Evaluation of ARC's Education and Workforce Development Projects Closed in 2015–2019

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Executive Summary

This report presents findings from an evaluation of the Appalachian Regional Commission's (ARC's) education and workforce development projects that closed between 2015 and 2019, representing 383 grantees and more than $62,500,000 of ARC investment. Evaluation findings document the characteristics of this grantee portfolio, grantee performance, outcomes and experiences of grant beneficiaries, and successes and challenges across the portfolio related to implementation and sustainability efforts. Recommendations for improvements to ARC's grant-making processes and grantee support as well as suggestions on how to advance equity efforts among grantees are drawn directly from these findings.

This evaluation is based on extant data from ARCnet, ARC's grants management platform; an online survey completed by 184 grantees; focus group discussions with 26 grantees; and 10 in-depth case studies. The data presented throughout this report is reflective only of participants in each of these data sources; due to the wide-ranging diversity of purpose, approach, and context among ARC's grantees, findings should not be generalized to ARC's full education and workforce development program.

Overview of the Grantee Portfolio

Description of Grant Recipients. Nonprofits and institutions of higher education, including community and technical colleges and 4-year universities, represented the largest number of awardees (35% and 34%, respectively). The largest proportion of these grants were awarded to organizations in Alabama (19%), Mississippi (15%), and Kentucky (11%). Aligned with ARC priorities, over half of awarded grants benefited primary or substantial distress areas (60%).

Overview of Project Purposes and Focus. The majority of grantees used their projects for the purpose of benefiting operations (e.g., implementing new programs in schools or new job training programs; 41%) or to improve equipment (e.g., purchasing new computers or improving broadband; 34%). Grant project type as classified in ARCnet focused primarily on career and technical education (40%), educational achievement or attainment (36%), or workforce/teacher training (13%). Overall, based on coded open-ended data from ARCnet, 87% of grantees' projects included educational components and 69% related to workforce development. Many grantees worked across both domains of the portfolio (education and workforce development), particularly institutions of higher education that were providing focused educational strategies directly tied to workforce-related fields (e.g., career and technical education) or independent school districts that provided workforce professional development training to teachers and curricula or enrichment programs to students. Specifically related to education, 44% of grantees were working in post-secondary education spaces and 39% worked with students in grades kindergarten through Grade 12 (K–12). In examining workforce development trends, 17% of grantees' projects related to healthcare training, 16% related to advanced manufacturing, and 15% included components of teacher training or professional development.

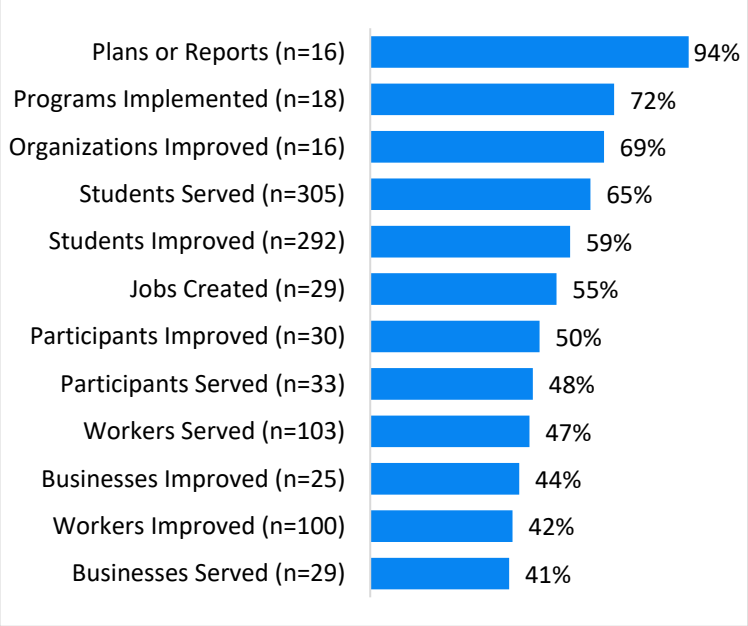
Across all of these projects, the vast majority (91%) served to advance ARC's strategic goal of increasing the education, knowledge, skills, and health of residents to work and succeed in Appalachia, which is consistent with

the overall purpose of this grant investment. Seven percent of grantees worked to advance ARC's strategic goal of investing in entrepreneurial and business development strategies.

Characteristics of Project Beneficiaries. Grant beneficiaries were primarily adults (60%) or youth (47%), many living in rural areas or coming from low-income households (64% of grantees served rural populations and 63% served low-income individuals). More than half of grantees reported serving populations that represent racial minorities across Appalachia, including 56% of grantees who reported serving Black or African American individuals, 46% who served Hispanic individuals, 28% who served Asian beneficiaries, and 15% who reported serving those from Tribal populations. Many—though not all—grant recipients were already collecting some formal demographic information from their beneficiaries, particularly related to participants' gender (65% of survey respondents), race (60%), and ethnicity (52%). This suggests that grantees may need substantial direction and support in order to collect robust demographic information that could support understanding the ways in which this portfolio is reaching underserved populations and advancing equity.

By the end of the grant period, 337,405 individual beneficiaries had been served (98% of the cumulative projected goal). At the time of the follow-up survey, this increased to 510,765, or 148% of the cumulative goal. In addition, a total of 3,157 businesses, communities, or organizations had been served through grant funding at the time of the follow-up survey, and 4,572 new jobs had been created. Taken together, this demonstrates the long-lasting impact of much of the ARC portfolio—even after ARC funding ends.

Exhibit A. Percent of Grantees who Met Performance Measure Targets by the End of the Grant Period (n=383)



Source: ARCnet extant data
Note. Measures selected by 10 or fewer grantees are not presented. Grantees could select multiple performance measures toward which to work.

Grantee Performance

Performance Goals and Achievements. Workforce development and education grantees sought to achieve a range of 23 unique performance measures with an average of 2.86 measures per grant. The most common performance measures related to students served or improved and workers served or improved but large numbers of grantees added measures related to jobs created, communities served, participants served or improved, or businesses/organizations created or improved. Nearly half of these 23 measures (n=11) were selected by 10 or fewer grantees, and so are not presented in this report, although select full data tables are in Appendix B2.

Most performance measures were met by between 50% and 65% of grantees who sought to achieve them (Exhibit A), although this varied by grant and project characteristic. Independent school districts (74%) were far more likely to meet all their proposed performance measures than other types of grantees, and projects focused

on educational achievement/attainment were more likely to meet all their goals than were projects focused on workforce/teacher training (57% versus 22%, respectively). Grants leveraging funding for equipment and operations were more likely to meet all of their performance measures than grants classified as construction (54% versus 25%, respectively).

Grantees also had an opportunity to provide updates to their performance measures through the follow-up survey. These respondents provided updates on 311 individual performance measures, which resulted in increases to the percentage of performance measures met for students improved (59% met at grant close to 66% met at follow-up), students served (65% to 67%), and workers improved (42% to 47%).

Project Successes and Challenges. Beyond performance measures, 85% of survey respondents believed that their grant was either mostly or entirely successful. Across all respondents, having both local support for the project (76%) and local partners' support of the grant throughout the duration of the project (73%) were considered most integral to implementation success. In contrast, 50% or more of survey respondents indicated that supportive policies, a strong labor market, and technical support from ARC or others were only somewhat important or not important. These trends largely persisted across grant and project characteristics. Focus group participants further highlighted the ways in which program success was driven by a distinct need for the service or by support implemented through their grant project. They also discussed the importance of staffing and internal buy-in as well as external partners.

Fourteen percent of survey respondents reported that their project was only somewhat or not at all successful and 53% of grantees failed to meet some or all their performance measures at the time of the follow-up survey, suggesting that a substantial portion of this portfolio struggled with implementation. As compared with factors that supported implementation, there was more variability among factors that hindered successful implementation based on grant and project characteristics. Common barriers included a lack of access to financial resources outside of ARC funding and a lack of access to needed materials or equipment, although nearly all subgroups of grantee respondents reported slightly different factors that they believed to be the largest challenges to implementation.

Beneficiary Outcomes and Experiences. Experiences and outcomes among grant beneficiaries also varied substantially, in line with the goals and purposes of the grant. Approximately two-thirds of all survey respondents indicated that they expected to see improvements related to participants' educational outcomes and workforce outcomes (76% and 65%, respectively). More specifically, almost half of grantees reported working to increase beneficiaries' access to resources/technology (47%), followed by improving vocational/technical skills of beneficiaries (30%), or supporting beneficiaries in securing new employment (29%). Grantees reported targeting a variety of education-related outcomes, although fewer percentages of grantees focused on any single outcome. These included earning credentials or certificates (19%), postsecondary enrollment (13%) or completion (9%), college readiness (9%), and improved academic skills (9%), among others. Through focus group discussions, the most reported beneficiary outcomes included earning certifications or credentials, improved academic performance, and increased employment and job placement opportunities through networking connections.

Grantees who responded to the survey also shared barriers faced by project beneficiaries, which included lack of transportation (29%), followed closely by lack of time due to competing priorities (27%), lack of information about the opportunity (25%), and lack of childcare (21%). Perceptions of these barriers varied by grantee and project characteristic, although lack of transportation was among the top two most-frequently reported barriers for all groups except for independent school districts, nearly all of which had existing bus systems for their students.

Grantees from nonprofit organizations and higher education institutions identified the largest number of barriers potential beneficiaries may have faced while thinking about participating in their grant-funded project.

Equity-Related Trends. This evaluation sought to learn more about grantees' efforts to advance equity and reduce inequities in their communities through ARC-funded projects as well as possible avenues for ARC to explore this further through additional data collection and analysis. Through the survey, grantees shared that their projects benefited people living in rural areas (64%), those earning low incomes (63%), people with disabilities (40%), and English language learners (28%)—all populations that have been historically underserved. Survey respondents also reported on subgroups that were the most difficult to recruit into their program. Respondents stated that immigrants (27%) and incarcerated/formerly incarcerated individuals (26%) were the populations that that were the most difficult to recruit. Grantees also had difficulty recruiting Asian Americans (22%) and individuals age 65 and older (21%).

Several case study participants shared promising practices and strategies for engaging marginalized populations, including universal programming, free or reduced tuition, available free transportation, flexible scheduling, and individualized relationships and support. However, many grantees in focus groups struggled with the concept of equity, sometimes limiting equity to just racial equity and noting that *"racial equity isn't really an issue in our region because we don't really have any diversity,"* or explaining that they served a school or industry that was relatively homogenous and thus had not designed intentional equity efforts as part of their programming.

Project Sustainability

Sustainability Trends Across the Portfolio. Three-quarters of survey respondents were still sustaining their grant-funded program in some capacity (75%), although this may be artificially elevated due to the nature of grantees who completed the survey. Nevertheless, among these grantees, there was no substantial variation in sustainability based on the year in which the grants closed. Grantees who used funding to secure new equipment or technology had higher rates of sustaining their grant project (91% for only equipment and 81% for equipment and operations) than those who used funding exclusively for construction or operations (both 71%), perhaps because the technology or equipment had become embedded in organizational systems or programs, promoting greater ease of sustaining grant projects.

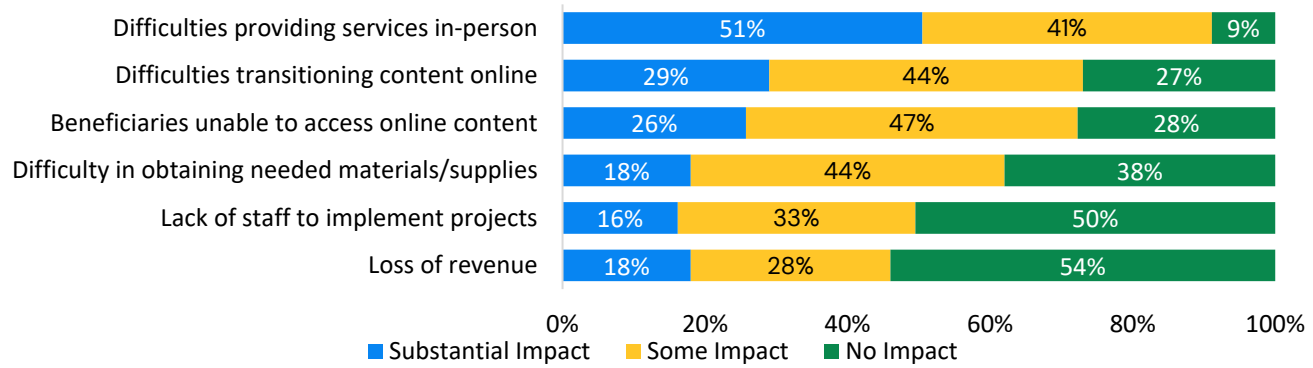
Factors Contributing to Successful Sustainability. Grantees represented by survey respondents reported that factors that contributed to successful implementation also supported sustainability but were more critical than before. Local support and partnerships were again the two factors deemed most important to sustainability by the largest percentage of respondents (80% and 78%, respectively). Having access to non-ARC financial resources and hiring or retaining quality staff were the next two most important factors, although there was some variation based on grant or project type. For example, there were wide ranges in those who viewed retaining quality staff as critical to sustainability; just 48% of those from higher education and 55% in state or local government reported that this was important or very important to sustainability compared with 73% of independent school districts. In addition, aligned with the relative engagement with the local labor market, 73% of workforce/teacher training respondents and 69% of respondents representing career and technical education projects reported that a strong labor market was important or very important for their sustainability compared with just 47% of respondents working toward educational achievement or attainment.

Challenges to Sustainability. Survey respondents reported that the four largest factors hindering sustainability were a lack of access to additional financial resources (39%), experiencing disaster such as the coronavirus disease

(COVID-19) pandemic (38%), a weak labor market (30%), and a lack of needed materials or equipment (30%). At the top of mind for focus group participants were three specific challenges: the COVID-19 pandemic, a lack of subsequent funding, and challenges with staff buy-in or hiring.

Impacts of COVID-19 on Sustainability. Among survey respondents, two-thirds (65%) reported that activities originally supported by their ARC grant were continuing at the beginning of the COVID-19 pandemic in March 2020. These grantees most frequently cited challenges related to in-person pandemic restrictions and the pivot to online content as having the most substantial impact on their sustainability efforts with only 9% of respondents indicating that this had no impact on sustainability (Exhibit B).

Exhibit B. Grantees' Perceptions of the Impact of the COVID-19 Pandemic on Project Sustainability (n=184)



Source: ICF survey of ARC grantees

Note. Percentages may not total 100% due to rounding.

Results were largely consistent across grantee type; however, grantees from higher education and nonprofits cited loss of revenue as a factor related to the COVID-19 pandemic that substantially impacted sustainability (22% and 11%) whereas no respondents from state and local government or independent school districts included this as a substantial impact. In addition, more respondents working on career and technical education projects (22%) and workforce/teacher training projects (27%) than educational achievement/attainment projects (9%) reported difficulty transitioning services or activities to online formats as playing a substantial role in sustainability challenges, reflective of the more hands-on work traditionally associated with both types of projects.

Survey participants were also asked to indicate what changes they made to their ongoing programming activities in response to the COVID-19 pandemic, and which (if any) changes they planned to continue. The most common changes related to pivoting content and services online included offering more services online (48%), providing training for staff to deliver content online (40%), and assisting beneficiaries to receive content online (35%). In addition, grantees adjusted outreach and recruitment efforts (39%), modified the scope of their project activities (14%), or modified their populations of focus (9%). A substantial majority of grantees who reported making a change as a result of the pandemic planned to maintain that change into the future.

Recommendations

Pre-Award Improvements and Enhancing Early Grant Support.

1. **Increase awareness of ARC Funds**. Fifty-eight percent of survey respondents reported that a lack of awareness of funding opportunities was a barrier for potential ARC grantees. ARC staff can work with state program managers and local development district (LDD) staff to increase awareness of ARC funding opportunities within their states, as appropriate.
2. **Promote the Use of Project Directors Among Grantees.** Grantees across all categories and throughout focus groups and case studies reported that hiring quality staff contributed to implementation success. Accordingly, ARC can develop a recommendation or requirement in grant application forms that projects have a designated project director (part-time or full-time) to support early implementation success.
3. **Address Financial Challenges Faced by Grantees.** ARC can better publicize available funding supports for nonprofits or small organizations, particularly reduced match rates for distressed counties and the availability of advancements in funding. In addition, ARC could explore the feasibility of allowing all grantees or nonprofits to bill on a monthly basis. Developing a brief resource guide to support grantees in pursuing matching funds or additional funding after grants close may also support new or small organizations to secure grant funding.
4. **Continue Existing Support.** Nearly all grantees across focus groups and case studies expressed high levels of gratitude and appreciation for ARC support, technical assistance, and communication. ARC should continue to allocate ample staff time to provide grantees with this flexible, personalized support.

Ongoing Grantee Support.

1. **Allot Time for Targeted Support.** ARC could consider establishing more robust interim check-ins or interim analysis to determine which grantees are lagging or having difficulty navigating post-pandemic challenges and may need additional support. This information can then be conveyed to state program managers and/or LDDs who may be able to provide more localized resources and support.
2. **Expand Efforts to Follow-Up with Grantees.** ARC can build on their existing efforts to conduct 3-year post-close surveys of grantees by expanding that to their full portfolio of grantees. In addition, ARC could collect additional contact information at grant close and conduct brief outreach after grant close to maintain accurate points of contact for all recently closed grants.

Encourage Advances in Equity.

1. **Improve Understanding of Regional Inequities.** ARC can look for opportunities to educate their existing grantees about different types of equity as well as the various prevalent and persistent forms of inequity in the region. These could include panel discussions or roundtables at conferences, targeted webinar presentations about regional challenges, or opportunities for technical assistance.
2. **Include Guidance About Advancing Equity in Grant Applications.** ARC can build upon the strength of their existing grant application and review existing forms to look for opportunities to encourage or require grantees to report on which underserved populations they will be focusing on or including in their projects, such as in the Executive Summary of grantees' applications.

3. **Prepare for Additional Demographic Data Collection.** ARC can begin the process of building an infrastructure for collecting more robust demographic data about populations served to better understand how their funds are contributing to serving diverse/historically underserved populations in the region, which may also require technical assistance around data collection and reporting, adjustments to grantee applications, and changes to interim and final reporting.

Opportunities to Enhance Peer Learning.

1. **Provide Opportunities for Peer Learning.** ARC can adopt any of several strategies to enhance peer learning and connections, including disseminating case study reports created in this evaluation; providing opportunities for peer learning circles at relevant conferences; or grouping education and workforce grantees into smaller communities of practice where grantees could offer community connections, share promising practices, build partnerships, and strengthen services to individuals across Appalachia.

1. Study Background and Methodology

1.1 Introduction

The Appalachian Regional Commission (ARC) is an economic development partnership agency serving 423 counties across the 13 states of the Appalachian Region, from southern New York to northern Mississippi. ARC's mission is to innovate, partner, and invest to build community capacity and strengthen economic growth in Appalachia. A substantial portion of ARC's investments support local education and workforce training efforts.

ARC's workforce development and education grants support educational achievement and attainment, skill development, and workforce training for students and adults, as well as technology and infrastructure that supports that learning. Between 2015 and 2019, approximately 400 workforce development and education grants closed, representing around $62.5 million in ARC funding. Together, these projects aimed to serve more than 270,000 students and around 25,000 workers as well as numerous industries, businesses, and communities across the Appalachian Region.

Exhibit 1.1 ARC Strategic Goals, 2015–2021

1. Invest in entrepreneurial and business development strategies that strengthen Appalachia's economy.
2. Increase the education, knowledge, skills, and health of residents to work and succeed in Appalachia.
3. Invest in critical infrastructure—especially broadband; transportation, including the Appalachian Development Highway System; and water/wastewater systems.
4. Strengthen Appalachia's community and economic development potential by leveraging the region's natural and cultural heritage assets.
5. Build the capacity and skills of current and next-generation leaders and organizations to innovate, collaborate, and advance community and economic development.

1.2 Overview of the Evaluation

In 2021, ARC contracted with ICF to conduct an evaluation of these education and workforce development grants. ICF conducted a multipart, retrospective, mixed-methods evaluation of these grantees with the purpose of generating an understanding of the extent to which these grant programs contributed to the achievement of ARC's strategic goals (Exhibit 1.1) and to the overall strength of the region. This report presents findings from this evaluation and provides ARC and future grantees with recommendations related to grant-making, encouraging advances in equity, and strengthening program implementation and sustainability.

1.2.1 Evaluation Questions

This evaluation generated findings around five key areas of grantee composition and performance including the impact of the coronavirus disease (COVID-19) pandemic on sustainability efforts and the ways in which grantees addressed issues of equity of access and outcome through their projects.

1. **Grantee Portfolio Questions**
    a. What were the goals of the projects?
    b. What approaches did the projects use to meet these goals?
    c. What types of institutions received the grants, and what are the characteristics of their beneficiaries?
    d. To what extent did these projects' goals and approaches align with ARC's strategic goals?
2. **Grant Performance Questions**
    a. What specific outputs and outcomes were projects designed to achieve, and to what extent did projects meet their performance goals?
    b. To what extent were project-related activities sustained beyond the period covered by the ARC grant?
    c. What changes did grant beneficiaries (i.e., grantee clients) experience as a result of these projects?
3. **Factors of Successes and Challenges**
    a. What factors influenced projects' successful implementation and sustainability?
    b. What challenges/barriers to success did projects face and how were they addressed?
    c. Are there common factors among grantees who met performance targets and those who did not?
4. **COVID-19 Pandemic Impact Questions**
    a. What impacts do grantees report the pandemic has had on the communities they serve?
    b. What impacts has the pandemic had on education and workforce grantees' ability to serve their communities/beneficiaries?
    c. What changes have education and workforce grantees already implemented and what changes are they planning to implement in response to evolving needs/opportunities that emerged from the pandemic?
5. **Equity Questions**
    a. What are grantees' experiences with fostering equity and reducing inequity?
    b. How and in what ways do grantees report prioritizing underserved or marginalized populations?
    c. What successes and challenges do grantees report in advancing equity?

1.2.2 Data Sources and Methodology

Data Sources

The data presented throughout this report is reflective only of participants in each of these data sources; due to the wide-ranging diversity of purpose, approach, and context among ARC's grantees, findings should not be generalized to ARC's full education and workforce development program. This evaluation leveraged information from four primary data sources:

Extant Grantee Data. ICF capitalized on data collected during the grantee's period of performance in ARCnet, ARC's performance measurement database. This file included descriptive information about each grant (start date, close date, strategic plan goal and objective, type, subtype, and so forth), projected and achieved performance measures at the time the grant closed, a narrative description of the grant, and closeout notes. This dataset contained 454 projects categorized as education or workforce development and that closed between 2015 and 2019. Prior to analysis, ICF conducted a comprehensive review of these grant projects and identified 45 grant recipients that received extensions to continue work initiated during their initial grant; these were

consolidated into single grants, leaving a total of 409 grants in the study sample. An additional 21 grants were removed because their grant objectives differed substantially from the broader sample (e.g., grant helped fund the development of a larger federal grant proposal, or grant funding supports a professional organization for presidents of Appalachian community colleges). Finally, five grants were removed from the sample because current contact information could not be obtained for them or because they were led by members of the evaluation team. As a result, a total of 383 education and workforce development projects were included in the final analytic sample.

Grantee Survey. ICF worked with ARC to develop a survey for all grantees to obtain updated grant performance data and learn about grantees' implementation and sustainability experiences, including the influence of the COVID-19 pandemic on their projects and communities. The survey was first administered in January 2022 and remained open for 6 months. Grantees were informed about the survey by ARC and then invited to participate in the survey via email. ICF and ARC took a series of steps to increase the total response rate throughout the survey period. These included general and individual reminder emails, personal phone calls, and outreach from ARC state representatives. The survey closed on July 1, 2022, with 183 grantees submitting responses. Response rates varies by the type of grantee and the year the grant concluded, with local development districts (LDDs) and grants that closed in 2017 and 2019 having the highest response rates (Exhibit 1.2).

Exhibit 1.2 Survey Response Rates by Grantee Characteristic (n=184)

Grantee type	Response rate
Nonprofit Organization (n=139)	46%
Institution of Higher Education (n=134)	49%
Independent School District (n=50)	52%
County or Local Government (N=31)	48%
Other (n=13)	62%
State Government (n=11)	20%
Local Development District (n=5)	80%
Year Grant Closed	**Response Rate**
2014 (n=19)	42%
2015 (n=77)	40%
2016 (n=58)	48%
2017 (n=80)	58%
2018 (n=95)	44%
2019 (n=54)	53%

Source: ICF survey of ARC grantees
Note. Description of inclusion in "Other" category is included at the beginning of Appendix B.

Focus Groups. Leveraging findings from qualitative analysis of open-ended data submitted in ARCnet and preliminary survey results, ICF developed focus group protocols that focused on project implementation and sustainability, the impact of the COVID-19 pandemic, and experiences advancing equity. Grantees were grouped into categories based on the scope of their project and their type of beneficiary. These groups were: High school – career and technical education; high school – general programs; kindergarten through Grade 12 (K–12) out of school programs; K–12 equipment and technology projects; community and technical college projects; workforce – industry-related programs (those serving partnered local industries); and workforce – individualized programs (those serving individual beneficiaries in single or multiple program areas). Focus groups were conducted in May and June 2022.[1] Across the seven groups, 26 grantees participated in discussions.

Case Studies. Finally, ICF conducted 10 case studies of grantees who were selected using a combination of the results of multivariate regression analysis of the extant data from ARCnet that identified those with better-than-expected performance and purposive sampling based on triangulated variables of promising practices, innovative approaches, and location. Case studies were conducted between June and August 2022. Seven case studies were

[1] A group comprising grantees serving kindergarten through Grade 8 students was originally planned, but due to significant and recurring scheduling challenges it was dropped from the sample.

conducted through in-person site visits and three case studies were conducted virtually. Each case study included a desk audit of extant grantee data; U.S. Census Bureau data on the primary counties served by the grant; and a scan of ARC Data Reports[2] as well as a review of available project materials, interviews with key grantee leaders, and individual or group interviews with current or former project beneficiaries. Some case studies also included interviews with key partners, on-site observations, and photographs of events, locations, and/or materials.

Analytic Approach

To answer the full range of evaluation questions, ICF conducted both quantitative descriptive analysis and qualitative thematic analysis. All non-numeric extant data from ARCnet was coded and transferred into statistical analysis software (SAS) for analysis. Survey data was also cleaned and merged with the extant data for more robust analysis. This combined data set was then analyzed using descriptive statistics including frequencies, averages, percentages, and measures of variation. Subgroup analyses were conducted to explore grantee performance by type of grantee, type of project, total funding, and other contextual factors, as relevant. Finally, cross-tabulations were utilized to explore any relationships among constructs of specific interest such as the extent to which meeting performance measures related to total funding.

Focus groups and case study interviews were recorded and transcribed. Focus group transcripts were then uploaded into Dedoose qualitative software for analysis. A codebook was developed following the outline of the protocols and then both these *a priori* codes as well as emergent codes were systematically applied to all transcripts. These transcripts were then analyzed using code counts, code co-occurrence, and transcript attributes (e.g., respondent type, geographic location) to explore themes and patterns. Case study transcripts were coded within case, and supplemental data from the desk audits, observations, photographs, and project materials was used to provide context or clarity about the project and case study themes.

Across all of these methods, we applied methods of triangulation[3] to examine the convergence and divergence of themes and results from similar items to generally corroborate findings. In a more limited way, we also conducted cross-case comparisons of case studies to examine similarities or differences in themes across case study data collection methods.

1.3 Organization of the Report

This report presents key findings from this evaluation. Findings are organized by research question, using individual and triangulated analyses to address each question. Section 2 provides an overview of the grantee portfolio and discusses projects' goals and approaches. Section 3 examines grantee performance through the lens of performance measures as well as beneficiary experiences, sustainability, and equity. Section 4 then reports on themes related to successes and challenges with project implementation and then with project sustainability, including a closer look at the unique challenges of the COVID-19 pandemic. Sections 5 and 6 provide summary conclusions and strategic recommendations for ARC related to improvements to grant-making and for grantees around successful implementation. Findings from the case study are presented throughout and full case study reports are included in Appendix A. Appendix B includes additional data tables produced through our analysis and Appendix C provides a copy of the grantee survey as well as a sample focus group and case study protocol, although both were tailored to fit specific audiences.

[2] Retrieved from https://www.census.gov/quickfacts/US and https://data.arc.gov/data

[3] See Noble and Heale's 2019 article Triangulation in Research, with Examples.

2. Overview of the Grantee Portfolio

Roughly 20% of annual investments from ARC go to support educational opportunities and workforce development across the greater Appalachian Region. Between 2015 and 2019, a total of 383 of these projects closed and are included in this study. This section provides an overview of these grant projects and addresses research questions related to the overall grantee portfolio.

Research Questions

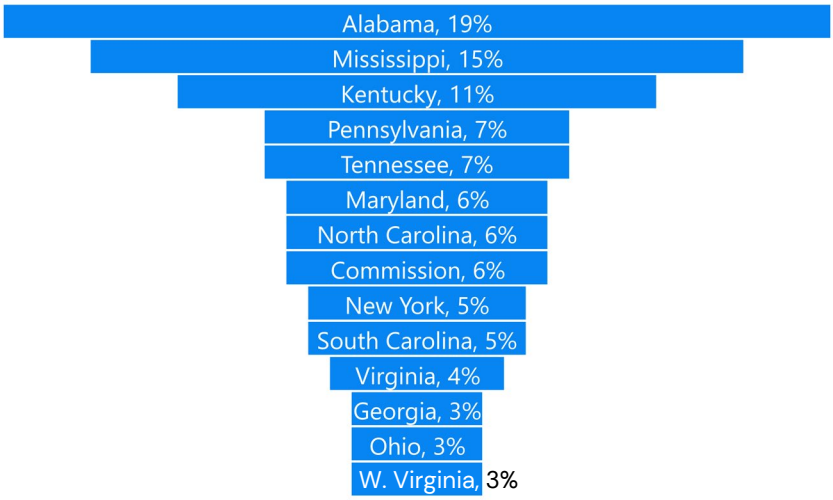
1. What types of institutions received the grants?
2. What were the broad goals of the projects?
3. To what extent did these projects' goals and approaches align with ARC's strategic goals?
4. What approaches did the projects use to meet these goals?
5. What were the characteristics of grant beneficiaries?
6. How and in what ways do grantees report prioritizing underserved or marginalized populations?

2.1 Description of Grantees

All ARC grants begin by submitting an application for award that describes their community, the proposed project, and the need that it will fill. As part of the ARC grantee survey, grantees were asked to indicate how they learned about this ARC funding opportunity prior to submitting that application. The largest proportion of survey respondents learned about the grant through an entity in their state (27%). Grantees also found out about the funding opportunity from an ARC state program manager/office (19%) or their LDD (16%). Few learned about the opportunity through ARC's website (7%), from prior ARC grant recipients (7%), or a local organization or foundation (4%; see Appendix B1 for full table).

The portfolio of entities who applied for and received a grant award was far-reaching, spreading across the 13 different states within the Appalachian Region that are served by ARC (Exhibit 2.1). A majority of the grants went to organizations serving communities in Alabama (19%) and Mississippi (15%). Organizations across Kentucky were also awarded a large percentage of the grants (11%), with the rest of the

Exhibit 2.1. Distribution of ARC Grants Among Grants that Closed Between 2015–2019 by State (n=383)

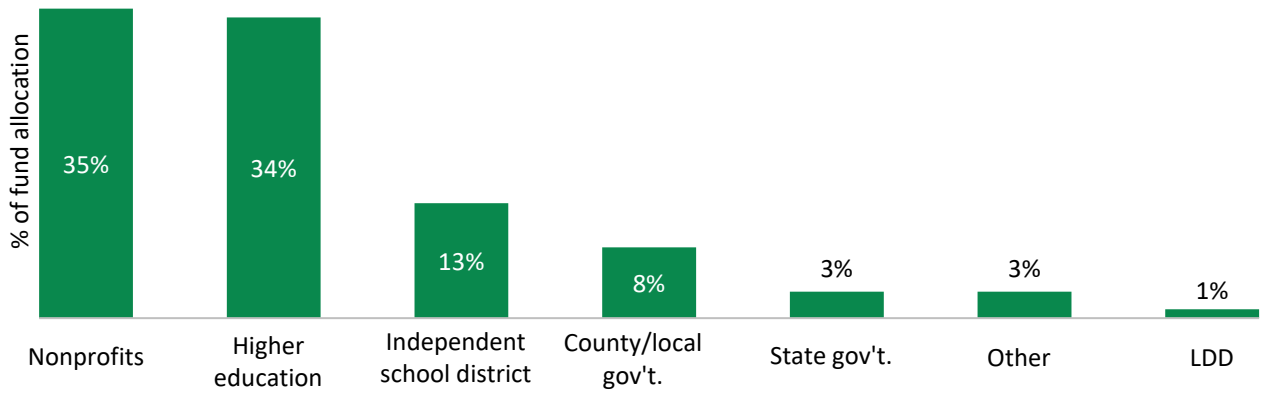


Source: ARCnet extant data

states receiving between 7% (Pennsylvania and Tennessee) and 3% (West Virginia, Ohio, and Georgia) of the awarded grants.

Within each state, grants were distributed across several different types of organizations, ranging from state governments to nonprofit institutions. Most awards went to a nonprofit agency (not higher education-related) or to an institution of higher education, including technical and community colleges and 4-year universities (Exhibit 2.2).

Exhibit 2.2 Distribution of ARC Grants by Grantee Type (n=383)



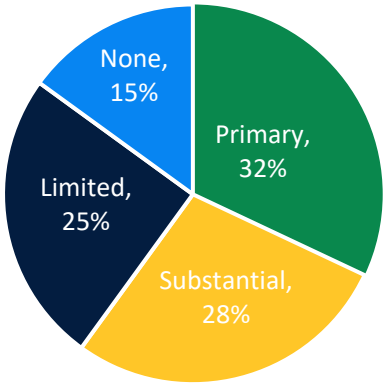
Source: ARCnet extant data

Note. Percentages do not add up to 100 due to rounding. Description of inclusion in "Other" category is in Appendix B.

ARC relies on an index-based county economic classification system to identify those counties in the greatest economic distress. In this grant portfolio, the largest percentage of grants were awarded to organizations serving mostly distressed counties (primary, 32%; Exhibit 2.3).

During the 2015 to 2018 grant cycle, ARC invested $62.5 million, with $122,388,392 in total funds distributed to agencies in the region (including match funding). The average project received $163,374.95 in funding from ARC. Within grantee type, institutions of higher education (n = 155) received the most funds from ARC ($26,644,138; Exhibit 2.4). As a condition for grant award, ARC requires all grantees to have matched funding from other partners in their region. The required match percentage varies based on the economic designations (e.g., destressed, at-risk, transitional) of the counties being served. This matched funding is then combined with the ARC-funded amount to generate the total funding amount. Among this portfolio, total funds averaged $328,303.90 per grant and nonprofit organizations (n = 157) received the most funding ($40,251,010.64; Exhibit 2.4).

Exhibit 2.3. Benefit Distress Area Distribution (n=383)



Source: ARCnet extant data

Exhibit 2.4 Average ARC and Total Funding Awarded to Grantees by Grantee Type (n=383)

Grantee Type	Fund type	
	ARC funds	Total funds
Institution of Higher Education (n=132)	$26,644,138.00	$47,083,749.00
Nonprofit Organizations (n=144)	$20,706,152.00	$40,251,050.64
State or Local Government (n=39)	$8,283,738.00	$21,152,027 .00
Independent School District (n=50)	$3,659,261.00	$7,658,314.96
Other (n=13)	$2,016,420.00	$4,350,743.00
LDD (n=5)	$1,262,897.00	1,892,507.00
All (n=383)	$62,572,606.00	$122,388,392.00

Source: ARCnet extant data

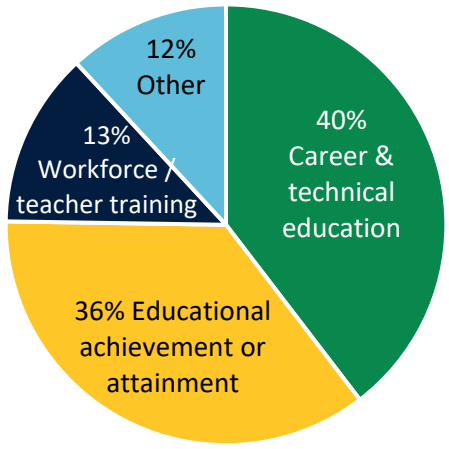
Note. Data are sorted based on ARC funds (highest to lowest). Description of inclusion into "Other" category is in Appendix B.

2.2 Overview of Grantee Goals and Approaches

Most grantees sought funds for the purpose of benefiting operations (e.g., implementing new programs in schools or new job training programs; 41%) or to improve equipment (e.g., such as purchasing new computers or improving broadband; 34%). The remaining grants sought funding to support both equipment and operations (11%); to support construction efforts (6%); or to support other areas (7%) including planning, research, and technical assistance, to name a few.

Grantees within the education and workforce development portfolio were further categorized in ARCnet by project type. The most common type of projects pursued by grantees were related to career and technical education (40%) or improving student achievement and/or educational attainment (e.g., dropout prevention, reading skills, STEM programing; 36%; Exhibit 2.5). The remaining 24% of grants focused on workforce/teacher training or other smaller categories (e.g., healthcare access, child development, and research and evaluation).

Exhibit 2.5 Grant Project Type (n=383)



Source: ARCnet extant data

Note. Percentages do not add up to 100 due to rounding.

To better understand the goals and purposes of these grants, project descriptions in ARCnet were coded and analyzed and categorized as education-related and/or workforce development-related. Projects that solely focused on construction or equipment were categorized based on the sector or population benefiting from the project. For example, a project constructing a new health sciences lab at a community college would be coded as both "education – postsecondary" and "workforce – healthcare." Of those grantees supporting projects related to education, most were identified as focusing their efforts either on postsecondary education (44%; Exhibit 2.6) or K–12 programs (39%), particularly serving high schools (29%), although many K–12 programs—particularly equipment programs—served all students in an entire district. Workforce grants supported a variety of sectors, most commonly healthcare (17%) and manufacturing (16%). Many grantees working across both domains of the portfolio were institutions of higher education that were providing focused educational strategies directly tied to

workforce-related fields (e.g., career and technical education) or independent school districts that provided workforce professional development training to teachers and curricula or enrichment programs to students.

Exhibit 2.6 Targeted Sector of Grantees (n=383)

Education	%	Workforce Development	%
All education-related grants	87%	All workforce development-related grants	69%
Early childhood programs	4%	Project training entry level or basic skills	7%
All K–12 programs	39%	Teacher training or professional development	15%
Elementary school	11%	Healthcare training-related project	17%
Middle school	11%	Manufacturing training-related project	16%
High School	29%	Technology training-related project	7%
Postsecondary education	44%	Other	18%
Before or after school program, K–12	11%		

Source: ARCnet extant data

Note. Categories were not mutually exclusive. Differentiation between elementary and middle school was defined by grantees, typically elementary school included grades K–5 or K–6 and middle school included Grades 6–8 or 7–8. High school included Grades 9–12. Dual-enrollment programs were coded as both high school and postsecondary.

2.3 Alignment to ARC Strategic Goals

ARC updates their strategic plan and accompanying strategic goals approximately every 5 years, resulting in grantees in this portfolio aligning to three different sets of strategic goals from 2005–2010, 2011–2014, and 2015–2021. However, the primary emphasis of each goal has remained the same across each relevant iteration. As such, all ARC projects included in the study worked to advance ARC's strategic goals, which relate to investments in entrepreneurial and business development strategies; increases in the education, knowledge, skills, and health of residents; investment in critical infrastructure; strengthening community and economic development potential; and building the capacity and skills of current and next-generation leaders and organizations to innovate, collaborate, and advance community and economic development.

Most grantees' projects (91%) were aligned with ARC's goal of increasing the education, knowledge, skills, and health of residents to work and succeed in Appalachia, which is consistent with the overall purpose of this grant investment. Seven percent of grantees primarily worked to advance ARC's strategic goal of investing in entrepreneurial and business development strategies while the remaining 2% of grantees aligned with one of ARC's remaining strategic goals.

2.4 Project Beneficiaries

Through their grant application process, ARC grantees reported on the number of entities (e.g., students, workers, communities) that would be served by or benefit from their grant project as well as the number of entities that would see improvement as a result of the project, if applicable. Across the whole portfolio, grantees estimated that they would serve a total of 345,834 individuals. By the time the grants closed, 337,405 individual beneficiaries had been served (98% of the projected target) and a total of 253,291 individual beneficiaries had improved as students, workers, or participants. In addition, a total of 4,352 businesses, communities, jobs, or organizations had been created, retained, or improved through grant funding. Exhibit 2.7 includes a detailed breakdown of entities served and improved by category (data related to all performance measures is included in Appendix B2).

Exhibit 2.7 Beneficiaries and Entities Served, Improved, and Created at Grant Close and Follow-Up (n=383)

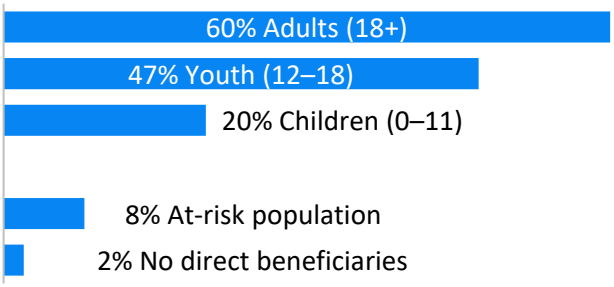
	Projected	Achieved at Close	% at Close	Total achieved by Follow-Up	% at Follow-Up
Students Served	270,846	267,341	99%	436,366	161%
Students Improved	182,289	189,766	104%	324,127	178%
Workers Served	25,019	16,224	65%	20,207	81%
Workers Improved	16,382	13,071	80%	15,911	97%
Participants Served	49,969	53,840	108%	54,192	108%
Participants Improved	49,669	50,454	102%	51,437	104%
Businesses Created	153	90	59%	90	59%
Businesses Served	1822	1338	73%	1,409	77%
Businesses Improved	953	71	75%	1,379	145%
Communities Served	64	89	139%	89	139%
Communities Improved	17	25	147%	35	206%
Jobs Created	1,384	3,624	262%	4,572	330%
Jobs Retained	375	358	95%	358	95%
Organizations Served	445	450	101%	1,659	373%
Organizations Improved	200	184	92%	1,393	697%

Source: ARCnet extant data; ICF survey of ARC grantees

Note. Only 184 grantees responded to the follow-up survey that collected updated measures. Data from the time their grant closed was included for those who did not provide follow-up information.

Respondents to the grantee survey were also asked to provide updates about beneficiaries served since their grant closed. Although only 184 grantees responded to the survey, clear gains were seen among the number of beneficiaries or entities served or improved for all but three of the primary categories (Exhibit 2.7). Since grant close, grantees achieved the largest gains in their beneficiary targets in terms of organizations improved and served (697% and 373% of original targets, respectively) as well as jobs created (330% at follow-up) and businesses improved (jumping from reaching 75% of grantees' targets to achieving 164% of their original target at follow-up).

Exhibit 2.8. Grantees' Targeted Beneficiaries (n=383)



Source: ARCnet extant data

Note. Many grantees served multiple beneficiary groups; totals do not add up to 100%. Eighteen-year-olds were classified as "youth" if a program focused on them in high school and as "adults" if a program focused on college students or those out of school.

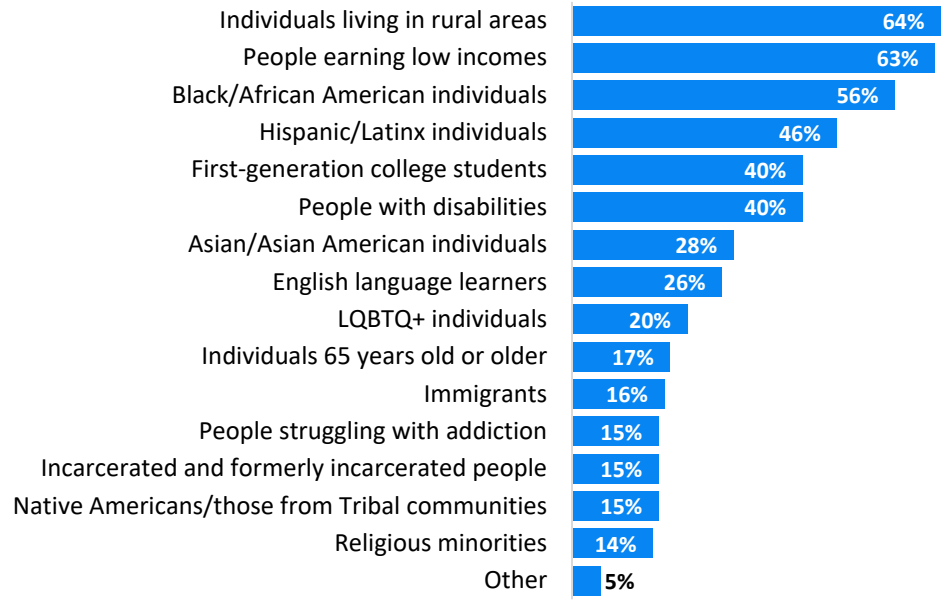
2.4.1 Characteristics of Beneficiaries

In order to examine these beneficiaries more closely, grantees' project descriptions were coded to determine the age of participants served. For the purpose of this analysis, 18-year-olds were coded as "youth" if the program served high school students and "adults" if the grant project served college populations or both high school and college populations. Across all of these grant projects, the majority of intended individual beneficiaries were adults (60%; Exhibit 2.8). Eight percent of grantees reported seeking to serve at-risk populations, which varied by project type and focus but included

formerly incarcerated adults, children involved in the child welfare system, homeless adults, and individuals living in poverty, as well as students at risk of dropping out of high school.

Survey respondents were further asked to reflect on specific groups that their ARC grant-funded activities actually served (e.g., people identifying as Black/African American, people from low-income communities, first-generation college students). Nearly two-thirds of survey respondents reported serving individuals living in rural areas (64%; Exhibit 2.9) followed closely by people earning low incomes (63%). Looking at race/ethnicity categories, more than half of grantees reported serving populations that represent racial minorities across Appalachia, including 56% of grantees who reported serving Black or African American individuals, 46% served Hispanic individuals, 28% serving Asian beneficiaries, and 15% reported serving those from Tribal populations. Additional categories of historically underserved or marginalized populations served by grantees are included in Exhibit 2.9.

Exhibit 2.9. Demographic Characteristics of Beneficiaries Served by Grantees (n=184)



Source: ICF survey of ARC grantees

Several grant recipients also indicated that they served populations that were not included in the list provided on the survey. These populations included homeless individuals; types of students, such as those struggling with attendance or identified as receiving free or reduced-price lunch; and individuals who were dislocated from the workforce.

2.4.2 Recruitment of Beneficiaries

Although some grants—particularly those investing in new equipment or technology—served a passive, predetermined group of beneficiaries, many grant programs had to actively recruit participants into their programs. Through focus group discussions, grantees shared how they approached and recruited the population served by their grant, and barriers grantees faced throughout the process. Grantees from across two groups—high school general programs and K–12 technology programs—typically worked with predefined populations and did not respond to this question during focus groups; they are not included in this analysis.

Grantees reported using a wide array of recruitment strategies, including hiring a staff member to focus solely on recruiting participants, leveraging connections with other organizations, and offering participant incentives. Six

participants from the workforce-industry related programs and three participants from the community or technical college focus groups shared that the primary recruitment strategy they used was partnering with external organizations—such as workforce investment boards, local nonprofits and career centers, and local schools—because it allowed grantees to access specific groups of people that could potentially benefit from the services they offered.

> *"We partnered with the local development foundation in [our county] and they connected us with of course media and radio. But we also created fliers that were distributed to the local churches because a lot of the people that we wanted to target; they weren't engaged in other places. So we thought that would be a good way to do it, and surely we had good response from that outreach."*
>
> — Workforce – industry-related programs focus group participant

Participants also reported that employing a staff member who could focus on recruiting students was key to successful recruitment. One participant in the community and technical colleges focus group shared: *"… it was crucial that we had that coordinator position to help us recruit and enroll students into the new program because they had the time and bandwidth to undertake all of those activities that most of you mentioned already so I won't repeat the general recruiting activities and marketing and outreach that most colleges do. But that dedicated personnel, I think, in that project helped us be more successful than we would've been without it. I found that to be true in subsequent grant projects as well. I am sure most of you know when you get a grant someone has to do the work. It's nice to have funds to hire folks to help implement the project so I would say that was pretty key for us."* Additional recruitment strategies included using social media features, leveraging an existing strong demand for the service, marketing materials and outreach, and offering participant incentives (Exhibit 2.10).

Exhibit 2.10. Recruitment Strategies Reported by Grantees, by Focus Group

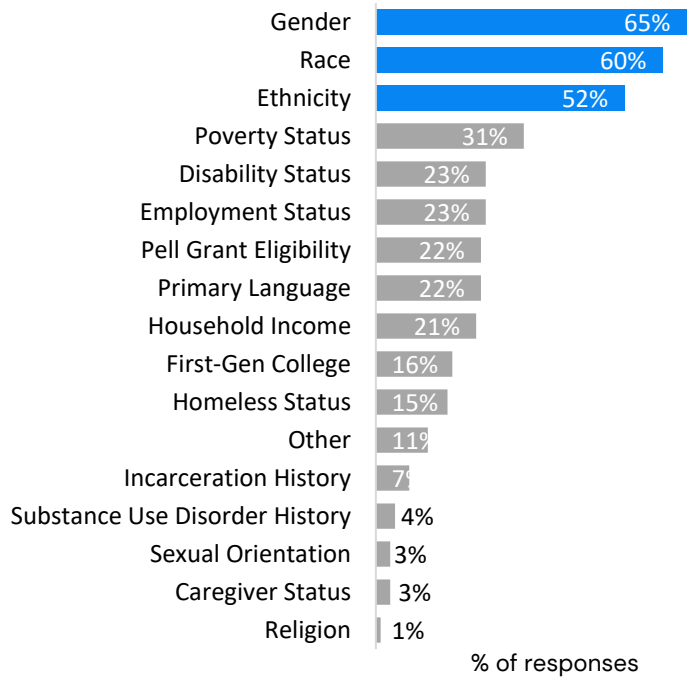
Recruitment Strategy	Community & Technical Colleges	High School – Career & Technical Education	K–12 Out of School	Industry-Related Programs	Individualized Programs
				Workforce	
Existing demand/strong demand	✓	✓			
External partnerships	✓			✓	✓
Flexible schedules to work around students	✓				
Incentives			✓		
Marketing materials (e.g., catalog, website, etc.)	✓				✓
Social media	✓			✓	
Specialized staff – specific for recruitment purposes	✓	✓	✓		

Source: ICF analysis of focus groups with ARC grantees

2.5 Grantees' Capacity to Report on Equity-Related Efforts

This evaluation also sought to learn more about possible avenues for ARC to explore grantees' efforts in advancing equity through additional data collection and analysis. Survey participants were asked to report on if and how their programs typically collected demographic information (e.g., race, gender, ethnicity) as well as the

Exhibit 2.11. Demographic Information Collected by Grantees (n=184)



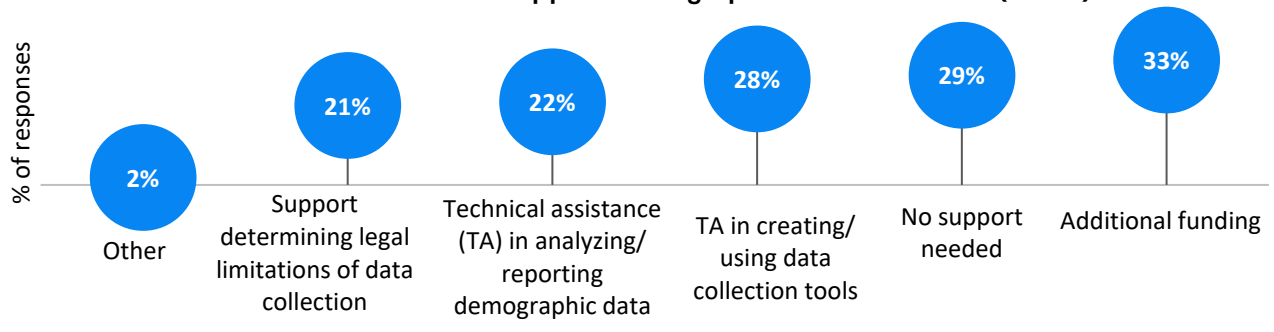
Source: ICF survey of ARC grantees
Note. Participants could select all that apply; percentages will not add up to 100%; blue bars indicate top choices.

ways in which their organization typically collects this type of information. Respondents were also asked to indicate what additional supports their agency might need in collecting this type of information.

Examining the data provided from grantees in this cohort suggests that many—though not all—grant recipients are already collecting some demographic information from their beneficiaries; 13% of survey respondents stated that they do not collect any type of demographic information. However, many grantees were collecting this information, most commonly from extant data sources such as academic/employment records (48%) or intake forms (34%; results not shown). A few grantees also collected demographic information directly from their beneficiaries through surveys (17%) or interviews (11%) while 10% of survey respondents detailed other ways in which they collected beneficiary information, primarily through third parties.

Over half of grantees in the survey collected demographic information related to participants' gender, race, and ethnicity (Exhibit 2.11). The demographic data that were least likely to be collected related to sexual orientation (3%), caregiver status (3%), and religion (1%). Together, these data suggest that although some grantees collected demographic information, there was much room for improvement. When asked what types of support grantees would need to collect demographic information, the largest percentages of respondents stated they would like to

Exhibit 2.12. Grantees' Additional Needs to Support Demographic Data Collection (n=184)



Source: ICF survey of ARC grantees
Note. Participants could select all that apply; percentages will not add up to 100%.

have technical assistance related to a) creating/using data collection tools (28%), and b) analyzing and reporting demographic data (22%). Still others stated that they needed additional funding to support this effort (33%) while 29% stated that no additional support was needed (Exhibit 2.12).

2.6 Summary of the Grantee Portfolio

Overall, 383 workforce development and education grants awarded by ARC closed between 2015 and 2019 and were included in this study. Nonprofits and institutions of higher education including technical and community colleges as well as 4-year universities represented the largest number of awarded organizations (35% and 34%, respectively). The largest proportion of these grants were awarded to organizations in Alabama (19%), Mississippi (15%), and Kentucky (11%). Aligned with ARC priorities, over half of awarded grants benefited primary or substantial distress areas (60%).

Most grantees used their projects for the purpose of benefiting operations (e.g., implementing new programs in schools or new job training programs; 41%) or to improve equipment (e.g., purchasing new computers or improving broadband; 34%). These projects focused primarily on career and technical education (40%), educational achievement or attainment (36%), or workforce/teacher training (13%), with 44% working in postsecondary education spaces and 39% of grants serving students in K–12. Correspondingly, grant beneficiaries were primarily adults (60%) or youths (47%), many living in rural areas or coming from low-income households (64% of grantees served rural populations and 63% served low-income individuals).

Across all projects, the vast majority (91%) served to advance ARC's strategic goal of increasing the education, knowledge, skills, and health of residents to work and succeed in Appalachia, which is consistent with the overall purpose of this grant investment. Seven percent of grantees worked to advance ARC's strategic goal of investing in entrepreneurial and business development strategies.

Many—though not all—grant recipients were already collecting some demographic information from their beneficiaries, particularly related to participants' gender (65% of survey respondents), race (60%), and ethnicity (52%). This suggests that grantees may need substantial direction and support in order to collect robust demographic information that could support understanding the ways in which this portfolio is reaching underserved populations and advancing equity. Grantees most frequently reported that they would need targeted technical assistance and additional funding to implement additional data collection.

3. Grantee Performance and Success

The full portfolio of workforce development and education grantees pursued robustly diverse project outcomes. Some grantees constructed large training centers while others sought to improve early literacy skills among elementary school students and still others offered training in welding to older adults who had been displaced from prior employment. This section leverages all data sources to assess the collective performance of this wide-ranging portfolio, examining research questions related to grantees' performance measures, beneficiary outcomes, sustainability trends, and advancements in equity.

Research Questions

1. What specific outputs and outcomes were projects designed to achieve, and to what extent did projects meet their performance goals?
2. Are there common factors among grantees who met performance targets and those who did not?
3. What factors influenced projects' successful implementation?
4. What challenges/barriers to success did projects face and how were they addressed?
5. What changes did grant beneficiaries (i.e., grantee clients) experience as a result of these projects?
6. What are grantees' experiences with fostering equity and reducing inequity?
7. What successes and challenges do grantees report in advancing equity?

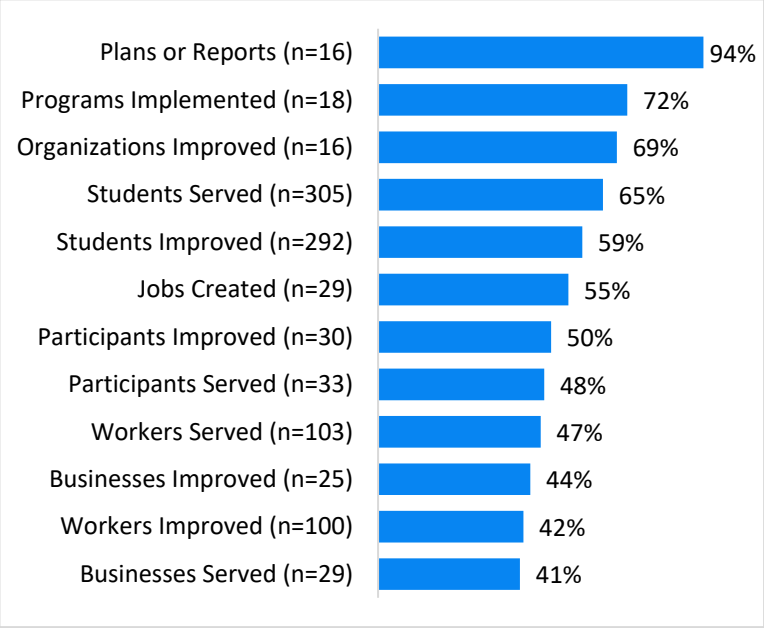
3.1 Performance Goals and Achievements

Following the recommendations of a 2012 evaluation of earlier education and workforce development grants,[4] ARC adopted a wider array of available performance measures for this grant portfolio. Overall, grantees sought to achieve a range of 23 unique performance measures with individual grantees planning to respond to between one and 13 performance measures, or an average of 2.86 measures. The most common performance measures pursued by grantees remained students served and improved and workers served and improved, but large numbers of grantees added measures related to jobs created, communities served, participants served or improved, or businesses/organizations created or improved.[5]

To more fully assess the specific performance goals associated with each grant, we drew on extant data collected during grantees' period of performance in ARCnet, ARC's performance measurement database. Overall, 57% of individual performance measures were met by the time the grant closed. Nearly half of all grantees (47%) met all their performance targets; while almost a quarter of grantees (24%) failed to meet any of their performance targets, although nearly all grantees made at least some progress toward their target during their performance period.

[4] https://www.arc.gov/report/program-evaluation-of-arcs-education-and-workforce-development-projects-2000-2008/
[5] Nearly half of these 23 measures (n=11) were selected by 10 or fewer grantees, and so are not presented in Exhibit 3.1, although a full sample is included in Appendix B2.

Exhibit 3.1. Percent of Grantees who Met Performance Measure Targets by the End of the Grant Period (n=383)



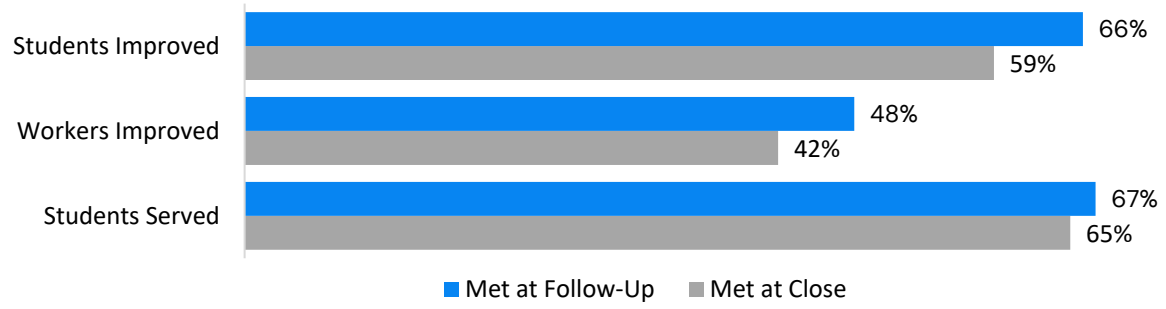
Source: ARCnet extant data
Note. Measures selected by 10 or fewer grantees are not presented. Grantees could select multiple performance measures to work toward.

In examining achievement trends by individual performance measures, the majority of measures were met by 50–65% of grantees who sought to achieve them. When looking at the specific ARC performance measures, 94% focused on developing plans or reports that were met, although that represents a much smaller number of grantees (n = 16) compared with students served (n = 305) or workers improved (n = 100), for example (Exhibit 3.1).

When developing ARC grant applications, grantees were instructed to create targets for relevant performance measures that they plan to achieve within 3 years after their grant funding ends. In order to obtain information from this time frame, grantees had the opportunity to submit updated performance measures through the follow-up survey in this evaluation; 184 grantees responded to the survey, providing updates on 311 individual performance measures. Although this represents a limited percentage of the total number of overall performance measures, this update did reveal improvements to three of the most common performance measures: students improved, workers improved, and students served (Exhibit 3.2). The largest increase was among grants serving students, a jump from 59% of grantees meeting this target by the time their grant closed to 66% of those grantees reporting that their target had been met.

Success in meeting performance targets also varied by grantee characteristic with independent school districts (74%) far more likely to meet all their proposed performance measures than other types of grantees (Exhibit 3.3).

Exhibit 3.2. Performance Measures Met at Follow-Up that Increased from Grant Close (n=383)



Source: ARCnet extant data

Examining the data based on project type, those projects focused on educational achievement/attainment were more likely to meet all their goals than were projects focused on workforce/teacher training (57% versus 22%, respectively; Exhibit 3.3). Grants focused on projects involving career and technical education had the highest percentage of programs unable to meet any of their performance measure targets (37%). In examining performance measures by grant purpose, a higher percentage of grants classified as "equipment and operations" met all of their performance measures than did grants classified as "construction" (54% versus 25%, respectively; Exhibit 3.3). Grants categorized as "construction" correspondingly had the highest percentage of projects meeting zero performance measures at grant close (29%; Exhibit 3.3), perhaps indicative of delays in materials or permits or longer project timelines with plans to achieve performance measures after grant close.

Exhibit 3.3. Percentage of Grantees Who Met Performance Measures at Follow-Up, by Grant and Grantee Characteristic (n=383)

	Met All	Met Some	Met None
All grantees (n=383)	**47%**	**29%**	**24%**
Grantee Type			
Independent school district (n=50)	74%	12%	14%
Nonprofit (n=144)	50%	31%	19%
State and local government (n=39)	38%	38%	23%
Higher Education (n=132)	36%	31%	33%
Other type (n=13)	56%	33%	11%
Project Type			
Education achievement/attainment (n=136)	57%	22%	21%
Career and technical education (n=151)	44%	31%	25%
Workforce/teacher training (n=49)	22%	47%	31%
Other project (n=47)	53%	26%	21%
Grant Purpose			
Equipment and Operations (n=43)	54%	30%	16%
Equipment (n=132)	52%	24%	24%
Operations (n=158)	41%	34%	25%
Construction (n=24)	25%	38%	29%
Other purpose (n=26)	73%	15%	19%

Source: ARCnet extant data; ICF survey of ARC grantees

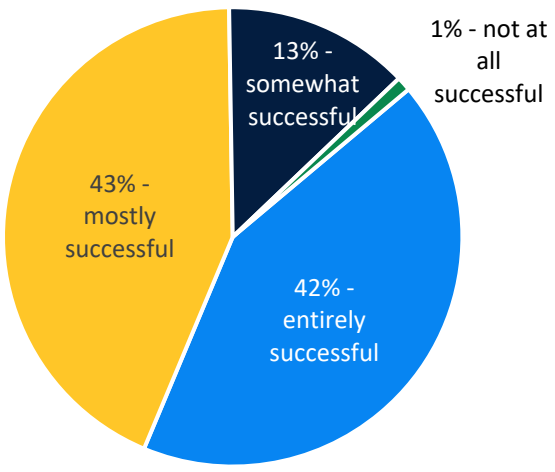
Note: Only 184 grantees responded to the follow-up survey, which collected updated performance measures. Performance measure data from the time their grant closed was included for those who did not provide follow-up information. Grantees selected between one and 13 performance measures to work toward. Description of inclusion into "Other" category is in Appendix B.

3.2 Project Successes and Challenges

Achieving targeted performance goals is one measure of grantee success, but survey, focus group, and case study participants all highlighted other dimensions of project success and corresponding factors that contributed to that success. Grantees highlighted strong partnerships and buy-in that led to increased opportunities for beneficiaries and smoother project implementation and discussed the importance of hiring and retaining quality staff who could connect with potential beneficiaries and support efficient implementation.

Importantly, across all survey respondents, when asked to evaluate how successful they believed their grant was, 85% of respondents believed their grant was either mostly or entirely successful (Exhibit 3.4). Only a small percentage (13%) believed their grant was somewhat successful and only 1% felt their grant was not at all successful. In total, these findings suggest that ARC-funded projects—at least from the grantees' perspective—are successful in meeting their goals, despite the fact that a far smaller percentage of grantees reported achieving all their performance measures (47%; Exhibit 3.3).

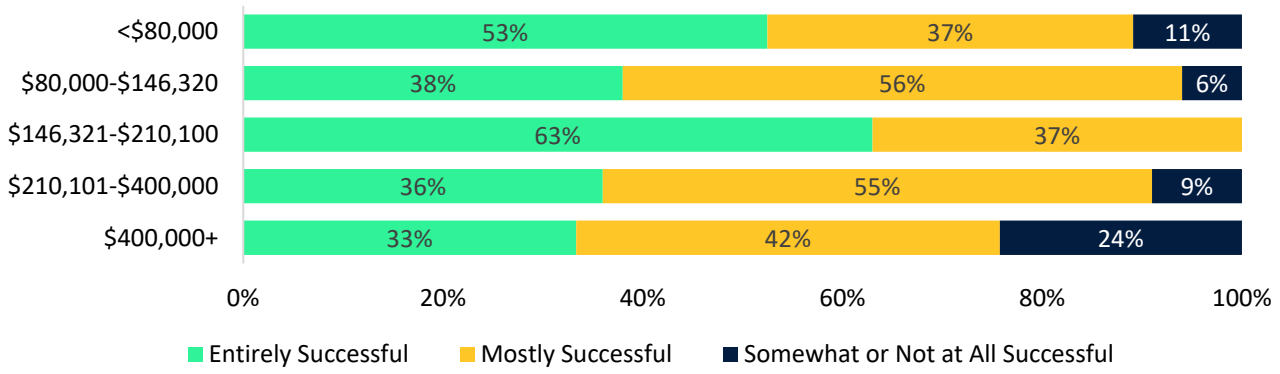
Exhibit 3.4. Grantees' Self-Reported Project Success (n=184)



Source: ICF survey of ARC grantees

First, data were examined based on the total amount of funds awarded to determine if survey respondents had different perceptions of the success of their program based on how much money they were awarded. Interestingly, those grants that received awards in the midrange ($146,321 to $210,100; Exhibit 3.5) had the highest percentage of respondents believing that their grant was entirely successful in achieving their program goals, while those who were awarded the most money were most likely to report that their project was only somewhat or not at all successful (24%). This suggests that funding is not the driver of project success, but that other grant and project characteristics may contribute more strongly to successful implementation and outcomes.

Exhibit 3.5. Self-Reported Grantee Success and Achieving Project Goals, by Total Awarded Funds (n=184)



Source: ICF survey of ARC grantees

Looking across broad categories of project outcomes (e.g., education outcomes, employment outcomes, workforce development outcomes), a similar pattern emerged; most grantees believed that their project was either entirely successful or mostly successful (percent agreement ranged from 89% to 97% across grant outcomes; full table in Appendix B2).

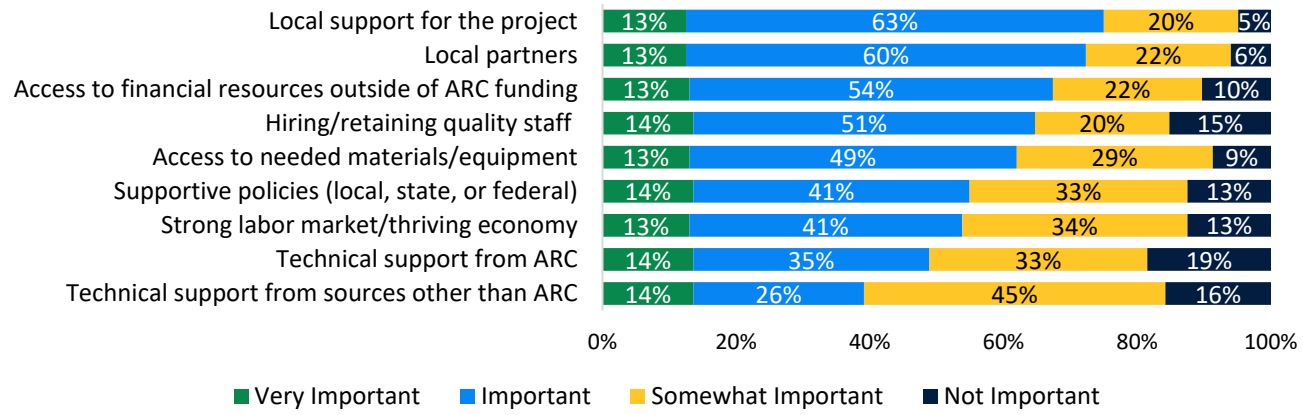
Perceptions of project success varied more by grantee type and project purpose. Although most grantees across all categories reported that their grants were successful, independent school districts had the highest percentage of respondents stating that their programming was mostly or entirely successful (92%) whereas state or local government agencies had the lowest percentage of respondents stating that their programming was mostly or entirely successful (62%; full table in Appendix B2). In looking across grant purpose, those that undertook construction projects were the least likely to report that their grant was entirely or mostly successful with just two-thirds of survey respondents in this category reporting project success (66%) compared with 74% of respondents or greater across other types of purposes.

3.2.1 Factors Contributing to Successful Implementation

Survey respondents were asked to reflect on how straightforward and clear a variety of components of the grant implementation process were for them. Overall, grantees reported a high level of clarity around procedures such as the process for communicating with ARC project coordinators (96% clear or very clear) and grant performance requirements and expectations (94%). In addition, 76% of survey respondents reported that communicating with their project coordinator was helpful or very helpful, suggesting that these factors contributed to smooth implementation (see Appendix B2 for full tables).

Survey respondents were also asked to assess which factors were important to the success of their grant. Across all respondents, having people within the community—both general local support for the project and local partners—support the grant throughout the duration of the project was considered most integral to program success (76% and 73%, respectively; Exhibit 3.6). In contrast, 50% or more of survey respondents indicated that supportive policies, a strong labor market, and technical support from ARC or others were only somewhat important or not important (Exhibit 3.6).

Exhibit 3.6. Grantees Perceptions of Factors Contributing to Successful Implementation (n=184)



Source: ICF survey of ARC grantees

Examining the data based on grant type revealed a similar trend; regardless of grantee type, finding local support and local partners was most frequently selected as critical to program success (Exhibit 3.6). Securing additional funding to support the work was also considered crucial to successful implementation of the grant (between 65% and 81% across all organizational types except "other"). There was some variation across grantee type, with state or local governments placing less emphasis on local partners (46% versus 64% or higher) and respondents from higher education institutions indicating that hiring quality staff contributed less to overall implementation success

(39% versus 50% or higher; Exhibit 3.7). In addition, there were wide ranges of beliefs about the importance of hiring quality staff, with just 39% of respondents from higher education reporting that this factor was important or very important to successful implementation compared with 75% of independent school districts.

Results were again similar across project type (e.g., career and technical education, educational achievement/attainment, workforce/teacher training) in that most survey respondents believed finding local partners and local support for the project were the two most important factors contributing to grant sustainability. However, just 55% of projects supporting educational achievement or attainment believed that local partners were critical to project success, mirroring trends among independent school districts, perhaps reflective of the more established and independent nature of K–12 education as compared with workforce development programs.

Exhibit 3.7. Components of Successful Implementation Rated "Very Important" or "Important," By Grantee Type (n=184)

	Local support for project	Local partners	Additional financial resources	Quality staff	Access to needed materials
All grantees (n=183)	**76%**	**73%**	**67%**	**65%**	**62%**
Project Type					
Career and technical education (n=81)	75%	72%	67%	64%	64%
Educational achievement or attainment (n=53)	64%	55%	62%	53%	60%
Workforce/teacher training (n=26)	85%	92%	73%	81%	65%
Other project (n=19)	84%	89%	74%	74%	53%
Grantee Type					
Higher education (n=65)	64%	78%	71%	39%	66%
Nonprofits (n=66)	82%	74%	65%	65%	55%
Independent school districts (n=26)	78%	46%	65%	75%	65%
State or local government (n=16)	64%	88%	81%	55%	81%
Other type (n=11)	70%	64%	45%	50%	45%
Grant Purpose					
Construction (n=9)	100%	89%	78%	78%	56%
Operations (n=66)	80%	73%	71%	73%	59%
Equipment (n=71)	65%	68%	65%	59%	65%
Operations and equipment (n=26)	81%	73%	62%	54%	65%
Other purpose (n=12)	75%	72%	67%	64%	64%

Source: ICF survey of ARC grantees

Note. Participants could select all that apply; percentages will not add up to 100%; all percentages by project type are included in Appendix B2. Description of inclusion into "Other" category is in Appendix B.

Grantees who participated in focus group discussions were also asked to reflect on factors that contributed to successful program implementation during their initial grant funding. Participants in every group discussed how their program's success was driven by a distinct need for the services or support provided by their program (see Exhibit 3.8). As one participant in the community and technical colleges focus group recalled, *"one of our biggest employers was basically wanting to hire everyone that was coming out of the program."* In this way, the community and technical college grant was providing a much-needed service not only to the participants, but also to businesses within the community. Similarly, a participant in the general programs in high school focus group

reported that the program was able to provide *"resources that were not available in the school system, but through the university and community partnership, this grant served as a connector to bring those resources to our local schools."* Throughout the focus group discussions, participants described how their program fit the needs of their respective communities by providing training for professionals in specific skills or with key certifications, offering additional support services through local schools, providing technology or equipment to establish or advance coursework, or creating additional enrichment opportunities for students. The degree to which grants could help address the needs of their community and partner with local agencies helped ensure buy-in from the community, and by extension, program success.

Exhibit 3.8. Factors Contributing to Implementation Success, by theme and group type

	Career & Technical Education	General Programs	K–12 Technology programs	K–12 Out of School	Community & Technical Colleges	Individualized Programs	Industry-Related Programs
	High School					Workforce	
Need for program	✓	✓	✓	✓	✓	✓	✓
Staffing and buy-in	✓	✓	✓	✓	✓	✓	✓
Partnerships	✓	✓		✓	✓	✓	✓
Initial planning	✓			✓	✓	✓	✓
New equipment					✓	✓	
Other	✓	✓	✓	✓			✓

Source: ICF analysis of focus groups with ARC grantees

Indeed, participants in all groups also reported that decisions around staffing and staff buy-in were strong contributors to implementation success. For example, several grantees shared that it was critical that they were able to hire full-time, dedicated staff to support the project. Two grantees discussed the value in providing training and professional development to staff so that they were able to support the program more effectively. For example, one participant in the K–12 out of school programs focus group reflected, *"when [the coordinators] came right out of training—they leave training and get excited and ready to go—that excitement was easy to transfer to all the other partners involved."* A participant in the industry-related workforce focus group described how positive relationships were integral to program success: *"[staff had an] attitude that was infectious and … truly understood what we were trying to do."* Finally, one participant in the career and technical education high school focus group noted that they *"were able to hire really good teachers from out of industry and then help them become teachers,"* which they believed helped elevate their program and contributed to program success.

Benefits of New Equipment

"Just getting the equipment that we did enhanced the program that we had. It took a heavy lift away from continuously asking of our employer partners things that we now had."

"Same thing on the equipment. We couldn't have started a program without the equipment and pieces that we got."

— Discussion between participants in the community and technical college focus group

Closely related to staff buy-in and support was the presence of strong external partnerships in implementing a successful grant program, aligning with factors identified by survey respondents. Participants from across six focus groups shared about key partnerships with local employers, county governments, school systems, and local nonprofit organizations who helped recruit participants, serve as employers, host the program, provide additional funding or resources, or act as a liaison or cheerleader for the program. Grantees in fewer groups also discussed the importance of leveraging a well-developed plan into a successful grant program, and the benefits of new equipment as strong contributors to successful implementation (see Exhibit 3.8).

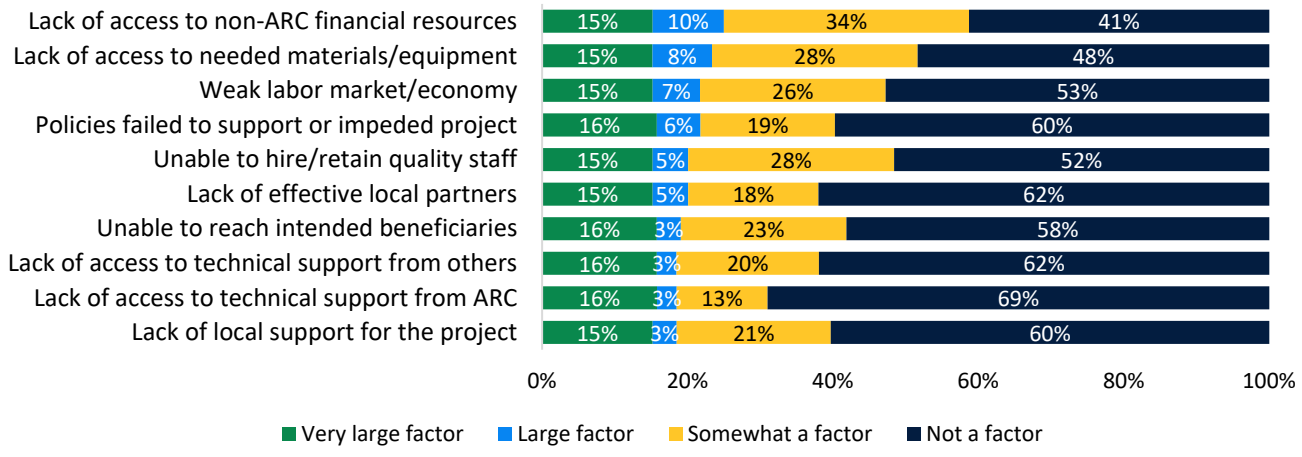
Together, findings from across survey respondents and focus group participants suggest that local partnerships and local community support, including internal buy-in, are the most consistent factors related to implementation success, perhaps opening doors to internships or additional resources and generating enthusiasm for the project in the local community. The remaining supportive factors varied based on grant and project characteristics, underscoring the unique nature and individualized needs of projects in this portfolio. Equipping grant recipients with tools or strategies to connect with their communities or to partner with local organizations may benefit overall program success.

3.2.2 Implementation Barriers

Although grantees across the portfolio reported high levels of project success, 14% reported that their project was only somewhat or not at all successful. In addition, 53% of grantees failed to meet some or all their performance measures at the time of the follow-up survey,[6] suggesting that a substantial portion of this portfolio struggled with implementation. To further understand these trends, data from survey, focus groups, and case studies related to barriers to successful implementation were examined.

Survey respondents reported only slight variation among the factors perceived to challenge implementation—factors rated as a "very large factor" or a "large factor" ranged from just 19% to 25% (Exhibit 3.9).

Exhibit 3.9. Grantees' Perceptions of Factors Impeding Implementation (n=184)



Source: ICF survey of ARC grantees

[6] Only 184 grantees responded to the follow-up survey that collected updated performance measures. Performance measure data from the time their grant closed was included for those who did not provide follow-up information

Exhibit 3.10 Barriers to Implementation Rated as a "Very Large Factor" or a "Large Factor," By Grantee Type (n=184)

	Lack of Additional Financial Resources	Lack of Needed Materials or Equipment	Weak Labor Market	Unsupportive Policies	Unable to Hire/Retain Quality Staff	Lack of Effective Local Partners
All grantees (n=183)	**25%**	**23%**	**22%**	**22%**	**20%**	**20%**
Project Type						
Career and technical education (n=81)	25%	27%	25%	23%	20%	21%
Educational achievement or attainment (n=53)	21%	11%	11%	17%	13%	15%
Workforce/teacher training (n=26)	31%	27%	31%	23%	27%	27%
Other project (n=19)	26%	32%	26%	26%	26%	21%
Grantee Type						
Higher education (n=65)	25%	20%	22%	20%	19%	18%
Nonprofits (n=66)	30%	27%	26%	20%	20%	23%
Independent school districts (n=26)	19%	19%	12%	25%	25%	12%
State or local government (n=16)	31%	44%	31%	21%	17%	44%
Other type (n=11)	0%	0%	9%	20%	10%	0%
Grant Purpose						
Construction (n=9)	33%	33%	44%	33%	33%	33%
Operations (n=66)	33%	27%	29%	29%	29%	27%
Equipment (n=71)	21%	20%	14%	13%	13%	13%
Operations and equipment (n=26)	12%	15%	19%	27%	12%	15%
Other purpose (n=12)	27%	36%	18%	18%	27%	27%

Source: ICF survey of ARC grantees

Note: Participants could select all that apply; percentages will not add up to 100%; all percentages by project type are included in Appendix B2. Description of inclusion into "Other" category is in Appendix B.

In contrast, those potential barriers deemed "not a factor" contributing to implementation challenges ranged from 41% to 69%. Grantees stated that the largest barriers to program implementation were a lack of access to financial resources outside of ARC funding and a lack of access to needed materials or equipment (25% and 23% respectively reported these were very large or large factors). These were also the factors that the fewest number of grantees reported to be not a factor contributing to challenges (Exhibit 3.9). Lack of access to technical support from ARC and lack of effective partners were not seen as factors impeding implementation. Combined with survey respondents' perceptions of factors supporting successful implementation, this may indicate that these factors have little impact on implementation either way (in the case of technical support) or that they were sufficiently present and did not hinder implementation (as with local partners).

In examining these trends by grant and project characteristics, more variety emerged than was seen among factors contributing to implementation success, suggesting that barriers to success may be more unique. In

examining subgroups of grantees, nearly all had slightly different factors they believed to be the largest challenges to implementation. For example, most grantees across all types of project purposes stated that lack of access to materials/equipment, lack of access to financial resources outside of ARC funding, and a weak labor market or economy contributed to implementation challenges. However, respondents from grants that incorporated new equipment reported fewer factors that had large or very large impacts on sustainability, perhaps reflecting the inherent sustainability of equipment once it is purchased and installed (Exhibit 3.10).

Grants awarded to independent school districts had greater percentages of survey respondents state that policies (local, state, federal) failed to support or impeded project activities/goals (25% versus 21% or lower; Exhibit 3.10) and that the inability to hire/retain quality staff was a large challenge associated with grant implementation (25% vs. 20% or lower; Exhibit 3.10). Finally, grantees working toward educational achievement or attainment reported the fewest large or very large challenges, perhaps buoyed by long-embedded practices and procedures within schools and educational systems compared with less well-established systems supporting career and technical education projects or workforce training.

Those who did not report that their project was entirely successful were more likely to cite outsized implementation challenges across nearly all categories. However, these challenges were particularly pronounced related to a weak labor market or economy (30% of those who reported that their project was not at all, somewhat, or mostly successful vs. 15% of those who said it was entirely successful), a lack of access to technical support from ARC (24% vs. 14%), or that they had a lack of accesses to needed materials or equipment (29% vs. 20%; see Appendix B2).

Focus group participants were also asked to share their recollections about challenges or barriers to successful implementation. Grantees in five groups frequently described challenges that related to a lack of internal buy-in as well as difficulty finding and retaining staff (Exhibit 3.11).

Exhibit 3.11. Implementation Challenges Discussed in Focus Groups, By Theme and Group Type

	Career & Technical Education	General Programs	K–12 Technology programs	K–12 Out of School	Community & Technical Colleges	Individualized Programs	Industry-Related Programs
	High School					Workforce	
Lack of buy-in or staffing challenges	✓	✓	✓	✓	✓		
Difficulty recruiting beneficiaries	✓	✓					✓
Procurement delays					✓		✓
Lack of partnerships	✓			✓	✓		
Funding challenges				✓	✓	✓	
Scheduling difficulties	✓				✓	✓	✓

Source: ICF analysis of focus groups with ARC grantees

Participants in the community and technical colleges focus group discussed difficulty in finding sufficient staff or staff with the right combination of skills to train others using advanced equipment as a major challenge in implementing their grant. All participants in the high school – career and technical education focus group and the K–12 technology focus group discussed similar staffing challenges, particularly noting that it was difficult to recruit teachers to fill staffing roles due to higher-paying jobs in the classroom. Additionally, one focus group participant in the high school – career and technical education group stated that it was difficult to include *"industry partners to teach pieces that our teachers aren't trained in … but it's a challenge to get admin on board with that sometimes. And it's a bigger challenge, a huge challenge to get our local teacher's union on board with that."* Additional focus group participants implementing more general academic programs in high school also discussed the challenge of finding qualified staff who were open to working in part-time roles such as career coaches.

> *"By the time you get someone in and have them trained, they may work a semester or so then they find something more lucrative and move on and then you have to start all over again. [But] we simply don't have the funding to do full-time positions … and keep them busy during the summers."*
>
> — High school – general programs participant

Another common theme emerging from focus groups that complicated project implementation was scheduling challenges (Exhibit 3.11). Some grantees focused on the challenges of providing training or courses that fit with participants' schedules while other grantees discussed delays or extensions to program schedules due to building moves, delays in hiring staff, or procurement delays. Grantees in the community and technical colleges group who were implementing construction- or equipment-heavy programs also cited procurement challenges as a barrier to implementation.

> *"Our state makes apprenticeships so much more complicated than it needs to be. But it's been so frustrating getting industry partners to get students opportunities! I feel like a broken record."*
>
> — High school – career and technical education participant

More broadly, participants in three focus groups shared that they experienced challenges with finding supportive local partners who could host their program, provide student internships or apprenticeships, or who could help students with unrelated needs (e.g., electricity bills, housing). In addition, during three focus groups, participants discussed challenges related to securing supplemental funding beyond the ARC grant to support needs like transportation, meals during the program, scholarships, or guest instructors.

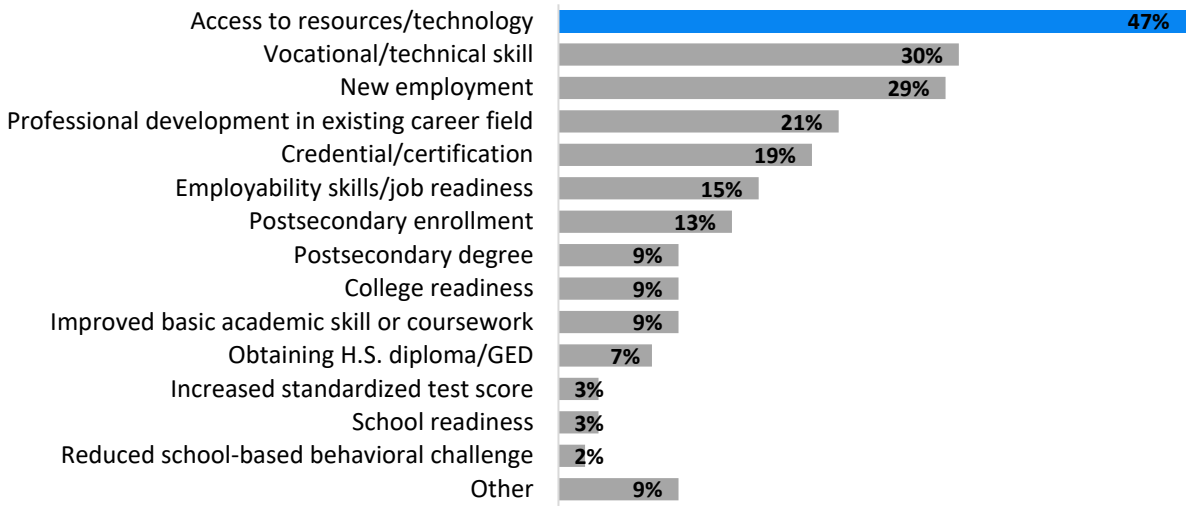
3.3 Beneficiary Outcomes and Experiences

Many of the performance measures reflect services offered to or improvements made by beneficiaries of grant projects. This included individuals such as students, workers, or participants, but also entities such as communities, businesses, and organizations. To better understand the intended benefits or outcomes of ARC funding on individual beneficiaries, grant project descriptions, closeout notes, performance measure notes, and performance output and outcome, notes contained in ARCnet were coded and analyzed. Survey participants also responded to questions related to project beneficiaries, and focus groups and case studies with grantees included discussions about intended and realized outcomes for beneficiaries; case studies included discussions with project beneficiaries.

3.3.1 Intended Outcomes

The greatest percentage of grantees reported targeting increases in beneficiaries' access to resources/technology (47%; Exhibit 3.12), followed by improving beneficiaries' vocational/technical skills (30%). A far smaller percentage

Exhibit 3.12. Targeted Beneficiary Outcomes Among Education and Workforce Development Grantees (n=383)

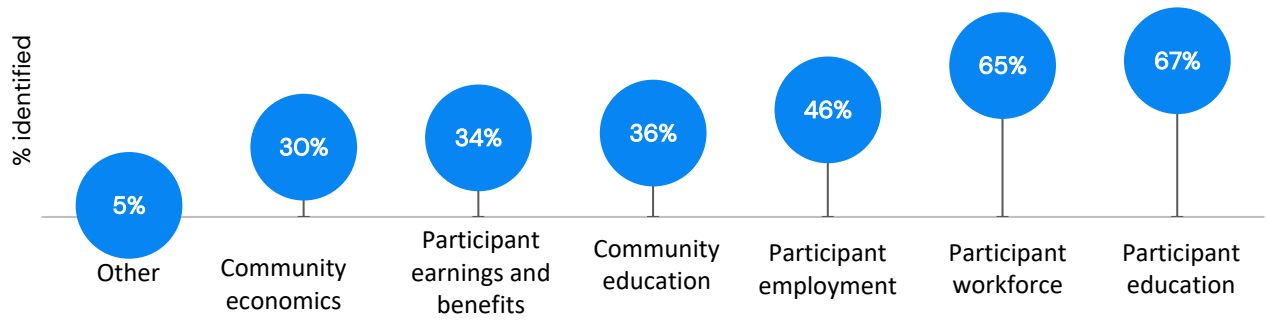


Source: ARCnet extant data

of grantees focused on beneficiary outcomes related to grade-school performance, such as improving standardized test scores (3%), school readiness (3%), or reducing school-based behavioral challenges (2%).

Survey participants were asked to similarly categorize expected improvements among beneficiaries as a result of their project. Unsurprisingly, most grantees expected to see impacts related to participant education outcomes and participant workforce outcomes (67% and 65%; Exhibit 3.13).

Exhibit 3.13. Anticipated Benefits Among Program Participants by Grantees (n=184)



Source: ICF survey of ARC grantees
Note. Grantees could select all that apply; therefore, percentages will not add up to 100%.

3.3.2 Observed Outcomes

To learn more about beneficiary experiences, focus group participants were asked to share outcomes they observed with their beneficiaries. Across all focus groups, the most commonly reported outcomes included opportunities to earn certifications and credentials as well as increases in employment and job placement opportunities through networking connections (Exhibit 3.14). Grantees across four focus groups discussed employment outcomes for their beneficiaries, either through program-related internships or at the completion of

Exhibit 3.14. Beneficiary Outcomes Reported by Grantees

Beneficiary Outcomes	Community & Technical Colleges	Career & Technical Education	General Programs	K–12 Out of School	K–12 Technology Programs	Industry-Related Programs	Individualized Programs
		High School				Workforce	
Employment	✓	✓				✓	✓
Certifications	✓			✓		✓	
Connections	✓	✓	✓				✓
Improved performance		✓	✓	✓	✓		
Soft skills						✓	✓

Source: ICF analysis of focus groups with ARC grantees

the program. Grantees further discussed how program participants could earn a certification or other types of credentials providing participants the opportunity to secure better employment. As one grantee noted, *"Before the pandemic in our region people were making as little as $11/12 [an] hour and so when they went through the training, we award an [American Welding Society] certification for welding. And they were all able to find better jobs that immediately jumped them up into the $20 range. It's even higher now after the pandemic but that was a huge jump prior."*

Grantees participating in two focus groups also shared observations related to improvements in their participants' soft skills such as self-confidence and communication skills. Grantees in the community and technical colleges focus group and both high school focus groups reported that participants in their programs were able to build and improve upon their connections with potential employers because of participating in their grant programs. Indeed, as one participant in the career and technical education focus group noted, some of these connections translated into job opportunities: *"Even just connecting with the employers, they may not have ended up being hired on full-time or permanently after the program, but they at least had that experience and were able to connect with employers who were interested in hiring isothermal students. And some did get permanent positions or full-time positions after the program."*

> *"For us I think it was the confidence level. We had [certified nursing assistants] that went through our program that now are going on to get another type of degree. Maybe it might be a nursing degree or MA, so this was their jump-start into a career in healthcare. Coming to this class and being able to successfully complete it they felt confidence, hey I can do this, I can go to the next level and the next level. So that was what the participants got out of the program."*
>
> — Community and technical college focus group participant

Similarly, grantees in the high school focus groups and in the K–12 out of school program focus group described how their respective programs improved academic performance among students. For example, one grantee in the high school – general programs focus group noted that because of their experiential learning program activities, they observed increased acceptance of and demand for science, technology, engineering, and mathematics (STEM) programming with the schools they served: *"Really what we saw is a love for STEM, especially in the robotics area and the hands-on learning. This was back in 2014—we had just started with our local schools; they had started embracing the whole STEM concept at a different level. … Now we're doing [Dex] Robotics, now we're*

doing drone competitions. It helped us launch that and that's what we've seen that interest has probably started with a small little flame but now there's a lot and lots of children who are interested in being part of that."

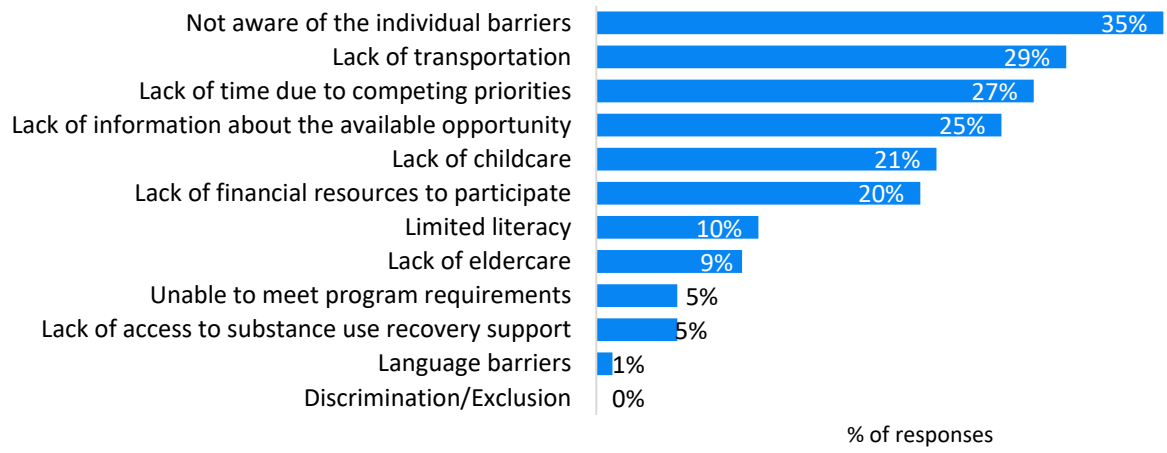
3.3.3 Challenges for Beneficiaries

> *"The only comment I would make is when we first started, teachers were ... very eager to tell us before their class got there or when their class got there that this is a class with a lot of problems, or these are some kids that are a lot of problems. We decided within a short period of time we don't want to know that. The reason is we have found often times we'll hear comments from teachers afterwards 'Oh my gosh, this class is normally very difficult, and today they just were involved, they were answering questions.' And that's because we have no expectations, we don't know."*
>
> — K–12 out of school focus group participant

Survey participants were also asked a series of questions related to barriers faced by their project beneficiaries. The most common response from participants was that they were not aware of any barriers facing potential participants (35%; Exhibit 3.15). That high percentage is likely reflective of the relatively high number of survey respondents who did not work directly with beneficiaries but either worked in administrative roles or came to the grant-funded project during sustainability efforts.

The most common barrier for potential beneficiaries cited by survey respondents was lack of transportation (29%), followed closely by lack of time (27%) and lack of information about the opportunity (25%). Lack of childcare (21%) was also a common barrier cited by grantees when thinking about potential reasons why participants did not engage in their programming. These findings should be interpreted with caution as they are limited to the number of grant participants who took the survey (n = 184).

Exhibit 3.15. Grantees Perception of Barriers Faced by Beneficiaries (n=184)



Source: ICF survey of ARC grantees
Note. Participants could select all that apply; percentages will not add up to 100%

When examining responses to this same question based on project type, grants focused on career and technical education and workforce/teacher training reported the most perceived barriers to participation in their programming. Those working toward educational achievement or attainment led the way in reporting that they were not aware of the barriers faced by individual beneficiaries (57%; Exhibit 3.16); this may be reflective of the larger number of these grantees who worked with predefined, captive populations rather than recruited participants into their programs.

Case Study Snapshot: Beneficiary Experiences

Youth Turn Knowledge and Skills into Hope for a Different Future

The Youth Service Learning Initiative (YSLI) received ARC funding in 2015 and 2017 to support youth in Scott County, Tennessee. YSLI has three core components which, together, reach every student in the county: (1) classroom instruction on social and emotional health, (2) participation in service learning and community building in YSLI's Youth Coalition, and (3) leadership development as part of YSLI's Board of Directors. Through these components, students discuss topics such as disrupting cycles of poverty, understanding adverse childhood experiences, career readiness, civic knowledge, peer bullying, resources for applying to and succeeding in college, preventing domestic violence, and more. Students reflected on ways in which this program transformed knowledge into hope and plans for new pathways forward:

- "*Personally, I feel as if this program makes kids know their worth. This program can take a kid … that checks all the wrong boxes and statistically should be nothing more than another name added to the percent that makes up the unimportant … and changes their perspectives. So they can be one of the [ones to] change the world and make a difference. It shows kids that even though many have come from a broken home, they are nothing less than extraordinary and in no way broken*."
- "*At the beginning I really wasn't sure what this program was really about, or why you wanted to hear our opinion because most people look at us like we're useless no-good kids and don't know anything. But there are a lot of us that have so much to let out … I believe that y'all are making a difference in people's lives. This will be something I will remember forever, so I can teach and tell my kids how they should look at life*."
- "*Without YSLI, I wouldn't have been confident enough to apply [to college] … [And] I don't think that I would've processed everything that I had been through quite as well without a foundation to understand it. And I don't think I would've moved out of Scott County without YSLI either, which is strange to think about. It goes back to confidence. I would never have been confident enough to move away for school*."

Older Workers Gain Skills and Confidence and Find New Employment

Allegany College of Maryland (ACM) received funding from ARC in 2016 to provide training in industrial metal fabrication and American Welding Society-certified classes. This funding allowed ACM to purchase additional machinery, including three manual lathes, two manual mills, one CNC lathe (controlled by software), and one surface grinder, which helped ensure sustainable workforce development equipment and training for the western Maryland region. This was particularly critical in 2019 when Verso, a long-time paper mill, closed its doors unexpectedly and left hundreds of dislocated workers. ACM was part of the rapid response team formed to address the employment emergency, and as a result, about 70 Verso workers used Trade Adjustment Assistance (TAA) funds to pursue machining, welding, or industrial maintenance certification.

In addition to helping them gain skills for future employment, participants noted the training program benefitted them in other ways. One said, *"It's encouraging to know that at 54 years old, I know I can still learn, I can still be taught. I can still continue to grow. I am encouraged, I am not afraid of anything."* Another reflected, *"I feel like it gave me a good toolset … with just having the resume itself of all the things that I've actually completed in this class."* One participant has had job offers from several regional employers, and when he left one company to accept a better position with another, was reassured that he would be rehired in the future if desired.

Grant projects related to workforce/teacher training were most likely to cite a lack of transportation (38%) or time due to competing priorities (38%) as the main barriers potential participants faced that kept them from engaging in the project. Grants focused on career and technical education also cited a lack of transportation as the main reason individuals did not participate in their program (36%; Exhibit 3.16).

Similar trends emerged based on grantee type and grant purpose. Grantees from nonprofit organizations and higher education institutions identified the largest number of barriers potential beneficiaries may have faced while thinking about participating in their grant and both most cited a lack of transportation as a key barrier among beneficiaries (38% and 32%; respectively).

Grantees from independent school districts along with nonprofits frequently selected a lack of time as a barrier preventing people from participating in their program (19% and 32%; Exhibit 3.16). A lack of transportation and lack of time due to competing priorities were also the barriers most commonly referenced by grantees when looking across grant purpose (Exhibit 3.16).

Exhibit 3.16. Perceived Barriers to Beneficiary Participation in Grant Programs, By Grant and Project Characteristic (n=184)

	Not aware of barriers	Lack of transportation	Lack of time	Lack of information about the opportunity	Lack of childcare	Lack of financial resources
All grantees (n=183)	**35%**	**29%**	**27%**	**25%**	**21%**	**20%**
Project Type						
Career and technical education (n=81)	26%	36%	32%	30%	28%	30%
Educational achievement or attainment (n=53)	57%	13%	11%	17%	6%	6%
Workforce/teacher training (n=26)	23%	38%	38%	0%	23%	27%
Other project (n=19)	32%	32%	37%	21%	32%	5%
Grantee Type						
Higher education (n=65)	26%	38%	28%	28%	26%	31%
Nonprofits (n=66)	32%	32%	32%	30%	26%	20%
Independent school districts (n=26)	58%	8%	19%	15%	4%	4%
State or local government (n=16)	31%	19%	25%	19%	19%	0%
Other type (n=11)	36%	9%	0%	18%	0%	0%
Grant Purpose						
Construction (n=9)	11%	33%	22%	22%	22%	11%
Operations (n=66)	29%	33%	27%	26%	27%	29%
Equipment (n=71	41%	28%	28%	27%	28%	41%
Operations and Equipment (n=26)	31%	27%	35%	27%	35%	31%
Other purpose (n=12)	58%	8%	8%	8%	8%	58%

Source: ICF survey of ARC grantees

Note. Participants could select all that apply; percentages will not add up to 100%; all percentages by project type are included in Appendix B2. Description of inclusion into "Other" category is in Appendix B.

Many of these trends were mirrored in focus group findings. Although not discussed by all focus group participants, grantees from the community and technical colleges and the workforce industry described specific barriers and challenges seen among participants in their programs. Several focus group participants reported that their programs were offered in rural areas where alternate modes of transportation were not available, and participants sometimes struggled to get to classes or program activities. Additionally, focus group participants reported that not having access to reliable childcare was another common barrier for beneficiaries. Finally, some focus group participants noted that beneficiaries often had financial limitations related to program participation. Specifically, participants in the community and technical college focus group reported that although they attempted to offset program costs through other avenues, financial barriers to participation persisted.

> *"A lot of our students were dislocated coal miners, so their classes were Monday through Friday, every other Saturday. So they didn't have the ability to go out and work for cash when unemployment didn't pay the bills. Some students unfortunately had cars repossessed. They couldn't pay their light bills. I saw many times students sitting in the field at lunch, not having access to money for lunch. Our WIOA [Workforce Investment Opportunity Act] office had supportive services for our students, but even at that I saw some students come to me and say they may have to quit because they couldn't pay their light bill. So, we would have to do some success coaching with them to put them in touch with other resources within the region to help them with those items. It was a real struggle for those guys."*
>
> — Community and technical college focus group participant

Additionally, participants in the workforce industry-related focus group noted that they observed that potential beneficiaries expressed trepidation and anxiety at the thought of revisiting college:

> *"I think for us it was that fear of coming to college. That word "college," our target audience maybe finished high school. So, the idea of coming to college was fearful for them, and that's how we did our information sessions is 'Hey, it's okay to come back to college. It's a course you can take that will be beneficial to you.' I think there was fear of classroom, studies, and tests. All those things that flash back to … that might have been less successful."*

Barriers to Recruitment – Diversity, Equity, and Inclusion Challenges

"The number of women that persist in the program or that enroll in the program seems to be trending down. I know that most of the single women in the State of Mississippi, single parents I mean, are Black females who are living below the poverty line. So, I believe it's necessary for us to provide more wraparound services. I think the lack of that has caused a lot of women to shy away from committing to the program. I think the program has been too long, so with the cybersecurity piece we tried to shorten that. Eleven months is a long time to commit 5 days a week, especially if you have family to support. If you have children and you need to work in the evening when you're not in the program, then when are you seeing your kids. That is definitely a barrier for women [enrolling] in the program."

— Participant in the community and technical colleges focus group

3.4 Equity-Related Efforts

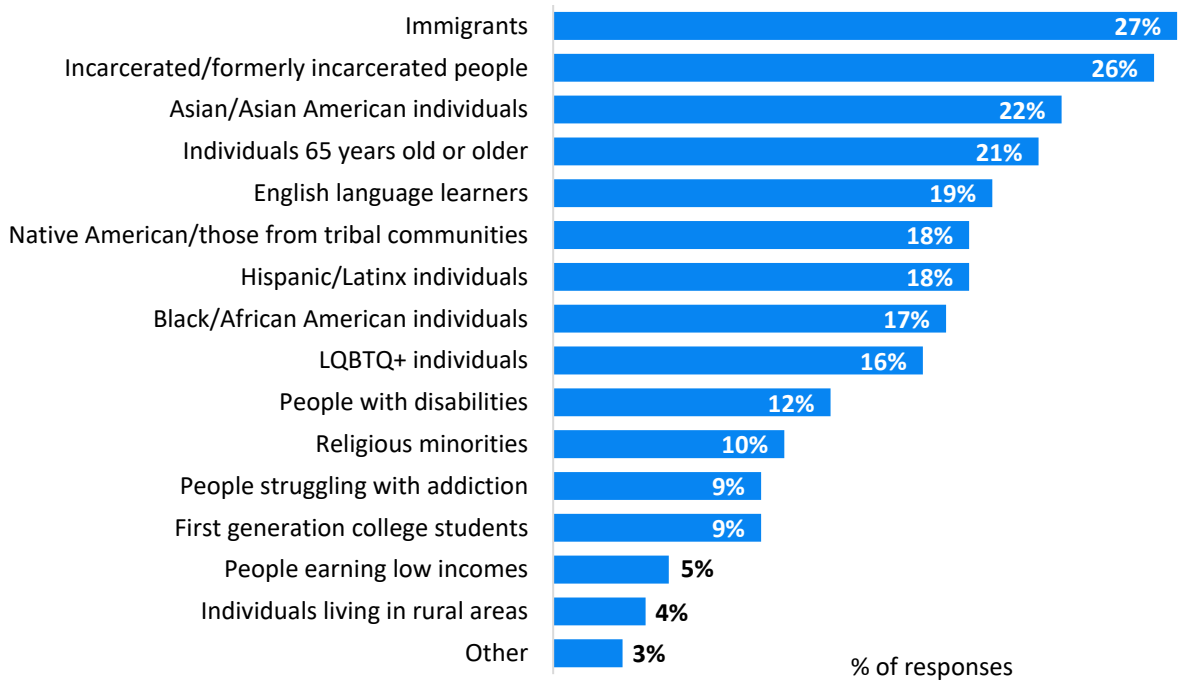
This evaluation also sought to learn more about grantees' efforts to advance equity and reduce inequities in their communities through ARC-funded projects. Survey participants were asked to reflect on their experiences with reducing inequity by indicating various populations served by their grant as well as populations of focus that were difficult to recruit into their projects. Focus group and case study participants engaged in deeper reflections about the ways in which their program may have advanced equity or reduced inequity in their community.

3.4.1 Reducing Inequity

Reflecting on populations served by their grants, survey participants indicated that their projects benefited people living in rural areas (64%), those earning low incomes (63%), people with disabilities (40%), and English language learners (28%), all populations that have been historically underserved and thus represent opportunities to advance equity (see Section 2.4.1 and Exhibit 2.9 for a more detailed description of populations served).

Grantees were also asked to report on targeted subgroups that were most difficult to recruit into their program, in order to assess the extent to which demographic groups may need more direct outreach to benefit equitably from ARC support. Importantly, the percentage of responses to each category in this question were low (27% or lower), suggesting that grantees generally believed they were able to reach their desired population. However, across all grants, respondents stated that immigrants (27%; Exhibit 3.17) and incarcerated/formerly incarcerated individuals (26%) were the populations that grantees sought to reach that were the most difficult to recruit. Grantees also had difficulty recruiting Asian Americans (22%) and individuals 65 and older (21%).

Exhibit 3.17. Demographic Categories Grantees found Difficult to Recruit (n=184)



Source: ICF survey of ARC grantees
Note. Participants could select all that apply; percentages will not add up to 100%.

Exhibit 3.18. Discussions About Equity Efforts, By Theme and Group Type

	Career & Technical Education	General Programs	K–12 Technology Programs	K–12 Out of School	Community & Technical Colleges	Individualized Programs	Industry-Related Programs
	High School					Workforce	
Limited diversity	✓	✓				✓	
Advancing socioeconomic equity	✓	✓		✓	✓	✓	✓
Intentional equity efforts		✓	✓	✓		✓	✓
Limited recruitment efforts		✓	✓	✓	✓	✓	
Difficulty advancing equity				✓		✓	

Source: ICF analysis of focus groups with ARC grantees

3.4.2 Grantees' Efforts to Advance Equity

Given its importance in relation to the overall goals of ARC, questions directly related to equity were included in the focus groups. During focus group discussions, many participants struggled with the concept of equity, pausing for much longer before offering responses as compared with other questions. Participants from three groups initially limited their focus to racial equity, with one stating that in their *"rural community … we have not a lot of racial diversity,"* or another who said that *"racial equity isn't really an issue in our region because we don't really have any diversity."* Other participants explained that throughout their ARC grant, they served a school or industry that was relatively homogenous and had not designed intentional equity efforts as part of their programming (Exhibit 3.17). This often corresponded to descriptions of programs that served a predetermined group of students or that did not have control over recruitment efforts, which was discussed across five of the seven focus groups. These grantees seemed to feel that since they were not able to target underserved or marginalized groups for their programs, there was not much more they could do to advance equity.

During the focus groups, grantees who did identify areas in which their ARC project advanced equity most frequently cited improvements related to socioeconomic equity. For example, one focus group participant in the high school – general programs group reported that they *"were able to serve those that would typically be underserved just by their socioeconomic status that they would not have had that experience."* Another focus group participant in the workforce – industry-related programs group had a similar experience with their grant, stating that *"folks who quality for WIOA services [through the Workforce Innovation and Opportunity Act] are able to take our class at no cost."*

> *"Sometimes the counselors and others in the school choose just the very tippy-top of the classes to offer these more advanced opportunities to and our whole model is to break that apart and make many more children, give many more children access. So, from that perspective, it's an equity project."*
>
> — High school – general programs participant

Case Study Snapshot: Equity

Open Access to College Credits, Free of Charge

Located in rural southwest Virginia, Mountain Empire Community College (MECC) staff began discussing in 2013–2014 how to better address the needs of high-risk, lower-income high school students. According to MECC staff, *"We were having a hard time getting access to them to even talk about options for advanced education."* The Mountain Empire College Access Initiative was funded by ARC in 2014–2015 to launch or expand three programs to work with underserved populations of youth to increase their college-going access/rates and improve educational attainment in southwest Virginia.

Although the MECC geographic service region includes only a small percentage of racial diversity among its residents (approximately 4%), it serves a higher percentage of racially diverse students (about 7%), according to project staff, who noted, "*so equity from that standpoint, it was more of a socioeconomic problem that we were trying to fix, not so much a diversity [issue] simply because we are so low in the diverse population*."

Of note is the expansion of MECC's Governor's School summer intensive institute for science and technology, which allows high school students to study information technology (IT) on campus and earn college credits while still in high school. Students with a minimum 3.0 GPA who are rising 10th, 11th, or 12th graders (including home-school students) are accepted via applications on a first-come, first-served basis.

Participation in these courses (either online or virtual) is free of charge to students and lunch and transportation are provided. This reduces economic inequities that students may face when they are required to pay tuition costs or transportation expenses. One staff member commented, *"It really levels the playing field*." A student said, "*What I've noticed about Mountain Empire, they really, really, really do care about their students. … They're really for students, trying to make sure they succeed*."

A Culture of Advancing Equity

Goodwill Industries of KYOWVA Area, Inc. (Goodwill) in Huntington, WV, received two rounds of ARC funding in 2017 and 2019 to develop their Industrial Certifications: Pathways to Self-Sufficiency program. This program provides training in basic adult education, workforce readiness, literacy skills, sustainable financial education, soft skills, employment, and life skills to people with disabilities or other conditions. Although services are open to everyone, the program primarily supported individuals considered transient and those with multiple needs.

Promoting diversity, equity, equality, and inclusion is at the forefront of activities and services offered by Goodwill, particularly those provided through this ARC-funded program. One staff member explained, "*We just include, we just always include everyone. We don't look at people, I don't want to say 'differently,' but we don't … include some people and exclude other people."*

To this end, the project focused on offering services to underserved and marginalized communities, such as rural communities considered economically distressed, individuals with disabilities, the homeless and transient population, and individuals on work release programs. After the grant period, the organization has continued to advance equity in the workplace by providing trainings and workshops to staff and their Board of directors.

Another grantee working with a K–12 after school program that focused on providing STEM enrichment activities noted that *"[the] low-income students benefited [from our program] the most. We do have some schools that are all Title I schools, free and reduced rate is 70% plus. And some of them, what they had access to in the classroom and at home, they were not exposed to any of that. As opposed to the students who were in our city schools where the free and reduced lunch is 20–25% and parents were much more involved and had access to more STEM activities camps and those kinds of things. So, I would say our low-income students benefited the most from the exposure and involvement."*

Difficulty Advancing Equity

"The thing about computing is you can have a mobile disability, you can be in a wheelchair, you can have a speech disability, you can have low vision and you can do computing. We just haven't had anyone yet in those categories come through."

— Individualized workforce program focus group participant

It is also important to note that some ARC grant projects specifically structured their program implementation efforts with equity in mind. For example, one participant in the K–12 technology focus group discussed how the grant was implemented with the clear intention of providing access to 3D printers to every student: *"When Dr. [Name] implemented this by having access at all grade levels and all students, manufacturing to engineering, those can be a wide range of abilities. And so, there was not any group that was limited or not allowed to use these. And by putting them in every math class [it] meant every student had access—every student."* Some grantees who served whole schools also framed their whole project as advancing equity, such as one K–12 after

school program participant who said, *"We go to the lowest-performing schools so they have the highest poverty rates in most cases; and our [grant program] is really aimed at going to those schools and supporting those students."*

Grantees in the two workforce groups also described intentional individualized equity efforts to provide specific opportunities or instruction to those who may benefit the most from it, such as one participant from the individualized program group, who explained:

> *"We spend a lot of time teaching [beneficiaries] communication in the workplace, how to do their resume, how to dress in the workplace. A lot of these individuals have not ever encountered people who were in professional jobs outside of a doctor's office or their teachers … and if they don't have [those soft skills], they might be the best programmer to ever learn to write computer code, but they're not going to be successful if they can't interact in a professional setting … so that's super important for providing them a kind of equitable platform from which they can spring and enter the workforce."*

3.5 Summary of Grantee Performance and Success

Workforce development and education grantees sought to achieve a range of 23 unique performance measures with an average of 2.86 measures per grant. The most common performance measures related to students served and improved and workers served and improved. By the end of the grant program, 337,405 individual beneficiaries had been served (98% of the cumulative projected goal) and at the time of the follow-up survey, which increased to 514,714 or 149% of the cumulative target, demonstrating the long-lasting impact of much of the ARC portfolio. However, these high numbers mask disparities in grantee performance with some far exceeding their targets while others failed to meet their goals.

The majority of performance measures were met by between 50% and 65% of grantees who sought to achieve them, although this varied by grant and project characteristic. Independent school districts (74%) were far more likely to meet all their proposed performance measures than other types of grantees. Projects focused on educational achievement/attainment were more likely to meet all of their goals than were projects focused on workforce/teacher training (57% versus 22%, respectively). Grants leveraging funding for equipment and operations were more likely to meet all of their performance measures than did grants classified as construction (54% versus 25%, respectively).

Apart from performance measures, 85% of survey respondents believed that their grant was either mostly or entirely successful. Across all respondents, having both local support for the project and local partners support the grant throughout the duration of the project was considered most integral to program success (76% and 73%; respectively). These trends largely persisted across grant and project characteristics. However, there was more variability among factors that hindered successful implementation based on grant and project characteristics, with common barriers including a lack of access to financial resources outside of ARC funding and a lack of access to needed materials or equipment.

Experiences and outcomes among grant beneficiaries also varied substantially, in line with the goals and purposes of the grant. The greatest percentage of grantees reported targeting increases in beneficiaries' access to resources/technology (47%), followed by improving beneficiaries' vocational/technical skills (30%), and supporting beneficiaries in securing new employment (29%). Through focus group discussions, the most reported beneficiary outcomes included earning certifications or credentials, improved academic performance, and increased employment and job placement opportunities through networking connections.

Grantees also shared barriers faced by project beneficiaries that included lack of transportation (29%), lack of time (27%), lack of information about the opportunity (25%), and lack of childcare (21%). This led into discussions about grantees' experiences advancing equity, where grantees shared that their projects benefited people living in rural areas (64%), those earning low incomes (63%), people with disabilities (40%), and English language learners (28%)—all historically underserved populations. However, many grantees in focus groups struggled with the concept of equity, sometimes noting that *"racial equity isn't really an issue in our region because we don't really have any diversity,"* or explaining that they served a school or industry that was relatively homogenous and thus had not designed intentional equity efforts as part of their programming.

4. Project Sustainability

ARC-funded projects are typically designed to continue after funding from ARC has ended. Projects are strongly encouraged to secure additional sources of funding support to enable this, and many grantees have performance measures that are written to be met after their grants close. As such, a key part of this evaluation was assessing the extent to which grantees were able to sustain their project activities as well as factors that supported or inhibited successful sustainability. Particularly pertinent to this cohort of grantees was the onset of the COVID-19 pandemic, which began in March 2020, as many grantees in this portfolio were in the middle of or just beginning sustainability efforts. Drawing from analysis of all data sources, this section examines trends in sustainability across the portfolio, paying particular attention to factors related to successful or challenging sustainability efforts, including impacts of the COVID-19 pandemic.

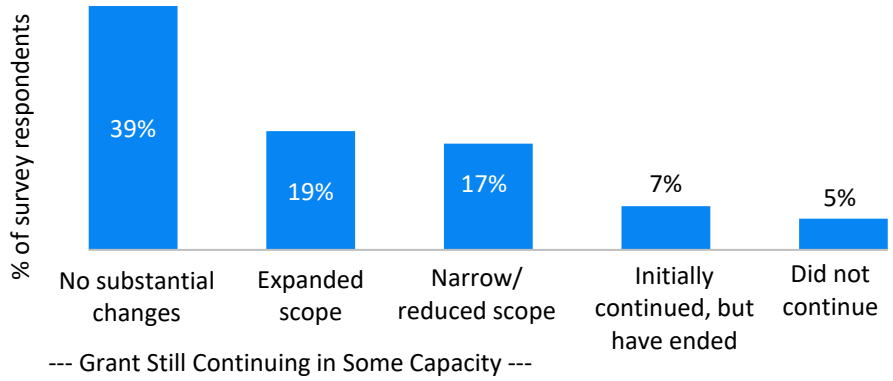
Research Questions

1. To what extent were project-related activities sustained beyond the period covered by the ARC grant?
2. What factors influenced projects' successful sustainability?
3. What challenges/barriers to sustainability success did projects face and how were they addressed?
4. What impacts do grantees report the pandemic has had on the communities they serve?
5. What impacts has the pandemic had on education and workforce grantees' ability to serve their communities/ beneficiaries?
6. What changes have education and workforce grantees already implemented and what changes are they planning to implement in response to evolving needs/ opportunities that emerged from the pandemic?

4.1 Sustainability Trends

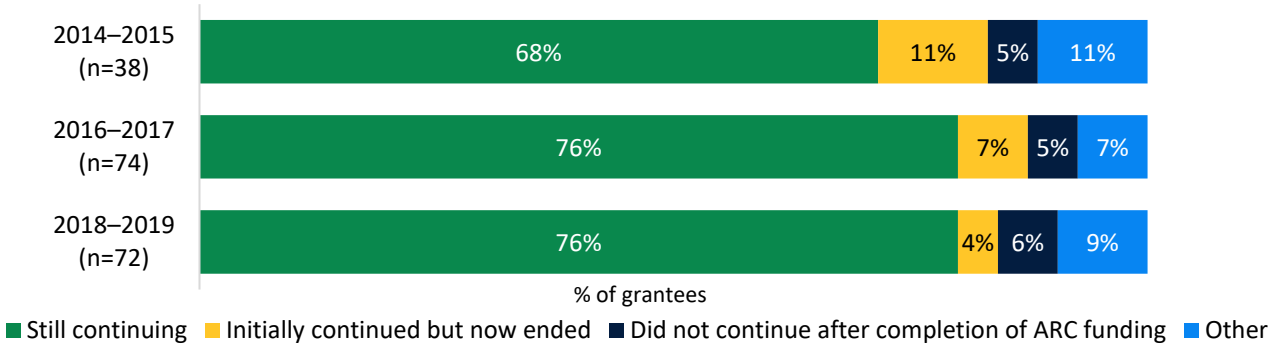
Across survey participants, three-quarters of grantees stated that they were continuing their ARC-funded project in some capacity. It is likely that a disproportionate number of grantees who responded to the survey were part of grants that did sustain their programs; those who did not respond may not have been able to secure additional funding, lost program staff, or encountered difficulties that contributed to their lack of response to the survey. Nevertheless, most grantees in this sample stated they were continuing to sustain their ARC-funded project without any substantial changes (39%), while 17% reported that they were continuing but with a narrower or reduced scope,

Exhibit 4.1. Status of Sustainability Efforts Among Grantees (n=184)



Source: ICF survey of ARC grantees
Note. Percentages do not add up to 100% due to missing data.

Exhibit 4.2. Status of Sustainability Efforts Among Grantees, by Year Grant Closed (n=184)



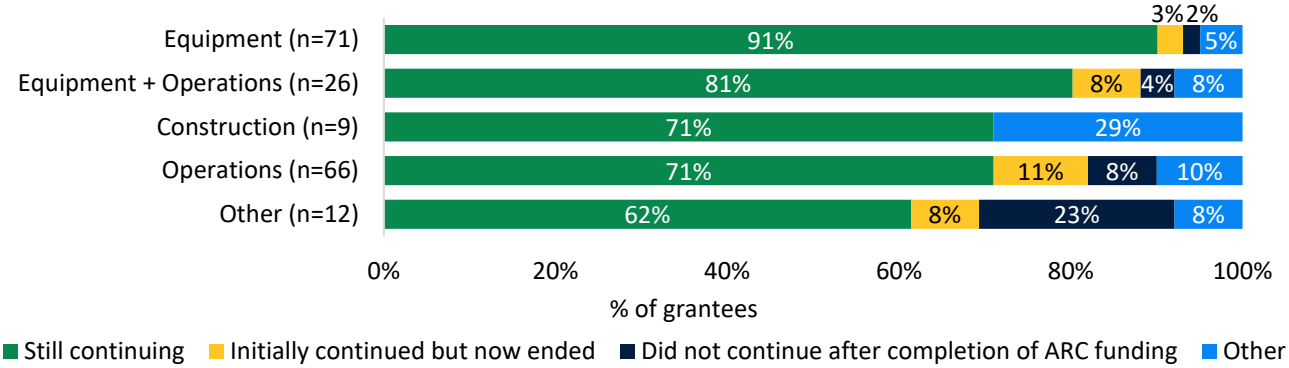
Source: ICF survey of ARC grantees
Note. Percentages do not total 100% due to missing data.

and 19% were continuing with an expanded scope (Exhibit 4.1). Only 5% of grantees indicated that they did not continue after the completion of ARC funding.

Interestingly, there was no substantial variation in grantees' efforts to continue their respective ARC grant-funded program based on the year in which the grants closed (Exhibit 4.2), although slightly higher percentages of grantees from earlier cohorts reported initially sustaining their grant but subsequently ending it. Most notably, regardless of when grants closed, most grantees indicated that the grant program was still ongoing without any substantial change. Also of note, across all grant closure years, only a small percentage of grants did not continue their programs after ARC funding ended or initially continued their programs but have since ended (Exhibit 4.2). In open-ended comments and through focus group discussions, several grantees highlighted the impact of the COVID-19 pandemic on their sustainability efforts, which is discussed further in Section 4.4.

In examining sustainability by grant and grantee characteristic, the largest variety related to grant purpose. Nearly all grants focused exclusively on equipment were continuing at the time of the survey in 2022 (91%; Exhibit 4.3). These were projects primarily or exclusively involving the purchase of new equipment (e.g., laptops, new machinery), which was still in use, extending the life of the grant project. Those grants with a purpose categorized as operations had 20% fewer that were continuing (71%) as compared to equipment-focused grants, likely related

Exhibit 4.3. Status of Sustainability Efforts Among Grantees, by Grant Purpose (n=184)



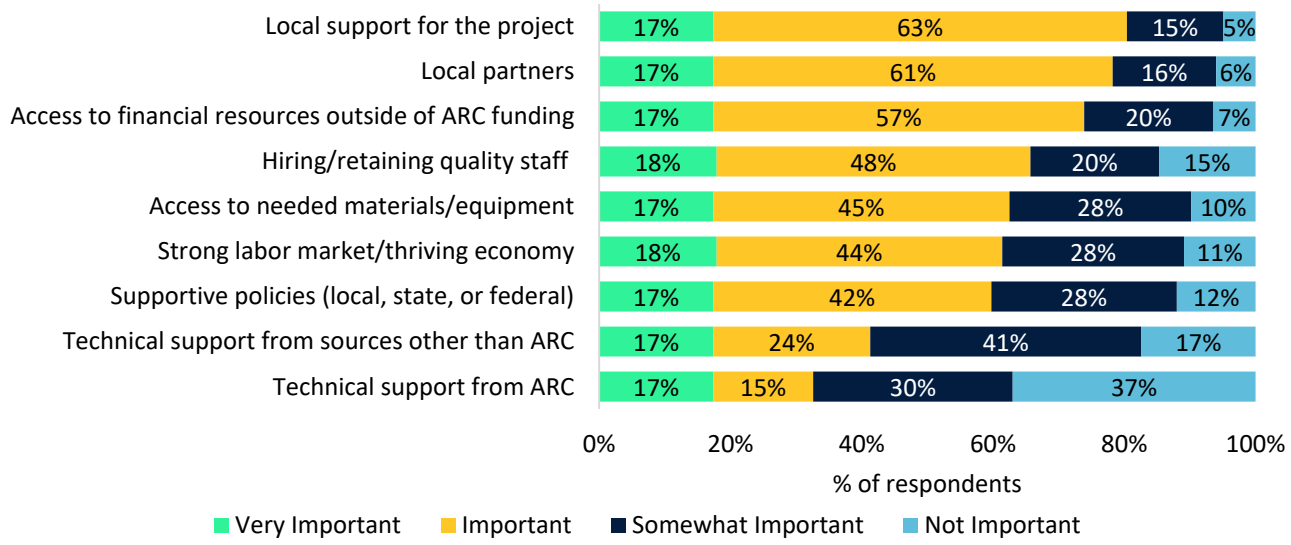
Source: ICF survey of ARC grantees
Note. Percentages do not add up to 100% due to rounding. Description of inclusion into "Other" category is in Appendix B.

to the higher reliance on continuing staffing needs for these types of grants. "Other" grants had the fewest projects continuing programming after ARC funds had ended, and the highest percentage stating that they did not continue their respective projects after ARC grant funds ceased (23%; Exhibit 4.3).

4.2 Factors Contributing to Successful Sustainability

Grantees' perceptions of factors that contributed to successful sustainability largely mirrored trends related to implementation, although all factors were magnified once ARC funding ended. Local support and partnerships, already deemed important during implementation by a majority of survey respondents, were seen as critical by even larger percentages of respondents. Some factors that had smaller influence over implementation success surged into importance, such as a strong labor market (54% of respondents indicated that this was important or very important to implementation while 62% reported the same about sustainability; Exhibit 4.4).

Exhibit 4.4. Grantees' Perceptions of Factors Contributing to Successful Sustainability (n=184)



Source: ICF survey of ARC grantees

Note. Percentages do not add up to 100% due to rounding.

Across all examined grantee and project characteristics, local partners and local support for the project remained the dominant factors supporting sustainability, increasing in importance since project implementation. There was some variation based on grantee type. For example, nearly all respondents from state and local government agencies indicated that having access to financial resources outside of ARC funding was integral to successful program sustainability (94% versus 82% and fewer; Exhibit 4.5). There were also wide ranges in those who viewed retaining quality staff as critical, which mirrored implementation trends; just 48% of those from higher education and 55% in state or local government reported that this was important or very important to sustainability compared with 73% of independent school districts (Exhibit 4.5).

Perceptions of factors contributing to successful sustainability also varied by project type. Although the importance of local support and local partners remained the top two factors across projects, more respondents focused on educational attainment or achievement reported that having additional financial resources was more important to project sustainability than local partners (66% versus 62%; Exhibit 4.5). In addition, just 47% of respondents working toward educational achievement or attainment reported that a strong labor market was

important or very important for their sustainability compared with 73% of workforce/teacher training respondents and 69% of respondents representing career and technical education projects.

Exhibit 4.5. Components of Successful Sustainability Rated "Very Important" or "Important," By Grantee Type

	Local Support for Project	Local Partners	Additional Financial Resources	Quality Staff	Access to Needed Materials	Strong Labor Market
All grantees (n=183)	**80%**	**78%**	**74%**	**66%**	**62%**	**61%**
Project Type						
Career technical education (n=81)	80%	79%	73%	64%	64%	69%
Educational achievement or attainment (n=53)	72%	62%	66%	55%	60%	47%
Workforce/teacher training (n=26)	92%	96%	85%	88%	69%	73%
Other project (n=19)	79%	84%	79%	63%	47%	42%
Grantee Type						
Higher education (n=65)	66%	85%	71%	41%	65%	66%
Nonprofits (n=66)	80%	74%	73%	67%	56%	55%
Independent school districts (n=26)	80%	65%	69%	73%	73%	73%
State or local government (n=16)	74%	88%	94%	55%	63%	50%
Other type (n=11)	100%	82%	82%	70%	64%	64%
Grant Purpose						
Construction (n=9)	100%	89%	78%	78%	56%	56%
Operations (n=66)	85%	79%	79%	71%	61%	64%
Equipment (n=71)	70%	75%	70%	62%	66%	63%
Operations and Equipment (n=26)	85%	77%	62%	58%	62%	50%
Other purpose (n=12)	92%	92%	92%	67%	58%	67%

Source: ICF survey of ARC grantees

Note. Participants could select all that apply; percentages will not add up to 100%; all percentages by project type are included in Appendix B3. Description of inclusion into "Other" category is in Appendix B.

This is aligned with the relative engagement with the labor market among these types of projects, with workforce training and career and technical education projects more likely to be designed to support local industry needs, rely on local internships, and/or include job placement as a criterion for success.

During focus groups, grantees were asked to report on how they were able to sustain project activities after the culmination of the ARC grant period. Sustainability supports are described in Exhibit 4.6.

> *"For us, it started with ARC helping us figure some things out and get the model in place. We took that and we went to a pretty large foundation who gave us the resources based on what we learned, to really give us a couple years of runway to build it to scale. After we did that, we went to [federal agency] last year and got a $1 million grant to expand it and sustain it for another 3 years. So, I can directly trace that back to some of the early work we did with ARC to help us figure [it] out."*
>
> — Individualized workforce program participant

A persistent theme across many focus groups was that grantees were able to continue to offer services by leveraging the ARC grant they received to seek additional funding. Some grantees shared that they were able to secure additional funding through sources at the federal, state, and local government level or through partnerships with external agencies. A few grantees further noted that they

were able to grow their original efforts from their ARC project through subsequent funding. One participant in the K–12 out of school program focus group shared a similar story. They said that their ARC grant was the first 2-year grant they had been awarded after receiving many grants that lasted a year or less. The project director reflected on how receiving *"that [multi-year funding] has helped us approach other funders and know that we could do this for 2 years."*

Exhibit 4.6. Factors supporting successful sustainability, by focus group

Factor	Career & technical Education	General Programs	K–12 Technology programs	K–12 Out of School	Community & Technical Colleges	Individualized Programs	Industry-related Programs
	High School					Workforce	
Additional Funding	✓	✓		✓	✓	✓	✓
Embedded Systems		✓	✓		✓	✓	✓
Ongoing Need		✓	✓	✓	✓		
Strong Buy-in/ Partnerships	✓				✓		✓

Source: ICF analysis of focus groups with ARC grantees

During the focus groups, grantees also noted that their initial ARC funding allowed them to build capacity by establishing processes and systems that could both sustain original programs and support future growth. For example, some grantees noted that initial ARC funds helped them purchase equipment or build facilities that allowed them to continue and expand their work. Two participants in the community and technical colleges group shared:

> *"Our program actually expanded to a second location, thanks to being able to purchase the equipment we needed. By having the initial resources we needed, we could focus more on growing the program so now we've got it in two locations. Without those dollars, without being able to purchase those initial resources and get systems up and running, I don't think we would be where we are today with it."*

> *"Once we secured the initial ARC funding, I continued to get more funding through state funds and local funds to help support the nursing program. But we've also with that [funding] built out a space, so we were able to expand our noncredit allied health offerings also and utilize that same equipment for those programs. So, we have been able to really enhance our offerings at that campus"*

A grantee from the high school – general program focus group noted that they approached their work with the ARC grant as a capacity-building effort to systematically test out certain services before expanding them to a larger audience: *"For us, we've grown that program significantly. It's now one of the most impactful things we do as an organization. We're about 5 years since we had that grant. It's deeply embedded in what we do. And it gave us a chance to pilot it out and test it and figure some things out on a smaller scale before we were able bring to a larger scale."*

Case Study Snapshot: Enhanced Capacity Supports Sustainability

Leveraging Local Partnerships to Sustain and Build Capacity

Allegany College of Maryland received ARC funding in 2016 to provide training in industrial metal fabrication and American Welding Society-certified classes. Grant funds were used to purchase equipment for the classes and to obtain the necessary certifications. In 2018, the college partnered with Allegany County in a joint workforce development and makerspace venture that led to the renovation of an old industrial warehouse into the current Western Maryland Works Training Center and Makerspace site. Thanks to this expanded space, the college now offers Welding, Industrial Maintenance, Machine Levels I and II, Robotics, and 3D Printing classes. Certifications are also available for the Occupational Safety and Health Act (OSHA), forklift, flagger, backflow prevention/cross connection, home inspector, and preparation for the Maryland Home Improvement Contractor Exam. Additionally, through a partnership with Allegany County Public Schools, high school students can take a career and technical education (CTE) program during their junior and senior years, enabling them to graduate high school with 39 college credits, a CTE Completer certification in Manufacturing Engineering Technology, and up to 20 industry credentials—all free of charge.

One interviewee highlighted how having such workforce development opportunities in the community has been critical for the economic growth of the region: "*Our focus now on the county level has been how do we bring in the high-tech industries into the area. That's where the future is. This helps us to get ahead of the curve instead of … in Appalachia, we're always feeling like we're fighting to catch up. And it seemed like we're always spending money just to maintain what we have. This enabled us to kind of skip ahead and get ahead of the curve. So now this is a drawing card for economic development.*"

Grant Resources Enabled Program Sustainability

Garrett College received an ARC grant in 2015 to expand allied health training services at the college's Career Technology Training Center (CTTC) in Accident, MD. ARC funds enabled the college to add an allied health laboratory and purchase a simulated patient, SimMan. As one staff member explained, the ability to offer simulation enabled the program to meet relevant training standards required for national accreditation: "*We have to meet the same standards as say, the University of Texas, and [it] turns out over 200 paramedics a year. The last accreditation cycle we went through with absolutely no citations and no reports due. So basically, we had 100% on the test, which is a big accomplishment.*"

The long-term sustainability of the program is in turn supported by national accreditation, which has enhanced the program's reputation. Many graduates work in the region, and others have gone on to more advanced work. As one staff member put it, "*I've always said the top accomplishments of our program are our students. … We've had multiple students … that have become flight paramedics. The national registry organization that we keep talking about right now, the executive director—the guy that heads all that for the nation—came through our program.*" Another staff member noted that recruiters sought program graduates, an unusual circumstance for such a small and rural program.

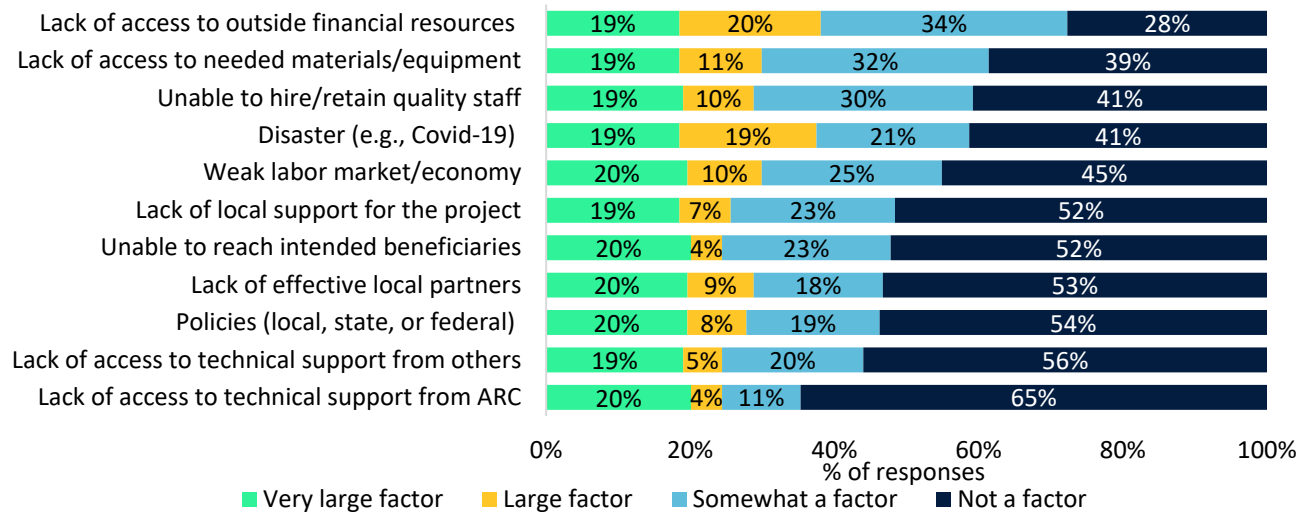
Some grantees also expressed that they could continue to provide services because there was an ongoing demand for the program. This aligns with survey findings emphasizing the importance of strong local partnerships; many grantees noted that sustainability was closely tied to establishing a local partner and ensuring they had local support for their program. During the focus group, one career and technical education grantee described how *"the program has just continued to grow. It doesn't take a whole lot of advertising anymore because it's just word-of-mouth it grows. In addition to that, [our local partner], they even asked us to offer Level 2 machining. So now we not only offer Level 1, we offer Level 2 as well. And we have almost 100% placement rate. There was just a lot of success, that was a wonderful investment."* Grantees also shared that through local partnerships, they were able to expand the scope of their projects as initially conceived. One grantee in the industry-related workforce group reflected on a leadership transition that took place after the grant period ended that continued the pattern of strong internal buy-in for the program, explaining: *"… they [the founders] were able to hire an executive director who has just as great of [a] passion as they. Often you wonder when there's any kind of change in leadership, is it going to go as strong as it had—and certainly it worked very well for [us]!"*

> *"We developed a partnership with [local high school] for their CTE program. And this year we actually brought their senior engineering students, they came out 5 days a week every other week and they used our machining lab, because our equipment is much more cutting edge… So [this fall], we'll actually have two groups—10 for fall from [local high school] that will be doing that during the day and then we have about 14 that are interested in the standalone engineering program just coming from the community. …. So that equipment is being used all day long, day and evening, so we're really excited about that."*
>
> — Community and technical college participant

4.3 Challenges to Sustainability

Aligned with the trends seen between factors that supported implementation and those that supported sustainability, challenges to sustainability mirrored challenges seen in implementation, but were amplified. For example, while 25% of survey respondents indicated that a lack of outside funding challenged implementation, 39% of respondents reported that this strongly factored into sustainability challenges (Exhibit 4.7). These

Exhibit 4.7. Factors Contributing to Challenges in Sustainability (n=184)



Source: ICF survey of ARC grantees

Note. Percentages represent the percent of respondents who indicated large or vary large for each factor.

increases were seen across all categories of barriers. Grantees reported that the four largest factors hindering sustainability were a lack of access to additional financial resources (39%), experiencing disaster such as the COVID-19 pandemic (38%), a weak labor market (30%), and a lack of needed materials or equipment (30%).

These trends also persisted across grant and project type, although some subgroups reported divergent challenges. In examining grant purpose, operations and equipment-focused grantees stated that lack of effective local partners and unsupportive policies—local, state, or federal—were the largest factors that contributed to sustainability challenges (Exhibit 4.8). Those working in construction or operations reported that a lack of access to resources was the largest barrier and those projects with a purpose centered on just equipment highlighted

Exhibit 4.8. Factors Challenging Successful Sustainability Rated as a "Very Large Factor" or a "Large Factor," By Grantee Type (n=184)

	Lack of additional financial resources	Impact of COVID-19 pandemic	Weak labor market	Lack of needed materials or equipment	Unable to hire/retain quality staff	Lack of effective local partners
All grantees (n=183)	**39%**	**38%**	**30%**	**30%**	**29%**	**29%**
Project Type						
Career and technical education (n=81)	38%	41%	31%	32%	28%	32%
Educational achievement or attainment (n=53)	32%	30%	23%	17%	23%	23%
Workforce/teacher training (n=26)	46%	35%	38%	38%	38%	35%
Other project (n=19)	37%	47%	37%	37%	32%	26%
Grantee Type						
Higher education (n=65)	40%	35%	28%	29%	24%	28%
Nonprofits (n=66)	39%	39%	30%	32%	33%	29%
Independent school districts (n=26)	35%	42%	27%	27%	27%	31%
State or local government (n=16)	38%	38%	38%	38%	26%	44%
Other type (n=11)	27%	27%	36%	18%	30%	9%
Grant Purpose						
Construction (n=9)	44%	44%	44%	33%	33%	33%
Operations (n=66)	50%	52%	36%	33%	38%	33%
Equipment (n=71)	31%	32%	24%	30%	20%	21%
Operations and Equipment (n=26)	23%	19%	19%	15%	23%	27%
Other purpose (n=12)	45%	27%	45%	45%	45%	55%

Source: ICF survey of ARC grantees

Note. Participants could select all that apply; percentages will not add up to 100%; all percentages by project type are included in Appendix B3. Description of inclusion into "other" category is in Appendix B.

COVID-19 as the largest barrier. Looking at grantee type (e.g., higher education, nonprofit, independent school districts), the largest challenges facing sustainability were COVID-19, a lack of access to financial resources outside

of ARC funding, a weak labor market/economy, and policies failing to support project goals, which varied little across grantee type. Challenges also did not vary substantially based on the focus of the grant project, which also saw COVID-19, a weak labor market, a lack of access to needed materials or equipment, and an inability to retain quality staff as the most pressing challenges (Exhibit 4.8).

Those who reported that their project was less than entirely successful were also more likely to report challenges in sustainability as compared with those who reported that their projects were successful. The areas of biggest difference between those who were fully successful and those who were less so related to a weak labor market or economy (36% of those who reported that their project was not at all, somewhat, or mostly successful versus 22% of those who said it was entirely successful), a lack of access to needed materials or equipment (35% versus 23%), and a lack of access to financial resources outside of ARC funding (43% versus 31%; see Appendix B3).

Through the survey, grantees were asked to respond to a series of predetermined potential challenges to sustainability while focus group participants shared difficulties they encountered through more open-ended discussions. At the top of mind for focus group participants were three specific challenges: the COVID-19 pandemic (discussed further in Section 4.4), a lack of funding, and staffing (Exhibit 4.9). In addition, two grantees, one from the community and technical colleges group and one from the high school – general programs group, shared that they were not able to sustain their ARC-funded project after their projects closed.

Exhibit 4.9. Sustainability Challenges Reported by Grantees

	Community & Technical Colleges	Career & Technical Education	General Programs	K–12 Out of School	K–12 Technology Programs	Industry-Related Programs	Individualized Programs
		High School				Workforce	
Pandemic-related disruptions	✓	✓	✓	✓	✓	✓	✓
Lack of funding	✓		✓	✓		✓	✓
Staffing	✓	✓				✓	✓
Other	✓	✓				✓	

Source: ICF analysis of focus groups with ARC grantees

Grantees explained that because of the COVID-19 pandemic, project activities that could continue were moved to an online format, and those that could not move to an online format were completely paused. Grantees noted that with the shift to online formats, the challenges they now faced primarily centered on the degree to which grant participants could access program activities, which

> *"It was unbelievable that we were able to [pivot to online services]. Then of course that trickles down to the students that didn't have the technology, they didn't have the laptops, they didn't have the internet speed. Some didn't have internet at all. So the resources that we immediately had to bring to bear prior to any type of COVID funding that came to the colleges as far as expanding our broadband out to parking lots and showing up on the curb of our campuses with masks and temperature guns. Throwing a book inside the car, so that you're not touching them and they're not touching you. And the amount of distance that it ended up putting us from the people we serve—which is not just students but it's community at large too. So, I think it just turned everything upside down."*
>
> — Community and technical college participant

was felt to be uniquely challenging across the region due to lagging infrastructure to access online services.

In addition to hurdles grantees faced with adapting their programming to an online format and ensuring participants had access to online content, grantees also observed that some learners, specifically adult learners, struggled with the online format. Some ARC grantees noted that the services they offered could not be delivered in online-only or hybrid modalities because they required the use of a specialized facility or equipment that could only be done in person. In addition to these pandemic-related disruptions to services, one workforce-industry grantee noted that they had to expand the scope of their program to address challenges brought on by the pandemic such as food insecurity among students: *"[After returning to in-person programming, there was an] increased isolation for a lot of those we were serving and the need for them to get access to other services. For us, we're addressing the physical need of the home through our work. But … we want to be there to connect them with the services, other services they may need like food security and connection to medical information and other types of things that they need to successfully stay in their home long-term. We ended up hiring a community services navigator so somebody really … not necessarily a case manager, but someone whose job it is to work with those folks, because of all the needs that arose through the pandemic."*

> *"You take a 720-hour program—it's expensive, it'll cost $10,000. You have a lot of metal to buy, it's not a cheap program. And we've been fortunate all these years to have other monies that supplement. And we do have ways and we'll talk about sustainability of what we can do in the future with it, but that's probably a big hurdle is the cost."*
> — Community and technical college participant

During the focus groups, many participants described the difficulty they faced in securing necessary financial resources outside of ARC funding to sustain their programming. This issue was one of the most common that participants indicated on the survey as a barrier to project sustainability. During the focus groups, some grantees noted that given the large overhead costs for running the project, they faced challenges in consistently finding funds to offset these project costs. One participant in the K–12 out of school group shared that equipment repairs were becoming costlier than purchasing new equipment, so their program discontinued: *"When the grant closed, we continued that program for about another year and then unfortunately. ... I've been here 30 years; in all funding, it's probably the first time we had a project that closed out and we didn't continue. Mainly because it just became cost prohibitive with the upgrades and personnel to develop learning objects. You can purchase them new for less, so we opted not continue."*

Another theme that emerged during focus groups that mirrored results found in the surveys, was that a common challenge to program sustainability that grantees faced was hiring and maintaining quality staff. Of note, focus group participants recognized the importance of having high-quality dedicated staff to continue project work. One grantee noted that they did not have a dedicated staff member, such as a grant manager, resulting in their existing staff members engaging in additional work on top of their regular job duties. As one participant in the workforce – industry-related programs group noted, *"Some of us don't have grant managers either, we're doing this on top of normal jobs—to make it more complex makes it less viable.*" It is also possible that some projects did not have a dedicated staff member because they could not secure funds to sustain the project.

> *"As the grant ended, we weren't able to hire our coordinator on full time or part time really. So that was a bit of a lesson in viability to keep those programs going and robust enough to sustain themselves with their enrollment generated funding."*
> — Community and technical college participant

In addition to having a dedicated staff member, a few grantees across the workforce - individualized programs group and this participant from the high school – career and technical education group also shared the challenge of ensuring that their employees had appropriate qualifications: *"In terms of that teacher of record, we struggle a little bit. I think there has to be some level of evaluation when you're bringing in people who aren't trained teachers and our system isn't designed for this type of partnership yet. And that's been a little bit of a challenge."*

A few additional challenges emerged in the focus groups that related to program sustainability. For example, some participants discussed having issues with sustainability due to their rural location, particularly highlighting the challenge of identifying long-term solutions to transportation issues participants experienced during the program implementation phase. Another factor that emerged as a barrier to program sustainability was the extent to which grantees were able to engage with their external partners. One participant in the community and technical college group reflected on how the degree to which employers were engaged with the grant was crucial to the success in continuing education for participants: *"… some of our challenges, we found, really also depended on the employer engagement. And so for a couple of the programs we tried to start, we initially did an assessment of how engaged these employers would be in terms of working with us to design the program but also to provide incentives for people to participate in the programs. And it sounded great at the beginning, but a lot of that employer engagement didn't fully materialize. I would say that was one of our bigger challenges."*

4.3.1 Impacts of the COVID-19 Pandemic on Sustainability

Although the onset of the COVID-19 pandemic began in early 2020, after all the grants in this study had closed, the impact of the pandemic had numerous implications for the sustainability of this portfolio as well as the short- and long-term outlook of the Appalachian Region.

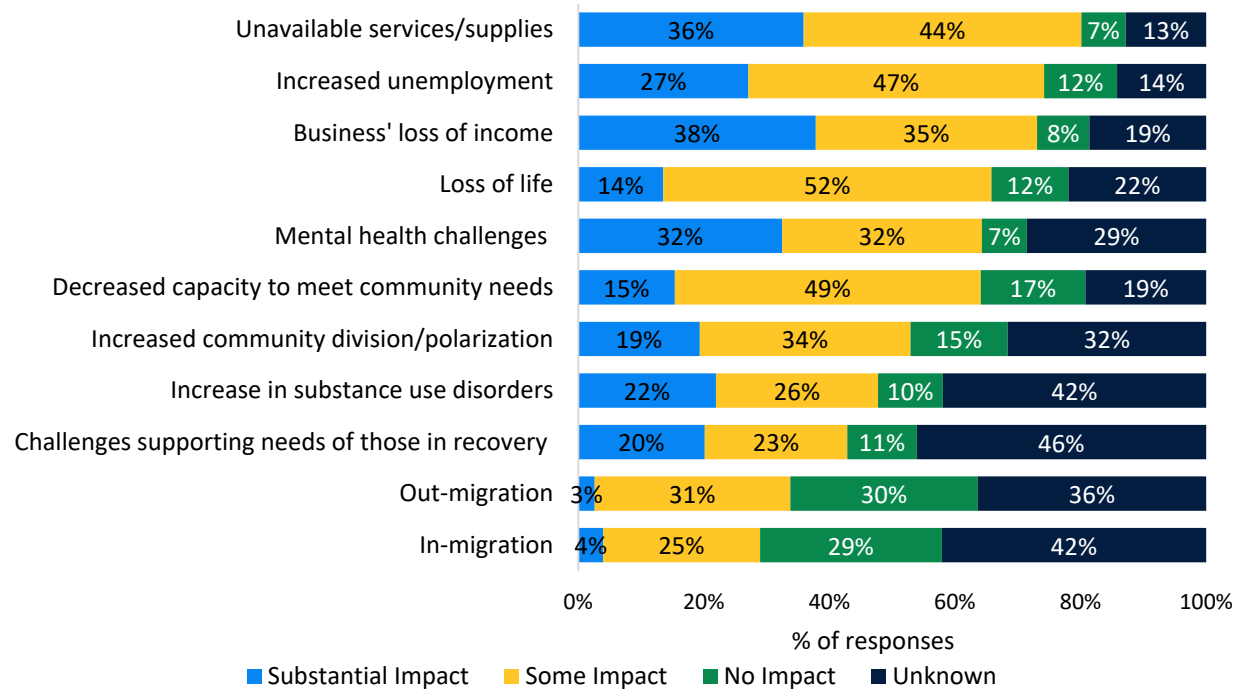
Local Impacts from COVID-19

When asked to indicate the impact of the COVID-19 pandemic on their respective communities, 80% of survey respondents stated that unavailable services/supplies had the largest impact (Exhibit 4.10). Increased unemployment (74%), businesses' loss of income/local governments' loss of tax revenue due to shutdowns/reduced spending (73%), loss of life (66%), and mental health challenges (64%) also impacted many communities represented by the survey. Potential challenges related to local changes in out-migration or in-migration were reported by the fewest number of respondents (Exhibit 4.10).

These trends did not vary substantially by county distress area designation, suggesting that many areas across this region struggled with similar effects of the pandemic within their communities (full table in Appendix B3).

Given an opportunity for open-ended reflection, focus group participants most frequently discussed challenges within their community related to community members' mental health issues, food insecurity, limited broadband service (which was perhaps more salient to participants as grant programming shifted online due to closures from the pandemic), and lingering labor shortages. One participant in the community and technical colleges group reflected*: "We had students and their families that didn't have the food supply they needed. We set up roadside pantries as much as we could. And mentally, I think everyone would probably agree that the strain within our community, mentally and emotionally trying to navigate through the unknown was such a heavy lift."* In addition, a few focus group participants also discussed how the loss of life affected their community and some described how their community was impacted by the loss of local businesses that were forced to close due to the pandemic.

Exhibit 4.10. Grantee Perceptions of the Impact of COVID-19 on their Local Communities (n=184)



Source: ICF survey of ARC grantees

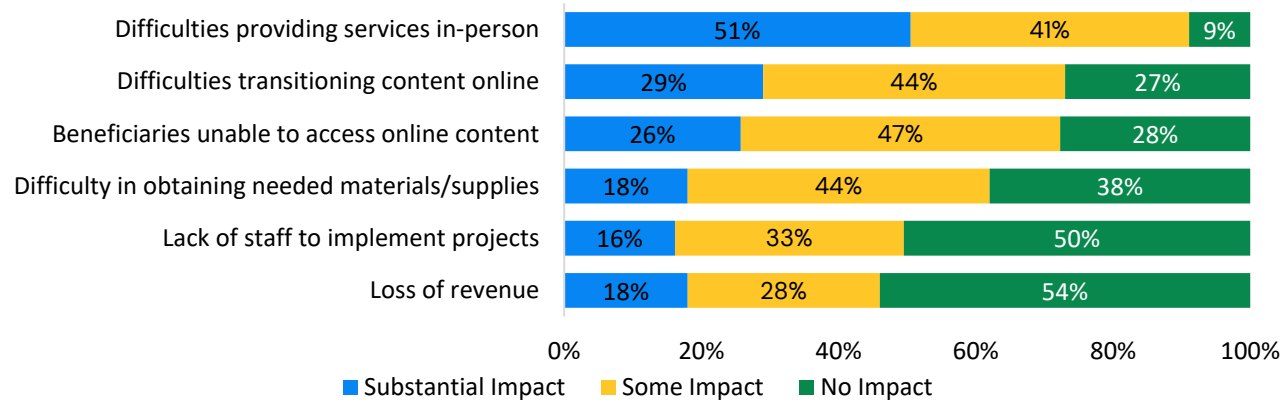
Note. The percentage of "missing" responses are excluded; n counts vary based on survey question from 152 to 156. Full response options and n counts are included in Appendix B3.

While grantees were quick to highlight the challenges brought on by the pandemic, they also reflected on the ways in which changes made in response to the pandemic have yielded unexpected benefits. For example, participants discussed how they initially experienced challenges due to gaps in broadband access, reflecting that the pandemic acted as a catalyst to improve these older systems. A few participants also described having an increase in tourism as well as permanent residents moving into less densely-populated regions. One participant in the individualized workforce programs group said, *"There was such a desire to live in an area that was less populated [that] we had a tremendous amount of new people coming here. And as we have more property purchases and the values go up, that in turn helps to fund our schools."*

Impact on Grantees' Work

Among survey respondents, two-thirds reported that activities originally supported by their ARC grant were still continuing at the beginning of the COVID-19 pandemic in March 2020. These grantees were asked to reflect upon the impact of the pandemic on efforts to sustain their work. Survey respondents most frequently cited the inability to provide services in-person/on-site as having the most substantial impact on their sustainability efforts, with only 9% of respondents indicating that this had no impact on sustainability (Exhibit 4.11).

Exhibit 4.11. Grantees' Perceptions of the Impact of the COVID-19 Pandemic on Project Sustainability (n=184)

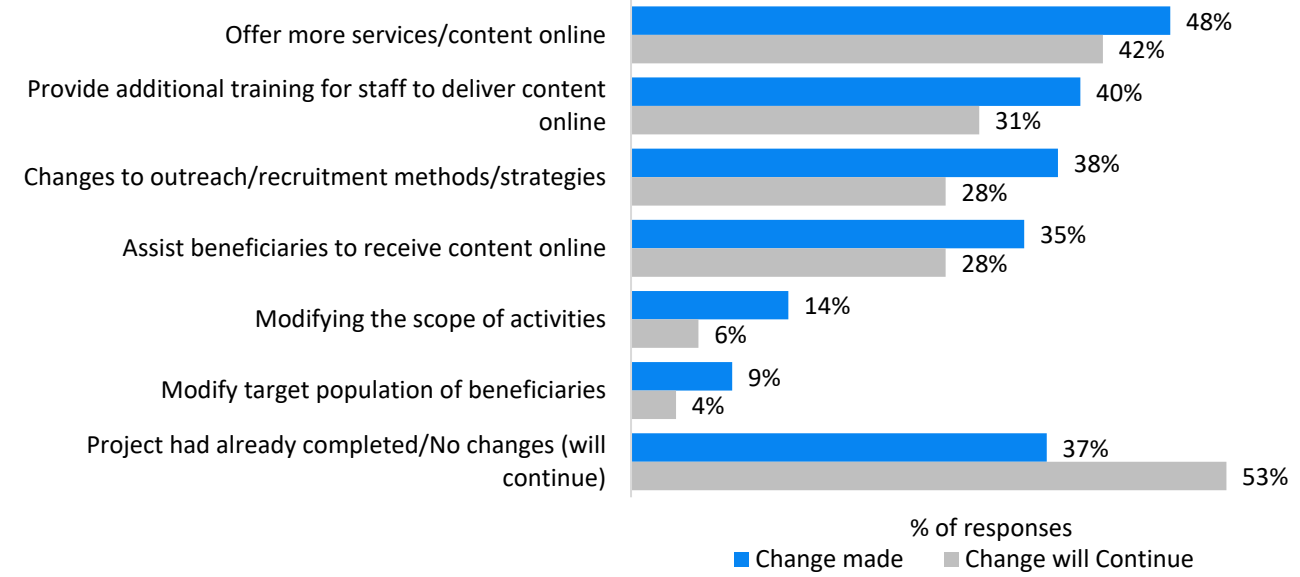


Source: ICF survey of ARC grantees
Note. Percentages may not total 100% due to rounding.

No clear patterns of impact emerged when looking across distress area designations, suggesting that county distress level was not, in itself, a key indicator of how COVID-19 impacted grant projects. Data were next broken down based on grantee type (e.g., state and local government, independent school district, higher education, and nonprofit organizations). Results were largely consistent across grantee type; however, grantees from higher education and nonprofits cited loss of revenue as a factor related to the COVID-19 pandemic that substantially impacted sustainability (22% and 11%) whereas no respondents from state and local government or independent school districts included this as a substantial impact (see Appendix B3 for full data). Data were also examined based on project type (e.g., career and technical education, educational attainment/achievement, workforce/teacher training). Again, results were consistent, suggesting that difficulties/inability to provide services in-person or on-site were the most cited factor negatively influencing sustainability efforts. However, more respondents working on career and technical education projects (22%) and workforce/teacher training projects (27%) reported difficulty transitioning services or activities to online formats as playing a substantial role in sustainability challenges, reflective of the more hands-on work traditionally associated with both types of projects (see Appendix B3 for full data).

Finally, survey participants were asked to indicate what changes they made to their ongoing programming activities in response to the COVID-19 pandemic, and which (if any) changes they planned to continue. More than a third of grantees (37%; Exhibit 4.12) reported that they had not made any changes to their grant during the pandemic or that their project had concluded prior to the onset of the pandemic. The remainder of survey respondents had made at least one change to their project in response to pandemic restrictions or shutdowns. The most common changes related to pivoting content and services online and included offering more services online (48%), providing training for staff to deliver content online (40%), and assisting beneficiaries to receive content online (35%). In addition, grantees adjusted outreach and recruitment efforts (39%), modified the scope of their project activities (14%), or modified their populations of focus (9%). A substantial majority of grantees who reported making a change as a result of the pandemic planned to maintain that change into the future, with the exception of modifying target beneficiaries (Exhibit 4.12).

Exhibit 4.12. Changes Made and Continued as a Result of the COVID-19 Pandemic (n=184)



Source: ICF survey of ARC grantees

Participants in each of the seven focus groups were asked to reflect on the impact of the COVID-19 pandemic on components of their original ARC-funded project that had to shift as a result of shutdowns resulting from the pandemic. These qualitative results based on feedback garnered during the focus groups offer additional insight into grantees' experiences with shifting content and challenges faced due to the COVID-19 pandemic. Three individuals across groups discussed positive things that had come from the pandemic shutdowns, namely the rapid increase in their organization offering virtual instruction after years of delays in doing so and the creation of online resources to benefit others in the future. However, the remainder of the discussions centered on the challenges grantees faced as a result of the pandemic. In general, grantees' reflections fell into two categories—either challenges from the early or middle part of the pandemic or ongoing challenges as organizations and institutions have worked to forge "new normals" (Exhibit 4.13).

The factor dominating discussions across all groups was the rapid pivot to virtual instruction, programming, and activities, with one participant from the individualized programs – workforce groups sharing, *"We had to pivot to virtual and we did it, [even though] a lot of people have been resistant over the years to online and doing things virtually."* Grantees across five of the focus groups shared that their ARC-funded programs were not able to shift to online programming or had to stop for a few months while an online infrastructure could be created. This included some programs that relied heavily on hands-on programs. Such as a certified nursing assistant program with *"a clinical aspect required by the state, [that] had to shut down during the pandemic completely,"* represented in the industry-related workforce group and a home-based K–12 after school program where a participant said, *"That was just not a program that we could pivot to online."*

However, many grantees across five focus groups were able to creatively adjust to social distancing requirements to continue offering key pieces of their programs in person. For example, a STEM-based after school program represented in the K–12 out of school focus group was able to *"work a rotating schedule so we're not all together at once,"* and a program in a community and technical college that supported workers receiving Trade Adjustment Assistance (TAA)-funding hired additional instructors in order *"to obey the governor's orders: nine students only; we*

ran classes all day long." Finally, grantees across five of the focus groups discussed initial challenges they faced with helping students secure laptops or working to expand internet access to public places such as parking lots or town squares to ensure their participants had access to online learning environments as activities shifted to virtual modes of delivery.

Exhibit 4.13. Impacts of COVID-19 Pandemic on Grantees' Projects, By Focus Group

	Career & Technical Education	General Programs	K–12 Technology Programs	K–12 Out of School	Community & Technical Colleges	Individualized Programs	Industry-Related Programs
	High School					Workforce	
Early–Mid Pandemic							
Pivoted to virtual/hybrid	✓	✓	✓	✓	✓	✓	✓
Fully stopped program activities for a time	✓		✓	✓		✓	✓
Shifted in-person activities to accommodate new capacity restrictions	✓	✓		✓	✓		✓
Beneficiaries lacked reliable internet or laptops		✓	✓		✓	✓	✓
Lingering Challenges							
Engagement challenges among beneficiaries	✓	✓		✓	✓		
Difficulty recruiting beneficiaries				✓		✓	✓
Diminished capacity of partners	✓				✓		✓
Difficulty encouraging people to revert to in-person		✓			✓		

Source: ICF analysis of focus groups with ARC grantees

Grantees also discussed lingering pandemic-related challenges as organizations and institutions resumed in-person programming or restarted activities. These challenges came up in six out of seven of the focus groups. For example, all the participants in the community college focus group discussed difficulties with getting students to attend classes and activities in person or on campus. In addition, all of the participants in the high school – career and technical education focus group highlighted the diminished capacity of their partners:

Case Study Snapshot: Response to COVID-19

Slowed Services and Reduced Scope

Although COVID-19 occurred after the grant period for Goodwill Industries, the pandemic impacted sustainability efforts following their second ARC grant, awarded in 2019. Program services related to financial education and employment outreach were moved to online and hybrid formats. Staff members and project participants noted that the pandemic had not halted services, merely slowed them down. However, lack of a working internet connection, particularly in rural areas, was a barrier to accessing program services for many potential participants. As a result, enrollment in these services was greatly reduced, and this subsequently impacted the services available, as well as Goodwill's staffing. An interviewee explained, "*We do not have a director of career services anymore. And it's not because we don't want to. We used to have a medical assistant program, and a hospitality program and things. And we'd get all these people to sign up, [but] then the attrition rate was so crazy [it wasn't viable anymore.]"*

Whole Community Still Feeling Pandemic Impacts

With ARC funding, the North Central Workforce Development Board (NCWDB) in Kersey, PA, created the Business and Education Connect Initiative 2014–15 to work with business and industry to provide career guidance for high school students. During Pennsylvania's mandatory shutdown due to the coronavirus pandemic, the NCWDB was required to work virtually. Project staff shifted to a virtual environment to continue carrying out their educator workplace programs and to work with the schools during that shutdown period. One project staff member noted the pandemic impact on students, "*I think a lot of them got lost in it—a lot of the social aspects—and now they're trying to figure out where they fit; how they have friendships is different*." One of the interviews described how school guidance counselors now had to focus more on students' mental health and less on career counseling, given the detrimental impact of the pandemic on student well-being. "*It was rough, it was hard on the kids, it was hard on the teachers, it was hard on the community."* As the area emerges from the early pandemic, there is a worker shortage that is actually "*a wage shortage."* Workers are realizing their services are worth more than employers are willing to pay, and now employers have "*got to put some skin in the game*." "*That's what the pandemic did to us and for us. It made workers and families and everybody else way more aware of their money but now they figured out, 'Look, I can do better because you can do better for me.' So that's the good stuff. The bad stuff was the physical stuff, people lost their lives, people did lose cars and maybe homes."*

Positive Pandemic Pivot

ARC funding supported a comprehensive Feasibility Study to take place at Evergreen Heritage Center in Allegany County, MD which was the basis for the "*preservation, restoration and updates*" to a barn and the construction of "green" restroom facilities for visitors. The barn restoration enabled year-round use of the lower barn area as an agricultural museum and the upper barn for meetings and events. Although EHC has historically provided numerous programs to students from area schools, the pandemic had a significant negative impact on the experiential learning opportunities for these students. However, the program staff used the unexpected "free" time to modify the program components for use in a virtual format. For example, staff were able to make a video walking tour of the museum to be shown in schools that they can also use for programming and promotion moving forward.

- *"Our partner community college stayed remote longer than we did, so it was a little bit of a struggle for our students who were in dual enrollment programs, especially the technical program, because they weren't on campus."*
- *"We still have businesses that aren't open to our students … they've been hit so hard by the pandemic that they aren't allowing any visitors … so we can't bring students in, which is a huge bummer because it's one of our largest employers [and] it's a great exposure for students to go and see."*
- *"Our health science program was greatly impacted because our senior kids get[ting] to do clinical experiences with our regional hospital … and even through this year, we've not been able to have kids in the hospital … So that's 3 years of students."*

During the focus groups, four grantees observed that students and participants were less engaged in the curriculum or material after returning to in-person learning. One focus group participant from the high school – general programs group explained that *"most of our student services work is online [but] I'm not sure that that's a good thing because the engagement piece of it [for] a lot of the students isn't there."* A participant in the K–12 out of school focus group explained, *"I've rescheduled so many programs…even now that schools are back in session, the teachers are not willing to take on programs outside of school. They're so frustrated with the academic levels of the students and the parents complaining about everything that they don't even want to do things for their kids after hours."* Finally, during three focus groups, grantees discussed how difficult it was to recruit participants or beneficiaries into new cohorts of their grant programming, even after returning to "normal" operating procedures.

COVID-19 Impacts on Organizations and Institutions

"Our programming is [still] heavily dependent online. You go to the college now and what used to be 4–5 parking lots that were completely full, there's absolutely nobody. It just breaks my heart."

— Community and technical college participant

"In terms of mental health of the staff at the districts, we're still definitely feeling the impact of [the pandemic]."

— High school – career and technical education participant

"I would say students and teachers were the hardest hit by the pandemic of just about anybody other than frontline workers. Our schools especially were closed for a lot of time. And so, learning loss was huge and we are just now getting back to where we were at the beginning of the pandemic. So, we've lost 2 years, basically."

— High school – general programs participant

4.4 Summary of Sustainability Efforts and Challenges

Three-quarters of survey respondents (75%) reported that their grant-funded program was still continuing in some capacity at the time of the follow-up survey (75%). Grantees who used funding to secure new equipment or technology had higher rates of sustaining their grant project (91% for only equipment and 81% for equipment and operations) than those who used funding exclusively for construction or operations (both 71%), perhaps because the technology or equipment had become embedded in organizational systems or programs, promoting greater ease of sustaining.

Survey respondents reported that successful sustainability was supported by local support for the project (80%) and local partnerships (78%), although perceptions of supportive factors varied by grant and project characteristic. For example, just 48% of those from institutions of higher education reported that hiring or retaining quality staff was important or very important to sustainability efforts compared with 73% of independent school districts who reported the same.

Grantees represented by survey respondents also reported many challenges to sustainability, particularly a lack of access to additional financial resources (39%), experiencing a disaster such as the COVID-19 pandemic (38%), a weak labor market (30%), and a lack of needed materials or equipment (30%). In looking specifically at impacts related to the COVID-19 pandemic, survey respondents indicated that they most frequently struggled with limitations in providing services or content in person (92%), transitioning content online, and trying to support beneficiaries who were unable to access online content (both 73%). As a result of the pandemic, grantees responded by making numerous project adjustments, including offering more services online (48%), providing training for staff to deliver content online (40%), and assisting beneficiaries to receive content online (35%); all changes that a majority planned to continue.

5. Conclusions

Between 2015 and 2019, 383 of ARC's education and workforce development projects closed, representing an investment of more than $62,500,000. In examining extant data from ARCnet, an online survey completed by 184 grantees, focus group discussions with 26 grantees, and 10 in-depth case studies, this evaluation was able to provide an overview of the full grantee portfolio, describe grantee performance related to performance measures and implementation success and challenges, learn more about project beneficiaries' experiences and outcomes, and reflect on common challenges to project sustainability as well as the impact of the COVID-19 pandemic.

ARC's investment has served at least 510,765 individual beneficiaries as well as 3,157 businesses, communities, or organizations. Additionally, 4,572 new jobs were created. Projects serving individual beneficiaries expected to see improvements related to participants' educational outcomes and workforce outcomes (76% and 65%, respectively). More specifically, nearly half of survey respondents reported working to increase beneficiaries' access to resources/technology (47%), followed by improving vocational/technical skills of beneficiaries (30%), or supporting beneficiaries in securing new employment (29%). While working toward these outcomes, grantees indicated that beneficiaries faced common barriers across grant projects, including lack of transportation (29%), lack of time (27%), lack of information about the opportunity (25%), and lack of childcare (21%).

Three-fourths of grantees (76%) had met all or some of their performance measures by the time of the follow-up survey, with measures related to improving communities or organizations, serving students, or improving students' performance the most likely to be met. Across all survey respondents, having both local support for the project and local partners who support the grant throughout the duration of the project was considered most integral to implementation success (76% and 73%; respectively).

And yet, grantee success as defined by both achievement of performance measures and successful implementation efforts varied based on grant and project characteristics, leading to a mixed picture of portfolio success. Independent school districts (74%) were far more likely to meet all of their proposed performance measures than other types of grantees and projects focused on educational achievement or attainment were more likely to meet all of their goals than were projects focused on workforce/teacher training (57% versus 22%, respectively). Grants leveraging funding for equipment and operations were more likely to meet all of their performance measures than did grants classified as construction (54% versus 25%, respectively). In addition, school districts responding to the survey were the most likely to report that their project was mostly or entirely successful (92%) while state or local government agencies were the least likely to believe the same (62%).

Three-quarters of survey respondents were still sustaining their grant-funded program in some capacity at the time of the follow-up survey (75%), although many reported challenges in doing so. Chief among those was a lack of access to additional financial resources as well as the impact of the COVID-19 pandemic. Many of the initial challenges brought on by the pandemic had been overcome, primarily through increased capacity for online service delivery as well as a lifting of in-person pandemic restrictions. Yet a majority of grantees who reported making changes to their project because of the pandemic also reported planning on continuing with those changes, such as offering more content online. Perhaps more troubling are the lingering challenges associated with the pandemic that were discussed by focus group participants, including challenges engaging beneficiaries in content or activities, difficulty recruiting beneficiaries, diminished capacity of partners, and challenges getting participants to engage in in-person activities.

6. Recommendations

Through this evaluation, ICF examined data from ARC education and workforce development grantees' grant award and implementation period and gathered direct feedback from grantees and beneficiaries related to grant implementation, sustainability, reducing inequity, and the COVID-19 pandemic. In looking across the findings from this evaluation, four categories of recommendations to improve grant-making and grantee support emerged.

6.1 Pre-Award Improvements and Enhancing Early Grantee Support

This first category of recommendations draws on data from extant grantee data, the grantee survey, focus groups, and case studies and provides actionable steps ARC can take to improve pre-award support to potential grantees as well as support to awarded grantees during early implementation.

Recommendation 1.1: Increase Awareness of ARC Funds

States vary in how they allocate their overall ARC Area Development funding, in accordance with their own state strategy statements and funding priorities. This was reflected in the variation seen in the number of education and workforce development grants that were awarded across each state during the evaluation period. At the same time, 58% of survey respondents from across the region reported that a lack of awareness of ARC funding opportunities was a barrier for potential ARC grantees, and participants in focus groups shared wide-ranging perceptions about how well known ARC funding was in their area.

In response to these findings, ICF recommends that ARC staff work with state program managers and LDD staff to increase awareness of ARC funding opportunities as appropriate. In particular, states wishing to increase their share of education and workforce grants can work with ARC staff to make additional efforts to support applicants in that space or connect them to other competitive grant opportunities. This may include reevaluating listservs that receive calls for application; leveraging new community partners to share opportunities; holding public webinars in advance of application deadlines; or other local or regional strategies.

Recommendation 1.2: Promote the Use of Project Directors

Grantees across all categories and throughout focus groups and case studies reported that hiring quality staff contributed to implementation success. In particular, 71% of all survey respondents indicated that hiring quality staff was important or somewhat important to successful implementation, and this rose to 75% for grantees who were independent school districts and to 81% for workforce training programs.

Based on this finding, ICF recommends that ARC develop a recommendation or requirement in grant application forms that projects have a designated project director (either part-time or full-time) to support early program implementation success. Of note, grantees reported that even a part-time project director was helpful in managing grant requirements and project implementation.

Recommendation 1.3: Address Financial Challenges Faced by Grantees

Throughout focus groups and case study interviews, grantees reported various financial challenges related to ARC grants. These included difficulties in waiting for quarterly reimbursements among smaller organizations, finding other sources for matching funds, and having staff availability to navigate the financial reporting requirements. Six

percent of survey respondents also indicated that the financial reporting requirements of their grant were unclear or very unclear and 65% reported that a lack of experience with grants—including navigating grant funding—was a barrier faced by potential ARC grantees.

In light of these challenges, ICF recommends that ARC take several steps to better support grantees and potential grantees navigate their funding:

1. ARC can better publicize available funding supports for nonprofits or small organizations, particularly reduced match rates for distressed counties and the availability of advancements in funding. This may include clearer descriptions of the process to receive advancements during pre-award technical assistance sessions or targeted technical assistance to build grantees' capacity to manage funding up front.
2. ARC should explore the feasibility of allowing all grantees or nonprofits to bill on a monthly basis.
3. ARC can develop a brief resource guide to support grantees in pursuing matching funds during their application phase or additional funding after grant close. State program managers and LDDs can help tailor this for specific states or regions and this guide could include lists of types of organizations grantees could contact for support, such as local foundations and regional businesses, or relevant federal grants that may be of interest to ARC's portfolio.

Recommendation 1.4: Continue Existing Support

Nearly all grantees across focus groups and case studies expressed high levels of gratitude and appreciation for ARC support, technical assistance, and communication, with grantees reporting such comments as:

- *"The project coordinators have been wonderful. [They are] very understanding and the reminders that we got to submit reporting and such are so [helpful]."* — Workforce – individualized programs participant
- *"I would like ARC to know how thankful we are for the funding that is available. We've been able to start many, many programs just because of the ARC funding. It would've been very difficult to do otherwise."* — High school – general programs participant
- *"ARC funding has been transformational here, at the main campus, at that facility, in the county as a whole … I think for rural economies or those who qualify for ARC funding, it's just transformational."* — Community college case study participant
- *"With ARC, my experience has been that they are collaborators. They want to understand if things go wrong, what went wrong and are there any things that could've been done differently that they can use for future grantees."* — High school – career and technical education participant
- *"I really feel like ARC wants to help you. Whereas sometimes with other funds … you feel you really have to pull teeth to get them to listen, [instead] I think ARC is very responsive to our needs."* — Workforce – individualized programs participant

Aligned with these qualitative findings, more than nine out of 10 survey respondents reported that pre-award technical assistance provided by ARC was helpful or very helpful (93%) and that communication with their ARC project coordinator was helpful or very helpful (92%).

ICF recommends that ARC continue to allocate ample staff time to provide grantees with this flexible, personalized support.

6.2 Ongoing Grantee Support

Drawing on findings from extant grantee data and the grantee survey, this category of recommendations focuses on areas where ARC can enhance ongoing support to existing grantees.

Recommendation 2.1: Allot Time for Targeted Support

Results of this evaluation suggest that several categories of grantees may need additional support throughout the life of their grant to meet their performance measures in a timely fashion. These include career and technical education grants, grantees from institutions of higher education, construction projects, and grants seeking to create businesses and/or serve workers. In addition, grantees reported numerous lingering challenges and lasting changes stemming from the COVID-19 pandemic that may continue for years to come, including difficulty recruiting and then engaging beneficiaries, diminished capacity of partners, and a continued reliance on online services and program delivery.

ICF recommends that ARC consider establishing more robust interim check-ins or interim analysis to determine which grantees are lagging behind or having difficulty navigating post-pandemic challenges and may need additional support. This information can then be conveyed to state program managers and/or LDDs who may be able to reach out and provide additional logistics or project management support in a more localized context or directed to potential communities of practice who could offer examples of successful strategies or potential supports (see Recommendation 4.1).

Recommendation 2.2: Expand Efforts to Follow Up with Grantees

Despite robust efforts to contact grantees for this evaluation, a large portion of the portfolio was not able to be reached due to outdated contact information, defunct websites, and staff transitions. This was likely exacerbated by the many workforce instabilities resulting from the COVID-19 pandemic but taking steps to secure current contact information would benefit subsequent similar analysis.

ICF recommends that ARC build on their emerging efforts to conduct 3-year post-close surveys of grantees by expanding that to their full portfolio of grantees. In addition, ARC could add a line item in the final report outline for grantees to include the name and contact information for at least one additional contact at their organization who can speak to the work of the grant. Brief outreach could then be conducted 6-, 12-, and 24-months after grant close to confirm that the contact information on file is still valid and provide updates in the grants management system if staff have transitioned.

6.3 Encourage Advances in Equity

This evaluation collected information through focus groups, case studies, and the grantee survey about grantees' existing work around advancing equity as well as grantee perceptions about what they would need in order to report equity efforts to ARC. Thematic findings from across these data sources support this third category of recommendations for encouraging advances in equity among current and future grantees.

Recommendation 3.1: Improve Understanding of Regional Inequities

Throughout focus groups and case study conversations, some grantees focused on a narrow understanding of equity, relating it primarily to race, such as this participant in the high school - career and technical education group, who said, *"Racial equity isn't really an issue in our region because we don't really have any diversity."* Other participants served predefined populations and reported a belief that since they were not able to focus on

recruiting underserved or marginalized groups for their programs, there was not much they could do to advance equity.

Based on these themes, ICF recommends that ARC look for opportunities to educate their existing grantees about different types of equity as well as the various prevalent and persistent forms of inequity in the region. These could include panel discussions or roundtables at conferences; targeted webinar presentations about regional challenges with inequity or about strategies for promoting equity; statewide or individualized technical assistance made available to interested grantees; or future incorporation into capacity-building technical assistance modules within READY Appalachia.

Recommendation 3.2: Include Guidance About Advancing Equity in Grant Applications

Grantees in focus groups credited the thorough applications required by ARC with successful project implementation, such as one high school - career and technical education focus group participant who noted, *"The ARC application process makes implementation so incredibly easy because we pretty much have it all laid out before we get to it."*

ICF recommends that ARC build upon the strength of their existing grant application and review existing forms to look for opportunities to encourage or require grantees to report on which underserved populations they will be highlighting or including in their projects. For example, in the Executive Summary of the grant application checklist, ARC could add a bullet asking grantees to identify any underserved populations that will benefit from the grant or any efforts to advance equity, perhaps as part of the "Strategic Rationale" section.

Recommendation 3.3: Prepare for Additional Demographic Data Collection

Through the grantee survey, participants indicated the types of demographic information they currently collected from participants and what support they would need moving forward to collect more robust demographic data. While nearly two-thirds of grantees were already collecting data on gender and race, many other demographic categories were not routinely collected by grantees. For example, only 52% were collecting ethnicity data and just 31% and 21% respectively were collecting data on poverty status or household income. Just 29% reported they would not need any additional support to improve data collection, but the rest of the grant portfolio reported needing help through extra funding and technical assistance in creating data tools or analyzing/reporting data and/or determining the legal limits of data collection. Grantees representing state or local governments had the highest percentage of respondents indicate they would need some form of support in collecting beneficiary demographics—most commonly technical assistance in creating or using new data tools (38%).

Based on these findings, ICF recommends that ARC begin the process of building an infrastructure for collecting more robust demographic data about populations served to better understand how their funds are contributing to serving diverse/historically underserved populations in the region. In addition to leveraging the new grants management system to include capabilities to collect and analyze this data, this effort would likely also include technical assistance around data collection and reporting, adjustments to grant applications, and changes to interim and final reporting.

6.4 Opportunities to Enhance Peer Learning

Recommendation 4.1: Provide Opportunities for Peer Learning

Focus groups were segmented to include groups of similarly focused grantees. At the end of most groups, grantees offered to share contact information, pointed each other to project websites, or shared relevant resources with the group, suggesting a need for additional peer learning opportunities.

In light of this, ICF recommends that ARC adopt any of several strategies to enhance peer learning and connections, including the following.

- ARC can disseminate the case study reports created in this evaluation with relevant grantees to highlight common areas of success and challenge.
- ARC can provide and promote opportunities for peer learning circles at relevant conferences. This could include panel presentations, brown bag discussions over a meal, or roundtable discussions.
- Building off ARC's existing pilot of an online grantee community of practice, ARC could consider ways to meaningfully group education and workforce grantees into smaller communities of practice where grantees could offer community connections, share promising practices, build partnerships, and strengthen services to individuals across Appalachia.

Appendices

Appendix A – Case Study Reports

ARC Case Study: Garrett College Allied Health Program Expansion

Introduction

Established in 1966, Garrett College is a public community college in the town of McHenry in Garrett County, Maryland. The college serves approximately 5,000 students per year and offers associate degree, certificate, and continuing education programs in a variety of fields. This case study features the Garrett College allied health and emergency medical services program, which received $110,000 of Appalachian Regional Commission (ARC) funding in 2015 to build simulation laboratory space and purchase a simulated patient, "SimMan."

GRANT PROFILE

Grantee name: Garrett College
Grant title: Garrett College Allied Health Program Expansion
ARC project number: MD-18155
ARC funded amount: $110,000
Close date: March 2017

CASE STUDY METHODOLOGY

Garrett College participated in a case study of its allied health and emergency medical services program in July 2022 as part of a broader retrospective evaluation of education and workforce development programs funded by grants from the Appalachian Regional Commission.

This case study included:

- In-person site visit
- Review of program materials
- Discussions with:
  - 1 Dean
  - 1 Program Director
  - 2 Staff Members
  - 5 Program Graduates

Site Description

The westernmost county in Maryland, Garrett County is situated in the Allegheny Plateau, the highland zone of the Appalachian Mountains. With tall ridges and deep, narrow valleys, the county is home to several state parks, lakes, and forestland. Morgantown, West Virginia is approximately 40 minutes away and Pittsburgh, Pennsylvania, 90 minutes.

The county is home to nearly 29,000 residents, the large majority (97%) of whom identify as White.[1] The poverty rate is almost 13%, and the median household income is $54,542, compared to the national median of $64,994. Although 90% of adults 25 years of age and older have graduated from high school (compared to 89% in the nation at large), only 24% have earned a bachelor's degree (compared to a national rate of 33%). The industries employing the most people in the county are health care, construction, and education, and the highest-paying jobs are in mining and natural gas extraction.[2] Tourism is also an important component of Garrett County's economy, with skiing at the Wisp ski resort and New Germany State Park's cross-country skiing trail and swimming, boating, fishing, and camping available at Deep Creek Lake. During the COVID-19 pandemic, home prices in the county grew as new residents bought second homes or moved from cities such as Washington, DC and Baltimore.[3] Garrett County is designated as Transitional by ARC, meaning that it is transitioning between strong and weak economies.[4]

[1] https://www.census.gov/quickfacts/fact/table/garrettcountymaryland,US/PST045221
[2] See the DATA USA fact roundup for Garrett County: https://datausa.io/profile/geo/garrett-county-md
[3] Arbutus, J., & Logan, R. (May 20, 2021). https://www.baltimoresun.com/business/real-estate/bs-bz-home-sales-weakest-maryland-counties-20210520-zj2oddbe3zbdrnsli62pnyprzy-story.html
[4] https://www.arc.gov/distressed-designation-and-county-economic-status-classification-system/

| ARC Grant Purpose and Activities |

The purpose of Garrett College's ARC grant was to expand allied health training services at the college's Career Technology Training Center (CTTC) in Accident, Maryland. ARC funds enabled the college to make modifications to the CTTC site to add an allied health laboratory and purchase a simulated patient, SimMan. The new laboratory and SimMan were intended enable hands-on training for adults enrolled in allied health programs.

As the Dean of Continuing Education and Workforce Development explained,

> *"The program that prompted me to write the grant is our paramedic program… at the time the program was housed in an ambulance facility in Frostburg which is in Allegany County and probably geographically it would be the midpoint between the furthest point in Allegany and the furthest point west in Garrett. And so it worked well from that standpoint, it was centrally located. But they couldn't leave anything [training equipment] out. Because it was an ambulance company, at the end of class everything had to be put away. It wasn't a large space, probably the training area was as large as this room. So they did have cabinetry and things where they could [put] things away, but it just wasn't a great learning environment."*

The simulation space includes three small rooms located in an offshoot of a larger training room. Two rooms are designed to provide students with simulated clinical experiences with SimMan; one room resembles a living room to replicate the real-life environs in which students will work. The third room, situated between the two simulation rooms, houses an observation and control space for instructors, who program SimMan and video students as they "treat" the mannequin. Instructors can direct the mannequin to present an array of symptoms, providing students with opportunities to triage, assess, and perform interventions with SimMan.

View from the simulation lab control and observation room.

The training site and SimMan allow students to experience an entire simulated paramedic call. One staff member explained, students are "*given the jump pack and stuff that we have on a regular call and they're told, 'You've been dispatched to 3rd room back there for chest pain patient.' And they literally walk in and handle that call from beginning to end. We run 20-minutes scenarios…And then afterwards we debrief*." Another added,

> *"Basically from the dispatch and the call to the presenting the patient to the hospital, it allows that to happen. In terms of does it better prepare them to be in the field, absolutely it does. They have a process, if nothing else we've taught them the process. You do the assessments, you make the evaluation, you do the interventions. All the way down to the documentation phase."*

According to staff, simulations enable students to consolidate their skills and put them into practice. Said one staff member, "*One of the big things I think it adds, if you look at Bloom's taxonomy of learning, before it was difficult for us to get to the upward levels like synthesis and evaluation levels of that. Now SimMan gives us that ability to do that."*

As one staff member explained, "*It puts them into real life situations a lot easier than if we were just sitting here talking about a real-life situation."* Ultimately, ''*The more we can provide real life scenarios with SimMan and that technology, the more we set them up for success in the field with real life patients."*

SimMan also enabled staff to evaluate students in finer detail and to program SimMan to react according to the "treatment" students give him. One program staff member described it this way:

> *"With SimMan…we can put them in that room and actually give them a situation that they have to treat. From that if they're treating it properly, we can improve SimMan's response, right, then they can see that reflected on the screen [displaying vitals]…If they're not doing the right interventions, then we can make SimMan get worse up to cardiac arrest and then they have to perform that as well. We can take there and really teach them this is what I am doing and if I don't do it well this probably what's going to happen to my patient in the field and give them that knowledge and ability to make those corrections and next time they perform better*."

SimMan on sofa in simulation lab room.

According to staff and students alike, simulations with SimMan encourage automaticity. As one staff member said, "*Under times of stress you fall to the level of your training rather than rise to the level of your expectations."* Another explained further, "*You're underneath an overturned tractor trailer when it's 30 below zero with the wind chill, you revert back to that instinct. And that allows us to begin developing the instinct that we wouldn't have had without it. We can sit here in the classroom all day long. And I can say to [a student], 'Stand up and tell me about [it]', but that has nothing to do with going in there and performing the skills.*"

Program graduates described their first simulations as "terrifying," "creepy," and "stressful." One student reported that the first simulation in which she participated "*totally destroyed my confidence."* But all interviewed gradates agreed that the experiences were formative, with successful simulations improving their ability to think clearly and respond appropriately. Said one graduate, "*By the end of 4th semester, we literally were doing SimMan, like, every single week. And it felt a lot more natural." Another reported, "We go through so many scenarios, which is great…SimMan really gave us the option to put hands on…So it really helps going into our practicals." The graduate added she still hears her instructors' voices in her head encouraging her to "put your hands on, don't verbalize it, do it."*

The ability to offer students simulations enables the college to ameliorate a rural capacity challenge—the availability of particular clinical experiences while students are enrolled in the program. Explained one staff member, "*We're really limited here as you can well imagine. You saw [how] rural we are. The students are required to do clinical experiences but they can't always get… pediatrics is a hard one. There aren't a lot of pediatric cases. So we do have the junior simulator as well. It's not real life clinical but they at least get some experience of developing those skills."*

Findings

Implementation

According to project records, the project was implemented successfully throughout the grant performance period. Staff reported few challenges to implementation. One interviewee noted that the largest challenge was "*that work was done internally, so our facilities team did the construction of the Allied Health Lab. And just because of competing priorities it took longer, as I recall, than what we expected.*"

Garrett College Career Technology Training Center housing the simulation lab and SimMan.

Program graduates cited a few implementation issues with SimMan that were technical in nature, including difficulty finding a pulse on the mannequin. Staff and graduates likewise noted that learning to use SimMan took time. Staff, for instance, required time to become comfortable with programming the mannequin. Becoming accustomed to the stress accompanying simulations with SimMan also took time, but graduates recognized that this adjustment was part of the point of simulation experiences:

> Graduate 1: *"I think we all hated sim labs? They were the worst."*
>
> Graduate 2: *"Yeah, but not for the reason that you think like as in like we hated the SIM. It was more like it actually put us under the pressure of hands on what would have been real life compared to just talking verbally like this where you know, you mess up, it's easy."*

Early implementation proved successful. Garrett College had proposed to enroll 28 students in its emergency medical services and allied health programs following simulation lab construction and SimMan purchase. In fact, the college enrolled 99 students in such programs. The Dean of Continuing Education and Workforce Development reported early concerns that students from the edges of the college's service region might not travel to the new site. Ultimately, however, she said, "*we found it didn't make that much of a difference. There were rumblings, but once the students saw their space and how nice it was. And [the] simulation mannequin that we were able to purchase and the simulation lab, they were sold.*"

Sustainability

Garrett College sustains the program through revenue from tuition, fees, and ongoing support from Garrett and Allegany County governments. Not only do such monies support faculty and staff time to operate the program, the funds also help with the purchase of SimMan updates and instructional supplies. SimMan maintenance is an ongoing expense, with preventative maintenance costing more than $5,000 per year for software updates and replacement of the mannequin's IV arm. Said one staff member, "*that's a pretty good chunk of change to add into your normal budget for the year. So with that being said, we don't do it every year. We kind of schedule it as we can.*"

The long-term sustainability of the program is also supported by national accreditation. As one staff member explained, the ability to offer simulation throughout the program enabled the program to meet relevant training standards. In fact, the accreditation process contributed to Garrett College's grant plan: *"We were going through the accreditation process of the program, and we knew that having it where it was probably wasn't going to cut to the standards they were looking for. So that's been another really great asset is having a great facility. It is a nationally accredited program, so that was really the driving force of it."*

Students treating SimMan during a simulation exercise.

Staff are proud of their new most recent accreditation results. Said one such interviewee, *"We have to meet the same standards as say the University of Texas, and UT turns out over 200 paramedics a year. The last accreditation cycle we went through with absolutely no citations and no reports due. So basically we had 100% on the test, which is a big accomplishment."*

Accreditation in turn has improved the program's reputation. According to the Dean, cohorts consistently include 25 to 30 students. Many graduates work in the region, and others have gone on to more advanced work. As one staff member put it, *"I've always said the top accomplishments of our program are our students…We've had multiple students…that have become flight paramedics. The national registry organization that we keep talking about right now, the Executive Director, the guy that heads all that for the nation, came through our program."*

Another staff member noted that recruiters sought program graduates, an unusual circumstance for such a small and rural program:

> *"We had a recruiter from Arcadia Ambulance Service which is out of Baton Rouge LA and they're huge. They have multiple aircraft, both fixed wing and helicopters they put in motion for the paramedics on the oil rig on the Gulf of Mexico. She called and wanted to know if she could come present to our class. I said to her do you know where we are?!? So she flew in to talk to the class about possible jobs with Arcadia, so we have a very good reputation outside the local area as well…. Our reputation has spread, and that support is instrumental."*

Originally a non-credit program, the paramedic training program now offers students the opportunity to earn college credit. A two-year, part-time program, the college determined it to be worth 30 credits. When students complete those hours, they are then eligible to receive a certificate.

Only one staff member reported a concern about the program's sustainability: *"The one concern I have is they have to be an EMT before they can apply for… well before they start paramedic class. The pool of EMTs in this region, I feel like it's getting smaller, and smaller, and smaller."*

Equity

In general, interviewees did not think that the program took deliberate steps to ensure equity. One reported that equity was not a program focus because *"we do not have a lot of diversity in Garrett County."* Instead, this interviewee cited gender as a more relevant dimension of difference, noting that the percent of women in the program had increased over time:

> *"I can tell you when I first was in this job, most of the paramedic students were male. There were not many female students at all. I have definitely seen that shift….I can tell you we did a little graduation ceremony this year for [students]. And both speakers because of highest grade point were both female. So I think they're excelling."*

This increase in women students may not be the result of program design, however, but rather of changes in the paramedic profession itself. Although many EMTs and paramedics are engaged by communities on a volunteer basis, an increasing percent are paid positions. As one interviewee explained, *"I think the paid component has made a difference. Because it's often harder for women to volunteer because they have other responsibilities. Now it's a paid opportunity, I think that's part of here, why we're seeing that [increase in female students]."*

Another staff member reported that the schedule enabled EMTs to plan their program participation, when asked how the program promotes equity: "*That's a hard question to answer. I think there's a predictability in the schedule. So it's Tuesday/Thursday for the entire two years. So from a scheduling perspective if you are a provider already you can make sure your schedule will accommodate that."*

Two interviewees said that equity was not a program consideration in any respect. As he put it, *"It has no bearing on what we do whatsoever. We're required to treat everybody regardless of race, religion or sex. So everybody here is trained in that concept that you have to treat everybody the same. And anybody who would want to take the class is welcome to take the class. I don't think it's even a consideration to be honest with you."* The other such interviewee put it this way: *"DOT is what sets the standards to become a paramedic, that's not just here, that's everywhere obviously, so we teach to those standards. And there's nothing else that we do different except teach those standards."*

COVID-19 Pandemic

In response to the COVID-19 public health crisis, Garrett College's paramedic program pivoted to offering lectures via a virtual meeting platform. The program also transitioned to the use of Blackboard, an online learning management system that, prior to the pandemic, had not been used by programs on the non-credit side of the college.

Faculty and staff altered their curriculum schedule as well. As one interviewee explained, *"Lecture-wise we ended up switching to online when we could, but that has its limitations from the skills you had to do because you can't do skills online. So our schedule, we flip-flopped a lot of stuff. Moved a lecture up where we could do it online. Kept skills for later on when we could come back in person. We never shut down, we made it work… it was week to week."* Said one staff member, *"we were trying to keep [students] moving so that they would be ready to go to clinicals whenever the time came."*

Scheduling clinical experiences in the field was even more difficult: *"Clinicals were challenging. We wrote off some of our clinicals because we couldn't get in the hospitals and stuff to do the clinicals."*

Simulation experiences were delayed until later in the Spring 2020 semester. One staff member reported, *"We were able to still meet in person because we were training essential workers so we could still do the labs, but obviously very limited and had to have open space."* Another said, *"So [students] would divide up, come in like 5 at a time, and they'd do their skills and he had it staggered so they could all get in and get what they needed to do."*

Ultimately, these efforts paid off. Said one interviewee, *"We didn't lose anybody during that time, nobody quit."*

The team intends to continue implementing some of the changes resulting from adaptation to the COVID-19 pandemic. One staff member noted that conducting some instruction via video conference benefitted students: *"For instance with the cost of gas we can flag certain nights where the students don't have to come here, because it's a lecture that doesn't necessarily have to be in person."* In addition, because video conferencing platforms supports recording, *"we're going to continue to record our sessions and library them. So even if a student who has been through that section wants to review it next year, they can bring it up on their computer."*

Garrett County in general, according to interviewees, weathered the pandemic well. Infection rates were lower than in many places. Staff also reported that county population grew*: "We didn't see a downturn, it increased because everybody came here. They all worked from home and when they could do that they came here and stayed at their second home and made it work."*

Implications

Only one interviewee had direct engagement with ARC program officers, but she reported that *"all of the project managers that I've worked with have been wonderful, very accommodating. Especially if things don't go exactly as you had planned. So modifications or extensions or anything like that."* She offered only one recommendation, suggesting that the ARC reporting system provide users with progress notifications about what information had been entered and what information was required but not yet entered.

But all interviewees agreed that the ARC grant supporting the construction of simulation lab space and the purchase of SimMan was extremely helpful. As one put it, *"ARC funding has been transformational here, at the main campus, at that facility, in the county as a whole. I know there have been a lot of infrastructure in the towns and business parks and things that the county has leveraged. I think for rural economies or those who qualify for ARC funding, it's just transformational."* Another Garrett College team member added, "*My big thing with Garrett College is this would've never happened without that [ARC funding]. We could've tried to put it in as a capital project at some point in time. Again at the time like I told you the paramedic program, the majority of the college didn't know we existed. So I am pretty sure they weren't going to be setting aside a bunch of money for us. So just the obvious fact that we would not have this without that funding."*

ARC Case Study: Blue Mountain (MS) College: Vision 2020

Introduction

Blue Mountain College (BMC) is a private, non-profit, 4-year Baptist college in Blue Mountain, Mississippi. The college serves approximately 900 undergraduate students per year, with about half enrolled full-time. This case study highlights BMC's Vision 2020 project, which began in 2016 with ARC funding to enhance the quality of educational attainment in the region.

GRANT PROFILE

Grantee name: Blue Mountain College
Grant title: Blue Mountain College Vision 2020
ARC project number: MS-18515
ARC funded amount: $240,000
Close date: February 2019

CASE STUDY METHODOLOGY

BMC participated in a case study of Vision 2020 as part of a broader retrospective evaluation of education and workforce development programs funded by the Appalachian Regional Commission. This case study included:

- In-person site visit
- Review of program materials
- Discussions with:
  - 5 College Leadership staff
  - 2 College Staff
  - 3 current students
  - 1 former student

| Site Description |

Blue Mountain, Mississippi is a community that settled around the College, after its founding in 1873. Situated in Tippah County, on the northern Mississippi border, the town had just 954 permanent residents in 2022. The broader county of Tippah is one of 10 counties created by the Chickasaw Cession (also called the Treaty of Pontotoc Creek), which ceded 6 million acres to the United States. Tippah County comprises roughly 460 square miles and is home to around 21,000 residents (Table 1). The county has numerous industries including manufacturing, agriculture, healthcare, education, and construction, although is categorized as economically "at-risk" by ARC, meaning they are at risk of becoming economically distressed.[5] According to the state's Chamber of Commerce, there are ongoing efforts to encourage business startups in the county.

In 2020, the poverty rate in the county was 6.9%, substantially lower than the 18.7% rate across the state. However, the percentage of county residents 25 years and older who graduated from high school (78.3%) and those with a bachelor's degree or higher (13.9%) were both lower than the statewide rates of 85.3% and 22.8%, respectively (Table 1).

| ARC Grant Purpose and Activities |

In 2016, BMC applied for and received $240,000 of ARC funding to help execute their comprehensive Vision 2020 strategy. This involved using grant funding to improve student learning, redesign courses, improve technology infrastructure on campus, and increase resources to the Teaching and Learning Center (TLC) on campus. Student learning goals included enhanced student learning and collaboration across all curricular areas, improved critical thinking skills, and increased success in team environments.

[5] See how county economic levels are determined by the ARC: https://www.arc.gov/distressed-designation-and-county-economic-status-classification-system/

Similarly, there were faculty and staff goals to support the student learning goals through redesigned courses and the implementation of processes rooted in evidence-based practices.

Table 1. Regional Demographics[6]

Indicators	Mississippi	Tippah County
Population Estimate 2020	2,949,965	21,819[7]
Per Capita Income 2016–2020	$25,444	$18,818
Median Household Income 2016–2020	$46,511	$37,894
Persons in Poverty 2022	18.7%	6.9%
Race: White	58.8%	80.8%
Race: Black	38.0%	16.8%
Households w/Computer 2016–2020	86.5%	81.4%
Households w/Broadband Internet	75.8%	65.3%
High School Graduate* 2016–2020	85.3%	78.3%
Bachelor's Degree or Higher* 2016–2020	22.8%	13.9%
Civilian Labor Force 2016-20**	26.8%	54.7%
Pop. Per Square Mile 2020	63.2	47.6
County Economic ARC Rating Status 2022 (3 – Distressed Regions)	–	At-Risk

Note. *Persons aged 25 years+; **Population age 16+

First, faculty from BMC designed and delivered on-campus professional development workshops for 30 educators and administrators spanning preschool through 12th grade. These customized workshops helped to provide a framework and research-based strategies for building a seamless approach to student readiness for the next level of learning. In addition, leveraging grant funding, college instructors redesigned 70+ courses to engage students in the learning process through various interactive teaching strategies. In approaching course redesign, BMC implemented the Significant Learning Model.[8] By June 2020, 139 courses had been redesigned, which represented 68% of the college's total courses. During the project period, 1,957 students were served through the TLC and redesigned coursework and 284 teachers and administrators participated in professional development workshops.

ARC funds also helped support the purchase of computers and upgrades to student learning management systems utilized in the TLC. Finally, to support and increase retention rates, all students enrolled at BMC were given access to the enhanced TLC where they received soft-skills development and tutoring sessions, at no additional cost.

BMC Technology Learning Center (TLC).

Findings

Implementation

Prior to receiving the grant, the campus technology deficits were significant and frequent, ranging from network accessibility to bandwidth and management issues. The Chief Information Officer shared, "*before the grant, the campus technology infrastructure struggled to support the number of devices being connected to their*

[6] Data sources: Rows 1-12: https://www.census.gov/quickfacts/fact/table/PA/PST045221; Rows 13: https://data.arc.gov/data (County Economic Status Classification)

[7] https://www.census.gov/search-results.html?searchType=web&cssp=SERP&q=Tippah%20County,%20Mississippi

[8] Based on L. Dee Fink's 2013 book *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses*.

network." Students, faculty, and others often bring multiple devices to campus—which was described as a drain on the college's outdated infrastructure before the grant. The CIO explained, "*It's not uncommon to see students come in with 6–8 devices that need network access, not to mention Smart TVs, Roku, Apple TV, Apple Watches … and iPhones…Let's say we have 500 students on campus, at one time that would mean 500 devices; now that multiplies into 3,000–4,000."*

The Vision 2020 grant funds were used to update all components of the BMC technology infrastructure, creating more dependable access for all users. During the upgrade processes, the BMC CIO and other specialists worked alongside the installation team and learned how to troubleshoot problems when they occurred in the future. Reflecting on the change, the CIO noted that call center now receives 60–65% fewer calls and described that as a conservative estimate. In his words, there was a "*drastic decline*" in support calls related to technology on campus.

Multiple faculty and staff members were interviewed, including the BMC president, provost, chief information officer, chief financial offer, director of the Teaching and Learning Center, vice president of Enrollment Services, and coordinator of Student Success and Career Services, and *all* reported significant improvements and positive experiences for themselves and students across all aspects of the Vision 2020 implementation.

In addition, all of the students interviewed had positive comments about their Vision 2020 experiences. The students and alumni interviewed had several different majors and professions: an undergraduate elementary education major, a graduate with a master's degree who is now a BMC IT employee, an integrative physiologist with the goal of working with the aging population, and a student who will work in a church ministry. Students who were on-campus prior to the Vision 2020 grant award shared their technology issues before grant funding, describing their problems and frustration with trying to use the campus internet. Some of their comments related to connection failures, slow speeds, and connection problems, "*especially in dorm rooms."*

Reflecting on changes that resulted from the grant, students had the highest praise for the TLC and the resources it provides to all students. Several types of uses were mentioned, including that it is a good place to study, to get tutored or be a tutor, for small group meetings or study sessions, and to find a peaceful atmosphere. Other student comments described going to the TLC for tutoring and knowing students could get help without any negative associations related to poor test grades or feeling discrimination.

Sustainability

The technology upgrades enabled by the grant are still in place. With the upgrade, BMC was able to join a consortium of other universities to gain access to additional online coursework and programs of study (majors) through these partner colleges and universities. For example, BMC is now offering a computer science program and an actuarial science program through other institutions in the consortium. This consortium partnership has also enabled a local partnership to develop with Big M trucking, a business local to Blue Mountain. After learning that the company was looking to provide their employees with more knowledge about the supply chain, BMC was able to leverage a program offered through the consortium to provide local employees with needed training. One participant explained, "*[The consortium] opportunity has allowed us to connect with our community in different ways… which is all based on our having the technology to be able to do this."*

In addition, having the foundational technology infrastructure in place has also enabled BMC to launch a nursing program and cyber security courses. One staff member explained, *"so it's all technology. All those simulators, those fake people lying down there in those hospital beds - If we had not had the infrastructure we could not have done this. So it was just an extension of what we already had."*

Use of the TLC and available tutoring supports continued to increase during the life of the grant and into sustainability. BMC staff shared data related to the use of TLC resources over a 5-year period; the number of tutor sessions in 2015–2016 was 553 and TLC attendance was at 2,270 participant visits. By 2019–2020, there were 924 tutor sessions and attendance was at 6,700. Current undergraduate students who participated in case study interviews shared that they were very satisfied with the technology on campus. The TLC and its resources were seen as an important addition to BMC, enabling structured tutoring opportunities, student research, dependable technology, and tutor resources to help them succeed.

Equity

When asked about the top two or three accomplishments from the Vision 2020 grant, the chief information officer responded that the top accomplishment was the quality of the "*core infrastructure of the network*" because *it impacted everyone*. Classroom technology and use would be the second "top accomplishment" from his perspective. The benefits were campus-wide and had a positive impact on everything that is "*technology-associated*."

Additionally, after the conclusion of the grant in response to the Covid-19 pandemic, BMC began efforts to provide digital access options for all adopted textbooks to help support student learning and reduce the cost of printed materials. Ultimately, out of the 169 adopted textbooks, 131 were offered in a digital format by the college and just 38 were only available in hard copy. This work was supported by a subsequent ARC grant to BMC as well as federal Covid relief funding. Having affordable learning materials was described as a game changer for many students and helped to remove a barrier to success.

COVID-19 Pandemic

Because the Vision 2020 grant start-up was awarded before the pandemic, supply-chain delays and elevated costs did not affect the acquisition of materials. Calling the ARC grant a "game changer," the chief information officer said it would have been a very different situation had BMC received this grant during the pandemic—the delays would have been significant, and the scope of work would have changed. After a brief closure to pivot to online instruction, BMC did not have to "stop teaching students." BMC instruction and interactions with students were delivered virtually and the semester progressed in the new format. However, one case study participant highlighted the challenge of technology access for students once they were no longer on campus noting, "*it was still interesting even though we had all the technology infrastructure, the communities around necessarily did not and so for those first semester spring of '20 I guess… we really had to work to help our students. Because they didn't have the infrastructure when we did.*"

Fortuitously, BMC already had plans in place to cut textbook costs by providing digital materials (discussed more under Equity) and providing all full-time undergraduate students with a free iPad equipped with learning support applications, a management system, and "*all course textbooks and other*

learning resources." By Fall 2020, the first full semester of the Covid-19 pandemic, 518 iPads were distributed to students. This enabled classes to continue online as needed during the 2020-2021 school year, although many classes resumed in-person instruction throughout the year.

Implications

Interviewed faculty and staff reported that BMC's enrollment is increasing. Many participants credited this in part to ARC's investment in the college. Staff members shared comments including:

> *"I cannot tell you how wonderful the ARC grants have been for us, because I dare say we have as good a technology system as any institution anywhere."*
>
> *"We are a small private liberal arts institution in a rural community. And I think sometimes people might come on to our campus, guests and prospective students and wonder whether what we have to offer is on par with what they would find other places. I think they come and they walk away saying absolutely. Our technology is… as good as we could possibly provide for our students. And the ARC grant has contributed mightily to that standard."*

In addition, the popularity of the TLC may soon require an increase in the amount of space and resources needed to serve more students. Throughout case study discussions, it was evident that BMC's foremost emphasis is on student support for success and that staff and faculty attributed ARC funding as contributing to that success.

ARC Case Study: North Central Workforce Development Board (PA)

Introduction

Set near the Allegheny National Forest and surrounded by Pennsylvania's Elk County, the North Central Workforce Development Board[9] (NCWDB) in Kersey, PA, operates the Business Education Connect Initiative.[10] The NCWDB focuses on five goals:

1. Enhance public-private partnerships
2. Engage in sector strategies of growth industries
3. Design innovative workforce development strategies to reach young adults
4. Identify career pathways in major industry sectors
5. Ensure customers (both employers and job seekers) remain in the center of service design[11]

Site Description

Located in mountainous northcentral Pennsylvania, the NCWDB serves six primarily "Transitional" economic status counties (transitioning between strong and weak economies): Cameron, Clearfield, Elk, Jefferson, McKean, and Potter.[12] The largest industries in this area include manufacturing, health care, construction, and education.[13] These rural counties are home to about 215,000 residents, the majority of whom are white. The population per square mile ranges from 12 (Cameron) to 70 (Clearfield), with poverty and unemployment rates similar to the state averages of 11% and 5%, respectively. For people 25 years old and up, nearly all are high school graduates; however, the average of those with bachelor's degree or higher across the counties (16%) is roughly half of the state total of 32%. A summary of the region's demographics is shown below by counties served, along with state demographics as a point of comparison.

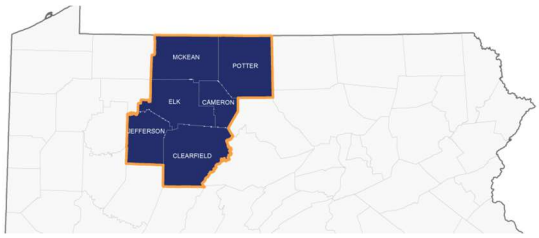
GRANT PROFILE

Grantee name: North Central Pennsylvania Regional Planning and Development Commission
Grant title: North Central Business and Education Connect
ARC project number: PA-17941
ARC funded amount: $108,000
Close date: August 2017

CASE STUDY METHODOLOGY

The NCWDB participated in a case study of their Business and Education Connect Initiative in July 2022 as part of a broader retrospective evaluation of education and workforce development programs funded by grants from the Appalachian Regional Commission (ARC). The case study included:

- An in-person site visit
- Review of project materials
- Observation of student activity
- Discussions with 2 project staff, 2 partner staff, and 16 students



Six-county region of PA served by the NCWDB.[1]

[9] Originally named the North Central Workforce Investment Board, this entity was renamed the North Central Workforce Development Board in July 2015. For continuity, the NCWDB nomenclature is used in this case study: https://workforcesolutionspa.com/about-us/

[10] This was known as North Central Business and Education Connect when funded by the ARC.

[11] See the NCWDB "About Us" page: https://workforcesolutionspa.com/about-us/

[12] See how county economic levels are determined by the ARC: https://www.arc.gov/distressed-designation-and-county-economic-status-classification-system/

[13] See the DATA USA fact roundup for these counties: https://datausa.io/profile/geo/clearfield-mckean-elk-potter-cameron-counties-puma-pa#about

Table 1. Regional Demographics[14]

Indicators	Pennsylvania	Cameron County	Clearfield County	Elk County	Jefferson County	McKean County	Potter County
Population Estimate, July 2021	12,964,056	4,459	80,082	30,783	44,114	39,941	16,259
Per Capita Income 2016–20	$35,518	$24,379	$25,043	$31,333	$26,890	$26,635	$26,439
Median Household Income 2016–20	$63,627	$40,342	$50,150	$54,961	$49,604	$49,240	$47,696
Persons in Poverty 2021	11%	14%	14%	8%	11%	14%	12%
Race: White	82%	97%	95%	98%	98%	95%	97%
Households w/ Computer 2016–20	90%	86%	83%	86%	84%	87%	87%
High School Graduate* 2016–20	91%	91%	88%	93%	91%	92%	89%
Bachelor Degree or Higher* 2016–20	32%	11%	17%	19%	16%	19%	15%
Civilian Labor Force 2016–20**	63%	49%	53%	63%	53%	53%	49%
Pop. per Square Mile 2020	291	12	70	38	68	41	15
3-yr Avg. Unemploy. Rate 2017–19	5%	6%	5%	5%	5%	5%	6%
County Economic Status 2022		Transitional	Transitional	Transitional	Transitional	Transitional	Transitional

Note. *Persons aged 25 years+; **Population age 16+

| ARC Grant Purpose and Activities |

The Business and Education Connect Initiative was funded by ARC in 2014–15 to work with business and industry to provide career guidance for high school students. By partnering industry representatives with schools, the program aimed to improve awareness among Pennsylvania youth about career opportunities within the region as well as the education and skills needed for those occupations. The initiative included school districts, community education centers, chambers of commerce, economic development agencies, postsecondary providers, and community agencies. The goal was to facilitate partnerships with at least 25 local businesses and 11 other organizations.

Grant funds supported the work of two career counselors in the six-county region to serve up to 100 high school seniors throughout the year. To help youth and their families identify promising careers and map out the education and training pathways needed to attain them, counselors also organized and facilitated programs such as job shadowing, educator-in-the-workplace, mock interviews, classroom presentations, company tours, and postsecondary campus visits. Students worked with the counselors to develop career plans inspired by these experiences and activities.

[14] Data sources: Rows 1-10: https://www.census.gov/quickfacts/fact/table/PA/PST045221; Rows 11-12: https://data.arc.gov/data (County Economic Status Classification)

During the first 4 months of ARC funding in 2014, NCWDB staff met with area schools and attended meetings at which schools, businesses, and other agencies introduced the ARC grant and discussed intended goals and implementation plans. Staff began forming Business and Education Connect committees in each county and began holding kick-off events for each county. In November 2014, two career counselors were hired, and during December 2014 and January 2015, they were trained. An individualized career plan template was developed during the training process, along with other tools for use in conversations with students, such as interview questions and an interest inventory. In January 2015, career counselors began meeting with students, school personnel, employers, and staff from other community agencies and creating school schedules. In addition, high school seniors in one school district completed a survey in which they identified their career plans following graduation. Career counselors also began setting up meetings with those students who lacked a career plan or those who desired to meet with a career counselor.

During the second 4 months, career counselors continued working with Chapter 339 Advisory Councils in Clearfield and Jefferson County school districts; helped hold a Career Fair Scavenger Hunt; and worked with local colleges and employers to arrange job shadowing, college and company tours, mock interviews, assistance in completing job applications, and other relevant activities. Other project activities included the continued formation of Business and Education Connect committees in each county, renaming the North Central Workforce Investment Board as the North Central Workforce Development Board; and high school seniors in three districts completing a survey for identifying career plans.

CHAPTER 339

Pennsylvania requires all school districts to have a K-12 Guidance and Counseling Plan, as required by Chapter 339 Career and Technical Education (CTE) Standards. District Advisory Councils include representatives from multiple stakeholder groups:

- School counselors, teachers, and administrators
- Students
- Parents
- Business and community
- Postsecondary

Planning for sustainability began in the first 4-month period, with staff researching grant opportunities and submitting an application to the Pennsylvania Department of Labor and Industry for assistance in continuing and sustaining the ARC-funded program. A long-term goal focused on school districts providing funding for positions emerging upon completion of the first year of the ARC program. During the second 4-month period, the NCWDB received notice they were awarded the funding from the Pennsylvania Department of Labor and Industry to continue financing the career counselors for an additional 12 months after the ARC grant period. Further, conversations were being held with two career and technical centers to discuss the possibility of sharing costs to retain the career counselors in the future.

At the close of the first 8 months of ARC funding[15], the following outputs had been achieved: 44 businesses and 31 organizations were served (met with career counselors); and 333 high school seniors were served (met with career counselors), as well as 108 other students (in grades 8–11). In addition, the following outcomes were achieved: 5 businesses and 13 organizations were improved (had met with and been connected to students); and 93 students had improved (completed a career plan).

[15] Project staff were unable to locate the final 4-month performance progress report, so details for that specific period are missing from this brief summary of project activities.

Findings

| Implementation |

The NCWDB—in fulfilling its role in ensuring communities, schools, parents, and students know what occupations are in demand in the region, and the education levels required—secured ARC funding to support two career counselors to work with students and help them develop career plans and facilitate associated activities, such as job shadowing, career fairs, and career education presentations. As part of those efforts, the NCWDB partnered with Community Education Centers (CECs) serving respective counties within the six-county region so that services were not duplicated. Given various levels of collaboration across the CECs, the NCWDB primarily served students from Clearfield and Jefferson counties. "*Agency priorities*" were identified as the biggest challenge to such partnerships as well as CECs often "*looking to us as a funder of projects rather than a partner*."

The career counselors worked with 10th–12th graders identified by school guidance counselors, and those identified were primarily "*non-academic*" students who had not chosen to go to college or whom guidance counselors perceived as "*lost*." Project staff said it was challenging that they were limited to serving this specific group of students, and perhaps missing some students planning to go to college but who may not have career plans. A related school-based challenge was the limited flow of communication from administration to teachers. Project staff began reaching out directly to teachers instead of solely through counselors or administrators, which had "*a better outcome*," especially when focusing on science, technology, engineering, and math (STEM) or career exploration teachers.

One interviewee, a guidance counselor at a school served by NCWDB before, during, and after the ARC grant, said, "*There's been a lot of collaboration [with NCWDB] over the last 22 years. I consider them a real positive thing for our community to have. . .We have great kids; our kids go on and do great things and I think it's because we do have these partnerships*." This individual identified three major accomplishments from the grant: (1) having an extra career counselor, "*that was a real win for our school, our students, and our community*"; (2) industry tours for students; and (3) having *"cutting-edge information on what is needed, where the jobs are, where the hiring is, and what the needs of our community are."*

Another interviewee, a labor liaison for the NCWDB, noted that an ongoing challenge, both during the ARC grant and currently, is the limited broadband connectivity in the region. *"It was a challenge then and as we evolve 'til today with even more needs, we just never could seem to get that put in place. . . . Without moving forward with that, we're going to stall—we're behind now. And we're going to be way behind. . . . We need to be squeaky wheels when it comes to this. That's a big issue in this area."* This individual noted that students cannot learn about specific careers when they don't have access to that information.

Project staff perceived that grant outcomes were met, with one noting, "*We were successful in the partnerships we built, really successful in making sure education and business were starting to talk more so that was a huge success. The career plans, they were developed, we met that expectation."* However, one staff member reflected*, "Looking back, I wish we could see the clear outcomes of those career plans. . . . I don't know if it had that long-term effect."*

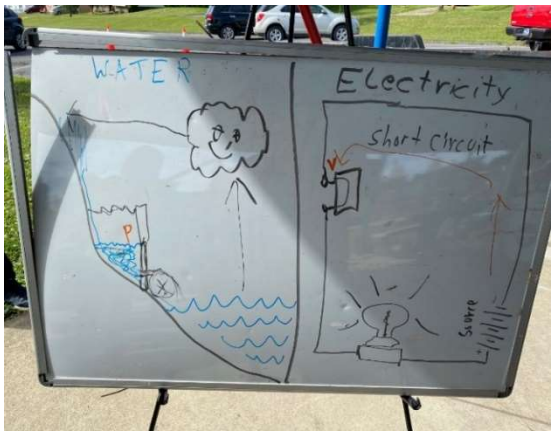
Project staff shared several examples of success stories, including a high school senior who was connected to the Clarion University Small Business Development Center and the Pennsylvania Wilds Center for Entrepreneurship and subsequently started a woodworking business immediately after high school graduation. One interviewee summed up grant outcomes by saying, *"I think our kids were more career ready. They just had more insight as to what the county had to offer them when they graduated."*

| Sustainability |

NCWDB successfully sustained the career counselors by securing other funding to cover their salaries. They have received annual Business and Education Partnership grant awards from the Pennsylvania Department of Labor and Industry since 2016 that covered those staff positions. However, the maximum award amount decreased for their last award so now only one position is covered, for the program coordinator (formerly one of the coaches).

One way the initiative has sustained programming since the ARC grant ended is by directing services to an activity-based model with groups of students, rather than one-on-one meetings with individual students, and having industry companies become more involved with schools. Other funding sources have been tapped to continue supporting initiative services at this group level. For example, another Labor and Industry initiative focuses on forming industry partnerships to discuss employment needs, and so part of the funding was allocated to some of the school activities. Further, a local company provided information about Nuts, Bolts, and Thingamajigs®[16] funding and the NCWDB received funds to help support their programming.

In the summer of 2022, the NCWDB offered three week-long camps for middle school and high school students: one on health care, one on manufacturing, and one on construction. During these camps, which served up to 20 students each, students can take tests to earn certifications that can be included as artifacts for the Chapter 339 career portfolios they are required to complete for career readiness and workplace preparation. Camp activities include content-focused instruction and hands-on activities as well as small-group projects. During the site visit, ICF staff observed a day at the "Hard Hat" construction camp. That day focused on an electricity lesson conducted by the owner of West PA Systems, an electrical construction business based in Brockway, PA, which handles residential, commercial, and industrial work. The owner provided hands-on activities for students to wire electrical circuits to turn on lights. The week-long construction project was to build three pantry boxes, and staff from local industries volunteered their time to oversee and support the small groups of students in constructing the boxes. A local educator and representatives of ABC Keystone and the International Brotherhood of Electrical Workers provided this oversight on the day of the observation.



Students studied electricity related to construction at camp.

[16] For more details on this charitable foundation, see www.nutsandboltsfoundation.org

During the construction camp observation, participating students were asked to share their perceptions of the experience. Although students were enthusiastic about the various activities they participated in (especially driving an excavator), they did note they were disappointed with the limited amount of time they actually spent on construction. When asked what they gained from the experience, students noted knowledge, how to use blueprints, learning about electricity, learning about measurement, how to build circuits, and making friends. One student commented*, "You learn a lot from it, and that can help you down the road."*

The project coordinator works with schools, building relationships with teachers and with employers. Project staff noted*, "We are seeing more and more employers wanting to step up and get involved."* One staff member described how industry involvement has evolved from the days of companies coming in and delivering presentations at school. Now, that outreach is called Industry Day or "Find Your Spark Day," usually for 7th–9th grades, and industry representatives from healthcare, manufacturing, social services, and construction come to the school, talk about their companies and associated careers, and then have hands-on activities for the student to complete, such as welding or Glo Germ™[17]. For high school students, there are also company tours and job-shadowing opportunities.

Project staff also described another program that has grown over time since the ARC grant—Carl the Career Bear.[18] Originally geared toward kindergarten–grade 3 youth, staff would visit classrooms with a small teddy bear that had numerous career uniforms, including nurse, police officer, firefighter, construction worker, manufacturer, and surgeon. There is also an accompanying book that describes Carl's interest in learning more about careers with the students,[19] and project staff have created a mascot uniform that they wear when visiting schools. A website was created so teachers can create virtual tours of companies. That site has been expanded to include programming tailored to more grade levels—so, there might be a virtual tour for elementary students that includes an introduction to a company and what's "cool" about working there, while a tour aimed at high school students might include specifics such as salaries for a particular career.

Carl the Career Bear has been used as a successful outreach tool with students.

***Above**: The Carl mascot worn to classrooms.*
***Left**: Carl's various career ensembles.*
Source: https://workforcesolutionspa.com/project/carl-the-career-bear/

[17] A tool for teaching proper handwashing, aseptic techniques, and general infection control: www.glogerm.com
[18] For more about Carl, see: www.carlthecareerbear.com
[19] *Carl the Career Bear* book: https://www.storyjumper.com/book/read/59770965/CarlThe-Career-Bear

The overall goal of this programming is still the same—helping students learn about local industry employers and high-priority occupations within those industries, and then connecting students with those employers so they can learn about the work they might engage in if employed by those agencies. Thus, filling local industry needs for workers and making students aware of careers available in their locales, with or without college degrees. One interviewee noted how *"skilled trades are in high demand"* and that the percentage of students participating in Career and Technology Center courses has jumped at one school from 10% in previous years to 50% for the current year.

| Advancing Equity |

Project staff noted that the Business and Education Connect initiative did not target specific populations and neither do current Business Education Connect services, saying, *"We want all youth to be provided the information, no matter what."* But project staff do work with PA CareerLink® staff,[20] who get referrals of disadvantaged youth through their programming and that of the CECs, so that these students can get connected to that network of assistance. "*So that's a natural partnership and we oversee it. I was hoping there would be more partnering and that's what we'll shoot for next year with the camps."* However, one interviewee described targeting *"those students [who] get lost in the school atmosphere"* to help them understand there are alternatives to college such as apprenticeship programs or hands-on learning opportunities with employers.

| COVID-19 Pandemic |

During Pennsylvania's mandatory shutdown due to the coronavirus pandemic, the NCWDB was required to work virtually. Project staff shifted to a virtual environment to continue carrying out their educator workplace programs and to work with the schools during that shutdown period.

Another project staff member noted the pandemic impact on students, *"I think a lot of them got lost in it—a lot of the social aspects—and now they're trying to figure out where they fit; how they have friendships is different."* As a result, social media posting became more prevalent, with project staff using Facebook, Instagram, and TikTok to offer interactive games to engage students in a variety of modalities—classroom or individual, in-person or virtual. Staff described construction projects, designing blueprints, healthcare scavenger hunts, and Gimkit© online games that offered opportunities for students to interact with their peers from other schools or counties and from whole-school environments.

One of the interviews described how school guidance counselors now had to focus more on students' mental health and less on career counseling, given the detrimental impact of the pandemic on student well-being. *"It was rough, it was hard on the kids, it was hard on the teachers, it was hard on the community."*

One interviewee noted the local community was heavily impacted by the pandemic: *"It put everybody flat on their butt, they couldn't go to work, they couldn't do anything."* People *"learned to do with less,"* and with state and federal funding support, "*we did okay, we came through."* But that has led to a worker shortage that is actually "*a wage shortage."* Workers are realizing their services are worth more than employers are willing to pay, and now employers have *"got to put some skin in the game."* As one

[20] For more on PA CareerLink, visit https://www.pacareerlink.pa.gov/jponline/

worker noted, *"That's what the pandemic did to us and for us. It made workers and families and everybody else way more aware of their money but now they figured out, 'Look, I can do better because you can do better for me.' So that's the good stuff. The bad stuff was the physical stuff, people lost their lives, people did lose cars and maybe homes."*

| Implications and Lessons Learned |

When asked to identify key lessons learned, one project staff member said, *"Don't be afraid to think outside the box and run with an idea."* And then went on to describe how the idea was generated for Carl the Career Bear, which has turned into a successful programming service for youth—*"we knew it was meeting the mission of what we wanted to do."* So, there is value in having more latitude within funding constraints to be creative and to support emerging ideas that may not have been present in grant proposals.

Other interviewees suggested that using grant funds for more activity-based and group-based services, such as hosting camps for youth, is a more effective way to provide career services for students than individual support. As one noted, *"It's necessary to reach out . . . you teach by example."* Another interviewee agreed with this statement, saying *"Me being labor, I am more than willing to show them, help them, talk to them. . . let's put these camps together because they work, they truly work. . . By example is the best way to make this work."* And, that summer was an opportune time for such camps, because school years "*get packed*" with beginning-of-school-year routines and end-of-school year testing, whereas *"summer camps give us a break to allow to reach the kids and the kids see a lot . . . in a week's time. I think our summer camps are very vital."* Project staff also noted the importance of involving multiple partners, such as schools and industry, where everyone "*brings their knowledge*" to discuss and make plans for such collaborative undertakings.

Another lesson was for extending the amount and length of funding, so that staffing can be more secure and sustained, activity-based transportation costs can be covered, and long-term outcomes can be achieved and measured. And being more proactive in identifying and tapping into a variety of funding streams and sources. For example, "*The ARC mission is really lined up more with workforce than we ever realized so the partnership there was great. I wish we could grow it."* Finally, one interviewee said, *"The more we can provide kids in high school for career readiness is beneficial not only to the students, it's beneficial to our community. We want to create a workforce that can go out and be productive. If we don't do that, the world is going to fall apart."*

ARC Case Study: Mountain Empire Community College (VA)

Introduction

Home of Virginia's outdoor drama, *The Trail of the Lonesome Pine*, and the setting for Adriana Trigiani's *Big Stone Gap* book series, the town of Big Stone Gap, Virginia lies next to the Kentucky border. With its early roots in the coal industry, the area's largest industries now include health care and social assistance, retail trade, and educational services.[21] Currently celebrating its 50-year anniversary, Mountain Empire Community College (MECC) is located in Big Stone Gap in rural southwest Virginia and is one of 23 colleges within the Virginia Community College System.

GRANT PROFILE

Grantee name: Mountain Empire Community College
Grant title: Mountain Empire College Access Initiative
ARC project number: VA-17824
ARC funded amount: $100,000
Close date: October 2015

CASE STUDY METHODOLOGY

MECC participated in a case study of their College Access Initiative in June 2022 as part of a broader retrospective evaluation of education and workforce development programs funded by grants from the Appalachian Regional Commission. The case study included:

- Virtual site visit
- Review of program materials
- Discussions with:
  - 3 project staff
  - 15 program participants

Site Description

MECC serves residents from Dickenson, Lee, Scott, and Wise Counties, as well as the City of Norton, all of which have been categorized as primarily distressed economic status by ARC (the most economically depressed).[22] MECC has a total enrollment of approximately 3,000 as of 2020-21 and serves primarily in-state students (97%), most of whom are under 25 (69%), Caucasian (93%), female (63%), enrolled part-time (55%), and seeking non-dual enrollment credit (69%).[23]

This rural southwest area of Virginia is home to approximately 97,000 residents, the majority of whom are White. The population per square mile ranges from 43 in Scott County to 529 in Norton City, with unemployment rates slightly higher than the state average of 3%. Poverty rates are much higher than the 9% state average, ranging as high as 26% in Lee County. For persons 25 years and up, high school graduation rates across all counties served are below the statewide rate of 92% and the percent with a bachelor's degree or higher are half or less than the state's rate of 40%. Also of note, this area has the highest foster care rates across the state.[24] A summary of the region's demographics is presented at the end of this report by county and city served, along with state demographics as a point of comparison.

[21] https://datausa.io/profile/geo/big-stone-gap-va-31000US13720
[22] https://www.arc.gov/distressed-designation-and-county-economic-status-classification-system/
[23] https://www.mecc.edu/facts-and-figures/
[24] https://www.dss.virginia.gov/geninfo/reports/children/fc.cgi

ARC Grant Purpose and Activities

The Mountain Empire College Access Initiative was funded by ARC in 2014-15 to work with underserved populations of youth in three programs to increase their college-going access/rates and improve educational attainment in Southwest Virginia: (1) Career Coaches to work with 10 high schools throughout the MECC service region to help students identify career goals and levels of education needed to attain those goals; (2) a Great Expectations coordinator to provide coaching and support to foster care youth to help them get into and complete college; and (3) expanding MECC's Governor's School summer intensive institute for science and technology, allowing high school students to study Information Technology (IT) on campus and earn college credits while still in high school.

- *Career Coaches.* During the first performance period (August – November 2014), Career Coaches conducted outreach and career assessment activities with high school students, including administering career assessments and assisting students with developing career plans and/or revising existing plans. These activities continued during the second (December 2014 – March 2015) and third performance periods (April – August 2015).

- *Great Expectations.* During the first performance period, the Great Expectations coordinator cooperated with local social service agencies to conduct outreach and identify potential foster youth participants, which led to an increase in the number of Great Expectations participants enrolled in credit or noncredit training at MECC. These activities continued during the second and third performance periods.

Great Expectations
FOSTERING POWERFUL CHANGE

https://www.mecc.edu/great-expectations

- *Governor's School.* During the first performance period, planning commenced for the summer 2015 Governor's School. A call for proposals for strands of study was issued in November, with at least five different strands typically offered based on anticipated student interest. Planning continued in the second period, and staff decided to offer ten strands instead of five. Although the College Access initiative proposal included a commitment to offer only one IT strand, two IT strands were included for summer 2015: cyber security and mobile application programming. Enrollment for these two strands began in the third period, and by the end of the period, 25 at-risk students completed the cyber security strand (15) or the mobile application programming strand (10) during a two-week period and earned six college credits each.

Planning for sustainability began in the first period with the MECC Foundation working toward a $9 million goal in the Building for the Future campaign. During the second period, a 2015-16 budget was approved that allocated $24,968 in new funds to support the Great Expectations program and $96,943 to continue the Career Coach program. During the third period, the Virginia Foundation for Community College Education matched the funds for supporting the Great Expectations program to fully fund the continuation of that program.

The ARC-funded initiative proposed serving 3,544 high school students (3,500 by Career Coaches, 32 by Great Expectations, and 12 by Governor's School). At project close, a total of 4,618 students had been served (4,559 by Career Coaches, 34 by Great Expectations, and 25 by Governor's School) with 2,600 career plans created. The increases were due to working with groups of students rather than individuals and offering two summer IT strands instead of one (cyber security and mobile application programming) for the Governor's School.

Findings

| Implementation |

MECC staff began discussing in 2013-14 how to better address needs of high-risk, lower-income high school students. According to MECC staff, "*We were having a hard time getting access to them to even talk about options for advanced education*." This led to conversations with high schools to identify ways to increase access to these youth rather than relying solely on college advisors and counselors who had access to high school youth only a few times a year, or on high school guidance counselors, who were spending more and more time on statewide testing and on advising those students "*planning to go to a 4-year school*."

Hence the proposal for and subsequent ARC award for the Mountain Empire College Access Initiative, which focused on building multiple pathways for students' career exploration and preparation. One interviewee reflected that the grant "*was more or less a proof of concept of 'Would it work?'*" and described the three strands embedded within the grant: (1) Career Coaches to provide advising and counseling support, (2) Governor's School to provide two-week summer IT courses for college credit, and (3) Great Expectations to provide focused outreach and support for foster care youth. As an example of the breadth and diversity of support provided under the Great Expectations strand, one MECC staff member described the diverse types of support offered to address students' needs, such as emergency funds, gas cards, a laptop loaner program, and housing stipends. The in-person version of the Governor's School two-week summer courses includes field trips, hands-on activities with equipment aligned to course content (such as for the popular EMS course, having ambulances and Med Flight helicopters on campus or having fire fighters use the Jaws of Life to cut open a car). Not only are these courses tuition-free, but all materials, notebooks, textbooks, transportation, and lunches are provided free as well.

A brochure for Governor's School from 2015, during grant implementation.

MECC staff perceived that grant outcomes were met for all three strands of the Mountain Empire College Access Initiative: "*All three were successful, we exceeded the goals we had set for our numbers in all three categories. . . And all three programs are still sustained*." Similarly, another interviewee commented "*that all three programs are still going full force. To me, that is the biggest accomplishment, that grant being [in] 2014 and we're in 2022, eight years later all three programs are very strong and have continued to be*."

In addition to reaching stated outcome goals, another marker of success reported by staff was that "*that many of those Great Expectations students have been able to take more credits, be full time as opposed to part time*" as a result of receiving the housing stipend, which allowed them to work only a single job

and concentrate more on schooling. The Governor's School also offers students career exploration opportunities during the two-week courses. A staff member noted the courses provide "*a really good overview of programs and careers*," which gives students a chance to explore a career field without a substantial commitment of time or resources.

Further, one interviewee commented:

> *"Our career and technical enrollment grew . . . there was a population of students that needed something more than high school education, but they didn't really want to go to a 4-year school. They didn't know what was out there, what was available until they went through the Career Coaches program. . . Through the Career Coaches program, we were able to not only get them to campus to review some of the programs and see the machinery and put hands on the equipment to see what they could. But in many cases, they were able to visit companies and see what it was all about. And not only from a manufacturing standpoint but also from health care and business programming and entrepreneurship that they never would've thought of . . . or they might've eventually. . . .It really gave the college a boost in enrollment, both from after the students had graduated but also in dual enrollment because we were able to grow the dual enrollment program to include some of those classes to make sure they were getting the experiences they needed*."

MECC staff noted that "*graduation rates have steadily increased*" since that time, such that they were "*well above the national and state averages on graduation rates*." Further, "*the trend line on persistence has been steadily increasing each year*."

But the grant was not without its challenges. One lesson learned early on during implementation was that the decision to ask different individuals to manage each separate strand of the initiative meant that there was not a program director with complete oversight and understanding of the whole project. This made administrative functions like gathering and reporting data more difficult, as well as making it more likely that key staff lacked sufficient information about other strands. "*We're more cognizant of that [now] and try to be intentional on assigning that duty to a particular person*," reflected one interviewee.

| Sustainability |

According to MECC staff, the MECC Foundation (established in 1982 to support the mission of MECC) "*has been very generous in supporting all three programs*" originally covered in the Mountain Empire College Access Initiative, noting that "*our Board on the Foundation has been very supportive of all three of these particular programs. They see the benefit of it*." One interviewee reported that the ARC grant results "*helped the stakeholders be able to see that the program was valuable, and the program was working*," and thus provided the necessary support to expand the originally half-time Great Expectations coordinator position to full time. Other sources of financial support include donations from the statewide Great Expectations initiative and the Virginia Community College System, especially through the College Success Coach program, which while similar to Great Expectations, works with any student identified as at-risk for not being successful and not only foster care youth. In addition, the Governor's School is partially funded by the Virginia Department of Education. All staff interviewees indicated that MECC leaders strongly support these programs.

Although fully sustained, the programs have evolved over time. For example, Career Coaches are now Career Navigators, and oversight of this program has shifted from Student Services to the Dual Enrollment Office since both serve the same population, leading to greater efficiency.

The Governor's School shifted to an online format during the Covid-19 pandemic, and now an online option has become an ongoing part of programming, in addition to in-person, to continue meeting students' needs. Further, MECC has moved toward using career assessment data from the Career Coaches to identify which career areas students are most interested in and then tailor their summer courses to align with those interests to the extent possible. Typical offerings include information technology, healthcare, drama, and emergency medical service. The 2022 strands include agribusiness and entrepreneurship, engineering design, healthcare explorations, and music.

Students currently participating in the 2022 Governor's School courses offered their insights about their experiences during the site visit. All four strands include content-based instruction as well as hands-on activities:

- *Music*: field trips, design and build electric guitars, and learn how to play them
- *Engineering*: robotics, 3D modeling and printing
- *Healthcare*: field trips to hospitals and guest speakers, a simulation lab, CPR and First Aid certifications
- *Agribusiness*: field trips, talking with small businesses, making business plans

A few students identified challenges to their experience; the most common was the need for more time, which would allow students to slow down and go deeper in their learnings and activities. For example, some students suggested more time to learn music or explore software programs. Students also recognized that knowing someone who had participated earlier made it easier for them to learn about and apply for the Governor's School opportunity. One student observed that some students may be too intimidated to apply otherwise (i.e. they may "*have a bunch of self-doubt and believe it would be too difficult, just the idea of taking a college class at a young age*"). Another agreed, adding "*It's kind of scary signing up for your first college classes, especially over summer*." Students also acknowledged and appreciated the supports put in place for their participation in Governor's School, such as free tuition and materials, free lunches, and free transportation to/from school.

When asked what they were taking away from their participation (in addition to content knowledge and skills), Governor's School students noted both the physical artifacts (e.g., guitars, business plans, 3D objects) as well as a better understanding of their career goals. Several illustrative quotes follow.

- "*I'd say give[s] you an idea of what you want to do in the future and what you would want to major in…Or maybe not to do!*"
- "*Another thing regarding skills and stuff, it helps you see what kind of things [you like] to do. Give[s] you confidence to be able to do it.*"
- "*I would just say without this program, maybe somebody would have a hard time choosing what they want to major in. I think this really helps people decide and give them an idea of what they would like to pursue.*"

Great Expectations has now merged with the national Single Stop program, in that the Great Expectation coordinator also serves as MECC's Single Stop coordinator. This individual is the "go-to"

point of contact for any student facing barriers such as homelessness or food insecurities. After students complete a benefits screener form, they receive a summary of all the various resources they may be eligible for through the Department of Social Services. Using these resources can help students persist with and complete their educational programs. One student who participated in both Governor's School and Great Expectations noted that "*The Great Expectations program really helped. It's another support system. So that's always good*."

As these programs are sustained, the biggest challenges faced include funding and personnel. Staff described "*quite a bit of turnover*" amongst the Career Coaches, perhaps due in part to the positions being classified as part time. One tactic taken to fill those positions included hiring retired teachers "*and those work out really well until they get ready to really retire and then we lose them*." Funding is an ongoing challenge: "*We're always seeking donations through the Foundation to support those three programs. The Foundation is committed to doing that and I don't see it being a real problem, but it's a task for the Foundation to raise [that] money*." Another interviewee had a similar viewpoint, noting "*It wasn't a question of 'Are we going to have it but where is it coming from?'*" One staff member commented, "*It seems like every year we're crunching numbers*" as other funding streams decrease funding levels.

Equity

Although the MECC geographic service region includes only a small percentage of racial diversity among its residents (approximately 4%), it serves a higher percentage of racially diverse students (about 7%). According to project staff, "*We try to reach out to all populations to serve them, but there's just limited opportunity there for that*." Regarding equity in terms of socioeconomic status is a focus for MECC, given the mix of "*those who have and those who have not*" within the area. Students from lower income homes have less access to internet, transportation, and even basic information about college. "*So equity from that standpoint, it was more of a socioeconomic problem that we were trying to fix, not so much a diversity [issue] simply because we are so low in the diverse population,*" explained one staff member.

Equitable access is given to students interested in participating in Governor's School courses. Requirements include a 3.0 GPA and to be a rising 10th, 11th, or 12th grade student (including home-school students). Applications are date- and time-stamped, with admission awarded to courses of interest on a first-come first-served basis until the slots are filled. A waitlist is created as needed if there is more student interest than availability. The program provides courses at no cost to students, transportation, and lunch, thereby reducing economic inequities that students may face when they are required to pay tuition costs or transportation expenses. One staff member commented, "*It really levels the playing field*." A student added, "*What I've noticed about Mountain Empire, they really, really, really do care about their students. . .They're really for students trying to make sure they succeed.*"

MECC also advances equity through its practice of taking students' stated needs or risk factors "*at face value*," meaning they do not have to provide documentation and MECC does not rely solely on Free Application for Federal Student Aid (FAFSA) data to determine qualification for services. "*So any student who mentions any types of those issues, then they're immediately added to the program*," elaborated a staff member. Further, "*Our strategic plan for this year, which falls in line with the VCCS [Virginia Community College System], is all about equity and inclusion and diversity so yes, that is very much at the forefront of most of what we do*." Another project staff member reported, "*When it comes to the Great Expectations program, I feel like it's very equitable. The students are afforded the same opportunities, the same resources, the same services.*"

MECC also strives to provide equity in terms of providing educational opportunities for older populations, including those who may not have had any formal training or education. As MECC carried out its programming for under-served students, including conversations with students and sometimes their parents, "*there were situations where we would talk with the students and the guardian or parent, and that guardian or parent would end up coming to school, because they didn't know either*," said one project team member.

| Covid-19 |

"*Broadly speaking, it shut us down*" – this is how one MECC interviewee described Covid's impact on the local community. Not only did they have to "*operate online exclusively, . . . it made us have to rethink how we were serving everyone. And not just the college, I think the community as a whole had to do that. We found that we were very resourceful as a service region*." Local businesses such as stores, theaters, and restaurants came up with new ways to continue meeting community needs. In fact, "*during Covid we have had more business start-ups than we have had in years . . . and they've all been successful*." Hot spots were set up throughout the community so that students could get internet access from their cars, (e.g., parking at the local library). School systems also provided students with tablets to support their virtual schooling.

As one example of how MECC adapted during the pandemic, an interviewee noted that no graduation services were held during the first year of the pandemic, but during the second year, services were held at a local drive-in. As one interviewee described, "*We filed everybody, took pictures of students, and had their names, their degree, and any awards they received and put them on the big screen. It was really a lot of fun; we created a movie for graduation and presented it on the night of the original graduation date*."

For Governor's School, the 2020 summer offering went online, and shifted to offer students the opportunity to take six credits of courses from MECC's regular summer schedule, and then built in a "*mini advising session*" with each student. In 2021, MECC offered one in-person EMS course which ended up with four students; all other summer courses were online. The 2022 programming again offers both two-week in-person and online courses that follow MECC's regular summer schedule. Even more flexibility is offered this summer for students who want to take only one course for three credit hours, instead of a minimum requirement of two courses. Students participating in the 2022 in-person courses noted they appreciated they smaller class sizes resulting from Covid.

In addition to adaptations such as making courses available online and providing coaching through virtual modes instead of in person, MECC also purchased "*hundreds of laptops and tablets that we were able to check out to students who didn't have one otherwise*." Access labs were established so students could make appointments to visit campus for lab work. Library services expanded to include delivery and return by mail, and the bookstore "*went online*" so that students could order books online. Specific adaptations to ARC-funded program strands included online courses for the Governor's School and coaching and outreach shifting to virtual methods of communication with students (email, chat, Zoom).

However, MECC staff also recognized the negative impacts of Covid on their outcomes. For instance, MECC has observed decreasing student enrollment over the past several years, hypothesized to be in part due to student disinterest in participating solely via online courses. Declining enrollment may also be an artifact of increased employment opportunities, i.e., federal or state aid, tax credits, increased salaries. Finally, as students have acclimated to the online environment and are starting to prefer virtual

interactions with MECC, staff perceive that students may be less likely to "*reach out*" when they are struggling than they would have been if on campus; similarly, faculty members may be less likely to notice a student is struggling without in-person interactions.

Implications

In addition to quickly discovering the need for ensuring that one person is responsible for direct oversight of a grant, MECC staff also learned how important access is; "*If they can't get to you, then you go to them and that's basically what we did with the Career Coaches program*." As one team member put it, "*We always knew that everyone deserved access, but I think we had to think outside the box to come up with solutions for that last person that you might not be able to reach. Lesson learned—keep trying.*" Another pointed to the impact these services have on students' career plans "*and what their motivations are post high school.*"

Another staff member reflected on how having "*someone in place to provide support*" is a necessary prerequisite, but that "*if you don't have the tools to provide what is needed then it's not going to matter*." Adequate support and flexibility to meet needs is critical: "*making sure we also can provide the resources to address those barriers that the students are experiencing*." This individual also acknowledged that "*the needs of our students are bigger than what we know. We see the ones that we see, but how many more are out there that are struggling with the same things . . . that are not making through our doors or to us to be able to help?*"

In reflecting on how ARC had supported grantees, one interviewee reported, "*I don't know of anything that was needed that was not received from the ARC. . . I will have to say without the ARC funding we probably couldn't have pulled it off. It allowed us to prove the concept, sometimes you've got to go out on a limb and try something before you know if it's going to work or not. . . By being so successful during the grant, that encouraged the Foundation to continue the program. Otherwise, it would've been a hard sell to get them to support. . . ARC, we are so thankful for them.*" Another noted having the data as a result of the ARC grant "*to show that data proved—eight years later, we're still going strong*." As one staff member put it, "*We're very grateful for the support we had with ARC because I am not sure that we would still have some of these programs today [without that support]!*" Finally, one interviewee noted, "*Any time we can get funding to help, it just means we can serve more students, which is what we aim to do. . . [ARC's] support just helps us to serve more students and help them figure out what their career path is, get credits that they can use in college. So it's certainly helpful. And the Career Navigators [Coaches], same way, having those positions really helps us to serve students in the high schools.*"

Table 1. Population and Economic Indicators for the MECC Service Area

Indicators[25]	Virginia	Dickenson County	Scott County	Lee County	Norton City	Wise County
Population Estimate, July 2021	8,642,274	13,787	21,419	21,983	3,666	35,647
Per Capita Income 2016–20	$41,255	$25,485	$23,702	$19,126	$24,808	$21,508
Median Household Income 2016–20	76,398	30,116	41.540	35,606	30,518	41,285
Persons in Poverty 2021	9%	19%	18%	26%	21%	20%
Race: White	69%	98%	98%	95%	90%	93%
Households w/ Computer 2016–20	92%	77%	77%	77%	83%	84%
High School Graduate* 2016–20	90%	78%	82%	79%	85%	77%
Bachelor Degree or Higher* 2016–20	40%	11%	15%	10%	20%	15%
Civilian Labor Force 2016–20**	64%	39%	47%	42%	53%	46%
Pop. per Square Mile 2020	219	43	40	51	493	90
3-yr Avg. Unemploy. Rate 2017–19	3%	6%	4%	5%	5%	5%
County Economic Status 2022		Distressed	Transitional	Distressed	Distressed	Distressed

Note. *Persons age 25 years+; **Population age 16+

[25] Data sources: Rows 10: https://www.census.gov/quickfacts/fact/table/PA/PST045221; Rows 11-12: https://data.arc.gov/data (County Economic Status Classification)

ARC Case Study: Evergreen Heritage Center – Barn Restoration

Introduction

The Evergreen Heritage Center (EHC) Foundation, a 501(c)(3) public charity, was founded in 2008 to use an historic Maryland farm to provide hands-on experiential learning programs in STEM (Science, Technology, Engineering and Math), as well as summer camps, environmental arts programs, and a venue for a variety of festivals and events. Programs for area students are free for school groups and notably, all the EHC program offerings are aligned to the Maryland College and Career Ready Standards and Frameworks. To pursue their mission, the EHC Foundation and its partners have developed multiple award-winning programs for the benefit of the western Maryland community.[26]

In 2016, EHC received funding from ARC to re-purpose its 200-year-old barn on the property to provide an indoor education venue in which to better serve students and visitors through STEM and environmental education and programming. Initial funds were used to perform a structural assessment of the building, develop design and reuse concepts, make architectural plans, and prepare design documents for the Maryland Historical Trust and other potential funders to support the barn's full renovation. In 2018, renovation of the barn was still underway (supported by outside funding) when EHC received another ARC grant to construct "green" restroom facilities in proximity to the barn.

| Site Description |

The EHC property rambles across 130 acres of Federal Hill in Allegany County, Maryland. First settled in 1780, it was later purchased by neighbors in 1869, becoming one of the area's largest farms with over 1,100 acres. The property got its name when the owner planted 13 species of fledgling evergreen trees.

The farm and its owners are known for their significant role in and contribution to the successful settlement of western Allegany County in the 1700s. Although Allegany County is classified by ARC as "Transitional" (between strong and weak economies), there are

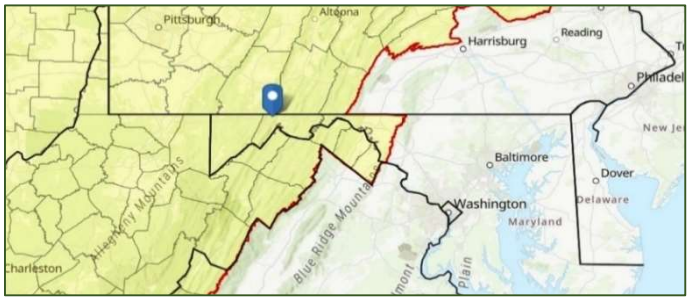
GRANT PROFILE

Grantee name: Evergreen Heritage Center Foundation, Inc.
Grant title: Evergreen Heritage Center - Renovation Phase I/Outdoor Education Facility Expansion
ARC project number: MD-18343 & MD-19144
ARC funded amount: $22,000 & $27,500
Close date: August 2016; September 2018

CASE STUDY METHODOLOGY

The EHC participated in a case study of their Evergreen Heritage Center Barn Renovation Phase I in June 2022, as part of broader retrospective evaluation of education and workforce development programs funded by the Appalachian Regional Commission (ARC). This case study included:

- In-person site visit
- Review of program materials
- Discussions with the
  - 1 foundation president
  - 2 Program Staff
  - 1 Instructional Staff
  - 2 Program Stakeholders



This map shows Appalachian counties in yellow and the location of the Evergreen Heritage Center near the Pennsylvania border.

[26] https://evergreenheritagecenter.org/post-1398/

Table 1. Regional Demographics[27]

Indicators	Maryland	Allegany County
Population Estimate July 2020	6,177,2241	67,729
Per Capita Income 2016-2020	$43,352	$24,776
Median Household Income 2016-2020	$87,0631	$49,449
Persons in Poverty 2022	10.3%	14.7%
Race: White	57.8%	87.7%
Households w/ Computer 2016–20	93.6%	85.8%
Households w/broadband internet	88.5%	79.7%
High School Graduate* 2016–2020	90.6%	89.8%
Bachelor Degree or Higher* 2015–2020	40.9%	19.3%
Civilian Labor Force 2018–2020**	66.9%	49.5%
Pop. Per Square Mile 2020	636.1	161.3
3-Year Avg. Unemployed Rate 2017–2019	3.9%	5.5%
County Economic ARC Rating Status 2022	–	Transitional

Note. *Persons aged 25 years+; **Population age 16+

four "Distressed" regions in the county, representing the weakest economies in the country. Across the county, high school graduation rates mirror the broader state. However, only 19.3% of those 25 years and older have obtained a bachelor's degree or higher compared with 40.9% across the state (Table 1).

The current president has a true pride of place – she is the last living landowner of the Evergreen property. Reflecting on the history of this farm, she explained that, *"we did not want this place to fade away … fall into disuse, and not perform the useful function that it had always done. It had always been a working farm and, in fact, my great-grandfather used to let people farm on the land—something like a community garden. We wanted to see if there was a way, as my great-grandfather had always done, to have the land help pay for itself, to perform a useful function [so] it would be there for future generations."*

As one approaches the farm, this history comes into focus. The paved two-lane road falls away at the turn onto Trimble Road in Mt. Savage, Maryland—along with the sounds of modern life. Trees and the soft, expectant hush of nature envelop the long, single lane that winds up the hill to the center. On the day of the site visit, the property was bustling: an instructor was holding class with a group of students in the pavilion while staff members worked on construction and property upkeep. The facilities on the property are extensive and everywhere remind visitors of the rich history of this farm. A walking tour that occurred during the site visit included:

- Miners' Coal Museum
- House Museum
- Living Off the Land Barn Museum
- Learning Center
- 3 Pavilions
  - Outdoor Kitchen Pavilion
  - STEM Pavilion
  - Gateway Pavilion
- Gardens
- Deck Overlook
- Pond
- Orchard
- Coal Mine (one of five)
- Miners' Living Quarters
- 100-year Soil Profile (used by college students)
- The Green (Composting) Restrooms

The EHC also strives to emphasize environmental education in every event and activity. During the walking tour, the program director pointed out repurposed materials across the property and

[27] Data sources: Rows 1-10: https://www.census.gov/quickfacts/fact/table/PA/PST045221; Rows 11-12: https://data.arc.gov/data

highlighted how people are encouraged to shift from disposable consumables and toward reusable and sustainable goods and behaviors across the facilities.

ARC Grant Purpose and Activities

Two feasibility studies were supported by ARC. The original feasibility study (2008) helped the EHC identify the interest and availability of community collaborators to leverage the EHC property for educational purposes. The study also assessed potential sources of income for the property, identified potential partners, and recommended multiple property uses.

Evergreen Heritage Center Historic Barn.

One of the partners, Frostburg State University (FSU) is only 5 miles away. In 2008, FSU had a relatively new ethnobotany program and believed there might be interest in using its facilities for outdoor experiments and classes. After a successful pilot with a class of 26 FSU environmental planning students, the interest in and use of the property expanded rapidly.

The EHC staff quickly learned that FSU was not only interested in the EHC for STEM-type research, but also in the exploration of green business, marketing, and multiple education perspectives (a total of 108 professors expressed interest). Allegany College of Maryland and Allegany County Public Schools were also very interested. As a result of this study, the 501 (c)(3) EHC Foundation was formed.

Following a conversation between the EHC's president and an ARC regional coordinator, the EHC Foundation applied for an ARC grant to support a second feasibility study (2016-2018); this time focused on the structure needs of the EHC's historic barn to identify what was needed to restore and authentically update the barn. Upon the completion of that study, the EHC was able to leverage private and public donors to preserve and renovate this pre-Revolutionary War barn as a place for children, adults, educators, and tourists to experience hands-on learning and honor the deep history of the area.

In 2018, the EHC secured additional funding from ARC to create an accessible, sustainable, "green" restroom facility in proximity to the renovated barn. This was a collaborative project with local Allegany County Public Schools and Frostburg State University. The construction of the restrooms was handled as a hands-on learning experience for students from the public schools and the university. Through their participation, students discovered the benefits of "green," environmentally friendly, energy-conserving technology and how to effectively implement and utilize it in rural Appalachia. Having restrooms available adjacent to the barn facilities further expanded the capacity of the EHC.

With the barn renovation complete and restrooms constructed, the EHC continued to follow its multi-year plan to develop and deliver student programs for every grade level in Allegany County.

Findings

Implementation

The overarching goal of the EHC Barn Renovation Phase I grant was and is the preservation of the EHC property and its history for future generations. The structural feasibility study was successful and included a structural assessment of the barn, development of design and reuse concepts, architectural plans and sketches, and preparing design document for potential funders. The EHC was able to secure additional funding following the completion of the structural feasibility study, enabling the facility to serve thousands of students and visitors annually through existing and new EHC programs.

Here is how the director of tourism described the renovation's impact:

> *"What the Evergreen team has done … is immersive and very diverse in their offerings … they have the Native Plant Sale, which is a great way to engage the public and it's just one face of the things they do. The museum—the house is an incredible living museum. I've been through that and…it is as an exceptional experience for visitors. The Evergreen filled a very big niche when they restored the barn and [that] is where, in our office, we tend to [suggest as the] first stop for brides and wedding planning. There was a need in our community for a setting and a venue like the barn because our neighboring regions did have a venue of its kind. It's got a gorgeous setting. It's historical space with ample amenities for brides. For me, that is just one really great way we can show direct economic impact—is through the barn."*

REGIONAL AND STATEWIDE AWARDS FOR EDUCATION, CONSERVATION, AND PRESERVATION

- 2016 Allegany County Chamber of Commerce Entrepreneurial Spirit Award
- 2018 Citation from the Maryland House of Delegates for Innovation & Dedication
- 2019 Rural Impact Award for Excellence in Community Development
- 2020 Best of Maryland Award for Stewardship
- 2020 COVID Response Award from Maryland Community Development Network

Following the barn renovation, on-site programs could be delivered in a heated structure during inclement weather. In 2018, 845 students from Allegany County Public Schools and 131 students from FSU participated in the construction of "green" restrooms at the EHC. And with the construction of the new "green restroom facilities" closer to the barn entryway and located on a level surface, there is now a more convenient and easier walk, increasing accessibility of the facility.

Implementation went well and the EHC continues to improve every year. The only challenge discussed by the program director was that some individuals might have difficulty with some of the reporting paperwork. She suggested it might be a good idea to simplify some of the documents.

Sustainability

Through ARC's funding of the feasibility study, the EHC was able to identify and develop partnerships with local colleges and schools who now use the space for hands-on learning experiences.[283] The

[3] A full list of EHC's partners can be found on their website: https://evergreenheritagecenter.org/community-partners/

continuing success of the program offerings is due in part to the deliberate alignment of all program content to Maryland educational standards. And, as is so often the case, success breeds more success and EHC has secured additional grant funding.

Through grant funding as well as increased revenue, the EHC has been able to hire and retain several instructional staff members who in turn, have been able to expand program offerings, drawing in more students and additional revenue. Instructional staff members include:

- Director of Education with a bachelor's degree in science and a master's degree in teaching
- Director of Arts with masters' degrees in art and art education, a successful working artist, and the designer of the EHC's Nature of Arts Programs
- Executive Director of the EHC and Curator of the EHC's three museums with a master's degree in historic preservation
- Other instructors with degrees in science, art, and early childhood education

One program stakeholder from the public schools shared about their partnership with the EHC and the impact that it's had on their students (Table 2):

> *"We've had almost 30,000 students since 2013 come in some way, shape, or form through Evergreen's programs. … They're always very good about doing a pre-test, post-test. And we've always shown gains. The goal was a 25% increase in learning and [we] many times well exceeded that from pre-test to post-test. So that benefit on the curriculum side is huge."*

Table 2. Participation and STEM Literacy Growth Allegany County Public Schools Field Trips 2013-2021

Academic Year	Students Served	Increase in STEM Literacy*
2016–2017	3,174	44.10%
2017–2018	4,159	43.70%
2018–2019	3,809	62.00%
2019–2020	4,964	61.5% **
2020–2021	6,754	No testing ***

Note. *Pre/post assessments; **Fall semester only due to COVID-19; ***Due to COVID-19

In addition to hosting school-based field trips, the EHC has provided after-school programs, in-school outreach, and summer camps for area students. In addition, between 200-300 college students visit their facilities each year for field studies. Area Boys & Girls Clubs, Head Start programs, Salvation Army Youth, and Scouts have all taken advantage of programs offered through the EHC since the renovation of the Barn has been completed.

In addition, the director of the Allegany Tourism Office shared that the barn renovation has encouraged more tourism and supported the local economy with its new purpose as a venue for weddings, parties, and meetings. The EHC's goal is to be self-supporting by generating revenue that will enable continued educational programs at no cost to area students. And indeed, increasing tourism has helped to increase revenue for educational programs, another goal of the renovation that has come to fruition during program sustainability.

Equity

Allegany County's population is 88% white and, consequently, equity is more closely associated with socioeconomic characteristics among participants in this case study. The EHC barn restoration and the subsequent money that the center brings in through tourism and as an events venue allows it to provide

no- or low-cost opportunities for learners of all ages. The free or low-cost programs, events, and activities at the EHC include:

- Pollinator Picnic: Pollinators and What They Each for Lunch
- Autumn Festival with tours, Appalachian food, and fun
- Mining the Mountains of the EHC Program: Visit the historic Coal Camp exhibits along a mile-long Coal Train
- Baking Bread & Churning Butter
- Silhouettes & Song: Discovering the Birds of the EHC
- Exploring the Gardens of the EHC
- Appalachian Ragdolls: Make and Take
- Museum Tours
- Herb and Veggie Garden Kits

Summer camps for children also have needs-based scholarships available for eligible students.

COVID-19 Pandemic

The majority of the EHC program participants are public school students, and as such, the COVID-19 pandemic and subsequent remote learning enacted by K-12 schools in the county had a significant negative impact on the number of participants served by the experiential learning opportunities at EHC. However, program staff used the unexpected "free" time to modify program components for a virtual format. This "pandemic pivot" enabled the EHC to continue serving the area's K–12 and university students. Consequently, after a brief stop during the early pandemic, most of the programming was resumed in a virtual and then later in-person format.

Reflecting on this adjustment, staff members shared that they were grateful for the opportunity to develop online content, noting that they are now prepared to offer virtual programs moving forward. Staff reported that this would allow them to reach more students where transportation costs to EHC or scheduling constraints might limit on-site field trip opportunities.

Implications and Lessons Learned

The program director noted that the advice and financial support of ARC and its staff members enhanced the barn renovation project—from the structural feasibility study, to the planning phases, to the restoration itself. The feasibility study was high-quality, complete with specific guidance, budget estimates, and architectural renderings for the best outcome. During the process, some recommended restorations needed to become renovations due to cost. One specific example was the use of a non-period mortar for the barn because historically accurate mortar would have been excessively expensive.

All participants agreed that the feasibility study and subsequent restoration and renovation had enabled the ongoing success of the EHC, broadening opportunities for both educational programs and increased revenue.

ARC Case Study: Goodwill Industries

Introduction

Headquartered in West Virginia on the Ohio River where West Virginia, Ohio and Kentucky meet, Goodwill Industries of KYOWVA Area, Inc (hereafter, Goodwill) in Huntington, WV provides employment training, education, and life skills to people with disabilities and other challenging circumstances or conditions. Services at Goodwill also include life enrichment tools and resources, such as homebuyer education, debt management programs, and counseling services, to empower individuals, their families, and subsequently their communities.[29]

Site Description

Located in the Tri-State region, Goodwill serves economically distressed[30] Lincoln and Mingo Counties and economically at-risk Wayne and Mason counties. These counties have unemployment rates higher than the state average of 5.1%, ranging from 5.7% in Wayne County to 7.7% in Mingo County and most residents identify as White. Poverty rates in these counties, except for Wayne and Mason Counties, are higher than the state average with Mingo County reporting rates as high as 25% (Table 1).

GRANT PROFILE

Grantee name: Goodwill Industries of KYOWVA Area, Inc.
Grant title: Goodwill's Industrial Certifications: Pathways to Self Sufficiency
ARC project number: WV-18744
ARC funded amount: $76,845
Close date: April 2018

CASE STUDY METHODOLOGY

Goodwill Industries of KYOWVA Area, Inc participated in a case study of Goodwill's Industrial Certifications: Pathways to Self Sufficiency program in August 2022 as part of a broader retrospective evaluation of education and workforce development programs funded by grants from the Appalachian Regional Commission. This case study included:

- Virtual site visit
- Review of program materials
- Discussions with:
  - 1 Project Director
  - 2 project staff
  - 3 program participants

Table 1. Population and Economic Indicators for the Goodwill Service Area

Indicators[2]	Lincoln County	Mingo County	Wayne County	Mason County	West Virginia
Population Estimate, July 2021	20,126	23,005	38,498	25,157	1,782,959
Per Capita Income (2016-2020)[a]	$22,995	$19,400	$23,973	$27,819	$27,346
Median Household Income a	$42,064	$35,454	$43,710	$51,820	$48,037
Poverty rate	20.6%	24.9%	17.1%	17.1%	15.8%
Population per square mile (2020)	46.8	55.7	77	59.1	74.6
High School Graduate (2016-2020)[b]	80.1%	76.6%	81.1%	86.3%	87.6%
Bachelor's Degree or Higher (2015-2019)[b]	7.8%%	10%	17.5%	17%	21.3%
In Civilian Labor Force (2016-2020)[c]	45.1%	41.1%	44.6%	48%	53.6%
3-year Avg Unemployment rate	6.7%	7.7%	5.7%	6.5%	5.1%
County Economic strength (FY 22)	Distressed	Distressed	At-risk	At-risk	---

Note. [a] In 2020 dollars; [b] Persons aged 25 years +; [c] Aged 16 years +

[29] http://www.goodwillhunting.org/who-we-are/
[30] Based on an index-based county economic classification system used by the Appalachian Regional Council https://www.arc.gov/distressed-designation-and-county-economic-status-classification-system/.

ARC Grant Purpose and Activities

Through their Industrial Certifications: Pathways to Self-Sufficiency program, Goodwill aimed to provide basic adult education, workforce readiness training, literacy skills, sustainable financial education, and soft-skills training to individuals residing in distressed counties in the Tri-State Area. In 2017, Goodwill Industries of KYOWVA Area, Inc was awarded a $76,845 grant towards career and technical education from the Appalachian Regional Commission (ARC). ARC grant funds supported the training of ProLiteracy-certified adult literacy tutors, job training and industrial certification programs, mobile outreach events relating to employability skills and financial education, and career fairs. In response to the performance of the first grant, they received an additional ARC grant in 2019. This career and technical education grant focused on three areas: adult literacy programming, job training and industrial certifications, and financial literacy.

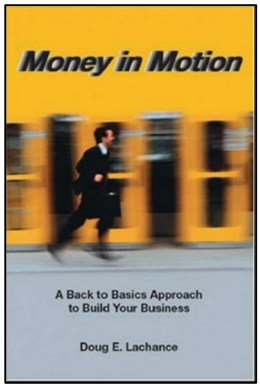
Adult Literacy

Goodwill partnered with the Cabell County Public Library to provide intensive ProLiteracy Tutor Training workshops to volunteers and staff at Mingo County Library. The focus of this program was to train tutors to help adult learners improve literacy and numeracy skills. To become ProLiteracy-certified, tutors were trained on effective components of reading instruction, creating lesson plans and setting learning goals, and effective tutoring techniques. Once trained, volunteers meet with adult learners for reading, math, or writing instruction. The goal was to build capacity for adult literacy in economically distressed counties so that efforts to promote adult literacy at the county level could be sustained. Although volunteers completed certification requirements, staff at Goodwill had little insight into the impact of this effort after training. As one interviewee explained, *"Once they got the certification we saw that. So once they got certified to be a tutor, after that it was between them and the literacy council on who they tutored and the hours they turned in."*

Through the ARC grant, in partnership with the Cabell County Public Library, Goodwill helped set up Mingo County's first Literacy Council, certifying at least 18 Mingo County Library volunteers and staff through their ProLiteracy trainings. Currently, however, Goodwill focuses less on adult literacy programming at their Employment and Training Outreach Center.

Financial Education Outreach

Goodwill's Consumer Credit Counseling Service, a member of the National Foundation for Credit Counseling and only nationally certified consumer credit counseling agency in the Tri-State area, provides debt management services, pre- and post- bankruptcy counseling, homebuyer education, and assessments of financial health. ARC grant funds were used to provide Financial Education Outreach classes including a two-hour course titled, "Money in Motion", based on the textbook Money in Motion by Doug E Lachance. Participants in this course were taught the fundamentals of financial literacy, including how to create budgets, money-management skills, understanding their credit scores and credit reports, building and improving credit, how to avoid debt, specifically credit card debt. If participants reported that they had debt, they were offered instruction in how to manage it and were encouraged to make sustainable financial decisions. A total of 77 participants enrolled in and completed this course.



Textbook used in the ARC-funded Financial Education outreach class.

Advertisements for Goodwill's Career Expos from 2017 and 2018.

Employment and Workforce Training

This component of the program focused on providing attendees with the skills to become employable, such as job readiness skills, soft skill training, life skills, and industrial certifications. Through Goodwill's employment and training division, ARC grant funds were used to conduct job fairs, connecting job seekers and local businesses. During the grant period, Goodwill conducted two career expos, attracting more than 60 businesses and 317 job seekers. In addition to career fairs, trainings for certifications in retail, janitorial, and digital literacy were offered through the grant period. Twenty-eight participants successfully completed industrial certifications in customer service and janitorial training. Additionally, 12 beneficiaries were placed into competitive employment. Goodwill also offered several of these certification programs through partnerships with external organizations, such as with Google to offer certification for digital literacy trainings. As noted by an interviewee, "*… we partnered with a wide array, your community colleges, your workforce investment boards. A thing called SPOKES in Mason County that's workforce development related. We met with the Boards of Education. We worked with different school systems*."

Findings

| Program Implementation |

Goodwill's Industrial Certifications: Pathways to Self-Sufficiency was centered on economic development and endeavored to offer a holistic approach to empowering people through employment and workforce training by providing opportunities for individuals to gain employment and maintain employment. Services offered through this program could be broadly classified into three categories - adult literacy, financial education outreach, and employment and workforce training.

> *"… we partnered with the food bank, so when we had the individuals come in we also were able to give them boxes of food to go back. Then they wouldn't be hungry, at least for a while because a lot of it was shelf stable. And then they had the basic necessities of food and clothing. And the ones in the shelter we tried to help with housing and partner with other resources and help them with job placement. So it was very holistic in what we did as well."* – Project Director

Although services were open to everyone, the program primarily aided individuals considered transient and individuals with multiple needs. Goodwill partnered with external agencies and institutions to access these individuals to provide targeted assistance. For instance, their partnership with Day Reports in Mingo and Lincoln counties where participants on work release programs would receive job readiness and soft skills training along with clothing. They also partnered with Workforce Investment Boards in the area, community colleges, local chapters of Head Start programs, food banks, and local libraries. In

addition to providing targeted programming services, Goodwill partnered with external agencies to recruit participants to leverage captive audiences who were either already there through the agency or were required to utilize services offered by Goodwill. This was especially the case with the financial education programming where a staff member remarked that people tend to be in denial about their financial health and tended to reach out to Goodwill's credit counseling service when they become required to.

> *"When you're dealing with an agency and they see that your heart is in it and that you've done a fantastic job with some of their consumers, and they see change they'll call. They may give you an update on someone from time to time. Even to this day, like we talked about, I'll still run into people that I dealt with, not the consumers but the director of the program and they still talk about how well we did or thanks for doing. It's relationship building and just keeping in contact."* – Project Director

Even though Goodwill served communities residing in rural areas prior to receiving the ARC grant, the grant provided them with the capacity to serve these communities better. Some of the communities they worked in were grappling with the effects of closures of the coal mines and so Goodwill's employment outreach focused on providing these communities with skills to become employable. Despite being able to deliver targeted services to those with multiple needs including individuals considered transient, the very nature of transiency posed a challenge to the delivery of services. As noted by an interviewee staff member, "*With the homeless shelter, an issue would be the population is transient. So, they may start the program and they may attend one class and you may not ever see them again*." Adding to this, the staff member noted that some communities were hit hard by the opioid epidemic, "*Between dealing with active recovery, addiction and transient populations, that's [the opioid epidemic] our biggest hurdle*." The staff member noted that employment outreach may not suffice and that mental health services were necessary to better serve this population, "*To my knowledge we can't [help them] unless we were to provide some type of mental health services and we were to change someone's life totally from the inside out*..."

Sustainability

Goodwill's workforce development initiatives were sustained after the original grant period. They were able to leverage the work done through the 2017 grant to obtain additional funding in the 2019 fiscal year[31] from ARC. They sustained their financial education and employment outreach services after both grant periods through funds from other sources, but with more intention, tailoring their services to better benefit individuals with diverse needs, such as communities residing in rural areas and individuals with disabilities. Another way they were able to sustain services was through continued partnerships with external agencies. Interviewees noted that because of the relationships built and strengthened during the grant period they were able to continue offering services.

The adult literacy program has not been a key Goodwill focus in recent years, but employment and training services, and financial education outreach, have continued with some modifications. For example, Goodwill has relied on partnerships with external agencies to offer financial education services. The employment and workforce division primarily serves individuals with disabilities, although its services are available to anyone. Beneficiaries currently enrolled in employment training participate

[31] News release from the Governor's Office: https://governor.wv.gov/News/press-releases/2018/Pages/Gov.-Justice-recommends-nine-West-Virginia-projects-for-inclusion-in-grants-from-the-Appalachian-Regional-Commission-invest.aspx

in a Basic Life Skills program in which they learn how to manage money, file taxes, and other skills that help them become independent. In addition, employment training participants complete a Work Adjustment training. This community- and facility-based program is meant to reorient individuals into a work environment who have never been employed or have been out of work for a significant period. As a part of the experience, participants work part-time in the Goodwill store or at other local businesses. Participants reported that the program had helped them gain skills with which they previously struggled. As two current program participants said:

> "*When I was in the work adjustment part of it with the life skills, they would have us to do the… they would have us practice taxes. And they would also have us count money and knowing how much money you have. They would keep doing that over and over and over, so eventually it got fun for me and easy. I love counting money now, to me counting money is just easy*."

> "*Mine was talking to customers and stuff. I am really shy and it's really hard for me to talk to people, because I have really bad anxiety and I overcome some of that. I am more talkative. That was a good outcome*."

Advancing Equity

Promoting diversity, equity, equality, and inclusion is at the forefront of activities and services offered by Goodwill. As a testament to this, Goodwill of KYOWVA Area is a member of the City of Huntington's "Open to All" pledge[32], a product of the Huntington Mayor's Diversity and LGBTQ advisory committees whose mission is to build community-wide relationships, to be a voice on issues of diversity and inclusion through education, communication and advocacy, and to facilitate positive change. It is with this conviction that Goodwill operates, providing services to all. Interviewees noted:

> "*We just include, we just always include everyone. We don't look at people, I don't want to say differently but we don't… include some people and exclude other people*."

> "*I feel very confident that the 99% of my staff if somebody walks in they know if we can't provide the ability to train them or provide mental health counseling or whatever the case may be they know to try to find the resources so at least they can leave with something. So nobody is treated any differently. So that is a culture here that I guarantee you if you'd ask anybody they know we… we accept and work with everybody*."

To this end, the project focused on offering services to underserved and marginalized communities, such as rural communities considered economically distressed, individuals with disabilities, homeless and transient populations, and people in work release programs. After the grant period, the organization has endeavored to further the discussion surrounding promoting diversity, equity, and inclusion in the workplace by providing trainings and workshops to staff and the organization's board of directors.

Impact from COVID-19

Although COVID-19 occurred after the grant period, the pandemic impacted Goodwill's follow-on services offered through the second ARC grant. Program services were moved to online and hybrid formats, as in the case of the financial education outreach efforts. Staff members and project

[32] Membership list from the City of Huntington Mayor's office: https://cityofhuntington.com/assets/pdf/document-center/Open_to_All_membership_list.pdf

participants noted that the pandemic merely slowed down services, rather than halting them entirely. Nonetheless, lack of a working internet connections, particularly in rural areas of Goodwill's service region, meant some clients were unable to access program services. As a result, enrollment in these services declined, which in turn reduced the services available. As one interviewee explained, "*we do not have a Director of Career Services anymore. And it's not because we don't want to. We really drove the… we used to have a medical assistant program, and a hospitality program and things. And we'd get all these people to sign up, and then the attrition rate was so crazy, if I had 15 sign up, the two years before I ended that division, you'd have 15 people sign up, I think the last we had it we had 5 people graduate the whole year*." As a result, staff members noted that presently the program focused on providing targeted services to a niche population (i.e., individuals with disabilities), although everyone can access these services:

> "*So we really now have focused the majority of our energy instead of chasing… a very tiny population down, our skill set is serving people with disabilities. I thought why don't we just amplify that times 100, and provide everything that we need to do and be the best at that. And we have. So everything we've talked about now, we do specifically with those individuals. Not that we don't help anybody else, but it's really driven for the individuals that are disabled, but we don't turn anybody down*."

Implications

When asked to recollect their experiences applying for an ARC grant, one interviewee expressed concern about the submitting the application through the ARCnet portal where they could not see all the required information ahead of time, noting: "*You really need to expose everything that you want the grantee to submit. Everybody was very nice. I think if it could be a little less strenuous*." In addition to suggesting more transparency in the application process, the interviewee noted the that the application process can be time- and resource-intensive which may discourage smaller organizations from applying for ARC grant funding. As this individual put it:

> "*… some of these smaller organizations, there's no way they're ever going to get an ARC grant. One you don't have time to do the application, it's so, so detailed. I do understand, there are some great organizations out there that probably could do some amazing work, but there's no way they could do that application*."

Interviewees also cited the importance of reporting qualitative indicators of success, to include the development of success stories highlighting less quantifiable elements of project effectiveness. One interviewee noted that tracking such indicators can be "*a little bit more difficult*," but "*sometimes people can come a long way, and maybe they didn't even get the certification. But maybe they were there every single day. And they feel so accomplished. Maybe you couldn't put that they got this certification. Or maybe they couldn't pass it but maybe they worked harder than anybody else*."

Overall, when asked to reflect on how ARC supported grantees, interviewees expressed gratitude. As one explained, ARC representatives were helpful and responsive to their questions and concerns:

> "*Everybody that we talked to like [Name and Name] super nice. Any time I ever called they were extremely helpful. Both were responsive, talking, voicemails to respond to and email*."

ARC Case Study: Anderson County QuickJobs Center

Introduction

In 2011, the Appalachian Regional Commission (ARC) awarded $500,0000 in grant funding to Tri-County Technical College to support construction efforts for the Anderson County (South Carolina) QuickJobs Training Center. Located across the street from the College's main campus, the QuickJobs Training Center is a hub for workforce development training programs that require no more than 12 weeks for students to complete. The mission of the center is to provide unemployed and underemployed county residents with short turnaround training that qualifies them for local jobs. Training programs include those for power line workers, heavy equipment operators, commercial truck drivers, and medical coders.

GRANT PROFILE

Grantee name: Anderson County
Grant title: Anderson County Quick Jobs Training Center
ARC project number: SC-16985
ARC funded amount: $500,000
Close date: March 2015

CASE STUDY METHODOLOGY

The Tri-County Technical College participated in a case study of its QuickJobs Training Center in July 2022 as part of a broader retrospective evaluation of education and workforce development programs funded by grants from ARC. This case study included:

- In-person site visit
- Review of program materials
- Class observations
- Interviews with:
  - 3 staff members
  - 2 instructors
  - 3 program graduates

Table 1: County Indicators

Indicators[33]	Anderson County
Population Estimate, July 2021	206,908
Per Capita Income (2016-2020)[a]	28,931
Median Household Income	53,598
Poverty rate	14%
Population per square mile (2020)	285
High School Graduate (2016-2020)[a]	86%
Bachelor's Degree or Higher (2015-2019)*	24%
In Civilian Labor Force (2016-2020)**	60%
3-year Avg Unemployment rate	3%
County Economic strength (FY 22)	Transitional

Note. *Persons aged 25 years+; **Population age 16+

| Site Description |

Anderson County is situated in northwestern South Carolina, along the state line of Georgia, in the Piedmont Plateau region. Among the county's low, rolling hills and lush vegetation is Lake Hartwell, a U.S. Army Corps of Engineers Lake with almost 1,000 miles of shoreline for recreational use.

Home to more than 205,000 residents, the county population is relatively diverse with 16% identifying as Black or African American and 4% as Hispanic or Latino/a.[34] The county poverty rate of 14% is higher than the national rate of 11%, and the median household income is $53,598, compared to the national median of $64,994 (Table 1). Eighty-six percent (86%) of adults 25 years of age and older have graduated from high school (compared to 89% in the nation at large), and only 24% have earned a bachelor's degree (compared to a national rate of 33%). The largest industries in Anderson County are manufacturing (18,712 people), healthcare, and retail, while the highest paying jobs are in management, mining and

[33] Source for rows 1-8: https://www.census.gov/quickfacts/fact/table/andersoncountysouthcarolina,US/PST045221; source for rows 9-10: https://data.arc.gov/data [a] In 2020 dollars; * Persons aged 25 years +; ** Aged 16 years +

[34] https://www.census.gov/quickfacts/fact/table/andersoncountysouthcarolina,US/PST045221

extraction, and utilities.[35] The county is growing, with the population increasing 13% between 2010 and 2020.

ARC Grant Purpose and Activities

The ARC grant to Anderson County supported construction of a 5,720 square foot training facility on the campus of Tri-County Technical College. Conceptualized as a QuickJobs Center, the new building was designed to provide space for compressed training programs, enabling participants to quickly train for local jobs. Explained one staff member, the aim of the grant was to build space for "*people who are maybe lacking a certain skill set to come in and get quickly trained in weeks or months and be more employable than they were. Not thinking years, not a diploma type process*."

Construction was completed in 2013, with a ribbon-cutting ceremony celebrating the new space in October of that year.[36] The site includes several offices and a hotel office space for staff, classrooms, a computer lab, a large conference room, restrooms, and a small kitchen. Behind the building is a large blacktop training area for commercial driving program use. Tri-County Technical College has operated and maintained the facility since 2013, and now owns the site after Anderson County deeded the property to it in 2018, per the grant plan.

Findings

Implementation

Entrance to the Anderson County QuickJobs Training Center.

According to one staff member, the QuickJobs Training Center model had already been established in two sites in other South Carolina counties: "*We decided we wanted to pursue a QuickJobs facility here. We already had two others, one in Oconee County and one in Pickens County near our campuses there. So with that we were pursuing to build one here*." Staff reported that they learned that previously established sites were somewhat smaller than needed, so proposed to construct a larger building for the Anderson County location. As one employee put it, "*The good thing is this is our third one we did, so we had some lessons learned. We made this one a little bit larger. We felt the other two were just a little bit too small, so we increased the size of this one which gave us another classroom and more wiggle room inside*."

The building process itself was relatively straightforward. The Director of the Physical Plant explained:

[35] https://datausa.io/profile/geo/anderson-county-sc
[36] https://www.wyff4.com/article/new-job-training-center-opens-in-anderson/6495953#

"*It was normal building issues. None of them go perfect, we had some contractor head knocking. We ironed that out. For instance in our parking lot we had a big mound of dirt we had to get moved. Little logistical headache things like that. But as far as the building, you always try to do something within a timeframe and budget. They're always hard to hit… the timeframe and budget that you declare on day 1, rarely ends up a year later that you hit that mark. So I think we did pretty good …it's not a huge building so it wasn't overly complicated*."

Computer laboratory and classroom at Anderson County QuickJobs Training Center.

Once complete, the QuickJobs Training Center first housed manufacturing programs. But as the local economy evolved, there was less continuous employer demand for graduates with such skills. Given this, Tri-County Technical College leaders pivoted to provide training for other high-demand jobs. The Dean of Corporate and Community Education put it this way:

"*The first programs we put here were more manufacturing related…but manufacturing and other programs did not have a continuous flow to keep it occupied. So we wanted to look at something that would be continuous and helping unemployed people and that's when we moved CDL (commercial driver's license) into this unit. And eventually we put the power line program here as well as the heavy equipment. We do have some healthcare but it's more medical coding and billing and that type stuff. This was built to be an industrial, and we're trying to keep it where it's an industrial type building*."

QuickJobs Training Center staff have observed a variety of outcomes resulting from their new capacity to house short-term training programs. For example, one staff member reported, "*The first accomplishment of the site was the ability to address the workforce needs in this area…so that we could end up helping people change the dynamics of their life*." Earlier in its history, Anderson County's main industry was textile production. But as mills began closing in the 1990s due to globalization and declining demand, the area's economy pivoted toward manufacturing, including automotive, plastics, and fiberglass.[37] As one QuickJobs Training Center employee explained, "*Anderson was a very vibrant textile mill town, so you needed that transition and when we brought the right programs in, it matched up with people willing to transition. We've been able to change some of the socio-economic impact*."

Another staff member similarly reported that program graduates were able to complete training quickly and make progress toward self-sufficiency: "*Unemployed, under-employed people come here and in 4-6 weeks on the CDL side get a CDL, and they go to work and able to support their family and have a career moving forward if they want it to be*."

According to one employee, other outcomes include improved student confidence and access to work in which they are interested. As he put it,

[37] https://www.scencyclopedia.org/sce/entries/anderson-county/

"*I see a lot of people come in that are very… I guess you'd say apprehensive, very negative, very afraid of what they're going to be getting into. And I see them leaving with smiles on their face, happiness on their face…That's what I see taking place, people meeting what they feel like they want to do at the right place, at the right time and what type [of] environment they want to work in. That's what I think this building has done for people*."

Sustainability

The QuickJobs Training Center is maintained by Tri-County Technical College. "*We do the landscaping, we do the janitorial, HVAC, the lighting, anything that goes wrong with it the folks here have our numbers and we come a running*," said the Dean of the Physical Plant. Operational costs are also an ongoing matter of sustainability, according to the Dean of Transportation Programs: "*You say, 'the average students is going to cost this, and the operational cost to do it is going to be this.' And you have the trucks we have with the hours on them. Every one of them has 500+ miles on it. That's not bad for a diesel, diesels can run on that. But the operational cost to fix those is very high*."

The programs housed in the building are funded by various grants. Students tend to be unemployed or under-employed, with little or no capacity to pay tuition, so the QuickJobs Training Center team continues to pursue grant monies to reduce barriers for these students. The program director elaborated on this: "*As far as the revenue piece for the students, those are all grant funding. So whether it's state or federal funding, the majority of my students pay zero dollars*." Sustainability in this context means that "*we look at the revenue that's coming in versus the operations that it takes to do it. Try to match those up and let's have a positive variant*."

Commercial Drivers License training vehicles on Anderson County QuickJobs Training Center campus.

The programs are also sustained with funding from partners. Staff reported that the local Workforce Investment and Opportunity Act program and Goodwill were frequent partners. The ability to report return on investment figures to such funders enables the QuickJobs Training Center team to make compelling cases for additional funding. As one team member put it, "*The success stories that I've been able to experience to me, that's what ARC should hang their hat on, if you're asking me. Hey, y'all gave us the money, or wherever that money came from to do this to put this building to allow… X number of students or whatever the opportunity—it's worth every dollar that was spent*."

A challenge to sustainability is finding qualified program instructors who do not want full-time employment and have the skills to serve in, as one staff member phrased it, "*that mentor, ambassador role.*" As he explained, "*The starting pay for us is $25/hour for these jobs in both heavy equipment and CDL training. You and I know they can go out and make a lot more money than that doing what they're doing. I call them unicorns, there's a few unicorns out there that are at the end of their careers. They want to get off the road, they're tired of it. They made a ton of money along the way and they're just wanting to train people to do it. Those are hard to find*."

Despite this challenge, and the ongoing need to obtain grant funding for student support, the QuickJobs Training Center team members agreed that the original ARC investment and additional funding from other partners has generated longer-term benefits, both for students and the local community. Said one such employee, "*I think those [enrollment and program completion] numbers that we showed you are proof that whatever that money was that was put into building, this brick-and-mortar building, certainly covered that amount over time and there's much more to be there*." As the Dean of Corporate and Community Education summed up, "*I think we're good stewards of our money and we take that money and put it back in. And hopefully the government is getting that back through the tax basis to cover those needs*."

According to data provided by the center, programs housed in the site served 715 students between January 2021 and May 2022, with an average job placement rate of 72% among graduates and an overall local economic impact of $18,546,000 in wage gains.

Equity

QuickJobs Training Center staff offered several perspectives on the ways in which they understood and promoted equity. Two staff members reported that although QuickJobs programs did not target students from marginalized populations, program opportunities are open to everyone, which reduced potential inequities. As one said, "*We don't see a color, we don't see a brand, it's first come first served. So if you're willing to come here and sign up and get your requirements, you're going to be the next in line whether you're White, Black, [Brown], male or female, doesn't matter*." Another put it this way: "*Every person that comes in the halls of this building is a human being. It doesn't matter who they are. It doesn't matter where they come from. It doesn't matter how much their parents earned or what type of earnings they've had. They come here for a need and a purpose and that's to change the dynamics of their life*."

Classroom at the Anderson County QuickJobs Training Center.

But these staff also noted that they sought to provide additional support when students needed it: "*If they're struggling, it doesn't matter who they are, we're going to help them*." Examples of additional assistance included providing gas money so students could afford to drive to classes and offering accommodations to English learners. Ultimately, said one employee, "*I think the thing we classify a lot of times [as] equity… we have to meet people where they're at. And then we have to see if we can help people change the dynamics from where they come from to where they're going, so there's no inequity*."

Another QuickJobs Training Center staff member reported that, "*As far as diversification, we're working on that with the power line [program]. It's very male White oriented*." Program graduates also noted this phenomenon in the power line program, which had just graduated its first female power line trainee. Staff also noted that power line program participants tended to be White, but that commercial driving and heavy equipment operation programs attracted more racially and ethnically diverse students.

COVID-19

In response to the public health crisis associated with the COVID-19 pandemic, the Dean of Corporate and Community Programs reported that the QuickJobs Training Center "*flexed for people…put[ting] all the CDC controls in*." The Director of the Physical Plant further explained,

> "*We did across all our facilities, PPE, masks, shields, gloves, all these were available. Wipes in every room, plexiglass shields…Then we went through and had our janitorial contractor spraying all horizontal services an anti-microbial that was supposed to last 6 months, so we did it every semester…I also put in higher efficiency A/C filters to try to capture some of these airborne particles. Of course there are sanitizing stations everywhere. You couldn't look and not see one*."

The Dean of Transportation Programs described how commercial driving instruction changed because of the pandemic, decreasing the number of students observing or practicing in a truck to just three or four. In addition, instructors minimized the amount of time students spent in lectures: "*What we try to do is minimize our time inside. Get them outside as quick as we can to get through that academic phase*" and onto the practical application of what they learned in the classroom.

For at least one program graduate, COVID itself inspired enrollment in a QuickJobs training program. Her employer closed its doors, and she was left unemployed. Although she had earned her CDL several years earlier, she added heavy equipment operation to her skill set and was eventually hired by another employer.

Implications

Those staff members who were employed by Tri-County Technical College during the grant period agreed that ARC program officers were responsive, supportive, and collaborative. Asked to give advice to other grantees, one team member suggested, "*Working with ARC, just be proactive. Get to know the administrator, the person administrating the grant. We were on a first name basis, and when they asked for information provide it in a timely manner. They're your partner…work with them and if you do get in a little snag or have a question engage them and involve them because they're there to help you*."

Students in the Anderson County QuickJobs Training Center power line program practice their skills.

Overall, however, QuickJobs Training Center staff appreciated ARC funding for the site and the partnership provided by ARC program officers. "*We could never have been where we're at today, we never could've arrived at where we're at today if it had not been for ARC and the non-credit division [at Tri-County Technical College]. [It's] been wonderful,*" reported one. Another added, "*The number one goal for me is to get [students] employed. The majority of our students are either unemployed or under employed. I don't mean to get sappy here, but we talk about transforming lives at Tri-County. That's really what it's all about for us*."

ARC Case Study Findings: STAND'S Youth Service Learning Initiative

Introduction

Situated on the northern border of Tennessee is Scott County, hailed as the Adventure Tourism Capital of Tennessee. Flanked on the west by Big South Fork National River and Recreation Area and on the east by the North Cumberland Wildlife Management Area, there are miles of trails and rivers to explore. Just under 22,000 people live in the county and they are predominately White (98%). Approximately 79% of adults 25 years of age and older have graduated from high school (compared to 89% in the nation at large), and just 9.2% have earned a bachelor's degree (compared to a national rate of 33%).[38] The per capita income of $31,046 is lower than both the state and federal averages and the percentage of the population living in poverty (19.8%) is higher than the statewide percentage. The county is categorized as economically distressed by ARC, indicating that they are part of the 10% most economically depressed counties in the nation.[39] Like much of Appalachia, within this idyllic landscape is a population ravaged by the opioid epidemic.[40]

GRANT PROFILE

Grantee name: Schools Together Allowing No Drugs (STAND)
Grant title: Youth Service Leaning Initiative (YLSI)
ARC project number: TN-18239 & -C1
ARC funded amount: $126,532 (total)
Close date: March 2018

CASE STUDY METHODOLOGY

STAND participated in a case study of their Youth Service Learning Initiative in July 2022 as part of a broader retrospective evaluation of education and workforce development programs funded by grants from the Appalachian Regional Commission.
This case study included:

- Virtual site visit
- Review of program materials
- Discussions with:
  - 2 project directors
  - 4 community partners
  - 3 program participants

From this context and history, a local coalition of community organizations, businesses, and individuals dedicated to the health and well-being of youth in Scott County came together to form STAND: Schools Together Allowing No Drugs. Initially, this coalition focused nearly exclusively on performing school drug tests, sponsoring prescription drug take-back programs, and advocating for policy changes related to drugs and alcohol. But over time, coalition members saw a need to support youth more holistically.

ARC Grant Purpose and Activities

Coalition members and STAND leadership recognized that students leaving high school needed more support and direction and that local young people experienced feelings of resignation about their futures. STAND's director reflected on this, noting *"Some people don't hope and dream because they*

[38] https://www.census.gov/quickfacts/fact/table/scottcountytennessee/PST045221
[39] https://www.arc.gov/distressed-designation-and-county-economic-status-classification-system/
[40] In 2018, Scott County, Tennessee, filed a lawsuit against prescription opioid manufacturers and distributors to recover taxpayer money spent combatting the opioid epidemic: https://www.lieffcabraser.com/pdf/Scott_County_Opioids_Complaint.pdf

don't even know they can. They don't even know what's out there." Around this time, STAND learned that local schools were struggling to meet some newly developed state goals around required service-learning curriculum and community service opportunities for students. In developing the Youth Service Leadership Initiative (YSLI) program, STAND sought to design a program that could address the concerns of both industry and education. One local community partner recalled thinking, *"all we can do is band-aid the adults…their mindset is so grounded and they're going to react. Our youth can think outside the box. So when they came up with the program for YSLI, I was like, 'oh my gosh this is it.'"*

In 2015, STAND was awarded a $26,681 grant from the Appalachian Regional Commission (ARC) to begin their YSLI program. In response to their successful first year and need for additional support, ARC awarded them an additional $99,851 grant in 2016 to continue to build their program.

YSLI has three core components which together reach every student across both school systems in Scott County. The first is classroom instruction on social and emotional health. Beyond that, students can also decide to participate in YSLI's Youth Coalition, which is open to all students and typically meets monthly. Finally, students can apply and interview to join YSLI's Board of Directors, a group of 8-12 students who lead coalition committees and fine-tune the course curriculum. Each program component is described further below.

Classroom Instruction

At its inception, YSLI was a partnership between STAND and two local public school systems – Scott County School System and Oneida Special School District. STAND already worked closely with the schools, performing drug tests and sponsoring occasional assemblies or events. Through YSLI, STAND provided both county high schools with a part-time instructor who would be embedded in the schools' wellness department (e.g., physical education, driver's ed). The YLSI curriculum focuses on social and emotional health, with a particular focus on factors affecting the lives of students in Scott County such as substance misuse, domestic violence, adverse childhood experiences (ACES), and bullying, as well as career-readiness skills such as interviewing techniques.

SAMPLE COMMUNITY SERVICE PROJECTS

Shop with a Cop: Partnering with local police force to take younger students living in poverty shopping for toys or household items

Serving at the Women's Shelter: Painting the local homeless shelter or serving a meal to the guests

Salvation Army: Serving as a bell ringer at local stores during the holidays to help with fundraising

Youth Coalition

The Youth Coalition is a natural outgrowth of YSLI classroom instruction. Students primarily from 9th to 12th grade gather monthly at the Boys and Girls Club to hear from speakers, meet in topical subcommittees, and plan community service opportunities. The subcommittees have varied over time but focus on local community and coalition student challenges. Subcommittees have focused on issues including mental health awareness, anti-substance misuse, dating violence and sexual abuse awareness, inclusion and diversity, environmental affairs, and anti-bullying, among others. Each subcommittee is responsible for devising service opportunities related to their focal topic.

YSLI Board of Directors

The YSLI Board of Directors is comprised of 8-12 student leaders who have applied, interviewed, and been selected to join the board. Board members serve as a steering committee of sorts for the classroom curriculum and chair each of the youth coalition subcommittees. In addition, board members receive training related to classroom curriculum topics, equipping them to offer input and vote on topics that would most benefit freshmen students. The board also evaluates and determines what each of the youth coalition subcommittees will address each year. In describing this process, the YSLI director explained, *"We know we have a huge drug and alcohol problem. We have a problem with dating violence, we have bullying, we have all of these things that the students are really interested in. So…I've allowed them to use their voices to decide what they want those committees to be...So they really came up with those ideas, and then our board members will chair over those committees."*

Members of the Youth Coalition paint the local Boys and Girls Club through one of YSLI's service opportunities.

Findings

Implementation

During the planning and early implementation phase of the YSLI program, staff were able to rely on strong relationships with local schools and communities that had been cultivated for years through the broader work of STAND. The STAND program director recounted: *"A lot of people have trouble getting into the system because it's just a burden. That's our main success. That came from years of doing that to be expected, that consistency and always showing up, always relieving burdens. So when we come to this point [of starting YSLI], that they were readily acceptable of us."* The classroom instruction components of YSLI progressed through several iterations, with curricula refined to address evolving needs and accommodate available funding. In addition to developing coursework, the YSLI director also organized several whole-school assemblies throughout the year focusing on prevention and wellness.

> *"[The YSLI director] does a wonderful job teaching the blueprints for learning course…at the high school which is a violence prevention, drug prevention curricula…She is a wonderful teacher in that she has already established positive relationships with students and they trust her, they go to her."* – Staff member at local high school

From the onset of the YSLI program, each component of the program has been governed by the student-led board of directors. The board began with 8 students representing both high schools who were selected to join the leadership team. One anecdote shared by the YSLI director about the early days of YSLI's time in the classroom demonstrates the buy-in students felt for this program:

> *"[O]ne day a young man came down the steps from high school and he said 'Miss, I get what you're trying to do and I appreciate it. This makes sense,' he said 'but you're missing the mark.' [And] he took my pen and he marked some of the things I had written on my paper and he started writing in subjects that he thought were more important to them. He was a foster child, in a county program and he really opened my eyes. I brought it back to the Board, I kept that paper, brought it and put it in our boardroom and talked to my Board. And that's when they decided that some of my curriculum was going to change that year. And I was going to focus more on the subjects that were really affecting our students…That was very beneficial."*

The Board of Directors was also instrumental in developing and launching the Youth Coalition. During the early years, members of the Board spent a significant amount of time participating in trainings and learning more about their county, the challenges facing students and other residents, and prevention and wellness strategies. Much of their work during the first year of the program was to develop a logic model that articulated the various components of YSLI and how they would intersect to engage local non-profits and businesses as partners for service learning opportunities and, ultimately, disrupt cycles of poverty and abuse. During the first year of implementation, the average number of service hours across both high schools more than doubled from 6 to 13.5 hours. A former student who had been part of the Board during YSLI's inception recalled:

> *"At the beginning it was again really abstract. We knew there was this logic model that was the overarching issue that we were trying to solve and we knew we wanted a coalition from both high schools. So during the time that I was on it, we were trying to build up enough support in the county, among the students our age who would do service events, invite people to it, get them involved so that we could build a base…So by the time we graduated, we were moving towards the coalition itself and building what the committees would look like. But we hadn't gotten there yet, we just built the foundation of what it would be and a base for that to sort of grow."*

As this student explained, the Youth Coalition remained in its infancy for the first few years of the YSLI program. Over time, the coalition would grow from just four initial non-Board attendees to nearly 100 members. The meetings have outgrown two facilities and now coalition members meet monthly at the local Boys and Girls club. At first, coalition meetings focused on disrupting cycles of poverty by increasing workforce skills and civic knowledge. But over time, broader needs surfaced and a wider range of topics have been examined during lectures, workshops, or small group discussions, covering topics such as understanding adverse childhood experiences, career readiness, peer bullying, resources for applying to and succeeding in college, preventing domestic violence, and more.

Over the years, the focus of the coalition has become more refined, although the Board continues to respond to the needs and interests of their local community through various subcommittees, chaired by Board members. Reflecting on the benefit of the service opportunities sponsored by each subcommittee, the YSLI director noted, "t*he value of that is number one nothing builds self-esteem in a child like service learning. We all talk about poverty and it's something we live with in our communities. [But] when you have to look it in the eyes and really talk to people, you see it. It's different, you see a difference…It makes a difference."*

ONGOING SUCCESS STORIES

Sara* got involved with YSLI during her sophomore year of high school. Prior to that, she had experienced a very tumultuous home life that included parental drug use during the height of the opioid epidemic, stints of homelessness, and involvement with child welfare. After hearing about YSLI from a coach, she decided to join to get service hours. She recalled that after her very first Youth Coalition meeting, she knew that "*from then [on] it would become a way for me to use every terrible thing that I had gone through and put it towards something productive.*" During her time in high school, she participated in various service projects with YSLI and by her senior year, decided that she wanted to move away and attend college, although no one in her immediate or extended family had done so. As she recalled, *"I wanted to go to a competitive school and it was something I was very unsupported in doing from everyone except for [YSLI]... I mean from the time that we joined the program they always wanted us to excel and to do whatever it was we wanted academically… to achieve what we want."* Sara explained that without YSLI, she would not have believed she could have gone to college*: "Without YSLI, I wouldn't have been confident enough to apply…[And] I don't think that I would've processed everything that I had been through quite as well without a foundation to understand it. And I don't think I would've moved out of Scott County without YSLI either which is strange to think about. It goes back to confidence. I would never have been confident enough to move away for school."*

*Names of participants have been changed

Sustainability

Although initially funded in 2015, the YSLI has continued to expand and adapt since its inception to meet the ongoing needs of its community. Grant staff credited this successful sustainability to three primary factors: 1) the ability to adapt, repackage, add, and expand curriculum to fit within the scope of other grant efforts to ensure ongoing funding streams; 2) sustained and expanding community partnerships and persistence in relationships; and 3) the same staff who are committed to the work of the program.

Community partners interviewed for this case study reiterated the importance of the last two factors, praising the work of both the STAND and YSLI directors for their work building community partnerships and their commitment to local youth and communities. One local principal commented, *"[YSLI is a] big huge support to the school system. It's a big deal to our school, and it's a big deal to our school environment. I would say probably our school environment is one of our biggest strengths, and some of that is due to having them here at our school and doing what they do. I can't say enough about how they've*

> *"Appalachia has so many programs come in and even ARC is sometimes one of them, they're one and done. They'll help, be here for a year or two and the next thing after the grant runs out…and we never see them again. That is perpetual here and that's why there's not a lot of trust. So the main thing we had to do when we started, we had to be present and consistent and we have always been that, no matter if we didn't have funding we have been present and consistent with everything we've done."* – STAND director

been great to me and help me."

Several community partners and one former student also reflected on how the need for the YSLI program has contributed to sustainability, noting: *"Back in 2015 I know that wasn't that long ago, but we're in a new world now 2022 than in 2015. And part of me thinks a lot of people weren't as vocal of the problems they were facing as they are now. Social media was still big, but even now more people are okay to come out and talk about their feelings, their past problems."*

Students participate in a Youth Coalition meeting in March 2022 at the local Boys and Girls Club.

Advancing Equity

Scott County where YSLI is situated has both persistent disparities and opportunities to advance equity. Nearly 20% of the population live below the federal poverty line and many members of the community were negatively impacted by the opioid epidemic, particularly in the 2010s, which contributed to loss of life, chronic unemployment, involvement with child welfare, and adverse childhood experiences for many families and youth.

"Because of disparities, [these students] are put in a category. And one thing we've done, we look at them as individuals. We see their potential…And when you bring all of them to the table and they hear each other's voices, they begin to see each other differently…We want those kids because those kids deserve every opportunity that every other child has." – YSLI director

YSLI staff are committed to countering disparities and narratives about individuals lacking potential. When students first arrive in a YSLI class or at a coalition meeting, staff described greeting them with welcoming, inclusive language and welcoming them into a group of other students who seek to be a safe place for all to share their experiences and perspectives. As the STAND director noted, *"We try to emphasize that nothing is too small. We can have a speaker or we can have somebody that just makes sure the drinks are there at the meeting. We make sure and say you've been consistent, thank you so much, we can't do it without you."* The entire YSLI program is framed around reducing inequity by combating cycles of poverty and addiction and providing opportunities for personal growth. Most recently, YSLI has added new efforts to support LGBTQ youth and youth with complex trauma and numerous adverse childhood experiences. One former YSLI student remembered that even from the project's launch, coalition meetings *"brought in students from every corner of the county,"* not just from one high school or one social group. A local community partner reported the same perception, noting *"[YSLI has] brought all different groups of people together, home life and social, they're all put together and they're being told you're all on the same page, you're equals. What you do from that is your choice…That is probably one of the most exciting things there is to see there's acceptance."*

A former YSLI student reflected on an event for young women where she shared about past trauma in her life and how she had gained confidence in herself through YSLI. She shared *"I think for some of those*

girls, it was the first space in which they felt safe enough to talk through things…really heavy things." And through the YSLI service-learning projects, coalition members are able to move out into the community to make strides at reducing inequity by improving the conditions at the county's homeless shelter, for example.

COVID-19 Pandemic

During the beginning of the global Covid-19 pandemic, Scott County schools switched to virtual instruction, while in-person meetings, including the Youth Coalition of YSLI, were discontinued. The YSLI courses offered through participating high schools continued virtually during the end of the 2019-20 school year. Board and Youth Coalition meetings were held via Zoom, but students quickly began to suffer from Zoom fatigue. As a result, several monthly coalition meetings were cancelled, although the Board continued to meet. The program directors worked hard to reach out individually to coalition members and maintain relationships during the first six months of the pandemic.

School restarted in a hybrid format during the 2020-21 school year, and YSLI and STAND were the only non-profit allowed to continue operating in the schools, since they were instrumental in teaching classes and had long-standing, trusting relationships with the school community. Coalition meetings also resumed during the 2020-21 school year. Despite the YLSI director's fears that the team would need to rebuild the coalition, participants were able to resume their efforts quickly, with no decline in participation levels. The STAND director credited this to the project's ability to remain in the schools as well as to the strong relationships cultivated with the YSLI director through persistent outreach during the previous year.

Lessons Learned and Implications

Reflecting on their experience with their ARC grants, YSLI program staff noted a few limitations to ARC funding. In particular, program staff highlighted the difficulty of maintaining enough operating capital to function between 90-day filings and returns and suggested building in options to bill on a monthly basis instead. The challenges of a cap on the percentage of grant funding that can support staff salaries was also raised as a limitation, particularly for small non-profits. Staff additionally discussed the challenges of sustaining funding and, as one staff member put it*, "I would rather have less money for five years than a big bunch of money in two years."*

A few elements that contributed to YSLI's success may also have relevance for the broader community of ARC grantees. For instance, programs with trusted, local leadership with a track record of successful involvement in the community like that of YSLI may garner greater buy-in and longer staying power. Engaging key stakeholders and program beneficiaries in decision-making roles such as through the Board of Directors may also be a strategy to increase buy-in and build momentum during early program implementation.

ARC Case Study: Allegany College of Maryland

Introduction

Historically known as the Queen City (having once been the second largest city in the state), the city of Cumberland in Allegany County in western Maryland lies close to the Pennsylvania and West Virginia borders. With its early roots in industry, the area's largest industries now include construction, restaurant and food services, and general medical and surgical hospitals.[41] Founded in 1960 as Allegany Community College, Allegany College of Maryland's (ACM) main campus is located in Cumberland, along with six other locations across Maryland and Pennsylvania. ACM is one of 16 colleges within the Maryland Association of Community Colleges.

GRANT PROFILE

Grantee name: Allegany College of Maryland
Grant title: Allegany College of Maryland Advanced Manufacturing Workforce Development Training
ARC project number: MD-17740
ARC funded amount: $93,000
Close date: June 2015

CASE STUDY METHODOLOGY

ACM participated in a case study of their Supporting and Strengthening Business Development Through Advanced Manufacturing Training in Rural Western Maryland & Surrounding Region Training Project Initiative in August 2022 as part of a broader retrospective evaluation of education and workforce development programs funded by grants from the Appalachian Regional Commission (ARC). The case study included:

- In-person site visit
- Review of program materials
- Observation of ACM activity
- Interviews with:
  - 5 project staff
  - 2 partner staff
  - 4 program participants

Site Description

ACM serves residents from western Maryland and the surrounding region in Pennsylvania and West Virginia, all of which has a primarily Transitional economic status.[42] With a total enrollment of nearly 3,000 as of academic year 2021, ACM serves a mix of in-state (55%) and out-of-state (45%) students, most of whom are Caucasian (80%), female (75%), and part-time (62%). More than 80% are first-generation college-goers and more than 90% receive financial assistance.[43]

Cumberland is home to nearly 19,000 residents, the majority of whom are White. The population per square mile ranges from 47 in nearby Bedford County to 1,897 in Cumberland, with unemployment rates in the area ranging (5-6%) just slightly higher than the state average of 4%. Poverty rates are much higher than the 9% state average, ranging as high as 21% in Cumberland. For persons 25 years and up, high school graduation rates are all close to the state average of 91% and the percent with a bachelor's degree or higher is about half or less than the statewide rate of 41%. A summary of the region's demographics is presented at the end of this report by county and city served, along with state demographics as a point of comparison.

[41] See the DATA USA fact roundup for this area: https://datausa.io/profile/geo/cumberland-city-puma-md
[42] See how county economic levels are determined by the ARC: https://www.arc.gov/distressed-designation-and-county-economic-status-classification-system/
[43] See ACM at a Glance: https://www.allegany.edu/acm-at-a-glance/index.html

| ARC Grant Purpose and Activities |

The Allegany College of Maryland "*Supporting and Strengthening Business Development Through Advanced Manufacturing Training in Rural Western Maryland & Surrounding Region Training Project*" was funded by ARC in 2016 to provide training in industrial metal fabrication and American Welding Society-certified classes. Grant funds were used to purchase equipment for the classes and to obtain the necessary certifications. Specific courses offered included blueprint reading for machinists, operating manual lathes, operating manual mills, Computer-Numeric-Controlled (CNC) operations, CNC programming, geometric dimensioning and tolerancing, and welding courses leading to advanced certifications. Initial participants were employees of local companies.

Through ARC support, ACM provided workforce development training through continuing education using state-of-the-art technological tools. ARC funds helped support recruiting, training, retaining, and developing more skilled employees while also addressing certification requirements of employees in area businesses and industries. Tuition support was provided for students through funding from the Allegany County Opportunity Scholarship Program. The Machine Tool Technology program at ACM started in fall 2014, and with ARC funding, ACM was able to purchase additional machinery, including three manual lathes, two manual mills, one CNC lathe, and one surface grinder. This additional machinery helped establish a 2:1 ratio for students working on the machines, giving students more clock hours on the machines. Purchasing the CNC lathe allowed the ACM to conduct the training onsite instead of having to send students to the Career Center to complete their lathe projects.

The welding lab and equipment at the Western Maryland Works facility.

The ARC funding helped ensure sustainable workforce development equipment and training for the Western Maryland region. During 2016, ACM was approached by a large defense contractor to offer specialized machining for up to 20 machinists in fall 2017. ACM has also received requests to offer the lab as a metal fabrication lab for local small businesses, giving them opportunities to produce prototypes or improve existing ones.

The primary focus of the ARC project was to improve the economic outlook of the local area by providing training to workers to meet existing workforce needs, helping workers retain employment and increase job retention rates, and coordinating with economic development initiatives already underway. Intended outcomes were that 20 continuing education students and 15 employers would receive direct and indirect benefits of this project every two years. By the end of December 2016, 33 students had attended the Machine Tool Technology program and earned 134 certifications; eight employers had received direct benefits.

The machining lab and equipment at the Western Maryland Works facility.

Findings

| Implementation |

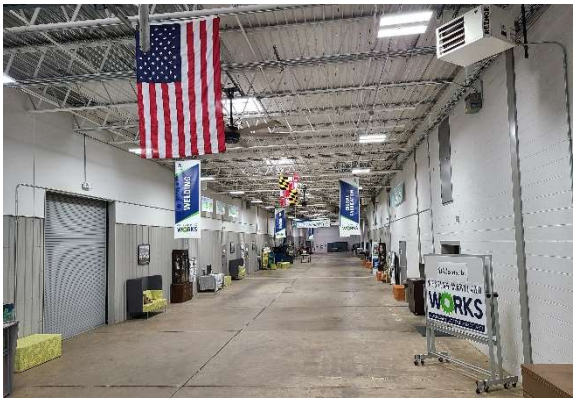
ACM first offered Machining training in 2015, in response to a regional business's request for training of replacement workers to fill their projected loss of nearly 100% of their machinists over the next 5 to 10 years. One ACM staff said that Appalachian Maryland has "*pretty robust manufacturing production*" along with "*a skills gap that needed to be filled*." ACM fulfills local employment needs by offering workforce development continuing education programs; initial offerings included Level 1 Machining and Welding and a Department of Labor grant enabled the addition of an Industrial Maintenance program.

To best meet student needs, ACM secured ARC funding in 2016 to purchase additional equipment, giving students increased opportunities for more hands-on work so that they became both "*quick and accurate*" with machine operations. In conjunction with the additional equipment, ACM also increased the number of hours for Level I Machining from 600 to 720 hours of training, again striving to ensure students were sufficiently prepared in terms of content knowledge and skills. A current ACM staff member who completed the Machining program recalled how "*when I went through the program we were sharing machines . . . and now everyone has their own machine they can manufacture on*."

ACM staff note that their placement rate for students is nearly 100%. National Jet and Northrop Grumman, both regional industry employers, hire many of ACM's Machining students upon completion of their training. One staff member who completed the program said, "*I greatly recommend this program to anyone*" and that the ACM training "*really gets you to that career-ready standpoint . . . ready for the workforce*." Another staff member described as a main achievement of the ARC-funded project the "*win, win, win, win triple-header-win for everybody*," going on to explain:

> "*The training led to employment so on the student side of it, they got the necessary skills training that they needed to fulfill sustainable employment. On the partnerships that we have with our employers, they were rewarded with skilled workforce. . . . On the school side, we were able to establish a training program and continue to build off of that*."

In 2018, ACM partnered with Allegany County in a joint workforce development and makerspace venture that led to the renovation of an old industrial warehouse into the current Western Maryland Works Training Center and Makerspace site. ACM now offers Welding, Industrial Maintenance, Machine Levels I and II, Robotics, 3D Printing, and the Makerspace[44]. Additional certifications are available in OSHA, forklift, flagger, backflow prevention/cross connection, home inspector, and preparation for the Maryland Home Improvement Contractors exam.



The "Main Street" at the Western Maryland Works facility.

[44] The Makerspace houses a digital fabrication lab, 3D printing, manual and CNC machining, and a woodworking lab, all available to the public, local businesses, and entrepreneurs for daily rates and monthly memberships.

ACM will also be offering in the fall 2022 a new AAS Engineering – Automated Manufacturing Technology degree program. College students can earn up to 20 industry credentials as well as a degree through this two-year program. And, through partnership with Allegany County Public Schools, high school students can take a CTE program during their junior and senior years, enabling them to graduate high school with 39 college credits, a CTE Completer certification in Manufacturing Engineering Technology, and earn up to 20 industry credentials—all free of charge.

As these renovations were underway, an economic disaster hit the region in 2019, when Verso, a long-time paper mill, closed its doors unexpectedly and left hundreds of dislocated workers without employment. ACM was part of the rapid response team formed to address the employment emergency, and as a result, about 70 Verso workers used Trade Adjustment Assistance (TAA) funds to pursue Machining, Welding, or Industrial Maintenance certification. Workers began their training at the ACM campus but then in January 2020 the equipment and training was relocated to the current Western Maryland Works facility. ACM has been working over the past several years to train additional Verso workers; fall 2022 will be the first time that the programs are open to the public again.

Trade Adjustment Assistance (TAA) Program

The federal TAA program "seeks to provide adversely affected workers with opportunities to obtain the skills, credentials, resources, and support necessary to (re)build skills for future jobs. Any member of a worker group certified by the Department [of Labor] may be eligible to receive the following benefits and services at a local American Job Center:

- Training
- Employment and case management services
- Job search allowances
- Relocation allowances
- Income support in the form of Trade Readjustment Allowances (TRA)."

https://www.dol.gov/agencies/eta/tradeact/about

Several individuals who completed the ACM Machining courses, including several dislocated workers from Verso, shared their perceptions of the experience. One recalled how, when Verso closed unexpectedly and state and local entities hosted a job fair soon thereafter, ACM really "*stepped up to the plate and said 'Hey, we're going to help these people out, this is our local community, we're going to help them out what we can . . . they need to be retrained and get back out into the workforce'*." One recalled an ACM-hosted field trip to visit an industry employer based in Winchester, Virginia and how that employer was so impressed with the ACM training that he offered to hire any of the students when they completed their training for $20 an hour. This participant also identified extra benefits resulting from being in the initial cohort of 10 Verso workers who experienced the shift from the ACM campus to the Western Maryland Works facility, noting "*I am not just a person who can run [equipment], I've actually set one up which was a good learning experience*."

3D printing equipment at the Western Maryland Works facility.

Robotics equipment at the Western Maryland Works facility.

Another program participant, a former Verso worker who participated in the ACM training starting in January 2020, described the experience as having "*peace of mind knowing we had somewhere to go and a future. . . just the idea that there was a light at the end of the tunnel after 23 years [at Verso] and [then] the mill shutting down*." Although this individual chose to enter a different career after completing the training, they are using their industrial maintenance skills to renovate an outreach facility in the community. Moreover, this program participant hopes to someday "*start my own machine shop*." Another participant reported job offers from several regional employers, and when he left one company to accept a better position with another, was reassured that he would be rehired in the future if desired.

Participants noted the training program benefitted them in other ways beyond skills for future employment. One said, "*It's encouraging to know that at 54 years old, I know I can still learn, I can still be taught. I can still continue to grow. I am encouraged, I am not afraid of anything*." Another reflected, "*I feel like it's gave me a good toolset . . . with just having the resume itself of all the things that I've actually completed in this class*."

In reflecting on challenges encountered, one individual noted the "*humongous amount of paperwork*" to satisfy state and federal recordkeeping requirements of the TAA program—and how ACM again provided needed support by offering use of their equipment to scan and email the paperwork. This individual reflected, "*I can't praise everybody enough from the college who stepped up to help us out in this program. In our dire time of need, when the mill shut down, they really did look out for the community.*" Other participants also cited the paperwork requirements and described how ACM staff helped them get the initial paperwork processed quickly so they did not miss TAA deadlines. One participant noted the support provided specifically by one ACM staff member, commenting that "*If they paid him by the hours that he put in, no one could afford him! He'll live here if that's what it takes to help somebody out.*"

| Sustainability |

ACM staff were quick to point out the importance of partnering to carry out these workforce services in their service region and confirmed "*We have great partners*." One staff member added, "*We have to reach out and partner, because we're too small to try to do it alone*." In addition to ARC, partners include Allegany County, Allegany County Public Schools, higher education institutions in the surrounding area, and industry employers, among others. "*Without agencies like ARC . . . that offer up the opportunities for us to implement these training programs, we just wouldn't be able to do it. So it's a wonderful partnership to have with these agencies that help with that*." As a former Allegany County government worker noted, "*I love ACM's ability to focus on in-demand occupations, and that was my own stipulation*

for them as an education partner—bring over whatever trainings you want, but they've got to be in-demand jobs."

On August 18, 2022, ACM hosted a dedication and ribbon-cutting ceremony for the new facility. There was also an agreement signing with Eastern West Virginia Technical and Community College for a partnership enabling Eastern students to take Industrial Maintenance training courses at Western Maryland Works. The service included welcoming remarks by ACM President Cynthia Bambara, followed by Senator George Edwards, ACM staff, industry employers, Allegany County staff, and closing comments and a summary of future plans by ACM Director of Career and Employer Solutions Rebecca Ruppert.

In 2022, ARC federal co-chair Gayle Manchin toured the Western Maryland Works facility as part of ARC's first Appalachian Envisioned roadshow site. Staff have high hopes and high expectations for the ongoing success and continued growth of their workforce development training program. Local industries are reaching out to ACM "*almost weekly*" to discuss worker training needs. "*So we're just starting to explore all those options. . . I see Machining and the growth into AAS as keeping that one program running for all. . . Welding has run for years so I really think Welding and Machining will be around for a long, long time,"* and, one staff member noted ACM's interest in further expansion, "*We'd like to move into Tool Die and Gauge Maker which is the next level up*" (after Machining Levels I and II).

Program participants held similar views. One reported "*This is a program; this is a career that is going to be around. It's something people are going to need, mac*hinist and CNC, it's not going away, . . . it's an in-demand profession."

The exterior of the Western Maryland Works facility.

Another commented, "*This building is not going to reduce the amount of students that want to go to college for a 4 or 6 year degree. . . [But] for kids that don't want to do that, here's an opportunity to make a good living in a field that's growing, that's not going away*." According to one participant, "*For me, it was a little bit scary, but after I was here, I would recommend this program to any kid and any adult that wanted to go to school."*

Another interviewee discussed how having such workforce development opportunities in the community was critical for the economic growth of the region:

> "*Our focus now on the county level has been how do we bring in the high-tech industries into the area. That's where the future is. This helps us to get ahead of the curve instead of . . . in Appalachia, we're always feeling like we're fighting to catch up. And it seemed like we're always spending money just to maintain what we have. This enabled us to kind of skip ahead and get ahead of the curve. So now this is a drawing card for economic development*."

| Equity |

ACM serves an area with a high percentage of lower-income residents and accordingly the majority of students are financially disadvantaged. With a high cost of nearly $10,000 for completing Level I Machining, ACM provides financial support to students through a variety of scholarship programs, including Workforce Innovation and Opportunity Act (WIOA) funds, Allegany County Opportunity Scholarships, and the Maryland Workforce Development Sequence Scholarship. Staff note they try to encourage more females to participate in these male-dominated training areas and one staff member commented that they see "*a surprising amount of females*" in the Welding program. Further, in collaboration with Allegany County Public Schools and the CTE programs, AMC conducts outreach to special populations.

One former Allegany County government employee reflected on the loss of numerous industry employers in the region over the past several decades and how that led to youth moving out of the region to find employment elsewhere. "*I am almost feeling our youth in this community is that marginalized population because they were told there's nothing else*."

| COVID-19 |

Staff described how the COVID-19 pandemic was "*bad for the entire community*," noting some local businesses "*that just never will recover*" from the mandatory shutdown. For the just-up-and-running Western Maryland Works facility, the pandemic hit shortly after the site was opened in January 2020. ACM closed their campus and the Western Maryland Works site in March, but former Verso workers had to continue their training or lose their TAA benefits. For a six-week period, ACM purchased online training to cover some of the content knowledge for students, but then requested and received permission from ACM leadership to re-open the Western Maryland Works facility, following all federal and state health requirements, first for Machining and then also for Industrial Maintenance. To accommodate the restricted student/instructor ratio for social distancing, ACM offered three sessions daily so that all students could participate in the hands-on training. As one staff recalled, "*It was a nightmare, but we did it, we kept them all going. Because they would've lost everything, they would've lost not just the training, they would've lost their benefits*." Another reflected, "*We had to fight tooth and nail to come up with a way to get our students back in school*."

One staff member recalled a phone call from NIMS (National Institute for Metalworking Skills credentialing agency) during that time, when trainings were once again being held in-person, informing them that they were *"#1 in the country right now for credentialing*" due to all the other colleges and training centers still being shut down. "*So that was our little thing, #1 in the country*." ACM had two more 3-week shut-downs due to the pandemic: one during the summer and another between Thanksgiving and Christmas. Staff noted that these experiences have helped them develop a hybrid model combining online and in-person experiences that could be adapted and used in the future.

| Implications and Lessons Learned |

When asked to identify key lessons learned, ACM staff offered insights related to grant funding. Both acknowledged they were more aware now of associated costs that are supplemental to the actual price of equipment. For example, if they use grant funding to purchase equipment, they need also to consider funds required for transporting the equipment and having it installed, as well as any supplemental

electrical requirements such as a transformer or air conditioning. As one noted, "*Make sure you look at all the costs because there's just a lot more to it than just the piece of equipment*." Staff also tied this lesson to recommendations for future ARC funding, suggesting that ARC provide more latitude in covering capital expenses and offering more flexibility for amendments and modifications. One individual noted that with high-end equipment comes the need for high-end supplies and materials, and that ongoing maintenance of and warranties for such machinery is expensive.

One ACM staff member also suggested that ARC might consider decreasing the matching requirement for future grants:

> "*I think the hardest part is coming up with the match, because they're so generous with us, but sometimes especially in something like this—the equipment is so expensive—a $750,000 metal printer. I would love to have that printer. I've got an engineer that could run that printer. We have employers asking us to get that printer. But there is no way that we have a match for that printer*."

Program participants were very supportive of how ARC funding had been used to support ACM's workforce development offerings. One of these individuals stated, "*I think this is one of the better examples of 'Yes, your money works, it worked good to help people'*."

Other interviewees held similar views. One commented that "*There are some government agencies that don't quite live up to their strategic plan or to their core goal, right? ARC is absolutely one that does.*" This individual then added that the fall 2022 ARC annual conference is being co-hosted by the State of Maryland, and that the Western Maryland Works facility will be one of the site visits offered as part of that conference. "*People are going to come here and see this space and hear their messages*." Another individual perceived that "*None of this in our area could happen without ARC. It really could not*."

ACM staff were also in agreement about the critical support provided by the ARC. "*We have just had an amazing relationship with ARC. . . . We are very grateful to ARC. Like none of our staff could have happened without the assistance of ARC. Almost this entire building was reoutfitted with ARC funds*." (Allegany County received ARC funding in 2019 and 2020 to support the Western Maryland Works facility renovation.) Other staff members voiced similar comments, "*I am grateful that these agencies and organizations support these kinds of programs . . . recognizing the value of workforce development . . . and supporting that is wonderful*." "*You go back there [in the facility], we got a banner hanging up thanking ARC for all their support. There's a reason because ARC has been very supportive of everything that we're trying to achieve around here. So kudos to you guys!*"

ARC signage at the Western Works Maryland facility.

Table 1. Regional Demographics[45]

Indicators	Maryland	Cumberland City MD	Allegany County MD	Bedford County PA	Somerset County PA	Mineral County WV
Population Estimate, July 2021	6,165,129	18,736	67,729	47,461	73,627	26,857
Per Capita Income 2016–20	43,352	25,956	24,776	26,950	27,323	26,363
Median Household Income 2016–20	87,063	40,888	49,449	51,531	51,255	51,723
Persons in Poverty 2021	9%	21%	15%	11%	12%	14%
Race: White	58%	90%	88%	98%	95%	94%
Households w/ Computer 2016–20	94%	83%	86%	82%	82%	89%
High School Graduate* 2016–20	91%	91%	90%	89%	89%	92%
Bachelor Degree or Higher* 2016–20	41%	21%	19%	16%	17%	18%
Civilian Labor Force 2016–20**	67%	52%	50%	58%	56%	56%
Pop. per Square Mile 2020	636	1,897	161	47	69	82
3-yr Avg. Unemploy. Rate 2017–19	4%	--	6%	5%	6%	6%
County Economic Status 2022	--	--	Transitional	Transitional	Transitional	Transitional

Note. *Persons aged 25 years+; **Population age 16+

[45] Data sources: Rows 1-10: https://www.census.gov/quickfacts/fact/table/PA/PST045221;
Rows 11-12: https://data.arc.gov/data (County Economic Status Classification)

ARC Case Study: Hartselle (AL) City Schools

Introduction

Hartselle City School District in the City of Hartselle, Alabama includes three elementary schools serving students in grades K-4, an intermediate school serving grades 5-6, one junior high school serving grades 7-8, and one high school serving students in grades 9-12. The district was recently ranked number 8 on the list of "Best K–12 Schools in the State of Alabama" by Niche.[46] This case study features the school district's "3D Math Increases Job Opportunities" project, funded by a grant from the Appalachian Regional Commission (ARC) in 2016.

Table 1. Regional Demographics

Indicators	Alabama	Morgan County
Population Estimate (2020)	5,024,279	123,421
Per Capita Income (2015–2019)	$28,830	$28,474
Median Household Income (2016–2020)	$50,536	$52,923
Persons in Poverty (2019)	15.5%	14.4%
Race: White	68.9%	82.4%
Households w/Computer (2016–2020)	87.9%	86.8%
Households w/Broadband Internet (2016–2020)	79.9%	77.3%
High School Graduate* (2016–2017)	86.9%	84.0%
Bachelor's Degree or Higher* 2013–2017	24.5%	21.3%
Civilian Labor Force (2022)**	2,293,627	60,821
Pop. Per Square Mile (2010)	99.2	212.9
County Economic ARC Rating Status (2022)	–	Transitional

Note. *Persons aged 25 years+; **Population age 16+

GRANT PROFILE

Grantee name: Hartselle City Schools
Grant title: Hartselle City Schools 3D Math Increases Job Opportunities
ARC project number: AL-18407
ARC funded amount: $50,000
Close date: January 2018

CASE STUDY METHODOLOGY

Hartselle City Schools participated in a case study of its 3D Math Increases Job Opportunities program, part of a broader retrospective evaluation of education and workforce development programs funded by the Appalachian Regional Commission (ARC). This case study included:

- In-person site visit
- Review of program materials
- Interviews with:
  - 4 district staff members
  - 2 students

Site Description

Founded in 1870, the City of Hartselle, AL, owes its existence to the construction of the South and North Alabama Railroad, which began construction through the area in 1869 in an effort to connect the mineral-rich areas in the southern part of the state with major shipping areas in north Alabama. Originally a mile north of the depot's current location, Hartselle once consisted of a general store and a saloon for workers. Today, Hartselle is the second-largest community in Morgan County with a population of 14,421. Across the county, education trends are similar to those of the whole state; 84% of people aged 25 or older have graduated from high school compared with 87% statewide and 21% have a bachelor's degree compared with 24% statewide. The

[46] Niche is an organization that provides in-depth profiles of every school and college in America and has 140 million reviews and ratings of educational institutions: https://www.niche.com/about/

county is designated as Transitional by ARC, meaning that it is transitioning between strong and weak economies.[47]

The county draws tourists—and ducks—to its many waterways. One such site is Wheeler National Wildlife Refuge[48] located along the Tennessee River, which is made up of 35,000 acres of wildlife habitat and is home to Alabama's largest wintering duck population. Additionally, Hartselle is just a 30-minute drive to Huntsville, AL, the state's most populous city, making for an easy commute to businesses and attractions.

The two largest employers in Morgan County are Fortune 500 corporations Cerrowire and Sonoco Reels & Spools (formerly Sonoco Reels & Plugs). Both companies have strong reciprocal partnerships with the Hartselle City Schools system.

| ARC Grant Purpose and Activities |

Prior to applying for ARC funding, district staff recognized a growing need for STEM [science, technology, engineering, and math] classes and a corresponding disinterest among students in the district. The current superintendent reflected, *"Our students were not interested in the STEM classes and in science and in math. This was supposed to excite them to gain interest in math. And so that's why we wanted to place the 3D printers in the elementary classes all the way to the high school…Some things are so abstract, this would give them something concrete to hold on to… when they're looking especially with geometric figures or even algebraic equations, trying to see all that and help solve some of the problems with that. And they would understand the application of those math problems and then going in and designing it on the 3D printer."*

The purpose of the ARC grant was to advance and enhance student technology skills as well as improve mathematics achievement, which Hartselle schools dubbed 3D Math Increases Job Opportunities. The grant award was $50,000 and together with $50,000 of matching funds, Hartselle City Schools used the money to purchase their first 3D printers for use in STEM education courses, especially in the area of mathematics (geometry and algebra). The grant also supported professional development for teachers on how to use the printers. A district teacher recalled, *"It was still… it was unusual to have 3D printers in the schools. And talking with other teachers they were very impressed that we had them when we first started."* All interviewees also noted that students were excited about using the new technology as part of their school day.

Findings

| Implementation |

Although Hartselle City Schools does not have a grant writer on staff, they were able to overcome this challenge to apply and secure ARC funding. District staff reported that ARC program managers were accessible, helpful, and encouraging during the application process and that ARC's Alabama state program manager checked in frequently throughout implementation. However, the district

[47] https://www.arc.gov/distressed-designation-and-county-economic-status-classification-system/
[48] http://encyclopediaofalabama.org/article/h-2399

superintendent reflected that ARC's financial paperwork during implementation was "*confusing and, at times, problematic.*"

Through grant funds, the district was able to purchase fifteen 3D printers to be placed in secondary mathematics classes across intermediate school, the junior high school, and the high school. Although this 3D Math project was planned to benefit all students in 5th-12th grade, additional 3D printers were also placed in the libraries of district elementary schools:

> *"We had librarians that created maker spacers as a result of this and they had this as a piece for their students. At one point I was an instructional partner at the elementary school when we first received them. I did little lessons with my robotics and engineering club, and the students were doing a book project in their classroom. So they created an item that was 3D printed that correlated with their book they read."*

3 D Printers in the Hartselle CTE Center.

STUDENT EXPERIENCES

Matthew* was a senior at Hartselle High School who had benefitted from the 3D printers throughout his high school career. Through his coursework, he had become certified in CAD, explaining that, "*the 3D printers help me not just make it in the computer but also I can easily download or convert the file into the maker box, just so I can make anything I really would want and I can scale it pretty easily too. That's really helped me a lot too*." This skill enabled him to create "passion projects" as well as complete his assignments. *"For me the best part is to be able...to make things for people specifically and to be able to design and make an actual object and give it to them, it really helps me out. Because I can just grab my CAD skills, my 3D design skills on the 3D printers and I can make, like, a name template for a teacher that I liked a lot, any other teacher I can make a cool little measuring tape. I would say the best thing for me would be designing something and giving it to a teacher."* Reflecting on the long-term benefit of his experiences with this technology, Matthew said, "*almost every manufacturing industry uses 3D printers in a certain way for their products. Almost every single one of them. So I would say just using little 3D printers like these that make little designs and infusing some kind of 3D softwares and converting them to different sizes and factoring and those things, just having experience with that gives them a bigger target on you yourself in getting different jobs in different places."*

*Names of participants have been changed

Prior to fully integrating the printers into coursework, all relevant teachers were offered professional development on how to use the machines. The career technology teacher reflected on the challenges of developing specialized professional development training on the technology, as resources related to 3D printers were not yet widely available:

> *"I found my own, and I used the maker bot, we purchased the maker bot 3D printers so I used the maker bot educator manual and taught myself and watched videos and trouble-shooted myself. Our tech department, we were going at this at the same time, simultaneously and we put together a PD for the teachers…[We offered] it initially as a summer PD so they [teachers] could earn a flex day and we had those with our school district, so that counted as one of their flex days."*

As part of the process of integrating the 3D printers into coursework and curriculum, the school's instructional content was adjusted to be more coherent and sequential to help students make explicit connections between what they were learning in school and the needs of the local business and industry workforce. Those STEM connections are made using explicit instruction—and application—with the 3D printers and mathematics content from 5th grade through 12th grade. According to the superintendent of schools, this ARC grant and the related adjustment of curriculum was instrumental in aligning coursework and programs to meet the area's workforce needs for the two largest employers in their area (Cerrowire and Sonoco). Content area educators are now working with the career and technical education programs, and STEM courses are integrated and aligned with multiple opportunities for students and educators.

| Sustainability |

The ARC grant support initially helped the school system increase its focus on STEM education. School administrators shared that the original STEM funding inspired changes across schools, courses, and programs in Hartselle City Schools. Through the technology-enhanced programs at Hartselle City Schools, district staff reported that there is more student growth and more students are meeting the mathematics benchmarks.

> *"It's definitely helped increase an interest in the math and science and I think our robotics and STEM competitions and STEM interest with our students and even some Cyber security things as well."* – District Superintendent

The school district has also built upon the success of their 3D Math project, leveraging state technology funds and securing subsequent grant funding to purchase additional 3D printers, laser cutters, a SPARK Lab (adapted from the Smithsonian model)[49], as well as upgrades to software and technology. The following are new additions that evolved from the original grant intent:

- A manufacturing academy
- Increased enrollment in engineering courses
- Dedicated STEM electives for grades 5–12
- A dedicated STEM teacher at all three secondary schools
- A new full-time position dedicated to STEM and robotics at the intermediate and junior high schools
- Vertical alignment for STEM programming
- Two STEM-certified elementary schools
- One elementary school is implementing a STEM program called Project Lead the Way Launch[50]

[49] https://invention.si.edu/try/sparklab
[50] https://www.pltw.org/our-programs/pltw-launch

Interviewed students shared that they have a better understanding of mathematics because of the 3D printers and components that have been developed around them. Two high school seniors said that they can now apply the mathematics in 2D formulas (on paper) to design 3D objects representing those formulas. Both students noted they are proficient in turning plans into products using ratios, scale, design, engineering, technology, and manufacturing skills. Both said they are also capable of troubleshooting the technology, including assembling and disassembling the equipment. The students indicated their new skills can apply to many other processes, such as the use of the plasma cutter, computer-aided design (CAD) software, and 3D design. In one example of these layered skills, the superintendent shared that the students, "*3D printed components to a Christmas village. They laser cut some things and 3D printed some things. And see we would've never felt confident enough to go to the laser cutting and engraving piece without that foundational piece of those 3D printers. The design piece is the same, they download to a different format."*

3D printed snowman used for holiday displays.

Both seniors are now working with scientists and engineers from the University of Alabama in Huntsville (UAH) and NASA to design and create an "object" that will be sent on a future spaceflight to Europa, one of the smaller moons of Jupiter. According to the students, the work they are doing now is preparing them for their future education and the world of work. Instead of working on mathematics in a 2D mode (on paper), they are able to visualize and create 3D versions. And, because of their work with UAH and NASA they have learned to apply what they learn, work as a team, interact with employees and employers, and engage in professional conversations. Both said they find it enjoyable to create and complete something they have designed and will apply their 21st Century "Essential Skills" including communication skills as well as enhanced math and science knowledge. As one student said, the experience gave him the "*confidence to be the best engineer I can be*." He added, "*It has changed me—I want to build more complex designs*."

In addition to partnership with local universities, Hartselle School District has also been able to expand workforce partnerships because of the direct skills students have gained through the 3D Math project. In 2018, Hartselle High School launched a workforce development program to leverage their growing STEM programs and more explicitly prepare students for careers in the local areas. Dubbed Tiger Launch because the Tiger is the school district mascot and Hartselle was "launching" a new initiative, the program connects students to internships with regional businesses. Students are paid for their work and develop new skills that will serve them after graduation while meeting the workforce needs of nearby businesses in the short-term (internships) and potentially in the long-term (post-graduation careers).

The district superintendent discussed how the 3D Math project supported by ARC helped pave the way for this new initiative:

> *"I even think the 3D printers helped to send kids to the Tiger Launch program. So we have two industries here in Hartselle that are huge. One makes wiring and the other company makes the*

spools that the wiring goes on. They weren't even talking until we got involved. We have our students, we built our own apprenticeship program with both of these companies. So…they're growing their own employees…[and] students had to learn how to program those 3D printers to go do all that. So that spills over to the programming that helps out with Cerrowire but then even to run the machines at Sonoco even conveyor belts with all the spools on them, put them together, wrap them, shrink wrap…

All those kinds of things… As well as quality control, when they're making those eggs. Did it meet our specifications. Did it meet our quality. They can apply all those manufacturing principles to those simple projects…There were so many components of having that. You didn't know what impact it was going to make. It has made a difference."

The plant manager at Sonoco explained, "*committing to your first job anywhere can be scary*. *This program introduces young people to the workplace side-by-side with their peers. That experience goes a long way in building the skills, knowledge, and confidence needed to move forward in that job, with another company, or on to higher training and education opportunities*."

The Sonoco Vice President and General Manager also highlighted the benefits of their partnership with Hartselle schools, saying "*having the Tiger Launch program kickoff at the same time provided us with another good resource for potential new staff*." He also praised the school for the way they mentor its participants in workplace safety, coworker courtesy, industry practices, and decorum. The Cerrowire President also noted, "*at Cerrowire, our culture is centered on build, energize, inspire…Being able to inspire students through the Tiger Launch program is one way our company is able to give back to our community.*" Sonoco expects to have 26 students working with them in the fall of 2022 and eight more have committed to work full-time at Cerrowire after graduation.

ENTHUSIASM AS SUSTAINABILITY

In 2018, Hartselle City Schools hosted a large "Planning Our Future" event to increase partnerships and support the goal of expanding a path to local industry for students. With increased interest in STEM and other technology opportunities, the schools provided a parent night to ensure that parents were aware of all the students' options - students were also encouraged to attend.

The workforce development night focused on grades 5–12. The Chamber of Commerce provided door prizes and event planners were expecting about 1,500 people—but 3,000 people showed up; 20% of the city's population. During the event, students served as hosts and created items on the 3D printer as giveaways while high school students and educators conducted tours.

Staff reported that following this successful event, younger students became more excited about the math, science and robotics programs and Hartselle City Schools staff think of their work more as part of a comprehensive program that is having a great impact.

| Advancing Equity |

When asked if the grant prioritized the engagement of disproportionately affected groups that have been economically or socially marginalized, the superintendent said that the ARC grant was written to address just that. The superintendent also noted the grant funding for this project is intended to

encourage *all* students to embrace and apply math while supporting the needs of regional workforce development. And the superintendent reported that all students benefitted in some way from the grant. For example, students in special education derived tangible, needs-based benefits from the 3D program when they received a putt-putt (miniature golf) game with modified equipment and putters to accommodate the student's individual physical needs:

"By having access at all grade levels and all students, manufacturing to engineering, those can be a wide range of abilities. And so there was not any group that was limited or not allowed to use these. And by putting them in every math class meant every student had access, every student." – District teacher

"The Advanced Manufacturing [class] made a putt putt golf course using the 3D printer for what we call the Riley Center which is over at the Junior High campus. That's for our special needs students, so they can putt putt with that and the different sized clubs and everything. Some of their obstacles that are in their themed golf course were 3D printed. Some were laser cut…so they designed them and built them."

Student designed and created Putt-Putt field and putters which were built using 3D concepts and a laser cutter.

| COVID-19 Pandemic |

Similar to virtually all school districts across the county, Hartselle School District shifted to online instruction during the early months of the Covid-19 pandemic. During this time, the 3D printers were not well utilized. However, once students returned to the classroom, integration into the curriculum resumed as normal. School staff reported that there were no issues with or concerns about supply chain problems related to materials needed to operate the 3D printers. However, the district has suffered from staffing shortages related to career shifts, retirement, and relocation, as the superintendent explained: "*We had 10 retire this year, but we had several husband or spouse was transferred so they had to leave, move whatever. The knowledge that walks out the door is very hard to replace."*

| Implications and Lessons Learned |

District staff who participated in the case study all shared consistently positive impressions about this ARC grant and the ways in which it has allowed for expanded curriculum and increased capacity in STEM education. One exchange between a district staff member and the superintendent captured these feelings well:

"I feel [the grant] was way more than what we intended. I mean it was better!"

"Like a snowball effect, it just keeps getting bigger and bigger. It was really foundational too, all of these pieces."

"I think back to how much this grant was, think about that, the investment. It was a small investment on both parts and I think about all the changes we've made….So that was huge, it has been impactful."

"It has been impactful, to every student."

The two students likewise shared how impactful this program has been for them and shared that they wish more students would get involved in this work, indicating that other students might be afraid of the math and science knowledge required. They suggested that additional marketing for the courses might encourage greater participation.

In conversation with school system leaders, they shared about ongoing needs and ways that they might have adjusted their original grant. These included:

- **Increased professional learning for educators**: Developing and conducting professional learning opportunities for educators is necessary to increase participation and buy-in. Hartselle Schools created what was called a Cyber Sofa for professional development around the 3D printers. It was indeed a sofa in a room, where educators could watch teaching and learning tips on the functionality and use of 3D Printers. It was a one-way delivery system which was a good beginning for some educators, however, more professional learning was needed to support participation by more educators.
- **Continued collaboration**: Collaboration across stakeholders and sectors was enhanced by the emphasis on a ready workforce in the Hartselle City Schools, strengthened by the programming built up around the 3D printers. Support from parents was enhanced by learning more about workforce needs and the benefits of preparing their students for the world of work. The two largest employers in the community benefitted from the collaboration that grew out of Tiger Launch and the prospect of having a motivated, well-educated workforce.
- **Sustaining through partnerships**: Hartselle City Schools have been able to successfully build on ARC's investment through available state resources as well as additional grant support and are actively exploring additional funding opportunities to upgrade and maintain their technology. The school system has developed a strong foundation for sustaining this work thanks to community and industry involvement and outreach. They are receiving Alabama Advancement and Technology Funds to upgrade to 5G, the newest and fastest wireless network technology, and to purchase more 3D printers.
- **Career awareness expanded**: The grant has created strong career opportunity awareness for students and their parents. Students were excited about what they were learning and the excitement continues as students are encouraged to apply their mathematics and science content knowledge to create tangible products and see meaningful connections to employment in their community.

Appendix B – Supplemental Data Tables

Table Notes

Many tables present subgroup analysis by grantee type, project type, and grant purpose. Each of these has an "other" category. Inclusion into that category is as follows:

- Grantee Type: "other" – includes local development districts (n=5), other (n=13)
- Project Type: "other"– includes demonstration (n=1), operations + renovation (n=1), planning (n=9), planning + administration (n=1), renovation (n=3), research (n=1), services (n=3), start-up (n=1), technical assistance (n=6)
- Grant Purpose: "other" – includes entrepreneurship education (n=3), individual capacity (n=1), energy (n=1), healthcare access (n=3), child development (n=2), business incubator (n=3), community facility (n=1), adult education (n=2), housing (n=1), arts-culture-tourism (n=1), research and evaluation (n=1)

Within Grantee Type:

- "Higher education" includes public and private institutions and HBCUs.
- "Nonprofits" includes those with 501C3 status and without.
- "State and local government" includes state, county, city/township and special district governments.

Within Project Type:

- "construction" – includes "construction + equipment" (n=3), construction + operations (n=1), construction + renovation (n=8)

B1. Tables Related to the Overview of the Grantee Portfolio

Exhibit B1.1: How Grantees Learned About ARC Funding Opportunity (n=184)

	n	%
Through an entity in my state	50	27%
ARC website	12	7%
From a prior ARC grant recipient	13	7%
ARC State Program Manager/Office	34	19%
Local organization/foundation	7	4%
Local Development District	30	16%
Other	19	10%
Unsure/Do not know/Do not recall	19	10%

Source: ICF survey of ARC grantees

Exhibit B1.2: Potential Barriers Reported By Grantees in Receiving ARC Funding (n=184)

	n	%
Lack of awareness of funding opportunities	106	58%
Lack of information about grant process	76	41%
Lack of experience with grants	119	65%
Lack of experience with or knowledge about federal grants	100	54%
Lack of technical assistance with application development	54	29%
Lack of funds to develop application	53	29%
Lack of staff time to develop application	103	56%
Other	13	7%

Source: ICF survey of ARC grantees

Exhibit B1.3: Grantees' Project Type and Grant Purpose (n=383)

Project Type	n	%
Career & Technical Education	151	40%
Educational Achievement/Attainment	136	36%
Workforce/teacher Training	49	13%
Other	47	12%
Grant Purpose	n	%
Construction	24	6%
Equipment	132	34%
Operations	158	41%
Equipment and Operations	43	11%
Other	26	7%

Source: ARCnet extant data

Exhibit B1.4 Full list of Beneficiaries and Entities Served, Improved, and Created by ARC Grantees at Grant Close, By Category (n=383)

	Projected	Achieved at Close	% at Close	Achieved at Follow-up	% at Follow-Up
Students Served	270,846	267,341	99%	436,366	161%
Students Improved	182,289	189,766	104%	324,127	178%
Workers Served	25,019	16,224	65%	20,207	81%
Workers Improved	16,382	13,071	80%	15,911	97%
Participants Served	49,969	53,840	108%	54,192	108%
Participants Improved	49,669	50,454	102%	51,437	104%
Businesses Created	153	90	59%	90	59%
Businesses Served	1,822	1,338	73%	1,409	77%
Businesses Improved	953	71	75%	1,379	145%
Communities Served	64	89	139%	89	139%
Communities Improved	17	25	147%	35	206%
Jobs Created	1,384	3,624	262%	4,572	330%
Jobs Retained	375	358	95%	358	95%
Organizations Served	445	450	101%	1,659	373%
Organizations Improved	200	184	92%	1,393	697%
Patients served	10,189	3,766	37%	3,766	37%
Patients improved	10,139	3,749	37%	3,899	38%
Programs implemented	38	63	166%	895	2355%
Plans/reports	43	38	88%	38	88%
Leveraged private investment	$22,110,000	$34,472,347	156%	$39,222,347	177%
Households served	150	228	152%	228	152%
Households improved	150	228	152%	678	452%
Telecom Sites	8	11	128%	16	200%
Square Feet	24,000	24,000	100%	24,000	100%

Source: ARCnet extant data

Note. Several grantees across all categories reported at close values and no projected value, accounting for some of the goals that surpassed 100%. However, many grantees also exceeded their projections. Results should be interpreted with caution.

Exhibit B1.5: Grantees' Alignment to ARC Strategic Plan, By Year of Plan and Goal

Year of Strategic Plan	Goal Number					
	1	2	3	4	5	Total
2005	2	3	0	0	0	5
2011	16	202	4	0	0	222
2015	8	144	2	1	1	156
Total (%)	26 (7%)	349 (91%)	6 (2%)	1 (<1%)	1 (<1%)	383 (100%)

Source: ARCnet extant data

Exhibit B1.6: Grantees' Reports of Needed Support from ARC to Collect Beneficiaries' Demographic Information, By Grant and Project Characteristic Type (n=184)

	Additional Funding	Technical Assistance (TA) in Creating and/or Using New Data Collection Tools	TA in Reporting Demographic Data	Support in Determining Legal Limitation of Data Collection	No Support Needed
Project Type					
Career and technical education (n=81)	23%	30%	30%	22%	28%
Educational achievement or attainment (n=53)	15%	30%	23%	11%	43%
Workforce/teacher training (n=26)	31%	18%	18%	13%	4%
Other project (n=19)	20%	18%	18%	13%	4%
Grantee Type					
Higher education (n=65)	29%	25%	26%	23%	28%
Nonprofits (n=66)	38%	32%	20%	21%	29%
Independent school districts (n=26)	27%	35%	23%	15%	46%
State or local government (n=16)	31%	38%	25%	25%	19%
Other type (n=11)	36%	0%	9%	9%	18%
Grant Purpose					
Construction (n=9)	33%	33%	2%	22%	22%
Operations (n=66)	29%	24%	17%	20%	26%
Equipment (n=71)	35%	34%	27%	23%	32%
Operations and Equipment (n=26)	38%	31%	23%	23%	31%
Other purpose (n=12)	25%	8%	17%	0%	33%

Source: ICF survey of ARC grantees

Note. Grantees could select all that apply. Missing data excluded.

B2. Tables Related to Grantee Performance and Success

Performance Goals and Achievements

Exhibit B2.1 Achievement of All ARC Performance Measures at Grant Close, By Category (n=383)

	Met n	Total n	%
Students Served	197	305	65%
Students Improved	173	292	59%
Workers Served	48	103	47%
Workers Improved	42	100	42%
Businesses Created	2	8	25%
Businesses Served	12	29	41%
Businesses Improved	11	25	44%
Communities Served	8	8	100%
Communities Improved	6	6	100%
Jobs Created	16	29	55%
Jobs Retained	3	6	50%
Organizations Improved	16	11	69%
Participants Served	16	33	48%
Participants Improved	17	33	52%
Patients served	3	9	33%
Patients improved	3	9	33%
Programs implemented	13	18	72%
Plans/reports	16	15	94%
Leveraged private investment	4	8	50%
Households Served	1	1	100%
Households Improved	1	1	100%
Telecom Sites	3	3	100%
Square Feet	1	1	100%

Source: ARCnet extant data

Note. Grantees could select multiple performance measures to work toward.

Exhibit B2.2: Number of Individual ARC Performance Measures Met at Grant Close, By Characteristic (n=383)

Grantee Type	Met n	Total n	%
State and local government	61	111	55%
Independent school district	93	139	67%
Higher Education	141	311	45%
Nonprofit	223	338	66%
Other type	75	152	49%
Grant Purpose	**Met n**	**Total n**	**%**
Construction	32	64	50%
Equipment	171	325	53%
Operations	228	379	60%
Operations + Equipment	60	106	57%
Other purpose	35	47	74%
Project Type	**Met n**	**Total n**	**%**
Career and technical education	190	363	52%
Education achievement/attainment	215	305	70%
Workforce/teacher training	40	124	32%
Other project	87	136	64%

Source: ARCnet extant data

Exhibit B2.3: Achievement of ARC Performance Measures at Grant Close and at Follow-Up, By Category (n=383)

	Total n	Met at Close	% at Close	Met at Follow-Up	% at Follow-Up
Students Served	305	197	65%	202	67%
Students Improved	292	173	59%	194	66%
Workers Served	103	48	47%	48	47%
Workers Improved	100	42	42%	48	48%
Businesses Created	8	2	25%	2	25%
Businesses Served	29	12	41%	12	52%
Businesses Improved	27	14	52%	14	52%
Communities Served	8	8	100%	8	100%
Communities Improved	6	6	100%	6	100%
Jobs Created	29	16	55%	16	55%
Jobs Retained	6	3	50%	3	50%
Organizations Served	32	26	81%	26	81%
Organizations Improved	16	11	69%	11	69%
Participants Served	33	16	48%	16	52%
Participants Improved	33	17	52%	17	52%
Patients served	9	3	33%	3	33%
Patients improved	9	3	33%	4	44%
Programs implemented	18	13	72%	13	72%
Plans/reports	15	16	94%	15	94%
Leveraged private investment	8	4	50%	4	50%
Households Served	1	1	100%	1	100%
Households Improved	1	1	100%	1	100%
Telecom Sites	3	3	100%	3	100%
Square Feet	1	1	100%	1	100%

Source: ARCnet extant data and ICF survey of ARC grantees

Note. Grantees could select multiple performance measures to work toward.

Project Success and Challenges

Exhibit B2.4. Self-Reported Project Success in Achieving Grant Outcomes, By Selected Outcomes (n=184)

	Entirely Successful		Mostly Successful		Somewhat Successful	
	n	%	n	%	n	%
Participant education outcomes (e.g., academic readiness, achievement scores, postsecondary enrollment, credential attainment, etc.) (n=124)	58	47%	54	44%	11	9%
Participant workforce development outcomes (e.g., new technical skills, specialized certification, etc.) (n=119)	53	45%	55	46%	9	8%
Participant employment outcomes (e.g., full-time employment, employment retention, etc.) (n=85)	40	47%	38	45%	5	6%
Participant earnings and benefits outcomes (e.g., wages, access to employer-provided benefits, etc.) (n=62)	29	47%	31	50%	1	2%
Community education outcomes (e.g., postsecondary education or training enrollment rates, degree attainment rates) (n=67)	34	51%	30	45%	2	3%
Community economic outcomes (e.g., employment rates, local tax revenues, creation of new business, etc.) (n=55)	27	49%	22	40%	5	9%
Other (please specify) (n=9)	3	33%	3	33%	2	22%

Source: ICF survey of ARC grantees

Exhibit B2.5: Grantees' Perception of Project Success, By Grant Characteristic (n=184)

	Entirely Successful		Mostly Successful		Somewhat Successful	
Grant Type	n	%	n	%	n	%
Higher Education (n=65)	26	40%	25	38%	6	9%
Nonprofits (n=66)	29	44%	27	41%	6	9%
Independent School Districts (n=26)	7	27%	17	65%	.	.
State or Local Government (n=16)	5	31%	5	31%	2	13%
Other (n=11)	6	55%	1	9%	1	9%
Grant Purpose	n	%	n	%	n	%
Construction (n=9)	3	33%	3	33%	0	0%
Equipment (n=71)	32	45%	29	41%	5	7%
Operations (n=66)	22	33%	27	41%	8	12%
Operations + Equipment (n=26)	9	35%	13	50%	3	12%
Other (n=12)	8	67%	4	33%	0	0%

Source: ICF survey of ARC grantees

Exhibit B2.6: Grantee Reports of How Straightforward and Clear the Grant Process Was (n=109)

	Very Clear	Clear	Unclear	Very Unclear
Item	%	%	%	%
How clear: Grant application process	49%	47%	0%	1%
How clear: Process for communicating with ARC project coordinator	54%	39%	2%	1%
How clear: Grant performance requirements and expectations	51%	43%	1%	1%
How clear: Process for using the electronic infrastructure for grant management and reporting (ARCnet)	34%	37%	10%	0%
How clear: Financial reporting requirements	44%	45%	6%	0%
How clear: Programmatic reporting requirements, including performance measures	42%	50%	4%	0%

Source: ICF survey of ARC grantees

Note. Missing and n/a responses not included.

Exhibit B2.7: Grantees' Reports of How helpful the Following Components of the Grant Process Were (n=109)

	Very Helpful	Helpful	Somewhat Helpful	Not Helpful
Item	%	%	%	%
How helpful: Pre-award technical assistance (TA) provided by your ARC state office or LDD	60%	28%	6%	1%
How helpful: Communication with ARC project coordinator	48%	26%	7%	3%

Source: ICF survey of ARC grantees

Note. Missing and n/a responses not included.

Exhibit B2.8 Components of Successful Implementation Rated "Very Important" or "Important," By Grantee Type (n=184)

	Higher Education (n=65)	Nonprofits (n=66)	Independent School Districts (n=26)	State or Local Government (n=16)	Other (n=11)
Access to financial resources outside of ARC funding	71%	65%	65%	81%	45%
Access to needed materials/equipment	66%	55%	65%	81%	45%
Technical support from ARC	58%	45%	46%	56%	9%
Technical support from sources other than ARC	49%	45%	37%	36%	20%
Hiring/retaining quality staff	39%	65%	75%	55%	50%
Local support for the project	64%	82%	78%	64%	70%
Local partners	78%	74%	46%	88%	64%
Supportive policies (local, state, or federal)	72%	67%	57%	45%	40%
Strong labor market/thriving economy	62%	55%	46%	44%	36%

Source: ICF survey of ARC grantees

Note. Grantees could select all that apply. Missing data excluded. Higher ed includes public and private institutions and HBCUs. Nonprofits include those with 501C3 status and without. State and local government includes state, county, city/township and special district governments. Other includes those categorized as "other" and local development districts.

Exhibit B2.9 Components of Successful Implementation Rated "Very Important" or "Important," By Grant Purpose (n=183)

	Construction (n=9)	Operations (n=66)	Equipment (n=71)	Operations and Equipment (n=26)	Other (n=12)
Access to financial resources outside of ARC funding	78%	71%	65%	62%	67%
Access to needed materials/equipment	56%	59%	65%	65%	58%
Technical support from ARC	56%	52%	46%	42%	58%
Technical support from sources other than ARC	89%	38%	37%	23%	58%
Hiring/retaining quality staff	78%	73%	59%	54%	67%
Local support for the project	100%	80%	65%	81%	75%
Local partners	89%	73%	68%	73%	83%
Supportive policies (local, state, or federal)	56%	59%	51%	46%	75%
Strong labor market/thriving economy	44%	58%	52%	54%	50%

Source: ICF survey of ARC grantees

Note. Grantees could select all that apply. Missing data excluded.

Exhibit B2.10 Components of Successful Implementation Rated "Very Important" or "Important," By Project Type (n=183)

	Career and Technical Education (n=81)	Educational Achievement/ Attainment (n=53)	Workforce/ Teacher Training (n=26)	Other (n=19)
Access to financial resources outside of ARC funding	67%	62%	73%	74%
Access to needed materials/equipment	64%	60%	65%	53%
Technical support from ARC	47%	49%	54%	37%
Technical support from sources other than ARC	36%	36%	50%	47%
Hiring/retaining quality staff	64%	53%	81%	74%
Local support for the project	75%	64%	85%	84%
Local partners	72%	55%	92%	89%
Supportive policies (local, state, or federal)	54%	49%	62%	53%
Strong labor market/thriving economy	67%	36%	58%	37%

Source: ICF survey of ARC grantees

Note. Grantees could select all that apply. Missing data excluded.

Exhibit B2.11 "Large" or "Very Large" Factors Contributing to Implementation Challenges, By Grantee Type (n=184)

	Higher Education (n=65)	Nonprofits (n=66)	Independent School Districts (n=26)	State or Local Government (n=16)	Other (n=11)
Lack of access to financial resources outside of ARC funding	25%	30%	19%	31%	0%
Lack of access to needed materials/equipment	20%	27%	19%	44%	0%
Lack of access to technical support from ARC	18%	21%	12%	31%	0%
Lack of access to technical support from sources other than ARC	19%	17%	22%	19%	10%
Unable to hire/retain quality staff	19%	20%	25%	17%	10%
Lack of local support for the project	20%	18%	22%	17%	10%
Lack of effective local partners	18%	23%	12%	44%	0%
Policies (local, state, or federal) failed to support or impeded project activities/goals	20%	20%	25%	21%	20%
Weak labor market/economy	22%	26%	12%	31%	9%
Unable to reach intended beneficiaries	17%	23%	15%	31%	0%

Source: ICF survey of ARC grantees

Note. Grantees could select all that apply. Missing data excluded.

Exhibit B2.12 "Large" or "Very Large" Factors Contributing to Implementation Challenges, By Grant Purpose (n=183)

	Construction (n=9)	Operations (n=66)	Equipment (n=71)	Operations and Equipment (n=26)	Other (n=12)
Lack of access to financial resources outside of ARC funding	33%	33%	21%	12%	27%
Lack of access to needed materials/equipment	33%	27%	20%	15%	36%
Lack of access to technical support from ARC	33%	27%	11%	12%	18%
Lack of access to technical support from sources other than ARC	43%	26%	11%	15%	18%
Unable to hire/retain quality staff	33%	29%	13%	12%	27%
Lack of local support for the project	33%	27%	10%	12%	27%
Lack of effective local partners	33%	27%	13%	15%	27%
Policies (local, state, or federal) failed to support or impeded project activities/goals	33%	29%	13%	27%	18%
Weak labor market/economy	44%	29%	14%	19%	18%
Unable to reach intended beneficiaries	33%	27%	11%	15%	18%

Source: ICF survey of ARC grantees

Note. Grantees could select all that apply. Missing data excluded.

Exhibit B2.13 "Large" or "Very Large" Factors Contributing to Implementation Challenges, By Project Type (n=183)

	Career and Technical Education (n=81)	Educational Achievement/ Attainment (n=53)	Workforce/ Teacher Training (n=26)	Other (n=19)
Lack of access to financial resources outside of ARC funding	25%	21%	31%	26%
Lack of access to needed materials/equipment	27%	11%	27%	32%
Lack of access to technical support from ARC	20%	13%	23%	21%
Lack of access to technical support from sources other than ARC	20%	13%	23%	21%
Unable to hire/retain quality staff	20%	13%	27%	26%
Lack of local support for the project	19%	13%	23%	21%
Lack of effective local partners	21%	15%	27%	21%
Policies (local, state, or federal) failed to support or impeded project activities/goals	23%	17%	23%	26%
Weak labor market/economy	25%	11%	31%	26%
Unable to reach intended beneficiaries	21%	11%	23%	26%

Source: ICF survey of ARC grantees

Note. Grantees could select all that apply. Missing data excluded.

Exhibit B2.14 "Large" or "Very Large" Factors Contributing to Implementation Challenges, By Self-Reported Project Success (n=183)

	Entirely Successful (n=80)	Mostly, Somewhat, or Not at all Successful (n=104)
Lack of access to financial resources outside of ARC funding	23%	29%
Lack of access to needed materials/equipment	20%	29%
Lack of access to technical support from ARC	14%	24%
Lack of access to technical support from sources other than ARC	16%	23%
Unable to hire/retain quality staff	18%	25%
Lack of local support for the project	18%	22%
Lack of effective local partners	12%	19%
Policies (local, state, or federal) failed to support or impeded project activities/goals	19%	27%
Weak labor market/economy	15%	30%
Unable to reach intended beneficiaries	16%	24%

Source: ICF survey of ARC grantees

Note. Grantees could select all that apply. Missing data excluded.

Beneficiary Outcomes and Experiences

Exhibit B2.15: Grantees' Perceptions of Barriers to Beneficiary Participation, By Project Type (n=184)

	Career and Technical Education (n=81)	Educational Achievement / Attainment (n=53)	Workforce / Teacher Training (n=26)	Other (n=19)
Lack of information about the available opportunity	30%	17%	0%	21%
Lack of transportation	36%	13%	38%	32%
Lack of time due to competing priorities	32%	11%	38%	37%
Lack of childcare	28%	6%	23%	32%
Lack of eldercare	10%	4%	12%	11%
Lack of access to substance use recovery support	6%	0%	12%	5%
Language barriers	1%	0%	4%	0%
Limited literacy	10%	0%	23%	21%
Unable to meet minimum requirements for program entry	6%	4%	8%	0%
Discrimination/Exclusion	0%	0%	0%	0%
Lack of financial resources to participate	30%	6%	27%	5%
Not aware of the barriers faced by individual beneficiaries	26%	57%	23%	32%

Source: ICF survey of ARC grantees

Note. Respondents could select all that applied

Exhibit B2.16: Grantees' Perceptions of Barriers to Beneficiary Participation, By Grantee Type (n=184)

	Higher Education (n=65)	Nonprofits (n=66)	Independent School Districts (n=26)	State or Local Government (n=16)	Other (n=11)
Lack of information about the available opportunity	28%	30%	15%	19%	18%
Lack of transportation	38%	32%	8%	19%	9%
Lack of time - competing priorities	28%	32%	19%	25%	0%
Lack of childcare	26%	26%	4%	19%	0%
Lack of eldercare	11%	11%	0%	13%	0%
Lack of access to substance use recovery support	6%	9%	0%	0%	0%
Language barriers	0%	3%	0%	0%	0%
Limited literacy	11%	15%	0%	6%	0%
Unable to meet minimum requirements for program entry	9%	5%	0%	0%	0%
Discrimination/Exclusion	0%	0%	0%	0%	0%
Lack of financial resources to participate	31%	20%	4%	0%	0%
Not aware of the barriers faced by individual beneficiaries	26%	32%	58%	31%	36%

Source: ICF survey of ARC grantees

Note. Respondents could select all that applied

Exhibit B2.17: Grantees' Perceptions of Barriers to Beneficiary Participation, By Grant Purpose (n=184)

	Construction (n=9)	Operations (n=66)	Equipment (n=71)	Operations & Equipment (n=26)	Other (n=12)
Lack of information about the available opportunity	22%	26%	27%	27%	8%
Lack of transportation	33%	33%	28%	27%	8%
Lack of time - competing priorities	22%	27%	28%	35%	8%
Lack of childcare	22%	20%	24%	27%	0%
Lack of eldercare	11%	9%	11%	0%	0%
Lack of access to substance use recovery support	0%	3%	11%	0%	0%
Language barriers	0%	0%	1%	4%	0%
Limited literacy	11%	5%	17%	8%	0%
Unable to meet minimum requirements for program entry	11%	5%	7%	0%	8%
Discrimination/Exclusion	0%	0%	0%	0%	0%
Lack of financial resources to participate	11%	15%	27%	23%	0%
Not aware of the barriers faced by individual beneficiaries	11%	29%	41%	31%	58%

Source: ICF survey of ARC grantees

Note. Respondents could select all that applied

B3. Tables Related to Project Sustainability

Exhibit B3.1 Components of Sustainability Rated "Very Important" or "Important," By Grantee Type (n=184)

	Higher Education (n=65)	Nonprofits (n=66)	Independent School Districts (n=26)	State or Local Government (n=16)	Other (n=11)
Access to financial resources outside of ARC funding	71%	73%	69%	94%	82%
Access to needed materials/equipment	65%	56%	73%	63%	64%
Technical support from ARC	34%	29%	46%	38%	9%
Technical support from sources other than ARC	33%	48%	37%	40%	30%
Hiring/retaining quality staff	41%	67%	73%	55%	70%
Local support for the project	66%	80%	80%	74%	100%
Local partners	85%	74%	65%	88%	82%
Supportive policies (local, state, or federal)	78%	70%	57%	55%	50%
Strong labor market/thriving economy	66%	55%	73%	50%	64%

Source: ICF survey of ARC grantees

Note. Grantees could select all that apply. Missing data excluded. Higher ed includes public and private institutions and historically Black colleges and universities (HBCUs). Nonprofits include those with 501C3 status and without. State and local government includes state, county, city/township, and special district governments. Other includes those categorized as "other" and local development districts.

Exhibit B3.2 Components of Sustainability Rated "Very Important" or "Important," By Grant Purpose (n=183)

	Construction (n=9)	Operations (n=66)	Equipment (n=71)	Operations and Equipment (n=26)	Other (n=12)
Access to financial resources outside of ARC funding	78%	79%	70%	62%	92%
Access to needed materials/equipment	56%	61%	66%	62%	58%
Technical support from ARC	33%	33%	34%	15%	58%
Technical support from sources other than ARC	89%	39%	39%	23%	67%
Hiring/retaining quality staff	78%	71%	62%	58%	67%
Local support for the project	100%	85%	70%	85%	92%
Local partners	89%	79%	75%	77%	92%
Supportive policies (local, state, or federal)	56%	64%	61%	42%	75%
Strong labor market/thriving economy	56%	64%	63%	50%	67%

Source: ICF survey of ARC grantees

Note. Grantees could select all that apply. Missing data excluded.

Exhibit B3.3 Components of Sustainability Rated "Very Important" or "Important," By Project Type (n=183)

	Career and Technical Education (n=81)	Educational Achievement/ Attainment (n=53)	Workforce/ Teacher Training (n=26)	Other (n=19)
Access to financial resources outside of ARC funding	73%	66%	85%	79%
Access to needed materials/equipment	64%	60%	69%	47%
Technical support from ARC	31%	38%	27%	21%
Technical support from sources other than ARC	37%	42%	46%	47%
Hiring/retaining quality staff	64%	55%	88%	63%
Local support for the project	80%	72%	92%	79%
Local partners	79%	62%	96%	84%
Supportive policies (local, state, or federal)	58%	57%	65%	53%
Strong labor market/thriving economy	69%	47%	73%	42%

Source: ICF survey of ARC grantees

Note. Grantees could select all that apply. Missing data excluded.

Exhibit B3.4: Factors Contributing to Successful Implementation and Sustainability, By Grantee Type (n=184)

	Higher Education (n=65)		Nonprofits (n=66)		Independent School Districts (n=26)		State or Local Government (n=16)		Other (n=11)	
	Imp	Sus	Imp	Sus	Imp	Sus	Imp	Sus	Imp	Sus
Access to financial resources outside of ARC funding	71%	71%	65%	73%	65%	69%	81%	94%	45%	82%
Access to needed materials/equipment	66%	65%	55%	56%	65%	73%	81%	63%	45%	64%
Technical support from ARC	58%	34%	45%	29%	46%	46%	56%	38%	9%	9%
Technical support from sources other than ARC	49%	33%	45%	48%	37%	37%	36%	40%	20%	30%
Hiring/retaining quality staff	39%	41%	65%	67%	75%	73%	55%	55%	50%	70%
Local support for the project	64%	66%	82%	80%	78%	80%	64%	74%	70%	100%
Local partners	78%	85%	74%	74%	46%	65%	88%	88%	64%	82%
Supportive policies (local, state, or federal)	72%	78%	67%	70%	57%	57%	45%	55%	40%	50%
Strong labor market/thriving economy	62%	66%	55%	55%	46%	73%	44%	50%	36%	64%

Source: ICF survey of ARC grantees

Note. Respondents could select all that applies

Exhibit B3.5 "Large" or "Very Large" Factors Contributing to Sustainability Challenges, By Grantee Type (n=184)

	Higher Education (n=65)	Nonprofits (n=66)	Independent School Districts (n=26)	State or Local Government (n=16)	Other (n=11)
Lack of access to financial resources outside of ARC funding	40%	39%	35%	38%	27%
Lack of access to needed materials/equipment	29%	32%	27%	38%	18%
Lack of access to technical support from ARC	23%	24%	31%	31%	9%
Lack of access to technical support from sources other than ARC	24%	22%	27%	26%	20%
Unable to hire/retain quality staff	24%	33%	27%	26%	30%
Lack of local support for the project	29%	27%	25%	26%	20%
Lack of effective local partners	28%	29%	31%	44%	9%
Policies (local, state, or federal) failed to support or impeded project activities/goals	29%	27%	27%	30%	40%
Weak labor market/economy	28%	30%	27%	38%	36%
Unable to reach intended beneficiaries	22%	27%	23%	31%	18%
Experienced disaster (e.g., flooding, fire, COVID) that impeded sustainability	35%	39%	42%	38%	27%

Source: ICF survey of ARC grantees

Note. Grantees could select all that apply. Missing data excluded. Higher ed includes public and private institutions and HBCUs. Nonprofits include those with 501(c) (3) status and without. State and local government includes state, county, city/township, and special district governments. Other includes those categorized as "other" and local development districts.

Exhibit B3.6 "Large" or "Very Large" Factors Contributing to Sustainability Challenges, By Grant Purpose (n=183)

	Construction (n=9)	Operations (n=66)	Equipment (n=71)	Operations and Equipment (n=26)	Other (n=12)
Lack of access to financial resources outside of ARC funding	44%	50%	31%	23%	45%
Lack of access to needed materials/equipment	33%	33%	30%	15%	45%
Lack of access to technical support from ARC	33%	35%	18%	12%	27%
Lack of access to technical support from sources other than ARC	33%	33%	15%	23%	27%
Unable to hire/retain quality staff	33%	38%	20%	23%	45%
Lack of local support for the project	33%	35%	13%	19%	64%
Lack of effective local partners	33%	33%	21%	27%	55%
Policies (local, state, or federal) failed to support or impeded project activities/goals	33%	36%	17%	31%	36%
Weak labor market/economy	44%	36%	24%	19%	45%
Unable to reach intended beneficiaries	33%	33%	18%	12%	36%
Experienced disaster (e.g., flooding, fire, COVID) that impeded sustainability	44%	52%	32%	19%	27%

Source: ICF survey of ARC grantees

Note. Grantees could select all that apply. Missing data excluded.

Exhibit B3.7 "Large" or "Very Large" Factors Contributing to Sustainability Challenges, By Project Type (n=183)

	Career & Technical Education (n=81)	Educational Achievement/ Attainment (n=53)	Workforce/ Teacher Training (n=26)	Other (n=19)
Lack of access to financial resources outside of ARC funding	38%	32%	46%	37%
Lack of access to needed materials/equipment	32%	17%	38%	37%
Lack of access to technical support from ARC	26%	21%	23%	32%
Lack of access to technical support from sources other than ARC	27%	17%	23%	37%
Unable to hire/retain quality staff	28%	23%	38%	32%
Lack of local support for the project	26%	21%	31%	26%
Lack of effective local partners	32%	23%	35%	26%
Policies (local, state, or federal) failed to support or impeded project activities/goals	31%	21%	27%	37%
Weak labor market/economy	31%	23%	38%	37%
Unable to reach intended beneficiaries	23%	23%	27%	32%
Experienced disaster (e.g., flooding, fire, COVID) that impeded sustainability	41%	30%	35%	47%

Source: ICF survey of ARC grantees

Note. Grantees could select all that apply. Missing data excluded.

Exhibit B3.8 "Large" or "Very Large" Factors Contributing to Sustainability Challenges, By Self-Reported Project Success (n=183)

	Entirely Successful (n=80)	Mostly, Somewhat or Not at all Successful (n=104)
Lack of access to financial resources outside of ARC funding	31%	43%
Lack of access to needed materials/equipment	23%	35%
Lack of access to technical support from ARC	18%	29%
Lack of access to technical support from sources other than ARC	21%	27%
Unable to hire/retain quality staff	25%	32%
Lack of local support for the project	21%	28%
Lack of effective local partners	24%	32%
Policies (local, state, or federal) failed to support or impeded project activities/goals	21%	32%
Weak labor market/economy	22%	36%
Unable to reach intended beneficiaries	21%	27%
Experienced disaster (e.g., flooding, fire, COVID) that impeded sustainability	35%	38%

Source: ICF survey of ARC grantees

Note. Grantees could select all that apply. Missing data excluded.

Exhibit B3.9: Factors Contributing to Challenging Implementation and Sustainability, By Grantee Type (n=184)

	Higher Education (n=65)		Nonprofits (n=66)		Independent School Districts (n=26)		State or Local Government (n=16)		Other (n=11)	
	Imp	Sus	Imp	Sus	Imp	Sus	Imp	Sus	Imp	Sus
Lack of access to financial resources	25%	40%	30%	39%	19%	35%	31%	38%	0%	27%
Lack of access to needed materials/equipment	20%	29%	27%	32%	19%	27%	44%	38%	0%	18%
Lack of access to ARC technical support	18%	23%	21%	24%	12%	31%	31%	31%	0%	9%
Lack of access to technical support other than ARC	19%	24%	17%	22%	22%	27%	19%	26%	10%	20%
Unable to hire/retain quality staff	19%	24%	20%	33%	25%	27%	17%	26%	10%	30%
Lack of local support for project	20%	29%	18%	27%	22%	25%	17%	26%	10%	20%
Lack of effective local partners	18%	28%	23%	29%	12%	31%	44%	44%	0%	9%
Policies failed to support or impeded project activities	20%	29%	20%	27%	25%	27%	21%	30%	20%	40%
Weak labor market/economy	22%	28%	26%	30%	12%	27%	31%	38%	9%	36%
Unable to reach intended beneficiaries	17%	22%	23%	27%	15%	23%	31%	31%	0%	18%
Experienced disaster that impeded sustainability	--	35%	--	39%	--	42%	--	38%	--	27%

Source: ICF survey of ARC grantees

Note. Respondents could select all that applies

Exhibit B3.10: Grantees' Perceptions of Factors Impacted by the COVID-19 Pandemic in Their Communities, By Benefit Distress Area (n=184)

	Primary (n=56)	Substantial (n=43)	Limited (n=53)	None (n=32)
Loss of life	11%	16%	9%	9%
Increased unemployment	21%	19%	25%	28%
Business' loss of income/tax revenue due to shutdowns/reduced spending	32%	23%	32%	44%
Unavailable services/supplies	23%	28%	36%	38%
Outmigration	2%	0%	4%	3%
In-migration	2%	5%	2%	6%
Decreased capacity of local organizations to response to community needs	9%	12%	15%	19%
Mental health challenges arising from isolation	32%	30%	23%	22%
Increase in substance use disorders or overdose numbers	14%	19%	21%	22%
Challenges in supporting the needs of those in recovery from substance use disorders	16%	14%	19%	19%
Increased community division/polarization	18%	16%	11%	22%

Source: ICF survey of ARC grantees

Note. Respondents could select all that applies

Exhibit B3.11: Grantees' Perceptions of Factors Related to the COVID-19 Pandemic that Had Substantial Impact on Sustainability Efforts, By Grantee Type (n=184)

	State and Local Government (n=16)	Independent School District (n=26)	Higher Education (n=65)	Nonprofit (n=66)	Other (n=11)
Difficulties/inability to provide services in-person/on-site	31%	31%	37%	30%	36%
Difficulties/inability to transition services/activities to online format	19%	19%	22%	18%	9%
Beneficiaries unable to access online services/activities	13%	8%	15%	23%	18%
Difficulty/delays in obtaining needed materials/supplies	0%	0%	18%	14%	0%
Lack of staff to implement projects	6%	8%	9%	15%	0%
Loss of revenue	0%	0%	22%	11%	0%

Source: ICF survey of ARC grantees

Note. Respondents could select all that applies

Exhibit B3.12: Grantees' Perceptions of Factors Related to the COVID-19 Pandemic that Had Substantial Impact on Sustainability Efforts, By Grantee Type (n=184)

	Career and Technical Education (n=81)	Educational Achievement/ Attainment (n=53)	Workforce/ Teacher Training (n=26)	Other (n=45)
Difficulties/inability to provide services in-person/on-site	33%	34%	23%	18%
Difficulties/inability to transition services/activities to online format	22%	9%	27%	9%
Beneficiaries unable to access online services/activities	16%	17%	15%	11%
Difficulty/delays in obtaining needed materials/supplies	10%	6%	19%	9%
Lack of staff to implement projects	11%	8%	4%	7%
Loss of revenue	12%	11%	8%	4%

Source: ICF survey of ARC grantees

Note. Respondents could select all that applies

Appendix C – Sample Instrumentation

Grantee Survey

Section 1. Grant Experiences and Performance Measures

1. Thinking about your experience managing that grant, please indicate how straightforward and clear the following components of the grant process were.

	Very clear	Clear	Unclear	Very unclear	Not Applicable
a. Grant application process					
b. Process for communicating with ARC project coordinator					
c. Grant performance requirements and expectations					
d. Process for using the electronic infrastructure for grant management and reporting (ARCnet)					
e. Financial reporting requirements					
f. Programmatic reporting requirements, including performance measures					

2. Thinking about your experience managing that grant, please indicate how helpful the following components of the grant process were.

	Very Helpful	Helpful	Somewhat helpful	Not helpful	Not Applicable
a. Pre-award technical assistance (TA) provided by your ARC state office or LDD					
b. Communication with ARC project coordinator					

3. Please provide any additional comments about your experience with the grant: _____
   _____

4. To what extent have activities supported by your grant been sustained beyond the end of the grant period?

   a. Still ongoing without any substantial changes
   b. Continuing but with a narrower or reduced scope
   c. Continuing with an expanded scope
   d. Initially continued but have now ended
   e. Did not continue after the completion of ARC funding
   f. Other: _____

5. Since the completion of the grant, have you continued to collect data related to the grant performance measure: [First Grant Performance Measure/Category Embedded]? Note: Please refer to the email sent on [date] for additional details about your performance measures.
    a. No, the measures submitted at close-out were final [Skip to Q7]
    b. No, the measures submitted at close-out were not final, but we did not continue data tracking [Skip to Q7]
    c. Yes, we have continued to track grant performance measure data

6. At the time of your grant completion, you reported a total number of [Final Performance Measure # and Category (e.g., 3,000 students; 4 business; etc.) Embedded]. Please indicate how many **additional** [Students/Businesses/Etc.] your project has served **since the grant closed**.
    _____

[Repeat Q5 and Q6 for each performance measure the grantee initially reported].

Section 2. Successes and challenges.

7. Considering both your performance measures and other relevant outcomes, in which of the following ways did you expect improvements as a result of your project? Please select all that apply.
    a. Participant education outcomes (e.g., academic readiness, achievement scores, postsecondary enrollment, credential attainment, etc.)
    b. Participant workforce development outcomes (e.g., new technical skills, specialized certification, etc.)
    c. Participant employment outcomes (e.g., full-time employment, employment retention, etc.)
    d. Participant earnings and benefits outcomes (e.g., wages, access to employer-provided benefits, etc.)
    e. Community education outcomes (e.g., postsecondary education or training enrollment rates, degree attainment rates)
    f. Community economic outcomes (e.g., employment rates, local tax revenues, creation of new business, etc.)
    g. Other (please specify) _____

8. Overall, how successful was your project in achieving the outcomes you selected in the previous question?
    a. Entirely successful
    b. Mostly successful
    c. Somewhat successful
    d. Not successful

9. Please rate the extent to which each of the following factors was important to the success you achieved related to your grant a) during grant implementation and b) in terms of sustainability following the conclusion of your grant.

	Successful Implementation				Successful Sustainability			
	Very Important	Important	Somewhat Important	Not important	Very Important	Important	Somewhat Important	Not Important
a. Access to financial resources outside of ARC funding								
b. Access to needed materials/equipment								
c. Technical support from ARC								
d. Technical support from sources other than ARC								
e. Hiring/retaining quality staff								
f. Local support for the project								
g. Local partners								
h. Supportive policies (local, state, or federal)								
i. Strong labor market/thriving economy								

10. Please indicate the extent to which each of the following factors contributed to challenges faced by your grant a) during grant implementation and b) in terms of sustainability following the conclusion of your grant.

	Implementation Challenges				Sustainability Challenges			
	Very large factor in challenges	Large factor in challenges	Somewhat of a factor	Not a factor in challenges	Very large factor in challenges	Large factor in challenges	Somewhat of a factor	Not a factor in challenges
a. Lack of access to sufficient financial resources outside of ARC funding								
b. Lack of access to needed materials/equipment								
c. Lack of access to technical support from ARC								
d. Lack of access to technical support from other sources								
e. Unable to hire/retain quality staff								
f. Lack of local support for the project								
g. Lack of effective local partners								
h. Policies (local, state, or federal) failed to support or impeded project activities/goals								
i. Weak labor market/economy in recession								
j. Unable to reach intended beneficiaries								
k. Experienced disaster (e.g., flooding, fire, COVID) that impeded sustainability		--	--	--				

11. Please provide any additional comments about the success or challenges of your project:
    _____
    _____

Section 3. Equity of Opportunity for Grantees and Grant Beneficiaries

In this section, please think back to the time of planning and implementing your grant.

12. How did you or your organization first learn about the ARC funding opportunity that funded your project?
    a. Through an entity in my state (e.g., workforce development board, state department of economic development, etc.)
    b. ARC website
    c. ARC social media accounts
    d. Regional, state, or local conference
    e. From a prior ARC grant recipient
    f. ARC State Program Manager/Office
    g. Local Organization/Foundation
    h. Local Development District (LDD)
    i. Other (please specify): _____

13. Based on your own experiences or perceptions, what are the barriers potential grantees may have in receiving ARC funding? (select all that apply)
    a. Lack of awareness of funding opportunities
    b. Lack of information about grant process
    c. Lack of experience with grants
    d. Lack of experience with or knowledge about federal grants
    e. Lack of technical assistance with application development
    f. Lack of funds to develop application
    g. Lack of staff time to develop application
    h. Other (please specify): _____

14. Some ARC grantees directly serve students, workers, or other individuals while other grantees indirectly serve these groups by supporting schools, businesses, or communities. Thinking about the ultimate individual beneficiaries of your ARC grant (direct or indirect), how does your organization collect demographic information about these individuals (e.g., age, race/ethnicity)? Please select all that apply
    a. Intake form
    b. Academic or employment records (from your organization or the organization being served)
    c. Beneficiary/participant survey
    d. Individual interviews
    e. Other (please specify): _____
    f. We do not collect beneficiary/participant demographic information [skip to Q16]

15. Please indicate the demographic information your organization collected about grant beneficiaries. Select all that apply.
    a. Gender
    b. Race
    c. Ethnicity
    d. Poverty status
    e. Household income
    f. Employment status
    g. Homeless status
    h. Primary language
    i. Religion
    j. Disability status
    k. First-generation college student status
    l. Pell grant eligibility
    m. Caregiver status
    n. Substance use disorder history
    o. Sexual orientation
    p. Incarceration history
    q. Other (please specify): _____ _____

16. What support would you need from ARC to collect demographic information about grant beneficiaries in future grants? (select all that apply)
    a. Additional funding
    b. Technical assistance in creating and/or using data collection tool(s)
    c. Technical assistance in analyzing and/or reporting demographic data
    d. Support in determining legal limitations of data collection
    e. No support needed
    f. Other (please specify): _____

17. To the best of your knowledge/available data, which subgroup categories did your ARC grant-funded activities or equipment serve? Which subgroup categories did you have difficulty recruiting? Select all that apply.

	Subgroup was served by ARC grant	Subgroup was difficult to recruit
a. Black/African American individuals		
b. Hispanic/Latinx individuals		
c. Asian/Asian American individuals		
d. Native American individuals or those from tribal communities		
e. LQBTQ+ individuals		
f. People earning low incomes		
g. Religious minorities		
h. English language learners		
i. Immigrants		
j. People with disabilities		
k. Incarcerated and formerly incarcerated people		
l. First generation college students		
m. Individuals living in rural areas		
n. Individuals 65 years old or older		
o. People struggling with addiction		
p. Other: _____		

18. To the best of your knowledge, what impact did the following barriers have on participation in or benefit from ARC grant funded services or equipment?

	Substantial impact	Some impact	No impact	Unknown
a. Lack of information about the available opportunity				
b. Lack of transportation				
c. Lack of time due to competing priorities such as caretaking or working				
d. Lack of childcare				
e. Lack of eldercare				
f. Lack of access to substance use recovery support				
g. Language barriers				
h. Limited literacy				
i. Unable to meet minimum requirements for program entry				
j. Discrimination or exclusion				
k. Lack of financial resources to participate				

Section 4. COVID-19 Pandemic

The COVID-19 pandemic began after the conclusion of ARC funding for your grant. However, we are still interested in the impacts of the pandemic on ongoing project activities that were sustained after funding ended as well as the effects on your broader community.

19. Please indicate the impact of the COVID-19 pandemic on each of the following factors in the community you work in or serve?

	Substantial impact	Some impact	No impact	Unknown
a. Loss of life				
b. Increased unemployment				
c. Businesses' loss of income/tax revenue due to shutdowns or reduced consumer spending				
d. Unavailable services or supplies				
e. Outmigration – people moving away from your community				
f. In-migration – people moving into your community				
g. Decreased capacity of local organizations/agencies to respond to community needs				
h. Mental health challenges arising from isolation				
i. Increase in substance use disorders or overdose numbers				
j. Challenges in supporting the needs of those in recovery from substance use disorders				
k. Increased community division or polarization				

20. Were activities supported by your ARC grant still ongoing at the beginning of the COVID-19 pandemic (March 2020)?
    a. Yes
    b. No [skip to end]

21. Please indicate the impact of the COVID-19 pandemic on efforts to sustain your ARC grant project.

	Substantial impact	Some impact	No impact	Unknown
a. Difficulties or inability to provide services in person/on-site				
b. Difficulties or inability to transition services or activities to online formats				
c. Beneficiaries unable to access online services or activities				
d. Difficulty or delays in obtaining needed materials or supplies				
e. Lack of staff to implement projects				
f. Loss of revenue				

22. Please indicate what changes you have made to your ongoing project activities in response to the COVID-19 pandemic and which changes you are planning on continuing post-pandemic. Select all that apply.

	Change made in response to pandemic	Change will continue post-pandemic
a. Offer more services online		
b. Provide additional training for staff to deliver services online		
c. Assist beneficiaries to receive services online (e.g., via internet access, access to devices, technical support, etc.)		
d. Changes to outreach or recruitment methods or strategies		
e. Modify target population of beneficiaries		
f. Modifying the scope of activities		
g. No changes		
h. Other (specify)_____		

Thank you for your participation!

Sample Grantee Focus Group Protocol

Introduction **[Target: 10 minutes]**

To start, let's go around the room and have everyone say:

- their name,
- the city and state where you're based,
- a brief description of your ARC-funded project and who it served.

[If applicable: I know some of you are here representing multiple ARC-funded grants; please share a brief description of any of those that are focused on {K-8 OR high school completion/readiness/curricula} OR {CTE/vocational programs}.]

Implementation Successes and Challenges **[Target: 35 minutes]**

1. **<u>For CTE/Vocational Training HS programs, College, and Workforce Programs only</u>**:
   Can you each briefly describe how you recruited or enrolled students into your program? (If needed: were any groups of students specifically identified for recruitment?) Which of those strategies seemed the most effective?

    a. To the best of your knowledge, what barriers did students face in learning about and then enrolling or participating in your program?

       Probe for: financial barriers, language barriers, lack of base-line skills/requirements, discrimination/exclusion, family challenges

        i. Were you able to address or mitigate those barriers in any way? If so, how?

2. Next, let's talk about the implementation of your ARC-funded project. Thinking back to the first few months or the first year of your grant, what do you think most contributed to successful implementation?

   Probe for: buy-in, timely procurement, staffing, partnerships (e.g., Community Colleges, if appropriate)

3. What aspects of your project do you think were most successful? (If needed: For example, teacher professional development, student learning, new technology, leveraged new partnerships, strengthened local workforce, individual participant skills, improved systems, innovative initiatives, etc.)

    a. Thinking about the students who your project served, what changes or improvements did you see in them as a result of the grant? Were these typical of all participants, or did some groups of students benefit more from the project than others?

       Probe for: race/ethnicity, socioeconomic status, gender, prior academic experiences

    b. What about the teachers who were involved – did you see any changes or improvements among them?

    c. Were there any unexpected benefits or groups that benefitted from the project that you didn't anticipate? (e.g., attendance improved along with test scores, or benefits to parents or administrators as well as students)

4. What challenges or barriers to successful implementation did your program face along the way? How were these addressed or mitigated?

   Probe for: buy-in, procurement/installation, staffing or staff turnover, scheduling challenges, parent resistance

   a. Is there any support from ARC that could have helped address any of these challenges?

5. We're interested in learning about grantees' experiences with fostering equity and reducing inequity in your schools and/or communities. We realize that the terms equity and inequity might have different meanings in different contexts. Can you describe how, if at all, your project focused on addressing equity and/or inequity in your school and/or community?

   Probe for: racial equity/inequity, social justice, socio-economic, access or accommodations for students with disabilities, achievement/opportunity gaps in learning, etc.

6. Knowing what you know now from your experiences implementing your grant, what recommendations would you have for future similar ARC grantees who are developing applications or just starting out with implementation?

   a. Based on your experiences, are there any barriers that potential ARC grantees may have in receiving ARC funding?

      Probe for: Lack of awareness, lack of time to write application

Sustainability Successes and Challenges [Target: 20 minutes]

7. I want to transition now to talk about sustainability. First, to help me understand the context of projects represented here, how many of your programs had plans to continue after your ARC grant formally closed? And how many of your projects actually continued after ARC funding ended?

8. First, for those of you whose projects continued after the end of your ARC grant, can you describe what that transition from ARC funding to sustainability looked like?

   Probe for: did all program components continue? was the program modified in any way?

   a. What factors supported your sustainability?

      Probe for: funding amount and source, staffing, buy-in, embedded systems/processes

   b. If needed: Are all of your programs still going on, or did some only continue right after the end of your ARC projects? Can you tell me a little more about that?

9. Next, for those of you who did not continue your projects after ARC funding or who have ended the project in the years since ARC funding ended, what factors limited or got in the way of sustainability?

   Probe for: funding, staffing, buy-in

Pandemic Impacts **[Target: 20 minutes]**

10. Let's turn now to talk about the COVID-19 pandemic. Although the pandemic began after all of your ARC grants had closed, it is likely that your school and/or community have felt the impact of the pandemic. I want to start really broadly – can you each share a bit about the most substantial impacts of the pandemic on your local community?

    Probe for: unemployment, housing/food insecurity, unavailable/reduced programs or services, mental health challenges, substance use challenges, community division/polarization

11. Now thinking specifically about each of your schools – what impact did the pandemic have on your ability to serve your students and your communities?

    a. What changes has your school made in response to the evolving needs and opportunities that have arisen during the pandemic? What changes are planned?

12. Turning back to your ARC projects, for those who were still sustaining elements of their ARC-funded projects at the start of the pandemic (around March 2020), what impact did that have on your project?

Closing

13. Thank you so much for all the thoughts that you've shared today! Before we close, is there anything else that you'd like to share with us about your experience with your ARC grant or the outcomes of your grant-funded project?

THANK YOU!

Sample Case Study Protocol: Staff

Introduction

1. I'd like to start by asking you to share about your role with this project.

   Prompt for duration of involvement with the project, their responsibilities, etc.

Grant Overview and Performance

2. Tell me a bit about your ARC-funded project. What problem did it intend to address? What were its goals? Who did it serve? What activities did it include?

3. What were the top two or three accomplishments of this project during the grant period?

4. In terms of the people your program served, what changes, improvements, or outcomes did you observe among them as a result of the grant?

   a. Were these the changes or outcomes you expected to see? [f needed: What was different?]

   b. Were these typical of all participants, or did some groups benefit more from the program than others?

5. During the original grant period, what were the most serious challenges your project faced and how, if at all, did you overcome them?

Sustainability

6. After the grant funding ended, did you sustain this project?
   [If project was not sustained at all, skip to Q9.]

7. If the project originally funded by ARC continues to operate, how have you been able to sustain it?

   Probe for: the extent to which all program components were sustained; supplemental funding; staffing

8. What services/programs/resources do you continue to provide to beneficiaries?

   a. If needed/unclear: Are they similar to those provided during ARC funding? If not, in what ways have they changed?

9. What have been the most serious challenges your project has faced in sustaining this work?

Equity

10. Data from the recent ARC survey indicates that your project served an array of subgroups. We are interested in learning about grantees' experiences promoting equity and reducing inequity in your institutions and/or communities. We realize that the terms equity and inequity might have different meanings in different contexts. How did your project conceptualize equity?

11. Can you describe how, if at all, your project addressed equity and/or inequity in your organization and/or community? [If needed: For example, how did your project prioritize the involvement of underserved or marginalized populations?]

    Probe for: racial equity/inequity, social justice, socio-economic, participants from rural/urban areas, access or accommodations for participants with disabilities, access to treatment/recovery support, opportunity gaps in employment, etc.

    a. What, if any, outcomes have you observed from your project in terms of improved equity or reduced inequity during the grant period or since your grant ended?

       Probe for: reduced disparities or disproportionalities in outcomes, increased inclusion of subgroups in activities, increased use of beneficiaries' lived experience to inform programming, etc.

    b. What challenges did your project encounter in trying to advance equity/serve marginalized or underserved populations?

COVID-19

12. Let's talk about the COVID-19 pandemic now. Although the pandemic began after your ARC grant closed, your institution and community probably experienced pandemic effects. Very broadly, what were the most notable effects of the pandemic on your local community?

    Probe for: unemployment, housing/food insecurity, unavailable/reduced programs or services, mental health challenges, substance use challenges, community division/polarization

13. [if relevant/known] Data from the recent ARC survey you completed suggest that your project faced relatively few COVID-19 related delays, service gaps, or other problems. How did your project avoid COVID-related problems?

14. What changes, if any, has your project made in response to the needs and concerns that the pandemic revealed? What additional changes are planned?

Recommendations

15. Thinking again beyond the pandemic, back to your original grant and any sustainability, what lessons did you learn through the experience of operating this project?

16. What recommendations might you offer to ARC about how to support grantees?
    a. If needed, *probe for support in applying for grants, implementing grants, and sustainability*.
17. Is there anything else about the project that I have not asked but that you think ARC should know?

Thank you very much for your time and insights!

Sample Case Study Protocol: Beneficiaries

Introduction **[Target: 10 minutes]**

1. To start, let's go around the room and have everyone say:
    - their name
    - what community they live in
    - how long they've lived there

Recruitment and Early Involvement

2. How did you first learn about this project/program/course? [Use whichever term participants most identify with throughout the focus group.]

3. How did you get involved in the project/program/course?

4. What barriers, if any, did you face when you first got involved in the project/program/course? How were you able to overcome those barriers?

    Probe for: financial barriers, work or caretaking responsibilities, language barriers, lack of base-line skills/requirements, discrimination/exclusion, family challenges

Project Activities

5. What activities did you take part in through this project/program/course?

    a. (If needed, for example: What courses were included in the program? What types of activities were included in the course? What types of resources or equipment were you able to use?)

6. What were the top one or two best experiences you had in the project/program/course?

7. What were one or two experiences with the project/program/course that could have been improved?

Outcomes

8. What benefits did you experience as a result of participating in the project/program/course?

    a. (If needed [use relevant probe]: For example, graduation/completion, improved grades, found employment, earned certification, learned new skill)

    b. As far as you can tell, were these kinds of outcomes typical of other people who participated, or did some participants or group of participants benefit more than others? Please explain.

9. What, if anything, about your educational path or career path has changed or is different since you stopped participating in or completed the project/program/course?

   Probe for: higher educational attainment, more educational confidence, new/different, increase in salary, greater job security, greater job satisfaction

10. Looking back on your participation in the project/program/course, would you recommend that other people get involved with it? Why or why not?

Closing

11. Thank you so much for all the thoughts that you've shared today! Before we close, is there anything else that you'd like to share with us about your experience with this project/program/course?