

Report

THE NTAR LEADERSHIP CENTER

National Technical Assistance and Research Center to Promote Leadership for Increasing the Employment and Economic Independence of Adults with Disabilities

June 2013

Working for Adults: State Policies and Community College Practices to Better Serve Adult Learners at Community Colleges During the Great Recession and Beyond

by Michelle Van Noy, Ph.D. and Maria Heidkamp

As Americans remain in the workforce longer due to increased life expectancy, personal preference, and economic need, many adults seek education and training to gain the skills and credentials needed to start new careers or advance in their current careers. Community colleges, with their open access and focus on workforce preparation, are often highlighted as well suited to provide the education and training needed by adult workers. However, adults bring unique needs to postsecondary education that must be addressed to help them be successful, including the need for better access and services to support adult learners with disabilities.¹ Numerous recent initiatives have focused on how to improve the success of a range of adult populations at community colleges, including working adults, low-skilled adults, and adults over age 50; none have focused on the specific issues of adults with disabilities. However, these different subpopulations may share common challenges and concerns in postsecondary education relative to younger students so that lessons from one adult subpopulation might be relevant to others, including adults with disabilities.

To generate lessons based on the recent activity in this area, this report synthesizes knowledge about how community colleges serve adults. The first section of the report provides background and context on adults at community colleges, and the second section details the methodology used in this research. Subsequent sections describe the findings on the following issues: the enrollment of adults at community colleges, recent initiatives that have sought to improve community colleges for adults, lessons from recent research on state policies and college practices to support adults at community colleges, the state policy and college practices related to adults' enrollment, and research on student outcomes and the implications for what is known about state policy and college practice. The final section highlights recommendations for policymakers and practitioners seeking to better serve adults at community colleges, including adults with disabilities.

Background

The Economic Climate for Postsecondary Education Among Adults

A focus on helping more adults acquire postsecondary credentials at community colleges has grown out of research pointing to the rising demand for college-educated workers. For example, the Georgetown University Center on Education and the Workforce projects that by 2018, nearly two-thirds of the estimated 46.8 million new job openings

that will be created will require at least some postsecondary education, and that the nation will fall short by some three million college degrees (Carnevale, Smith, & Stroh, 2010). While other research indicates that the projected degree shortfalls may be unlikely before the end of the decade, they will occur in the longer term as Baby Boomers eventually retire and they may be particularly acute in the medium term in states with large and growing immigrant populations (Neumark, Johnson, & Cuellar Mejia, 2011).

At the same time, given demographic trends, including slow labor force growth projected to 2040, it has become clear that efforts to increase degree attainment rates to meet anticipated demand must be directed at current workers, not just new entrants to the labor market (Bosworth, 2007). Demographic trends also predict an increasingly older workforce, due to the aging of Baby Boomers, many of whom will need or want to work beyond what was once considered a traditional retirement age (Heidkamp, 2012). One effect of these demographic trends is that between 2009 and 2019, adult college enrollments are expected to increase by 22.6 percent, compared to a 9.6 percent increase in enrollments by traditional age students (Kelly & Strawn, 2011). Yet much of postsecondary education policy is still geared toward meeting the needs of 18- to 22-year-old, full-time students, not the more than 120 million workers between the ages of 25 and 64 who have no postsecondary credentials of any sort (Bosworth, 2007).

In addition to addressing the predicted shortfall of workers with postsecondary credentials, the recent recession and its lingering aftermath have further highlighted the gaps between those with and those without postsecondary education. This gap reinforces an “economic imperative” for more adults to complete postsecondary credentials, including associate degrees and certificates (Kelly & Strawn, 2011). Research has documented that community college credentials have economic returns in the labor market (Belfield & Bailey, 2011). According to recent Bureau of Labor Statistics data (2012), associate degree holders earned \$768 per week compared with \$638 for those with high school diplomas and \$451 for those who did not obtain a high school diploma. Similarly, the unemployment rate for those with an associate degree was 6.8 percent compared with 9.4 percent for those with a high school diploma and 14.1 percent for those without a high school diploma. The economic returns for different credentials, degrees, and certificates varies based on a range of factors, including the field of study, the ability to get a job related to one’s training, gender, and ethnicity (Carnevale, Cheah, & Strohl, 2012; Carnevale, Rose, & Cheah, 2011; Carnevale, Rose, & Hanson, 2012; Carnevale, Strohl, & Melton, 2011; Dadgar & Weiss, 2012). Despite this variation, postsecondary education is still associated with substantially higher earnings among those with credentials than those without credentials (Carnevale, Rose, & Cheah, 2011).

Adults in Postsecondary Education and their Needs

In the postsecondary literature, adult students have typically been defined as age 25 or older (Kasworm, 1990). Sometimes adult students are thought to be synonymous with “nontraditional” students. Horn (1996) defines nontraditional as students who meet one or more of the following conditions: delayed enrollment in postsecondary education (i.e., not in the same year as graduating high school), part-time attendance, financial independence, full-time employment while enrolled in school, has dependents other than a spouse, is a single parent, or did not obtain a standard high school diploma. However, even among nontraditional adults, there is variation in their characteristics and needs; some have just one nontraditional characteristic, whereas others have many or all of these characteristics (Horn, 1996).

Adults have unique needs and engage with college differently than traditional students who enter college immediately after high school. Bean and Metzner’s (1985) model of college attrition identifies several ways that nontraditional students differ from traditional age college students. In particular, external factors, like finances, hours working, encouragement, family responsibilities, and the ability to transfer to continue education, are more highly related to success than academic factors such as study habits, academic advising, attendance, certainty of program of study, and availability of courses, or social interaction, which is particularly important in models of younger students’ completion. Likewise, Donaldson and Graham (1999) posit the importance of adult learners’ work, family, and

community context when explaining their outcomes. Donaldson and Graham (1999) also highlight the importance of adults' prior experience and personal biographies, their psychosocial and value orientations, their approaches to learning, their experience of the classroom as a means for social engagement and negotiating meaning in school, and their learning and use of the information. Because of their life circumstances, adults in college often prioritize work over school, engage and use their knowledge in more immediate and relevant ways, and have outcomes that are based on their use of prior experience. Since disabilities increase with age, adults may also have age-related physical or mental disabilities, as well as undiagnosed disabilities that may affect their ability to engage in college (Burkhauser, Daly, & Tennant, 2010).

Adult learners have different learning needs. They have several unique characteristics that influence their learning: they are autonomous and self-directed, they bring life experiences and knowledge to learning, they are goal-oriented, they seek relevant knowledge in their learning, they are practical, and they like to be respected (Knowles, Holton, & Swanson, 2011). Education must be relevant to work and address adults' prior experiences (Kasworm, 1990; Knowles, Holton, & Swanson, 2011). The implications for community colleges of adults' unique learning needs are many. To meet these needs, colleges must be flexible both in terms of time and schedule, as well as academic content (Compton, Cox, & Lannan, 2006). A recent review of adults' academic needs in higher education highlights the following key needs: flexibility and acceleration, applied learning and employer partnerships, smoother transitions from noncredit to credit and for transfers, competency models, and use of technology to customize instruction (Kasis et al., 2007). Furthermore, adults with disabilities may need specific accommodations, as well as assistance in uncovering previously unidentified disabilities to help them be successful in their education.

Community Colleges and Adults

Community colleges have long been known for their role in providing workforce education, which is of particular relevance to adults. Workforce programs both in credit and noncredit formats offer education designed to prepare people for work in a range of occupations and industries. Credit workforce programs are typically offered on a semester basis and lead to credentials such as certificates and associate degrees, while noncredit workforce programs are offered in a variety of formats and schedules but do not lead to college credentials (Van Noy, Jacobs, Korey, Bailey, & Hughes, 2008). Noncredit programs also include basic skills and English as a Second Language (ESL) instruction, which may be directly connected to workforce instruction. Some community college workforce programs, both credit and noncredit, help prepare students for industry certifications and increasingly are being called upon to link more specifically to competencies (Ganzglass, Bird, & Prince, 2011; Laitinen, 2012; Klein-Collins, 2012). Competency-based instruction is of particular relevance to adults seeking skills and knowledge needed to obtain and advance in the labor market.

Various recent reports have called for a redesign of postsecondary education and workforce policies so that they better meet the specific needs of potential adult learners (Bosworth, 2007; Kasis et al., 2007), adult workers (Yaffe, 2010), and "working learners" (Soares, 2009). There is some agreement over the challenges faced by adult learners. Recent reports have cited the following issues: a lack of programs that reflect the time constraints of working adults who need flexible scheduling options; inadequate financial resources to help working adults and part-time learners; a lack of career advising, counseling, and support services that are geared toward the problems of working adults; and a lack of awareness about the need for lifelong learning and the need for expanded opportunities (Bosworth, 2007; Kasis et al., 2007; National Commission on Adult Literacy, 2008; Soares, 2009).

Policy debates about serving adult learners at community colleges are not new. Community colleges have a long history of serving nontraditional students, including working adults as well as many minority, low-income, first-generation students, and students with disabilities; the average age of a community college student is 29 (American Association of Community Colleges, n.d.). Reflections of community college presidents note that in the late 1970s/early

1980s, the adult learner was “all the rage” (Shugart, 2008) and the “center of every conversation on campus” (Nunley, 2007). This included discussions on how to improve offerings for veterans and how to address the needs of returning students, in particular women seeking education post-children or post-divorce (Nunley, 2007). Yet these reflections end by raising the question of whether community colleges have kept up with the changes in how adults pursue education. For example, one commentary notes the relative increases in adult students choosing private, for-profit colleges with more demand-driven, flexible programs offering shorter timeframes instead of choosing programs at largely semester-based community colleges (Nunley, 2007). Another president notes that while community colleges serve roughly two-thirds of nontraditional adult students, and access to programs has remained high, “their yield remains troublingly low, likely a reflection of our continuing challenge to adapt to the needs of such a broad range of learners” (Shugart, 2008). In other words, there is a growing recognition that in spite of a long history of serving adult students, community colleges may not be serving them as well as they could. Given the ongoing challenges of serving all populations of adults in community colleges along with increased need for postsecondary credentials among many different populations of working adults, this study examines these issues within the framework of changing national demographics and an aging workforce and in the recent context of the Great Recession.

Data and Methods

To examine the issues around how community colleges serve adults, this study draws on two data sources. First, an analysis of data from the National Center on Education Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS) examines the enrollments and factors related to the enrollments of adults at community colleges. Second, a review of publications in the past five years provides information on state policies and college practices designed to improve the success of adults in community colleges.

An analysis was conducted using IPEDS data on student enrollments in two-year public institutions in fall 2005, 2007, and 2009. Descriptive statistics were calculated on the enrollment by age in these years, and the change in the proportion of students enrolled by age. IPEDS requires that age data are reported in odd years; as such, this analysis focuses on data from 2005, 2007, and 2009 when age data are available. The enrollment data reflect the fall enrollment of both full-time and part-time students at community colleges in credit-bearing programs. These data are limited in that they do not include the enrollments of students in community college noncredit programs.

To examine the factors related to the enrollment of adult students at community college, regression analysis was conducted using the IPEDS data on fall 2009 student enrollments by age. State-level data were included in the model, including Census data on the size of the state population and the state population by age in 2009², U.S. Department of Labor statistics on the state unemployment rate in 2009, the proportion of the state’s higher education institutions that were community colleges in 2009 from IPEDS data, and whether the state requires community colleges to be workforce providers (Van Noy et al., 2008). College-level factors were included in the models, including data from IPEDS on the size of the colleges based on 2009 total enrollments, the urbanicity of the colleges, whether the colleges offer credit for prior learning, the percent of graduates from the colleges in workforce programs in 2009, and the number of workforce programs as a proxy for the colleges’ emphasis on workforce. Ordinary Least Squares regressions were conducted, using these state- and college-level measures to examine the extent to which these factors are associated with enrollment.

To review the literature on community colleges and adults, a search of publications was conducted using the Educational Resources Information Center with the following terms: community college and adults. Additional articles and reports from other major national research organizations that study community colleges, such as the Community

College Research Center and the Office of Community College Research and Leadership, were compiled. References within the articles and papers from each of these searches were reviewed to ensure that all relevant sources were included. The review sought to include papers that met several criteria. Although the review was focused on community colleges, it also included some publications with a focus on the broad issue of adults in higher education but that also have a substantial focus on community colleges. All publications focused primarily on adults or initiatives that primarily served adults, regardless of the definition of adult. They all focus on credit programs with the exception of those programs that focus on basic skills and ESL programs linked to workforce instruction. Thus, the findings of this review are limited in that they do not apply to noncredit programs because of the lack of research in this area. The review includes only papers that were published from January 2007 to July 2012.

This literature review first organized the published works on this topic by the type of article or report. Those that were policy analyses or commentaries were not included in the literature review but rather were examined as part of the context for understanding the needs for adults to pursue community colleges. Publications based on research were examined to determine whether the study focused primarily on state policy, college practice, or student outcomes. Among publications focused on state policy and college practice, the key recommendations were identified and coded to determine which recommendations were most commonly made. Recommendations included specific reforms to state policy and college practice, as well as lessons on how to implement these reforms. Publications were examined to identify those with rigorous analyses of student outcomes; that is, papers that used student-level data to determine the effect of a policy or practice on student outcomes with a rigorous comparison group and statistical controls that would allow for causal inference. Publications were also coded for the particular subpopulation of adults that was the primary focus of the research. The following categories emerged: older adults, dislocated workers, low-skilled adults, and adults in general. While literature exists about students with disabilities and community colleges, these studies were not age specific and often focused on pre-college youth and young adults, rather than adults or older adult learners. No publications explicitly addressed issues pertaining to disabilities or the specific issues and needs of adult learners with disabilities at community colleges.

This review builds on several prior literature reviews of adults and higher education. In particular, Kasis et al.'s (2007) review of adults in higher education is an important prior literature review that this current literature review seeks to build upon. It examines a range of key issues for adults, including demographic trends, institutional growth, and gaps in service, and provides several key recommendations, such as the need for flexibility and accelerated learning, the need for new ways to provide students aid, and the need for measures of adult learners' outcomes. Other important prior literature reviews focus on the issues of low-skilled adults and their transition to higher education (see Park, Ernst, & Kim, 2007; U.S. Department of Education, Office of Adult and Vocational Education, 2009).

Using these two data sources, this report addresses the following research questions:

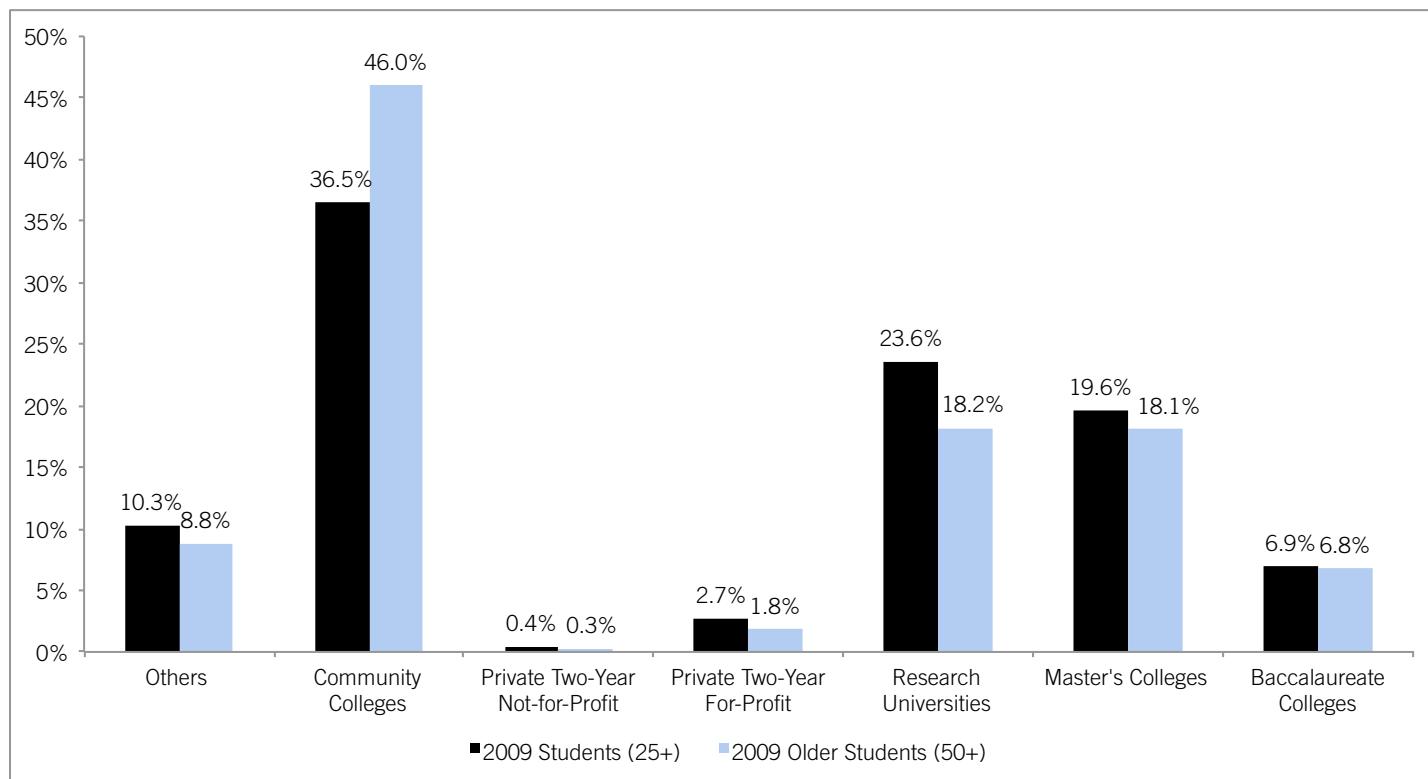
1. To what extent have community colleges enrolled adults?
2. What state policies and college practices to better serve adults in community colleges have been most commonly examined in research over the past five years?
3. What lessons have been learned about these state policies and college practices?
4. To what extent are state policies and college practices associated with adults' enrollment at community colleges?
5. What are future recommendations for state policy and college practice to improve the success of adults — especially adults who are working or who desire to continue working at older ages — at community colleges?

Enrollments of Adults at Community Colleges

Using national data on student enrollments in higher education institutions from IPEDS, this analysis examines the extent to which community colleges have enrolled adults. This analysis examines enrollments among different populations of adults commonly referred to in the higher education literature: the general adult population (defined as persons age 25 and older) and among older adults (persons age 50 and older).

Relative to other institutions of higher education, community colleges have a central role in serving the educational and learning needs of adults. Community colleges enroll the greatest proportion of adult students compared to all other types of higher education institutions, including private two-year colleges and research universities. Based on 2009 IPEDS data, among adults 25 and older enrolled in higher education, 36 percent are enrolled in community colleges. An even greater proportion of adults 50 and older enrolled in higher education (46 percent) are enrolled in community colleges (see Figure 1).

Figure 1. Proportion of Adults Enrolled Across Different Types of Higher Education Institutions



Source: NCES, IPEDS enrollment data, 2009

While adults are enrolled at high rates in community colleges compared to other higher education institutions, they are also a sizable portion of total enrollments at community colleges. Adults over the age of 25 comprise 40 percent of total enrollments at community colleges; older adults over age 50 comprise 5 percent of community college enrollments (IPEDS, 2009). Over three million adults over the age of 25 were enrolled in community colleges nationwide in 2009, and nearly 400,000 were over 50 (see Table 1).

Table 1. Community College Enrollments by Age, 2009

Age	All	Percent
Over 25	3,035,443	40%
Over 50	382,586	5%
Under 18	530,937	7.0%
18 to 19	1,710,637	22.5%
20 to 21	1,264,879	16.7%
22 to 24	1,025,776	13.5%
25 to 29	1,002,800	13.2%
30 to 34	603,621	8.0%
35 to 39	440,309	5.8%
40 to 49	606,127	8.0%
50 to 64	332,761	4.4%
65 and over	49,825	0.7%
Unknown	19,193	0.3%
Total	7,586,865	100.0%

Source: NCES IPEDS enrollment data, 2009

While the average enrollments of adults at community colleges are sizable, the proportion of adults enrolled at a community college varies by college. In fact, the enrollment of adults over 25 varies widely across colleges — from 8 percent to 82 percent of total students enrolled at the college. Among older adults (over 50), enrollments vary from 0 percent to 32 percent. To understand this variation in the proportion of adults enrolled at community colleges, this analysis examined a range of factors associated with the likelihood of colleges enrolling a high proportion of adults and older adults. It is important to note, however, that the limits to the IPEDS data, such as the lack of data on subpopulations of students, restrict the ability to offer a more in-depth analysis of adult student enrollment.

Recent Initiatives to Improve Community Colleges for Adults

Numerous efforts in recent years have sought to reform community colleges to better serve adults. Many of these efforts have been funded by foundations, and supplemented by federal and state funding. They sought change in policy and practice to help community college leaders better meet the needs of adults. Table 2 summarizes these initiatives, including their primary goals, as well as the scope of their implementation for different populations of adults. Many of these initiatives have generated research that was included in this review, as discussed in the next two sections.

As this review demonstrates, adults at community colleges include a varied group of individuals with different characteristics, including educational experience, work status, and age. After not completing earlier attempts at postsecondary education, some adults return to community college to complete their degrees; these adults are referred to as near completers or “ready” adults (Lane, Michelau, & Palmer, 2012). Community colleges often serve low-income adults with low skill levels and limited prior education who need skill remediation and preparation for careers

to improve their economic situation. Dislocated workers — adults who have lost their jobs because their employers closed or eliminated their positions — need programs they can complete quickly and have linkages to the labor market in demand fields. They may require substantial retraining if they need to transition from a declining industry to an entirely new industry or occupation. Older adults, often defined as adults over the age of 50, are another distinct subpopulation that may seek to acquire new skills to transition to a new career or update skills for their current career. These adults likely bring unique needs associated with their age, including different approaches to learning based on the length of time since they were in school, an increased likelihood of having an unidentified disability (such as a learning disability), and an increased likelihood of chronic health conditions (such as arthritis and diabetes, declining vision or hearing, and changing mental capabilities).

The scope of these initiatives ranged from entire states to metropolitan areas to individual colleges. Among these initiatives, several focused on creating state-level change, including Pathways to Advancement, Nontraditional No More, Bridges to Opportunity, I-BEST, Accelerating Opportunity, Shifting Gears, and No Worker Left Behind. These initiatives focused on changing state-level policy to support the education of adults at community colleges. Initiatives may promote state-level change in a range of ways depending on their influence over community colleges. A lesson from the Nontraditional No More initiative is that some states have targeted policies developed by the state legislature that influence the experiences of adults in community colleges, whereas other states have initiatives that they promote throughout their colleges. Those states with centralized systems may influence community college practices through explicit policy efforts, whereas decentralized systems tend to guide their community colleges more by grant funding and guidance (Hoffman & Reindel, 2011). For example, Washington State with its strong state office is involved in multiple initiatives to promote change around how community colleges serve adults.

Other initiatives focused on cities and metropolitan areas such as Lifelong Learning Accounts, Courses to Employment, Community College/Career Collaboration, and Career Pathways and Career Counseling for the 50+ Workforce. In the case of Lifelong Learning Accounts, the initiative began at the regional level and was later adopted by states. Finally, other initiatives worked directly with colleges in a range of states and metropolitan areas to implement reforms. These initiatives included Breaking Through, Plus 50 and Plus 50 Completion, and Encore College Initiative. These initiatives sought to generate change with individual colleges in a range of state contexts, apart from state policy change.

Notably, many of these initiatives include multiple components of reform. A review of the stated goals of each major initiative reveals that the majority focuses on multiple areas of state policy and/or college practice to help support adults in their postsecondary attainment. These areas of reform often include reforms to academics, student supports, financial aid, and labor market linkages. The comprehensive approaches to reform in these recent initiatives emerge from the multifaceted needs of adults.

Table 2. Initiatives to Reform Community Colleges to Better Serve Adults

<i>Initiative (Lead Organizations)</i>	<i>Goals</i>	<i>Scope</i>
	<i>Adults</i>	
Lifelong Learning Accounts (Council for Adult and Experiential Learning)	Develop a model to encourage workers and employers to co-invest in worker education and training. Lifelong Learning Accounts are employer-matched, portable, employee-owned accounts.	Chicago, northeast Indiana, San Francisco, Kansas City, New York City, Illinois, Maine, and Washington State
Pathways to Advancement (National Governors Association)	Policy academy encouraging cross-agency teams of state policymakers to expand postsecondary access and attainment for low-income adults.	Nine states: Arkansas, Hawaii, Kansas, Maine, Massachusetts, Michigan, Oregon, Ohio, and Pennsylvania
Nontraditional No More (Western Interstate Commission for Higher Education)	<i>"Near Completer" Adults</i> Identify adults close to completing a degree and help them complete. Improve policies and practices on data, academic affairs, student services, financing and financial aid, and communications and outreach.	Six states: Arkansas, Colorado, Nevada, New Jersey, North Dakota, and South Dakota
Bridges to Opportunity (Ford Foundation)	<i>Low-skilled Adults</i> Encourage state policy reform to promote education for low-skilled adults. Provide incentives to colleges to align remedial, occupational, and academic programs, and other support services.	Six states: Colorado, Kentucky, Louisiana, New Mexico, Ohio, and Washington State.
I-BEST (Washington State)	Help low-income adults attain education to obtain family-supporting work. Integrated workforce and basic skills instruction, clear connections to labor market and pathways for ongoing education, student supports.	Washington State, available in all 34 colleges.
Breaking Through (Jobs for the Future and National Council on Workforce Education)	Help low-skilled adults complete workforce programs by creating pathways from basic skills to workforce programs. Program integration, acceleration, labor market linkages, and student supports.	35 colleges in 18 states.

<i>Initiative (Lead Organizations)</i>	<i>Goals</i>	<i>Scope</i>
Accelerating Opportunity (Jobs for the Future, National Council on Workforce Education, Washington State Board of Community and Technical Colleges, National College Transition Network)	Encourage states to develop career pathways to help Adult Basic Education students complete credentials and to implement state and college policies that support these pathways, building on Breaking Through and I-BEST initiatives.	Five states: Illinois, Kansas, Kentucky, Louisiana, and North Carolina.
Shifting Gears (Joyce Foundation, Center for Law and Social Policy)	Help states “re-engineer” policies to create pathways to postsecondary credentials for low-skilled adults. Breaking programs into shorter modules (stackable credentials), creating bridge models that combine basic skills and workforce instruction.	Six states: Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin.
Minnesota Shifting Gears: FastTRAC	Align and integrate Adult Basic Education, noncredit occupational training, and for-credit postsecondary certificate and degree programs based on the concept of stackable credentials.	Minnesota
Wisconsin Shifting Gears: Regional Industry Skills Education	Help low-skilled adults earn postsecondary credentials tied to high-demand jobs based on career pathways and bridge programs.	Wisconsin
Illinois Shifting Gears	Strengthen Adult Basic Education and remedial education bridge programs, integrating basic skills and occupational instruction.	Illinois
Courses to Employment (C2E) (Aspen Institute)	Collaborations between community colleges and nonprofit organizations, targeted at high-demand industries to improve workplace skills and labor market navigation, and provide student supports such as counseling, social services, and academic support.	Six partnership sites: Seattle, Washington; Austin, Texas; Chicago, Illinois; Fairfax County, Virginia; Los Angeles, California; and Flint, Michigan.
Community College/Career Collaboration (C4) (Goodwill, American Association of Community Colleges, Aspen, Jobs for the Future)	Increase the number of low-income adults achieving degrees or certificates. Goodwill/community college partnerships seek to leverage the partners’ resources to address issues such as limited classroom space and inadequate non-academic supports for nontraditional students.	Three original sites: northern Virginia, San Antonio (Texas), and Winston-Salem (North Carolina); later expanded to 40 sites.

<i>Initiative (Lead Organizations)</i>	<i>Goals</i>	<i>Scope</i>
<i>Dislocated Workers</i>		
No Worker Left Behind (State of Michigan)	<p>Increase the number of dislocated and underemployed workers in Michigan with certificates and degrees in demand occupations.</p> <p>Provided funding of up to \$5,000 per year for two years for Michigan residents who were unemployed or earning less than \$40,000 per year.</p> <p>Served 162,000 participants from 2007 to 2010.</p>	Michigan
<i>Older Workers</i>		
Plus 50 and Plus 50 Completion (American Association of Community Colleges)	<p>Benchmark and promote programs in workforce training, enrichment, and volunteering for students over 50 at community colleges; help students complete credentials, and help students complete credentials in health care, education, and social service professions.</p>	13 pilot colleges, expanded to 33 colleges.
Encore College Initiative (Civic Ventures)	<p>Encourage colleges to create educational pathways for older adults seeking second careers serving the public good. Targeted marketing, support, involved employers and community partners, accelerated programs, flexible scheduling, and hybrid/online courses.</p>	40 colleges.
Career Pathways and Career Counseling for the 50+ Workforce (Council for Adult and Experiential Learning)	<p>Help community colleges serve workers over 50 by identifying suitable occupations, developing job seeker resources, and training career advisors.</p>	Seven regions: Florida, Kentucky, North Dakota, Ohio, Oregon, Washington State, and Wisconsin.

State Policies

This section summarizes state policy efforts highlighted and recommended in the recent research on adults and community colleges. These efforts include reforms to specific areas that affect the experiences of adults at community colleges: academics and financial aid. Efforts also include broad attempts to promote reforms at the state level through the reform of working relationships and the use of data to improve how community colleges serve adults. These efforts are summarized in Table 3 and are discussed in more detail below.

Table 3. Summary of State-Level Reform Efforts

<i>Academic Reforms</i>
Create/support career pathways/bridge programs
Expand online programs/distance learning
Prior learning assessment authorization
Mandates to promote articulation at all levels of education
Target adults near completion
Require counseling to better inform students on labor market pathways
<i>Financial Aid Reforms</i>
Provide targeted financial aid for adults/nontraditional students
Revise financial aid eligibility standards
Provide flexible funding for life expenses
Leverage other funding streams for adults
Lifelong learning accounts
Campaign to increase awareness of existing financial aid
Strategies to contain the cost of attending college
Ensure colleges participate in federal student loan program
<i>Reforming Working Relationships</i>
Foster collaboration between state agencies and stakeholders
Create a shared vision, set of priorities around serving adults
Use strategic communications to raise public awareness of higher education
Promote systems change
Develop a community of practice for innovation around educating adults
<i>Advancing the Use of Data</i>
Research and analyze adults' progression and completion
Develop accountability measures for adult completion
Promote the development of data tracking systems
Conduct analysis of workforce needs to promote better labor market linkages

Academic Reforms

States also have played a critical role in promoting academic strategies that better serve adults by addressing their specific needs. Academic reforms seek to address the multiple needs adults, including those with disabilities, bring to learning, including the need for greater flexibility, greater relevance to the labor market, and connection to their prior experiences and knowledge. Creating and supporting career pathways and bridge programs is a common strategy mentioned in the recent research (Community Research Partners, 2008; Duke & Strawn, 2008; Foster, Strawn, & Duke-Benfield, 2011; Hoffman & Reindel, 2011; Mazzeo, Strawn, & Roberts, 2009; Mwase, 2008; Strawn, 2010; Weitzel, 2009).³ States may encourage the implementation of this strategy by issuing funding to support its implementation (such as with the I-BEST program in Washington State) or creating legislation to promote its adoption (as in Ohio).

To draw on adults' prior experiences, some states have developed legislation to authorize the use of prior learning assessments (PLAs). PLAs can help adult learners receive credit for learning acquired through the workplace, corporate or military training, volunteer experience, or non-credit courses. Institutions can measure a student's learning using several assessment strategies, and then decide if that learning is equivalent to college-level credits. Several states are encouraging the use of PLAs statewide, including Minnesota through the Minnesota State Colleges and Universities System, and Vermont through Vermont State Colleges (Tate, Klein-Collins, & Steinberg, 2011).

States have also developed mandates to promote better articulation across programs (Duke & Strawn, 2008; Mazzeo, Strawn, & Roberts, 2009). These reforms seek to make adults' progression through their education as seamless as possible. They may move between noncredit and credit programs and across institutions from associate to bachelor's degrees. In these transitions, some states seek to facilitate and simplify movement. Florida, for example, has a broad statewide articulation and transfer policy that includes a statewide course numbering system, common core general education requirements, and common degree prerequisites (Tate, Klein-Collins, & Steinberg, 2011).

Finally, some state policy initiatives have sought to specifically target adults who have completed some college but not a degree, directing efforts toward identifying these adults and helping them complete their degrees (Hilliard, 2010; Hoffman & Reindel, 2011). Between 2008 and 2011, the Western Interstate Commission for Higher Education worked with six states to develop policies to help these near-completers or "ready adults" return to postsecondary education and complete their degrees (Lane, Michelau, & Palmer, 2012).

States have sought to address adults' needs for flexibility by expanding online and distance learning (Castellano & Overman, 2009; Hilliard, 2010; Hoffman & Reindel, 2011). And, to make programs relevant to the adults' needs for relevance to the labor market and to ease their transition to college, states have sought to require that colleges provide better counseling on career choices (Duke & Strawn, 2008; Foster, Strawn, & Duke-Benfield, 2011).

A final strategy mentioned in the research to better meet the academic needs of adults involves creating a more outcome and competency-focused system of higher education versus a time-based or credit hour measure of learning in which educational institutions can award educational degrees for mastering academic equivalent competencies developed by the institutions and, in some instances, employers (Ganzglass, Bird, & Prince, 2011).

Financial Aid Reforms

Several state policy reforms revolve around reforming financial aid to better meet the needs of adults. Reforms to funding seek to address the greater influence of external life factors on adults by making funding possible to meet their needs and alleviate these external pressures. Targeted financial aid for adults is another common issue addressed by state policy (Castellano & Overman, 2009; Duke & Strawn, 2008; Jenkins, 2008; Price & Roberts, 2007). Examples include New Mexico's Affordability Act, which provides need-based scholarships, and Washington State's Opportunity Grants, which provide flexible financial aid to assist low-income students complete workforce programs by providing assistance with tuition and other costs of schooling.

Revisions to financial aid eligibility to make it more accessible to adults was also a commonly mentioned strategy to reform financial aid (Biswas, Choitz, & Prince, 2008; Castellano & Overman, 2009; Hoffman & Reindel, 2011; Mazzeo, Strawn, & Roberts, 2009; Price & Roberts, 2007). Some revisions involve including part-time students in the eligibility,

adapting financial aid formulas to account for the sometimes relatively higher incomes of some adult students, and expanding aid to cover students in short-term workforce training who might not be included in traditional financial aid calculations (Biswas, Choitz, & Prince, 2008; Price & Roberts, 2007). A key recommendation is that states review their financial aid policies to determine how they serve adults (Hoffman & Reindel, 2011). For example, Arkansas and Oregon participated in the National Governors Association's Pathway to Advancement project, which increased funding for state need-based financial assistance programs to provide support to working adults, including part-time students.

Another common financial aid strategy to meet the needs of adults is to provide flexible funding for life expenses (Biswas, Choitz, & Prince, 2008; Castellano & Overman, 2009; Hoffman & Reindel, 2011; Jenkins, 2008). Since adults typically have more external commitments to family and work, they may need additional support that is not included in traditional financial aid. Flexible uses of funding can help them address needs such as transportation or child care that might otherwise create an obstacle to their completion. An example of this strategy is Washington State's Opportunity Grants program, which provides grants to low-income adults that can be used for students' life expenses such as emergency child care or transportation and other wraparound services such as one-on-one tutoring and career advising, in addition to tuition, fees, and books.

Leveraging other funding streams, including both public- and private-sector funding, and bringing those funds to support adults in college is another strategy (Duke & Strawn, 2008; Hoffman & Reindel, 2011; Mazzeo, Strawn, & Roberts, 2009). Given the limited funds at community colleges, strategies that seek to bring in other funds to support adults' education are particularly important in meeting their needs. Under the American Association of Community Colleges and Goodwill Industries International, Inc.'s Community College Career Collaborative (C4) initiative, community colleges are leveraging the resources of Goodwill affiliates to support a range of wraparound services and supports. For example, the Seattle Goodwill staff serve as navigators to provide support and guidance to low-income adults regarding community college programs, as well as provide support for wraparound services and direct financial assistance for ancillary school needs. In Arizona, Goodwill partners with several colleges to provide work readiness classes for individuals with disabilities as well as to ex-offenders, the homeless, and other participants.

Lifelong learning accounts or LiLAs — which are employer-matched, portable, employee-owned savings accounts — are another strategy to help adults finance their postsecondary education and training (Castellano & Overman, 2009). LiLAs were developed as part of a Council for Adult and Experiential Learning initiative first launched in 2001 with pilots in three regions (Chicago, northeast Indiana, and San Francisco). LiLA programs have or are currently taking place in Illinois, Kansas City, Maine, New York City, San Francisco, and Washington State (Tate, Klein-Collins, & Steinberg, 2011). Maine and Washington State both now run statewide LiLA programs.

Several other strategies to meet the financial needs of adults were mentioned in the research literature. They included the following: strategies to contain the cost of attending college, including controls on tuition rates and offsetting the cost of textbooks (Castellano & Overman, 2009; Linn, 2009), campaigns to increase awareness of existing financial aid (Castellano & Overman, 2009), and ensuring colleges participate in federal student loan programs (Hoffman & Reindel, 2011).

Reforming Working Relationships

Recent research highlights that governors and other state policymakers have an important role in setting priorities and establishing goals in the context of their working relationships. By creating a vision and establishing higher education for adults as a goal, they can set a priority for others in the state to follow (Duke & Strawn, 2008; Hilliard, 2010; Jenkins, 2008; Mazzeo, Strawn, & Roberts, 2009; Mwase, 2008). They can then promote the goal in a variety of ways depending on their system. Coordination between state agencies and other stakeholders is an essential component of promoting state policy change (Hoffman & Reindel, 2011; Jenkins, 2008; Mazzeo, Strawn, & Roberts, 2009; Mwase, 2008; Price & Roberts, 2009; Weitzel, 2009). As part of this coordination, a strategic plan for communication is important to ensure the reform goal is understood (Hilliard, 2010; Jenkins, 2008; Price & Roberts, 2009). Some states pursued systems change as a way to ensure widespread reform in community colleges (Jenkins, 2008; Price & Roberts, 2009). Finally, one report highlighted the strategy of building a community of practice among those engaged in community college reforms (Mwase, 2008).

Advancing the Use of Data

Promoting the use of data is a common reform strategy highlighted in the recent literature. Tracking the outcomes of adults in community colleges is an important recommendation of several reports in this review (Duke & Strawn, 2008; Ganzglass, Bird, & Prince, 2011; Hoffman & Reindel, 2011; Jenkins, 2008; Mazzeo, Strawn, & Roberts, 2009; Mwase, 2008; Price & Roberts, 2009; Weitzel, 2009). The examination of outcomes can promote an open discussion of the system, reforms to the system, and the need for accountability. Washington State's "Tipping Point" study stands out as an example of using research and analysis to effect system change; this study documented that completing one year of community college education led low-income adults to obtain jobs with family-sustaining wages (Jenkins, 2008).

Many reports on state policy recommend that such policy be guided and influenced by data and evaluation. Accountability measures may be both publicly available to promote accountability, and also tied to performance-based funding (Hoffman & Reindel, 2011). Some reports suggest that accountability measures be developed specifically focused on adults (Foster, Strong, & Duke-Benfield, 2011; Hoffman & Reindel, 2011). To develop the capacity to do this kind of research and analysis, states need to develop stronger data tracking systems (Hoffman & Reindel, 2011; Mazzeo, Strawn, & Roberts, 2009) and include information on noncredit courses and related credential attainment in state longitudinal data systems (Ganzglass, Bird, & Prince, 2011). Another example of states using data is to conduct labor market assessments to better align programs with labor market needs (Duke & Strawn, 2008).

Community College Practices

This section summarizes the college practices most common in the recent research on adults and community colleges. Table 4 summarizes the college practices that have been mentioned in the recent research literature, along with the type of adult populations targeted most often through these efforts. These practices are organized by the major types of needs that are common among adults, including academic reforms, assistance with the transition to college, scheduling reforms, and student supports. In addition, this section discusses the strategies that may be used to implement these reforms. As noted earlier, while these practices have been studied largely relative to various targeted subpopulations of adults, many, if not most, of the practices are applicable to a wider range of adults, including adults with disabilities.

Academic Reforms

Several academic reforms sought to craft programs that appeal to adults' needs for relevance to work in their education, as well as their need to draw upon their prior experiences. In much of the research reviewed, particularly for low-income adults, a career pathways framework is used. Career pathways are an approach in which higher education institutions develop programs of study aligned with the labor market, and are designed for students, typically adults, to complete education needed to obtain entry-level employment in a field while also providing opportunities to continue pursuing additional education to help advance their careers (Alssid, Gruber, Jenkins, Mazzeo, Roberts, & Stanbeck-Stroud, 2002; Jenkins, 2006). For disadvantaged adults, this includes an introduction to local labor market opportunities in a particular industry or sector, basic skills training, entry-level skills training, internships, continual skills upgrading, and social supports (Alssid et al., 2002). The many components of career pathways are examined in the research explicitly on career pathways, as well as on other research pertaining to adults.

Several sets of college practices identified in recent research meet the specific needs of adults for education to be relevant to work and to incorporate prior experiences. Regardless of the target population of adults — whether low-skilled, older, near completers returning to school, or the general adult population — many research studies highlighted college practices that make education relevant to work. Several studies identified efforts colleges made to align their programs with labor market needs (Bragg & Barnett, 2008, 2009; Rasmussen, 2010; U.S. Department of Education, Office of Vocational and Adult Education, 2009; Wachen, Jenkins, & Van Noy, 2011). Many others provided ways to help students move along an educational pathway by providing them with multiple opportunities to move between education and the labor market with multiple entry and exit points (Bragg & Barnett, 2008; Bragg et al., 2007), and ensuring that transfer opportunities were clear along this pathway (Bragg & Barnett, 2008; Bragg, Townsend, & Rudd, 2009; Frey, 2007; Lane, Michelau, & Palmer, 2012; Rasmussen, 2010; Strawn, 2011). Many of these studies focus on low-income adults where the connection between Adult Basic Education and workforce education is typically called a bridge program. Bridge programs fit within the broader framework of career pathways, and are increasingly common at community colleges around the nation (Alssid, Goldberg, & Klerk, 2010; Taylor & Harmon, 2010).

In other ways, colleges made the education relevant to adults. Providing contextual instruction is an approach that was commonly referenced to in the research (Bragg & Barnett, 2008, 2009; Bragg et al., 2007; Bragg et al., 2011; Hilliard, 2011; Strawn, 2011; Wachen, Jenkins, & Van Noy, 2011). In these cases, colleges provide workforce education specific to an occupation or trade at the same time as general education, typically in the form of basic skills instruction; in this way, they help adults upgrade their basic skills while also providing relevant workforce instruction. Other ways of making education relevant is to demonstrate the linkages to the labor market for students either through providing additional career services (Bragg et al., 2007; LFA Group, 2010) or ensuring that the goals of study are clear (Frey, 2007).

Since adults may have substantial life experience to draw upon, colleges sought to develop practices to incorporate their prior learning, as noted earlier under state policies. A common strategy to incorporate prior learning is to offer formal prior learning assessments or PLAs (Brigham & Klein-Collins, 2011; Lane, Michelau, & Palmer, 2012; Pusser et al., 2007). PLAs are particularly important for adults who seek to complete credentials and who have significant prior experience. Another strategy in conjunction with PLAs is to create degree programs that have some flexibility in their requirements and will accept credits earned through PLAs (Lane, Michelau, & Palmer, 2012). For near completers, policies to deal with low prior grades may also be an important issue in addressing their prior learning experiences (Lane, Michelau, & Palmer, 2012).

Assistance with Transition to College

Because many adults have often been out of school for a number of years, they may benefit from practices that help them navigate the transition into college. Colleges may provide assistance with the transition process that directly targets adults. Dedicated outreach or recruitment can help get more adults to initially enroll in community colleges (Lakin, Mullane, & Robinson, 2007, 2008; Lane, Michelau, & Palmer, 2012; LFA Group, 2011, 2012). Older adults may also need particular help with the logistical process involved in entering college such as registering and navigating the computer system, so these targeted services are often recommended (American Association of Community Colleges, 2009; LFA Group, 2010, 2011, 2012). The issue of enrollment may be of particular concern to older adults, but is relevant to all adult populations.

Dedicated counseling and advising is commonly mentioned in the literature as a practice for many types of adult populations: older, low-skilled, near completers, and the adult population as a whole (American Association of Community Colleges, 2009; Lane, Michelau, & Palmer, 2012; LFA Group, 2010, 2011, 2012; Strawn, 2011; U.S. Department of Education, Office of Adult and Vocational Education, 2009). This type of dedicated counseling may be able to address the specific needs of adults more directly and help them become acclimated to the college environment. In addition to dedicated counseling, adults might need more proactive and comprehensive counseling to help address their needs (Bragg & Barnett, 2008; Bragg et al., 2011; Frey, 2007; Lane, Michelau, & Palmer, 2012; Spaid & Duff, 2009; Wachen, Jenkins, & Van Noy, 2011). These practices may be a particular challenge to provide given the limited resources at colleges for counseling, but may be necessary to help adults succeed.

In addition, a key issue for adults (and students more broadly) is to make a good choice of major that matches their skills and interests but also suits their needs for work by connecting to an occupation that is in demand in the labor market (Bragg & Barnett, 2008; Bragg et al., 2011; Frey, 2007; Rasmussen, 2010). In addition to helping to ease adults' transition to college, a good match between adults and their programs of study is particularly important to address adults' needs for relevance to the labor market. It may also help them to complete their credentials sooner and more efficiently. This need for assistance with career choices is further highlighted in analysis and recommendations for a national system to assist working learners with career navigation (Choitz, 2010; Soares, 2009).

Table 4. A Summary of College Practices to Better Serve Adults

<i>Practice</i>	<i>Target Population</i>
<i>Academic Reforms</i>	
Alignment with labor market needs	Low-skilled adults
Clear transfer pathways, bridge programs	Adults, low-skilled adults, near completers
Multiple entry and exit points	Low-skilled adults
Contextualized, integrated instruction	Low-skilled adults, dislocated workers
Job readiness instruction, career services	Low-skilled adults, older adults
Goals of study are clear	Adults
Prior learning assessments/credit	Adults, near completers
Offer generalized degrees that use prior college credits	Near completers
Dealing with low grades from prior schooling	Near completers
<i>Assistance with Transition to College</i>	
Dedicated recruiting/broad outreach	Adults, older adults, near completers
Dedicated counseling/advising - single point of contact	Adults, low-skilled adults, older adults, near completers
Additional counseling - comprehensive, proactive	Adults, low-skilled adults, near completers
Assistance choosing program of study, need for good match	Adults, low-skilled adults
Simplified registration, targeted orientation	Older adults
Computer assistance	Older adults
<i>Scheduling Reforms</i>	
Hours of courses, courses in the summer	Adults, near completers
Online courses, technology-enhanced curriculum	Adults, older adults
Accelerated courses	Adults, older adults
Short courses on distinct topics, "chunking"	Low-skilled adults, older adults
<i>Student Supports</i>	
Financial aid/support accessing financial aid	Low-skilled adults, older adults
Payment and dealing with employer tuition reimbursement	Near completers
Case management	Low-skilled adults
Tutoring, supplemental instruction	Low-skilled adults
Coaching	Low-skilled adults
Transportation, child care	Low-skilled adults
Mental health services	Low-skilled adults

Scheduling Reforms

To address the external pressures in the lives of adults, colleges have also developed practices that create flexibility and provide additional support for adult learners. Institutional barriers for adults in college include the lack of accommodation in addressing external constraints to their education, which may require more flexibility and may also lead them to stop and start their education (U.S. Department of Education, Office of Adult and Vocational Education, 2009). In terms of flexibility, colleges have several practices that allow adults to take courses at times and in a pace that meets their needs and is more convenient to them. Some studies highlight the practice of offering courses at hours and times (e.g., during the summer) that are conducive to adults' schedules and needs (Frey, 2007; Lane, Michelau, & Palmer, 2012; Spaid & Duff, 2009). Others highlight offering courses online so that adults can take them when and where they want to, depending on their schedules (Bragg & Barnett, 2008; Bragg et al., 2007; Frey, 2007; Lakin, Mullane, & Robinson, 2007). Accelerated courses also appeal to adults' desires to complete their education quickly, often because of their need to obtain jobs (American Association of Community Colleges, 2009; Frey, 2007; LFA Group, 2012; Spaid & Duff, 2009). In the same way, another practice is to offer targeted courses that contain small chunks of information so that adults can select those that are most relevant to their individual education and work needs (American Association of Community Colleges, 2009; Bragg & Barnett, 2008).

Student Supports

Student supports are another important area for adults to help them manage stresses that may arise from their lives outside of school. Based on the current research, several types of practices emerge in colleges. Financial support was commonly mentioned in different populations of adults, including near completers, older individuals, low-income persons, and the general adult population (American Association of Community Colleges, 2009; Bragg & Barnett, 2008; Lakin, Mullane, & Robinson, 2007, 2008; Lane, Michelau, & Palmer, 2012; LFA Group, 2010, 2011; Strawn, 2011; Wachen, Jenkins, & Van Noy, 2011). Some were mentioned specifically in dealing with low-income adults who have a particularly high degree of environmental stress given their economic challenges; services for this group include case management (Bragg & Barnett, 2008; Bragg et al., 2007; Strawn, 2011; Wachen, Jenkins, & Van Noy, 2011) and additional non-academic supports like transportation, child care, and mental health services (Bragg et al., 2007). Tutoring was also commonly mentioned as a needed support (Bragg & Barnett, 2008; Bragg et al., 2011; Wachen, Jenkins, & Van Noy, 2011), and at least one report mentioned coaching as a useful strategy (Bragg & Barnett, 2008).

Implementation Strategies

In addition to uncovering the types of practices colleges use to improve how they serve adults, the literature also addresses some of the lessons learned about how to implement these reforms (see Table 5). When implementing reforms at community colleges, collaboration and clear communication within the college was demonstrated as essential (Bragg & Barnett, 2008; Endel & Anderson, 2011; Lane, Michelau, & Palmer, 2012; LFA Group, 2012; U.S. Department of Education, Office of Vocational and Adult Education, 2008; Wachen, Jenkins, & Van Noy, 2011); this strategy was mentioned in the context of addressing the needs of all types of adults: older, low income, and the adult population at large. Buy-in among college staff is cited as key to the implementation of any reform.

Table 5. Summary of Key Strategies for Implementing College Reforms to Better Serve Adults

<i>Strategy</i>	<i>Target Population</i>
Need for clear communication, buy-in, collaboration within college	Low-skilled adults, older adults, adults
Sufficient planning time for initiative	Low-skilled adults
Professional development for faculty	Low-skilled adults, older adults
Peer learning, community of practice	Low-skilled adults
Partnerships with businesses/employers, Workforce Investment Boards, community-based organizations	Low-skilled adults, older adults, dislocated workers
Strong leadership	Low-skilled adults
Focus on broad policy change	Low-skilled adults
Leverage funding	Low-skilled adults, dislocated workers
Importance of data and evaluation	Low-skilled adults, older adults, adults

In addition to buy-in, the literature points to the need to make investments in college staff. These included providing staff with sufficient planning time for the initiative (Rasmussen, 2010; U.S. Department of Education, Office of Adult and Vocational Education, 2009; Wachen, Jenkins, & Van Noy, 2011); providing professional development for faculty (Bragg & Barnett, 2009; LFA Group, 2012; Spaid & Duff, 2009; Wachen, Jenkins, & Van Noy, 2011); and developing a community of practice around the initiative (Bragg & Barnett, 2009). These strategies each provide resources to college staff to help support the initiative; college staff need time and opportunities to learn and reflect on their practices. These strategies all underscore the importance of a real investment in time and resources to intentionally craft and implement reform.

Partnerships with businesses, Workforce Investment Boards, and community-based organizations were also commonly mentioned as important elements to implementing reforms (Bragg & Barnett, 2008; Endel & Anderson, 2011; Hilliard, 2011; LFA Group, 2012; Rasmussen, 2010). These partnerships are particularly relevant since developing strong ties to the labor market was considered necessary to ensure that programs appeal to adults' workforce needs. This strategy also underscores the lesson that these initiatives are not just supported by the college alone. Other institutions play an important role in serving the needs of adults, including the subpopulations addressed in the recent research on adults as well as other subpopulations of adults, such as those with disabilities.

Other strategies that emerged in the literature focused on those that support large-scale institutional change. Strong leadership was an essential component in helping colleges change how they serve students to better serve adults, particularly low-income adults (Bragg et al., 2007). Furthermore, to fully implement significant change, colleges needed to approach reforms with the goal of making broad policy change — the type of change that will sustain over time and lead to fundamental differences in how the colleges operate (Endel & Anderson, 2011). To this end, leveraging funding is also a significant strategy in making these changes more permanent in the colleges (Bragg et al., 2007; Hilliard, 2011; Rasmussen, 2010; Wachen, Jenkins, & Van Noy, 2011).

Finally, the use of data and evaluation again consistently emerged as an important strategy to help successfully implement college practices to better serve adults (Bragg & Barnett, 2009; Endel & Anderson, 2011; Lakin, Mullane, & Robinson, 2007; Lane, Michelau, & Palmer, 2012; LFA Group, 2012; Rasmussen, 2010). Several of the college practices highlighted had systems integrated to better use data and evaluation for program improvement. This strategy was important across many types of programs serving older individuals, low-income adults, and the general population of adults. As noted in the literature, using data and evaluation are essential for states and colleges to understand the needs of adults as well as the results of their policies and practices in promoting the success of adult students.

Serving Adults with Disabilities: A Note from the Authors

None of the recent initiatives to improve how community colleges serve the needs of adults reviewed for this study focused on the issues of adult learners with disabilities. Given that disabilities increase significantly with age, provided below is a summary of findings from a recent Heldrich Center for Workforce Development study on how community colleges serve older students with disabilities. These findings provide relevant insights for community colleges serving adults who may have disabilities.

1. Older community college students are less likely to identify themselves as having a disability than younger students, but are more likely to self-report than younger students. Since they may not identify themselves as having a disability, they may not take advantage of services available through campus disability services offices.
2. Universal strategies targeted at the entire student body may be important in identifying disabilities among older students. These strategies include: “early alert” systems that enable faculty to identify and refer struggling older students who may have an unidentified disability to the disability services office; placement test screening, which is required of all students and thus provides a unique opportunity to uncover unidentified disabilities; and efforts to raise awareness about different “learning styles” that may help identify potential learning disabilities.
3. Faculty and staff members, particularly tutors, can have a critical role in identifying older community college students with disabilities who might benefit from targeted support services. Disability services staff may provide training to faculty and staff on how to refer students for services and how to use specific learning strategies that are especially helpful for students with disabilities.
4. Older students may benefit from additional support in accessing accommodations, especially those that are dependent on technology, since some may need to build basic computer skills. Staff with specialized knowledge of assistive technology may be important to ensure its availability to older students with disabilities, particularly because of its common use and importance in promoting their ability to function independently in college and the workforce.

For more information on this study, see: M. Van Noy, M. Heidkamp, , & C. Kaltz. (2013). *How are Community Colleges Serving the Needs of Older Students with Disabilities?* New Brunswick, NJ: John J. Heldrich Center for Workforce Development, Rutgers University.

Role of State Policy and College Practice in Adults' Enrollment

Given the importance of education to help adults in the labor market, this analysis sought to examine how state policy and college practice promote education that is relevant to work. At the state level, an indicator of the emphasis on community colleges in providing workforce education is whether the state gives community colleges a prioritized role in their workforce training funds. For example, some states have trainings focused on industry sectors that have specific roles for community colleges (Van Noy et al., 2008). At the college level, an indicator of the degree of priority on workforce education is the extent to which the college's programs are in workforce areas. This is measured by the percent of graduates in the year prior to enrollment that are in associate degree workforce programs and the number of workforce program areas with at least one graduate. These indicators provide some sense of the extent to which the college focuses on workforce programs. In addition to the relevance of education to work, college policies that draw on adults' prior experiences may make education more appealing for them, as measured by whether the college has a policy on credit for prior learning. Detailed results from this analysis are presented in Appendix A.

State policy to promote community colleges as workforce providers, either by acting as fiscal agents or required partners in state workforce funding, may draw adults into the college for the workforce programs. The presence of this type of state policy is positively related to the enrollment of adults over 25, but not significantly related to the enrollment of adults over 50. It may be the case that the enrollment of adults over 50 is more mixed between workforce-oriented programs and recreational pursuits; therefore colleges' involvement in state workforce programs may be less important for the enrollments of this segment of the adult population. In contrast, the broader adult population may benefit from tighter labor market linkages between community colleges and workforce training.

The relationship of colleges' emphasis on workforce to the proportion of adults enrolled is mixed. When measured by the percent of graduates in associate degree workforce programs, it is positively related to the enrollments of adults at community colleges, affirming the notion that adults are attracted to colleges with a greater focus on workforce. However, when measured by the number of workforce program areas in the college, the enrollment of adults is negatively associated with the proportion of adults enrolled at the college. The negative association might be an indicator that the college offers too much choice in the number of programs, which might be confusing for adults who are seeking a clear educational path to employment. Neither indicator of workforce emphasis is significantly related to the enrollment of older adults, which may also reflect the greater variety of intentions for enrollment in this subpopulation of adults.

Whether a college offers credit for prior learning is also potentially an important factor supporting the education of adults. However, the practice of offering credit for prior learning does not have a significant relationship with the enrollment of adults over 25 or over 50 in community colleges. Adults may not be aware of the existence of this policy prior to enrolling in college. If this is the case, it raises concerns about how colleges are conducting outreach to adults and providing information about the possibility of credit for prior learning, since this could make their enrollment in college much more attractive. Further, the lack of association raises the concern that the policy may be infrequently used and/or not commonly discussed with adult students.

Community College Outcomes of Adults

Prior research has not significantly focused on the impacts of state policy and community college practice on the college outcomes of adults. A review of the literature on strategies to promote the transition of adults from basic skills, English as a Second Language, and General Educational Development programs to community college found little information on the education and employment outcomes of low-skilled adults (Park, Ernst, & Kim, 2007). Likewise, a synthesis of the literature on programs to transition adults into postsecondary education conducted by the U.S. Department of Education, Office of Vocational and Adult Education (2009) determined that very little research had been conducted that included rigorous measurement of outcomes and evidence is limited about what works and what does not work to help adults transition to higher education. This review examined the recent literature for studies using rigorous methods to assess outcomes, defined as studies using rigorous causal methods, either experimental designs or designs with a comparison group and strong statistical controls. Several studies provide useful descriptive outcomes for adult students but do not have data available to conduct more rigorous analyses on the effects of the policies or practices (Chung, Cocina, & Dresser, 2012; Klein-Collins, 2011; LFA Group, 2009, 2010, 2011; Office of Community College Research and Leadership, 2010, 2011).

In recent years, a few studies that meet the criteria of rigorous research on the outcomes of adults at community colleges have been conducted. One such study examined the effects of the Washington State I-BEST model on student outcomes (Jenkins, Zeidenberg, & Kienzl, 2009). This research used a rigorous comparison group and yielded results supporting the effectiveness of this model. The comparison group included similarly motivated students at Washington State's community and technical colleges who had enrolled in both Adult Basic Education and English as a Second Language courses and workforce courses, indicating they had both an interest in pursuing workforce training and a need for improved basic skills. Multiple statistical techniques, including regression analysis, propensity score matching, and difference in differences, all yielded similar results: that I-BEST improved students' educational outcomes. Students were 23 percent to 34 percent more likely to earn college credit, and earned 14 to 18 more credits on average and 18 to 21 more vocational credits. I-BEST students were 13 percent to 17 percent more likely to persist in college to a second year and were 35 percent to 40 percent more likely to earn a credential. They also were more likely to show gains in basic skills levels — their test scores were 13 to 17 percentage points higher.

Results from a rare set of experimental design studies conducted by MDRC document that financial aid provided in certain ways is important for student outcomes.⁴ In the Opening Doors demonstration, one site in Louisiana focused on low-income parents, primarily an "adult" population (Scrivener & Coghlan, 2001).⁵ Results from this site indicate that scholarships provided to students throughout the semester depending on their successful performance in college led to better academic outcomes. The funds from these scholarships were flexible in that they could be used for non-tuition expenses. Another demonstration, the Performance-Based Scholarship Program, built on these findings to examine the impacts of flexible scholarship funding, as well as flexible performance-based scholarship funding and summer funding for adult students who need remedial education (Patel & Richburg-Hayes, 2012; Richburg-Hayes, Sommo, & Welbeck, 2011).⁶ Early findings indicate that scholarship funding leads to better academic progress among students.

Conclusion

Demographic and economic trends point to a need for a growing number of adults to acquire postsecondary credentials to help them find employment, retain current jobs, or progress in their careers. For many adults, community colleges offer an appropriate, relatively cost-effective venue at which to pursue these credentials. Regardless of their age or skill level, adult learners tend to face a number of common challenges that are distinct from those of traditional younger students — a lack of flexibility in terms of scheduling options; inadequate financial resources available for part-time learners and working adults; a lack of counseling, career navigating, and other support services that reflect the lives of working adults and adults in transition; and a lack of awareness about the need for lifelong learning. Fortunately, in recent years, a range of federal, state, and foundation-supported initiatives have addressed some or all of these needs, as illustrated by a review of the recent literature.

As evidenced in the review of IPEDS data, the number of adult enrollments at community colleges across the nation is sizable, and is likely to grow over time given both the aging of the U.S. population and the well-documented labor market demand for workers with postsecondary education. As documented in this report, the research shows that a number of states and community colleges have already taken steps to improve their policies and practices to better serve the growing number of adult learners seeking higher education at community colleges. But, the literature also points out that while these strategies and reforms are showing promise and getting the attention of federal and state policymakers, resources and support for more rigorous research to more accurately assess their relative effectiveness is paramount. Finally, the literature also indicates the paucity of information and data on subpopulations of students (and how and whether they differ) and a lack of data on the implications of disabilities to adult learners' educational outcomes and success. However, building on many of the common strategies and reforms highlighted in the recent research and outlined earlier, the remainder of this report offers eight recommendations that would serve to strengthen and improve the experiences of adult learners in the U.S. community college system, especially older adult learners. While many of these recommendations address the needs of community college students of all ages and reflect some of the current deficiencies within community colleges, they nonetheless have particular relevance to the needs of adult learners.

Recommendation #1. The federal government, foundations, state policymakers, and colleges should support through policy and funding levers, as well as pursue more comprehensive (rather than narrow) initiatives to better serve adult learners at community colleges. The review of current research points to the importance of comprehensive, holistic approaches to reform at community colleges. Initiatives with evidence of success in improving adults' success all include multiple components to their interventions. Current national and state initiatives mirror this approach in that they tend to focus on broader reforms of systems that are intended to result in multiple changes in how students experience college. Findings from these initiatives document that a comprehensive set of components contributes to the success of adult learners. The I-BEST program, for example, includes multiple components, including clearly defined pathways, linkages to labor market needs, support services to students, and additional counseling and advising.

Recommendation #2. The federal government, state policymakers, and community colleges should prioritize funding for state policy and college practice efforts that develop career pathways for adult learners. Numerous research reports point to the importance of clear and obvious pathways for progression through education to work. Good career pathways are designed so adults may obtain education to ultimately secure employment, often in incremental pieces, but also involve continuing to pursue their education over time in pursuit of career advancement. Any programs designed to promote education and training for adults should consider whether the program is linked to other educational programs in a career pathway. The federal Departments of Labor and Education should continue to issue guidance and regulations to the field as well as structure upcoming grant opportunities to require career

pathways to be used, and that the needs of adults with disabilities are included in these efforts. An example is the U.S. Department of Labor's Trade Adjustment Assistance Community College and Career Training (TAACCCT) grants, which are engaging community colleges nationwide in program reform, often including career pathways development. State policymakers can also utilize funding and accountability measures to encourage and/or require community colleges to create career pathway programs for their adult and other students. Community colleges should review their program offerings to ensure they relate directly to labor market needs and also articulate opportunities for further education. States should encourage colleges to conduct such reviews.

Recommendation #3. Federal and state policymakers should require and provide targeted resources to support and sustain collaboration among state and community college stakeholders to better serve adults. The majority of efforts to better serve adults, including state policies and college practices, are based on the need for clear communication, collaboration, and buy-in among the various actors involved. Systems change and efforts to promote reforms to community colleges to better serve adults need to incorporate time and resources to allow stakeholders to develop these types of collaborative relationships, and also time to allow for their sustainability. Important in these conversations and collaboration is the disability community, including but not necessarily limited to state vocational rehabilitation agencies that may be providing postsecondary tuition support to adult learners with disabilities.

Recommendation #4. Community college leaders should engage (and be incentivized and financially supported through federal and state funding and policy) in developing strong, well-defined partnerships with local employers, Workforce Investment Boards, and community-based organizations serving adults (including aging and disability organizations) to leverage resources deemed critical for adult learner success. Much of the recent research on community colleges highlights the fact that community colleges do not have the financial resources or expertise to provide all the services needed by adults. Therefore, partnerships with other organizations, including Workforce Investment Boards and community-based organizations, are essential. The federal government, states, foundations supporting adult education, and community colleges themselves should require initiatives to include these partnerships because of their clear potential to leverage resources to meet the needs of adults, especially in providing urgently needed career navigation and wraparound services that may make a critical difference in the ability of both working and job-seeking adults to persist in their pursuit of education and training. The involvement of community organizations serving older workers, the aging population, and adults with disabilities is important, since their perspectives and input into the needs and challenges of aging and older learners is critical to ensuring a more successful college experience. The involvement of these organizations can also serve to educate community college officials about the importance of integrating disability assistance and support more holistically into the college, and not just see disability as a service of college disability services offices. As well, employer partnerships are equally vital, especially those in emerging, high-growth industries and those that are hiring, by helping ensure that education and training are relevant to employer needs. Further, employers can play a significant role in promoting lifelong learning for their employees, by providing access to and support for educational and training opportunities including for-credit incumbent worker training.

Recommendation #5. The federal government and state policymakers should enact stronger financial aid policies to support adults' needs, including targeted financial aid for adults and flexible financial aid. For adults, particularly ones who are unemployed, acquiring funding for college is a challenge frequently raised in the research literature. Policies should be encouraged to provide targeted financial aid for adults/nontraditional students. Policies should be revised to ensure that financial aid eligibility standards are properly suited to adults' needs. For example, changes to Pell grant eligibility that allowed part-time students to access Pell grants is a change with particular relevance to working adults. Another example is providing financial aid with some flexibility in its use so that adults might use it to address life barriers that impede their schooling.

Recommendation #6. The federal government and state policymakers should dedicate financial resources for community colleges to provide additional counseling and advising for adults in transition. Much of the recent literature highlights the need for better career counseling and advising among adults, in particular dislocated workers, older adults, and other adults in transition, who need assistance in understanding which credentials have value in the ever-changing labor market. This need includes dedicated counselors who can provide a single point of contact for adults to navigate the college admissions, financial aid, and other processes, as well as comprehensive, proactive counseling that ensures adults, including working adults with time constraints, receive enough counseling at the right times to meet their needs, and that adults with disabilities who may require educational and/or physical accommodations, get the support they need at the right time to meet their needs as well. Given the limited resources of community colleges, counseling is an area where additional funding support is needed to provide the counseling and advising support required by adults to become acclimated to the college environment, make appropriate career choices, and overcome obstacles to their completion of programs.

Recommendation #7. Funding agencies (including both government and foundations) should require better and more robust data collection and analysis, and support and require rigorous research on student outcomes. As this review documents, little rigorous research has been conducted on student outcomes over the past five years to examine the effects of state policy and college practice. To better understand which policies and practices or, more accurately, which combination of policies and practices are the most effective in supporting adults in community college, rigorous research linking the policies and practices to student outcomes must be conducted. Federal and state efforts to improve statewide data tracking systems, including student unit record data linked to wage records data, should strengthen these efforts. Careful attention must be placed on current reform activities in community colleges such as the U.S. Department of Labor's TAACCCT grants to document the effects on student outcomes and to develop the institutional capacity and willingness to share data on student outcomes. Additional research should be conducted to understand the specific factors related to adults' enrollment in community colleges and completion of community college credentials. In addition, research should be conducted to specifically understand the extent of disabilities among adult learners in community colleges, and the implications of disabilities to adult learners' access to community colleges, completion of credentials, and success in the labor market.

Recommendation #8. Community colleges should be encouraged and supported, through federal and state funding and policy levers as well as by grant-funding philanthropic organizations, to use data and evaluation for ongoing program improvement. In addition to documenting the ultimate outcomes of program effectiveness, funders such as the federal government, foundations, and states should not only encourage colleges to use data and evaluation to provide ongoing information to help improve programs, but require and financially support more rigorous and robust data collection, analysis, and evaluation activities. Rather than view data as judging the success or failure of a program, strategies should require the use of data to identify areas for ongoing improvement within colleges to help adults from a range of populations succeed. As noted earlier, significant research is needed on adults with disabilities in community colleges and other postsecondary institutions.

References

- Alssid, J., Goldberg, M., & Clerk, S. (2010). *Building a higher skilled workforce: Results and implications from the Bridge Connect National Survey*. Barrington, RI: Workforce Strategy Center.
- Alssid, J., Gruber, D., Jenkins, D., Mazzeo, C., Roberts, B., & Stanback-Stroud, R. (2002). *Building a career pathways system: Promising practices in community college-centered workforce development*. Barrington, RI: Workforce Strategy Center.
- American Association of Community Colleges. (2009). *Educating Plus 50 learners: Opportunities for community colleges*. Washington, DC: Author.
- American Association of Community Colleges. (n.d.). *Students at community colleges*. Retrieved from: <http://www.aacc.nche.edu/AboutCC/Trends/Pages/studentsatcommunitycolleges.aspx>.
- Bean, J., & Metzner, B. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Education Research*, 55(4), 485-540.
- Belfield, C., & Bailey, T. (2011). The benefits of attending a community college: A review of the evidence. *Community College Review*, 30(1), 46-68.
- Biswas, R., Choitz, V., & Prince, R. (2008). *Pushing the envelope: State policy innovations in financing postsecondary education for workers who study*. Boston: Jobs for the Future
- Bosworth, B. (2007). *Lifelong learning: New strategies for the education of working adults*. Washington, DC: Center for American Progress.
- Bragg, D., & Barnett, E. (2008). *Promising breakthroughs: Initial results of the Charles Stewart Mott Foundation's Breaking Through Initiative*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois.
- Bragg, D., & Barnett, E. (2009). *Lessons learned from Breaking Through*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois.
- Bragg, D., Bremer, C., Castellano, M., Kirby, C., Mavis, A., Schaad, D., et al. (2007). *A cross-case analysis of career pathways programs that link low-skill adults to family-sustaining wage careers*. St. Paul, MN: National Research Center for Career and Technical Education, University of Minnesota.
- Bragg, D., Oertle, K., Kim, S., Kirby, C., Taylor, J., Harmon, T., et al. (2011). *Illinois adult education bridges: Promising practices*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois.

Bragg, D., Townsend, B., & Rudd, C. (2009). *The adult learner and the applied baccalaureate: Emerging lessons for state and local implementation*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois.

Brigham, C., & Klein-Collins, R. (2010). *Availability, use, and value of prior learning assessment within community colleges*. Chicago: Council for Adult and Experiential Learning.

Burkhauser, R. V., Daly, M. C., & Tenant, J. (2010). *Disability, aging, and employment: Trends and drivers*. Prepared for the NTAR Leadership Center, Disability Implications of an Aging Workforce Roundtable, Washington, DC.

Bureau of Labor Statistics, Current Population Survey. (2012). Retrieved from: http://www.bls.gov/emp/ep_chart_001.htm/.

Carnevale, A., Cheah, B., & Strohl, J. (2012). *Hard times: College majors, unemployment and earnings — Not all college degrees are created equal 2012*. Washington, DC: Georgetown Center on Education and the Workforce.

Carnevale, A., Rose, S., & Cheah, B. (2011). *The college payoff: Education, occupation, and lifetime earnings*. Washington, DC: Georgetown Center on Education and the Workforce, Georgetown University.

Carnevale, A., Rose, S., & Hanson, A. (2012). *Certificates: Gateway to gainful employment and college degrees*. Washington, DC: Georgetown Center on Education and the Workforce, Georgetown University.

Carnevale, A., Smith, N., & Strohl, J. (2010). *Help wanted: Projections of jobs and education requirements through 2018*. Washington, DC: Georgetown Center on Education and the Workforce, Georgetown University.

Carnevale, A., Strohl, J., & Melton, M. (2011). *What's it worth? The economic value of college majors*. Washington, DC: Georgetown Center on Education and the Workforce, Georgetown University.

Castellano, M., & Overman, L. (2009). *Community college access and affordability for occupational and nontraditional students*. Louisville, KY: National Research Center for Career and Technical Education.

Choitz, V. (2010). *A new national approach to career navigation for working learners*. Washington, DC: Center for American Progress.

Chung, J., Cocina, M., & Dresser, L. (2012). *Toward college success for working adults: The pipeline to credentials in the Wisconsin Technical College System*. Madison, WI: Center on Wisconsin Strategy.

Community Research Partners. (2008). *Ohio stackable certificates: Models for success*. Columbus, OH: Author.

Compton, J., Cox, E., & Lannan, F. (2006). Adult learners in transition. *New Directions for Student Services*, 114, 73-80.

Dadgar, M., & Weiss, M.J. (2012). *Labor market return to sub-baccalaureate credentials: How much does a community college degree or certificate pay?* New York: Community College Research Center, Teachers College, Columbia University.

Donaldson, J., & Graham, S. (1999). A model of college outcomes for adults. *Adult Education Quarterly*, 50, 24-40.

Duke, A., & Strawn, J. (2008). *Overcoming obstacles, optimizing opportunities: State policies to increase attainment for low-skilled adults.* Boston: Jobs for the Future.

Endel, B., & Anderson, N. (2011). *Achieving ambitious goals: Case studies of scaling-up programs for advancing low-skilled adults.* Boston: Jobs for the Future.

Foster, M., Strawn, J., & Duke-Benfield, A. (2011). *Beyond basic skills: State strategies to connect low-skilled students to an employer-valued postsecondary education.* Washington, DC: Center for Law and Social Policy.

Frey, R. (2007). *Helping adult learners succeed: Tools for two-year colleges.* Chicago: Council for Adult and Experiential Learning.

Ganzglass, E., Bird, K., & Prince, H. (2011). *Giving credit where credit is due: Creating a competency-based qualifications framework for postsecondary education and training.* Washington, DC: Center for Law and Social Policy.

Heidkamp, M. (2012). *Older workers, rising skill requirements, and the need for a re-envisioning of the public workforce system.* Chicago: Council for Adult and Experiential Learning.

Hilliard, T. (2010). *College access challenge grants: Including adult learners, strengthening student success.* Washington, DC: The Working Poor Families Project.

Hilliard, T. (2011). *Leaving no worker behind: Community colleges retrain the Michigan workforce — and themselves.* Boston: Jobs for the Future.

Hoffman, L., & Reindel, T. (2011). *Improving postsecondary attainment among adults.* Washington, DC: National Governors Association, Center for Best Practices.

Horn, L. (1996). *Nontraditional undergraduates: Trends in enrollments from 1985 to 1992 and persistence and attainment among 1989-1990 beginning postsecondary students.* Washington, DC: National Center for Education Statistics.

IPEDS. (2009). Retrieved from: <http://nces.ed.gov/ipeds/>

Jenkins, D. (2006). *Career pathways: Aligning public resources to support individual and regional economic advancement in the knowledge economy.* Brooklyn: Workforce Strategy Center.

Jenkins, D. (2008). *Bridges to opportunity for underprepared adults: A state policy guide for community college leaders*. New York: Ford Foundation.

Jenkins, D., Zeidenberg, M., & Kienzl, G. (2009). *Building bridges to postsecondary training for low-skill adults: Outcomes of Washington State's I-BEST Program*. New York: Community College Research Center, Teachers College, Columbia University.

Kasis, R., Callahan, A., Davidson, C., McLeod, A., Bosworth, B., Choitz, V., & Hoops, J. (2007). *Adult learners in higher education: Barriers to success and strategies to improve results* (Occasional Paper 2007-03). Washington, DC: U.S. Department of Labor.

Kasworm, C. (1990). Adult undergraduates in higher education: A review of past research perspectives. *Review of Educational Research*, 60(3), 345-372.

Kelly, P., & Strawn, J. (2011). *Not just kid stuff anymore: The economic imperative for more adults to complete college*. Washington, DC: Center for Law and Social Policy.

Klein-Collins, R. (2011). *Fueling the race to postsecondary success: A 48-institution study of prior learning assessment and adult student outcomes*. Chicago: Council for Adult and Experiential Learning.

Klein-Collins, R. (2012). *Competency-based degree programs in the U.S.: Postsecondary credentials for measurable student learning and performance*. Chicago: Council for Adult and Experiential Learning.

Knowles, M., Holton, E., & Swanson, R. (2011). *The adult learner, seventh edition*. Burlington, MA: Butterworth-Heinemann.

Lakin, M., Mullane, L., & Robinson, S. (2007). *Framing new terrain: Older adults and higher education*. Washington, DC: American Council on Education.

Lakin, M., Mullane, L., & Robinson, S. (2008). *Mapping new directions: Higher education for older adults*. Washington, DC: American Council on Education.

Laitinen, A. (2012). *Cracking the credit hour*. Washington, DC: New America Foundation and Education Sector.

Lane, P., Michelau, D., & Palmer, I. (2012). *Going the distance in adult college completion: Lessons from the non-traditional No More Project*. Boulder, CO: Western Interstate Commission for Higher Education.

LFA Group. (2009). *Plus 50 initiative: Executive summary of the year one evaluation report*. San Francisco: Author.

LFA Group. (2010). *Plus 50: Impact report*. San Francisco: Author.

LFA Group. (2011). *Plus 50 completion strategy: Year one evaluation results*. San Francisco: Author.

LFA Group. (2012). *The Plus 50 initiative evaluation: Initiative impact*. San Francisco: Author.

Mazzeo, C., Strawn, J., & Roberts, B. (2009). *The Pathways to Advancement Project: How states can expand postsecondary educational opportunity for working adults*. Washington, DC: National Governors Association.

Mwase, G. (2008). *Better together: Realigning pre-college skills development programs to achieve greater academic success for adult learners*. Boston: Jobs for the Future.

National Commission on Adult Literacy. (2008). *Reach higher, America: Overcoming crisis in the U.S. workforce*. New York: Council for Advancement of Adult Literacy.

Neumark, D., Johnson, H., & Cuellar Mejia, M. (2011). *Future skill shortages in the U.S. economy?* Paper prepared for the European Commission Joint Research Centre's "Catch the Train: Skills, Education, and Jobs" conference, Brussels.

Nunley, C. (2007, October 26). Community colleges may be losing their edge in educating adults. *The Chronicle of Higher Education*.

Office of Community College Research and Leadership, University of Illinois. (2010). *Innovative contextualized curriculum for a CAN to LPN bridge course*. Champaign, IL: Author.

Office of Community College Research and Leadership, University of Illinois. (2011). *Development of a contextualized ESL bridge program*. Champaign, IL: Author.

Park, R., Ernst, S., & Kim, E. (2007). *Moving beyond the GED: Low-skilled adult transition to occupational pathways at community colleges leading to family-supporting careers*. St. Paul, MN: National Research Center for Career and Technical Education.

Patel, R., & Richberg-Hayes, L. (2012). *Performance-based scholarships: Emerging findings from a national demonstration*. New York: MDRC.

Price, D., & Roberts, B. (2007). *Strengthening state financial aid policies for low-income working adults*. Washington, DC: The Working Poor Family Project.

Price, D., & Roberts, B. (2009). *The shifting gears approach to systems change*. Chicago: The Joyce Foundation.

Pusser, B., Breneman, D., Gansneder, B., Kohl, K., Levin, J., Milam, J., et al. (2007). *Returning to learning: Adults' success in college is key to America's future*. Indianapolis: Lumina Foundation for Education.

Rasmussen, L. (2010). *ABE career connections: A manual for integrating Adult Basic Education into career pathways*. Washington, DC: MPR Associates.

- Richberg-Hayes, L., Sommo, C., & Welbeck, R. (2011). *Promoting full-time attendance among adults in community colleges: Early impacts from the Performance-Based Scholarship Demonstration in New York*. New York: MDRC.
- Scrivener, S., & Coghlan, E. (2011). *Opening doors to student success: A synthesis of findings from an evaluation at six community colleges*. New York: MDRC.
- Shugart, S. (2008). Adult students: A priority revisited. *Presidency*, 11(1), 18-22.
- Soares, L. (2009). *Working learners: Educating our entire workforce for success in the 21st century*. Washington, DC: Center for American Progress.
- Spaid, R. & Duff, E. (2009). Working adults in accelerated cohorts: More than a learning community. *The Journal of Continuing Higher Education*, 57, 104-109.
- Strawn, J. (2010). *Shifting gears: State innovation to advance workers and the economy in the midwest*. Chicago: The Joyce Foundation.
- Strawn, J. (2011). *Farther, faster: Six promising programs show how career pathway bridges help basic skills students earn credentials that matter*. Washington, DC: Center for Law and Social Policy.
- Tate, P., Klein-Collins, R., & Steinberg, K. (2011). Lifelong learning in the USA: A focus on innovation and efficiency for the 21st century learner. *International Journal of Continuing Education and Lifelong Learning*, 4(1).
- Taylor, J., & Harmon, T. (2010). *Bridge programs in Illinois: Results of the 2010 Illinois bridge status survey*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois.
- U.S. Department of Education, Office of Vocational and Adult Education. (2009). *Research synthesis: Transitions to postsecondary education for low-skill adults and out-of school youth*. Washington, DC: Author.
- Van Noy, M., Jacobs, J., Korey, S., Bailey, T., & Hughes, K. (2008). *The landscape of noncredit workforce education: State policies and community college practice*. New York: Community College Research Center, Teachers College, Columbia University.
- Wachen, J., Jenkins, D., & Van Noy, M. (2011). Integrating basic skills and career-technical instruction: Findings from a field study of Washington State's I-BEST model. *Community College Review*, 39, 136.
- Weitzel, P. (2009). *Illinois Shifting Gears policy evaluation*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois.
- Yaffe, D. (2010). *Advancing learning for our diverse adult population*. Princeton, NJ: Educational Testing Service, Policy Evaluation and Research Center. Alssid, J., Goldberg, M., & Klerk, S. (2010). Building a higher skilled workforce: Results and implications from the Bridge Connect National Survey. Barrington, RI: Workforce Strategy Center.

Endnotes

1. For purposes of this report, adults are defined as persons over the age of 25 and older adults are over the age of 50. These distinctions emerge from the existing higher education literature. Adults or older adults with a disability are persons who either possess an existing disability as defined by the Americans with Disabilities Act, and/or have a disabling condition as a result of aging or accident (for example, mobility limitations as a consequence of a chronic disease or accident), and/or a disabling condition that might have been unidentified until the individual entered college, such as a learning disability.
2. The age of population also controls for age-related disabilities, given increased incidence of disabilities in the older population.
3. Career pathways are intentionally designed sequences of programs that allow students to obtain entry-level employment and continue to pursue education to advance in their careers. Bridge programs are often at the beginning of career pathways to help low-skilled adults gain the basic skills needed to progress in further education.
4. While these studies focus on a younger adult population than most reviewed for this report, they define "adult" as over the age of 22. However, because of the exceptional rigor of these studies, they are included in this review.
5. The Opening Doors project is a random assignment study of reforms to financial aid, student services, and curriculum in six community colleges. The Louisiana site had an explicit focus on low-income parents.
6. The Performance-Based Scholarship Program study is a random assignment study of scholarship funds provided directly to students, contingent on their performance in college. This project builds on findings from the Opening Doors project in Louisiana.

Appendix A.

Table A-1. Descriptive Statistics on Variables Included in Regression Models (N=965)

	<i>Mean</i>	<i>Standard Deviation</i>	<i>Minimum</i>	<i>Maximum</i>
Percentage of students at the college who were older than 25 in 2009	.40	.10	.08	.82
Percentage of students at the college who were older than 40 in 2009	0.14	0.06	0.03	.82
Percentage of students at the college who were older than 50 in 2009	0.05	0.04	0	0.32
<i>State Characteristics</i>				
State-level unemployment rate in September 2008 to August 2009	8.31	1.64	4	12.1
Number of Trade Adjustment Assistance-eligible workers in the state in 2009	9550.04	8129.17	0	34931
Total state population [2009]/1,000	11971.96	10855.03	544.27	36961.66
State's percentage of older population (25+)	65.39	1.85	56.4	70
State's percentage of older population (40+)	45.13	2.66	34.3	52.5
State's percentage of older population (50+)	30.61	2.46	22.7	36.9
Percent of two-year higher education providers in the state that are community colleges	0.69	0.17	0.3	1
State policy support for community colleges as workforce providers	0.80	0.40	0	1
<i>Community College Characteristics</i>				
Percent of graduates in associate degree workforce programs in 2008	0.57	0.25	0	1
Number of workforce program areas in 2008	17.57	9.15	0	53
College provides credit for prior learning in 2009	0.59	0.49	0	1
Total enrollment in fall 2009/100	76.34	76.19	1.19	591.2
<i>Urbanicity of College</i>				
Urban	0.31	0.46	0	1
Suburban	0.39	0.49	0	1
Rural	0.30	0.46	0	1

Table A-2. Ordinary Least Squares Regression Model for Percentage of Students Over 25 Enrolled at the College in 2009

	<i>Coefficient</i>
<i>State Characteristics</i>	
State-level unemployment rate	0.0216***
Total state population/10,000	-0.000*
State's percentage of population over 25 years of age	-0.004*
Percent of two-year higher education providers that are community colleges	0.054**
State policy support for community colleges as workforce providers	0.035***
<i>Community College Characteristics</i>	
Percent of graduates in associate degree workforce programs	0.117***
Number of workforce program areas	-0.002***
College provides credit for prior learning	0.013
Total enrollment/100	0.000*
<i>Urbanicity of College</i>	
Urban	0.044***
Suburban	0.008

Note: + p<.1, * p<.05, ** p<.01, *** p<.001, R2=.2207

Table A-3. Ordinary Least Squares Regression Model for Percentage of Students Over 50 Enrolled at the College in 2009

	<i>Coefficient</i>
<i>State Characteristics</i>	
State-level unemployment rate	0.003***
Total state population/10,000	0.000
State's percentage of population over 50 years of age	-0.001
Percent of two-year higher education providers that are community colleges	0.0270***
State policy support for community colleges as workforce providers	0.004
<i>Community College Characteristics</i>	
Percent of graduates in associate degree workforce programs	-0.010
Number of workforce program areas	-0.000
College provides credit for prior learning	0.001
Total enrollment/100	-0.000*
<i>Urbanicity of College</i>	
Urban	-0.002
Suburban	0.002

Note: + p<.1, * p<.05, ** p<.01, *** p<.001, R2=.0636

Acknowledgments

The primary authors of this report are Michelle Van Noy, Ph.D. and Maria Heidkamp. Carl Van Horn, Ph.D. and Kathy Krepcio of the Heldrich Center provided support and guidance, and Robb C. Sewell, Christine Jenter, and Jade McClain of the Heldrich Center provided editorial assistance.

The authors would especially like to thank Debra Bragg, Neil Ridley, James Shanahan, and Joan Wills, who made themselves available to review, comment, and provide input into the final document. The authors would also like to thank ODEP Assistant Secretary Kathy Martinez and her team for their support of this initiative.

Any errors or omissions are the responsibility of the authors.

About ODEP

The Office of Disability Employment Policy (ODEP) provides national leadership on disability employment policy by developing and influencing the use of evidence-based disability employment policies and practices, building collaborative partnerships, and delivering authoritative and credible data on employment of people with disabilities.

About the NTAR Leadership Center

Founded in 2007 under a grant/contract with the Office of Disability Employment Policy at the U.S. Department of Labor, the NTAR Leadership Center's mission is to build capacity and leadership at the federal, state, and local levels to enable change across workforce development and disability-specific systems that will increase employment and economic self-sufficiency for adults with disabilities.

This report was published by the NTAR Leadership Center, funded by a grant/contract from the U.S. Department of Labor, Office of Disability Employment Policy (Number OD-16563-07-75-4-34). The opinions expressed herein do not necessarily reflect the position of policy of the U.S. Department of Labor. Nor does mention of trade names, commercial products, or organizations imply the endorsement of the U.S. Department of Labor, NAWB, or NASWA.

Rutgers, The State University of New Jersey is an equal opportunity/affirmative action institution providing access to education and employment without regard to age, race, color, national origin, gender, religion, sexual orientation, veteran's status, political affiliation, or disability. If special accommodations or language translation are needed, contact (732) 932-4100, x6330.

