

REVIEW PROTOCOL FOR COMMUNITY COLLEGES

Highlights

- The objective of this systematic review is to determine the quality of existing causal evidence on the effectiveness of community college policies and programs to improve academic persistence, degree/certificate completion, and labor market outcomes.
- The review focuses on interventions based at community colleges, which are public, two-year postsecondary institutions that account for approximately one-quarter of all higher education institutions and more than one-third of all enrolled students.¹
- This topic area currently includes research with causal analyses and implementation studies associated with causal impact studies included in the review. (See Appendix B.)
- The topic area currently focuses on linked learning communities, accelerated learning, and paid performance incentive programs. The topic area also focuses on community college bridge programs for students in Science, Technology, Engineering, and Math (STEM), workforce program partnerships, and community-college based interventions intended to improve employment and earning outcomes and the attainment of industry-recognized certificates, certifications and credentials.

Introduction

This review addresses the effectiveness of interventions designed to improve community college students' academic persistence and achievement, credential completion, and post-enrollment labor-market outcomes, including employment and earnings. Postsecondary credentials, especially four-year degrees, are often high school graduates' essential first steps to middle-income lifestyles. By some estimates, nearly two-thirds of all U.S. jobs will require a postsecondary certificate or degree by 2018.² Unfortunately, rising tuition and increased competition for admission keep college out of reach for many low- and middle-income students. With tuition costs less than half those of public four-year colleges, open admissions, flexible course schedules, and convenient locations, community colleges attract nearly one-third of the nation's undergraduate students.

Approximately 36 percent of degree-seeking students who begin their postsecondary studies at community colleges complete at least one certificate or degree within six years.³ Community colleges are often smart investments for these graduates. Nevertheless, most do not complete a postsecondary credential for a variety of reasons, which often include the difficulty of overcoming academic unpreparedness while shouldering adult financial and family responsibilities.⁴ As a result, community

¹ Knapp, L. G., Kelly-Reid, J. E., & Ginder, S. A. (2012). *Enrollment in postsecondary institutions, fall 2011; financial statistics, fiscal year 2011; and graduation rates, selected cohorts, 2003–2008* (p. 4, Table 1). Washington, DC: Institute of Education Sciences, National Center for Education Statistics.

Dougherty, K. J. (2010). U.S. community colleges and lessons for British further education. In T. Dolphin & J. Clifton (Eds.), *Colleges 2020*. London: Institute for Public Policy Research.

² Carnevale, A. P., Smith, N., & Strohl, J. (2010). *Help wanted: Projections of jobs and education requirements through 2018*. Washington, DC: Georgetown University Center on Education and the Workforce.

³ Note that the six-year degree completion rate among *all students* who begin at community colleges is much lower (approximately 15 percent). *Degree-seeking students* are defined as those of any age who completed at least one term full-time or two terms part-time within their first year of enrollment. Shapiro, D., & Dundar, A. (2012). *Completing college: A national view of student attainment rates* (pp. 9, 16, and 32). Herndon, Virginia: National Student Clearinghouse Research Center.

⁴ Matus-Grossman, L., & Gooden, S. (2002). *Opening doors: Students' perspectives on juggling work, family, and college*. New York: MDRC.

colleges have launched a broad array of interventions to promote students' success. Community colleges also are supporting connections to the workforce through industry-aligned programs, technical skills training, and partnerships with employers, the public workforce and other organizations to support training and re-training of adult workers. These programs may include accelerated learning, on-the-job training, and credential attainment. The CLEAR community colleges topic area review considers three such types of interventions:

1. **Strategies to improve persistence.** Students who are entering community college take one of several brands of skill assessment exams in math, reading, and writing (often the ACCUPLACER or COMPASS). Based on these scores, they are referred to either college-level coursework or one of five levels of developmental coursework; this could include Adult Basic Education and/or English for Speakers of Other Languages. Sixty percent of first-year students who begin their postsecondary studies at community colleges take at least one developmental course in their first academic year (compared with 24 percent of those at public four-year colleges and 10 percent at private four-year colleges). Yet, less than one-quarter of students who enroll in developmental education complete a degree or certificate within eight years.⁵ Developmental education is costly for colleges to offer, and even more so for students to complete, as it often does not earn credits and consequently might not qualify for financial aid.

A variety of strategies to address this issue have emerged recently, many focusing on integrating developmental curricula with mainstream college coursework. Other strategies include defining career pathways, a series of connected education and training programs that enable individuals to secure a job or advance in a high-demand industry or occupation. Although the implementation of career pathways programs varies, many focus on facilitating students' transitions from high school to community college, from developmental courses to for-credit courses, and from community college to university or employment. Another strategy of interest is performance-based scholarships, which offer scholarships to students conditional on them making adequate progress in school. For example, two New Orleans-area community colleges offered a performance-based scholarship program to low-income parents through which students could receive \$1,000 per semester in three installments, provided that they maintained an average grade of C or better.

2. **Support services.** For most entering community college students, college is an entirely new experience, one that poses unusual expectations of time management, independent study habits, and resource navigation (such as financial aid, course registration, library services, blackboard instructional aids, computer labs, and tutorial services).⁶ Community colleges invest significantly in instructional supports, such as student success centers that often combine computer labs, one-on-one tutoring and writing services, and self-paced instructional software. These supports are often administered by student success deans along with nonacademic student support services, which include career and financial aid advising.

One of the most prominent programmatic student success interventions tries to foster students' engagement with peers, faculty, and course content by assigning groups of 20 to 30 students to a common sequence of related courses taught by the same instructors. The strategy has been practiced since the 1970s, but learning communities have only recently been

⁵ The Beginning Postsecondary Students Longitudinal Study (BPS) surveys a large, nationally representative sample of beginning college students at one, three, and six years after beginning postsecondary education. The April 2009 BPS cohort captures the experiences of 16,700 students. Retrieved June 16, 2014, from <http://nces.ed.gov/datalab/quickstats/createtable.aspx>.

⁶ Mechur Karp, M., & Hare Bork, R. (2002). *They never told me what to expect so I didn't know what to do: Defining and clarifying the role of a community college student*. New York: Community College Research Center.

rigorously evaluated. Understanding how to integrate these instructional supports and student services with the in-classroom experience and make them more responsive to student needs has been a major component of recent student success initiatives. Student supports may also include services to promote self-determination and self-advocacy.

3. Employment-Focused Programs. These programs may include career pathways programs, programs designed to achieve industry-recognized credentials in manufacturing, healthcare, information technology, energy, transportation and other industries. Community college programs may also include workforce system partnerships (e.g., with workforce development boards), career coaches and navigators, job fairs, work-based learning (e.g., apprenticeships, customized training, on-the-job training, and internships), and credential/certificate completion programs.

This review focuses on the following research questions:

- What is the quality of existing causal evidence on the effectiveness of community college interventions, policies, and programs designed to improve academic persistence?
- What is the quality of existing causal evidence on the effectiveness of community college-based interventions, policies, and programs designed to improve participants' employment outcomes?
- What is the quality of existing causal evidence on the effectiveness of community college-based interventions, policies, and programs designed to improve participants' earnings outcomes?

To assess the evidence of effectiveness of interventions to promote student success, this review examines outcomes in the following domains:

- **Education including but not limited to** progress toward degree completion, academic performance⁷ and persistence, developmental requirements fulfilled, gatekeeper courses completed, credits attempted and earned, continued enrollment, completion or attainment of a certification, licensure, credential, associate's degree, and/or transfer to a four-year college.
- **Earnings** including but not limited to hourly, monthly, quarterly or annual wages, earnings, and benefits.
- **Employment** including but not limited to employment rate, hours worked, consecutive months employed, job retention and promotion.

Eligibility Criteria

CLEAR conducts a broad literature search to identify research papers and reports that examine at least one of the research questions of interest. This review includes only causal studies. The identified causal research is examined against the eligibility criteria described below, and studies meeting these criteria receive a second-level review, including an assessment of the quality of the causal evidence presented in the study.

- 1. The research must evaluate a community college program or intervention designed to encourage academic success or improve the labor market outcomes**

⁷ One outcome measure that is occasionally reported in studies that focus on community college students' academic performance is grade point average (GPA). For this review protocol, GPA is not considered an eligible outcome measure because it is a non-standardized performance measure that is difficult to interpret for students who take courses of varying difficulty levels.

of adults as primary outcomes. To be eligible for review, the research must examine linked learning communities, accelerated learning, paid performance incentives, STEM bridge programs, and/or interventions based at a community college(s) designed to affect participants' connections to employment, employment, earning, retention or promotion outcomes.

2. **The study must examine effectiveness of an intervention using quantitative methods.** To meet this criterion, the research must use quantitative methods to assess the effectiveness of a program or intervention. This includes research that claims to identify a causal impact even if the study design did not support such claims. Implementation studies that also include impact analyses, which received a high causal evidence rating from CLEAR, may be included if they meet the other eligibility criteria.
3. **The research must examine a population of interest.** To be eligible for review, the research must examine the impact of the program on any group of adults (age 18 and over). This includes economically disadvantaged individuals, unemployed workers, underemployed workers, dislocated workers, trade adjustment assistance workers, incumbent workers, or individuals with disabilities.
4. **The study must be published and conducted in a relevant time and place.** The research must have been published since January 1994 on a program or intervention implemented in the United States or its territories.⁸
5. **The study must be published in English.** All research studies must be published in English to be considered for inclusion in CLEAR.

Review Process and Causal Evidence Guidelines Specific to this Topic Area

CLEAR employs a standardized, systematic review process as documented in its *CLEAR Policies and Procedures* document.⁹ The Community College review includes both experimental and nonexperimental causal research which are reviewed and rated based on the eligibility criteria previously described and the *CLEAR Causal Evidence Guidelines*.¹⁰ In assessing the quality of the evidence, CLEAR uses ratings of high, moderate and low. Only two types of studies may receive a high rating: well-conducted randomized controlled trials (RCTs) with low attrition and no obvious confounds to the RCT design and interrupted time series (ITS) designs with sufficient replication. The *CLEAR Causal Evidence Guidelines* describe the criteria for rating the quality of evidence. In addition, Table 1 provides the additional guidance specific to this review. Implementation studies included in this review are assessed using the *CLEAR Guidelines for Reviewing Implementation Studies*¹¹ and do not receive a causal rating.

⁸ This topic area initially included studies published between 1994 and 2015. In 2019 it was updated to include studies from 2015-2019 and to expand the eligible content area to community college-based programs designed to improve employment and earnings outcomes throughout the entire period.

⁹ *CLEAR Policies and Procedures* may be found at <https://clear.dol.gov/>.

¹⁰ The *CLEAR Causal Evidence Review Guidelines* may be found <https://clear.dol.gov/>.

¹¹ The guidelines may be accessed <https://clear.dol.gov/>.

Table 1: Community Colleges Review Specific Guidance

	CLEAR Causal Evidence Guidelines	Topic Area Specific Guidance
Attrition Standard	Study must have low attrition at the cluster or subcluster level to meet Criterion RCT.2.	Use conservative attrition standard.
Control Variables	To meet Criterion Regression.1 and receive a moderate rating, nonexperimental causal research must include specific control variables in its regression analysis (other than those using fixed effects). Regression methods that incorporate a matching design must match on these control variables; if not, they must include them as controls in the regression.	<ul style="list-style-type: none"> • Age • Race/ethnicity • Gender • At least one pre-intervention measure of degree of financial disadvantage¹ • At least one pre-intervention measure of education/training, employment or earnings, depending on the type of intervention examined² • State (of community college, for studies that include more than one state)
Changes in Group Composition	Studies with nonexperimental designs and analyses at the group level must meet Criterion Regression.4 to receive a moderate causal evidence rating.	Use conservative migration standard.
Pre-intervention Data	An ITS design must use data drawn from a sufficiently long period of time before an intervention’s implementation to meet Criterion ITS.2.	Data must cover at least one year before the implementation of the intervention.

¹This includes receipt of need-based financial aid (Pell grant or subsidized loans), student’s tax status (dependent or independent), student’s household composition (number of adults and number of children), student’s household income, public benefit receipt, or parents’ highest education.

²Pre-intervention measures of education or training would be appropriate for studies of programs designed to help adults in community college persist in programs of study and could include previous education or training enrollment, certificate completion, prior grade point average, standardized test scores, placement test scores, high school completion status, or prior postsecondary credits attempted and completed. Pre-intervention measures of employment or earnings would be appropriate for studies of programs designed to help adults attain employment in a certain field (e.g., health care) and could include measures of employment history, attachment to the labor market, earnings over a set period, average hourly wage, or occupational category.

APPENDIX A LITERATURE SEARCH

CLEAR conducts a comprehensive literature search to identify research meeting the eligibility criteria described in the review protocol. This process includes (1) a database search, (2) a search of selected internet sites for grey literature, (3) a snowball search, and (4) a Google Scholar search for specific intervention names.

1. Database Search

All CLEAR searches use the following databases to identify causal literature: Scopus, Academic Search Premier, Business Source Corporate Plus, E-Journals, EconLit, Education Research Complete, SocINDEX with full text, ERIC, PsycINFO, and ProQuest Dissertations and Theses. In conducting the search, CLEAR uses “and” to connect terms from each category (design, outcome, impact, and keyword terms) and “or” among terms within a category.

Table 2. Keywords used in database searches for Community Colleges Topic Area

Design terms	Causal, evaluation*, experiment*, random*, regression, quantitative, quasi*, statistical
Outcome terms	Student success, student development, academic success, academic achievement, educational attainment, transfer, graduation rate, retention rate, student retention, completion rate, academic persistence, student persistence, course completion, degree completion, college completion, re-enrollment, college readiness, employ*, job, work*, occupation, promot*, earn*, wage, salary, pay, income, educational attainment, certificat*, degree completion, career, credential, noncredit
Impact terms	Effect*, impact*, improv*, gain, growth, increase
Keyword terms	Community college, two-year college, 2-year college, junior college, technical college AND Developmental education, developmental program, developmental course, remedial, remediation, adult basic education (ABE), English as a Second Language (ESL), English for Speakers of Other Languages (ESOL), gatekeeper course, gatekeeper college algebra, gatekeeper college mathematics, gatekeeper college English, developmental mathematics, developmental English, developmental writing, Integrated Basic Education and Skills Training [I-BEST], ACCUPLACER, COMPASS, Accelerated Learning Program [ALP], instructional supports, tutoring, mentoring, counseling, mandatory student success course, intrusive advising, early alert, learning community, performance based scholarship, career pathway*, employer-driven, job related training, industry-driven training, work-based training, stacked credential, latticed credential, workforce system alignment, American Job Center (AJC), workforce development board, sector strateg*, Trade Adjustment Assistance Community College and Career Training, online learning, hybrid learning, technology-enabled learning, competency-based education, contextualized learning, prior learning assessment, credit for prior learning, cohort scheduling, modularized curriculum, block scheduling, embedded credentials, noncredit to credit articulation, guided pathways, on-the-job-training, related technical instruction, internship, apprenticeship, registered apprenticeship, co-operative education, work study, clinical placement, navigat*, coach

An asterisk indicates a truncation. When used in a search term, all words with the root are returned. For example, a search on “occupation*” returns citations with the words that have “occupation” as the first ten letters, including “occupation,” “occupations,” and “occupational.”

2. Internet Sites Grey Literature Search

CLEAR also searches the websites of organizations conducting research in this topic area using a limited set of keywords. This search identifies studies that may not be published elsewhere, such as technical reports from government agencies or working papers, and studies not available through the database search. The study team uses a Custom Google Search engine with an abbreviated set of keywords to review the following sites.

- Abt Associates, Inc.
- Achieving the Dream Community Colleges Count
- ACT
- American Association of Community Colleges
- American Association of Women in Community Colleges
- American Council on Education
- American Enterprise Institute
- American Institutes for Research
- American Student Achievement Institute
- Aspen Institute
- Association for Public Policy and Management
- Berkeley Policy Associates
- Bill and Melinda Gates Foundation
- Brookings Institute
- Carnegie Foundation for the Advancement of Teaching
- Cato Institute
- Center for Law and Social Policy (CLASP)
- Charles Stewart Mott Foundation
- College Board
- College Spark Washington
- Community College Journal of Research and Practice
- Community College Leadership Program at the University of Texas at Austin
- Community College Research Center
- Complete College America
- Congressional Research Service

- Corporation for a Skilled Workforce
- Education Commission of the States
- Educational Testing Service
- Fund for the Improvement of Postsecondary Education
- Heritage Foundation
- ICF
- Institute for Higher Education Policy
- Institute for Research on Poverty
- Institute of Policy Research
- JBL Associates, Inc.
- Jobs for the Future
- Joint Center for Political and Economic Studies
- League for the Innovation in the Community College
- Lumina Foundation for America
- Manpower Demonstration Research Corporation (MDRC)
- Mathematica Policy Research
- McRel International
- National Bureau of Economic Research
- National Center for Education Statistics
- National Center for Postsecondary Improvement (Stanford University)
- National Center for Postsecondary Research
- National Conference of State Legislatures
- New America Foundation
- NORC
- Office of Community College Research and Leadership
- RAND Corporation
- Ray Marshall Center for the Study of Human Resources
- Resources for the Future
- RTI International
- SkillsCommons
- Social Policy Research Associates
- SRI International

- TAACCCT National Evaluation
- Urban Institute
- U.S. Bureau of Labor Statistics
- U.S. Department of Education
- U.S. Department of Labor
- U.S. Government Accountability Office
- W.K. Kellogg Foundation

The search strategy for these websites uses a search string of "community college" AND ("career pathway" OR "job related training" OR "industry-driven training" OR graduation OR retention OR completion OR persistence or reenrollment OR readiness) AND causal AND (impact OR effect) with a set date range of January 1994 through July 2019. The search will be limited to studies published in English.¹²

3. Snowball Search

The study team conducted a snowball search to identify relevant literature using the reference list of a study or studies to identify other studies to include in the review. The following sources were used:

Bailey, T., & Alfonso, M. (2005). *Paths to persistence: An analysis of research on program effectiveness at community colleges*. Indianapolis, IN: Lumina Foundation for Education.

Bragg, D, Baker, E.D. and M. Puryear. 2010. *2010 follow-up of community college of Denver FastStart program*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois.

Bragg, D., Harmon, T., Kirby, C., & Kim, S. 200). *Initial results of Illinois' Shifting Gears pilot demonstration evaluation*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois.

Brock, T., Jenkins, D., Ellwein, T., Miller, J., Gooden, S., Martin, K., et al. 2007. *Building a culture of evidence for community college student success: Early progress in the Achieving the Dream Initiative*.

New York: MDRC.

Edgecombe, N., Jaggars, S. S., Baker, E. D., & Bailey, T. 2013. *Acceleration through a holistic support model: An implementation and outcomes analysis of FastStart@CCD*. New York: Community College Research Center, Teachers College, Columbia University.

¹² Prior to limitations by Google, the search string used for the website search in 2015 was ("Community college" OR "Two-year college" OR "2-year college" OR "junior college") AND (intervention OR evaluation OR demonstration OR pilot OR strategy OR practices OR model OR curriculum OR program OR policy OR policies) AND ("student success" OR "student development" OR "academic success" OR "academic achievement" OR "educational attainment" OR transfer OR "graduation rate" OR "retention rate" OR "completion rate" OR "academic persistence" OR "student persistence" OR "course completion" OR "degree completion" OR "college completion" OR "re-enrollment" OR "college readiness") AND (Efficacy OR effects OR impact OR regression OR "quasi-experimental" OR experimental OR benefit OR improve OR progress OR causal OR statistically OR randomized)

- Friedman, D., & Alexander, J. 2007. Investigating a first-year seminar as an anchor course in learning communities. *Journal of the First-Year Experience & Students in Transition*, 19(1), 63–74.
- Flynn, M. 2010. *Breaking Through: Helping low-skilled adults enter and succeed in college and careers*. Boston, MA: Jobs for the Future.
- Hatch, D. K., & Bohlig, E. M. 2015. The scope and design of structured group learning experiences at community colleges. *Community College Journal of Research and Practice*, 39(9), 819–838.
- Hodara, M., & Jaggars, S. S. 2014. An examination of the impact of accelerating community college students' progression through developmental education. *The Journal of Higher Education*, 85(2), 246–276.
- Jenkins, D., Zeidenberg, M., & Kienzl, G. S., 2009. *Educational outcomes of I-BEST, Washington State Community and Technical College System's integrated basic education and skills training program: Findings from a multivariate analysis* (CCRC Working Paper No. 16). New York, NY: Community College Research Center, Teachers College, Columbia University.
- Jenkins, D., Speroni, C., Belfield, C., Jaggars, S. S., & Edgecombe, N. 2010. A model for accelerating academic success of community college remedial English students: Is the Accelerated Learning Program (ALP) effective and affordable?. New York: Community College Research Center, Teachers College, Columbia University.
- Karp, M. M. 2011. Toward a new understanding of non-academic student support: Four mechanisms encouraging positive student outcomes in the community college (CCRC Working Paper No. 28). New York: Community College Research Center, Teachers College, Columbia University.
- Klein-Collins, R. (2010). *Fueling the Race to Postsecondary Success: a 48-Institution Study of Prior Learning Assessment and Adult Student Outcomes*. Washington, D.C.: The Council for Adult & Experiential Learning.
- Liebowitz, M., & Taylor, J. C. 2004. *Breaking Through: Helping low-skilled adults enter and succeed in college and careers*. Boston, MA: Jobs for the Future.
- Mangan, K. 2015. Program's extra support for community-college students is paying off. *The Chronicle of Higher Education*.
- Melendez, R. (2007). Coaching Students to Achieve Their Goals: Can It Boost Retention? *The Hispanic Outlook in Higher Education*, 17(21), 60.
- Minkler, J. E. 2002. ERIC review: Learning communities at the community college. *Community College Review*, 30(3), 46–63.
- O'Gara, L., Karp, M. M., & Hughes, K. L. 2009. Student success courses in the community college. *Community College Review*, 36(3), 195–218.
- Pidduck, A., & Carey, T. 2006. Partner power: A study of two distance education consortia. *International Review of Research in Open and Distance Learning*, 7(3), 1–13.
- Price, D. V., & Tovar, E. 2014. Student engagement and institutional graduation rates: Identifying high impact educational practices for community colleges. *Community College Journal of Research and Practice*, 38(9), 766–782.
- Schnell, C. A., & Doetkott, C. D. 2003. First year seminars produce long-term impact. *Journal of College Student Retention: Research, Theory and Practice*, 7(4), 377–391.

- Schnell, C. A., Louis, K., & Doetkott, C. 2003. The first-year seminar as a means of improving college graduation rates. *Journal of the First-Year Experience & Students in Transition*, 15(1), 53–76.
- Scrivener, S., Weiss, M. J., Ratledge, A., Rudd, T., Sommo, C., & Fresques, H. 2015. Doubling graduation rates: Three-year effects of CUNY’s accelerated study in associate programs (ASAP) for developmental education students. Washington, DC: MDRC.
- Smith, R. A. 2010. Feeling supported: Curricular learning communities for basic skills courses and students who speak English as a second language. *Community College Review*, 37(3), 261–284.
- Smith, B. L., & Hunter, M. R. 1988. Learning communities: A paradigm for educational revitalization. *Community College Review*, 15(4), 45–51.
- Spaid, R. Duff, E.D. (2009). Working Adults in Accelerated Cohorts: More than a Learning Community. *Journal of Continuing Higher Education*, 57, 104-109.
- Swaner, L. E., & Brownell, J. E. (2009). Outcomes of high impact practices for underserved students: A review of the literature. Prepared for the Association of American Colleges and Universities (AAC&U) Project USA.
- Tobolowsky, B. F., Cox, B. E., & Wagner, M. T. (2005). Exploring the evidence: Reporting research on first-year seminars, Volume III (Monograph No. 42). Columbia, SC: National Resource Center for the First-Year Experience and Students in Transition, University of South Carolina.
- Voorhees, R. A., & Muffo, J. A. (2010). *Scaling up preliminary data analysis*.
- 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*, 13(136), 136–159.
- Washington State Board for Community and Technical Colleges (WSBCTC). (2005). *Research Report No. 05-2*. Olympia, WA.
- Zachry Rutschow, Elizabeth and Emily Schneider. 2011. Unlocking the Gate: What we know about improving development education. New York: MDRC.
- Zhao, C.-M., & Kuh, G. D. (2004). Adding value: Learning communities and student engagement. *Research in Higher Education*, 45(2), 115–138.
- Zeidenberg, M., Cho, S., Jenkins, D. (2010). *Washington State’s integrated basic education and skills training program (IBEST): New evidence of effectiveness* (CCRC Working Paper No. 20). New York, NY: Community College Research Center, Teachers College, Columbia University.

4. Google Scholar Search

CLEAR also conducts a Google Scholar search using a specific list of intervention/program names that may prompt specific interventions in order to comply with their content. For this topic area, the search includes:

- Community-Based Job Training Grants
- Courses to Employment (C2E)
- Green Jobs and Health Care Impact Evaluation (GJ-HC)
- H1-B Technical Skills Training Grants
- HealthCare and Other High Growth and Emerging Industries Grants

- Health Professional Opportunities Grants
- High Growth Job Training Initiative
- Integrated Basic Education and Skills Training (I-BEST)
- JOBSTART
- Pathways for Advancing Careers and Education
- Pathways Out of Poverty
- State Workforce and Education Alignment Project (SWEAP)
- Trade Adjustment Assistance Community College and Career Training (TAACCCT)

APPENDIX B Inclusion of Implementation Studies

Implementation studies were included in the CLEAR community colleges evidence review process to complement the information provided in causal studies, and particularly, to increase context around an intervention’s external validity. Community college-based interventions with workforce-related outcomes were prioritized for inclusion in CLEAR due to the large body of impact and implementation studies in this area; interest from the Department of Labor’s Employment and Training Administration and other workforce stakeholders; and the potential for informing how CLEAR can more routinely include implementation studies in other evidence reviews.

Knowing that a large body of implementation studies exists in this topic area, the CLEAR team, in collaboration with an independent technical working group of implementation science experts, developed the criteria for the inclusion of a subset of implementation studies and created an *Implementation Prescreen Checklist* for use in the implementation evidence review (please see Exhibit B-1 for the version of the checklist used in this topic area). The prescreen checklist, based on the existing CLEAR *Operational Guidelines for Reviewing Implementation Studies*, was designed to identify the components necessary for a higher-quality implementation study prior to full review. These components included a description of: (1) research questions/study objectives; (2) the program/intervention; (3) the implementation study sample; (4) data sources/data collection activities; and (5) qualitative and quantitative data analyses. Studies that did not meet the prescreen checklist criteria were not included in the review. Upon meeting the prescreen criteria, the study was reviewed using the CLEAR *Operational Guidelines for Reviewing Implementation Studies*. The purpose of the implementation study review was to assess the technical qualities and determine whether the study findings are accurate and appropriate for the design.

Exhibit B-1 The Community College Implementation Evidence Review Prescreen Checklist

Implementation Evaluation Pre-Review Checklist	Guidance	Decision Select from dropdown menu if applicable	Narrative Text
Reviewer Name	Enter your name in Cell D2.	N/A	
Citation for implementation study	Enter the full citation for the implementation study in APA format in Cell D3.	N/A	
Was the implementation study an Embedded or Standalone Study?	If the impact and implementation study are in the same publication, select Embedded from the dropdown menu in Cell C4. If not, select Standalone .		
Citation for associated impact study	If the impact study is in a separate publication, enter the full citation in APA format in Cell D5.	N/A	
What was the Causal Evidence Rating of the impact study?	Select the appropriate causal evidence rating (high , moderate , or low) from the dropdown menu in Cell C6. Use the highest evidence rating received if the study includes multiple evidence ratings.		

Criterion	Instructions for Criterion	Yes/No	Reason for “No”
1) Does the study include research questions or study objectives?	The research questions or study objectives guide the study.		
2) Does the study include a description of the program?	The program description may include information about the program activities , the population that the program was designed to serve and the setting (e.g., community college, high school program) that the program was designed.		
3) Do the study authors describe the sample included in the implementation study?	Information may include study participants (from whom data were collected as part of the implementation study such as program staff, program participants), the sample size , and the study sites and how the sites were selected.		
4) Does the study include a description of how data were collected?	Information may include the data collection methods (e.g., focus groups with college students) and data sources (e.g., surveys, document review with program performance documents).		
5) Do the authors clearly describe the analyses?	Information may include a description of the qualitative analysis process and quantitative analysis process.		