



The Importance of Workforce Development for a Future-Ready, Resilient, and Equitable American Economy

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The United States needs a much stronger and inclusive workforce development system to effectively serve the full range of students and workers in need of skill enhancement, including youth and adults, who are employed, underemployed, and unemployed. This system must also have a strong focus on those who are displaced or at risk of becoming displaced and those who are disadvantaged, seek upward mobility opportunities, but are systematically being left behind—especially those living in segregated, low-income communities. We need to better prepare all of our students for future-ready success, raise postsecondary completion rates, and support the continued skill attainment of all workers. We need a workforce system that is much more responsive to the ongoing forces of automation and globalization, and that will help workers acquire the skills that employers seek in well-compensated jobs with strong prospects for advancement. We need a system that is dynamic but also inclusive, helping our least fortunate workers adapt to continuous changes in the economic and labor market environment.

This document discusses why workforce development must be a critical component of any agenda to improve equity in the United States and to create a more inclusive economy and society with opportunity for all. It starts by defining what we mean by workforce development, expands on why it is an essential element of any equity-focused agenda, and explains why such efforts must prioritize the needs of the millions of Americans with less than a college education and others who are currently being left behind. We close with a discussion of how the learning agenda that emerged from recent work that the authors of this piece completed with support from the American Institutes for Research (AIR) Equity Initiatives will, over the next 5 years and beyond, help address the high levels of inequality and socioeconomic segregation and the low rates of upward mobility in the United States. An appendix summarizes key takeaways from four landscape analyses conducted by AIR staff to help inform the development of the Workforce Development and Economic Mobility/Prosperity (WDEMP) learning agenda.

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What do we mean by workforce development?

We conceptualize workforce development to broadly encompass all postsecondary education and training plus other programs and services (like career counseling, job-search assistance, and wraparound supports) that seek to prepare workers and help them gain access to and thrive in good-paying jobs and careers. It also includes efforts to align the country’s education and training programs with the evolving needs of employers. Finally, it encompasses efforts to support employers in connecting to the talent they need and incentivize them to fairly compensate their workers and invest in their ongoing development, including upskilling and reskilling.

Defined in this broad manner, workforce development includes any occupational preparation that individuals receive through degree, certificate, or other programs, either for academic credit or no credit. It includes training provided by postsecondary institutions and other providers (e.g., adult learning, registered apprenticeships) and the full range of work-based learning opportunities where workers gain skills on or through their jobs. Workforce development also includes the full complement of “active labor market policies” (ALMPs)—that is, programs and policies that promote labor force participation and help match workers to available jobs. ALMPs generally include employment services, job-search assistance, vocational training programs, employment/wage subsidies, public works programs, and support for entrepreneurs and other independent workers.

By international and historical standards, the current level of investment in ALMPs in the United States is low. While member countries of the Organisation for Economic Co-operation and Development spent, on average, 0.5% of their gross domestic product (GDP) on ALMPs in 2014, *spending by the United States made up just 0.1% of the nation’s GDP.*¹ And the level of public investment in ALMPs in the United States has fallen over time. *Relative to the overall economy, the United States now spends less than half of what it did on these programs 30 years ago.*² Limited and shrinking investments in ALMPs hinder efforts to connect workers with job opportunities, to ensure they have the skills to succeed in these roles, and to support the overall health and resilience of the U.S. labor market and economy.

Why is workforce development an important dimension of any equity agenda?

Workforce development policies, programs, and practices are critical to efforts to improve equity in educational and economic opportunity in America. Labor market inequality in the United States has grown dramatically in the past four decades. Nowhere is this more evident than in the dramatic increase in the earnings gap between workers with bachelor’s (BA/BS) degrees or higher and those with less education.

¹ See Brown and Freund (2019).

² Expenditures on ALMPs peaked in 1980, when the United States spent approximately \$18 billion on the Comprehensive Employment and Training Act. In today’s dollars, this amount is roughly equivalent to \$50 billion. The U.S. Government Accountability Office (GAO) estimates that the federal government now spends about \$14 billion annually on workforce programs in all agencies and programs (GAO, 2019).

The earnings gap between these groups roughly *doubled* between 1980 and 2000. Individuals who earn a bachelor's degree or higher tend to do quite well in the U.S. labor market throughout their careers (despite some early struggles with student debt and in obtaining their first well-paying jobs, especially if they enter the job market during a recession). Although the earnings of young college graduates have not grown much since 2000, the gap between their earnings and those of individuals without bachelor's degrees has continued to widen. In fact, the earnings of non-college workers have stagnated over the past four decades and even have declined for some groups, such as non-college-educated men.

In the past several decades, many other groups in the United States have been increasingly left behind, including people of color, new immigrants, individuals with disabilities, those living in rural and socio-economically segregated communities, and those involved with the criminal justice system. Individuals in these groups continue to be the Americans with the least opportunity to enter the middle class and achieve what many call “the American Dream.” As their earnings and relative status have declined over time, we also find many of these groups increasingly leaving the labor force—a phenomenon once observed primarily among African-American youth and men (especially those involved with the criminal justice system), but one that is now broadly observed among non-college-educated workers in segregated communities. We also find evidence of growing social isolation for these groups, including declining health and marriage rates and growing single parenthood, opioid dependency, and mortality rates.³

What has driven the growing divide between the college educated and all of the other Americans who increasingly are being left behind? While many factors have contributed to stagnating earnings and rising inequality, there is no question that **a skills gap has contributed importantly to this problem.**⁴ Research suggests that good-paying jobs for workers with a high school education or less have largely disappeared. To obtain livable-wage jobs that are in high demand today—in fields like healthcare, advanced manufacturing, information technology, transportation/logistics, and many parts of the service sector—workers need at least some postsecondary education and training, plus a range of skills (both general and occupation specific) that employers demand (e.g., strong communication, collaboration, digital literacy, and problem-solving skills).⁵ Too few Americans without a bachelor's degree have these skills, especially in segregated



³ See Case and Deaton (2020).

⁴ For summaries of the research on the causes of rising inequality, see Groshen and Holzer (2019) or Stansbury and Summers (2020).

⁵ For more analysis of the changing education requirements on “middle-wage” jobs, see Holzer (2015).

communities of color and within the most disadvantaged populations. As a result, many employers have difficulty filling these jobs, and ultimately create fewer of them or outsource the ones they do have.⁶

Importantly, **the skills gap is not caused by lack of student or worker effort.** Indeed, we send many people to college in America, including about three-fourths of our young high school graduates and many adults. But college completion rates are very low, especially in two-year community colleges⁷ and for-profit schools, and for disadvantaged groups. Too many students leave college with no credential or few marketable new skills (see appendix). Furthermore, some credentials have little labor market value unless those who acquired them ultimately obtain a bachelor's degree.⁸

These problems have been exacerbated by the COVID-19 pandemic and likely will worsen in the forthcoming decades. The pandemic has affected low-income and older workers and communities of color the hardest. Indeed, the nation's partial recovery from the spring 2020 economic shutdown already has been the most unequal in U.S. history, with professional and managerial workers rapidly regaining their jobs (or never losing them in the first place), while less educated and minority workers have remained out of work in larger numbers for months or permanently.⁹

Increasingly, workers who were furloughed or laid off in spring 2020 are joining the ranks of the permanently displaced, as their employers either shut their doors or reorganize to put greater emphasis on remote work, online commerce, and automated services. Often, it takes years for those who are permanently displaced to regain employment, usually at much lower wages than before. And permanent displacement is associated with a variety of physical and mental health problems, substance abuse, and family/community disintegration.

Like those who have been laid off, young workers entering the labor market will likely be hard hit by the COVID-19 recession, with longer periods of unemployed job searching and lower earnings levels and growth after they are hired. These young workers will need additional supports as well.¹⁰

Automation (including the continued integration of technology into work) and globalization will continue to create permanent worker displacement and adjustment needs for all workers. But while artificial intelligence (AI) might threaten the jobs and earnings of even the college educated, their ability to adjust by gaining new skills and new employment likely will be much greater than for workers with less education.

⁶ For evidence on employer tendencies to turn workers into independent contractors or outsource their employment functions to other companies, see Katz and Krueger (2019) and Weil (2019).

⁷ Community colleges tend to serve the most disadvantaged segment of American postsecondary students, with great need for supports and services besides high-quality classroom education, and there is strong evidence that when such supports are provided, student outcomes improve. However, community colleges are financially constrained in their efforts to provide these kinds of supports to the students they serve (Century Foundation, 2019).

⁸ See Backes and colleagues (2015) and Baum and colleagues (2020).

⁹ See Hershbein and Holzer (2021).

¹⁰ See Von Wachter (2020).

All of this suggests that, without concerted attention and action, the gulf between college educated workers and other Americans will continue to widen. The millions of Americans currently being left behind must therefore be a major focus of efforts to improve opportunity and equity in economic outcomes through the development of a stronger and more equitable workforce development system.

How will the learning agenda recently developed by the AIR Workforce Development and Economic Prosperity/Mobility Team help address the high levels of inequality and segregation and the low rates of upward mobility in the U.S. workforce?

To inform decisions regarding investment in self-directed, mission-driven work under the AIR Equity Initiatives, AIR staff conducted a series of landscape analyses focused on critical workforce development topics. The objectives of these landscape analyses were to (a) research, document, and help us better



understand key problems of concern (e.g., low college attainment rates), the ways in which these problems have been evolving (e.g., due to the COVID-19 pandemic), and important equity dimensions; (b) review the knowledge base on interventions considered promising and synthesize the available evidence across settings, populations, and interventions in order to identify important knowledge- and field-building needs; (c) identify key stakeholders, experts, thought leaders, and funders that may be important partners and collaborators with AIR in these mission-focused efforts, as well as important opportunities for influencing policy (e.g., reauthorization of the Workforce Innovation and Opportunity Act [WIOA] and

the Higher Education Opportunity Act); and (d) synthesize findings across topics in order to identify a learning agenda and initiatives that could help AIR accomplish its mission in areas related to workforce development and economic mobility/prosperity over the next 5 years and beyond.

The focal topics and key takeaways from the four landscape analyses conducted by teams of AIR staff are as follows (see the appendix for more details):¹¹

1. **Creating a future-ready and resilient workforce.** This team sought to understand issues related to employers' changing skill demands (in light of ongoing automation and globalization as well as the COVID-19 pandemic) and the evidence-based models available to help workers adapt and thrive in a rapidly changing economy. Key findings included the following: (a) helping many more Americans upskill and reskill is a pivotal step toward creating a more future-ready and resilient U.S. workforce; (b) hybrids

¹¹ Work by a fifth team focusing on justice-involved youth and adults was put on hold due to competing demands and has resumed in 2021.

of sectoral programs, career pathways, and apprenticeship programs may be promising approaches;¹² (c) we need to build the evidence base around more short-term, affordable, and convenient opportunities for upskilling/reskilling coupled with strong wraparound supports; and (d) we need more modern, real-time strategies to monitor the rapidly changing skill-needs in the labor market.

2. **Increasing college readiness and success among under-represented students.** This team focused on the challenges of low postsecondary attendance and completion rates, especially for disadvantaged students and particularly in community colleges. The team also analyzed the potential of evidence-based approaches to address these issues. Key takeaways from this landscape analysis included the following: (a) hybrids of dual enrollment and early college high school may be promising approaches to improving the direct transition of high school students into postsecondary education at scale, (b) we need to identify cost-effective strategies to more proactively and uniformly support today's college students in completing their degrees once they have enrolled in college, and (c) postsecondary academic advising models that integrate predictive analytics and strong wraparound supports show promise but need more evidence building.
3. **Reconnecting opportunity youth to pathways to opportunity.** This team focused on a highly vulnerable group—youth and young adults who are out of school and out of work with few or no identifiable pathways back to education or the labor market. The team sought to identify evidence-based ways to serve these youth. Key takeaways included the following: (a) opportunity youth represent a large, growing number of individuals currently with untapped potential to meet the nation's demand for skilled workers, (b) there is limited evidence on models that can work *at scale* to successfully reengage opportunity youth, *especially the most disadvantaged*, and (c) we need to build the evidence base on promising programs with a strong foundation in theories of youth development.
4. **Helping adult learners access pathways out of poverty.** This team examined issues related to growing inequality, declining economic mobility, and growth in the numbers of nontraditional adult students seeking new workplace skills as a result of displacement (especially after the COVID-19 pandemic) and ongoing changes in the kinds of skills that employers need. Key findings included the following: (a) adult learners represent a substantial number of adults currently underserved by traditional forms of education, (b) integrated education and occupational training (IET) combined with strong wraparound services represents a promising approach but has been challenging to scale up, and (c) we need to build the evidence base on IET models that are less costly and easier to scale (e.g., do not require coteaching).

The resulting learning agenda seeks to answer a critical question: **What will work at scale and within resource constraints to help the millions of Americans currently being left behind develop the skills they need to access opportunity and thrive in the future of work?** This agenda will identify the most important and cost-effective components of workforce development programs and strategies to help American

¹² For the latest evidence on the impacts of high-quality, sector-based training, see Roder and Elliott (2019) and Schaberg and Greenberg (2020). The Pathways for Advancing Careers and Education programs have been rigorously evaluated with funding from the U.S. Department of Health and Human Services, and a number of these programs show significant impacts on educational attainment and/or earnings of disadvantaged workers. Other such efforts include the Accelerating Opportunity program in a number of states (Eyster et al., 2018). For evidence on how on-the-job training in general and apprenticeships in particular raise wages, see Barron and colleagues (1997) and Reed and colleagues (2012).

workers from racial, ethnic, and economically under-represented populations develop the skills necessary to meet employer skill demands, as well as ways to scale up these programs and policies. As such, the learning agenda promises to generate important knowledge on what constitutes successful workforce development and to significantly “move the needle” to address the needs of this targeted population.

Key goals for the next 5 years include the following:

1. Examine the evidence on **upskilling and reskilling strategies, especially for incumbent and displaced workers**. This is an important gap in the landscape analyses done to date by AIR staff. The existing evidence is highly important as we chart a path to recovery from the COVID-19 recession that will effectively support the tens of millions of Americans permanently displaced from the occupations and industries in which they originally were employed.
2. Contribute to efforts to develop effective strategies that **monitor in real time the rapidly changing skill needs** in the labor market, **encourage more employers to invest in skill-building**, and **address structural disadvantage and algorithmic bias**.
3. Help grow the evidence base on and support the field in adopting, adapting, and scaling **programs and strategies to support cost-effective skill building and to improve equity and outcomes at scale through place-based partnerships and other approaches**. An important aim of such efforts is to seed ideas for larger scale testing (that is, effectiveness studies), adoption, and implementation. These efforts may include strategic, proof-of-concept investments in promising workforce development practices and strategies. Based on our landscape analyses, the AIR team identified the following promising approaches:
 - Hybrids of sectoral programs, career pathways, and apprenticeship programs that promote entry into high-growth sectors and steady career advancement for our most underserved workers;
 - Hybrids of early college high school and dual enrollment programs that would help much larger numbers of underprepared students become college ready;
 - Models to effectively support both nontraditional and full-time college-going students to significantly increase their completion rates;
 - Variants of IET models that do not require coteaching; and
 - Models to successfully reengage the most vulnerable opportunity youth and keep them on a path to success.
4. Build the evidence base on and support the field in adopting, adapting, and scaling **cross-cutting strategies that appear to be common elements of successful programs**, including the following:
 - Coordination and collaboration across the workforce, education, industry, and economic development sectors;
 - Career development/planning and goal/mobility coaching;

- Dual focus on skill building for in-demand, high-growth occupations and industry sectors (i.e., *job-specific* skills) and 21st century skills (i.e., communication, teamwork, critical thinking, and problem-solving skills; also known as *general* skills);
 - Authentic work experiences and earn-and-learn opportunities; and
 - Wraparound supports.
5. Cultivate the relationships necessary to inform policy and motivate investments in ***the scaling of a stronger and more inclusive workforce development system***. Achieving impact at scale will require establishing strategic relationships with relevant funders (e.g., the OPeN collaborative of funders, JP Morgan Chase, Bill and Melinda Gates Foundation, Walmart, Lumina, Arnold, Schmidt Futures) and key workforce stakeholders/influencers (e.g., National Skills Coalition, Rework America Business Network, Aspen Institute, National Urban League, Youth Investment Forum) to coordinate and reinforce efforts to expand the evidence base and support the adoption and scale-up of effective practices to meet the urgency and level of need. It will also require engaging in communications, outreach, and other efforts to advocate for increased investment in workforce development and the adoption and implementation *at scale* of evidence-based practices (e.g., as part of federal stimulus actions in response to the COVID-19 recession and/or WIOA reauthorization).

We propose to make this important learning agenda the focus of our internally seeded research and field-building efforts over the next 5 years and beyond. Through this emphasis, AIR will help generate and apply the best available evidence to address some of the most urgent issues related to *equitably* restoring vitality to America’s workforce and economy as we seek to recover from the COVID-19 pandemic and recession, while also developing a resilient, future-ready workforce that meets the talent needs of American businesses. Our efforts will support the aim of ensuring that *all Americans* have the opportunity to develop fulfilling careers that provide family-sustaining wages and benefits across the life course, and that American businesses can effectively compete and thrive in the rapidly changing global economy while doing right by their workers.

In pursuing this learning agenda, AIR will highlight major questions of equity in workforce development while generating high quality, objective evidence and practitioner-ready, culturally appropriate resources to support evidence-based policy and practice. It will also help address the most pressing issues related to equitable workforce development, economic mobility, and the future of work in the United States. Finally, our efforts will help inform social policy reforms and public investments that achieve desirable, equitable outcomes that market adjustments alone are unlikely to produce.

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Appendix: Summary of Key Takeaways from Each WDEMP Landscape Analysis

1. Creating a future-ready and resilient workforce

- ***Economic inequality has been rising while economic mobility has been declining.*** As Raj Chetty and coauthors (2016) note, the American dream is fading. Securing and maintaining “good jobs” that provide family-sustaining incomes and access to the middle class has become much harder. Even in the tight labor market of recent years, pathways to prosperity were disappearing for low-skilled workers and workers without college degrees.
- ***The fast-changing nature of work and associated churn in skill needs are exacerbating these problems.*** Automation, artificial intelligence (AI), machine learning, and global trade have created opportunities for workers with more advanced skills and higher wages while eroding job security and quality for most low-income and less educated workers. An eroding safety net and inequitable access to technology, work, and learning opportunities make matters worse for America’s most vulnerable workers.
- ***The American labor market lacks resilience.*** The recent health and economic shocks from the COVID-19 pandemic underscore the degree to which the American labor market and economy are limited in their ability to quickly adapt and recover. As of May 23, 2020, more than 40 million Americans had filed for unemployment benefits over a 3-month period—a figure that exceeds the total number of claimants *during the 2 years* of the Great Recession of 2008—and economists estimate that up to 42% of pandemic-related job losses could become permanent. Experiences after the Great Recession do not bode well for economic recovery either. Since August 2014 (5 years after the end of the Great Recession), almost 10 million Americans have been unemployed despite employers having almost 5 million open job postings, many of which are for middle-skill, livable-wage jobs. Experts attribute this market-clearing failure to a disconnect between U.S. employers and suppliers of talent and underinvestment in skill building.
- ***Helping many more Americans upskill and reskill is a pivotal step*** toward creating a future-ready, resilient workforce ecosystem that helps individuals, families, communities, cities, regions, and our nation thrive. To inform potential AIR efforts to help address these challenges, this team reviewed the evidence base on the following workforce development interventions, strategies, and approaches:
 - ✓ Sectoral employment training (Project Quest, Per Scholas, Jewish Vocational Service, Wisconsin Regional Training Partnership, etc.)
 - ✓ Trade Adjustment Assistance Community College and Career Training (TAACCCT) grants
 - ✓ Career pathways
 - ✓ Apprenticeships
 - ✓ Mobility/goal coaching

- ✓ Place-based and community-based interventions

In addition, the team reviewed literature that highlights employer needs and trends on:

- ✓ Future-ready skills
- ✓ Workforce planning
- ✓ AI
- ✓ Upskilling and reskilling

- **Key takeaways** from these reviews include the following:
 - **Sectoral approaches are promising but have failed to scale** possibly because of the large up-front investment needed to setup these programs.
 - **Alternative approaches** (such as career pathways and TAACCCT grants) **lacked key elements of sectoral approaches** (e.g., employer involvement or wraparound supports) and failed to achieve their impacts.
 - Successful programs tend to be (a) **targeted**, focusing on livable-wage, high-demand industry sectors; (b) **intersectoral and place based**, forging partnerships among employers, the workforce system, postsecondary institutions, intermediaries, and community-based organizations and braiding resources to address place-specific opportunities and constraints; (c) **data driven**, relying on a good understanding of local labor market needs, skills needed, and skills gaps; and (d) **comprehensive**, tying occupational training with authentic work experience, earn/learn opportunities, wraparound supports, and coaching.
 - Today’s workers **need more short-term, affordable, and convenient opportunities for upskilling and reskilling, coupled with wraparound supports**. The few programs with rigorous evidence of impacts have long break-even time horizons (i.e., it takes participants years to make up their forgone earnings while participating in training). This lag and the limited availability of economic and other wraparound supports make many of today’s training options infeasible for most disadvantaged workers.
 - **Real-time strategies for monitoring rapidly changing skill needs in the labor market** are needed to support systems alignment. Automation has been characterized as a “relentless” force that is making historically middle-class jobs obsolete but that also may create new career paths for workers *who can keep up* with the evolving vocational requirements. Until the gaps between the supply and demand of skills in the workforce can be more accurately defined and identified in real time, it will be challenging to accurately identify the kinds of reskilling and upskilling needed and the ways in which these needs are changing.
 - **More employers must be encouraged to invest in skill building**. The costs and benefits to intermediaries, employers, and other partners to participate in skills development (such as sectoral training strategies, apprenticeships, and career pathways) haven’t been measured, making it difficult to understand and design the incentives and supports necessary for broad participation. It is also essential to understand the kinds of barriers that prevent employers

from investing in and implementing workforce development programs. Studying this issue from both angles could enable us to develop recommendations for policymakers and programs for employers that encourage investment in the workforce. In addition, by forging research partnerships with “high end” employers and engaging in thought leadership on this topic, AIR will be viewed as an intellectual partner in solving these challenges.

- **Strategies are needed to address structural disadvantage and algorithmic bias.** The rise in the use of AI across many technological applications has increased the potential for instances of algorithmic bias. Specifically, using algorithms to aid decision making based on patterns observed in data can introduce the risk of replicating and even amplifying human biases, particularly those that affect protected groups. Even though the biases may not be intentional, there is still the potential for algorithmic decisions to create or worsen race- or gender-based inequity. Within the workforce, and specifically with respect to recruiting and selection software for hiring, algorithmic bias has the potential to limit employment opportunities. Addressing these issues is paramount for achieving workforce equity, as efforts to upskill and reskill may be futile if there is systematic bias against under-represented groups in the hiring process.

2. Increasing college readiness and success among under-represented students

- **In today's globally competitive environment, attaining a quality postsecondary credential is more important than ever.** Currently, 80% of all “good” jobs (those that pay at least \$35,000 for workers between the ages of 25 and 44) require at least some education or training beyond high school, and the fastest growing jobs require a postsecondary credential.
- **Less than half (46%) of working-age Americans hold a postsecondary degree.** In addition, many colleges have not been designed to support the needs of many of today's potential and current postsecondary students who are older, working part time or full time, and/or raising children while enrolled (i.e., nontraditional students).
- **There are also sizeable gaps by race/ethnicity and socio-economic status in postsecondary participation and success.** African-American, LatinX, and first-generation students are less likely to be academically prepared for postsecondary education, to enroll, and to persist in attaining a credential. They are also less likely to enroll in institutions with better resources and outcomes. Black and Hispanic students are less likely to enroll in postsecondary education directly from high school, which is correlated with completion.
- **There are two main barriers to credential attainment:** (a) not enrolling in postsecondary education and (b) not persisting to credential attainment once enrolled.
- **Increasing direct postsecondary enrollment (i.e., right after completing high school) and enrollment rates among under-represented populations are important levers to increase postsecondary attainment** in the United States. The proportion of high school graduates who directly enroll in college has been flat at about 67% since 2000. We should also significantly

increase postsecondary enrollment rates for Hispanic, black, and other under-represented populations.

- **Increasing postsecondary completion rates is another important lever to improve attainment rates.** Just 39% of Americans who started an associate’s degree program in 2011–12 had earned any type of postsecondary credential 6 years later. That rate was 57% for those who started a certificate program and 71% for those who started a bachelor’s degree program. A 2019 study found that since 1993, *more than 36 million* students enrolled in college but failed to earn any credential and were no longer persisting toward one.
- To inform potential AIR efforts to help address these challenges, this team reviewed the evidence base on the following approaches deemed promising:
 - ✓ Early college high schools (ECHS)
 - ✓ Dual enrollment/credit programs
 - ✓ Corequisite remediation/developmental education reforms
 - ✓ Academic advising
 - ✓ Accelerated Study in Associate Programs (ASAP)
- **Key takeaways** from these evidence reviews included the following:
 - Interventions addressing a specific issue in the postsecondary “pipeline” (e.g., corequisite remediation or nudges to promote increased participation in academic advising) tend to address the issue targeted but ultimately do not increase attainment.
 - More intensive and encompassing interventions (e.g., ECHS, ASAP model) show stronger impacts but serve limited numbers of students.
 - We need to improve high school students’ direct transition into postsecondary education at scale, especially for under-represented students. Given our experience, AIR is particularly well suited to identifying the key elements of scarce-but-successful ECHS models and to exploring whether integrating them into more prevalent dual enrollment programs may help accomplish this goal.
 - We also need to more uniformly and proactively support today’s college students so they complete postsecondary credentials once enrolled. Academic advising models that integrate predictive analytics show promise but have a limited evidence base.
 - We need to better understand the key components of promising postsecondary completion programs such as ASAP—which integrates academic counseling and wraparound supports. We also need to uncover strategies to help deliver them cost-effectively and at scale to many more students, including nontraditional students and particularly students attending part time (who are not eligible to participate in the ASAP model).

3. Reconnecting opportunity youth to pathways to opportunity

- **Opportunity youth represent a growing number of individuals with untapped potential who are needed to meet the nation's demand for skilled workers.** In 2019, there were 4.5 million young people (between the ages of 16 and 24) in the United States who were neither in school nor working (known as *promise youth*). The COVID-19 crisis is expected to significantly increase the number of opportunity youth, as large numbers of youth and young adults experience job loss or disruptions in their academic programs.
- **Youth disconnection affects a myriad of long- and short-term outcomes**, including civic engagement and political participation; health and life expectancy; the stability and quality of personal and familiar relationships; and an individual's overall resilience and ability to adjust to changes. At the neighborhood level, factors associated with high rates of youth disconnection include racial and socio-economic segregation, low levels of educational attainment, high levels of adult unemployment, and high rates of youth disconnection among prior generations (e.g., first-generation college bound).
- **Left unaddressed, the economic and social costs of youth disconnection are significant.** The White House Office of Community Solutions (2012) estimated the costs of youth disconnection at \$93 billion per year. The *Economics of Investing in Opportunity Youth* estimated a lifetime cost burden to society of more than \$900,000 per disconnected young person. Those who remain disconnected face systemic barriers like poverty, contact with the criminal justice system, unresolved trauma, and inequitable education experiences that are misaligned to the demands of today's labor market.
- To inform potential AIR efforts to help address these challenges, this team reviewed the evidence base on the following 10 programs:
 - ✓ Job Corps
 - ✓ National Guard Youth Challenge
 - ✓ Youth Build
 - ✓ Center for Employment and Training
 - ✓ Year Up
 - ✓ Linking Innovation, Knowledge, and Employment (@LIKE)
 - ✓ Los Angeles Reconnections Career Academy (LARCA)
 - ✓ GED Bridge to College Careers
 - ✓ Young Adult Internship Program (YIAP)
- **Key takeaways** from these evidence reviews included the following:
 - Comprehensive programs (e.g., Job Corps, Youth Build) tend to show impacts on short-term outcomes (e.g., high school diploma and/or GED completion, initial job placement) but less success with longer term aims (e.g., postsecondary education, credential attainment, income gains, career progression).

- The more effective models (e.g., Year Up) tend to tailor programming and to screen youth, selecting those who are more ready and motivated. These models also tend to serve relatively small numbers of opportunity youth.
- Programs targeting a more limited set of needs (e.g., GED Bridge, @LIKE) show impacts relative to the outcomes targeted but fail to achieve the desired longer term results.
- Common elements of successful programs tend to include the following:
 - » Educational interventions (e.g., alternative high school/GED completion)
 - » Training (e.g., enrollment, persistence, completion, and acquisition of credentials)
 - » Work experience
 - » Employment/retention assistance
 - » Case management
 - » Mentoring
 - » Wraparound supports
- There is limited evidence on models that can work *at scale* to successfully reengage opportunity youth, *especially the most disadvantaged (e.g., youth who are homeless, youth who are involved in the justice system)*. There are many community-based programs that seem promising based on their strong grounding in theories of youth development, but few have been rigorously evaluated.

4. Helping adult learners access pathways out of poverty

- ***A substantial number of adults remain underserved by traditional forms of education.*** Despite the growing need for an educated and well-trained labor force, the United States is falling short on effectively educating a large segment of the population. The traditional K–12 system has lost *more than 30 million adults* who have not received a high school credential, and postsecondary education has not been realistically available for many more. The shortcomings of the educational system are further reflected in the recent finding that nearly 40% of U.S. adults have below a basic level of English literacy, and nearly as many have not been provided the opportunity to acquire digital literacy. These underserved adults, who tend to live in high poverty, can face additional challenges, such as access to support services that will enable them to fulfill their potential in the modern workplace and as parents and citizens.
- ***Investing in this population increases opportunities for the adults themselves and for the next generation.*** Adults with higher levels of literacy, numeracy, and digital literacy skills are more likely to:
 - ✓ Secure and progress in family-sustaining jobs
 - ✓ Vote and be active in civic affairs
 - ✓ Seek out medical care for themselves and their families

- ✓ Become active in their children’s school, advocate for their children’s education, and help their children with their academic work
 - ✓ Be able to “navigate” local and federal bureaucracies to secure services for themselves and their families
- **Although there is limited infrastructure for providing underserved adults with education and support services, promising models do exist.** Under Title II of the WIOA, federal funds are provided for integrated education and occupational training (IET) and wraparound services to support participation. We reviewed the research on IET models designed specifically for underserved adults in tandem with wraparound support services like childcare and transportation. Four models had positive impacts on outcomes such as obtaining high school equivalencies, postsecondary credits, occupational credentials, and less often, employment and higher wages. Some of the studies are still collecting data on longer term employment outcomes, and additional findings will be released soon. The following four models have been identified as particularly promising:
 - ✓ I-BEST
 - » Coteaching model¹³ for in-demand occupations, with 50% coteaching
 - » Often includes receipt of postsecondary credits and occupational credentials
 - » Includes wraparound services
 - » Delivery system is expensive
 - ✓ Accelerating Connections to Employment
 - » Uses the I-BEST model, with 100% coteaching
 - » Has a strong connection to employers that is missing in many IET programs
 - ✓ Accelerating Opportunity
 - » Uses the I-BEST model, with 25% coteaching
 - » Has a strong emphasis on providing college credits in CTE fields
 - ✓ Carreras en Salud
 - » Uses a career pathway approach that integrates English language instruction and preparation for work in healthcare fields
 - **Key takeaways** from the research included the following:
 - To have an impact on employment outcomes, the model needs to have **formalized connections with employment services and/or employers.**
 - **Recruitment and retention have been consistent challenges** for IET programs and need to be targeted areas of attention. The programs are time intensive and usually charge tuition, making it a challenge for families/working adults to participate and persist. Participating

¹³ *Coteaching* refers to a practice in which educational and occupational instructors teach together in the same classroom using a shared curriculum.

adults need wraparound services like childcare and financial support to succeed in IET programs.

- Coordination between education and training providers is a challenge, due primarily to the amount of planning time required. Access to **prepared curricula or plans or support to facilitate program planning** could help address this barrier to program scale-up.
 - A particular area of demand in the field is for **models of IET that are less costly and that do not require coteaching**. Currently, no research exists on IET models other than I-BEST or variations of I-BEST.
 - There is also a demand for **information on the cost/benefit of IET**. Given the difficulty and cost of undertaking the development and implementation of IET, states and programs want to know whether it will pay off. This information is also a priority consideration for policymakers in the forthcoming reauthorization of WIOA.
- Other key questions that emerged from our review of the research include the following:
- What knowledge, skills, and abilities do teachers, administrators, and policymakers need to help them meet the needs of underserved adults in an expeditious and supportive manner? How can we support those needs?
 - How can technology be better used in providing the services that can help adult learners move forward in their education and careers? What can we learn about potentially effective practices from IET programs that were delivered virtually during the COVID-19 pandemic? How can we best support adoption of those practices?



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