting employers to meet in a neutral setting, with no assumptions about what is needed to address employer needs. These meetings are less about inviting employers to participate in a career pathways or sector project, and more about understanding current and projected education and skill needs, identifying those employers willing to push the agenda forward. These employers are also tasked with convening additional employers. Other partners, from the education or service provider communities, are invited to attend these discussions, but typically only after a critical mass of committed employers has taken shape.

Sustainability and Continuous Improvement

Continuous improvement in and sustainability of its sector-based work are priorities for the board. A key element of its sustainability and continuous improvement work has been its ongoing work to coordinate its sectors work across a three-board region, including Workforce Southwest Washington representing Clark, Cowlitz, and Wahkiakum Counties, which, along with Clackamas Workforce Partnership and the Portland Workforce Development Board form the Columbia-Willamette Workforce Collaborative. The three boards have a shared committee overseeing their sector work, and each board appoints leadership to disseminate information to their respective staffs. Despite being, at times, more difficult and complex to implement, the coordination of the three boards permits the public workforce system to better serve its industry partners by recognizing that the workforce needed for these industries is drawn from throughout the region and not simply from within their board areas. The Portland board anticipates that the WIOA regional collaboration requirements will make this current arrangement among the three boards stronger.

Appendix Notes

1. This profile is based on interviews conducted by the authors with former board director Scott Sheely in May 2015 and current director Kevin Perkey in May 2015 and April 2016.
2. State support for industry partnerships has been reduced from a high of \$15 million to just \$1–\$1.5 million annually, although Governor Wolfe wants to restore it to around \$10 million.
3. For more information, see DeRenzis and Wilson (2015) and *Colorado Workforce Investment Act Annual Reports for PY2013 & PY2014* (n.d.).
4. This description draws on DeRenzis and Wilson (2015, pp. 14–15).
5. See <http://choosecolorado.com/programs-initiatives/colorado-blueprint/> (accessed February 27, 2019).

6. Email exchange with Lauren E. Victor, PhD, Talent Development Research and Policy Analyst, Colorado Workforce Development Council and Colorado Department of Higher Education.
7. This description is based largely on a telephone interview with Mr. Jacob Castillo, Larimer County Workforce Board liaison, conducted by Christopher King of the University of Texas at Austin's Ray Marshall Center on April 22, 2016. It has been supplemented by document reviews and online information.
8. This discussion draws on numerous documents, including, among others, New York City Workforce Development Board (2015). It expands upon an earlier New York City workforce board case study prepared by the Ray Marshall Center for the Study of Human Resources and colleagues and an extended interview conducted with board director Chris Neale and board coordinator Reynold Graham by Christopher King on May 11, 2016.
9. See <http://www.nycommunitytrust.org/AboutTheTrust/CollaborativeFunds/ NYCWorkforceDevelopmentFund/AbouttheNewYorkCityWorkforceFunders/tabid/661/Default.aspx> (accessed February 27, 2019).
10. Public/Private Ventures ceased operations several years ago. P/PV's projects have been picked up by the Aspen Institute, the Corporation for a Skilled Workforce, and others.
11. The following reports provide details on the Career Pathway Model effort: Jobs for New Yorkers Task Force (2014), City of New York (2015), and Gasper and Henderson (2014).

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