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REPORT

FINAL REPORT

Regional Collaboration to Create a High-Skilled Workforce: Evaluation of the Jobs and Innovation Accelerator Challenge Grants

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EXECUTIVE SUMMARY

The U.S. Department of Labor (DOL), Employment and Training Administration (ETA) along with four other Federal agencies allocated $58 million in grants for two initiatives to promote regional economic growth and employment in high-wage occupations. The Jobs Innovation and Accelerator Challenge (JIAC) initiative began in 2011 and the subsequent Advanced Manufacturing JIAC (AM-JIAC) initiative launched in 2012. ETA, the U.S. Department of Commerce Economic Development Administration (EDA), and the Small Business Administration (SBA) contributed to both initiatives. The U.S. Department of Commerce, National Institute of Standards and Technology's Hollings Manufacturing Extension Partnership (NIST-MEP) and the U.S. Department of Energy (DOE) joined the multi-agency collaboration through AM-JIAC. ETA contributed $20 of $33 million for the JIAC initiative and $5 of $25 million for the subsequent AM-JIAC initiative.

Through the two initiatives, 30 self-identified regional innovation clusters received grants; each of these clusters focused on an industrial sector with high growth potential in the region. A concept defined in the early 1990s, clusters are composed of geographically concentrated groups of related businesses, suppliers, service providers, and educational institutions in a particular industry. They are formed to (1) increase productivity and economic growth by accelerating product or process development and commercialization in key sectors and regions; (2) support innovation and regional collaboration; (3) train workers to enter high-skilled, high-wage industries; and (4) support entrepreneurship and small business growth.

Recognizing regional innovation clusters as a valuable tool to stimulate the economy, each of the five funding agencies had a history of supporting clusters. However, the JIAC and AM-JIAC initiatives were a new approach in which multiple Federal agencies collaborated to support these innovation clusters. The JIAC and AM-JIAC initiatives were among the initial priorities of a White House task force called the Taskforce for the Advancement of Regional Innovation Clusters formed in 2010 to coordinate and leverage Federal resources to support the growth of existing regional innovation clusters and the creation of new clusters.

The Federal agencies ultimately awarded grants to 20 JIAC and 10 AM-JIAC clusters. The clusters were located in 22 states, with 5 covering a large geographic region involving more than one state. The AM-JIAC clusters targeted advanced manufacturing activities in transportation equipment (including aerospace), advanced materials such as carbon fiber composites; optics, photonics, and imaging; thermal control systems; oil and gas; and electronic equipment used in biosciences. The JIAC clusters targeted more diverse industries, with several focused on multiple sectors. The most common was information technology, with some working in particular aspects of the field, such as health systems and interactive media. Other JIAC clusters worked in renewable energy or related industries, environmental risk mitigation, advanced materials manufacturing, food processing, water, aerospace, nonferrous mining, and flexible electronics.

Evaluation overview

ETA contracted with Mathematica Policy Research and its partner, the W.E. Upjohn Institute for Employment Research, to evaluate the JIAC and AM-JIAC initiatives. The following research questions guided the evaluation:

1. What is the role of multi-agency collaboration both at the Federal level and within the clusters in the planning and implementation of cluster activities?
2. What is the history of the cluster and what is the cluster structure in terms of its leadership? How is the JIAC and AM-JIAC initiative managed within each cluster?
3. Who are the cluster partners, and how do the partners work together to complement each other's grant activities?
4. What activities are funded and delivered under the JIAC and AM-JIAC initiatives?
5. What workforce-related outcomes do the clusters report achieving?
6. What practices are being implemented to promote sustainability of grant resources, partnerships, and activities? How and under what circumstances might these initiatives be replicated?
7. What are the key lessons learned through implementation?

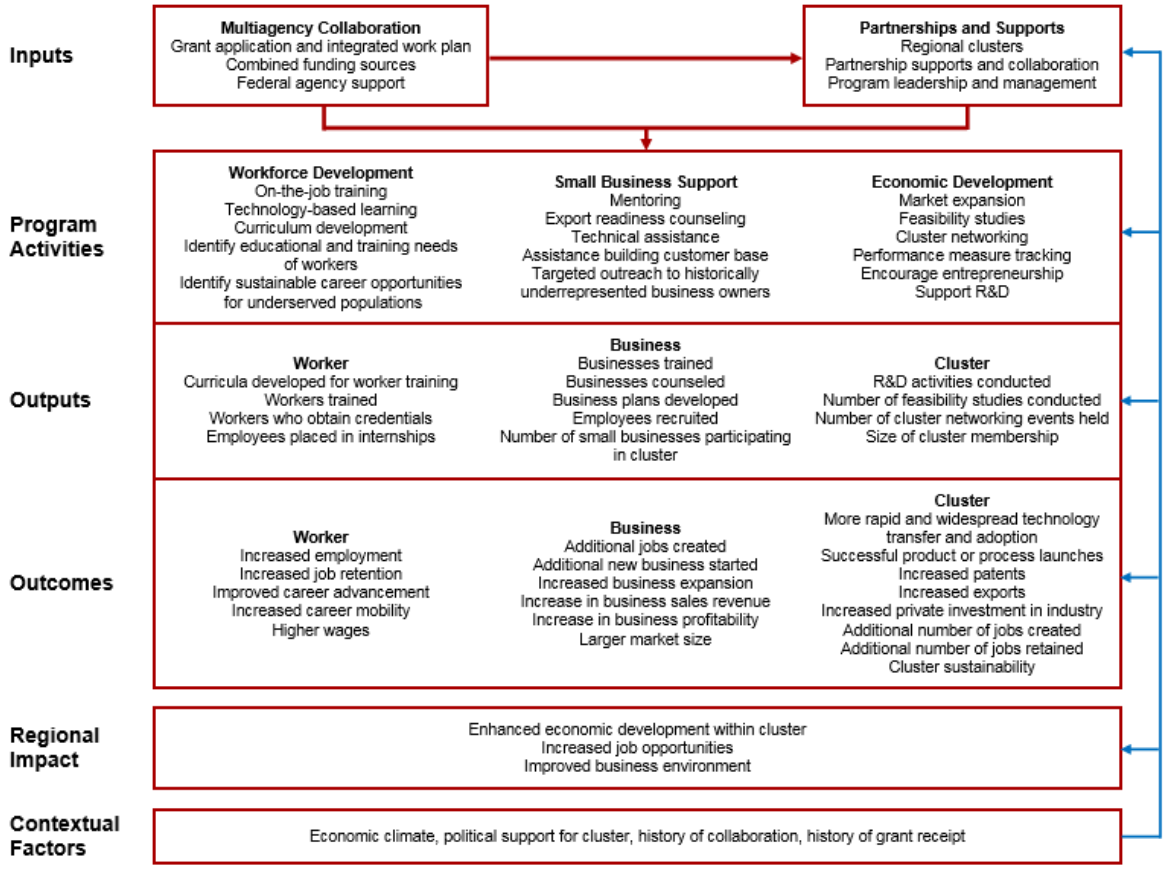
The evaluation drew on five data sources:

- **Grant documents** from all 30 regional clusters, including grant applications, quarterly performance reports (QPRs) and integrated work plan (IWP) reports submitted to ETA through September 30, 2016. Cluster grantees supported by EDA, SBA, NIST-MEP, and DOE were required to submit performance reports to those agencies, but this study did not collect or analyze those data.
- **Telephone interviews** with 9 Federal agency representatives in fall 2013, 7 Federal agency representatives in summer 2014, and 19 ETA Federal project officers in the ETA regional offices in summer 2014 to gather Federal perspectives on multi-agency collaboration and implementation.
- **Two-day site visits** to nine clusters from July to September 2015 to learn about multi-agency collaboration within the clusters, implementation of ETA-funded activities, and successes and challenges. Respondents included cluster management, grant administrators, activity leaders, frontline staff, ETA training participants, and other cluster partners. The nine clusters are not a representative sample but were selected based on recommendations from Federal respondents; partnership maturity at the time of grant application; diversity of location, population, and sector; and diversity between JIAC and AM-JIAC grants.
- **Lists of 322 initiative-funded and -nonfunded regional partners** across the 30 clusters as identified by a cluster manager—the individual overseeing work across the JIAC or AM-JIAC grants within the cluster—from May to July 2015.
- **A survey of 236 partners** from July to December 2015 that resulted in 182 completes for a 77 percent response rate. The survey focused on cluster environment, partner participation, grant activities, funding sources, support received from Federal partners, data use, and outcomes. The survey included cluster managers, ETA grant administrators, and other partner organizations.

Figure ES.1 shows a logic model for a typical cluster developed to guide the evaluation. The evaluation funded by ETA focuses on the far left side of the logic model. It examines the multi-

agency collaboration, partnerships, and supports that are the fundamental building blocks of the logic model. The evaluation then describes the workforce development activities and participant-level outputs and outcomes that result from those efforts. It aims to understand how the initiatives unfold in the region and focuses on implementing the plans, processes, and strategies the clusters used to develop and accelerate growth. Although the successful cluster is intended to generate significant regional impacts within the targeted industry (or industries) through enhanced economic development, increased job opportunities, and an improved business environment, the evaluation is not designed to study those impacts. SBA and NIST-MEP also funded evaluations focused on different aspects of these grants. Additional information on SBA-funded activities is available in Monnard et al. (2014) and Auer et al. (2014), and information on the NIST-MEP-funded activities is available in Sheppard and the Center for Regional Economic Competitiveness (2014).

Figure ES.1. Logic model for JIAC grants



Note: This logic model is specific to the JIAC grants, but it can also be applied to the AM-JIAC grants, which also operate at the worker, business, and cluster levels. In addition, the activities, outputs, outcomes, and impacts are intended to be indicative and not exhaustive.

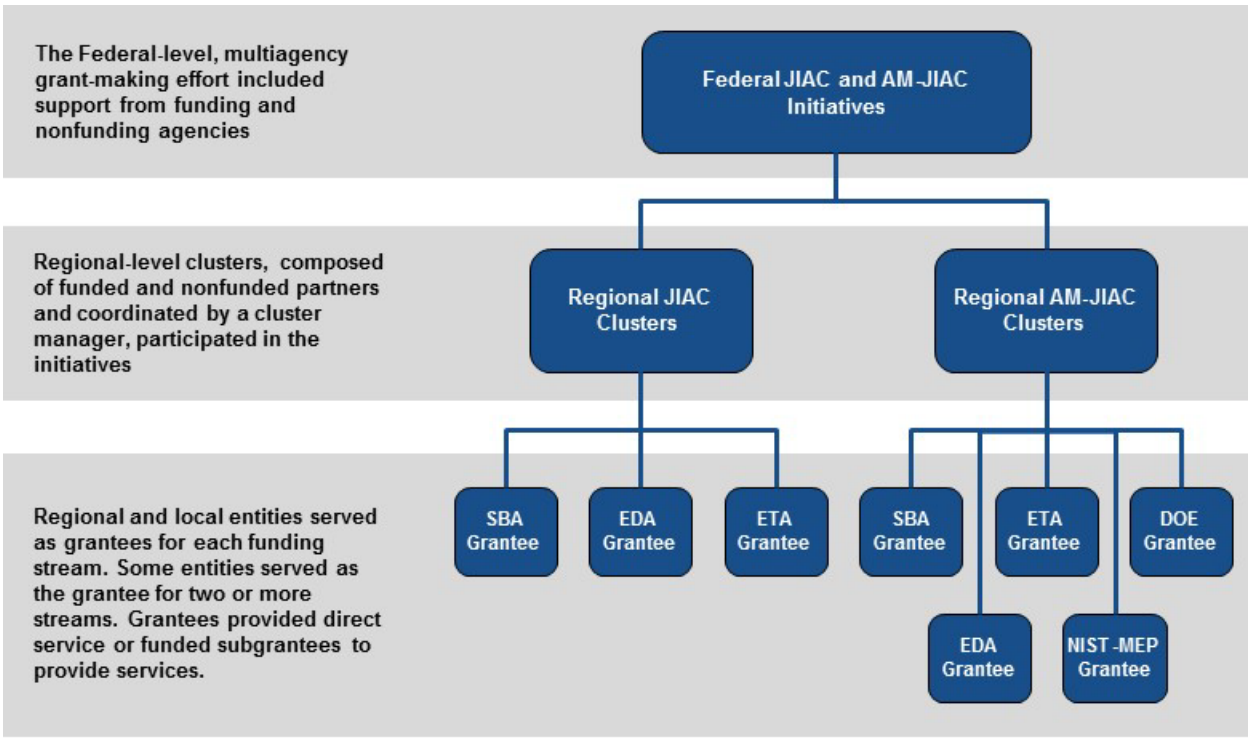
R&D = research and development.

The role of the multi-agency collaboration among Federal agencies

For both JIAC and AM-JIAC, the role of the multi-agency collaboration at the Federal level focused first on designing and funding the initiative, and then creating a systematic process for

providing technical assistance to and oversight of the clusters. Developing the structure of the initiatives required significant collaboration because the Federal agencies had to identify a strategy to accommodate each agency's funding and procurement requirements. To address various legal restrictions, a single Federal funding opportunity was issued for each initiative but each funding agency awarded separate grants (Figure ES.2). Each JIAC cluster received grants from three agencies (SBA, ETA, and EDA), and each AM-JIAC cluster received grants from all five agencies. With this structure, each Federal agency maintained its own grant requirements, but clusters had to submit a plan in their grant applications that described the integration of activities across funding streams to ensure regional collaboration and communication and provide quarterly IWP on their progress implementing that plan. Federal stakeholders reported that developing a single Federal funding opportunity for each initiative was a challenging but ultimately successful collaborative effort (Angus et al. 2015).

Figure ES.2. Federal and regional structure for the JIAC and AM-JIAC initiatives



After awarding the grants, the Federal agencies provided oversight of their own awarded grants and they worked together to provide technical assistance to the clusters. Interviewed Federal respondents indicated that a multi-agency working group that emerged from of the Taskforce for the Advancement of Regional Innovation Clusters continued to meet regularly and work together to support the clusters. The respondents reported that this working group energized the funding agencies; created a common vision for ongoing collaboration; and fostered communication, shared ideas, and interacted across agencies and clusters. All clusters were invited to participate in and benefit from webinars, convenings, and other trainings. As suggested in prior research, these opportunities were important to enable clusters to network, discuss common challenges, discuss trends in specific industry sectors, and share information about

effective approaches (Hewat and Hollenbeck 2015). Survey and site visit respondents reported requesting technical assistance on a wide range of topics, including advice on identifying other funding sources or networking with other clusters, but they most often sought guidance and clarification with specific agencies about allowable grant activities and expenditures. Few clusters reported any gaps in the assistance they received.

The multi-agency structure within the clusters

The multi-agency partnerships within the awarded clusters aimed to leverage the specialized services of each organization and the various grant streams to achieve the common goal of developing and implementing regionally driven economic development strategies. Partners funded by EDA, SBA, NIST-MEP, and DOE provided specialized services to regional businesses to accelerate innovation, grow the industry cluster, spur economic development, and create a demand for workers with specific skills. The ETA-funded partners would then train workers to meet the employer demands generated by the work of the other partners. The training had to target industries and occupations for which domestic employers use H-1B visas to hire foreign workers, thus reducing the need for the H-1B visa program.

The ultimate structure within each cluster varied based on the number of grant recipients. Among the 30 clusters, 9 JIAC and 2 AM-JIAC clusters had a single organization receive all of the Federal agency grants. That organization therefore served as a central provider for comprehensive services related to the cluster, businesses, and individual workers. In contrast, the remaining 19 clusters had multiple organizations within the region receive grants from the Federal agencies. For example, 8 JIAC clusters had three separate organizations each receive a single grant (one organization serves as ETA grantee, one as EDA grantee and one as SBA grantee). Involving multiple grantees within a cluster required routine collaboration across organizations related to how different activities unfolded.

Beyond the organizations that received the JIAC and AM-JIAC grants from the Federal agencies, the multi-agency structure within clusters included subgrantees and nonfunded partners that supported the initiatives. Lists developed in 2015 by cluster managers identified a total of 322 partner organizations, both funded and nonfunded, across the 30 clusters. Clusters averaged 11 partners, ranging from 3 partners in one cluster to 26 in another. The most common partners were educational institutions, nonprofits, economic development agencies, and workforce agencies with smaller numbers of employers and other types of organizations engaged. Of particular interest to ETA, 23 clusters identified 57 workforce development partners (such as the Local Workforce Investment Board or American Job Centers); the remaining 7 clusters did not list any workforce partners. Cluster managers identified more than 80 percent of all listed partners as highly or moderately involved in cluster activities. Site visit respondents at the 9 selected clusters generally felt that the appropriate partners participated in their clusters, although partners in two university-led clusters reported that additional involvement of the Local Workforce Investment Board could have increased employer engagement and connections between training participants and employment opportunities.

Regional cluster management and collaboration

Through these initiatives, the Federal agencies expected cluster partners to work together, communicate frequently, and design a series of activities across the Federal grants that

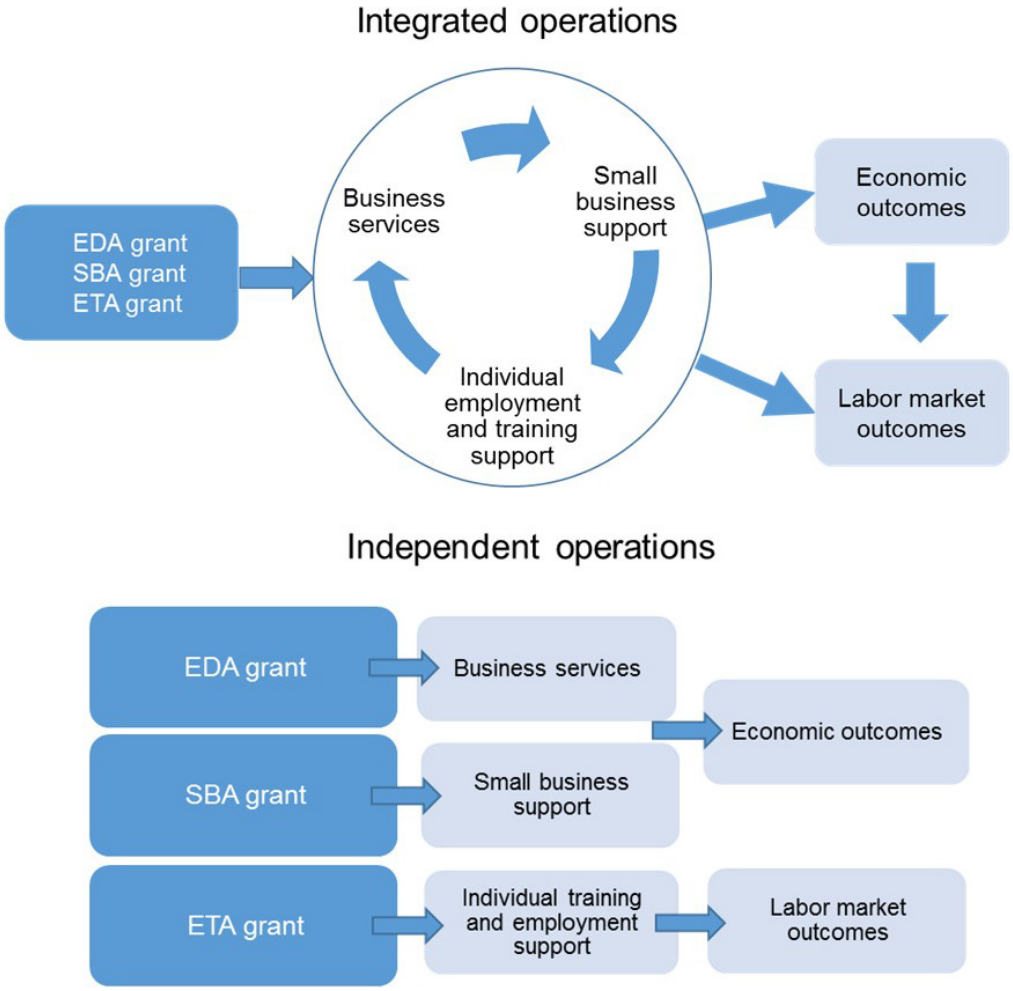
complement and build on one another. A review of cluster grant applications revealed that the lead grantee organizations in 21 of the 30 clusters (70 percent) had prior formal and informal partnerships to serve as a foundation for collaboration among organizations receiving the grants. In fact, more than two-thirds (68 percent) of survey respondents indicated that at least some elements of their clusters had already formed before the JIAC or AM-JIAC initiatives.

To facilitate collaboration, most clusters, either officially or unofficially, designated a cluster manager who oversaw work across the JIAC or AM-JIAC grants within the cluster. Cluster managers were most often affiliated with educational institutions and economic development organizations. Across the 30 clusters, 21 cluster managers also served as the ETA grant administrator. Cluster managers' responsibilities typically included developing and maintaining cluster partnerships and working with the Federal funding agencies. Responsibility for compiling information from partners to prepare the quarterly IWP report also typically fell to the cluster manager. Although nearly half of cluster managers responding to the survey reported that it was difficult or somewhat difficult to obtain necessary data from partner organizations to prepare the report, most viewed the IWP report as useful or somewhat useful for monitoring work across funding streams.

Site visits to nine clusters shed light on the nature and extent of collaboration that emerged. Frequent in-person meetings held shortly after the grant awards and during early implementation played an important role in establishing regular communication among partners throughout the initiative. Grantees and key partners in some clusters held meetings as often as weekly during the early planning phase. These meetings frequently included presentations and information sharing to educate one another about organizational missions and available services.

As implementation progressed, two approaches to working relationships emerged among grantee organizations within the nine site visit clusters (Figure ES.3). Four of the nine clusters reported an integrated, cohesive approach to operations that involved complementary activities implemented across grantee organizations. Grantee partners in these clusters reported working together closely as they designed and provided services, were aware of partners' activities, attended partners' events, and communicated consistently and frequently about cluster operations across funding streams. In contrast, respondents in the other five clusters reported that grantee organizations operated independently, each focusing on its own grant activities without attempting to build on or complement partners' activities. In fact, in three of the five clusters, respondents lacked awareness of unfolding activities at other partner organizations. Although these five clusters allowed each grant to operate independently, most site visit respondents stressed that they shared a common vision and mission because of existing relationships and communication facilitated by the cluster manager.

Figure ES.3. Cluster operations and activity coordination



Business-related grant activities

As the initiatives began, clusters conducted activities designed to promote the cluster itself. In the survey, 60 percent of funded partners reported networking and 52 percent reported activities to increase awareness of the cluster. These activities included presentations to community stakeholders and businesses focused on the target sector, outreach campaigns, and special promotional events.

Member organizations within each cluster, including grantees, their subgrantees, and nonfunded partners, also engaged in activities aligned with the goals of each Federal grant:

EDA activities. Across both JIAC and AM-JIAC initiatives, EDA-funded partners worked to spur regional competitiveness and innovation through business development services. Services included one-on-one business mentoring, support for research and development, product commercialization, supply chain management, assistance in finding sources of capital, export assistance, and market analysis. Analysis of IWPs suggests that business mentoring often included topics such as legal issues, product design considerations, publishing, distribution,

developing business plans, marketing, and licensing. As an example of EDA-funded activities, one cluster developed alternative uses for iron mining by-products, such as waste rock, as aggregate material for construction applications. That cluster's efforts included research on the potential to recover products, developing and testing innovative products and technologies using the by-products, and stimulating a new industry by sharing results of testing with regional companies.

SBA activities. Both initiatives used SBA funds to first identify and then support small, disadvantaged businesses to promote their growth in the targeted sector. Activities included entrepreneurship training, business assistance, facilitation with large businesses in the sector, and seminars on applying for Small Business Technology Transfer Program or Small Business Innovation Research grants. Specific examples of SBA activities from IWPs include identifying companies to participate in Hub Zone Certification Training Workshops, providing business incubator space for emerging small businesses, and outreach to regional bankers to provide lender training to stay up-to-date on changes in SBA's loan programs. IWPs also suggest that small business mentoring often included training on developing a business plan, marketing, accounting software, and project management.

NIST-MEP activities. In the AM-JIAC clusters, NIST-MEP centers—in addition to supporting business development—were the most likely to report in the survey that they conducted and disseminated market research and facilitated collaboration among small and large businesses in the targeted advanced manufacturing sector. As an example, NIST-MEP activities in one site visit cluster focused largely on assessing business growth within a narrow sector of agile electro-mechanical product development in the life sciences, energy, and advanced electronics industries. The MEP center used the funds to offer no- or low-cost services to businesses in that sector and to expand the types of service offerings to include assessments and goal-setting in the areas of readiness for growth, sales effectiveness, strategic marketing, innovation, culture, and communication.

DOE activities. In the AM-JIAC clusters, DOE-funded organizations offered services to help businesses reduce energy use, substitute renewable energy sources for conventional nonrenewable sources, and implement better control of material recycling. For example, in one site visit cluster, the DOE grantee worked with oil and natural gas manufacturers to help implement advanced manufacturing technologies, conduct energy audits, discuss plant layout design options for manufacturers, and provide guidance on capital equipment purchases.

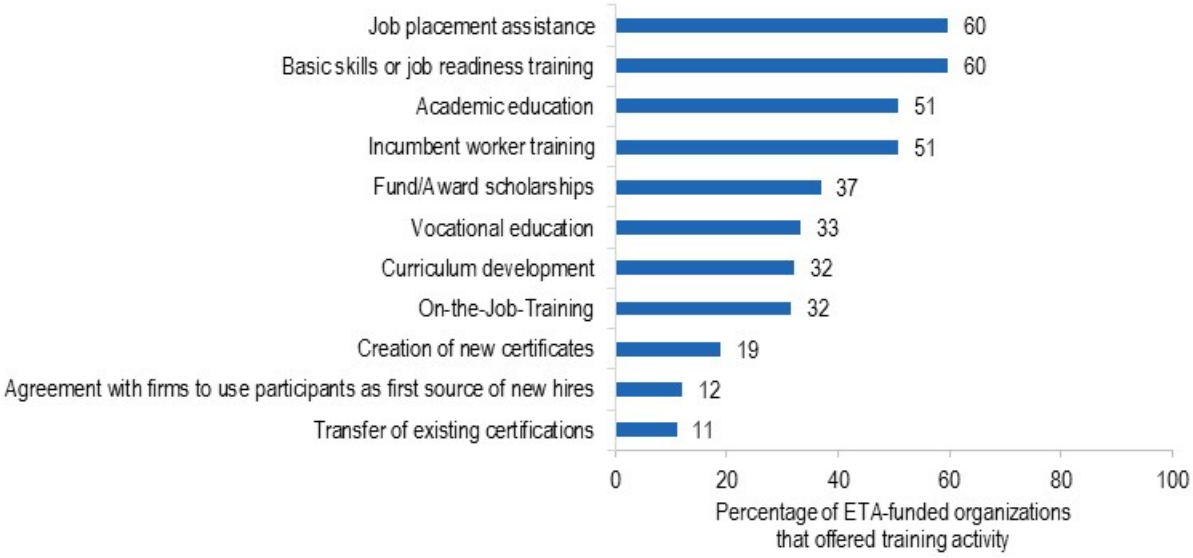
ETA-funded training and job placement activities

The JIAC and AM-JIAC clusters used ETA funds to offer training opportunities and job placement assistance to help prepare a skilled workforce to meet the needs of the targeted sectors in their regions. As mentioned earlier, grantees had to provide training in occupations for which employers rely on H-1B visas to hire foreign workers. Although information on specific targeted H-1B occupations was not available for all clusters based on grant applications and IWPs, examples of such occupations include electrical engineering technicians, mechanical engineers, engineering managers, computer-controlled machine tool operators, information technology software developers, renewable energy technicians, optical manufacturing technicians, food scientists, and high-tech farm equipment operators.

In the partner survey, ETA-funded partners reported offering training, certification, and placement services (Figure ES.4). More than half (60 percent) offered job placement assistance to connect workers with regional employers in need of qualified workers and basic skills or job readiness training. About half offered academic education and incumbent worker training. Incumbent worker training is typically negotiated with local businesses to train or retrain their existing employees in specific skill sets to remain competitive or enable workers to advance. For example, one cluster developed the framework for an incumbent worker e-learning training module in renewable energy fundamentals.

Fewer than 20 percent reported offering new certifications, establishing agreements with firms to use participants as a source of hire, and facilitating transfer of existing credentials. An example of the development of a new certificate was the collaboration between an ETA-funded grantee, the local Workforce Investment Board, and a local technical college to create a one-year program culminating in a Water Technician certificate. As an example of credit transfer, one cluster negotiated an agreement to transfer two-year engineering students from a community college to an aerospace engineering program at a four-year university.

Figure ES.4. Types of training activities offered by ETA-funded partners



Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.

Note: Figure contains survey responses from 79 ETA-funded partners.

Number and characteristics of ETA participants.

Slightly more than 7,600 participants enrolled in ETA-funded training activities through JIAC and AM-JIAC, based on QPRs through September 2016. The JIAC clusters averaged 295 participants; the AM-JIAC clusters averaged 170. More than three-quarters of participants were men. Most participants were employed at the time of enrollment. Although all participants had to have at least a high school degree or Generalized Education Degree, nearly a quarter of JIAC participants and more than a third of AM-JIAC participants had a bachelor's or advanced degree (Table ES.1).

Table ES.1. Select characteristics of ETA participants at enrollment (percentages)

	JIAC	AM-JIAC
Gender		
Male	75.5	81.2
Female	24.5	18.8
Minority[a]	30.4	24.3
Employment status		
Employed	58.0	78.0
Not employed	42.0	22.0
Long term unemployed[b]	32.6	36.4
Education[c]		
High school	30.5	38.0
1 to 4 years of college	34.8	18.2
Associates degree	11.5	10.3
Bachelor's or advanced degree	23.3	33.5
Sample size	**5,899**	**1,704**

Source: Data are from QPRs through the third quarter of calendar year 2016.

[a] *Minority* is defined as participants identifying as Hispanic or Latino, America Indian or Alaskan Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, or multiple ethnicities.

[b] *Long-term unemployed* is defined as an individual without a job for 27 weeks or more who wants and is able to work (U.S. Department of Labor 2014). The table entries in this row are percentages of the number of individuals not employed at enrollment.

[c] Table entries are percentages of participants for whom education background was enumerated: 5,152 for JIAC (87.3 percent) and 1,537 for AM-JIAC (90.2 percent).

The Federal agencies also encouraged grantees to engage historically underrepresented populations and communities facing socioeconomic challenges, such as blight, high poverty and unemployment, and discrimination in housing. However, site visits suggested that many clusters struggled to identify people within this population that met grant eligibility requirements. Nearly 90 percent of funded partners reported conducting at least some related activities, with the most common including (1) outreach to community groups with underrepresented populations, (2) outreach to schools serving underrepresented populations, and (3) efforts to approach underrepresented organizations about partnering when applying for the grant.

Training completion and workforce-related outcomes of ETA participants

More than 95 percent of JIAC and 99 percent of AM-JIAC participants enrolled in training, with classroom occupational training as the most common type, followed by incumbent worker training. Of those who enrolled, 73 percent of JIAC and 84 percent of AM-JIAC participants completed training, and more than 95 percent of those who completed training received at least one credential. Examples of certificates identified in IWP reports include Health Information Technology, Computer Production Technician, Green Production, Nano Technology, Agriculture and Food Studies, Welding, and certificates from the National Institute of Metal Working Skills.

Among those who completed training, employment outcomes were tracked separately for those employed at enrollment versus those who were not. Among those not employed at enrollment, about 80 percent of JIAC and 64 percent of AM-JIAC participants who completed training had obtained an unsubsidized job within the first quarter after completing program. Of those who obtained a job, more than 63 percent of JIAC and 41 percent of AM-JIAC participants retained employment in the second and third quarters after program completion (Table ES.2). Data on employment outcomes are not available for those participants who did not complete training.

Table ES.2. Outcomes of education and training completers in JIAC and AM-JIAC clusters through September 2016 (percentages unless indicated)

	JIAC	AM-JIAC
Not employed at enrollment and completed education or training		
Entered unsubsidized employment	79.9	63.7
Training-related	74.5	92.8
Sample size (not employed and completed before final QPR)	1,415	306
Retained unsubsidized employment	63.8	41.2
Sample size (not employed and completed at least 3 quarters before final QPR)	1,408	299
Employed at enrollment and completed education or training		
Retained current position	58.2	54.2
Advanced in job	16.4	15.4
Sample size (employed and completed at least 3 quarters before final QPR)	1,859	707

Source: Data are from cluster-submitted QPRs through the third quarter of calendar year 2016.
Note: Figure V.5 in Chapter V defines the terms used in this table and provides explanatory footnotes.

Among those who completed training and were employed at enrollment, 58 percent of JIAC and 54 percent of AM-JIAC participants had retained their positions with their current employers in the second and third quarters after completion. Another 16 percent of JIAC and 15 percent of AM-JIAC participants who were employed at enrollment and had completed training reported advancing in their careers, defined as entering a new position at their current or a new employer that required a higher level of skill.

Reflections and looking ahead

Although empirical data on the net impact of the grants on regional economies are not available, more than 70 percent of cluster managers reported that the JIAC and AM-JIAC grants had a strong or very strong impact on economic development in their regions. Similarly, 72 percent of cluster managers and 57 percent of partners also indicated a strong or very strong impact on regional employment opportunities that would last beyond the grants.

Clusters also perceived an impact of the JIAC and AM-JIAC initiatives on regional partnerships. About 80 percent of cluster managers and ETA grant administrators and 70 percent of other partners believed that strong collaborative environments would likely persist in their regions. More than 90 percent of cluster managers and ETA grant administrators also indicated

that partnerships would likely continue among community colleges, four-year educational institutions, workforce development agencies, Workforce Investment Boards, state governments, and employer groups.

Despite these perceived successes, site visit respondents identified opportunities for more streamlined coordination and implementation in future efforts involving regional innovation clusters. They appreciated that multiple Federal agencies collaborated to support the initiative, but the nature of separately funded grants posed challenges. The IWP was designed to track and coordinate activities across grants. However, although all partners reported information for the IWP, respondents from some clusters with grants that operated independently reported that they lacked a structure to ensure a fully integrated effort. To help alleviate these coordination challenges, site visit respondents in clusters using an independent approach to implementation recommended that Federal agencies require consistent and frequent meetings among cluster members so they could give input to one another and foster ongoing information flow. Respondents also suggested that future initiatives include a requirement to hire and resources to pay for a regional cluster manager dedicated to oversight and coordination efforts. Respondents from four of the nine site visit clusters said their clusters lacked clear and effective leadership because the Federal funding opportunity did not require a dedicated cluster manager with sufficient time budgeted for grant coordination and reporting. Finally, grantees suggested streamlining reporting requirements in future efforts because the separate requirements by each Federal funder involved more coordination and time from both cluster managers and grant administrators than expected.

Across all 30 clusters, the JIAC and AM-JIAC grants were awarded with the expectation that the funding would catalyze activities that sustained beyond the grant period in fall 2015. All clusters included proposals for sustaining grant activities in their original grant applications, and most expressed optimism in the surveys about sustaining partnerships. However, among the nine site visit clusters, respondents in only three clusters indicated formal plans for sustainability of both partnerships and activities, including efforts to secure additional funds from Federal, state and local sources for continued services. Respondents from the remaining six site visit clusters, including two that received extensions of their ETA grants, believed that sustaining partnerships as well as particular program elements were likely but had not yet formalized a plan at the time of the visits. Most clusters also provided no information on sustainability plans in their IWP reports; those that did indicated only broad plans to continue activities or partnerships.

The lessons drawn from the experiences of the JIAC and AM-JIAC clusters further the knowledge base about how complex multi-agency partnerships at and between Federal and regional levels can support regional economic development efforts. Although not without challenges, the 30 regional clusters funded through these initiatives appear to have developed operational regional partnerships, offered a wide range of business services in support of innovation and growth, and trained thousands of workers for entry or advancement in high-skilled H-1B occupations. Site visit respondents and Federal agency staff noted that this type of multi-agency cluster initiative promoted greater collaboration and communication between Federal and regional partners and could be replicated in a wide range of other regions if three conditions were met: a collaborative environment among service providers, active employer and community engagement, and available funding for training.

I. DESCRIPTION OF THE GRANTS AND EVALUATION GOALS

The Jobs and Innovation Accelerator Challenge (JIAC) and the Advanced Manufacturing JIAC (AM-JIAC) grants are part of a series of four innovative, multi-agency initiatives to accelerate job creation and economic growth through regional innovation clusters involving both public and private partnerships.[1] The U.S. Department of Labor (DOL) Employment and Training Administration (ETA) contracted with Mathematica Policy Research and the W.E. Upjohn Institute for Employment Research to conduct an evaluation of the JIAC and AM-JIAC grants. The evaluation explores the role of multi-agency collaboration at both the Federal level as agencies worked together to develop and the regional level as partners designed and implemented the initiatives. It also focuses specifically on the implementation of ETA-funded activities, the workforce-related outcomes achieved by the ETA grantees, plans for sustainability, and lessons learned.

A. Brief history of Federal funding for regional innovation clusters

The concept of a *cluster*—a network of interconnected organizations and supporting institutions that aim to accelerate innovation, business formation, and job creation—is one that has gained momentum over the past decade. Clusters are more specifically formed around competitive industries to create a regional foundations that networks business assets such as supplies, investors, research partners, and educational institutions that are all linked to a particular industry or business field in a geographic region. They aim to increase productivity and economic growth by accelerating product or process development and commercialization in key sectors and regions, supporting innovation and regional collaboration, training workers to enter high-wage industries, and supporting entrepreneurship and small business growth.[2]

JIAC and AM-JIAC build on numerous Federal efforts to support regional innovation clusters. Starting in 2006, the ETA funded a series of Workforce Innovation in Regional Economic Development (WIRED) grants to integrate economic and workforce development efforts in the regions. About a year later in 2007, the National Institute of Standards and Technology (NIST) launched its Rapid Innovation and Competitiveness initiatives to increase the nation's return on its scientific investment, accelerate technological innovation, stimulate the economy and enhance U.S. competitiveness. In addition to these initiatives, the Small Business Administration (SBA) funded clusters in 2010 through the Innovation Economies Initiative to increase opportunities for small business participation within clusters, promote innovation in

[1] Starting in May 2011, four multi-agency initiatives were developed; these included the JIAC, the AM-JIAC, the Rural JIAC, and the Make-it-in-America grants. This evaluation examines only the JIAC and AM-JIAC grants.

[2] This definition for clusters aligns with those developed by economic development theorists such as Porter (1990, 1998, 2000). The term *regional innovation cluster* derived from the notion that focused effort in key sectors could be used to bring about regional economic development (Council on Competitiveness 2001, 2005, 2010; Mills et al. 2008). The latest trends in economic development also point to the importance of workforce skill development (Hollenbeck and Hewat 2012). An effort launched in 2014 to map clusters across the U.S. can be found at www.clustermapping.us. A closely aligned concept is sectoral initiatives, which in the literature has come to mean achieving workforce development by focusing on key sectors (see Conway and Giloth 2014 and references therein). Not all of the JIAC and AM-JIAC grantees are as geographically or sectorally concentrated as might be suggested by the term cluster. Nonetheless, this report follows the lead of the FFO for these grants and uses the word *cluster* in a generic manner to refer to the intermediary organization(s) that received the grants and their collaborating partners.

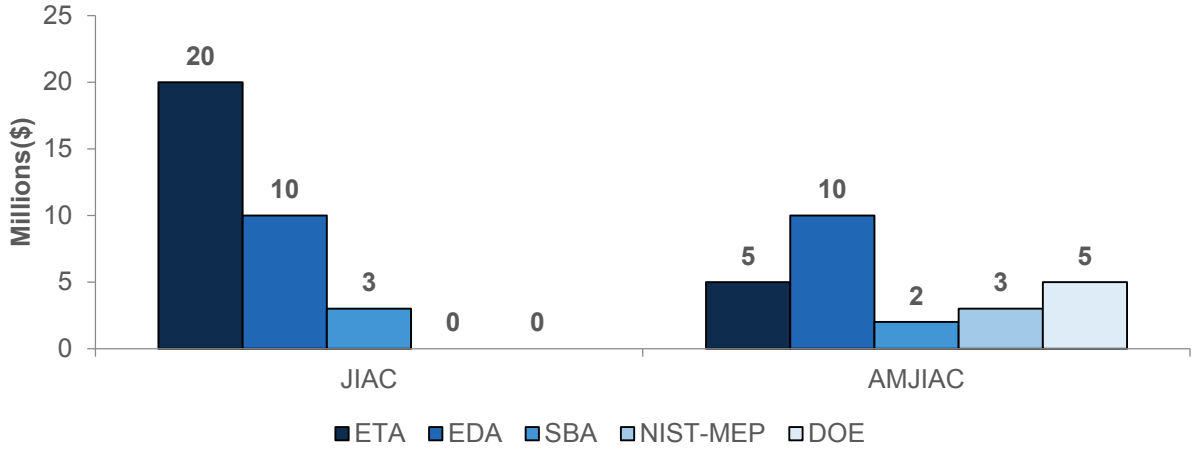
focused industries, and enhance regional economic growth. The Department of Energy's (DOE) Regional Innovation Cluster initiative began around that same time and was devoted to developing technology, designs and systems for energy-efficient buildings.

Amid these various Federal initiatives and the growing recognition of the perceived value of regional innovation clusters, the Taskforce for the Advancement of Regional Innovation Clusters (TARIC) was formed in 2010 with representatives from six Federal agencies to improve coordination across regional innovation cluster initiatives. TARIC's priorities included coordinating and leveraging Federal resources to support the growth of existing regional innovation clusters and the creation of new clusters. One of the first projects of the newly formed TARIC was the development of the JIAC initiative in 2010 and AM-JIAC initiative in 2011.

B. Introduction to the multi-agency grants programs

Three Federal agencies allocated a total of $33 million across 20 JIAC grants in 2011, and five Federal agencies allocated a total of $25 million across 10 AM-JIAC grants in 2012 (Figure I.1). The U.S. Department of Commerce Economic Development Administration (EDA), the SBA, and ETA contributed to both initiatives, although the relative level of investment from ETA was lower for AM-JIAC. The U.S. Department of Commerce, NIST's Hollings Manufacturing Extension Partnership (NIST-MEP) and the DOE joined the multi-agency collaboration through AM-JIAC.

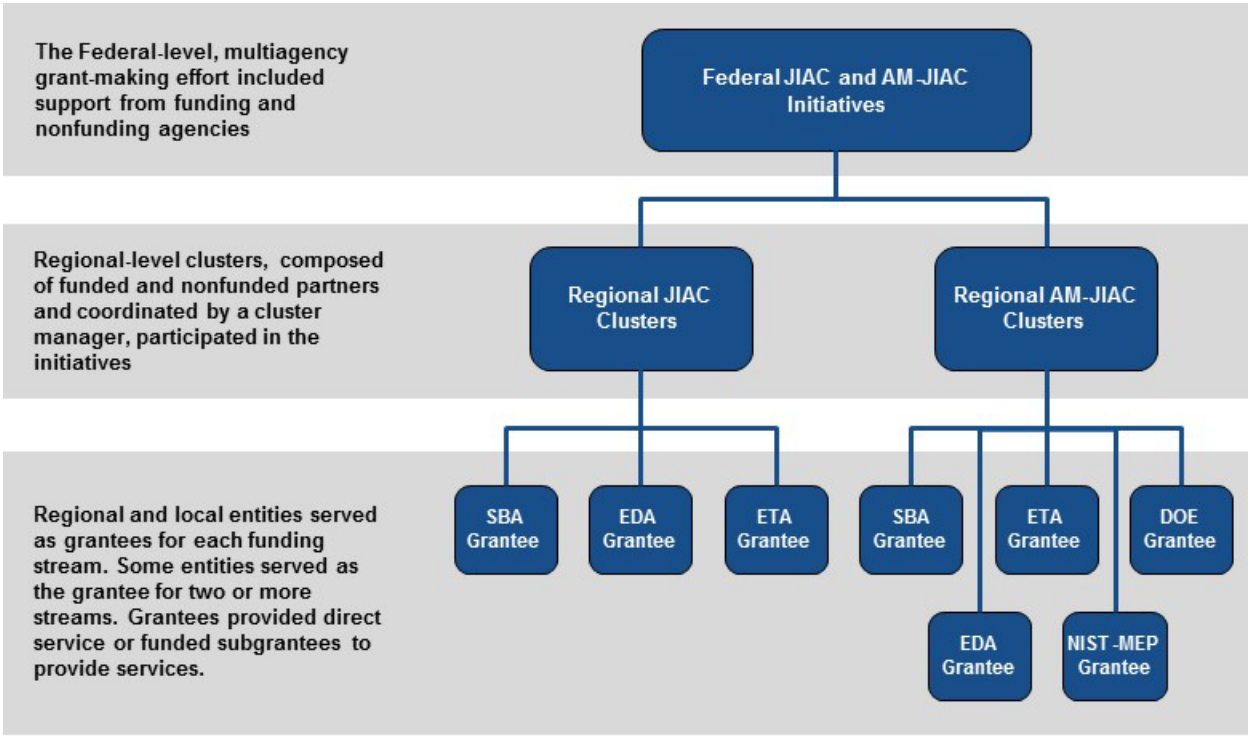
Figure I.1. Federal agency funding allocation, by initiative



Source: JIAC and AM-JIAC Federal funding opportunities.

Different legislation authorized the funding streams contributed by these agencies, each with its own regulations and restrictions. For each funding opportunity, the agencies issued a single FFO for each initiative, but each funding agency awarded separate grants (Figure I.2). Each cluster had to submit a single application that requested grants from and proposed discrete activities for each Federal funding partner.

Figure I.2. Federal and regional structure for the JIAC and AM-JIAC initiatives



1. Objectives and funding structure of the JIAC and AM-JIAC initiatives

Recognizing regional innovation clusters as a valuable tool to stimulate the economy, the JIAC and AM-JIAC grants capitalized on previous work funded under other Federal efforts. (Angus et al. 2015). Although there have been several Federally supported cluster initiatives to accelerate job creation in the past decade, the JIAC and AM-JIAC grants were a new approach in which multiple Federal agencies worked together to support initiatives.

Led by the TARIC, the development of the complex Federal funding opportunities was challenging for Federal staff. Different legislation authorized the participating agencies' funding streams, and each funding stream had its own regulations and restrictions. As a result, agencies found it difficult to identify a strategy that would accommodate all agency requirements. Interviewed respondents at the Federal level noted that although they collaborated across agencies, the process was more onerous than any of the agencies expected or hoped (Angus et al. 2015).

Despite these challenges, Federal agency respondents asserted that JIAC was a successful Federal collaborative effort (Angus et al. 2015). As a solution to dealing with the various legal restrictions, a single FFO was issued for each initiative, but each funding agency awarded its separate grants. Each agency maintained and monitored its own grant requirements, but the agencies encouraged grantees to work together through regional collaboration and communication.

The 30 JIAC and AM-JIAC grants targeted self-identified regional industry clusters that have the potential to transform their respective regions into high-growth economies with

burgeoning employment opportunities in high-wage occupations. The JIAC and AM-JIAC grants share similar objectives (Table I.1). Among these objectives, development of a skilled workforce and ensuring diversity in workforce participation align most closely with the ETA mission. The main difference between the two is that the JIAC initiative had no particular sector focus, whereas AM-JIAC focused on the advanced manufacturing sector.

Table I.1. Initiative objectives

JIAC	AM-JIAC
Accelerate the formation and growth of high-growth businesses	Strengthen and expand existing cluster-based partnerships to foster advanced manufacturing, support related company growth, and accelerate high quality job creation
Accelerate the creation of high-wage jobs	Develop a skilled and diverse advanced manufacturing workforce through targeted training and employment activities
Advance the commercialization of research by converting innovations into viable products that can be brought to market	Accelerate investment in and deployment of advanced manufacturing technologies through public-private partnerships
Support the deployment of new processes, technologies, and products	Expand advanced manufacturing capabilities, networks, supply chains, and assets
Enhance the capacity of small businesses, including small and disadvantaged businesses	Leverage and expand collaborative research and development between universities, Federal labs, and industry
Increase exports and business interaction with international buyers and suppliers	Accelerate commercialization of technologies for advanced manufacturing needs
Develop the skilled workforce needed to support growing clusters	Support testing of new products and processes using advanced modeling and simulation tools
Ensure diverse workforce participation in clusters through outreach, training, and the creation of career pathways for workers	Spur new entrepreneurial companies that harness advanced manufacturing
	Increase exports, repatriate jobs back to the United States, and attract increased domestic and foreign direct investment

Source: Federal funding opportunities for JIAC and AM-JIAC grants (U.S. Department of Commerce 2011, 2012a).

The two initiatives have several distinguishing features:

Collaborative efforts. Each cluster was required to submit a single application that requested grants from and proposed discrete activities for each Federal partner (three for JIAC and five for AM-JIAC). However, the application needed to include an integrated work plan (IWP) that described the planned collaboration between activities funded by each grant. A single entity within a cluster could apply as the formal grantee for all of the Federal funds. Alternatively, multiple agencies within a cluster could work together to submit a single grant application, with a different entity identified as the grantee for each Federal agency's funds. An example for a JIAC cluster might include the local Workforce Investment Board (WIB) serving as the lead ETA grantee, a local economic development agency serving as the EDA grantee, and the Small Business Development Center at a local university serving as the SBA grantee.

Different implementation time frames. In addition to separate grants awarded by funding agencies, the JIAC and AM-JIAC grants also had slightly different periods of performance (Figure I.3). For the JIAC clusters, the SBA and EDA grants lasted only for two years with a possible one-year no-cost extension, whereas the ETA grants' period of performance was four years with the possibility of a one-year no-cost extension. This was an intentional decision on the part of the funding agencies. They designed the different periods of performance of the grants to

allow the economic development and small business support activities to occur first and inform the need for, types of, and design of workforce activities to help develop a skilled workforce to meet the growing needs of the region. EDA and SBA funded partners would provide business assistance intended to result in innovation and acceleration of local businesses along with a demand for workers with specific skills. The ETA funded partners in the JIAC grants then had two additional years to train workers, especially those in an underserved populations, to meet the demands of employers. For the AM-JIAC initiative, the grants were not staggered but rather EDA, SBA, MEP, DOE, and ETA grants covered the same three years with the possibility of a one year no-cost extension.

Figure I.3. Period of performance

Source: Federal funding opportunities for JIAC and AM-JIAC grants (U.S. Department of Commerce 2011, 2012a).

Note: Half (15 of the 30) clusters received period of performance extensions; all grants are to be completed by the end of calendar year 2016.

Emphasis on Federal and regional coordination. One of the main objectives of both initiatives was to effectively use "existing government resources through [the] reduction of siloed Federal programs and [the] promotion of more coordinated Federal funding opportunities that offer more efficient access to Federal resources" (U.S. Department of Commerce 2011, p. 3). As a result, collaboration at both the Federal level and among partners at the regional level was strongly encouraged. The FFO announcements also required clusters to include partnerships with at least one employer or a consortium of employers and an entity involved with the administration of the workforce investment system.

Support. To foster this collaboration and provide support to clusters, Federal agencies planned to develop Federal support teams consisting of staff from Federal funding and non-funding partner agencies within each region. The funding announcements for both JIAC and AM-JIAC described the various support roles the partner agencies could play not only in providing technical assistance but also in ensuring that such grant awards could be leveraged in the cluster. Specifically, the FFO announcements discussed the anticipated involvement of 11 non-funding partner agencies for JIAC and 7 non-funding partner agencies for AM-JIAC

(Appendix A).[3] The Federal support teams were "to ensure that successful applicants and partners are aware of and can access available Federal resources…. An important function of the Federal support teams will be to provide coordinated Federal support to clusters and to identify where processes and requirements can be improved" (U.S. Department of Commerce 2011, p. 10). Cluster applicants were encouraged to describe how they would use these services in their applications and associated technical proposals (U.S. Department of Commerce 2012a, p. 6). While applicants were encouraged to include a plan of the use of the Federal support teams, a review of the documents reveal that few applications included such plans.

Eligibility. Each of the Federal funding streams identified eligibility requirements for participation; some agencies' grants (EDA, NIST-MEP, DOE, and SBA) supported services to businesses, and ETA grants supported individuals. For example, SBA funding was intended to provide business training and counseling along with other technical assistance to 7(j)-eligible small businesses.[4] In contrast, the ETA grants targeted individuals at least 18 years of age with a minimum of a General Education Development (GED) or high school diploma who were not at the beginning of their career. These individuals could include unemployed workers, incumbent workers, and postsecondary students; they were to receive education, training, and job placement assistance in high-growth occupations or industries in which employers use H-1B visas to hire temporary high-skilled foreign workers (JIAC FFO, page 23). For additional details regarding the eligibility criteria for each of the five funding streams, refer to Appendix B.

2. Location and urbanicity of regions

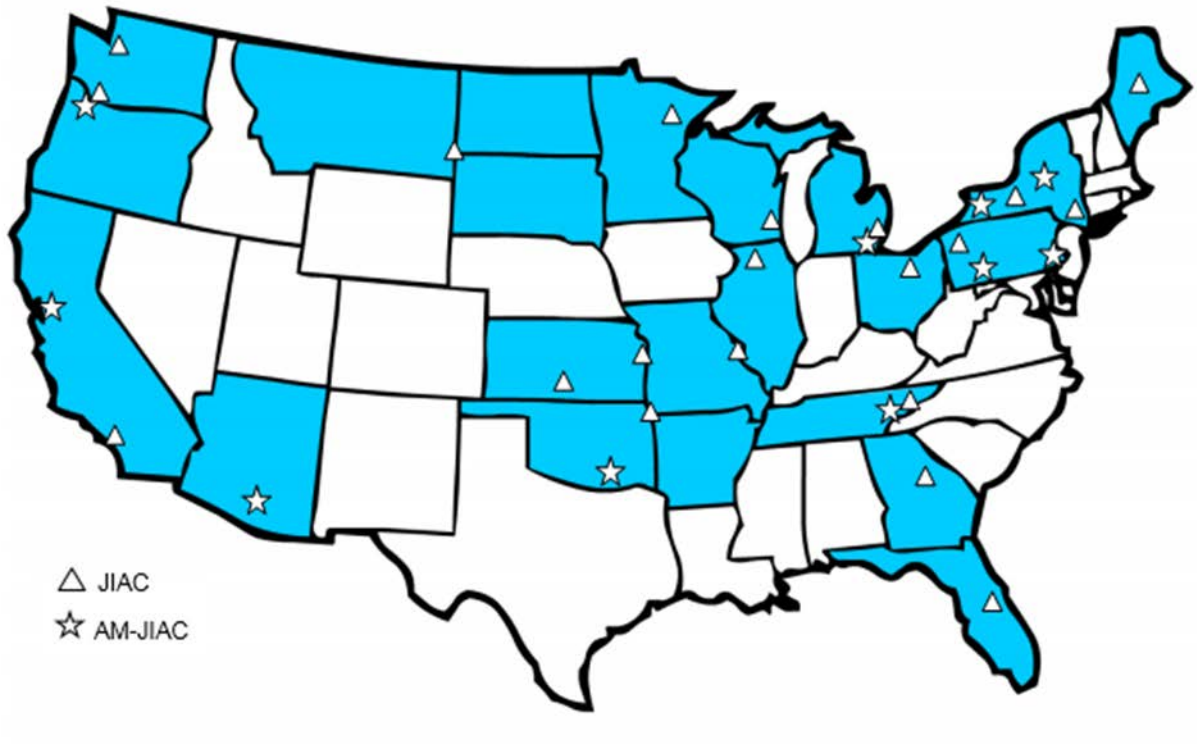
The 30 JIAC and AM-JIAC clusters cover diverse geographic regions of the country and focus on a range of industry sectors (Appendix C). The clusters are located or partially located in 22 states, and 9 of those states have more than one cluster. Five clusters cover a large geographic region involving more than one state.

Of the 30 clusters, 20 involve multiple counties with a mix of urban, suburban, and rural areas. Four of the clusters are targeted toward or have activities solely in an urban area, and the remaining six clusters are targeted toward rural areas. Figure I.4 shows the geographic dispersion of the 20 JIAC grants and 10 AM-JIAC grants.

[3] Eleven agencies support the JIAC grants and 7 agencies support the AM-JIAC grants. However, within several agencies, divisions or administrations support the grants.

[4] This program aims to provide training, education, assistance, and one-on-one counseling to small businesses that are owned by economically and socially disadvantaged individuals; are located in areas of high unemployment or low income; and are owned by low-income individuals.

Figure I.4. JIAC and AM-JIAC cluster locations



Source: JIAC and AM-JIAC grant applications.

3. Industry sector and occupational focus

The FFO required the clusters to develop sector-based approaches to spur innovation and acceleration of products and processes among regional businesses in specific industry sectors with high-growth potential and develop a skilled workforce to meet those needs of those businesses. Using the grant applications as a data source, the 10 AM-JIAC grants were constrained to an advanced manufacturing focus. The sectors these clusters identified were most often in durable manufacturing/equipment areas (Appendix C). Three clusters focus on transportation equipment including aerospace, and three clusters focus on advanced materials such as carbon fiber composites. The other four clusters involve unique sectors that are not duplicative of any of the other AM-JIAC clusters. These include optics/photonics/imaging, thermal control systems, oil and gas, and electronic equipment used in biosciences.

The sectors in the 20 JIAC clusters differ from AM-JIAC clusters because their sectoral focuses are not in manufacturing. Several JIAC clusters actually focus on multiple sectors. Six of the clusters identify their clusters as renewable energy or related industries. Two other clusters identify their sector as a renewable energy-related industry along with another industry, and one other cluster identifies a closely related sector—environmental risk mitigation. The next most popular sector was information technology (IT), which is the sectoral focus in three clusters and one of two sectors in a fourth cluster. In one of the IT clusters, the focus is health systems; in another, interactive media. Advanced materials/manufacturing is the sector in two of the clusters and is one of two industries in another. The remaining JIAC clusters include food processing, water, aerospace, nonferrous mining, and flexible electronics.

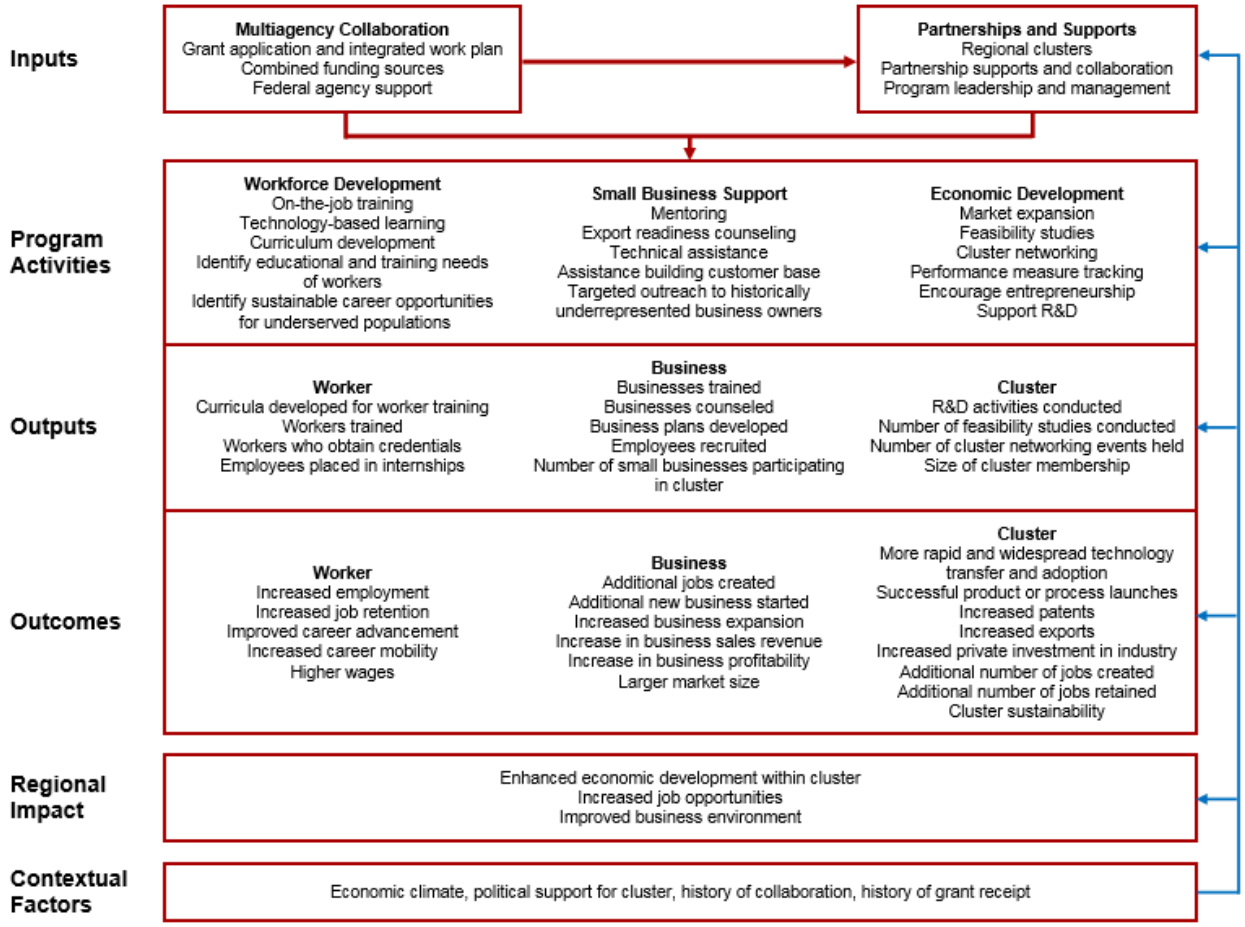
Within these industry sectors, both JIAC and AM-JIAC clusters used ETA funds to offer training opportunities and job placement assistance to help prepare a skilled workforce to meet the needs of the targeted employers in their regions. Grantees were required to provide training for occupations for which employers use H-1B visas to hire foreign workers. While data was not available in all grant applications about the specific targeted H-1B occupations, grantees that did specify a wide range of occupations, including electrical engineering technicians, mechanical engineers, engineering managers, computer-controlled machine tool operators, information technology software developers, renewable energy technicians, optical manufacturing technicians, food scientists, and high-tech farm equipment operators.

C. Logic model and overview of this evaluation

The ETA contracted with Mathematica Policy Research and the W.E. Upjohn Institute for Employment Research to conduct an evaluation of the 20 JIAC grants and 10 AM-JIAC grants. To guide the study, the evaluation team developed a logic model for the typical cluster. A logic model provides a visual representation of the inputs that influence the development and ongoing operation of the cluster, the activities planned and implemented across funding streams, the direct outputs of the activities conducted and services provided, the targeted outcomes, and the final intended regional economic development impact. The logic model in Figure I.5 is specific to the JIAC grants, but could readily apply to the AM-JIAC grants. The list of activities, output, outcomes, and impacts included is indicative and not exhaustive.

The evaluation funded by ETA focuses on the far left side of the logic model. It examines the multi-agency collaboration, partnerships and supports that are the fundamental building blocks of the logic model. The evaluation then describes the workforce development activities as well as participant-level outputs and outcomes that result from those efforts. It aims to understand how the initiatives unfold in the region and focuses on the implementation of the plans, processes and strategies the clusters used to develop and accelerate growth. While the successful cluster is intended to generate significant regional impacts within the targeted industry (or industries) through enhanced economic development, increased job opportunities, and an improved business environment, the evaluation is not designed to study those impacts.

Figure I.5. Logic Model for JIAC grants



Note: This logic model is specific to the JIAC grants, but it can also be applied to the AM-JIAC grants, which also operate at the worker, business, and cluster levels. In addition, the activities, outputs, outcomes, and impacts are intended to be indicative and not exhaustive.

R&D = research and development.

1. Key evaluation questions

Given the involvement of multiple Federal agencies in these initiatives, ETA funded the evaluation to explore how the Federal agencies worked together to develop and implement the initiatives. The agency also aimed to build a better understanding of how ETA-funded activities unfolded over time, the associated workforce-related outcomes that the clusters reported achieving, plans for sustainability beyond Federal funding, and lessons learned through implementation. The evaluation addresses seven questions aligned with ETA's goals:

1. What is the role of multi-agency collaboration both at the Federal level and within the clusters in the planning and implementation of cluster activities?
2. What is the history of the cluster and what is the cluster structure in terms of its leadership? How are the JIAC or AM-JIAC initiatives managed within each cluster?

3. Who are the cluster partners, and how do the partners work together to complement each other's grant activities?
4. What activities are funded and delivered under the JIAC and AM-JIAC initiatives?
5. What workforce-related outcomes do the clusters report achieving?
6. What practices are being implemented to promote sustainability of grant resources, partnerships, and activities? How and under what circumstances might these initiatives be replicated?
7. What are the key lessons learned through implementation?

2. Data sources

The evaluation drew on five main data sources, a mix of qualitative and quantitative information about JIAC and AM-JIAC implementation.

- **Regional cluster grant documents.** The evaluation team collected and reviewed various grant materials, including cluster applications that included an IWP for each grant type as well as ETA quarterly progress reports which include a narrative IWP report and a quarterly performance report (QPR).[5] We collected data from the applications to understand the clusters proposed organizational structures, goals, implementation plans, and activities. We received and analyzed clusters' ETA quarterly progress reports which include the IWP reports and QPRs through September 30, 2016. However, it should be noted that most ETA grants ended prior to the quarter ending September 30, 2016. For these clusters, we used the latest QPR with nonzero data. Additionally, the information contained in the IWPs were inconsistent across grantees. While some grantees provided detailed description, others summarized at a high level. An ETA QPR template is included in Appendix D.
- **Phone interviews with Federal agency representatives**. The evaluation team collected qualitative data through two rounds of semi-structured interviews with Federal staff members from the program offices overseeing the grants. The first round of interviews, conducted in fall 2013, included nine staff members from four of the five Federal agencies that funded the JIAC and AM-JIAC clusters.[6] Those interviews focused on the history of the grants, the roles of Federal agencies and the Federal supports for grantees. The results of these interviews informed the study design. The second round of interviews, conducted in summer 2014, included seven respondents from four of the five Federal funding agencies and 19 ETA Federal project officers (FPOs). The FPOs, located in DOL-ETA regional offices, were responsible for direct oversight, in consultation with the national program office, of all 30 JIAC and AM-JIAC ETA grants. Those interviews gathered the Federal perspective on program implementation through summer 2014 and recommendations for clusters to visit in 2015.

[5] Integrated work plan progress reports are templates that clusters use to provide a consolidated report on activities, outputs, and outcomes for all funding streams. Chapter III discusses their purpose and content in more detail.

[6] The evaluation team was unable to secure interviews with representatives from DOE. Therefore, that agency's perspective on the AM-JIAC initiative is not represented in this report. Federal staff from the following agencies were included in the data collection and subsequent analysis: ETA, EDA, SBA, and NIST-MEP.

- **Site visits to a subset of grantee clusters.** The evaluation team conducted site visits to 9 of the 30 clusters in summer/fall of 2015. The sites were selected based on (1) recommendations from Federal respondents, (2) partnership maturity at the time of the application, (3) geographic location, population and sector diversity, and (4) diversity between JIAC and AM-JIAC grants (Angus et al. 2015). While not a representative sample, the site visits provided context and information on cluster goals, implementation and monitoring activities, outcomes, partnerships, and successes and challenges. Two of the clusters received AM-JIAC grants and seven received JIAC grants. The evaluation team conducted semi-structured interviews with (1) cluster management staff from all nine clusters; (2) 16 grant administrators leading activities supported by EDA, SBA, DOE, and NIST-MEP grants; (3) 20 activity leaders directly implementing activities funded by the ETA grants; (4) 15 activity leaders implementing activities funded by EDA, SBA, DOE, and NIST-MEP grants; (5) 10 front line staff; (6) 22 ETA training participants; and (7) 20 representatives from other cluster partners, including the WIB, local economic development agency, and employer groups.
- **Cluster partner lists.** From May to July 2015, the evaluation team worked with ETA grant administrators to develop lists of cluster partners in their region. The ETA grant administrators generated a list of all of cluster partners, indicated if they received funds, indicated which funds they received, and rated the partners' level of involvement in cluster activities. The ETA-grant administrators were instructed to confer on development of the list with other grant administrators in the region. These lists were used to describe the number and types of funded and nonfunded cluster partners and their involvement with the initiatives. Across the 30 clusters, the partner lists included 322 organizations.
- **Survey of partner organizations.** The cluster partner lists served as the starting point to survey of a subset of partner organizations from July to December 2015. The web-based survey involved collecting responses from cluster managers, ETA grant administrators, and up to 10 partner agency representatives in each of the 30 clusters. The survey questions focused on cluster environment, partner participation, grant activities, funding sources, support received from Federal partners, data use, and outcomes. Of the 322 organizations identified in cluster partner lists, a total of 263 organizations were selected for the survey frame, and 236 organizations were sampled to participate in the survey. Of these, 182 completed the survey for a response rate of 77 percent. (Sampling procedures are described in Appendix E.) Of the 182 observations, 14 respondents noted that they were not familiar with the local cluster and were excluded from the analyses. For the remaining respondents, the survey had four different paths: one for the cluster manager when that person was also the ETA grant administrator (N = 19), one for the cluster manager when that person was not the ETA grant administrator (N = 10), one for ETA administrators who were not cluster managers (N = 10), and one for other partner organizations (N = 129).[7] We did not apply a weighting adjustment to the sample survey.

  The survey results reported in the report presents findings based on different sample populations and respondent types, depending on the topic. Importantly, the timing of the

[7] OMB package can be found here: http://www.reginfo.gov/public/do/PRAViewIC?ref_nbr=201412-1205-003&icID=214766.

survey may have influenced the types and number of partner organizations reported by the clusters. In particular, the SBA and EDA grants for the JIAC initiative were no longer active in most clusters when the survey was conducted. As a result, organizations engaged in ETA-grant activities within the 20 JIAC clusters may be overrepresented compared to those that participated in SBA and EDA activities.

3. Analysis methods

Our analysis approach integrates both qualitative and quantitative data sources. The analysis of quantitative data from QPRs and IWP reports as well as survey data is purely descriptive and involves simple tabulations and cross-tabulations. The information included in the grant applications about cluster characteristics, goals, and proposed activities were systemically extracted and analyzed. The grantee narrative IWP reports were also thoroughly reviewed; however, given inconsistency in the format and content of grantee narrative IWP reports, they were ultimately used to provide specific examples that highlight key themes or findings from other data sources.

The analysis of the qualitative data from the site visits involved a multi-step process. Interviewers used a standard template to develop detailed internal notes to feed into the analysis. We then developed and applied a coding scheme using ATLAS.ti qualitative data coding software to organize notes by key topics (Appendix F). Using queries from the coded data, the evaluation team used an iterative process of distilling themes, drawing not only on respondents' perspectives about their own experiences. The evaluation team, which includes both Mathematica, Inc. as well as W.E. Upjohn Institute for Employment Research, has been steered by a three member Technical Working Group who has guided the analysis and informed the evaluation based on their understanding of experiences across multiple agencies and clusters and expertise in the field. The analysis highlights common perceptions as well as unique or interesting perceptions. To the extent possible, the team documented the number of respondents that reported different types of experiences and the types of respondents that contributed their perspectives on the topic. To ensure confidentiality, this evaluation report does not identity the name or position of any of the respondents.

Notably, this study has several key limitations that readers should consider when reviewing the findings. First, the evaluation is descriptive and does not contain baseline measures upon which to assess growth or change. Although the data sources intend to capture the extent to which outcomes may be influenced by the grants, the study does not have a counterfactual and cannot assess the impacts of the initiatives. Second, the analysis is also limited by some inconsistencies in available data. For example, the grant applications and grantee narrative reports varied greatly in their detail and consistency. To the extent possible, the analysis of these data highlights patterns that emerged and provides specific examples to illustrate key themes from more consistent data sources. Third, the QPR data submitted by grantees to DOL does not contain employment outcome data for some participants. Grantees are not required to collect outcomes for those participants who did not complete their training. In addition, the common measures used for performance require employment retention measures to be captured for training completers at three calendar quarters after completion. Approximately 1,569 JIAC and 596 AM-JIAC participants completed training within the three quarters prior to the end of their region's ETA grant, and, therefore, cannot be included in the analysis of employment retention

measures. Fourth, the QPR data do not contain measures of economic growth or participant wage increases. As a result, the evaluation cannot determine outcomes related to job retention, an increase in wage growth, or growth in the regions. The template also required all of the grantees to report on the same goals which do not always directly align with the goals and/or objectives of specific regional clusters. Lastly, site visits were conducted to only a subset of clusters and are not necessarily a representative sample. Despite these limitations, by integrating the results of the qualitative and quantitative analyses, the analysis presents systematic and integrated findings on the implementation and outcomes of the JIAC and AM-JIAC initiatives.

D. Structure of the final report

Evaluation findings are presented in two reports: an interim report and this final report. The interim report (Angus et al. 2015) provided early findings on the implementation of the JIAC and AM-JIAC grants through summer 2014, drawing on the two rounds of phone interviews with Federal staff and the review of grant documents. The interim report addressed all of the research questions at an earlier state in grant implementation with a focus on Federal agency collaboration (research question 1).

This final report draws on the survey data, QPR data, and site visit data to present findings on grant implementation and ETA participant outcomes. The rest of this report is organized into seven chapters. For each of reference, below we indicate the primary research question(s) addressed in each chapter; however, the chapter content often provides information to help addresses other questions as well.

- Chapter II examines cluster partnership history, organization, and the role of cluster managers (research question 2).
- Chapter III examines the partners that are involved in the clusters and how decisions are made within the clusters and between partners to complement the grants activities (research question 3)
- Chapter IV provides findings on the activities funded by all Federal partners during the grant initiatives (research question 4)
- Chapter V examines the experiences, the characteristics, service receipt, and outcomes of ETA participants (research question 5).
- Chapter VI examines the support and technical assistance that clusters received from the Federal agencies (research question 1).
- Chapter VII examines the sustainability and replicability of the grant activities and partnerships (research question 6).
- Chapter VIII examines the factors that impeded and facilitated grant implementation before concluding with lessons learned (research question 7).

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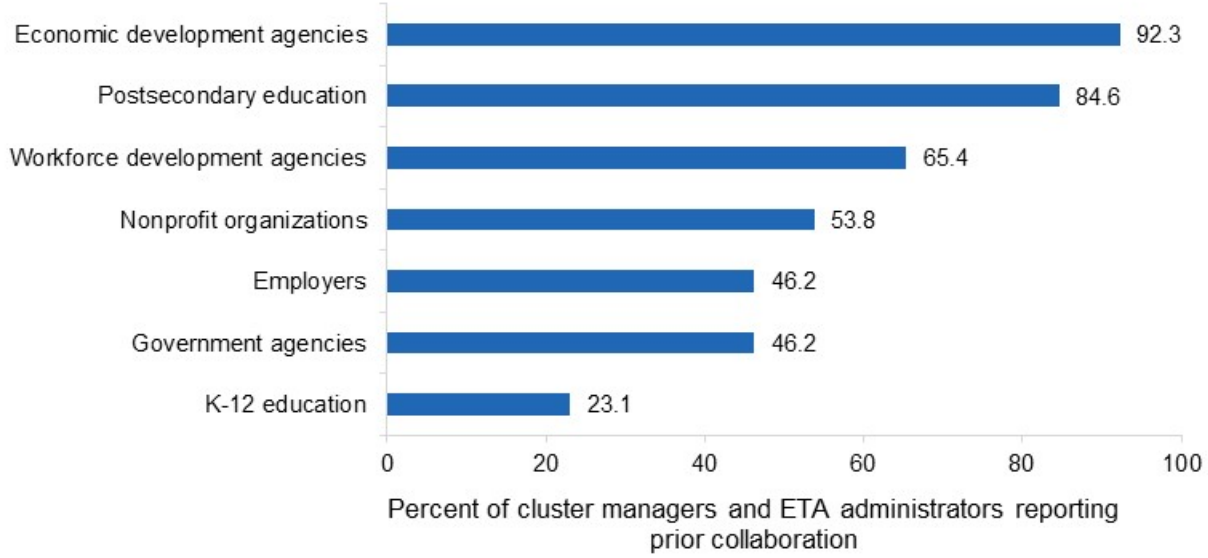
II. HISTORY AND ORGANIZATION OF THE JIAC AND AM-JIAC CLUSTERS

The JIAC and AM-JIAC initiatives required that the organizations that received grants from the different funding streams work within their clusters to advance the initiatives' objectives of using interagency collaboration to foster regional economic development. This chapter first examines the ways in which organizations involved in JIAC and AM-JIAC began to develop clusters or adapt existing clusters for the purposes of applying for and implementing the grants. The chapter then provides an overview of the grant award structure in each cluster. The chapter concludes with a discussion about the role and responsibilities of cluster managers in coordinating efforts across the grantees within the cluster.

A. History of the JIAC and AM-JIAC clusters

Most clusters within the JIAC and AM-JIAC initiatives had existing partnerships prior to the grant award and used their grants to either continue or expand their efforts to promote regional economic development. Sixty-eight percent of all survey respondents, including cluster managers, ETA administrators, and other partners, reported that at least some elements of their clusters formed prior to the grant. The remaining respondents indicated that the cluster formed solely for the purpose of applying for the grant. In some cases, these respondents may not have been aware of cluster-based efforts in the region if their organization was not involved. To provide context for these survey results, a review of the 30 cluster grant applications revealed that using a broad definition which includes both formal and informal partnerships, 21 of the 30 clusters (or 70 percent) had prior relationships. Based on responses from cluster managers and ETA administrators, organizations reported as involved in prior collaborations often included economic development agencies, postsecondary educational institutions, and workforce development agencies (Figure II.1).

Figure II.1. Types of organizations involved in prior collaborative efforts

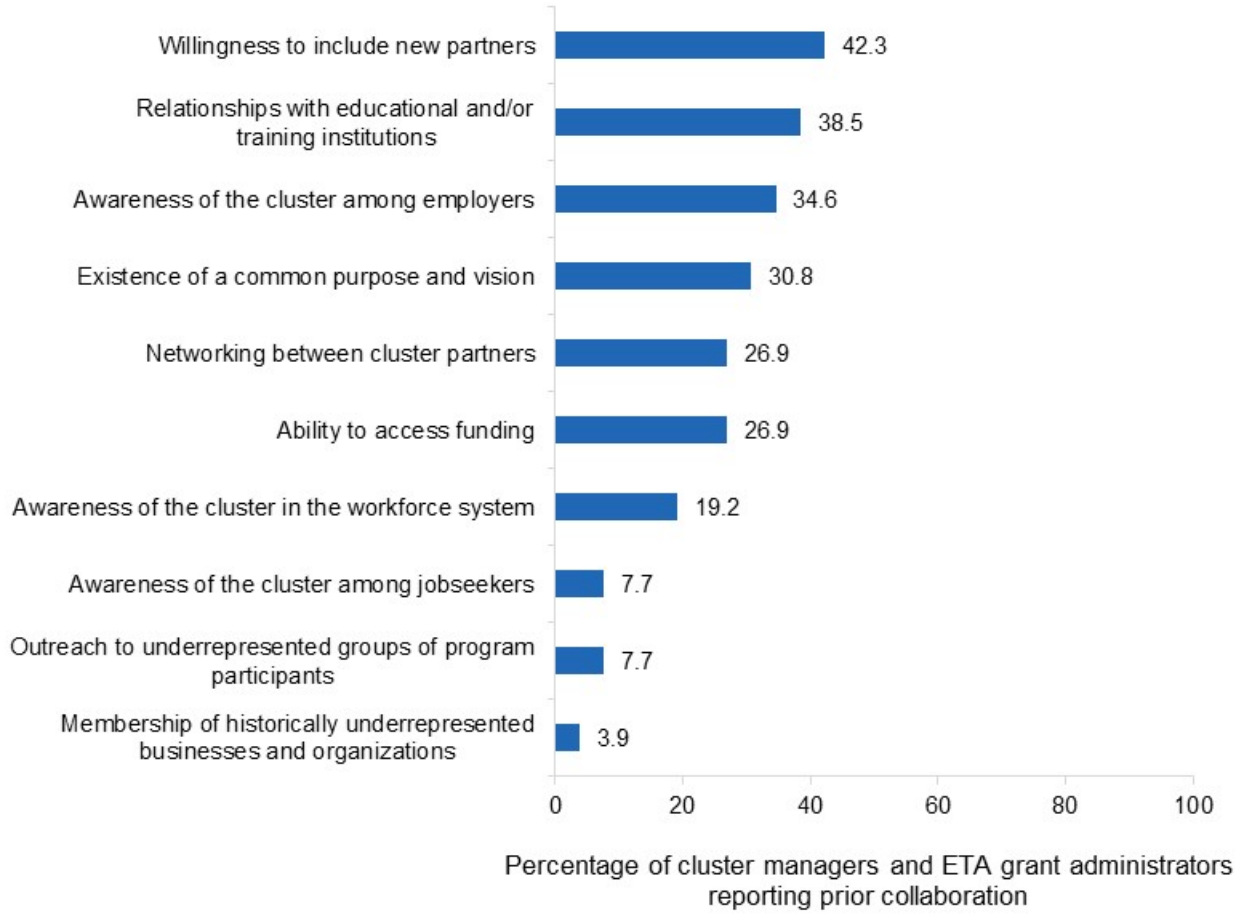


Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.

Note: Figure contains responses from 26 cluster managers and ETA grant administrators who indicated their agencies were involved in prior collaborative partnerships.

To gauge the extent of past collaborations, survey respondents were asked to indicate key characteristics of preexisting clusters. Fewer than half of respondents reported that any particular characteristic existed before the JIAC or AM-JIAC initiatives, but when respondents did identify them, the most common were a willingness to include new partners and relationships with educational and or training institutions at 42 and 38 percent, respectively (Figure II.2). Fewer than 10 percent of respondents indicated that their clusters actively engaged underrepresented businesses or program participants before the grant.

Figure II.2. Key characteristics of preexisting clusters



Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.

Note: Responses from 26 cluster managers and 10 ETA grant administrators who indicated they were involved in prior collaborative partnerships. Three cluster managers indicated that the clusters were not involved prior to the grant.

Survey respondents also indicated that their regions rely on collaboration as a means of advancing regional economic development. Eighty-two percent of survey respondents believed that their regions' stakeholders pursued collaboration to advance economic development to a medium or large extent. Only 2 percent of survey respondents did not believe that their regional stakeholders used collaboration as an economic development strategy (not shown).

Site visit responses supported the survey findings regarding preexisting collaboration. Sites were selected for visits to ensure that some had formed prior to the grant and others were newly formed; six of nine site visit clusters formed prior to the grant opportunity. Partners in the six clusters that collaborated prior to the initiative had worked together either through a cluster, a similar consortium, or other collaborative efforts. Respondents from these clusters indicated that they had awareness of each other's organizational missions and leadership from their earlier partnerships; that knowledge strengthened their work under the JIAC and AM-JIAC grants. Of particular interest, three of the six clusters included partners that participated in similar grant efforts, such as the DOL-funded Workforce Innovation in Regional Economic Development (WIRED) grants that brought together state, local, and Federal entities; academic institutions; investment groups; foundations; and business and industry to address the challenges associated with building a globally competitive and prepared workforce (U.S. Department of Labor 2007). These six cluster managers described their regions as highly or fairly collaborative; the remaining did not identify their regions as particularly collaborative.

B. Grant award structure within clusters

Organizational structures influence each cluster's approach to leadership and management, as well as the cluster's ability to implement activities across grants that complement each other. JIAC and AM-JIAC clusters operated under one of three organizational structures: a single organization received all Federal grants, different organizations received each grant, or multiple organizations received grants with at least one receiving multiple grants (Table II.1). Among all 30 clusters, a single organization received all related grants in 11 clusters, different organizations received separate grants awards for each funding stream in 9 clusters, and 8 clusters had multiple organizations receiving grant awards with at least one receiving awards from two or more funding streams. These organizational structures influenced the leadership styles and decision making approaches used by clusters, as described in Chapter III. Site visits to nine clusters provided opportunities to learn more about how each of these organizational structures operated in practice.

Table II.1. Number of clusters by grant award structure

	Number of JIAC clusters	Number of AM-JIAC clusters	Total for all 30 clusters	Number of site visit clusters
Single organization received all JIAC or AM-JIAC grants	9	2	11	2
Different organizations each received one JIAC or AM-JIAC grant	8	1	9	3
Multiple organizations received JIAC or AM-JIAC grants with at least one receiving multiple grants	3	7	10	4
Total	**20**	**10**	**30**	**9**

Source: JIAC and AM-JIAC grant applications.

A single organization was designated as lead for all JIAC or AM-JIAC grants. A single organization received all three grants in two JIAC clusters that participated in site visits. The grantee organization in both clusters was an educational institution: one was a university and the other was a community college. Both grantee organizations provided some form of direct

services to businesses and/or individuals. In each cluster, the grantee worked in close collaboration with additional partners to deliver grant-funded services and fulfill the JIAC grant reporting requirements. One cluster worked closely with the local economic development commission to design training programs aligned with industry needs and identify employer customers to receive services funded through the EDA and SBA grants. Both clusters also worked in partnership with a local workforce entity—the local WIB—to develop their training strategy, as required by the ETA grant.

Different organizations within the region each received one JIAC or AM-JIAC grant. In three JIAC clusters, different organizations received each grant and also engaged additional partners to complete grant-funded activities across funding streams. Although these clusters followed the same overarching organizational structure, the role of the lead organization varied. Lead organizations submitted the grant application on behalf of all cluster partners. In one cluster, the ETA grantee led cluster operations but did not directly provide services, instead coordinating with local American Job Centers (AJCs) to identify potential training participants and engage local training providers, such as community colleges, to then provide grant-funded training in specific industries and occupations. In another cluster, the local workforce entity led the cluster's operations and also directly implemented ETA-funded activities. In the final cluster, the EDA grant recipient initially served as the lead cluster organization, but because of its limited capacity to both administer the grant and implement grant activities, the ETA grantee ultimately served as the lead cluster organization.

Multiple organizations received JIAC or AM-JIAC grants with at least one receiving multiple grants through the initiative. Two AM-JIAC clusters and two JIAC clusters included in the site visits followed this structure. In both AM-JIAC grants, the organization that received multiple grants directly provided all activities funded by those grants and led cluster operations. In one, a business development center housed within a university received and provided services funded by the ETA, EDA, and SBA grants. In the other, a nonprofit organization received and led activities funded by the EDA and SBA grants. The two JIAC clusters functioned differently. In both of these clusters, a university received multiple grant awards and served as the administrative entity for those grants but used sub-grants so that another cluster member, the local economic development organization in both cases, could lead EDA-funded activities.

C. Cluster leadership and the role of the cluster manager

Clusters were not required to identify a lead organization, but most, either officially or unofficially, designated an individual on the grant application who was responsible for overseeing work across grants, including reporting to each of the Federal funding agencies. These individuals are referred to as *cluster managers* for the purposes of this evaluation. Their organizational affiliations varied substantially, yet the responsibilities of these cluster managers in planning were similar. The lack of a requirement for a cluster manager has implications, based on survey and site visit data, given that a natural leader did not emerge in some clusters.

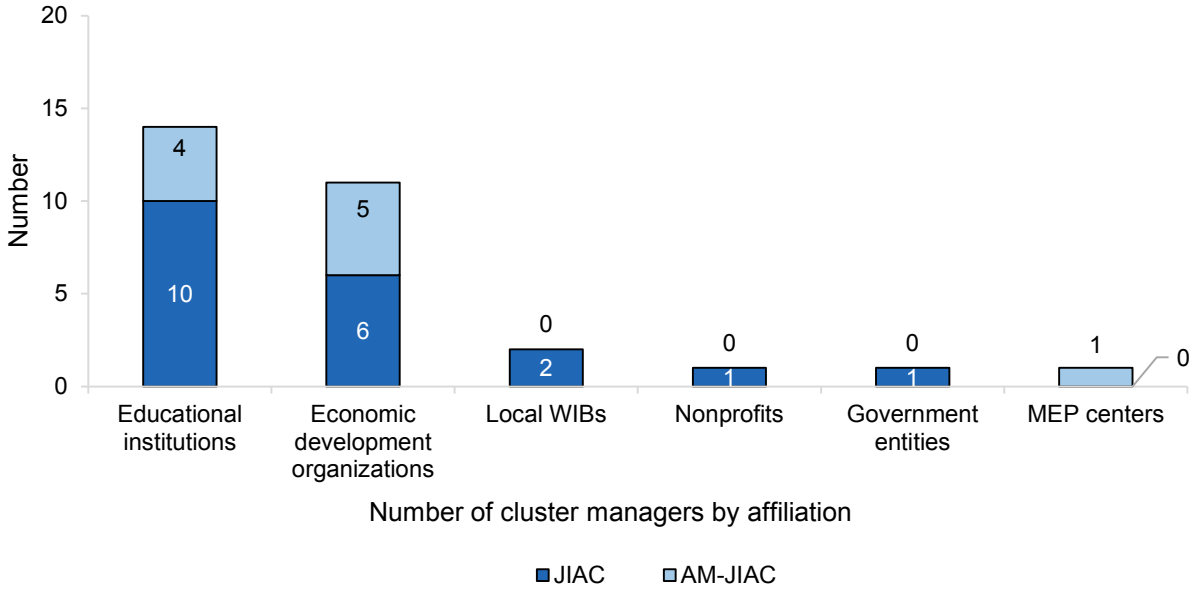
1. Cluster manager affiliation

Across the 30 clusters, cluster managers were affiliated with educational institutions, economic development organizations, local WIBs, nonprofits, government entities, and Manufacturing Extension Partnership centers (Figure II.3). Half of the 20 JIAC cluster managers

were associated with educational institutions, such as community colleges, four-year colleges and universities, and occupational skills training providers, which tended to provide skills-based training to individuals as part of the ETA grants. Thirty percent (6) of the JIAC cluster managers were associated with economic development organizations, compared to 50 percent in the AM-JIAC clusters. The difference in cluster manager association likely reflects the level of funding provided by each Federal agency. As discussed in Chapter I, ETA invested significantly more in the JIAC initiative, whereas EDA contributed the same amount across both the JIAC and AM-JIAC grants, with a larger average award per grantee in AM-JIAC.

Across the 30 clusters, 21 cluster managers also served as the cluster's ETA grant administrator; this included 16 JIAC and 5 AM-JIAC cluster managers. In that capacity, the cluster manager led planning and implementation of ETA-funded activities, in addition to fulfilling his or her cluster manager responsibilities. Among the remaining nine clusters, one cluster manager also served as the cluster's EDA grant administrator, the other 8 received funding from multiple funding sources.

Figure II.3. Cluster manager affiliation

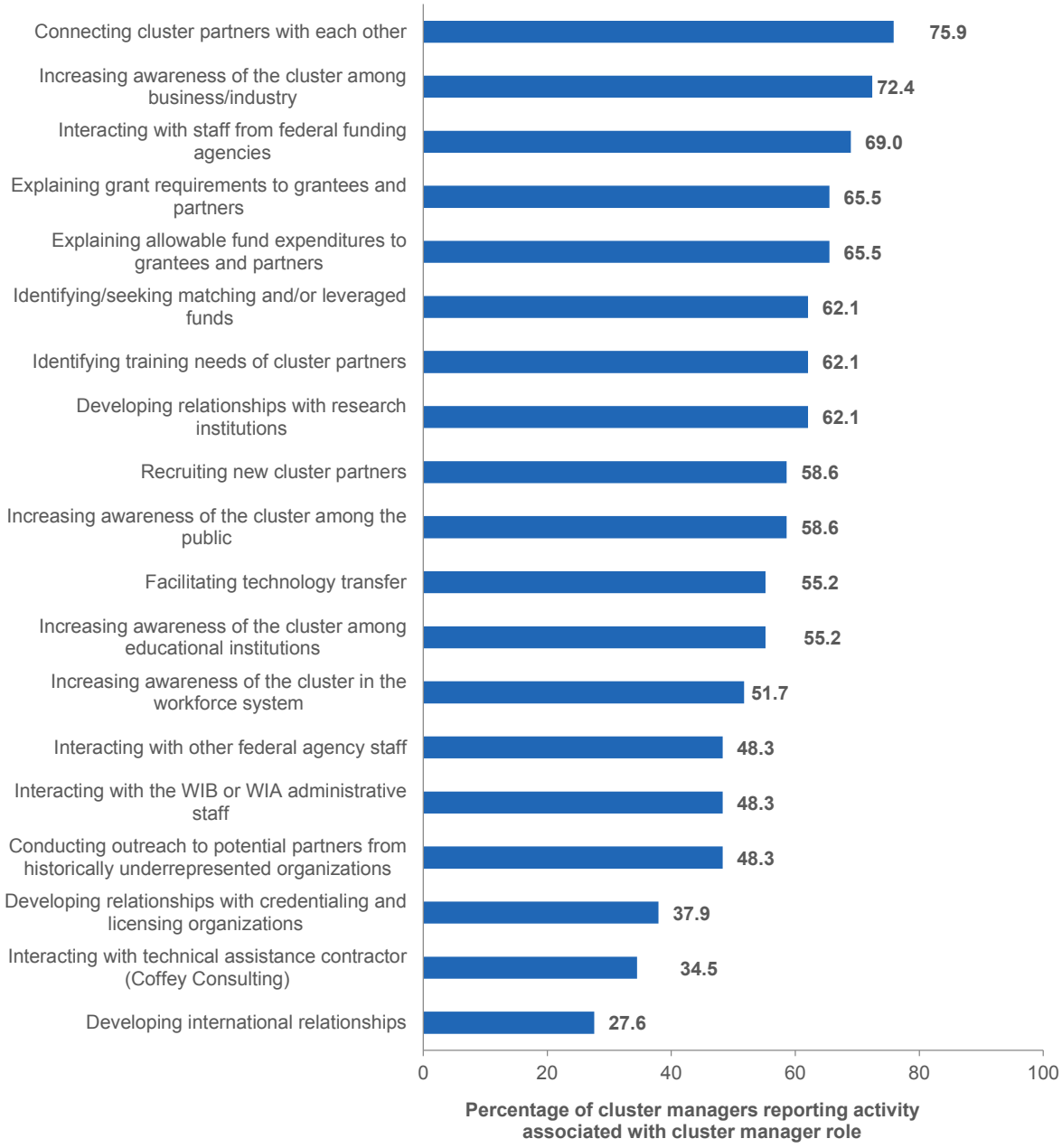


Source: JIAC and AM-JIAC grant applications.

2. Cluster manager responsibilities

Survey responses suggest that cluster managers defined their role in the JIAC and AM-JIAC initiatives in similar ways. Most cluster manager responsibilities focused on developing cluster partnerships and working with the Federal funding agencies (Figure II.4). Development of cluster partnerships included efforts to increase awareness of the cluster among the businesses and industries in the region and to connect cluster partners with each other. Additionally, cluster managers worked to explain allowable expenses and activities to grantees and funded partners.

Figure II.4. Role of the cluster manager



Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.

Note: Figure contains responses from 29 cluster managers. WIA = Workforce Investment Act.

Site visit responses also illustrate cluster managers' involvement from initial design through implementation of the JIAC/AM-JIAC grant activities and the role they felt comfortable playing with regard to decision making. Cluster managers completed key activities before and after grant award.

- **Grant-writing and pre-award planning.** Cluster managers from three of the nine clusters reported that they wrote or coordinated their clusters' grant application and described being deeply involved in pre-award activities, such as identifying potential partner organizations. These three cluster managers described that they easily transitioned to their grant leadership role upon grant award.
- **Designed and implemented activities.** Seven of the nine site visit cluster managers reported that they helped design and implement activities for at least one of the Federal grants.

While these some clusters may have felt ready to assume leadership given their early involvement, four cluster managers, all from JIAC clusters, asserted that they struggled with who was really the 'lead' entity when it came to the final decision making. In the other two site visit clusters, the cluster managers assumed the cluster manager role in the middle of the grant period and therefore did not help with initial design and implementation. These clusters, who experienced turnover in leadership, expressed frustration that they did not feel as if they understood the broader context of operating and coordinating programs within regional economies when they assumed the cluster manager role. Their work focused largely on ensuring compliance related to reporting and other Federal requirements. Interviews suggest that without a Federal requirement to designate a cluster manager, in at least a few clusters, no natural leader emerged.

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III. WORKING WITHIN THE CLUSTERS

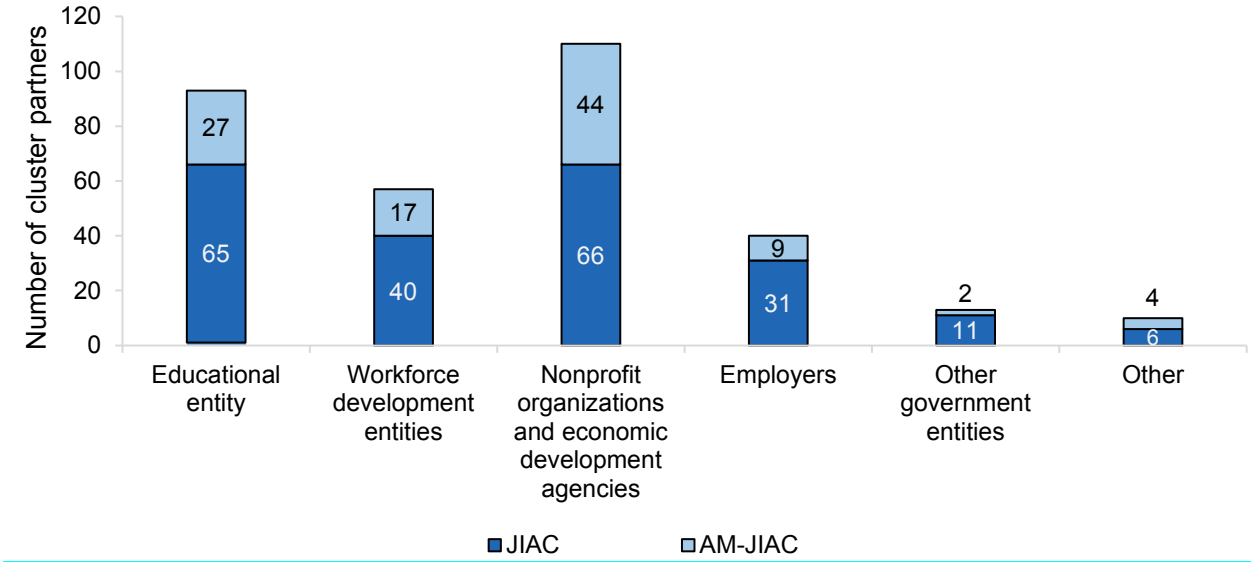
An important principle of the JIAC and AM-JIAC initiatives was to allow clusters flexibility. The FFO notes that the initiative aimed to "accelerate bottom up innovation…as opposed to imposing one size fits all solution[s]" (U.S. Department of Commerce, 2011 p. 3). In light of this goal, the JIAC and AM-JIAC grants provided clusters with broad flexibility to develop their own organizational and leadership structures and partnerships to promote multi-agency collaboration, increase coordination of services and activities within a region, and spur economic development and innovation. Although the FFO specified that clusters develop partnerships, the funding agencies provided them latitude to develop and structure partnerships to meet the needs of the geographic region and industry sector. This chapter describes the efforts of the grantees to develop and structure cluster partnerships. It describes partnership engagement and involvement, strategies to manage cluster operations, decision-making and communication activities, and coordinating reporting requirements. By exploring the partnerships, management and funding structures within the clusters, the chapter explores the implications those structures have on administrative burden.

A. Cluster partner engagement and involvement

Clusters needed to engage numerous and varied partners to achieve the goals specified by each Federal funding agency. As part of their grant applications, clusters identified lead organizations responsible for administering each grant, additional partners to support proposed activities, and non-funded partners that could help to advance clusters' missions and provide input on activities. The Federal funding opportunities required clusters to include partnerships with at least one employer or a consortium of employers and an entity involved with the administration of the workforce investment system.

The JIAC and AM-JIAC clusters engaged, on average, 11 different entities as partners, according to the partner lists provided by clusters for the survey. However, the number of cluster members varied from 3 members in one cluster to 26 members in another. JIAC clusters averaged 9 partners, whereas AM-JIAC averaged 8 partners. The most common cluster members included educational institutions, nonprofit organizations, economic development agencies, and workforce development organizations (Figure III.1). Educational institutions often included four-year colleges or universities as well as community colleges. Few clusters worked with government entities such as tribal governments or the military.

Figure III.1. Number of cluster partners, by type

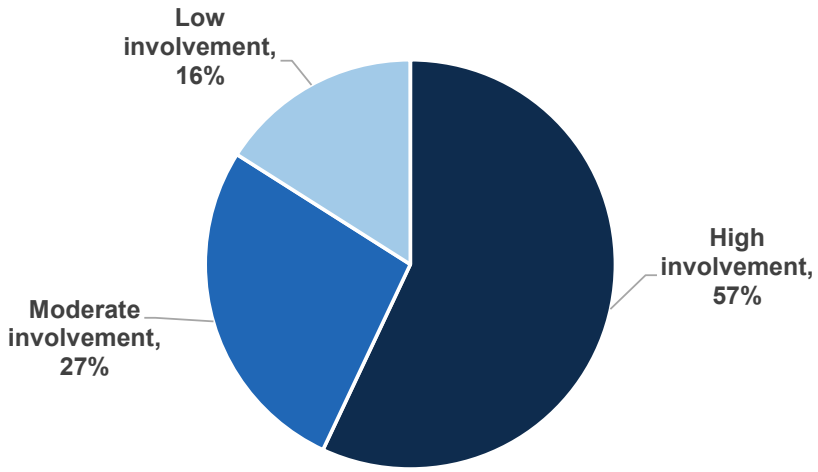


Source: Sample frame for survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.

Note: Figure contains information from 322 organizations. Other government entities include organizations such as state and local government agencies.

Partner lists indicated that that the vast majority of JIAC or AM-JIAC cluster partners were highly or moderately involved in cluster activities (Figure III.2). Across the 322 cluster members identified in the partner lists, 57 percent were rated as highly involved, 27 percent as moderately involved, and 16 percent as minimally involved. Educational institutions and workforce development agencies tended to be highly involved, as suggested by the fact that most cluster managers were from these organizations (not shown).

Figure III.2. Level of involvement among cluster partners



Source: Sample frame for survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015. In developing the frame, ETA grant administrators, in collaboration with other grant administrators in the region, provided assessments of each member's involvement in their respective clusters.

About 70 percent of cluster members received some JIAC or AM-JIAC grant funds, either as the grantee or a funded partner. Among the funded members, 83 percent received funding from only one grantee agency. About 17 percent received funding from two or more grant types. Receipt of grant funds appears directly related to the level of involvement. In particular, 72 percent of funded partners were highly involved in grant activities, compared to only 24 percent of non-funded partners.

Site visit respondents generally felt that the appropriate partners, as defined by respondents, participated in their clusters. At least some respondents from four clusters, however, recognized that as a result of implementation challenges, they needed to engage additional partners to better serve their target populations. In particular, two of these clusters added training partners during the course of the grant to meet the training needs of the region. One of the four clusters also replaced a partner that lacked the capacity necessary to execute its planned activities. The final cluster added an economic development partner to better meet the needs of its target industry.

According to respondents from cluster partners in two university-led clusters, additional WIB involvement could have helped increase employer engagement and connections between training participants and employment opportunities. In these two clusters, the lead entity established a partnership with the local WIB to assist with ETA quarterly progress reporting requirements. However, the locals WIBs did not participant in day-to-day operations and did not interface with training participants or employers. Staff from cluster partners in both of these clusters suggested that engaging local WIBs more fully could have increased employer engagement across cluster funding streams. They indicated that increased employer engagement also could have helped to ensure that the cluster met the needs of its target industry and employers. A community college training partner from one of these clusters noted that the local WIB could have identified potential program participants and could then provide job matching services for training graduates. Based on a review of IWPs, one cluster reported that the WIB was distributing job postings to program graduates but was not reported as engaged in job development or placement, and the other cluster was attempting to engage the WIB to serve as a referral source for incumbent worker training.

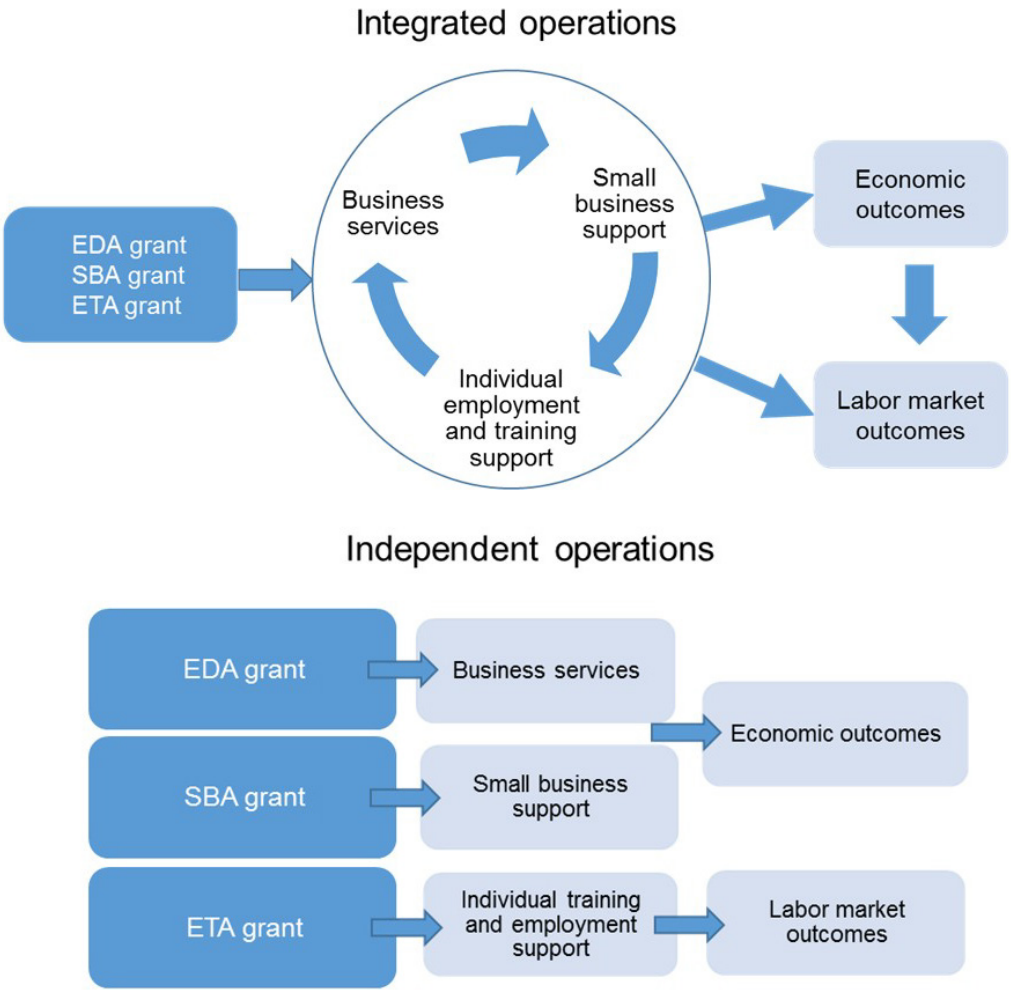
B. Cluster operations

Given the structure of the JIAC and AM-JIAC initiatives, clusters had to develop strategies to manage day-to-day operations across multiple grant awards within the region. These decisions involved the extent to which operations were integrated with a lead organization coordinating complementary activities, the level of partner involvement in cluster decision making, and the types of communication required to implement cluster efforts.

1. Cluster operations and activity coordination

Cluster operations fell into two categories: (1) integrated operations managed by a lead organization with activities across grants described as complementary or coordinated and (2) independent operations with each grant and its associated activities operating separately but toward the same overarching mission (Figure III.3). Among the nine site visit clusters, four clusters used integrated operations to implement coordinated activities and five clusters independent operations.

Figure III.3. Cluster operations and activity coordination



Integrated operations required close coordination across partner organizations and strong leadership to pursue closely linked activities. Three clusters that used integrated operations included multiple grant-funded organizations. One of the clusters was a JIAC grantee and two were AM-JIAC grantees. Within this framework, cluster managers helped leverage partnerships to deliver complementary services across the organizations and grants. The cluster managers in these regions facilitated regular meetings to ensure that all partner organizations worked toward common goals and pursued coordinated activities. Cluster members described working closely together, communicating with one another frequently, being aware of the mission and services provided by other partners, and attending each other's events. One cluster manager applied this approach by prioritizing ETA-funded on-the-job training (OJT) placements at SBA-supported small businesses. As the cluster manager noted, OJT placements could have been at other businesses in the region, but the cluster made a concerted effort to ensure that most placements occurred at small businesses involved in the cluster's SBA efforts. Another cluster manager established a steering committee to guide the work of the cluster. The steering committee met regularly to make decisions about the activities being implemented by each grant and to delegate work across organizations.

The fourth cluster that used the integrated approach was part of the JIAC initiative; it had a single organization that received all three grants and maintained responsibility for designing and implementing activities. In this cluster, the cluster manager affiliated with that single organization could ensure that all activities remained closely linked. As the manager described, the cluster marketed its services as a package of services available to businesses. A small business could first receive support funded with SBA dollars and its workers could then access incumbent worker training funded with ETA dollars. From the cluster manager's perspective, businesses viewed these services as seamless, partly because there was a single point of contact for accessing services.

The remaining five clusters, all JIAC grants, used an independent approach to operations: each grant operated independently but worked collaboratively toward the same mission and goals. The cluster managers still played an important role in overseeing and supporting activities in four of these clusters. In the remaining cluster, the cluster manager changed after the EDA and SBA grants concluded. Consequently, respondents indicated that the cluster lacked the consistent, centralized leadership necessary to pursue more coordinated work.

In these five clusters, site visit respondents indicated that the structure of the JIAC grants facilitated an independent approach. All five of these clusters included more than one grantee, although some grantee organizations received one grant, whereas others received multiple grants. Each funded organization needed to be responsive to the requirements of its Federal grant. Because these clusters typically relied on organizations familiar with a specific Federal agency to operate associated activities, each organization possessed the experience necessary to meet the associated requirements. Grant administrators in these clusters indicated that they did not require additional support from the cluster manager to implement their work but rather that cluster managers trusted partner organizations to successfully provide services given their expertise and capabilities. Respondents in these clusters noted that the activities across grants did not build on or complement one another. In fact, in three of the five independent clusters, partners lacked awareness about how activities were unfolding at other partner organizations. Although these clusters allowed each grant to operate independently, most site visit respondents stressed that they shared a common vision and mission across grants because of preexisting relationships and communication facilitated by the cluster manager.

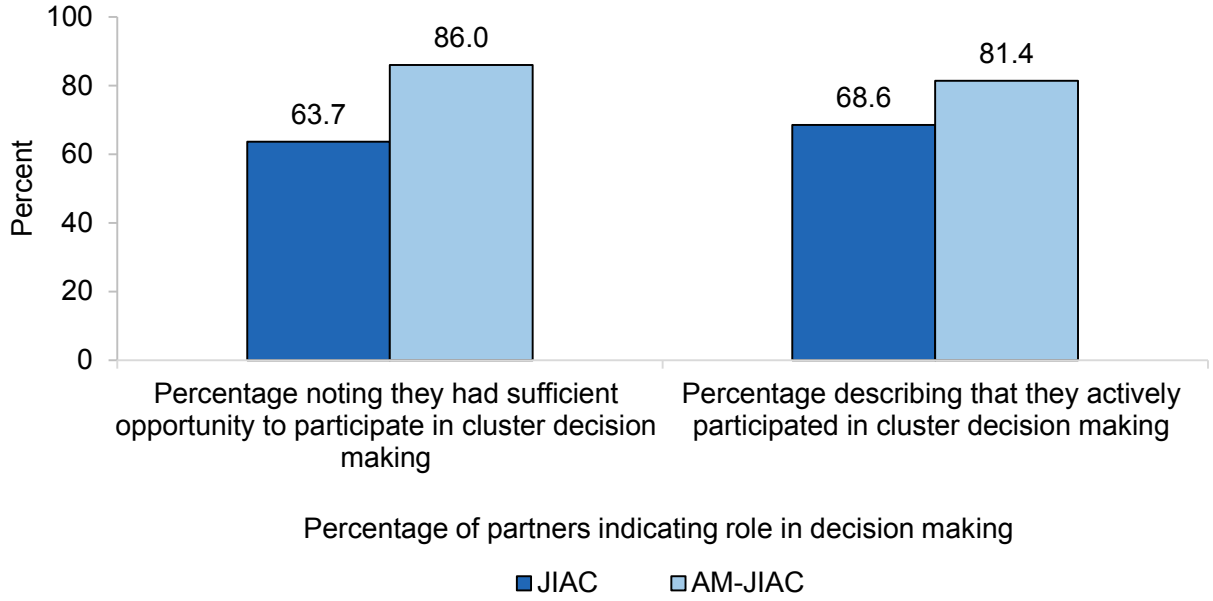
2. Cluster decision making and communication

Site visit indicate that clusters engaged members in two levels of decision making as related to the: (1) overall direction and operations of the cluster and (2) implementation of grant-funded activities. Decisions about the cluster involved items such as the strategy for meeting its goals, reporting procedures, marketing the cluster, and overall direction. Decisions regarding how to implement the grants related to selecting service offerings, developing curricula, and recruiting employers and individuals.

Most partner organizations were satisfied with their opportunities to contribute to cluster decision making, although AM-JIAC clusters appear to be engaging partners more often in decisions (Figure III.4). About 64 percent of surveyed JIAC partners compared to 86 percent of surveyed AM-JIAC partners reported that they had sufficient and appropriate opportunities to participate in cluster-level decision making. Similarly, 69 percent of JIAC partners compared to 81 percent of AM-JIAC partner organizations reported actively participating. Although

respondents were not asked to expand on their assessment, the number of Federal entities involved in the AM-JIAC clusters may have required more deliberate efforts to engage partner organizations in decision making.

Figure III.4. Cluster partner involvement in decision making



Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.
Note: Figure contains responses from the 129 partners that completed the survey.

According to site visit data, cluster-level decision making typically occurred as a team with support from the cluster manager. One of the nine site visit clusters formalized team decision making through the steering committee it established for the purposes of this initiative. This team was tasked with approving all decisions. Seven clusters relied on consensus established during meetings rather than a formal leadership team. In the remaining cluster, the cluster manager accepted input from partner organizations but made most cluster level decisions independently. Examples of such decisions included approval of promotional materials, "branding" of the work the cluster did in the region, and strategies to recruit regional businesses and participants. While these clusters tended to meet frequently, communication dropped off as the period of performance for the EDA and SBA grants concluded. Communication then typically occurred through the cluster manager and related primarily to reporting requirements.

Partner organizations generally expressed satisfaction regarding the frequency and nature of cluster communication. The majority of surveyed partner organizations, 79 percent, deemed information about cluster operations as adequate. However, fewer partner organizations from JIAC clusters (75 percent) reported receiving adequate information compared to their AM-JIAC counterparts (88 percent) (not shown).Communication across partner organizations occurred through regular in-person meetings, conference calls, and email, according to site visit respondents. The frequency of in-person meetings varied from biweekly to quarterly, largely because of the physical proximity of partner organizations. Two clusters reported regularly meeting in person, either formally or informally, because partners were located nearby. In one of

these clusters, partner organizations included different university departments, so informal meetings occurred as often as weekly.

As the EDA and SBA grants concluded, all JIAC clusters noted that communication among partner organizations decreased. EDA and SBA partner organizations no longer actively participated in meetings because they had completed their work. Consequently, the ETA grant administrators and cluster managers reported using email to communicate in place of phone calls or in-person meetings. Because of the shift in communication, EDA- and SBA-funded partner organizations typically lacked awareness of ETA activities, which often started toward the end of or following the EDA and SBA grant periods.

Site visit respondents suggested that communication approaches were established fairly early in the grant period; frequent opportunities to communicate across partners facilitated post-award planning and grant implementation. Regular, frequent planning often focused on information sharing. Site visit respondents indicated that in post-award planning meetings, they first needed to educate each other regarding their organizational missions and available services. Cluster managers and grant administrators from two site visit clusters used a similar process in which partners delivered presentations describing their services and potential ways to coordinate with others to deliver those services. Both of these clusters used centralized decision making approaches to pursue activities. Although partner organizations possessed some awareness about each organization's role in the cluster, partners needed to discuss how each organization would implement its funded activities, potential opportunities to deliver complementary services, budgetary needs, delineation of tasks within the cluster, and the timeline for completing each task.

C. Cluster reporting as part of Federal requirements

All of the clusters had to submit an integrated work plan (IWP) as part of the quarterly progress report to track progress, challenges, and successes across funding streams. Although each Federal agency had its own performance reporting structure, the tool was developed collaboratively by the Federal agencies to provide the that JIAC and AM-JIAC regional partners a tool to integrate their efforts, increase collaboration across the cluster, and leverage appropriate resources and streamline reporting (see Appendix D for an example of the quarterly progress report which includes the narrative IWP template). These IWPs were intended as both a management tool for the clusters and a reporting tool for the Federal agencies. ETA grant administrators also used an automated system called the HUB Performance Reporting System for H-1B Grants to submit data for a quarterly performance report to DOL regarding progress with ETA-funded enrollment, service provision, and participant outcomes. Although some cluster managers found these reporting tools to be useful for managing activities within and across grants, they proved challenging for many due to difficulties using the reporting system and the coordination among partners that was often required to complete the reporting requirements.

1. Preparation of integrated work plan reports

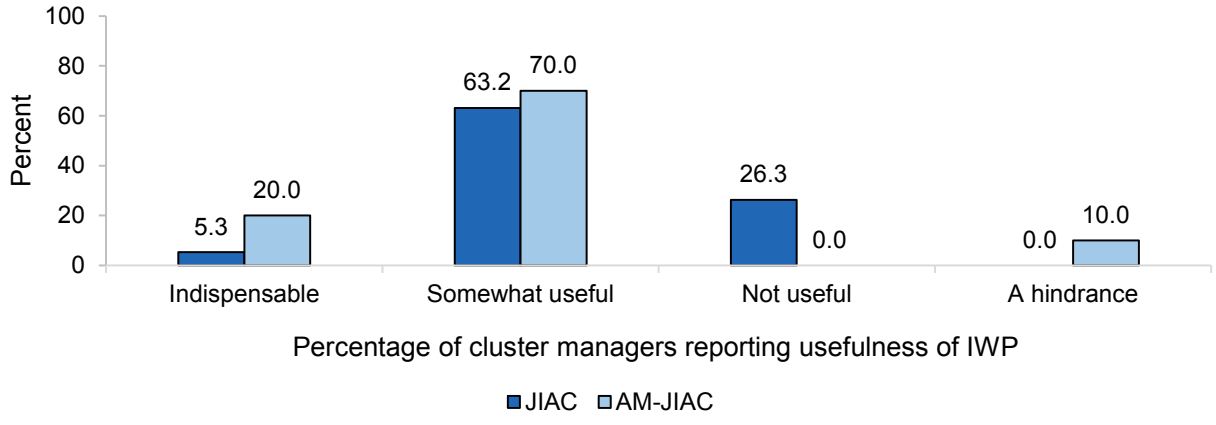
The IWP report template had two sections. The main section included a description of the project objective, the funding agency, the resources and inputs, the activity and the program outcomes as well as a progress report. The second section asked grantees to provide additional information such as identified barriers to success, project achievements and provided the

grantees with an opportunity to provide additional information. The cluster manager compiled information across the Federal grants and submitted a single IWP report for the cluster to the Federal partners each calendar quarter.

The analysis of IWPs revealed significant variation in the types of information and level of detail provided by clusters. Most clusters used the template provided by the Federal agencies but several created their own formats. The descriptions of services in the main report section varied substantially with some clusters providing significant details such as the type, duration, and enrollment in training activities as well as specific progress toward grant goals, while others added very simple descriptions. Some clusters used attachments, such as a course outline or a marketing description of a business seminar, as supportive detail. The second section also showed major inconsistencies across clusters. Some grantees did not complete that section while others used it for specific client stories or included very general statements such as "Many businesses were helped by our technical assistance."

Responsibility for compiling and submitting integrated work plan reports typically fell to cluster managers. Most cluster managers found the IWP to be somewhat useful in monitoring work across funding streams (Figure III.5). Cluster managers from the two AM-JIAC clusters included in the site visits described these reports as useful management tools. One of these cluster managers said that the template helped to organize and align activities and was a valuable tool to review progress across the five funding streams. The other cluster manager described the IWP as "wonderful" and the "only thing that keeps [him] sane." In contrast, the seven JIAC cluster managers viewed the IWP reports as a necessary part of grant compliance rather than as a tool to use in managing cluster operations. AM-JIAC grantees can have up to five grants whereas the JIAC cluster managers can only have up to three grants, so perhaps a tool like the IWP is more useful when more coordination is necessary. Four of these managers, however, noted that the reports did help track activities and enabled them to have a sense of progress made.

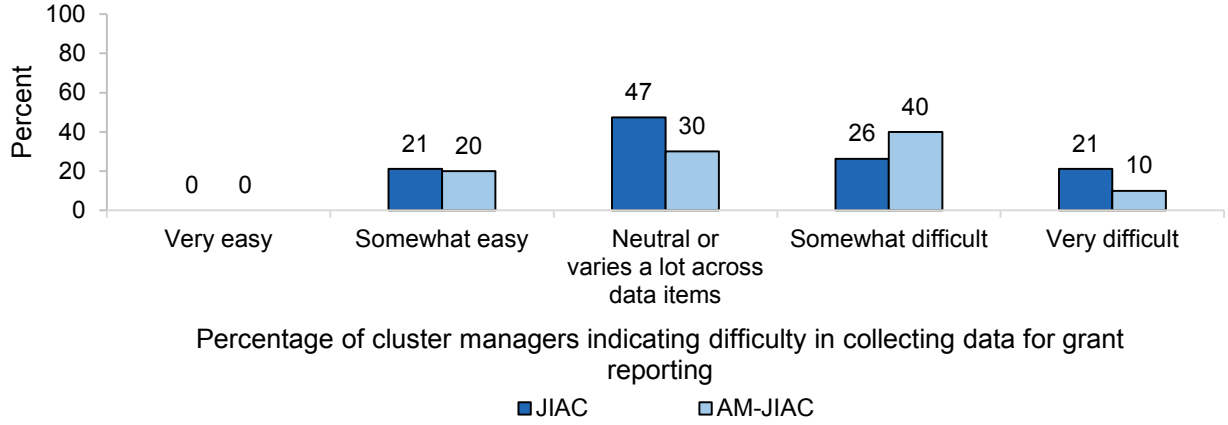
Figure III.5. Usefulness of integrated work plan



Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.
Note: Figure includes responses from 28 cluster managers; one cluster manager did not respond.

Although some cluster managers found the IWP to be useful, many felt that grant reporting, including collecting the data necessary to complete the IWP reports about activities conducted across all grants, was difficult. Nearly half of cluster managers reported collecting data for grant reporting to be somewhat or very difficult (Figure III.6). Because each funding stream required its own set of reporting requirements, cluster managers tasked with reporting to one or more Federal agencies noted it could be time consuming. In fact, one cluster manager interviewed during site visits indicated that reporting was the cluster's greatest challenge. Four cluster managers noted during site visits that the different reporting metrics and timelines across funding streams complicated reporting. With multiple partners, it required a high level of coordination between organizations. Another cluster manager, who was also the ETA-grant administrator, said it was too time consuming to enter the required data into the HUB database. One cluster manager also noted that grant-related reporting posed particular challenges for educational institutions given that they are unaccustomed to ETA reporting requirements and did not typically collect the required data elements. Only two cluster managers that were interviewed during site visits found reporting easy. One thought the requirements were similar to other DOL grants, and the other believed that having templates for each funding stream made it straightforward to pull information together across the cluster.

Figure III.6. Level of difficulty in collecting data for grant reporting



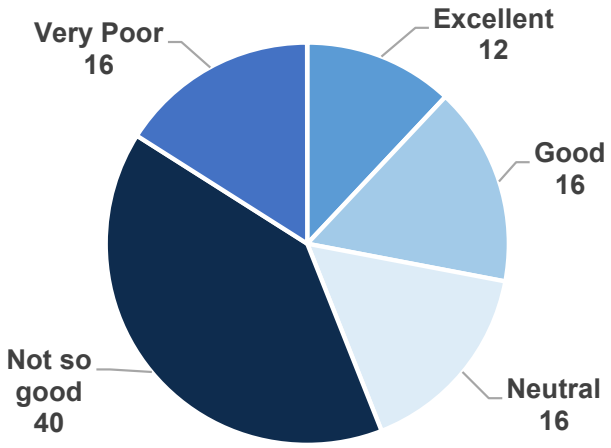
Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.

Note: Figure contains responses from 29 cluster managers; responses total more than 100 percent because respondents were asked to mark all that apply.

2. Use of ETA's HUB performance reporting system for H-1B grants

In addition to the IWP that required information be collected across all funding streams, ETA cluster administrators had to input information specific to their ETA grant into the DOL HUB Performance Reporting System for H-1B Grants for quarterly progress reporting, which generated a Quarterly Progress Report (QPR). (Appendix D includes a sample QPR.) ETA grant administrators faced difficulties using this system According to survey data, ETA administrators found the system difficult to use and time consuming. About half of cluster managers rated HUB as "very poor" or "not so good" on ease of use (Figure III.7).

Figure III.7. Ease of use of ETA HUB system



Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.

Note: Figure contains responses from 15 of the 19 cluster managers, some of whom are ETA grant administrators, and 10 ETA administrators. Four cluster managers noted that they did not collect data for grant reporting using the HUB system.

Data collected during site visits indicated that, despite the challenges encountered using the HUB system, ETA grant administrators found the QPR form to be useful. ETA grant administrators from all nine site visit clusters used data collected for the ETA quarterly progress reports to monitor progress, adjust cluster partners, or target activities. For example, one cluster manager, who was also an ETA grant administrator, shifted training responsibilities to another organization when the QPR revealed that the current provider was consistently falling short of the cluster's enrollment targets. After reviewing quarterly reports, another cluster adjusted its recruiting approach to reach larger numbers of dislocated workers and the long-term unemployed. One cluster manager also believed that data collected through the grant would demonstrate the cluster's capabilities in future grant applications and proposals.

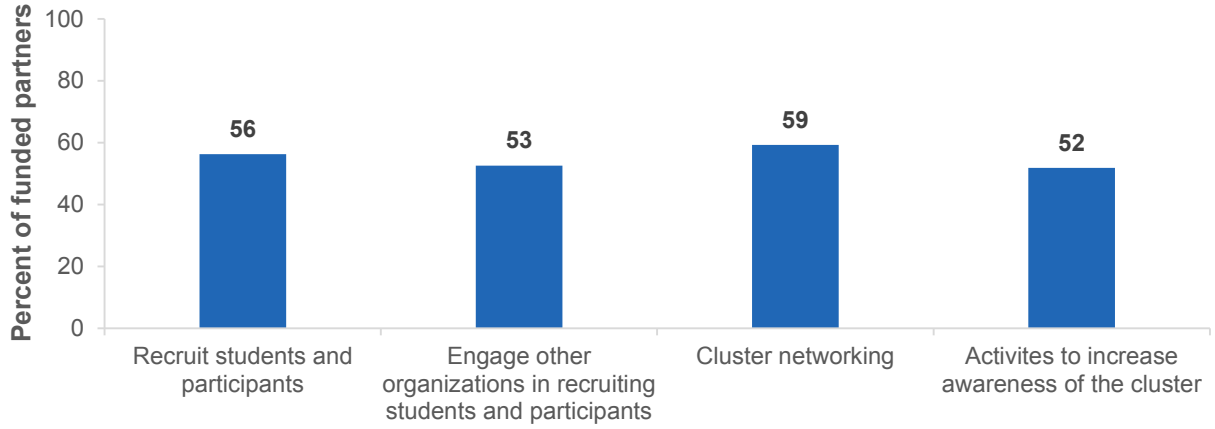
IV. ACTIVITIES AND SERVICES FUNDED THROUGH THE JIAC AND AM-JIAC INITIATIVES

The Federal funding opportunities for JIAC and AM-JIAC gave guidance to grantees about expected goals and allowable activities but gave them flexibility to emphasize different aspects of their projects based on the needs of their clusters and regions. Each of the Federal funding streams had a different but complementary objectives. In meeting the objectives of each Federal agency, clusters were charged with conducting activities that fostered regional competitiveness, activities to identify and support eligible small businesses, business services to medium enterprises, research and development activities to reduce technical risk in targeted businesses, and training and related employment activities to develop a skilled workforce. This chapter addresses the fourth research question regarding what activities are funded and delivered under the JIAC and AM-JIAC initiatives. It begins by describing the cluster development activities conducted within the regions to help increase awareness of the clusters among organizations and individuals. Then it turns to business development and assistance services offered by all partners funded by all Federal funding sources. Finally, it describes the training activities offered by ETA-funded partners.

A. Cluster development activities

Activities to promote the cluster among sector-based businesses and individuals in need of assistance were common across all funded organizations (Figure IV.1). Almost 60 percent of funded partners reported networking and 52 percent reported activities to increase awareness of the cluster. These activities targeted key community stakeholders—for example service organizations that could offer support to businesses and individual participants, and businesses working in the selected sector that might take advantage of the business development and assistance services offered. Specific promotional activities described during site visits included outreach campaigns, presentations to community members and businesses, and formal meetings to discuss cluster activities with regional stakeholders such as businesses and other potential partners. Fifty-six percent of partners recruited students and participants to develop or expand the pool of individuals eligible for and in need of services offered by the cluster, and 53 percent engaged other organizations in recruiting students and participants (Figure IV.1). ETA-funded partners most often recruited participants, with 75 percent engaged in recruiting activities (not shown). (Specific types of recruitment and outreach activities for the ETA grants are discussed in Chapter V.)

Figure IV.1. Cluster development activities conducted by funded partners

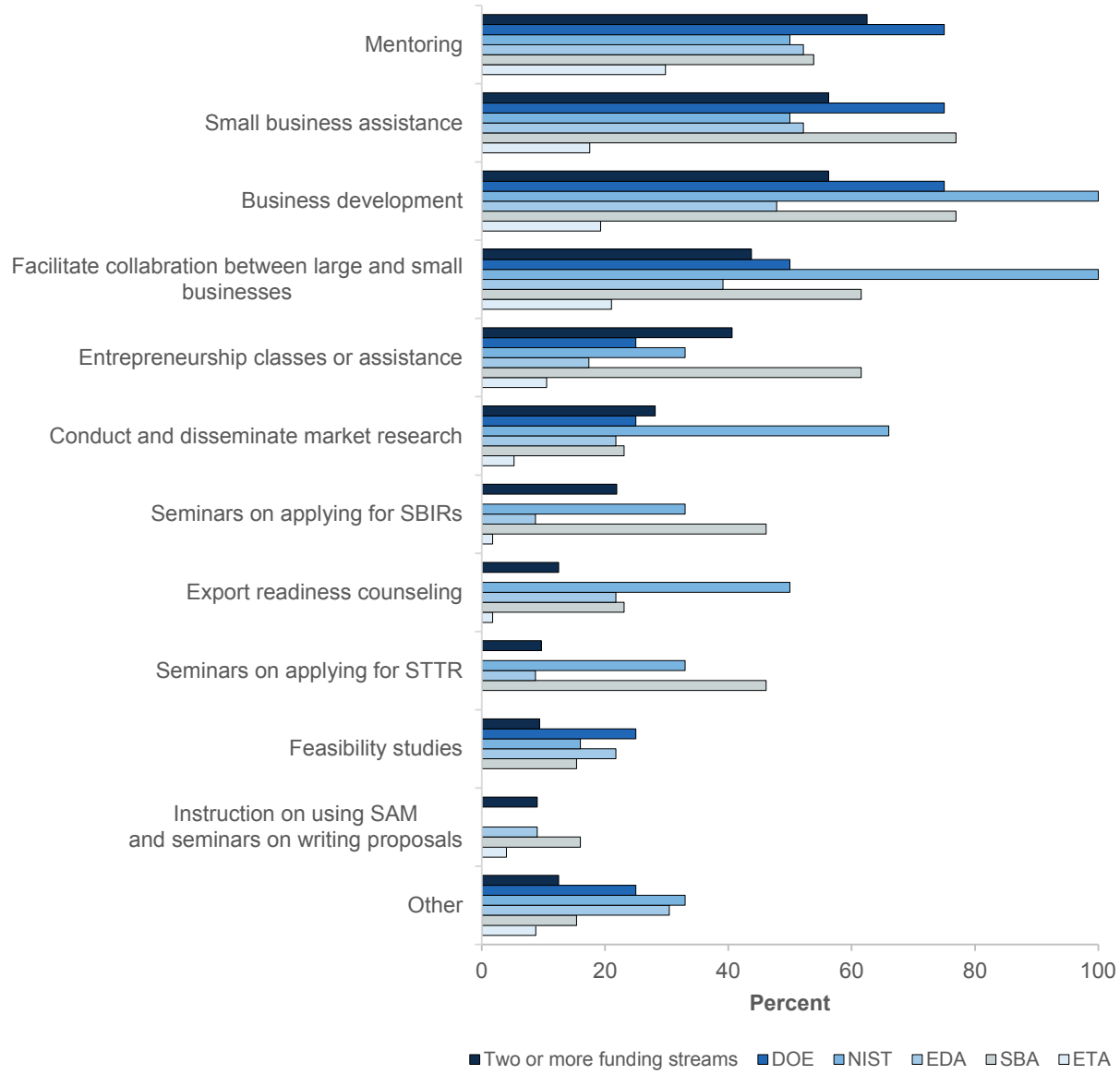


Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.
Note: Figure contains information from 135 funded partners.

B. Business development and assistance services offered by cluster partners

As described in the interim report (Angus et al. 2015), funding from EDA, SBA, DOE, and NIST-MEP was aimed at different aspects of business development and assistance. Although proposed activities were specific to the goals of each funding stream, all of the clusters planned to offer most or all of the following types of technical assistance to businesses in their grant applications: one-on-one mentoring, support for research and development, product commercialization, supply chain management, assistance with finding sources of capital (oftentimes venture or angel investors), export assistance, or market analysis. Some clusters also proposed formally expanding or organizing the cluster through activities such as asset mapping and developing lists of suppliers or potential firms. Survey respondents confirmed the use of the JIAC and AM-JIAC funds to provide a diverse array of business development and assistance services to the regional economic area (Figure IV.2).

Figure IV.2. Business development and assistance services offered by funded partners



Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.

Notes: Figure includes 135 funded partners that completed the survey and received funding. Importantly, the sample sizes are small for some grant types and should be interpreted with caution. In particular, the figure includes responses from 4 DOE-only funded partners, 6 NIST-MEP-only funded partners, 13 SBA-only funded partners, 23 EDA-only funded partners, and 57 ETA-only funded partners. Thirty-two partners received two or more funding streams.

SAM = System for Award Management, STTR=Small Business Technology Transfer Program, SBIRs=Small Business Innovation Research grants.

EDA-funded partners most often reported providing business mentoring, business development, and/or small business assistance. Site visit respondents described using EDA funds in multiple ways within each cluster. Respondents from four of the nine site visit clusters reported using the EDA funds to help established firms mentor smaller ones. Three of the nine site visit clusters also developed incubators to support new companies. The incubators provided services such as management training or office space. Two clusters focused their EDA grants on funding applied research and testing of sector-related products and services. For example, one used EDA funds to provide grants to advanced manufacturing companies who worked to diversify clean products. And two clusters focused on providing consultant services and/or technical assistance to businesses looking to advance the sector and/or products associated with the sector. More information about the activities and outcomes of the EDA grants under the JIAC initiative can be found in SRI International (2014).

Helping Stimulate a New Industry

One cluster used EDA funds to develop alternative uses for iron mining by-products, such as waste rock, as aggregate material for a wide range of construction applications, such as road repair and cement manufacturing. Cluster activities included efforts to research the potential for those by-products to be recovered, to develop and test innovative products and technologies using the by-products, and to stimulate a new industry by sharing results of testing with regional companies.

Source: Cluster IWP report

SBA funds were used to first identify and then support small, disadvantaged businesses to promote their growth in the targeted sector. Both surveyed and interviewed respondents that received SBA-funds reported offering offered small businesses assistance, business development activities, entrepreneurship classes, facilitation between small and large businesses, and mentoring. Site visit respondents, including cluster managers, SBA grant administrators, and WIB directors, noted that SBA funds were used to identify eligible small businesses through the 7(j) management and technical assistance program and to provide training, education, assistance, and one-on-one counseling. Small businesses that qualified for these services include those (1) in the 8(a) business development program, (2) owned and controlled by economically and socially disadvantaged individuals, (3) located in areas of high unemployment or low income, and (4) owned by low-income individuals. For example, SBA-funded activities in two site visit clusters included seminars or workshops to provide individualized small business development counseling. Site visit respondents also described using the SBA funds in additional ways because of difficulties identifying eligible small businesses within their regions that were willing to engage in training, education, and counseling. Respondents including cluster managers and WIB directors noted that they worked to generate lists of eligible businesses, but many were not engaged in the chosen sector and/or did not have an interest in developing the sector. As a result, they used SBA funds to survey businesses about their needs and awareness of the sector and provided business and market analysis to small

Supporting Entrepreneurs

Specific examples of SBA-funded activities include identifying companies to participate in training workshops on Obtaining Hub Zone Certification, providing business incubator space for emerging small businesses, and working with regional bankers to provide "Lender Training" and information on SBA loan guarantees. IWPs suggest that small business mentoring often included training on business plan development, marketing, accounting software and project management.

Source: Site visits and cluster IWP reports

companies. Additional information the SBA funded activities can be found in Monnard et al. (2014) and Auer et al. (2014).

In the AM-JIAC clusters, NIST-MEP centers—in addition to supporting business development—were the most likely to report conducting and disseminating market research and facilitating collaboration among small and large businesses in the targeted advanced manufacturing sector. In one AM-JIAC site visit cluster, the NIST-MEP funds were used to identify businesses that might benefit from MEP center services, provide them with a needs assessment, conduct technical assistance, and work to develop strategic plans. In the other AM-JIAC site visit cluster, NIST-MEP activities focused largely on business growth assessment within a narrow sector of agile electro-mechanical product development in the life sciences, energy, and advanced electronics industries. The MEP center used the funds to offer no- or low-cost services to businesses in that sector and to expand the types of service offerings to include assessments and goal-setting in the areas of readiness for growth, sales effectiveness, strategic marketing, innovation, culture and communication.

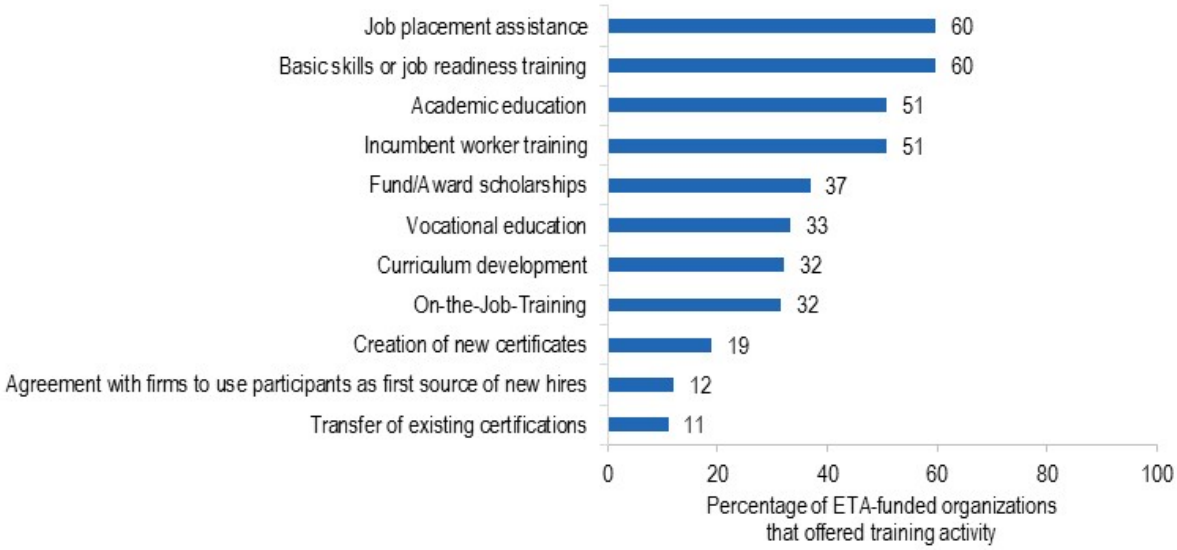
DOE-funded organizations offered a range of services to help businesses reduce energy use, substitute renewable energy sources for conventional nonrenewable sources, and implement better control of material recycling. In both of the AM-JIAC site visit clusters, the DOE funds were used to conduct energy audits to assess their energy consumption and provide guidance for how best to improve energy efficiency in their processes. In one cluster, the DOE grantee worked with oil and natural gas manufacturers to assist with the implementation of advanced manufacturing technologies, provide energy audits, discuss in plant layout designs options, and guide decisions for capital equipment purchases.

Although many of the activities offered by ETA-funded partners involved training, as discussed in the next section, some of these partners also reported participating in business development and assistance services. Site visits suggest that these partners played a role in working with businesses to determine their workforce needs and skill gaps, helping develop curriculum to prepare potential workers for job openings, and referring them to additional business services offered by the workforce system and other cluster members.

C. Training activities offered by ETA-funded partners

Organizations that received ETA funds used ETA dollars to help prepare a skilled workforce to meet the growing needs of the targeted sectors in the cluster regions. The initiatives aimed to provide business services and assistance to identify sector needs for workers and potential skill gaps. In response, ETA grantees were to design training activities to help narrow the skill gap and prepare workers to fill job openings. Clusters offered a wide variety of training opportunities and job placement assistance services (Figure IV.3). The percentages of ETA-funded organizations offering different types of training activities were very similar for JIAC and AM-JIAC clusters (not shown). Importantly, the number of partners that offered a service does not necessarily mean that similar proportions of participants actually received those services. Rather, this analysis provides a sense of the range of activities available in the clusters. (Chapter V provides findings on the proportion of ETA training participants who actually received training services.)

Figure IV.3. Types of training activities offered by ETA-funded partners



Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.
Note: Figure contains survey responses from 79 ETA-funded organizations.

Sixty percent of the ETA-funded organizations offered basic skills or job readiness training to participants. Although ETA participants were required to have a minimum of a GED or high school diploma and could not be at the beginning of their career, some still required assistance preparing for work or reentry into the workforce. Site visit respondents, including activity leaders as well as AJC staff who lead job readiness training programs, described that the job readiness training programs typically focused on communication, problem solving, resume building, work habits, and interviewing skills. All nine of the site visit clusters provided job readiness training as well as supportive services (such as transportation support). Although clusters offered basic skills and job readiness training to most subgroups of participants, these activities were most often targeted to the unemployed, including dislocated workers (not shown).

Given the emphasis placed on providing services to the unemployed or long-term unemployed, 60 percent of the ETA-funded organizations across the 30 clusters offered job placement assistance. As observed during site visits, at least one, and often multiple, partners in each cluster offered job placement assistance as participants neared the end of their training. These services often included resume writing, assistance completing job applications, mock interviews, job fairs, and direct referrals to openings at local employers in the targeted sector.

Academic education was offered by half of the ETA-funded organizations. These types of academic services are not surprising given the large proportion of institutions of higher education involved in the clusters, as described in Chapter II. As indicated by interviewed site visit respondents, the type of academic education depended on the sector focus of the cluster. For example, in one site visit cluster, the ETA-funded partner negotiated an agreement with a four-year university to promote the transfers of two-year engineering students from the community college to an aerospace engineering program at the four-year university. While enrolled at the community college, participating students could receive JIAC-funded scholarships to support their enrollment and retention in the program.

About half of the ETA-funded organizations offered incumbent worker training in the region. Incumbent worker training programs are often developed in collaboration between a workforce or training entity and businesses, which need to train or re-train their existing employees in specific skill sets to remain competitive and allow for worker advancement. Sometimes incumbent worker training is conducted on site at the employer's location, whereas other training is conducted at a local training provider, such as a community college or a private training provider. Cluster respondents in four of the nine site visit clusters reported offering incumbent worker training. In one cluster, the local AJC worked with employers and the local technical school to develop a training course in Computer Numerically Controlled Machines. The leadership of another cluster worked with employers to provide off-site safety training to employees. In the four clusters that offered incumbent worker training, the ETA grant administrator worked with multiple employers to identify their needs, develop training options, and offer training to their workers.

The next most common type of training offered by ETA-funded organizations included occupational skills training. According to survey data, one-third of the ETA-funded organizations offered this training. Across the interviewed site visit respondents, individuals suggested that the content, length, and intensity of these trainings varied by cluster based on the targeted occupations in the identified sector. In one site visit cluster, the ETA funds were used to offer a series of short-term trainings in welding. The course lasted 16 weeks and participants were in training four days a week. Successful participants received an industry recognized certificate. In another cluster, a nonprofit organization offered training for manufacturers, technicians, and product developers in metal manufacturing. Students attended machinist training classes five days a week or three nights a week for up to six months. Successful participants could earn up to three certificates from the National Institute of Metal Working Skills: "Measurement, Materials and Safety," "Job Planning, Benchwork, and Layout," and "Manual Milling Skills I."

Examples of Training for High-Skilled Jobs

Occupational skills training

- A nonprofit organization used ETA funds to train participants in metal manufacturing through classroom lessons and hands-on machining. Participants attended the training either five days per week or three nights per week for up to six months.

Incumbent worker training

- The local AJC and technical school used ETA funds to work with employers to offer current employees a training course in Computer Numerically Controlled Machines.

On-the-Job training (OJT)

- One ETA-funded organization offered OJT in H-1B occupations in the advanced manufacturing and IT sectors that ranged in starting pay from $12.50 per hour for a Printing Press Operator to $36 per hour for a Civil Engineering Technician.

New training curriculum

- An ETA-funded partner worked with its local WIB and technical college to develop a new one-year curriculum for classroom training that culminated in a Water Technical certificate.

Source: Site visits and cluster IWP reports

One third of the ETA-funded organizations developed new curricula as part of their ETA grant efforts. For example, as illustrated by one site visit cluster, an ETA-funded partner worked with a local WIB and a technical college to develop a new one-year curriculum that culminated in a Water Technician certificate.

To provide real time training to ETA participants, about one third of the ETA-funded organizations offered OJT opportunities. Based on ETA's definition, OJT is provided by the public or private sector when an employer enters into a contract with the workforce entity, which reimburses the employer for a percentage of the wage rate paid to the participant for a defined, limited amount of time. The employee then works to obtain the knowledge and skills necessary to perform adequately while on the job. Two of the nine site visit clusters reported that they provided OJT to participants. In one cluster, participants were paid up to 50 percent of their salary for an average of six months to work at small businesses in the bioscience field. The OJT partnership enabled the small businesses to hire employees for reduced cost and allowed employees to gain experience in the field. In the second cluster, the ETA grantee provided OJT for experienced, dislocated workers with shared wages for up to six months. In both clusters, employers interviewed for the evaluation permanently hired these workers once the OJT was complete.

V. ELIGIBILITY, RECRUITMENT, EXPERIENCES, AND OUTCOMES OF ETA TRAINING PARTICIPANTS

Whereas the previous chapter described the range of training activities offered by ETA-funded partners, this chapter examines the characteristics, services use and outcomes of participants enrolled in those services. It first describes the eligibility requirements for individuals receiving training through the ETA grants and then the clusters' strategies to recruit individuals, including those in historically underrepresented groups, for these training opportunities. It then examines the number and characteristics of the participants. The chapter continues with a description of the training activities that participants engaged in as well as their training completion rates and credential attainment. The chapter concludes with an analysis of the workforce-related outcomes of ETA participants. To better understand the experiences of those enrolled in training, the chapter shares the perspectives of participants interviewed during site visits. Although not representative of all training participants, these participants provide a first-person perspective about some of the strengths and weaknesses of the initiatives.

A. Eligibility for ETA services

As specified in the JIAC and AM-JIAC Federal funding opportunities, the eligibility criteria for ETA-funded training included the following:

- ***Age:*** Participants had to be at least 18 years old.
- ***Education and work experience:*** Because the ETA grants were funded through the H-1B Technical Skills Training Grants, individuals trained using these funds had to meet a certain level of educational and work experience. Typically, these funds required trainees to have at least a B.A. as well as professional certification. The JIAC and AM-JIAC Federal funding opportunities, however, allowed grantees flexibility. In particular, participants must have had at least a high school diploma or a GED, not be at the beginning of a career pathway, and have had some postsecondary education and/or work experience.
- ***Employment status at enrollment:*** ETA encouraged cluster applicants to propose projects that focused on providing education and training programs to the unemployed, the long term unemployed, incumbent (employed) workers, and/or postsecondary students pursuing a high-skill occupation.
- ***Veteran status:*** ETA grantees were required to give priority of service to veterans, as per the Jobs for Veterans Act. The guidance to the grantees notes that in a circumstance where a grant recipient must choose between two equally qualified candidates for a service, one of whom is a veteran or eligible spouse and one who is neither, the veterans' priority of service provisions require that the grant recipient give the veteran or eligible spouse priority of service.
- ***Historically underrepresented populations:*** Applicants for ETA funds were required to describe how proposed activities would incorporate historically underrepresented and excluded communities into the cluster; these may include women, minority, veteran, service-disabled veteran, and Native American workers.

In their applications, all of the clusters proposed to serve more than one target population. In particular, 16 clusters planned to serve unemployed workers, 13 planned to serve incumbent workers, and 7 planned to serve underemployed workers. Some of the clusters also planned to target subpopulations, including veterans, women, older youth, and minorities.

B. Recruitment of ETA participants

An early and ongoing task of any program is to develop effective strategies for reaching the target populations. This section examines the outreach strategies used by clusters, the clusters' efforts to recruit historically underrepresented groups, and the recruitment experiences of ETA participants.

1. Outreach strategies

Broad and targeted outreach strategies were described during the evaluation teams' visits to the nine clusters. Broad outreach strategies included launching social media campaigns, placing radio advertisements, relying on word-of-mouth referrals, and publicizing or submitting releases for coverage in newspapers and other news outlets. More targeted activities first identified where to find particular populations of interest and then how best to reach them. For instance, clusters that recruited students posted information about the program on college and university websites. One cluster with structured academic requirements worked to identify potentially eligible students by searching the university's preexisting database, which identified academically qualified students; the cluster then began to actively reach out to those potential participants. Another cluster used an early partnership with SBA to identify small businesses in the selected industry that could host OJT; then, working with AJC staff to identify eligible participants, the cluster reached out to dislocated workers to fill those positions.

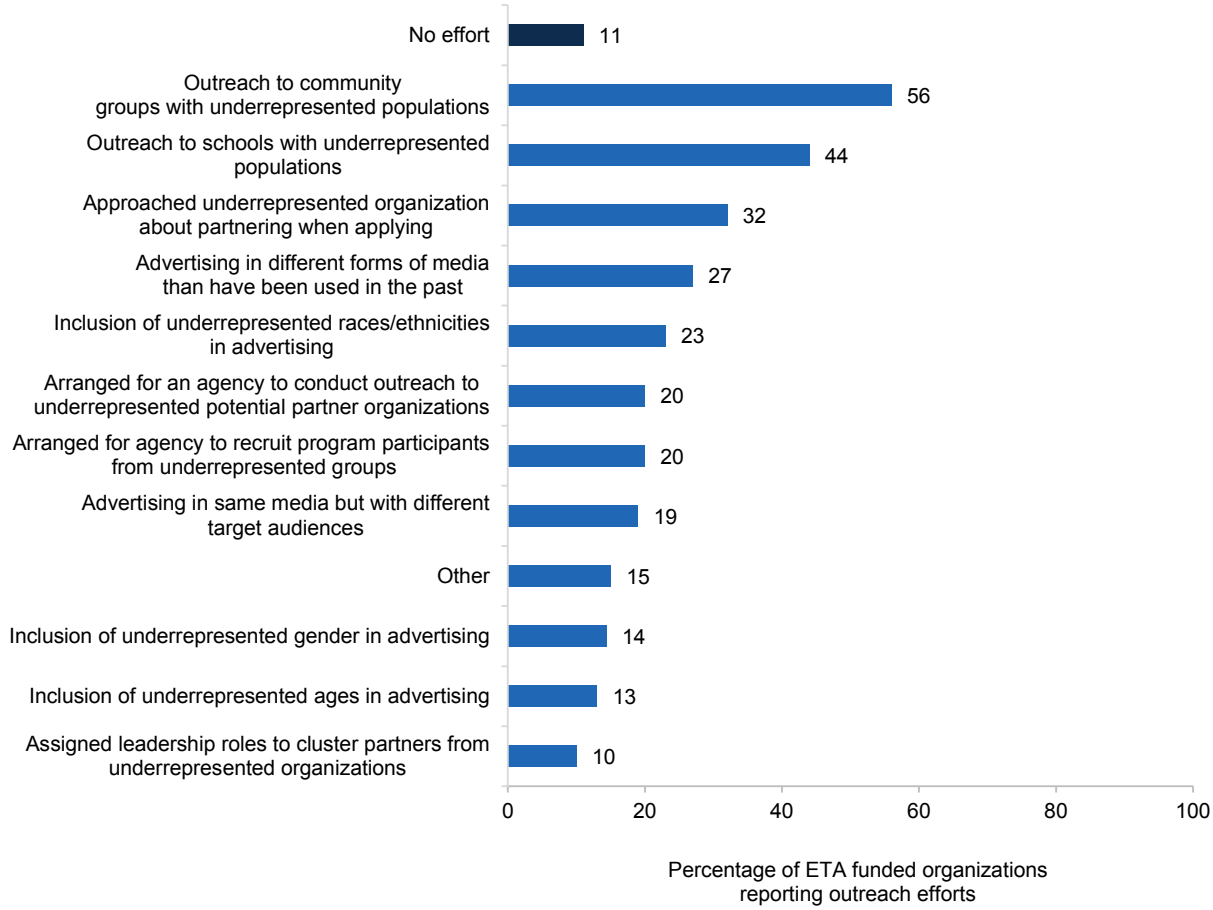
Seven of the nine site visit clusters leveraged their WIB and AJC partners to recruit participants. Respondents from these clusters noted that these partners' expertise working with job seekers and recruiting and screening them for training programs made them natural partners. In one site visit cluster, AJC staff described the program during AJC orientations to inform potentially eligible job seekers and to get the word out to other job seekers. In another cluster, the AJC was co-located with a community college and marketed services to students and prospective students at the college. The co-location of the AJC at the college facilitated the identification of and recruitment students to participate in the JIAC. Two clusters designated one of the case managers already hired at the AJC to coordinate the recruitment and case management of the ETA participants for the JIAC and AM-JIAC grants. The remaining three clusters reached out to AJC staff to make them aware of the JIAC and AM-JIAC initiatives in the local community and ask for their assistance in recruiting eligible participants. Two clusters did not mention actively leveraging their partnerships with AJCs and or their WIBs to recruit participants.

2. Efforts to recruit historically underrepresented populations

Given the focus on targeting historically underrepresented populations, the survey asked respondents across the 30 clusters about strategies used to reach these groups. The FFO defined historically underrepresented populations: "underrepresented and excluded communities are areas or groups that face some or all of the following socioeconomic challenges: blight; underinvestment; a high concentration of low income or unemployed individuals; high poverty; high unemployment;

discrimination in housing, credit, or the labor market; environmental or natural resource degradation; and mass layoffs. The make-up of these communities may vary in different regions, and can include ethnic and racial minorities including Native Americans, Alaskan Natives, Black or African Americans, Latinos or Hispanics, Asian-Americans or Native Hawaiian or other Pacific Islanders; women; veterans; and persons with disabilities." (U.S. Department of Commerce, 2011, p. 11). ETA funded organizations conducted multiple activities to reach underrepresented populations. These included (1) outreach to community groups with underrepresented populations, (2) outreach to schools serving underrepresented populations, and (3) efforts to approach underrepresented organizations about partnering when applying for the grant (Figure V.1). These organizations could include community based organizations that focus on providing services to ethnic and/or racial minorities.

Figure V.1. Efforts to include historically underrepresented groups



Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.

Note: Figure contains responses from 79 ETA funded organizations. The total exceeds 100 percent as respondents were to mark all that applied.

In contrast to the survey results, few site visit cluster respondents articulated efforts to recruit underserved groups, and these respondents discussed challenges with those efforts. Only representatives from three clusters mentioned efforts to recruit these groups. One cluster manager reported focusing recruitment in the region's lower income communities and

communities of color. The cluster manager and training provider from his cluster noted that efforts to establish programs and/or training classes in specific high needs areas were well received but the respondents had hoped to attract larger numbers of interested community members. Another cluster had training providers approach student groups aligned with targeted underrepresented populations, such as the Society of Women Engineers and the National Society for Black Engineers, to market cluster offerings. However, respondents from this cluster as well as a second cluster noted that it was difficult to identify students from nontraditional backgrounds who met the eligibility requirements for the ETA training.

3. Participant motivation for enrolling in JIAC or AM-JIAC services

To examine the experiences of the ETA participants, the evaluation team interviewed 22 ETA-funded education or training participants across the nine site visit clusters. Interviews explored their motivation for enrolling as well as the recruitment strategies and messaging that convinced them to enroll. Interviewed participants had diverse educational backgrounds and work histories. One individual, who had recently been released from prison, had a high school degree, while another was a dislocated worker with a Ph.D. in bioscience. Before their involvement in the JIAC or AM-JIAC grants, only 6 of the 22 participants were employed. Fifteen of the 22 were male. Given the small sample size, findings in this section should be interpreted with caution because they are not generalizable to all JIAC and AM-JIAC participants.

Participants often learned about the program from word of mouth. For example, one participant described how his employer talked to him about a training program that was being offered that could improve his skills. Another individual said his professor at the community college had told him about the opportunity. In the case of some of the OJT placements, individuals were familiar with the small business employer and had approached them about possible job leads. The employer, familiar with the JIAC program, worked to ensure the participant was eligible and facilitated the OJT contract. A few participants also mentioned that they saw a posting or other social media connection about the opportunity.

Participants viewed the JIAC and AM-JIAC training programs as an opportunity for change. Respondents expressed multiple reasons for their interest in the employment and training opportunities. Seven of the 22 participants noted that they were motivated to participate because the training offered them an opportunity to learn and develop new skills. Five participants noted that training would allow them to pursue a topic of interest and/or explore a field that had job prospects. As one participant offered, he kept getting reduced hours at his current position, and he was worried that he would get laid off again. After spending years in different positions, he sought a career change that would really complement his skills and interests. He described himself as being very motivated to complete the training. “It is a challenge. I have to learn a lot and prove myself. A second chance or a redo. It will be worthwhile.” Another four noted that the decision to complete training was motived by finances and the availability of scholarships. Three participants noted that, as incumbent workers, their employers made the decision for them and training was required. Three respondents were dislocated workers who had lost their jobs and viewed the program as a chance to get back to work. One participant shared, “I felt totally hopeless. I have two kids and need to get back to work.”

C. Number and characteristics of ETA participants

Slightly more than 7,600 participants had enrolled in ETA-funded services across the 30 JIAC and AM-JIAC clusters through September 2016 (Table V.1). Based on their grant applications, clusters aimed to enroll 7,456 participants over the life of the two initiatives; thus, the clusters had reached and or exceeded their goals. As expected given the smaller size of ETA grant awards under AM-JIAC and the longer period of performance for the JIAC grants, the JIAC clusters had larger numbers of participants, 260 on average, compared to the AM-JIAC clusters, which had an average of 140 participants.

Table V.1. Number of participants compared to clusters' participation goals

	JIAC	AM-JIAC	TOTAL
Number of participants through September 2016	5,899	1,704	7,603
Enrollment goal for the full grant period	5,991	1,465	7,456
Percentage of clusters' goal reached	98.5	116.3	101.8

Source: Data are from QPRs through the third quarter of calendar year 2016 and CTA Dashboards for June 30, 2016.

Through September 2016, the JIAC and AM-JIAC grants primarily served white males (Table V.2). In particular, more than three-quarters of participants were male. About 30 percent of participants in the JIAC clusters and 20 percent in the AM-JIAC clusters were members of a minority racial or ethnic group. About 10 percent of the participants were veterans, and less than 3 percent reported having a disability.

The JIAC and AM-JIAC clusters differ in the share of participants who were employed at enrollment. Under 60 percent of participants in the JIAC clusters were employed at enrollment, whereas more than 75 percent in the AM-JIAC clusters were employed (Table V.2). As a subset of the nonemployed, clusters reported the share of long-term unemployed—defined as a person "without a job for 27 weeks or more and wants and is available to work" (U.S. Department of Labor 2014)—at about 35 percent of the total individuals not employed at enrollment for both JIAC and AM-JIAC.

As noted above, the JIAC and AM-JIAC Federal funding opportunities required clusters to offer ETA-funded activities to participants with at least a high school degree or GED. About 69 percent of JIAC and 62 percent of AM-JIAC participants had at least some college education. AM-JIAC participants were slightly more likely to have a bachelor's or advanced degree than were JIAC participants, at 34 percent compared to 23 percent.

Table V.2. Participant characteristics at enrollment (percentages)

	JIAC	AM-JIAC
Gender		
Male	75.5	81.2
Female	24.5	18.8
Minority[a]	30.4	24.3
Veteran	9.0	12.0
Disabled	3.2	1.8
Employment status		
Employed	58.0	78.0
Not employed	42.0	22.0
Long-term unemployed[b]	32.6	36.4
Education[c]		
High school	30.5	38.0
1–4 years of college	34.8	18.2
Associate degree	11.5	10.3
Bachelor's degree	19.1	26.8
Advanced degree	4.2	6.7
Sample size	**5,899**	**1,704**

Source: Data are from QPRs through the third quarter of calendar year 2016.

[a] *Minority* is defined as participants identifying as Hispanic or Latino, America Indian or Alaskan Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, or multiple ethnicities.

[b] Long-term unemployed is defined as an individual without a job for 27 weeks or more who wants and is able to work. (U.S. Department of Labor 2014). The table entries in this row are percentages of the number of individuals not employed at enrollment.

[c] Table entries are percentages of participants for whom education background was enumerated: 5,152 for JIAC (87.3 percent) and 1,537 for AM-JIAC (90.2 percent).

D. Types of training services received by ETA participants

Grantees' quarterly progress reports to ETA provide data on the actual training services that participants received. ETA required clusters to provide data on receipt of five specific types of training, training completion, and the receipt of certifications. Given the specific definitions used in the QPR data, these findings may represent a lower bound of the training that participants received because grantees may not have recorded additional services that did not meet ETA definitions.

1. Type of education or training services received

The clusters reported that very high percentages of participants—96 percent for JIAC and nearly 100 percent for AM-JIAC—began an education or training activity after enrollment. These percentages were high relative to the goal of 68 percent established by the JIAC clusters in their applications. The overall goal for AM-JIAC clusters was much higher, however, at 96 percent (not shown).

The *H-1B Technical Skills Training and Jobs and Innovation Accelerator Challenge Grants Program Reporting Handbook* (U.S. Department of Labor 2014) provides definitions of each of the five types of training programs offered and monitored through the JIAC and AM-JIAC grants as well as a definition of on-the-job training for which the clusters reported involvement and completion. These definitions are the ones the clusters used to track services received by JIAC and AM-JIAC participants in their quarterly performance reports:

- **Classroom occupational training** activities are provided in an institutional setting or worksite setting and are designed to provide or upgrade individuals with technical skills and information required to perform a specific job; participants should be able to achieve employment for a specific occupation upon completion.
- An incumbent worker is an employed worker who needs training to secure full-time employment, advance in a career, or retain his or her occupation. **Incumbent worker training** is provided to individuals whose skills have been outdated by the development of new technologies or processes, and skills training is provided to those individuals who require new skills set to obtain, retain, or advance in their careers.
- **Contextualized learning activities** are defined as learning that builds meaningful relationships between abstract ideas and practical application in the context of the real world; it occurs when students process information or knowledge in such a way that it makes sense to them in their frame of reference. Contextual learning is usually a reality-based experience outside of the classroom within a specific context and may include paid internships or paid work experience, among other examples.
- **Customized training** is defined as training that is designed to meet the special requirements of an employer (or group of employers): it is conducted with a commitment by the employer to employ, or in the case of incumbent workers, continue to employ, the individual on successful completion of the training; for customized training, the employer pays for not less than 50 percent of its cost.
- **Distance learning** is defined as a formal teaching and learning system that uses technology to connect learners with educational resources.
- **On the-job-training** is defined in Workforce Investment Act section 101(31) as training by an employer that is provided to a paid participant who is engaged in productive work in a job that (1) provides knowledge or skills essential to the full adequate performance of the job; (2) provides reimbursement to the employer of up to 50 percent of the wage rate of the participant for the extraordinary costs of providing the training and additional supervision related to the training; and (3) is limited in duration as appropriate to the occupation for which the participant is being trained, taking into account the content of the training, the prior work experience of the participant, and the service strategy of the participant, as appropriate.

Some of the five training type categories are duplicative by design—for example, some classroom training might have a work-based learning component, and thus a participant would be reported as receiving both classroom and contextualized training.

Table V.3. ETA-funded education or training activities engaged in by JIAC or AM-JIAC participants, as of September 2016 (percentages)

Type of training	JIAC	AM-JIAC
Classroom occupational training	47.8	57.2
Incumbent worker training	21.4	31.3
Contextualized training	12.0	13.3
Customized training	18.8	5.3
Distance learning	5.7	4.8
On-the-job training [a]	5.0	3.3
Sample size[b]	**5,658**	**1,701**

Source: Data are from QPRs submitted by the clusters through the third quarter of calendar 2016.

Note: The percentages sum to more than 100.0 because of duplicative types of training.

[a] Entries in this row are percentages of the number of participants who began an OJT contract.

[b] Entries in this row are total number of participants who began an education/training activity.

For those participants who began training, the QPRs provided information on participation in OJT and five types of education and training activities. By far the largest share of the training reported in the QPRs was in the form of classroom occupational training (Table V.3). Nearly 60 percent of the education and training participants in the AM-JIAC clusters and almost half of participants in the JIAC clusters received classroom training. Incumbent worker training and contextualized training were the next most common types. About 21 percent of the JIAC cluster trainees and 31 percent of the AM-JIAC training participants were reported to have received incumbent worker training as defined by ETA. About 12 percent of JIAC and 13 percent of AM-JIAC participants received contextualized training. Customized training composed approximately 19 percent JIAC participants and only 5 percent of the AM-JIAC participants.

Other types of training were rarer. For both the JIAC and AM-JIAC clusters, distance learning was rarely undertaken—only about 5 percent of the participants engaged in it. About 5 percent of JIAC participants and 3 percent of AM-JIAC participants were reported to have begun OJT through the third quarter of 2016. The percentage of participants with OJT contracts is relatively small. This may be because these contracts can only be offered to unemployed participants.[8] Identifying employers who want to participate could be another reason why the percentage of participants with OJT contracts is small.

2. Participants' perceptions of training services

To examine the experiences of the ETA participants, the evaluation team interviewed 22 ETA-funded education or training participants across the nine site visit clusters. Interviews explored what training they participated in and the successes and challenges of their experiences.

[8] The FFO provided requirements for OJTs. In particular, incumbent workers are not eligible. OJT contracts were intended to provide occupational training to the participant in exchange for reimbursement to the public, private nonprofit, or private sector employer of up to 50 percent of the wage rate for no longer than 12 months to compensate the employer for training costs. The JIAC and AM-JIAC Federal funding opportunities noted in these solicitations that the reimbursement rate may exceed 50 percent depending on employer size.

Given the small sample size, findings in this section should be interpreted with caution because they are not generalizable to all JIAC and AM-JIAC participants.

Of the 22 participants who participated in interviews, one-third were enrolled in OJT, another third in classroom training, and the last third in either occupational skills training or incumbent worker training. All 22 participants spoke highly of their training experiences. They enjoyed the training, asserted that it provided an opportunity to build their skills, and believed that training would lead to new employment opportunities or advancements. Nearly half of the interviewed participants noted that they enjoyed the relationships they developed with their employer or instructors and other participants. Nearly half also reported that the employment and training opportunity provided them with strong mentoring and instruction. About a quarter noted that the curriculum used in the employment and training program was challenging, which made them feel prepared for the workplace.

Although interviewed respondents were generally positive about their experiences, three-quarters provided insight on aspects of the training programs that could be improved. Their suggestions for improvement were not consistent, however, and demonstrate the diversity of their experiences. Their suggestions also are not mutually exclusive. Suggestions included the following:

- **Length of program.** Four respondents wanted additional flexibility in regarding the length of the program. Two respondents, who were receiving OJT, wished the program could last longer than six months. (The cluster limited the OJT to six months.) Contrary to this, two other respondents, who were both in 14-week incumbent worker programs required by their employers, felt the course was too long.
- **Staff resources.** Four other respondents stated there were not enough instructors to facilitate their learning in a large group setting. All four of these respondents participated in a certification program where they were provided hands-on learning with machines. Although they praised the instructors and the knowledge they provided, participants desired more time with the instructors to answer their questions.
- **Insufficient training.** Four respondents asserted that the training was useful but not sufficient. Two respondents who participated in a software education class desired a more in-depth curriculum and more time in the practice lab or another setting outside of the classroom to use the software. Although they said that had been exposed to the basics in the semester long course, they wanted even more practice. One respondent noted, “We barely scratched the surface.” A third respondent who participated in OJT training did not think the experience was extensive or detailed enough. He appreciated the mentoring offered through the OJT placement, but he would have liked to take a formal course as well, to round out his training. A fourth respondent, who participated in incumbent worker training, noted that she would have liked to experience additional opportunities for training and a more in-depth training.
- **Under-stimulating curriculum.** Two respondents, both of whom were required to take a training course by their employer, offered that the instruction was lackluster.

3. Training completion rates

Approximately 77 percent of the training participants in the JIAC clusters and 87 percent of those in AM-JIAC clusters completed their activity as of September 2016 (Table V.4). These percentages are slightly lower than the target completion rates of 82 percent for JIAC clusters and 95 percent for AM-JIAC clusters (not shown).

Table V.4. Training completion rates and credential attainment (percentages unless indicated)

	JIAC	AM-JIAC
Start/complete status		
Percent of total enrollees who began education or training (E/T)	95.9	99.8
Percent of E/T participants who completed	76.8	87.1
OJT status		
Percent of participants who began an OJT	4.8	3.3
Percent of OJT participants who completed	76.1	75.0
Credential attainment		
Percent of E/T completers who obtained at least one credential	95.1	91.3
Average number of credentials earned	1.1	1.2
Sample size of participants	**5,899**	**1,704**

Source: Data are from QPRs submitted by the clusters through the third quarter of calendar 2016.

Nearly all—about 94 percent overall of both JIAC and AM-JIAC—individuals who completed their education or training activities attained at least one credential (Table V.4). Completion is defined as "having earned all of the credit hours (formal award units) needed for the award of a degree or certificate as applicable" (U.S. Department of Labor 2014). Clusters reported that the number of credentials earned exceeded the number of completers who earned a credential by about 8 percent for JIAC clusters and about 18 percent for AM-JIAC clusters. This occurred because some individuals earned more than one credential.

E. Workforce-related outcomes of ETA grant participants

Clusters reported quarterly to ETA on the employment outcomes of the individuals who completed education or training activities. The QPRs noted employment outcomes for individuals who were not employed at the time of program enrollment as well as retention and advancement outcomes for individuals who were employed at enrollment. It is important to note that the two panels of information in Table V.5 refer to different samples of participants who had completed activities: the first panel includes those who *were not* employed at enrollment participation, and the second panel includes those who *were* employed at enrollment.

Types of Credentials Offered

Examples of certifications available through JIAC and AM-JIAC training included Health Information Technology, Computer Production Technician, Green Production, Nano Technology, Agriculture and Food Studies, and Welding. Clusters also reported credentials through professional associations such as certificates from the National Institute of Metal Working Skills including "Measurement, Materials and Safety," "Job Planning, Benchwork, and Layout," and "Manual Milling Skills I".

Source: Cluster IWP reports

Table V.5. Outcomes of education and training completers in JIAC and AM-JIAC clusters through September 2016 (percentages unless indicated)

	JIAC	AM-JIAC
Not employed at enrollment and completed education or training		
Entered unsubsidized employment	79.9	63.7
Training-related position[a]	74.5	92.8
Sample size (not employed and completed before the final QPR)[b]	1,415	306
Retained unsubsidized employment[c,d]	63.8	41.2
Sample size (not employed and completed at least 3 quarters before final QPR)[b,d]	848	177
Employed at enrollment and completed education or training		
Retained current position[e]	58.2	54.2
Advanced in job[f]	16.4	15.4
Sample size (employed and completed at least 3 quarters before final QPR) [g]	1,859	707

Source: Data are from cluster-submitted QPRs through the third quarter of calendar year 2016.

[a] Entries in this row are percentages of the number of participants who were not employed, completed their education or training activities, and entered unsubsidized employment in the first quarter after completion: 1,130 in JIAC clusters and 195 in AM-JIAC clusters.

[b] Includes imputed values for eight clusters still active as of the third quarter of 2016. For these grantees, the data are imputed assuming the ratio of E/T completers who were employed at enrollment divided by the number of E/T completers remained the same from June 30, 2016 to September 30, 2016. For JIAC clusters, 63.0 percent of the entry is actual and 36.0 percent of the entry is imputed; for AM-JIAC, 65.5 percent of the entry is actual and 34.5 percent of the entry is imputed.

[c] Retained unsubsidized employment is defined as those participants that entered employment in the first quarter after completion of education and training activities and remained employed for at least one day in the second and third quarter after completion. Entries in this row are percentages of number of participants who were not employed at enrollment and completed their education or training activities as of three quarters prior to the final QPR data: 848 in JIAC clusters and 177 in AM-JIAC clusters.

[d] Data from one cluster was omitted from this row because the final QPR reported 144 individuals who retained unsubsidized employment, but only 85 who had completed education and training three quarters prior to that.

[e] Retained current position is defined as a participant who was retained in job for at least one day in the second and third quarter after completion. Entries in this row are percentages of number of participants who were employed at enrollment and completed their education or training activities as of three quarters prior to the final QPR data: 1,859 in JIAC clusters and 707 in AM-JIAC clusters.

[f] Advanced in job is defined as entered a new position (requiring a higher level of skill) in the first, second, or third quarter after completion of education and training activities. While grantees were able to report this employment outcome at any time within three reporting quarters after program completion, entries in this row are percentages of the participants who were employed at enrollment and completed their education or training activities as of three quarters prior to the final QPR data: 1,859 in JIAC clusters and 707 in AM-JIAC clusters. It is important to note that employment advancement rates may be underestimated if grantees were unable to collect follow-up data on the advancement of employed exiters for the requisite three quarters.

[g] Data are not available on the outcomes of those who were employed at enrollment and completed education or training within the last three quarters of the grant. This includes 1,072 JIAC participants and 468 AM-JIAC participants.

1. Employment outcomes for those *not* employed at enrollment

Clusters reported three employment outcomes for those who were not employed at enrollment: the percentage of participants who entered unsubsidized employment after training completion, the percentage who entered unsubsidized training-related employment after training

completion, and the percentage who entered unsubsidized employment and remained employed for at least one day in both the second and third quarters after training completion.

Participants in the JIAC clusters who were not employed at enrollment and completed training had a job placement rate of above 80 percent. The placement rate among AM-JIAC clusters was substantially less at about 65 percent. Although sample sizes were relatively small, the AM-JIAC participants had higher rates of training-related placement and of retention in unsubsidized jobs. Almost 93 percent of the individuals in AM-JIAC clusters who completed their education and training activity and moved into unsubsidized employment did so in a training-related position, compared to approximately three-quarters for the JIAC clusters. Among those who completed training and entered unsubsidized employment, around 60 percent of JIAC, but only about 40 percent of AM-JIAC participants had retained employment in the second and third quarters after training completion.

2. Retention and advancement outcomes for those employed at enrollment

Clusters reported the total number of individuals employed at enrollment who retained their current positions with their current employer in the second and third quarters after training completion and who advanced into a new position requiring a higher level of skills with their current or a new employer within the first three quarters after training completion. The retention rate was 58 percent for JIAC and 54 percent for AM-JIAC clusters. Available data, however, do not provide information on the employment status of those who did not retain the job they held at enrollment. It may be the case that individuals who were employed at the time of their enrollment were looking to change jobs or occupations and/or had tenuous jobs and were facing dislocation. About one in six participants who were employed at enrollment and finished their education and training reported advancing in their career, which is defined as entering a new position at their current job or at a new job that requires a higher level of skill.

The labor market outcome data supplied in the QPRs are limited to the attainment of employment, retention, and advancement. Even though one of the goals of the grants was to support high-wage employment, the QPRs do not report wage rate information.

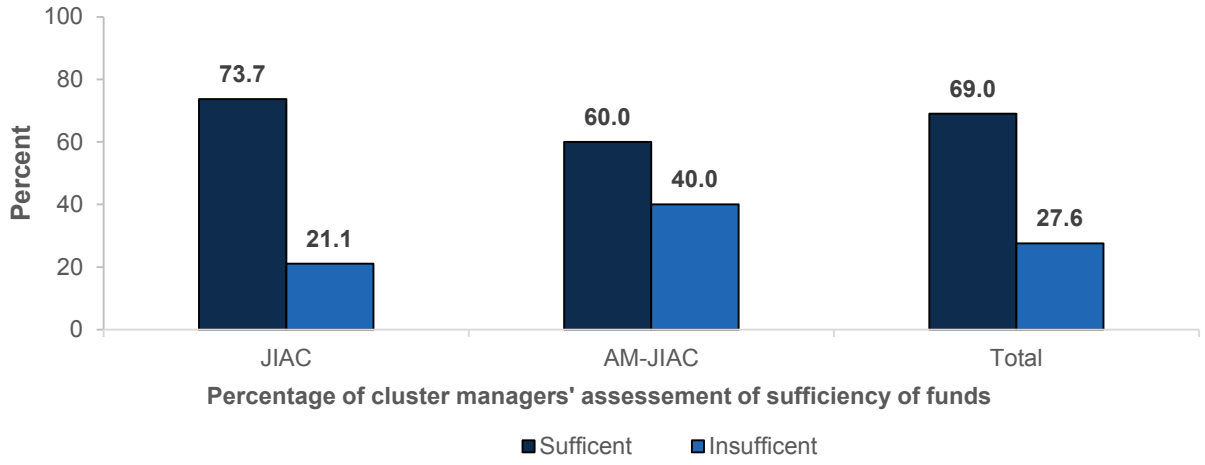
VI. SUPPORT PROVIDED TO CLUSTERS DURING IMPLEMENTATION

The JIAC and AM-JIAC initiatives were distinctive in that multiple Federal partners collaborated to offer both financial and technical support to the grantees. Three Federal agencies provided both funding and support to the 20 JIAC clusters, and five agencies financed and supported the 10 AM-JIAC clusters. The first section discusses the perspectives of cluster managers and partners about the adequacy of Federal funding provided to the clusters. The chapter then turns to the flexibility that the Federal grants provided as implementation unfolded. Finally, the chapter describes the types and quality of technical assistance that Federal agencies provided to the clusters over time.

A. Adequacy of funding

Arguably, the $58 million provided by the Federal agencies for the two initiatives were the most important support that clusters received, and most cluster managers and partners asserted the funds were adequate. Nearly 70 percent of surveyed cluster managers noted that the funds were sufficient to conduct their activities (Figure VI.1). Across the range of cluster partners that received any amount of JIAC or AM-JIAC funds through grants, sub-grants or contracts, 76 percent noted that the funding they received was sufficient to conduct activities and provide services (Figure VI.2). Supporting these findings, respondents in five of the nine site visit clusters said they were satisfied with the overall funding and had enough resources to meet their programmatic goals.

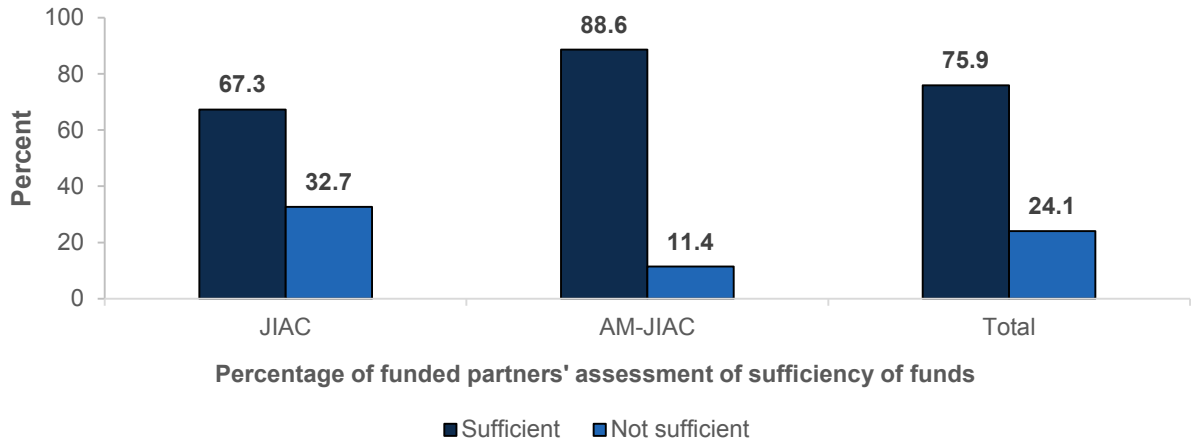
Figure VI.1. Cluster managers' assessment of sufficiency of funds



Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.

Note: Figure contains responses from the 28 cluster managers that completed the survey; one response was missing.

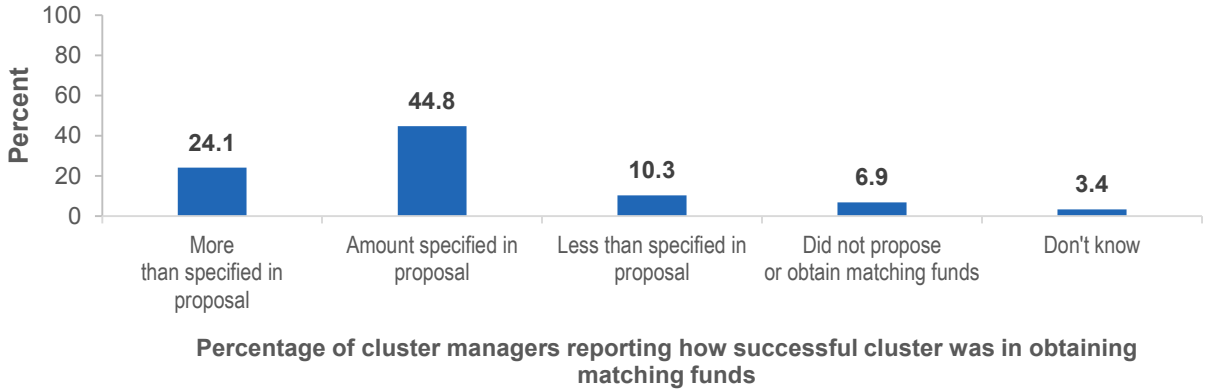
Figure VI.2. Partners' assessment of sufficiency of funds



Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.
Note: Figure contains responses from the 88 funded partners that completed the survey.

Approximately 69 percent of cluster managers reported succeeding in identifying additional matching funds to leverage with the Federal funds. When funds were insufficient, cluster consortia could tap into additional supports and resources to supplement their grant funds, but only the EDA and DOE grants required that clusters identify matching funds. The rest of the Federal grants did not mandate that grantees identify additional resources. Some 24 percent of the cluster managers reported that the cluster consortium had been successful in obtaining more matching funds than specified in their grant proposals. Forty-five percent of the cluster managers noted that they gathered the matching funds specified in their grant proposal, and 10 percent reported gathering less. An additional 7 percent reported that they did not propose or did not obtain matching funds. Approximately four percent did not know and 10 percent were missing information (Figure VI.3).

Figure VI.3. Cluster managers' reports of matching funds



Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.
Notes: Figure contains responses from 26 cluster managers; three responses were missing.

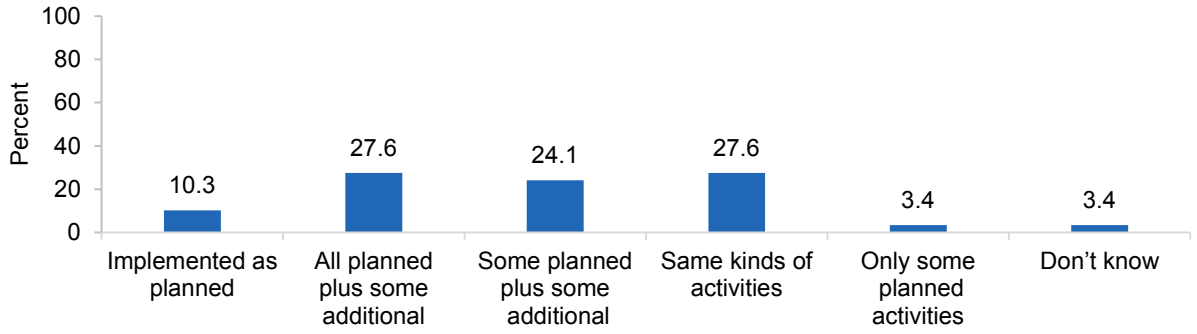
Of those cluster managers that were able to identify additional matching funds, 48 percent noted that they received both cash and in-kind contributions, 41 percent reported in-kind contributions, and 4 percent reported cash contributions. (An additional 7 percent reported missing or don't know.) In the clusters that reported receiving in-kind contributions, contributions took the form of in-kind staffing (70 percent), donated meeting space (50 percent), free training services (39 percent), or donated computers (35 percent).

The site visit data provided some information on why some respondents might not have found the funds sufficient. The cluster managers and WIB representatives in two clusters described the SBA funds as insufficient to meet the grant's goals. Identifying eligible small businesses, including those that might be woman or minority owned takes time. And even when they are easily identifiable, integrating those businesses into an industry takes both time and resources. Respondents in one of these same clusters also indicated that EDA funds were insufficient to serve all the businesses that needed assistance in the region. A third cluster noted that the grants did not offer enough resources for project oversight, reporting, and evaluation tasks.

B. Flexibility of the grants

Another goal of the initiative was to provide clusters with the flexibility to plan and implement activities that meet the region's needs. Through the course of implementation, most clusters took advantage of the flexibility inherent in the grants to adjust their plans or add activities to meet the needs of their clusters (Figure VI.4). Only 10 percent reported implementing only planned activities, and 28 percent implemented all planned plus some additional activities. Most other clusters either implemented some planned activities plus new ones (24 percent) or the same types of activities as planned but with changes (28 percent). There were no notable differences between JIAC and AM-JIAC grants.

Figure VI.4. Cluster managers' assessment of planned versus implemented activities



Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.

Note: Figure contains responses from the 28 cluster managers that completed the survey; one response is missing.

Site visitor respondents offered their perceptions and experiences about the flexibility of the grants. Respondents, who in addition to cluster managers included grant administrators, in five

site visit clusters said they valued the flexible nature of the JIAC and AM-JIAC grants. As with the implementation of any new initiative, unanticipated challenges and unintended consequences required a flexible response. For instance, one cluster that offered OJT struggled initially to identify a small business that could afford to take on a full-time placement, even with 50 percent of the salary compensated. In response, the ETA grant administrator approached its ETA Federal project officer, who granted the cluster permission to establish a job share between two businesses for the six-month OJT period. This example of flexibility was valued by the cluster manager and the ETA administrator. Another cluster manager summarized her sentiments regarding flexibility by noting, "DOL allows us to think outside the box and deliver the services that were needed—as opposed to what was proposed and/or forcing us to stick to the grant."

On the other hand, respondents from four of the nine site visit clusters thought that the grants offered limited flexibility. Respondents from three clusters stated that the grant modification process took a lot of time and effort. For example, one cluster needed to shift the lead organization on the EDA grant to a different organization and believed the process of modifying the grant was burdensome. Staff expressed frustration about the bureaucracy involved in modifying the agreement as well as a perceived lack of responsiveness from the Federal agency as to how to best address the situation. Respondents from the fourth cluster noted that the Federal funding restrictions associated with the EDA grant limited how they could use the funds, and they confined to the specific proposed activities. This was noted by the grant administrator as a disappointment: "A grant in a technology area needs to be agile/flexible; it is the nature of technology."

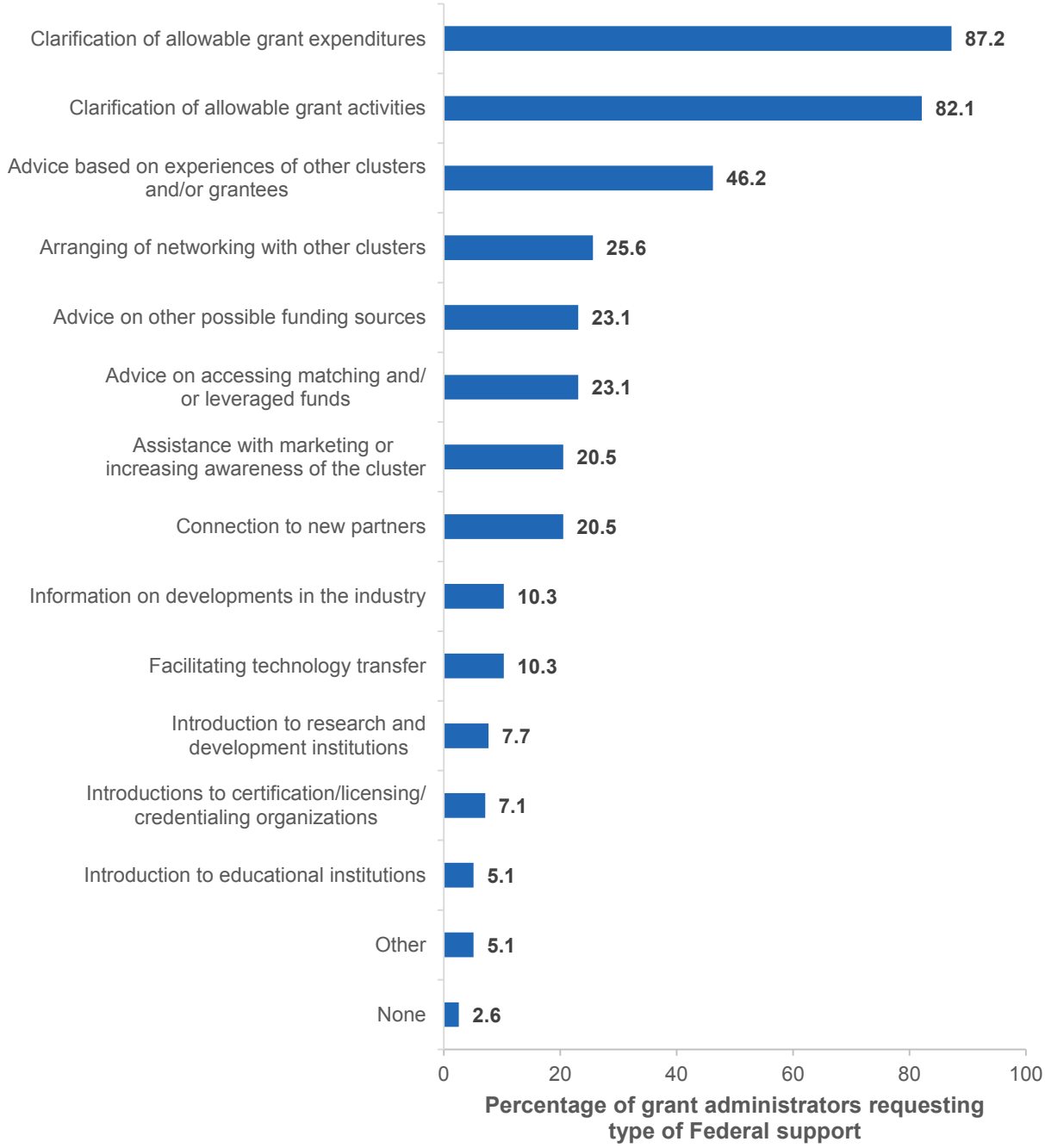
C. Technical assistance

Through the course of implementation, Federal agencies provided technical assistance to clusters to support their proposed activities and to ensure compliance with grant goals and objectives. The clusters had three points of contact at the Federal level for the JIAC grants and five points of contact for AM-JIAC grants. As discussed in Angus et al. (2015), all five Federal agencies provided assistance through their central offices in Washington, DC. In addition, ETA assigned Federal project officers (FPOs) in its regional offices to help monitor and support the grantees. The Federal funding agencies provided TA to the clusters through regular webinars, TA contractors, and national conferences. Additionally, ETA contracted with a TA contractor that began identifying the needs of the ETA grantees in spring 2014 to provide targeted TA to clusters that need assistance and support. Lastly, whereas the ETA national office provides program-specific technical assistance, nineteen ETA FPOs provide TA in the form of grant and fiscal management assistance to the ETA grants that they oversee. (Angus et al., 2015). This section of the chapter describes the technical assistance received by the clusters, grantee perceptions of the quality of the technical assistance they received, and the fact that there were very few gaps in technical assistance identified by the grantees.

1. Technical assistance received

Clusters requested technical assistance on multiple topics but most often sought guidance and clarification about allowable grant expenditures and activities (Figure VI.5). Specific questions posed to Federal agencies often sought to ensure that clusters were enrolling

Figure VI.5. Technical assistance requested by grant administrators



Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.

Note: Figure contains responses from 39 grant administrators that completed the survey.

businesses and participants that met eligibility criteria. Hoping to learn from the experience of others, nearly half of cluster administrators also sought information or advice from Federal agencies about the experiences of other clusters and/or grantees. The vast majority of the technical assistance requests from the regions focused on how to manage the grants and the Federal reports; very few of the other technical assistance requests focused on innovation and job creation. Patterns of technical assistance requests were generally similar across JIAC and AM-JIAC clusters, although JIAC clusters were more likely to receive assistance on allowed grant expenditures and activities (not shown).

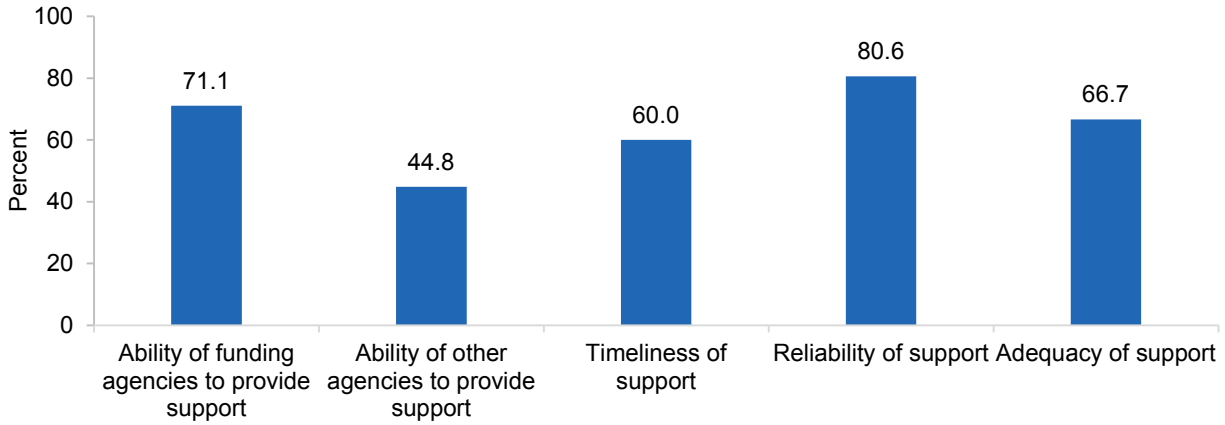
During site visits, respondents discussed the technical assistance they received from Federal agencies through site visits, phone calls, webinars, and in-person meetings. Grant administrators from all nine of the site visit clusters spoke with Federal staff by phone when questions arose, including what they perceived as both insignificant and significant questions regarding the grants' implementation. However, three cluster managers characterized the support on the phone as more of a formality, routine check-ins that did not include substantive support or assistance on grant activities. Five cluster managers noted that Federal staff, typically the ETA FPO, had visited the cluster over the course of the grant. The visits included monitoring activities but also allowed the clusters to address questions and problem solve with their FPO. For instance, one cluster struggled to recruit ETA participants during early implementation. The cluster manager sat down with the FPO and the training provider to brainstorm ways in which they could attract individuals. Brainstorming in person with the training provider enabled the partner and the cluster manager to develop a plan. In addition to these supports, respondents from four of the nine clusters reported attending at least one webinar presented by different Federal agencies. The webinars provided clusters with the opportunity to learn about emerging issues and share best practices. Respondents indicated that some of the webinars were more technical than others but felt that the webinars helped to establish learning communities to foster networking and information sharing among the grantees. Several respondents, mostly cluster managers, also described attending a grantee meeting held in Washington, DC, for all of the clusters involved in JIAC, AM-JIAC, Rural JIAC, and Make-it-in-America initiatives; this meeting was described as educational and informative because partners had the opportunity to discuss the grants with the Federal agencies, share information about their own clusters, and network with clusters from around the country. Overall, interviewed respondents reported that the technical assistance was accessible and intentional.

2. Quality of technical assistance

Most survey and site visit respondents thought highly of the support they received from the Federal government. In the survey, a majority of cluster managers and grant administrators rated the reliability, adequacy, and timeliness of the support as above average (Figure VI.6). Most highly rated was the reliability of Federal support and technical assistance provided. Slightly fewer respondents reported as above average the ability of the Federal funding agencies to provide support, the ability of other Federal agencies to provide support, and the timeliness and adequacy of support. There were no notable differences between JIAC and AM-JIAC grantees. At least one site visit cluster manager or grant administrator from all nine of the site visit grantees describe the Federal agencies as responsive, amicable, and useful to grantees as they worked to navigate the complexity of the grant. When asked to describe their interactions, site visit respondents described the Federal staff as "great" and "very helpful." Only two of the nine

cluster managers indicated that the Federal agencies could not always answer their questions or answer them in a timely fashion. In one example, the Federal staff was needed to modify a partner's role in grant implementation. A delay in the Federal response meant that the cluster had to modify their activities for a longer time than its leaders anticipated. Despite these challenges, the JIAC and AM-JIAC grantees generally regarded the technical assistance as more favorable than the TA provided under previous regional cluster initiatives such as the WIRED grants (Hewat and Hollenbeck, 2015). This may suggest that the Federal staff were effective in addressing grantee inquiries.

Figure VI.6. Cluster managers' and grant administrators' rating of Federal support



Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.

Note: Figure contains responses from the 38 clusters manager and grant administrators cluster managers who completed the survey. Cluster managers and grant administrators responded to a five-point scale where "average" was the middle of a five point scale, in which the top response was "excellent" and the bottom response was "very poor." The second and fourth points had no label. Figure shows the percentage of responses in the top two categories.

Range of response includes 35–38 cluster managers and grant administrators.

3. Gaps in technical assistance

As noted in Chapter I, to foster collaboration, Federal support teams (FSTs) consisting of staff from funding and non-funding partner agencies were planned for each region. Specifically, FSTs were to involve 11 non-funding partner agencies for JIAC and 7 non-funding partner agencies for AM-JIAC. The development of the FSTs, however, did not fully materialize (Angus et al. 2015). Respondents suggested several reasons, including confusion about the intent of the FSTs, lack of capacity among partner agencies, and challenges related to the logistics of implementation. Additionally, coordinating technical assistance across funding streams may have been challenging due to the differences across grants in the periods of performance, activities supported, and expected outcomes.

Despite the fact that the FSTs were not formed as intended, very few survey respondents noted gaps in Federal support. When asked if there were any areas in which the cluster needed Federal support but did not receive it, only about 14 percent (4 of 29 cluster managers) stated

that there was a need that was not met. Of those, cluster managers would have liked additional advice and support on three topics: accessing matching and/or leveraged funds, information on developments in the industry, and an introduction to research and development institutions.

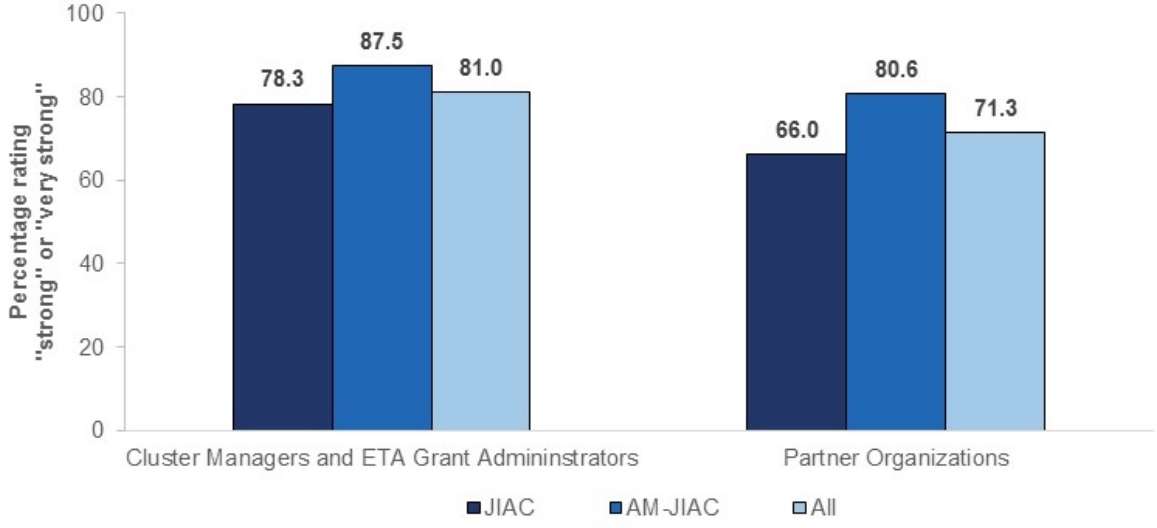
VII. SUSTAINABILITY AND REPLICABILITY

Before the Federal funding agencies awarded JIAC and AM-JIAC grants to clusters, they required grant applicants to describe their plans for sustaining their grant-initiated activities. The FFO described sustainability as establishing long-lasting relationships, soliciting future funding sources, integrating grant-funded services into the region and industry sectors, or a combination of these. This chapter begins with cluster partners' perceptions about the likelihood of sustaining partnerships and/or activities following the grant period. It then turns to clusters' formal plans for sustainability. Finally, it addresses the conditions necessary to replicate cluster practices and services in other geographic areas or industries. However, the evaluation team collected data on sustainability activities before the grants officially ended, and many clusters received extensions to continue implementation for an additional year. Therefore, this chapter is able to describe plans for sustainability near the end of the grant periods, but the evaluation could not observe how these plans unfolded.

A. Perceptions about sustainability

Research on previous initiatives has noted the importance of providing opportunities to network with other grantees to discuss common challenges, discuss trends in specific industry sectors, and share information about effective approaches (Hewat and Hollenbeck 2015, p335). These experiences lend themselves to continued partnerships. Overall, clusters expected the regions' collaborative environments to endure following the conclusion of the grants. However, cluster managers and ETA grant administrators expressed more optimism than other partners regarding the sustainability of both partnerships and collaborative regional environments. About 80 percent of cluster managers and ETA administrators and 70 percent of other partners believed that strong collaborative environments would likely persist in their regions (Figure VII.1).

Figure VII.1. Perceived likelihood of longevity of the regional collaborative environment



Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.

Note: Figure contains response from 29 cluster managers, 10 ETA administrators and 122 partner organizations. Seven partner responses were missing.

More than 90 percent of cluster managers and ETA grant administrators indicated that partnerships would likely continue among community colleges, four-year educational institutions, workforce development agencies, Workforce Investment Boards, state governments, and employer groups (not shown). As described in Chapter II, partnerships with these types of organizations often existed before the grants started. Survey responses indicate that partnerships with utilities, military, and venture capital organizations may be less likely to continue. However, among the clusters that worked with these kinds of entities, respondents still reported a fairly high likelihood of continued partnerships.

Whereas, survey respondents were optimistic about sustaining their regional collaborations, site visit responses highlighted that regional collaboration costs money. Respondents across partners from all site visit clusters stressed that they enjoyed working together and hoped to collaborate on similar efforts in the future. However, some indicated that collaboration depended highly on the availability of funding for continued work. One cluster manager further stressed that funding helps to engage new industry partners, including businesses, and also keeps existing industry partners invested in the cluster's work. Respondents from another cluster, including the EDA and SBA grant administrators, noted that funding brings businesses to the table, which is essential for cluster-based efforts.

Six cluster managers spoke to the importance of sustaining partnerships. All six managers referred to their existing partnerships, prior experiences with collaboration, and mission as factors supporting the sustainability of cluster partnerships. Among them, one cluster manager noted that longstanding partnerships in the region served as the impetus for applying for this grant, and those relationships will inspire similar efforts in the future. Three cluster managers stated that coordination and collaboration are essential to fulfilling their organizational missions and meeting the needs of businesses and workers in their regions. The remaining two cluster managers reported that although they regularly collaborated with partner organizations, the JIAC and AM-JIAC grants helped to strengthen their existing relationships.

Partners from two site visit clusters established formal associations or networks as a result of the grants. The cluster manager and grant administrators from one cluster described actively participating in a regional growth alliance that brings together public and private organizations to advance economic development. Another cluster developed a regional network of businesses in its target industry sector using EDA funds. This network brings together public and private entities, including cluster partners, to further the growth of the industry sector. Grant funding helped establish the network and develop the infrastructure necessary to operate it following the grant period. In this cluster, the ETA grantee organization also acquired the organization implementing the SBA grant, which will facilitate continued collaboration with small businesses. Two clusters leveraged the partnerships established through the grants to develop formal collaborative entities, described further in the next section.

B. Planning for sustainability

While all clusters included proposals for sustaining grant activities in their applications and expressed optimism about sustaining partnerships, most clusters involved in site visits had only been informally planning for sustainability at the time of the visits. Among the nine site visit clusters, respondents in only three clusters, two AM-JIAC and one JIAC, indicated formal plans for sustainability included efforts to secure additional funds for services.

The three clusters with formal plans identified and secured additional funding so that stakeholders could continue to access cluster services without disruption following the conclusion of the grants. One cluster developed a fee-for-service model to continue to offer NIST-MEP activities to businesses. These activities included providing student interns to provide business development services for manufacturing firms. Two clusters secured state funding to sustain EDA-funded activities, including commercialization and supply chain activities, beyond the grant period. One of these clusters also coordinated with the state to apply for U.S. Department of Labor State Sector Partnership funds, a portion of which would be used to continue to offer ETA-funded training services to individuals in the target sector. Another cluster determined that Workforce Innovation and Opportunity Act (WIOA) funding could be used to continue the cluster's ETA-funded OJT efforts within the focus industry. Two of the three clusters also planned to solicit funds from private industry to help sustain additional cluster activities supporting entrepreneurship and business development efforts and to maintain engagement and investment among industry partners benefitting from the clusters' work.

In addition to securing new funding sources, two of the three clusters formalized their partnerships and activities through newly established entities. One cluster, led by a university, developed a Small Business and Technology Development Center to continue partnerships and activities. The other cluster received an Investing in Manufacturing Communities Partnership designation from EDA. Under these partnerships, 11 Federal agencies will provide "targeted investments" and support to help communities advance workforce development efforts, promote manufacturing innovation, and attract private investment.[9]

Respondents from the remaining six site visit clusters believed that sustaining particular elements was likely, depending on funding availability. In some regions, the JIAC and AM-JIAC grants were used to continue or adapt services begun under previous efforts, as discussed in Chapter IV; therefore, clusters hoped to identify new funding sources to continue supporting that ongoing work. For instance, one cluster planned to revert to prior funding sources to continue its pre-existing activities. Other clusters offered scholarships to students already enrolled in or planning to enroll in newly developed or existing degree programs aligned with local industry needs. Because the grants funded program development, the programs themselves could easily continue, but scholarships might not be available without new funding. Some clusters were still identifying whether they could use WIOA funds for a continuation of incumbent worker and OJT training as well as state-based grants to fund regional economic development and worker development services.

[9] https://www.eda.gov/challenges/imcp/

C. Replicability

The practices developed under JIAC and AM-JIAC, unique Federal multi-agency initiatives, can provide important insights for other regions looking to implement cluster-based economic development approaches. Site visit respondents reported on the extent to which they believed their clusters' activities could be replicated. Additionally, Federal agency respondents, including ETA Federal project officers, also reported on conditions necessary for replicating these efforts in other communities and/or industries.

ETA grant administrators, some of whom are cluster managers, indicated that some of the initiative-funded training approaches, many of which are used across regions and industries, could be replicated in other settings without too much additional effort. Cluster organizations developed the infrastructure and knowledge necessary to apply these training approaches to other industry sectors or regions. For example, one cluster developed the relationships necessary to implement OJT training in the bioscience industry and could expand those activities into other sectors. Similarly, another cluster funded incumbent worker training in the food processing industry and felt it could develop a similar training approach in other industries. As respondents indicated, replication of these activities, however, would require industry support and relationships with industry partners. Education partners from one cluster emphasized that developing training programs aligned with workforce needs is a promising practice but requires a strong understanding of gaps in the labor market. Understanding these gaps ensures that individuals who complete training programs will be in demand by local employers so that trained individuals do not leave the region to seek jobs. Respondents from one cluster reported that certain geographic conditions, such as the density of employers in the area and the proximity of higher education institutions, would facilitate the replication of these models.

Regardless of the type of activity implemented, site visit respondents and Federal agency staff interviewed by phone noted that certain conditions must be met in order to replicate cluster activities:

- **Collaborative environment.** Replicating a cluster-based approach requires a history of collaboration among key stakeholders or a strong willingness to initiate new partnerships, especially when grant funding is not immediately available. Prior collaboration, in particular, can help clusters efficiently plan their services and helps to ensure that the right partners are engaged and assigned appropriate statements of work.
- **Employer and community engagement.** Along with an overarching collaborative environment in the region, respondents from five site visit clusters highlighted the importance of strong employer and community engagement to replicate these kinds of efforts. One cluster manager stressed that industry-targeted OJT needs engaged employers to be successful and recognized that some regions may find it challenging to convince businesses to host OJT participants. Similarly, respondents from four clusters reported that successfully replicating training activities requires strong connections with and engagement from the selected target industry. One cluster's respondents specified that replicating its machinist training activities in another region would require a strong manufacturing sector to be successful. Federal agency respondents also stressed that cluster-based efforts require building constituencies of support in the local community to ensure that the needs of both jobseekers and industry are met (Angus et al. 2015).

- **Funding for training**. Respondents from four clusters indicated that some activities, such as on-the-job training and incumbent worker training, might be more easily replicated through the workforce system's existing infrastructure in other regions than other types of training like classroom training. However, these activities would still require funding, either through existing or new sources. ETA Federal project officers also reinforced that these ETA-funded activities could be replicated using WIOA funding (Angus et al. 2015).

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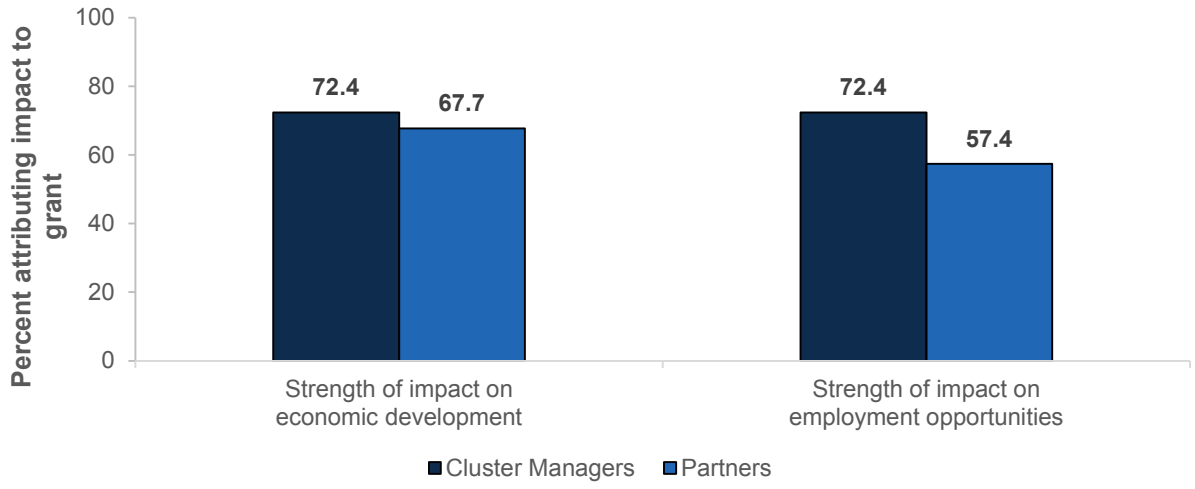
VIII. REFLECTIONS OF CLUSTER PARTNERS ON THE JIAC AND AM-JIAC INITIATIVES

Given the innovativeness of JIAC and AM-JIAC in spurring economic development through regional collaborations, this final chapter discusses the reflections of cluster partners about their experiences. Many of the themes that emerged in these reflections support the findings presented throughout previous chapters. In particular, this chapter begins by exploring survey respondents' perceptions about the impact of the initiatives on their regions' economic development and employment opportunities. It then turns to the reflections of site visit respondents on the factors that facilitated or impeded implementation. Finally, it summarizes site visit respondents' suggestions for similar initiatives in the future.

A. Perceived impact on economic development and employment opportunities

Cluster members believed the JIAC and AM-JIAC initiatives succeeded in fostering a strong and lasting impact on their regional economies. More than 70 percent of cluster managers reported that the grants had a strong or very strong impact on economic development and employment opportunities in their regions (Figure VIII.1). Similarly, when asked specifically about regional employment opportunities, about 65 percent of cluster managers and 60 percent of partners indicated that the grants had a strong or very strong impact that would last beyond the grants. An employer that participated in one cluster reported that he "now feels more comfortable working with them [the grantee] because they built a knowledge base of available services."

Figure VIII.1. Perceived impact of the grant on economic development and employment opportunities



Source: Survey of JIAC and AM-JIAC grantees and partners conducted from July to December 2015.
Notes: Figure contains responses from 29 clusters managers and between 122 and 124 partners.

B. Reflections on factors that facilitated grant implementation

At the end of each site visit interview, cluster managers, WIB representatives, grant administrators, and activity leaders commented on key factors that facilitated grant implementation. Taken collectively, they identified six common facilitating factors, many of which echo findings presented in previous chapters.

Frequent communication among cluster partners was important for successful implementation. Respondents from seven of the nine site visit clusters noted that communication, facilitated by frequent meetings, was useful for grant implementation. Grant administrators, those often tasked with holding and facilitating cluster meetings, noted that partners worked to communicate frequently and deliberately to ensure they were working toward the same goals.

A collaborative spirit in the region contributed to successful implementation of activities. In many cases, the working relationships were not new; preexisting partnerships and prior collaborative efforts enabled the clusters to initiate grant implementation activities at a quicker pace than if they were new partnerships. Respondents from six clusters characterized their regions as collaborative. In addition, cluster respondents reported that they relied on these partnerships and the collaborative nature of the region to work through challenges that inevitably arose.

Regional businesses and individuals looking to obtain work or advance in their careers were receptive to cluster activities. Working in collaboration with local employers and institutes of higher education, cluster partners aimed to create services that were meaningful and valuable to the region's economic development. Eight of the nine site visit clusters attributed part of their success to the fact that services provided under the JIAC and AM-JIAC grants met a need and were welcomed.

Clusters appreciated the technical assistance and support provided by the Federal agencies. The grants, with their multiple funding streams, were quite complex. Although the structure of each cluster varied, they depended on the technical assistance and support provided by the Federal funding agencies through phone calls, site visits, webinars, and grantee convenings. Respondents, primarily the cluster managers or cluster administrators, from six of the nine clusters, reported the technical assistance provided by the five Federal agencies supported the grant activities.

Grants were flexible to accommodate changes, unexpected implementation challenges, and unanticipated delays. Respondents in four clusters, primarily those in management and leadership roles, valued the ways in which funds could be shifted between eligible activities of a particular funding stream as needed during implementation.

The inherent collaborative nature of the grants facilitated networking in the regions. Cluster managers and grant managers from four clusters indicated that implementation was aided by efforts to foster relationships, which were spurred by the grants. Some relationships within the clusters, particularly the newer ones, may not have happened without the JIAC or AM-JIAC grants. Respondents welcomed the opportunity to partner and learn about other organizations in the area. Cluster managers and grant administrators also acknowledged that these innovative

grants with multiple funding agencies working together were a step in the right direction to multi-agency collaboration more broadly.

C. Reflections on factors that impeded grant implementation

The complex nature of the JIAC and AM-JIAC initiatives resulted in inevitable challenges during implementation. Site visit respondents also discussed factors, if any, that impeded grant implementation. Six common challenges were identified by the nine clusters and again reflect many of the same challenges emerging from survey and site visit analyses presented in prior chapters.

Reporting requirements required more coordination and time than expected. As discussed in Chapter III, reporting requirements were challenging for many clusters, with eight of the nine clusters expressing frustration. All nine cluster managers interviewed also noted that reporting took more time and coordination than anticipated; few clusters had budgeted enough resources for these efforts. Some felt the format of the integrated work plan was not straightforward or helpful in managing grant activities. In addition, respondents indicated that because reporting across the grants required collaboration, frustration could sometimes mount when partners were not responsive to information requests from cluster leaders.

Decentralized funding and oversight at the Federal level proved to be challenging. Although clusters appreciated that multiple Federal agencies joined forces to support the initiative, the decentralized structure of the grants posed challenges. One WIB director felt that the grant activities would have been more integrated if one Federal agency had provided oversight of the funds and been in communication with the other grant administrators. Another cluster administrator reported, "Having five bosses is always a problem; it was like having five bosses with five sets of eligibility and reporting requirements." This respondent would have preferred to have one Federal point person responsible for answering questions about the grants. A different SBA grant administrator noted, "Someone in the Federal government should be responsible for increasing cooperation between [Federal] agencies and getting them to act synergistically. Rather than just being held accountable for their agency's accomplishments, they should somehow be held accountable for the functioning of government and making the big picture things happen, too."

Cluster leadership wanted more time. Cluster respondents, including training providers, desired more time to conduct the JIAC and AM-JIAC activities and achieve the goals they had established for the cluster. Respondents from five of the nine clusters noted that the overall timelines of the different Federally-funded grants and/or specific to funding stream was too compressed. At the time of the site visits, few of the clusters had received a period of performance extensions, although 15 of the 30 clusters ultimately received no-cost extensions from ETA.

Cluster respondents reported a lack of centralized leadership within their regions. Respondents from four of the nine site visit clusters said their cluster lacked effective leadership. As mentioned in Chapter II, all of the clusters either officially or unofficially assigned a cluster manager, but the FFO did not require such a designation. There was a perception among four clusters that implementation suffered because the cluster lacked a local single project lead or a designated lead agency that was responsible for budget oversight and activity coordination. Four

clusters indicated that while all funded partners reported information for the IWP, the cluster lacked a structure to foster collaboration. As an EDA grant administrator noted, "There was a work plan [the IWP] but the grant didn't offer any structural or concrete activity that fostered cross agency collaboration…in the future, grants like this may need a structural mechanism in place to accomplish closer collaboration."

Local economic conditions and labor market projections changed over time. Two of the clusters saw significant growth in their targeted sector; one respondent said the grants were awarded at the "right place at just the right time." However, seven other clusters attributed some of the challenges they faced to unanticipated circumstances in the regional economy. One of the largest companies in one region announced layoffs mid-way through grant implementation as the cluster was actively working to train individuals for work specific to that company. Two clusters faced challenges informing the community about their sector work, and local businesses struggled to understand how they could play a role in the growing sector. Finally, respondents from three clusters simply predicted sector growth that did not materialize. For example, one grant administrator said that the industry sector was doing very well at the time of their application. However, the region subsequently experienced an economic downturn, and companies in the targeted sector often could not afford to hire full-time engineers, which were the focus of the cluster's training efforts.

D. Cluster recommendations for future initiatives

Based on their experiences with the JIAC and AM-JIAC initiatives, the respondents from the nine site visit offered recommendations for future design and oversight of cluster-based initiatives to support the regional partnerships implementing these initiatives.

- **Streamline reporting requirements**. Although they recognized it would be challenging given the varied reporting requirements of the different agencies, site visit respondents strongly suggested that Federal agencies simplify grant reporting requirements and, to the extent possible, structure performance metrics to be more aligned across grants to ease reporting requirements. Additionally, respondents suggested considering an integrated system of accountability.
- **Establish the same period of performance across all grants**. A common refrain of the JIAC site visit respondents was to make the period of performance uniform across all funding streams, as was done for the AM-JIAC initiative. This would allow activities to continue across all partners to ensure consistent service delivery to the region.
- **Encourage and expect consistent and frequent meetings among cluster members**. Cluster meetings among grant administrators and involved partners aim to ensure collaborative efforts, provide an opportunity for cluster members to provide input to each other, and foster ongoing information flow. Cluster members found these meeting extremely valuable and recommended that all cluster-based initiatives implement this practice.
- **Fund a cluster manager position.** Site visit respondents noted that their clusters would have benefited by having a cluster manager funded by the grants. With many activities being implemented simultaneously across grants and partners, regions would have benefited from having a dedicated manager with sufficient time budgeted for grant coordination and reporting.

- **Capitalize on preexisting partnerships.** Although recognizing that innovation was an important goal of the JIAC and AM-JIAC initiatives, cluster respondents, especially trainers and grant managers, thought it was important to strategically use the resources, expertise, and preexisting partnerships in the community as a starting place. Given the short time frame of the initiatives, mature clusters and those with preexisting partnerships were more quickly able to develop and implement grant activities.

E. Possible next steps for research

This evaluation of JIAC and AM-JIAC conducted for ETA described in detail how this unique model supported multi-agency collaboration at both the Federal level and within regional innovation clusters to boost innovation and economic growth within specific sectors as well as to develop a skilled workforce to meet the needs of those sectors. To build on this study and the growing body of literature on the experiences and successes of regional innovation clusters, Federal agencies might consider future data collection and research in several areas.

- **Consider additional data collection on job quality.** The data available for this evaluation limited the ability to assess the quality of employment outcomes achieved by participants. Data currently provided by ETA grantees to DOL does not include information on the types or quality of jobs that unemployed workers obtain after participation or that incumbent workers either retain or advance into. Such indicators could include wages, hours worked, benefits, and whether the job was in a training-related field. ETA might consider adjusting its grantee reporting requirements to capture this data in future efforts or engage in research that involves the collection of primary data or administrative records that could shed light on these issues as well as changes in job quality as workers advance in their careers.
- **Consider ways to incentivize cluster engagement of diverse populations.** The FFOs encouraged grantees to actively engage historically underrepresented populations in JIAC and AM-JIAC. Yet, reporting requirements did not include data on the activities received or outcomes of this key subgroup. ETA should consider adjusting future reporting requirements to further incentivize grantees to actively engage these populations and allow the agency to measure grantee success in those efforts.
- **Examine sustainability during and after grant conclusion.** The Federal funding partners encouraged clusters to begin developing plans for sustainability early in the grant period but included no reporting requirements to reinforce or examine how sustainability efforts were unfolding. This evaluation explored plans for sustainability as the grants were winding down but was unable to capture if and how activities and partnerships were sustained beyond the grant period.

- **Consider strategies to capture the collective impact of multi-agency collaboration in the regions.** One of the key premises of the initiative was that coordinating resources from multiple funding streams would lead to enhanced outcomes and maximization of Federal resources. While some prior initiatives have attempted to assess the economic impact of cluster-based initiatives on regional economies, it is extremely challenging to develop a rigorous and reliable research design. Examination of existing Federal databases to assess changes in overall regional employment and employment stability of individuals being trained may provide additional evidence of program success. In addition, further exploration is needed to examine how these regional cluster initiatives create and sustain meaningful systems change.

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APPENDIX A

PARTNER AGENCIES IDENTIFIED IN THE JIAC AND AM-JIAC FEDERAL FUNDING OPPORTUNITIES

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Partner agencies identified in the JIAC and AM-JIAC Federal funding opportunities

Nonfunding partner agencies for the JIAC grants (n = 11)	Nonfunding partner agencies for the AM-JIAC grants (n = 7)
U.S. Department of Agriculture (USDA)	Denali Commission
U.S. Department of Commerce	U.S. Department of Agriculture (USDA)
U.S. Department of Commerce's International Trade Administration (ITA)	U.S. Department of Commerce's International Trade Administration (ITA)
Minority Business Development Agency (MBDA)	Minority Business Development Agency (MBDA)
National Institute of Standards and Technology Manufacturing Extension Partnership (NIST-MEP)	U.S. Patent and Trademark Office (USPTO)
U.S. Department of Defense (DoD)	U.S. Department of Education (ED)
U.S. Department of Education (ED)	U.S. Department of Housing and Urban Development (HUD)
U.S. Department of Energy (DOE)	Environmental Protection Agency (EPA)
U.S. Department of Health and Human Services (HHS)	National Science Foundation (NSF)
U.S. Department of Housing and Urban Development (HUD)	
U.S. Department of Transportation (DOT)	
U.S. Department of Treasury (Treasury)	
Environmental Protection Agency (EPA)	
National Science Foundation (NSF)	

Note: The term "partner agency" is used here to refer to all entities identified in the respective Federal funding agencies that are providing support to the initiative.

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APPENDIX B

GRANT OBJECTIVES, PERMITTED ACTIVITIES AND ELIGIBILITY CRITERIA BY FUNDING AGENCY

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Grant Objectives, Permitted Activities, and Eligibility Criteria by Funding Agency

Department of Commerce, Economic Development Administration (EDA)
Objectives: EDA invested funds to advance cluster development leading to job creation, expanded markets, economic growth and global competitiveness. The project period for the EDA grants in the JIAC grant was two years. EDA's mission is to lead the Federal economic development agenda by promoting innovation, collaboration and competitiveness. EDA funds focused on connecting larger, more established firms to smaller startup companies in an effort to advance cluster development leading to job creation, expanded markets, economic growth, and global competitiveness. ***Permitted Activities:*** The permitted EDA activities included "non-construction assistance, technical assistance, feasibility studies, planning activities, technology or process development, cluster networking, market expansion and other activities critical for accelerated cluster development leading to job creation, economic growth and global competiveness." **Eligibility for EDA funded services:** EDA required that applicants not fund activities that transfer jobs from one location to another. Under EDA's non-relocation policy, an employer is considered a "primary beneficiary" if the applicant "estimates that the employer will create or save 100 or more permanent jobs as a result of the investment assistance, provided that such employer also is specifically named in the application as benefiting from the project, or is or will be located in an EDA-assisted building, port, facility, or industrial, commercial, or business park constructed or improved in whole or in part with assistance prior to EDA's final disbursement of funds. In smaller communities, EDA may extend this policy to the relocation of 50 or more jobs."
Small Business Administration (SBA)
Objectives: SBA funds were set aside for technical assistance support for eligible small businesses through the 7j technical assistance program. This program aims to provide training, education, assistance and one on one counseling to small business that are owned by economically and socially disadvantaged individuals, are located in areas of high unemployment or low income and are owned by low income individuals. SBA funds targeted eligible 7j businesses and worked to introduce the eligible businesses to the chosen sector. **Permitted activities:** The permitted SBA funded activities included "conduct planning and research (including feasibility studies and market research); identify and develop new business opportunities; furnish centralized services with regard to public services and Federal government programs; establish and strengthen business service agencies (including trade associations and cooperatives); and furnish business counseling, management training, and legal and other related services." **Eligibility SBA funded services**: Eligible 7j small businesses or individuals eligible for assistance which include: 1) The small business is a participant in SBA's 8(a) Business Development Program; OR 2) The individual/small business is located in a HUB Zone; OR 3) The individual/small business is located in an area of high unemployment as defined by the Department of Labor's Bureau of Labor Statistics, meaning that the county's annualized unemployment rate exceeds the national annualized unemployment rate; OR 4) The individual is an individual with a low income, or the small business is majority-owned by one or more individuals each with a low income.

U.S. Department of Labor, Employment and Training Administration (ETA)
Objectives: The H-1B Technical Skills Training Grant Program is designed to provide education, training, and job placement assistance in occupations and/or industries that have high-growth potential for which employers are using H-1B visas to hire foreign workers, and the related activities necessary to support such education, training, and placement activities. **Permitted activities:** H-1B training grants are financed by a user fee paid by employers to bring foreign workers into the United States under the H-1B nonimmigrant visa program. The program is intended to raise the technical skill levels of American workers so they can obtain or upgrade employment in high-growth industries and/or occupations. Over time, these education and training programs will help businesses reduce their use of skilled foreign professionals permitted to work in the United States on a temporary basis under the H-1B visa program. **Eligibility for ETA funded services:** ETA grants targeted individuals at least 18 years of age with a minimum of a General Education Development (GED) or high school diploma who were not at the beginning of their career. These individuals could include unemployed workers, incumbent workers, and postsecondary students; they were to receive education, training, and job placement assistance in high-growth occupations or industries in which employers use H-1B visas to hire temporary high-skilled foreign workers.
National Institute of Standards and Technology, Hollings Manufacturing Extension Partnership (NIST-MEP)
Objectives: The AM-JIAC FFO notes, “The nationwide network of MEP Centers provides a variety of services, from innovation strategies to process improvements to green manufacturing. MEP also works with partners at the State and Federal levels on programs that put manufacturers in position to attract new customers, expand into new markets, and create new products…The objective of the MEP funding is to ensure that small and mid-sized manufacturers are fully engaged in growing cluster activities, and that these efforts receive support from existing MEP Centers where there is mission alignment.” **Permitted Activities:** NIST MEP dollars were intended to fund activities such as providing market intelligence, industry trends and data about advanced manufacturing to support cluster development, outreach to firms engaging in advanced manufacturing activities, providing technical assistance and tracking performance measures. **Eligibility for NIST-MEP funded services:** MEP Centers can serve their existing target firms, meaning small to mid-size manufacturers, through AM-JIAC grant funds.
U.S. Department of Energy (DOE)
Objectives: According to the AM-JIAC Federal funding opportunity, DOE seeks to reduce energy consumption of manufactured goods across products by promoting energy efficient manufacturing processes and materials to incentivize the industry to invest. **Permitted Activities:** DOE funds aimed to “support industry cluster activities working to develop, demonstrate, and exploit energy efficient, rapid, and flexible manufacturing technologies to advance U.S. competitiveness in critical areas. Specific manufacturing technology goals include improving existing processes, materials, and products, and enabling new capabilities and new products. Using advanced manufacturing technologies to improve performance, increase flexibility, and lower costs by increasing throughput and reducing materials use and life-cycle energy cost may achieve the overall objectives of this FFO and enhance the competitiveness of U.S. manufacturing.” **Eligibility for DOE funded services:** The FFO did not provide eligibility criteria for receiving DOE services.

Sources: JIAC and AM-JIAC FFOs.

APPENDIX C

OVERVIEW OF JIAC AND AM-JIAC CLUSTERS

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Project name	Grantee organizations	Region	Cluster focus	Funding
JIAC grantees				
Advanced Composites Employment Accelerator	Roane State Community College	Knoxville and Oak Ridge, TN, and surrounding	Advanced composites (low-cost carbon fiber technology)	$1,627,185
Atlanta Health Information Technology Cluster	Georgia Tech Research Corporation	GA	Health IT	$1,650,000
Center for Innovation and Enterprise Engagement	Wichita State University	South Central KS	Advanced materials	$1,993,420
Clean Energy Jobs Accelerator	Space Florida	East Central FL	Clean energy	$2,148,198
Clean Tech Advance Initiative	City of Portland (EDA); Worksystems, Inc. (ETA); Oregon Microenterprise Network (SBA)	Portland, OR, and Vancouver, WA	Clean technology	$2,150,000
Finger Lakes Food Processing Cluster Initiative	Rochester Institute of Technology, Center for Integrated Manufacturing Studies	Finger Lakes region, NY	Food processing	$1,547,470
GreenME	Northern Maine Development Commission	Northeastern ME	Renewable energy	$1,928,225
KC Regional Jobs Accelerator	Mid-America Regional Council Community Services Corporation (EDA); Full Employment Council, Inc. (ETA); University of Missouri Curators, on behalf of the University of Missouri–Kansas City Innovations Center KCSourceLink (SBA)	Greater Kansas City (MO and KS)	Advanced manufacturing and IT	$1,891,338
Milwaukee Regional Water Accelerator Project	University of Wisconsin–Milwaukee (EDA, SBA); Milwaukee Area Workforce Investment Board (ETA)	Milwaukee, WI, and surrounding	Water	$1,650,000
Minnesota's Mining Cluster—The Next Generation of Innovation and Diversification to Grow America	University of Minnesota Natural Resources Research Institute (EDA); Minnesota Department of Employment and Economic Development (ETA); University of Minnesota Center for Economic Development (SBA)	Northeastern MN	Energy	$1,948,985
New York Renewable Energy Cluster	The Solar Energy Consortium (EDA); Orange County Community College (ETA); Gateway to Entrepreneurial Tomorrows, Inc. (SBA)	Hudson Valley, NY	Renewable solar energy	$1,950,000
Northeast Ohio Speed-to-Market Accelerator	Northeast Ohio Technology Coalition (EDA); Lorain County Community College (ETA); JumpStart, Inc. (SBA)	Cleveland and Akron, OH, and surrounding	Energy, flexible electronics	$2,062,945
Renewable Energy Generation Training and Demonstration Center	San Diego State University Research Foundation	San Diego, CA, and surrounding	Renewable energy	$1,671,600

Project name	Grantee organizations	Region	Cluster focus	Funding
Rockford Area Aerospace Cluster Jobs and Innovation Accelerator	Northern Illinois University (EDA; ETA); Rockford Area Strategic Initiatives (SBA)	Rockford, IL, and surrounding	Aerospace	$1,769,987
Southeast Michigan Advanced Energy Storage Systems Initiative	NextEnergy Center (EDA); Macomb/St. Clair Workforce Development Board (ETA); Michigan Minority Supplier Development Council (SBA)	Detroit, MI, and surrounding	Advanced energy storage systems	$2,125,745
Southwestern Pennsylvania Urban Revitalization	Pittsburgh Central Keystone Innovation Zone (EDA); Hill House Association (ETA); University of Pittsburgh (SBA)	Southwestern PA	Energy, health care	$1,959,395
St. Louis Bioscience Jobs and Innovation Accelerator Project	Economic Council of St. Louis (EDA); St. Louis Agency on Training and Employment (ETA); St. Louis Minority Supplier Development Council (SBA)	St. Louis City and County	Bioscience	$1,825,779
The ARK: Acceleration, Resources, Knowledge	Winrock International (EDA, SBA); Northwest Arkansas Community College (ETA)	Northwestern AR and bordering counties in OK and MO	IT	$2,150,000
Upper Missouri Tribal Environmental Risk Mitigation Project	United Tribes Technical College	MT, ND, and SD reservations	Environmental risk mitigation	$1,716,475
Washington Interactive Media Accelerator	EnterpriseSeattle	Seattle, WA, and surrounding	Interactive media	$1,229,000
AM-JIAC grantees				
AMP! Advanced Manufacturing and Prototyping Center of East Tennessee	Technology 2020 (EDA, SBA, DOE); Pellissippi State Community College (ETA); University of Tennessee (NIST-MEP)	Eastern TN	Additive manufacturing, lightweight metal processing, roll-to-roll processing, low-temperature material synthesis, complementary external field processing	$2,391,778
Growing the Southern Arizona Aerospace and Defense Region	Arizona Commerce Authority	Southern AZ (Phoenix area)	Aerospace, defense	$1,817,000
Advanced Manufacturing Medical/Biosciences Pipeline for Economic Development	East Bay Economic Development Alliance (EDA); Corporation for Manufacturing Excellence (NIST-MEP); the University of California–Berkeley (DOE); Laney College (ETA); Alameda and Contra Costa SBDCs (SBA)	San Francisco area	Medical and biosciences manufacturing	$2,190,779

Project name	Grantee organizations	Region	Cluster focus	Funding
Innovation Realization: Building and Supporting an Advanced Contract Manufacturing Cluster in Southeast Michigan	Southeast Michigan Community Alliance (EDA, ETA); Michigan Manufacturing Technology Center (NIST-MEP); National Center for Manufacturing Sciences (DOE); Detroit Regional Chamber Connection Point (SBA)	Southeastern MI	Lightweight automotive materials	$2,191,962
Proposal to Accelerate Innovations in Advanced Manufacturing of Thermal and Environmental Control Systems	Syracuse University (EDA, DOE); NYSTAR (NIST-MEP); The State University of New York's College of Environmental Science and Forestry (ETA); Onondaga Community College (SBA)	Syracuse, NY	Thermal and environmental control systems	$1,889,890
Rochester Regional Optics, Photonics, and Imaging Accelerator	University of Rochester (EDA, DOE, ETA); NYSTAR (NIST-MEP); High Tech Rochester Inc. (SBA)	Rochester, NY	Optics, photonics, and imaging	$1,889,936
Manufacturing Improvement Program for the Oil and Gas Industry Supply Chain and Marketing Cluster	Oklahoma Manufacturing Alliance (NIST-MEP); New Product Development Center at Oklahoma State University (EDA, ETA, SBA); Oklahoma Department of Commerce, Center for International Trade and Development at Oklahoma State University, and Oklahoma Application Engineer Program (DOE)	OK	Oil and gas	$1,941,999
Agile Electro-Mechanical Product Accelerator	Innovation Works (EDA, SBA); Catalyst Connection (NIST-MEP); National Center for Defense Manufacturing and Machining (DOE); Westmoreland/ Fayette Workforce Investment Board (ETA)	Western PA	Metal manufacturing, electrical equipment	$1,862,150
Greater Philadelphia Advanced Manufacturing Innovation and Skills Accelerator	Delaware Valley Industrial Resource Center	Philadelphia, PA	Additive manufacturing and composites technology	$1,892,000
Innovations in Advanced Materials and Metals	Columbia River Economic Development Council (EDA, DOE); Impact Washington (NIST-MEP); Southwest Washington Workforce Development Council (ETA); Oregon Microenterprise Network (SBA)	Vancouver, WA, and Portland, OR	Metals and advances materials	$2,192,000

Source: JIAC and AM-JIAC grant applications.

Note: The text in parentheses following the name of each grantee organization indicates the type of Federal JIAC or AM-JIAC grant the organization received. In cases where one organization is listed without parentheses, that single organization received all Federal grants for the cluster.

DOE = U.S. Department of Energy; EDA = U.S. Department of Commerce, Economic Development Administration; ETA = U.S. Department of Labor, Employment and Training Administration; IT = information technology; NIST-MEP = U.S. Department of Commerce, National Institute of Standards and Technology's Hollings Manufacturing Extension Partnership; SBA = U.S. Small Business Administration; SBDC= Small Business Development Center.

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APPENDIX D

QUARTERLY PROGRESS REPORT TEMPLATE

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Jobs and Innovation Accelerator Challenge Quarterly Progress Report:		
Progress Report Quarter Ending:		Submission Date:
EDA Grantee Name:	**ETA Grantee Name:**	**SBA Grantee Name and Number:**
EDA Point of Contact:	**ETA Point of Contact:**	**SBA Point of Contact:**

Project Objective	Funding Agency	Resources and Input	Activity	Program Outcome	Progress Report

Other Updates:			
Funding Agency/Project	**Barriers to Success**	**Project Achievements/Best Practices**	**Additional Information**

Integrated Work Plan Definitions

Integrated Work Plan: Demonstrates how the proposed project concept will produce substantial benefits and meet objectives.

Project Objective: The proposed solution to an identified need in order to support and/or grow the cluster.

Funding Agency: Name the agency funding the above objective.

Resources/Inputs: Other funds, partners, equipment, etc that will be invested in the project to meet the objective.

Activity: The specific proposed activities or programs the inputs will be used.

Activity Output: The immediate results of the investment in this activity, and what will be reported to show successful use of resources/funds.

Program Outcome: The medium and long-term changes that lead to achievement of the objective as a result of the activities.

Barriers to Success: Describe any barriers or challenges the project team incurs during the reporting period that impacts the overall success of the project.

This would also be a great space to identify technical assistance needs that would help overcome the barriers or challenges described from Federal support teams.

Project Achievements/Best Practices: Describe any best or promising practices the project identifies during the reporting period that could potentially be shared with other projects as a peer sharing project.

Additional Information: This space can be utilized at the projects discretion to describe any other narrative style details that would support how the program is achieving or progressing towards each activity.

Employment and Training Administration
H-1B TECHNICAL SKILLS TRAINING GRANTS
And
H-1B JOBS AND INNOVATION ACCELERATOR CHALLENGE GRANTS
Quarterly Report Form

A. GRANTEE IDENTIFYING INFORMATION

1. Grantee Name:
2. Grantee Number:
3. Program/Project Name:
4. Grantee Address:
   City: _ _____ State: ___ _____ Zip Code: _____
5. Report Quarter End Date: mm/dd/yyyy
6. Report Due Date: mm/dd/yyyy

	Performance Items	Previous Quarter (A)	Current Quarter (B)	Cumulative Grant To-Date (C)
B.	**GRANT SUMMARY INFORMATION**			
1.	Total Exiters			
2.	Total Participants Served			
3.	New Participants Served			
C.				
Gender	1a. Male			
	1b. Female			
Ethnicity/ Race	2a. Hispanic/Latino			
	2b. American Indian or Alaskan Native			
	2c. Asian			
	2d. Black or African American			
	2e. Native Hawaiian or Other Pacific Islander			
	2f. White			
	2g. More than One Race			
Other Demographics	3a. Eligible Veterans			
	3b. Individuals with a Disability			
	3c. Employed Individuals			
	3d. Unemployed Individuals			
	3e. Dislocated Workers			
	3f. Long-term unemployed			
Education Level	4a. High School Graduate or Equivalent			
	4b. 1-4 Years or More of College, or Full-time Technical or Vocational School			
	4c. Associates Diploma or Degree			
	4d. Bachelor's Degree or Equivalent			
	4e. Advanced Degree Beyond Bachelor's			
D.				
Training Indicators	1. Number Began Receiving Education/Job Training Activities			
	2. Number Participated On-The-Job Activities			
	3a. Number Participated in Classroom Occupational Training Activities			
	3b. Number Participated in Contextualized Training Activities			
	3c. Number Participated in Distance Learning Activities			

	Performance Items	Previous Quarter (A)	Current Quarter (B)	Cumulative Grant To-Date (C)
Training Indicators (continued)	3d. Number Participated in Customized Training Activities			
	3di. Number Participated in Incumbent Worker Training Activities.			
	4. Number Completed Education/Job Training Activities			
	5. Number Completed On-The-Job Training Activities			
E.				
Education Outcomes	1. Number Completed Program Activities and Obtained a Credential			
	2. Total Number of Credentials Received			
Employment Outcomes	3. Number Entered Unsubsidized Employment			
	3a. Number Entered Unsubsidized Training-Related Employment			
	3b. Number Retained Employment			
Incumbent Worker Outcomes	4a. Total Number of Employed Retained Current Position with Current Employer			
	4b. Total Number of Employed that Advanced Into New Position with Current Employer			
F.				
1.	Entered Employment Rate			
2.	Employment Retention			
3.	Average Earnings			

G.	**REPORT CERTIFICATION/ADDITIONAL COMMENTS**
1.	**Report Comments/Narrative:** Attach a separate document that provides a discussion of the grant narrative items outlined in the reporting instructions found in the accompanying DOL H-1B Quarterly Performance Handbook.
2.	Name of Grantee Certifying Official/Title:
3.	Telephone Number:
4.	Email Address:
	Persons are not required to respond unless this form displays a currently valid OMB number. Obligation to respond is required to obtain or retain benefits (Workforce Investment Act {Section 1859a)(2)}. Public reporting burden for this collection of information, which is to assist with planning and program management and to meet Congressional and statutory requirements, averages 2.33 hours per record, including time to review instructions, search existing data sources, gather and maintain the data needed, and complete and review the collection of information. Send comments regarding this burden estimate to the U.S. Department of Labor, ETA, Room C-4518, 200 Constitution Avenue, NW, Washington DC 20210-0001
DOL, ETA Internal Use Only	
Additional Comments: Regional Federal Project Officer:	
National Program Office:	

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APPENDIX E

SURVEY SAMPLING

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A. The Creating of cluster partner lists

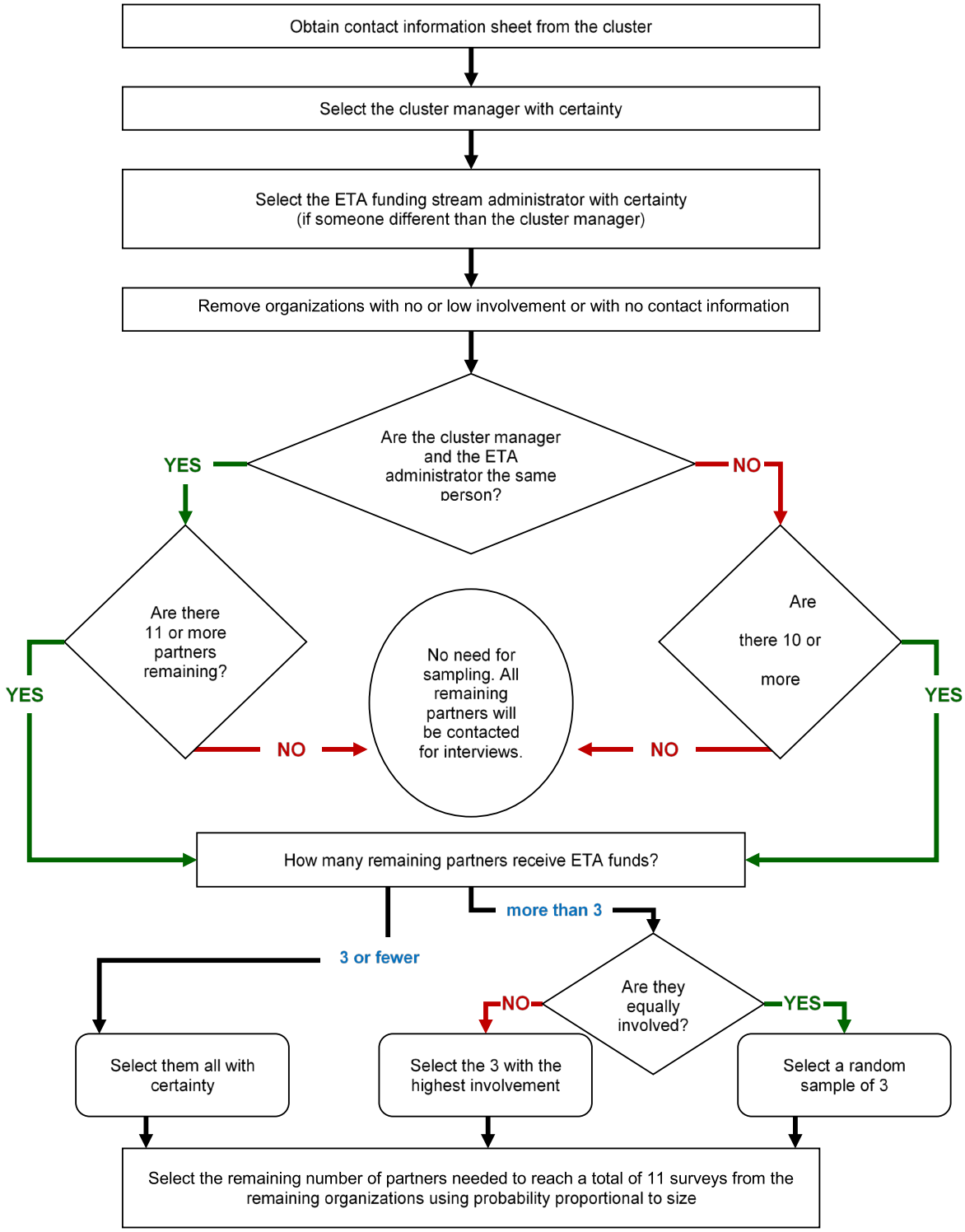
The evaluation team worked with all 30 regional clusters to develop lists of cluster partners to serve as the sample frame for the survey. Initial lists were created from information available from grantees' integrated work plans, grant proposals, progress reports, and other available materials. We then asked the ETA grant administrators in each cluster to work with the other grant administrators to verify that the list of organizations was complete, accurate, and included all of the organizations that had been or continue to be involved in the grant. We asked clusters to add missing organizations and strike those that were not involved at any point during the grant. In addition to asking clusters to list the names of partner organizations, we asked them to populate a series of columns with information on each participating organization. These included responses for (1) whether each organization received ETA, SBA, and/or EDA grant funds for the JIAC initiative, and ETA, SBA, EDA, NIST-MEP, and/or DOE grant funds for the AM-JIAC initiative; (2) whether the organization had maintained a high, medium, or low level of participation in grant-related cluster activities; and (3) why any organizations deleted from the initial list were ultimately not involved in the project. We reviewed the completed sheets for accuracy and completeness. We then followed up with the ETA administrators, cluster managers, and partners by email and telephone until the sheets were completed for all 30 clusters. A total of 322 organizations were identified as partners across the 30 grants. An example of this cluster information sheet can be found at the end of this appendix.

B. Sample development

After the cluster partner lists were complete, we used them to develop the sample frame for the evaluation. Cluster partners marked as having no or low involvement were removed. Next, we removed organizations for which cluster leadership could provide no contact information, because we anticipated they were unlikely to have sufficient knowledge or awareness to complete the survey. In a few clusters, multiple sub-divisions of an organization or more than one person from a single organization were listed as cluster partners. In these cases, we reviewed the activities they completed for the cluster, the grant funding they received, and whether they were operating independently to determine if they should be treated as separate cluster partners. An example of multiple sub-divisions being kept in the sample frame was more than one school within a university working on independent projects, sometimes using different funding streams. An example where multiple individuals within an organization were named and we removed all but one from the list involved several officials at one university. We removed the university's provost and a financial representative from the list, but retained a professor who led day-to-day grant activities. After this process was completed, a total of 263 organizations remained in the sample frame after this process.

If a cluster had 10 or fewer partners after the sample frame was constructed, we included all of them in the survey frame and there was no need for sampling. This was the situation for 22 of the 30 clusters. For the 8 clusters with more than 10 partners, we used the sampling strategy depicted in Figure E.1 to select 10 organizations for our final survey sample. We began by sampling the organization affiliated with the cluster manager with certainty (a probability of 1.0). In clusters where the cluster manager and the ETA funding stream administrator were not the same person, the organization of the ETA funding stream administrator was also sampled with certainty. Next, we looked to partners receiving ETA grant funds to ensure that we captured the experiences and opinions of those organizations most familiar with workforce-related activities.

The survey sample selection process



If there were three or fewer partners receiving ETA funds (excluding the ETA funding stream administrator), we did not sample and selected all of them with certainty. If there were more than three, as was the case in 8 of the clusters, we selected the three organizations with the highest reported level of involvement, or a random sample if they were all equally involved.

Next, we selected the remaining partners from the rest of the partner organizations, including any remaining ETA grant recipients that were not selected in the step above, using a methodology similar to probability proportional to size (PPS). In this case, the extent of involvement in implementing grant activities was the measure of size (MOS). Highly active partners were assigned a MOS of .59, and those with medium activity were assigned a MOS of .41. We used the survey select procedure in SAS to select the sample using a systematic sequential PPS method. Any partners with a size larger than the selection interval were selected with certainty. This PPS type sampling was required in only two clusters.

We also planned for scenarios in which clusters partners had finished their funded activities prior to the fielding of the survey and in which partner organizations dissolved or changed staff. If an organization had ceased to exist (as defined by other partners not knowing how to contact the organization, email addresses and telephone numbers no longer working, and the web presence not being active), the organization would be dropped from the sample and not replaced. If a staff partner who had been listed as the point of contact for an organization no longer worked there or was unavailable for another reason, we worked to identify another person at the organization with the knowledge to complete the survey.

C. Response/non-response

From the 30 clusters, 236 organizations were selected to receive the survey. Nine clusters had the maximum number of partners in the survey sample (11), and the smallest two clusters had 3 each. The average was eight. At one organization, we found that the named respondent was no longer employed there, she could not be contacted, and no other staff were familiar with the grant or cluster activities. We dropped this organization which left 235 potential survey respondents. We were not able to contact anyone despite multiple attempts or had partial completes from 53 of the other partner organizations. However, because emails did not bounce back and telephone numbers were not disconnected, we could not say for sure that the organizations had ceased to exist and we therefore did not remove them from the survey sample; they became nonrespondents.

We created four survey paths were created based on the sampled individual's role in the cluster: (1) cluster manager and ETA funding stream administrator, (2) cluster manager only, (3) ETA funding stream administrator only, and (4) other partner. Of the 20 people in the both the cluster manager and ETA funding stream administrator roles, 19 completed the survey. Each of the 10 people who were cluster managers only and each of the 10 that were ETA administrators only completed the survey. Thus, survey responses from cluster leadership were obtained for all but one cluster, a 97.5 percent cluster leadership completion rate. Of the 195 non-leadership partners included in the survey, 143 completed the survey fully and an additional 3 partially completed it. The remaining 49 did not respond to the survey. Thus, the non-leadership partner completion rate was 73.3 percent and the overall survey completion rate was 77.5 percent.

In seven clusters, all sampled respondents completed the survey in full. An additional 10 clusters had only one untouched case, although two of these clusters contained three partial completes. Thus, surveys were completed by all or nearly all sampled cluster partners in about half of the clusters. These clusters ranged from 3 to 11 surveyed partners. At the other end of the response spectrum, in one cluster with only four partners, only one respondent completed the survey and the only sample partner in a leadership role did not respond. In another cluster with four partners, the person in the leadership role responded fully, two partners responded that they were unfamiliar with the cluster (and therefore quickly exited), and one did not respond. A broad array of perspectives was not attained for these clusters, but due to their small size, however, it is possible that the breadth of participation was captured by the cluster manager's responses. Similarly, in a cluster with 11 sampled partners, 5 did not respond to the survey and an additional 2 exited quickly because they reported that they were not familiar with the cluster. Only four respondents completed the full length of the survey.

As our experience in the pretest suggests, we suspect that some of the non-respondents did not recognize the name of the grant or cluster and/or felt the survey was not intended for them even though the JIAC or AM-JIAC grant administrators reported that they had a medium or high level of involvement in grant activities. We adapted our procedures after the pretest to use various descriptors for the project and include the names of individuals and organizations that reported the sample member as partners. Despite these efforts, calls and emails that we received from these sample members confirmed their lack of recognition or impression that they were not the target audience for the survey. To underscore this point, 14 of the partner survey completers quickly exited the survey because they responded that they were not familiar with the cluster consortium. These 14 unfamiliar respondents were in 9 clusters.

SAMPLE CLUSTER INFORMATION SHEET

Below is a list of organizations that we believe to be partners in the cluster identified for your AM-JIAC grant. The list was compiled through a review of your grant proposal and status reports. We recognize that this list may be incomplete or contain some inaccuracies, and we would like your assistance in bringing it up to date.

By partner, we mean any organization participating in activities related to the AM-JIAC grant. This should include partners that are receiving grant funds as well as those that are not. Some may be highly involved while others play a smaller role. These organizations can include educational institutions, for-profit and not-for-profit organizations, contractors, government entities, and other types of organizations. Partners may be involved in a range of ways including, but not limited to, design and coordination of cluster activities; outreach to engage businesses and/or workers in cluster activities; providing technical assistance to other cluster partners; and implementation or provision of grant activities such as conducting feasibility studies, asset-mapping and market research, conducting cluster-based research and development activities, providing training and technical assistance to small businesses, developing worker training curricula or certifications, and training workers.

- **Adding Missing Partners.** Please start by adding any partners on the AM-JIAC grant that are not currently listed. Please add each new partner on a separate row. If you are uncertain whether to list an organization, please include it and provide a brief explanation of the reason for your uncertainty.
- **Providing/Updating Contact Information.** Next, please supply contact information for partners that were added to the list or that were already listed but had no contact information. Please also correct any information, as necessary, for partners who are already listed.
- **Indicating Partner Involvement:** Please complete the remainder of the table for each organization:
  - Mark either "yes" or "no" for whether each organization was involved in activities related to the ETA grant
  - Mark either "yes" or "no" for whether each organization has received ETA, SBA, EDA, NIST-MEP, DOE grant funds
  - Mark if the participation level of each organization in grant activities is high, medium, low, or none.
  - Provide a brief explanation if any organization listed below was never, or is no longer, involved. We are interested in learning about the various reasons organizations did not ultimately become involved in grant activities or why their participation ended. This can be as informative as what we learn about those who were involved. If a listed organization is actually part of another listed organization, please clarify this in the explanation field.
- Identifying the Cluster Manager. Please confirm that the person listed below should be considered the cluster manager and make any necessary corrections and additions. This person is usually employed by the cluster intermediary, submits monthly integrated work plan reports for the cluster, and is responsible for coordinating with all entities involved in the AM-JIAC grant, including the grantees, partners, Federal funding agencies, and other Federal agencies.
  - Name:
  - Organization:
  - Email address:
  - Phone number:

Organization Name	Contact Person Information: Name, Email, Phone Number	Involved in ETA activities?	Received funds from:					Participation Level	Explanations
			ETA	SBA	EDA	NIST-MEP	DOE		

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APPENDIX F

CODING SCHEME

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Code Name	Question Correspondence	Definition/Key Terms
PD-level codes—Apply to entire PD		
#JIAC	Site summary/PD level	Use if the cluster received the JIAC grant
#AMJIAC	Site summary/PD level	Use if the cluster received the AM-JIAC grant
#MultipleOrgs	Site summary/PD level	Use if multiple organizations received grant funding (i.e., organization for each funding stream)
#SingleOrg	Site summary/PD level	Use if one organization received funding from all funding streams
Floater codes—Apply throughout		
*NoResponse	n.a.	Use this code to capture any instances when the question was not asked or answered
*ETA	n.a.	Use this code if a response is unique to ETA
*EDA	n.a.	Use this code if a response is unique to EDA
*SBA	n.a.	Use this code if a response is unique to SBA
Cluster background and goals		
A_History	A.1	Use for all descriptions of the cluster's history
A_Collaboration	A.2	Use for all descriptions of the cluster's collaborative efforts or other efforts in the region
A_Goals	A.3	Use for all descriptions of the cluster's overall goals and changes to them over time
A_GoalsGrant	A.4	Use for descriptions of the cluster's grant-specific goals
A_Planning	A.5	Use for descriptions of grant planning
A_Context	A.6	Use for descriptions of the local economic context, including declining and emerging industries
Grant funding		
B_GrantAmount	B.7	Use for grant dollar amount
B_Adequacy	B.8	Use for descriptions of grant funding adequacy
B_Matching	B.9	Use for descriptions of matched or leveraged funds for grant activities
B_Pooled	B.10, G.53	Use for perceptions of pooled funding
Partnerships		
C_ActiveOrgs	C.11, C.12	Use for organizations/agencies that are active cluster partners
C_PlanningOrgs	C.11	Use for descriptions of organizations involved in grant development/planning
C_Participation	C.12	Use for descriptions of participation in the cluster over time
C_Composition	C.13	Use for descriptions of changes to cluster participation following the grant
C_Gaps	C.14	Use for descriptions of gaps in cluster participation among regional organizations
C_OrgStructure	C.15	Use for description of the cluster's organizational structure
C_Decisions	C.16	Use for description of the cluster's decision-making process
Communication and engagement		
D_Leader	D.18	Use for descriptions of the cluster manager's leadership style
D_CommType	D.19	Use for descriptions of communication methods
D_CommEffective	D.20	Use for descriptions of the effectiveness of the cluster's communication methods

Code Name	Question Correspondence	Definition/Key Terms
D_Synergy	D.21, E.26	Use for descriptions of partner engagement in all cluster activities and activity coordination across partners
Grant activities		
E_ETA_Activities	E.22, E.24	Use for descriptions of ETA grant-funded activities
E_Activities	E.22, E.24	Use for descriptions of grant-funded activities
E_TargetPop	E.22	Use for descriptions of activities' target populations
E_Design	E.23	Use for descriptions of how grant-funded activities were designed and developed
E_TrainingCost	E.24	Use for descriptions of training costs and who pays those costs
E_PriorActivities	E.25	Use for text describing if activities were conducted by grantee organizations previously
E_GrantDeveloped	E.25	Use for text describing activities designed for the grant
E_ActivityAlignment	E.26, E.28	Use for descriptions of activity alignment across funding streams
E_ProposalAlignment	E.27	Use for descriptions of how activities align with original plans
E_Inclusion	E.29, E.31	Use for descriptions of efforts to promote inclusion of historically underrepresented groups
E_Beneficiaries	E.30	Use for descriptions of individuals served by grant activities
E_Recruitment	E.31	Use for description of recruitment process and outreach
E_Intake	E.31	Use for description of intake and application procedures
E_Employment	E.33	Use for description of services to help participants find or retain employment
E_Implementation	E.34	Use for descriptions of organizations' experiences with implementation
Grant monitoring and data reporting		
F_Metrics	F.35	Use for descriptions of metrics used to monitor activity progress
F_DataUses	F.35, F.36, F.37, C.17	Use for descriptions of how grantees used monitoring data
F_ReportingEase	F.36	Use for assessment grant reporting ease
F_IWP	F.38, F.40	Use for descriptions of grantee experiences with the IWP
F_DataFreq	F.39	Use for description of data reporting and collection frequency
F_Data	F.42, F.43, F.44	Use for descriptions of data practices
F_Progress	F.46, F.47	Use for assessment of progress toward grant goals and outcomes
Federal support		
G_FedRole	G.48	Use for descriptions of TA provided by Federal agencies
G_TA_Quality	G.49	Use for descriptions of the quality of TA provided by Federal agencies
G_GapsInTA	G.50, G.57	Use for assessments of gaps in Federal and cluster support
G_ExternalTA	G.51	Use for descriptions of external TA received, if any
G_Multi-agency	G.52	Use for grantee perceptions of working with multiple Federal agencies
G_ClusterTA	G.55, G.56	Use for descriptions of TA that the lead agency provided to cluster partners
Program management and stability		
H_Flexibility	H.58, H.59	Use for grantee assessments of their ability to make midstream adjustments or adjustments to changing circumstances
H_Sustainability	H.60, H.61	Use for descriptions of plans for and assessment of sustainability
H_Replicability	I.63	Use for assessment of grant activity replicability

Code Name	Question Correspondence	Definition/Key Terms
Lessons learned		
I_Facilitators	I.64, E.34	Use for facilitating factors identified
I_Impeding	I.65, E.34	Use for impeding factors identified
I_Changes	I.66	Use for assessment of things that respondents would change about grant implementation
Section codes		
*Employer	n.a.	Apply to entire employer section; double code with no response if no one was interviewed
*Participant	n.a.	Apply to entire participant section; double code with no response if no one was interviewed

n.a.= not applicable

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