REVIEW PROTOCOL FOR THE EMPLOYMENT AND TRAINING TOPIC AREA

Highlights

- The objective of this review is to determine the quality of existing causal evidence on the effectiveness of a range of employment and training programs in serving a variety of target populations.

- The review focuses on programs designed to directly improve the employment-related outcomes of their participants, for example, by improving participants' knowledge and skills, assisting them with job searches, or providing case management and other supports. It does not include programs, such as housing assistance and mental health treatment programs, that might improve participants' labor market outcomes but do not focus on those outcomes as their primary aim.

- This topic area includes causal studies.

This topic area review protocol outlines how CLEAR conducts reviews within the Employment and Training Topic Area. This topic area has many subtopic areas, each of which uses specific considerations to review studies. Those considerations are provided in appendices, as detailed below.

Contents

Introduction

The mission of the U.S. Department of Labor's Employment and Training Administration (ETA) is "to contribute to the more efficient functioning of the U.S. labor market by providing high quality job training, employment, labor market information, and income maintenance services." These services are delivered primarily through state and local workforce development systems and address the needs of a variety of target populations, including people who are unemployed but looking for work, low-income adults and youth, dislocated workers, and veterans and their spouses. ETA also administers a range of grant programs targeted to youth with disabilities, ex-offenders, at-risk youth, older workers, and many others.[1]

This topic area review examines a broad range of employment and training programs funded by ETA and others that encourage basic skills development, educational attainment, completion of training programs and/or acquisition of certificates or credentials, employment, employment retention, and career advancement. The primary outcomes of interest are employment related, though the review will include other outcomes as appropriate. The domains of interest are:

- **Employment**, including but not limited to measures such as employment rate, tenure on the job, and consecutive months employed

- **Earnings**, including but not limited to monthly, quarterly, or annual wages, hourly wages, and cumulative wages over the follow-up period

- **Education and/or training attainment and completion**, including, but not limited to earning a high school diploma, General Educational Development certificate (GED), or other high school equivalency credential; earning vocational certificates or associate's degrees; or completing a training program that does not necessarily result in a certificate

- **Public benefit receipt**, including but not limited to unemployment compensation, Temporary Assistance for Needy Families benefits, and Supplemental Security Income/Social Security Disability Insurance

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[1] See http://www.doleta.gov/etainfo/.

Eligibility criteria

CLEAR conducts broad literature searches (see Appendix A for details) to identify all the research papers and reports that use causal designs to examine the effectiveness of programs designed to improve participants' employment-related outcomes. In the course of conducting these searches, CLEAR also identifies literature that is not directly applicable to the topic area. Therefore, the CLEAR team uses the following criteria to screen identified studies to determine eligibility for review under this topic area:

1. **Does it examine a program whose primary aim was to improve the employment-related outcomes of adults?** The review excludes research on programs whose primary aim was to provide services such as substance abuse treatment or stable housing that might have an ancillary effect on employment-related outcomes. The review excludes programs whose primary aim was to serve youth or young adults age 25 or younger.[2]

2. **Does it examine effectiveness?** To meet this criterion, the research must use quantitative methods to assess the effectiveness of a program, policy, or intervention. This includes research using quantitative methods that claimed to identify a causal impact and/or draw policy implications from its findings, even if the study design did not support such claims.

3. **Does it examine an outcome of interest?** The research must examine impacts on outcomes in education and/or training attainment or completion, employment, or earnings. Reviews of studies that include outcomes in these domains may also capture outcomes of interest in the public benefit receipt domain. However, studies that only examine public benefit receipt outcomes are not included in the review.

4. **Was it conducted in a relevant time and place?** To be most relevant to practitioners, policymakers, and other stakeholders, the research must have been conducted in the United States (including the 50 states, the District of Columbia, territories, and tribal entities), and have been released between the dates specified in each of the appendices.

The CLEAR team reviews studies that meet these criteria according to the CLEAR Causal Evidence Guidelines, Version 2.2. The full set of guidelines is available at http://clear.dol.gov. CLEAR examines studies in this topic area through a series of subtopics that are defined by types of services or service populations; specific search terms and screening criteria are used for these subtopics. Appendices to this protocol describe the subtopics.

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[2]Some subtopics include research on individuals younger than 25. See subtopic-specific appendices for details.

Causal evidence guidelines specific to the topic area

Attrition in randomized controlled trials (RCTs). The causal research in this topic area includes studies with both experimental and nonexperimental designs. CLEAR assesses the quality of evidence for RCTs using standards adapted from those of the Institute of Education Sciences' What Works Clearinghouse.[3] RCTs can receive a high causal evidence rating if there are no obvious confounding factors to the design and if the level of attrition is low. This topic area uses a conservative attrition standard, based on the assumption that attrition in studies of employment and training programs might be linked to participants' labor market or educational outcomes. If CLEAR determines that an RCT cannot receive a high causal evidence rating, it uses the CLEAR nonexperimental causal evidence guidelines to review the study.

Control variables for nonexperimental designs. CLEAR causal evidence guidelines for nonexperimental studies were developed in consultation with a technical working group of methodological experts. The guidelines cover most nonexperimental designs, including fixed effects, difference in differences, instrumental variables, and regressions. Nonexperimental designs and RCTs with high attrition can receive a moderate causal evidence rating if they include adequate controls and can demonstrate or adjust for anticipating the intervention and confounding factors. To meet the requirements for a moderate causal evidence rating, nonexperimental studies and RCTs with high attrition in this topic area must include statistical controls for the following:

- Age
- Race/ethnicity
- Gender
- A pre-intervention measure of each outcome of interest. If the outcome of interest is the bold term, then the study must control for:
  - **Education.** Must control for pre-intervention (baseline) education level *and* socioeconomic status.[4]
  - **Employment.** Must control for employment rate *or* earnings *greater than one year before program participation,* to guard against the Ashenfelter dip (see CLEAR Causal Evidence Guidelines, Version 2.2, for a discussion).
  - **Earnings.** Must control for previous earnings *greater than one year before program participation*.
  - **Public benefits receipt.** Must measure pre-intervention (baseline) public benefit receipt *or* socioeconomic status.

Regression methods that incorporate a matching design, which uses statistical methods to create a comparison group that is as similar as possible to the group receiving the program, must match on each of the control variables listed above, or must include them as controls in the regression.

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[3] See http://ies.ed.gov/ncee/wwc/InsidetheWWC.aspx for details.

[4] Another term for this is *degree of financial disadvantage*. This criterion is met if measures in at least two of income, benefit receipt, and education domains are included.

This topic area can also include analyses conducted at the group level (an aggregation of entities, such as institutions, employers, or communities). For group analyses, it is typically necessary to include group-level controls for the same variables as in the individual analyses.

APPENDIX A:
LITERATURE SEARCH

Literature search terms and procedures differ slightly among subtopics within the employment and training topic area. This appendix describes common search and screening considerations for the employment and training subtopics. For all employment and training subtopics, CLEAR restricted its review of employment and training studies to research conducted in the United States, and made selected additions to the literature pool to address gaps in the literature. For example, if the literature search identified an interim report, the team checked to see if a final report was available.

Appendices B through J present search terms and considerations relevant to particular subtopics.

Database search

For most subtopics, CLEAR searched the electronic citation databases listed in Table A.1. Each subtopic-specific appendix lists the electronic citation databases CLEAR searched for that subtopic.

Table A.1. Electronic citation databases

Platform	Database
EBSCO	Academic Search Premier
	E-Journals
	EconLit
	Education Research Complete
	SocIndex with full text
ProQuest Dialog	ERIC
	PsycINFO
ProQuest LLC	ProQuest Dissertations and Theses
SAGE	Sage Journals Online
Scopus	Scopus

In the database search, CLEAR searched for eligible literature using concepts, or groupings of keywords such as impact, outcome, or topic terms. Each concept is linked with all of the other concepts using the Boolean operator AND. Within each concept, the each keyword is linked with all of the other keywords using the Boolean operator OR. The specific set of keywords used in the search for each subtopic are listed in the subtopic-specific appendices below.[5]

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[5] Although CLEAR has defined terms for the employment and training topic area, there are slight differences in the terms used across the subtopic areas. The differences in terms is intended to ensure that the search process is both systematic and sensitive to variations in the terms used within specific topic areas.

Grey literature search

CLEAR performed a custom Google search of the organizational websites listed below to identify additional studies.[6] These sources of research are relevant to the review, but they have restrictions on use of date ranges or on certain fields, so the team followed the search guidelines for each subtopic as closely as possible. Any subtopic-specific differences in this list are detailed in the appendices below.

- Abdul Latif Jameel Poverty Action Lab
- Abt Associates
- Administration for Children and Families
- American Enterprise Institute
- American Institutes for Research
- Association for Public Policy and Management
- Berkeley Policy Associates7
- Booz Allen
- Brookings Institute
- Cato Institute
- Center for Economic Policy and Research
- Center for Law and Social Policy (CLASP)

- Center on Poverty, Work, and Opportunity
- Center for Public Policy and Administration
- Center for Science and Engineering Partnerships
- Center for Study of Urban Poverty
- Congressional Research Service
- Heritage Foundation
- IMPAQ8
- Institute for Policy Studies
- Institute for Policy Studies at Johns Hopkins9
- Institute for Research on Poverty
- Institute for Policy Research at

- Northwestern University
- IZA
- Joblessness and Urban Poverty Research Program
- Joint Center for Political and Economic Studies
- Joint Center for Poverty Research10
- Massachusetts Budget and Policy Center
- Mathematica
- MDRC
- National Bureau of Economic Research
- National Center for Children in Poverty
- National Center for Health Research
- National Center for Policy Analysis[11]

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[6] Because of its partnership with another systematic review, the low-income adults subtopic examined a shorter list of websites for the grey literature search for consistency with the other systematic review. See Appendix B for details.

[7] Searches conducted in 2014 or earlier included this website. Searches conducted after 2014 did not include this website because the organization was acquired by another organization and the website no longer exists.

[8] Searches conducted in 2019 or earlier included this website. Searches conducted since 2020 did not include this website because the organization was acquired by another organization and the website no longer exists.

[9] Searches conducted in 2014 or earlier included this website. Searches conducted after 2014 did not include this website because the institute no longer exists under the same name.

[10] Searches conducted since 2010 did not include this website because the organization no longer exists.

[11] Searches conducted prior to 2017 include this website. Searches conducted after 2017 did not include this website because the organization no longer exists.

- National Poverty Center
- NORC at the University of Chicago
- Pacific Research Institutes
- Public Policy Associates
- RAND Corporation
- Ray Marshall Center
- Resources for the Future
- RTI International
- Social Policy Research Associates

- SRI International
- Stone Program in Wealth Distribution, Inequality, and Social Policy at Harvard Kennedy School[12]
- The Center on Poverty and Inequality at Georgetown University
- The Center on Poverty and Inequality at Stanford University

- University of Kentucky Center for Poverty Research
- Urban Institute
- U.S. Bureau of Labor Statistics
- U.S. Department of Labor
- U.S. Department of Labor Employment & Training Administration Research Database
- U.S. Government Accountability Office

CLEAR also performed keyword searches of research clearinghouses and working paper databases housed on the following publicly available websites: The Campbell Collaboration, NBER Working Papers, RePEc, Self-Sufficiency Research Clearinghouse, and Social Science Research Network. Relevant details are provided in the subtopic-specific appendices.

Snowball search

CLEAR conducted snowball searches using previously identified relevant articles, citations, or authors. The subtopic-specific appendices contain the snowball reference lists used for those subtopics.

Intervention name search

CLEAR also conducted Google Scholar searches in subtopics for which we had a list of specific intervention/program names. The subtopic-specific appendices contain the intervention/program name keywords used for those subtopics.

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[12] Formerly known as the Harvard Kennedy School Multidisciplinary Program in Inequality and Social Policy.

APPENDIX B:
LOW-INCOME ADULTS SUBTOPIC

For this subtopic, CLEAR collaborated with the Employment Strategies for Low-Income Adults Evidence Review (ESER)[13], sponsored by the Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. Therefore, CLEAR aligned the search strategy for the low-income adults topic area with the strategy for ESER.

ESER used a keyword search (see terms in Table B.1) to examine studies' titles and abstracts, and identified all studies that had at least one search term aligned with each of the eligibility criteria. ESER searched the following electronic citation databases: Academic Search Premier, APA PsycINFO, Business Source Corporate Plus, EconLit, Education Research Complete, E-Journals, ERIC, ProQuest Dissertations and Theses, Scopus, and Sociology Source Ultimate with full text. ESER also circulated a call for papers in May 2014, and CLEAR included any relevant studies submitted in response to that call.

CLEAR includes publications from 1990 through April 2014, to be consistent with ESER. In addition, CLEAR conducted further searches, using the approach defined by ESER, to identify literature published through the end of 2021.

Table B.1. Keywords used in database search for low-income adults subtopic

Concept	Keywords
Design terms	Effect*, causal, impact, implement*, descript*, correlate*, trend*
Outcome terms	Employ*, job, occupation, earning*, wage*, work*
Keyword terms	low-income, disadvantaged, TANF, homeless, ex-offender, disabled

Note:An asterisk indicates a truncation. When used in a search term, all words with the root will be returned. For instance, a search on "effect*" will return citations with the words that have "effect" as the first six letters, including "effect," "effects," "effective," and "effectiveness."

Implementation studies that also include impact analyses, which received a high or moderate causal evidence rating from CLEAR, may be included in this subtopic.

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[13] ESER is the predecessor to the Pathways to Work Evidence Clearinghouse (see https://pathwaystowork.acf.hhs.gov/).

ESER searched the following list of sources for grey literature:

- Abdul Latif Jameel Poverty Action Lab
- Abt Associates
- Administration for Children and Families
- Center for Law and Social Policy
- Center on Poverty and Inequality at Georgetown Law
- Center for Study of Urban Poverty
- Employment & Training Administration Research Database
- Impaq Associates
- Institute for Policy Research
- Institute for Research on Poverty
- IZA
- Joblessness and Urban Poverty Research Program
- Mathematica Policy Research
- MDRC
- Multidisciplinary Program in Inequality and Social Policy
- National Center for Children in Poverty
- National Center for Health Research
- National Poverty Center
- NORC
- RAND Corporation
- Ray Marshall Center
- RTI International
- Social Policy Research Associates
- The Stanford Center on Poverty and Inequality
- University of Kentucky Center for Poverty Research
- W.E. Upjohn Institute
- Urban Institute

The search used an abbreviated set of terms to find relevant literature: (Employ* OR job OR occupation OR earning* OR wage* OR work*) AND (low-income OR disadvantaged).
ESER applied some additional screening criteria, which CLEAR also used for this subtopic (with one exception; see item 3 below), as follows:

1. **Served low-income adults.** The review considered certain specific groups (homeless people, formerly incarcerated people, and public benefit recipients) to be generally low income. If the study did not focus on these groups, the author must have declared or shown the study sample to be low income for the study to be eligible for review. The review focused on programs intended to serve individuals age 18 or older at the time of enrollment.

2. **Served individual job seekers.** Studies that examined policies or actions that affected communities, such as enterprise zones, or employers, such as tax credits for hiring disadvantaged workers, were not eligible for the review.

3. **Was a defined, replicable employment program.** Eligible studies articulated the services job seekers received so that others could implement them. Research on a state's welfare-to-work program met this criterion because such programs typically consist of specific combinations of strategies such as job search assistance and financial incentives that would be replicable. But national studies of "welfare

reform" were not eligible because states had substantial flexibility in implementing welfare reform, so these studies did not examine a defined and replicable program. CLEAR relaxed this criterion so that important workforce development programs that are not necessarily replicable (such as Workforce Investment Act Adult Programs) could be included in the review.

APPENDIX C:
JOB SEARCH ASSISTANCE SUBTOPIC

For the job search assistance subtopic, CLEAR used the following definition of job search assistance services: services designed to prepare job seekers for work, other than education and training. These could include identifying employment barriers, skills, and interests; assistance designing a resume and cover letter; job development or job placement; job clubs or job readiness workshops; job shadowing; work experience; and developing an individual employment plan. This definition informed the keyword search strategy documented in Table C.1.

CLEAR applied the search parameters and screening criteria described in the body of the Employment and Training protocol.

- Searches were conducted to find literature from 2005 through 2014.

- Interventions were considered eligible if they met the definition of a job search assistance strategy and the job search assistance strategy was the defining characteristic of the intervention. This means that interventions that offered job search assistance as one component of a broader intervention were not necessarily included in this subtopic.

- The domains and outcomes examined followed those specified in the Employment and Training protocol; no additional domains or outcomes of interest were included in the review.

Table C.1. Keywords used in database search for job search assistance subtopic

Concept	Keywords
Design terms	regression, quasi-experiment, quasiexperiment*, nonexperimental, non-experimental, experimental, cause, causa*, statistical*, random* (w/2 assign*), random* (w/2 trial), correlat*
Impact terms	Efficac*, effect*, impact, benefit, improve*, progress, growth, increase, gain
Outcome terms	Reemploy*, re-employ*, employ*, earning*, wage*, self-sufficien*, job, work*, occupation, pay,
Keyword terms	Job search assistance, job service*, reemployment service, re-employment service, career assessment, interest assessment, soft skills training, resilience training, job matching, job development, job opportunit*, job readiness, structured job search, job search workshop, job club*, job finding club*, job network*, employment plan*, job shadow*, career service*, employment service*, job posting*, labor exchange*

Note: An asterisk indicates a truncation. When used in a search term, all words with the root will be returned. For instance, a search on "effect*" will return citations with the words that have "effect" as the first six letters, including "effect," "effects," "effective," and "effectiveness."

Citations used for snowballing

Greenberg, D., & Robins, P. (2010). *Have welfare-to-work programs improved over time in putting welfare recipients to work?* Discussion Paper no. 1388-10. Madison, WI: Institute for Research on Poverty.

Holzer, H. (2012). *Going, going… gone? The evolution of workforce development programs for the poor since the war on poverty*. Available online.

Holzer, H. (2013). *Good workers for good jobs: Improving education and workforce systems in the US.* Discussion paper no. 1404-13. Madison, WI: Institute for Research on Poverty.

Hossain, F. (2015). S*erving out-of-school youth under the Workforce Innovation and Opportunity Act (2014)*. New York: MDRC.

Klerman, J., Koralek, R., Miller, A., & Wen, K. (2012). *Job search assistance programs: A review of the literature* (OPRE Report no. 2012-39). Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

Lerman, R., Acs, G., & Bir, A. (2007). *An economic framework and selected proposals for demonstrations aimed at strengthening marriage, employment, and family functioning outcomes*. Washington, DC: The Urban Institute Center on Labor, Human Services, and Population.

APPENDIX D:
ENTREPRENEURSHIP AND SELF-EMPLOYMENT TRAINING SUBTOPIC

For the entrepreneurship and self-employment training subtopic, CLEAR used the following definition of entrepreneurship or self-employment training: training in business start-up and management, or seed money to start a small business. This definition informed the keyword search strategy documented in Table D.1.

CLEAR applied the search parameters and screening criteria described in the body of the Employment and Training protocol.

- Searches were conducted to find literature from 2005 through 2014.

- In addition to the domains and outcomes specified in the Employment and Training protocol, the reviews included employment and earnings outcomes specifically in self-employment (as distinct from wage and salary employment and earnings); measures of entrepreneurship and business start-up; and attitudes, behaviors, and intentions to start a business.

Table D.1. Keywords used in database search for entrepreneurship and self-employment training subtopic

Concept	Keywords
Design terms	regression, quasi-experiment, quasiexperiment*, nonexperimental, non-experimental, experimental, cause, causa*, statistical*, random* (w/2 assign*), random* (w/2 trial), correlat*
Impact terms	Efficac*, effect*, impact, benefit, improve*, progress, growth, increase, gain
Outcome terms	Business owner*, work*, occupation, wage*, self-sufficien*, earning*, employ*, reemploy*, re-employ*, job, business establ*, business creation, persist*, survival, business growth, business expansion, global competitiveness, job creation, patents, layoff aversion, venture capital, technology transfer, innovation
Keyword terms	Entrepreneur*, self-employ*, financing assistance, business counseling, needs assess*, business development, microgrant*, seed capital, microloan, microenterprise, micro-enterprise, enterprise

Note: An asterisk indicates a truncation. When used in a search term, all words with the root will be returned. For instance, a search on "effect*" will return citations with the words that have "effect" as the first six letters, including "effect," "effects," "effective," and "effectiveness."

Citations used for snowballing

Benus, J., Shen, T., Zhang, S., Chan, M., & Hansen, B. (2009). *Growing American through entrepreneurship: Final evaluation of Project GATE*. Columbia, MD: IMPAQ International, LLC.

Gale, W., & Brown, S. (2013). *Small business, innovation and tax policy: A review*. Retrieved from Available online.

Martin, B., McNally, J., & Kay, M. (2013). Examining the formation of human capital in entrepreneurship: A meta-analysis of entrepreneurship education outcomes. *Journal of Business Venturing, 28*(2), 211-224.

APPENDIX E:
APPRENTICESHIP/ON-THE-JOB TRAINING SUBTOPIC

For the apprenticeship/on-the-job training subtopic, CLEAR used the following definitions of apprenticeship/on-the-job training: a system of training practitioners of a trade or profession with on-the-job training and often some accompanying study (classroom work and reading). Most training is done while working for an employer, often in exchange for the employee's continued labor for an agreed period after the employee has achieved measurable competencies. This definition informed the keyword search strategy documented in Table E.1. CLEAR applied the search parameters and screening criteria described in the body of the Employment and Training protocol.

- Searches were conducted to find literature from 2005 through 2014.

- The domains and outcomes examined followed those specified in the Employment and Training protocol; no additional domains or outcomes of interest were included in the review.

- The apprenticeship/on-the-job training subtopic focused on research about entry-level workers. Research that focused on these types of experiences for incumbent workers was not included in the topic area.

Table E.1. Keywords used in database search for apprenticeship/on-the-job training subtopic

Concept	Keywords
Design terms	regression, quasi-experiment*, quasiexperiment*, nonexperimental, non-experimental, experimental, cause, causa*, statistical*, random* (w/2 assign*), random* (w/2 trial), correlat*
Impact terms	Efficac*, effect*, impact, benefit, improve*, progress, growth, increase, gain
Outcome terms	Credential, certificat*, employ*, job, occupation, earning*, wage*, work*, pay, journeyman, return on investment, completion rate, skilled workforce, skilled worker, career advancement
Keyword terms	Apprentic*, OJT, on the job training, on the job learning, competency based programs, related training instruction, career pathways, industry-driven training, customized training

Note: An asterisk indicates a truncation. When used in a search term, all words with the root will be returned. For instance, a search on "effect*" will return citations with the words that have "effect" as the first six letters, including "effect," "effects," "effective," and "effectiveness."

Citations used for snowballing

Babock, L., Congdon, W., Katz, L., & Mullainathan, S. (2010). *Notes on behavioral economics and labor market policy*. Available online.

Chang, C. (2015). *Can apprenticeship help reduce youth unemployment?* New York: The Century Foundation.

Greenberg, D., & Robins, P. (2010). *Have welfare-to-work programs improved over time in putting welfare recipients to work?* (Discussion paper no. 1388-10). Madison, WI: Institute for Research on Poverty.

Henry, C., Hill, H., & Leitch, C. (2005). Entrepreneurship education and training: Can entrepreneurship be taught? *Education and Training, 47*(98-111).

Holzer, H. (2012). *Going, going… gone? The evolution of workforce development programs for the poor since the war on poverty*. Available online.

Holzer, H. (2013). *Good workers for good jobs: Improving education and workforce systems in the US* (Discussion paper no. 1404-13). Madison, WI: Institute for Research on Poverty.

Hossain, F. (2015). *Serving out-of-school youth under the Workforce Innovation and Opportunity Act (2014)*. New York: MDRC.

Van Horn, C., King, C., & Smith, T. (2011). *Identifying gaps and setting priorities for employment and training research*. New Brunswick, NJ: John J. Heldrich Center for Workforce Development; Edward J. Bloustein School of Planning and Public Policy.

APPENDIX F:
OLDER WORKERS SUBTOPIC

According to U.S. Census Bureau projections, the number of people age 65 and older in the United States will more than double from about 40 million in 2010 to 89 million in 2050.[14] As older workers reach traditional retirement age, many may find that the best way to achieve long-term financial security is to continue working, and those who work longer often claim Social Security benefits later. Employers can benefit from employees who are in the later stages of their career because they tend to have high skill levels, professional networks, and the desire to lead.[15] In addition, efforts to ensure that older workers, including those who are not yet at retirement age, can maintain and update their skills through education and training may improve the prospects of achieving greater financial security for older workers.

CLEAR developed this subtopic area in consultation with Dr. Kevin Cahill, a research economist at the Sloan Center on Aging and Work at Boston College. Dr. Cahill provided input on all aspects of this protocol. CLEAR also consults topic area subject matter experts on issues that arise in conducting reviews and for input on any syntheses of the research in the topic area.

The older workers subtopic area included reviews of studies of interventions that support and improve the employment prospects of workers age 40 and older. Eligibility criteria specific to the older workers subtopic included the following:

- CLEAR searched for literature from 2005 through 2017 for this subtopic.

- Interventions of interest included those designed to support and/or improve the employment prospects and financial security of older workers as well as those that may impact older workers even if not specifically designed for them. These interventions could include, among others, re-training programs offered by employers or the public workforce system; subsidies or other financial incentives offered to employers for retaining workers; government or workplace policies or rules to delay retirement; employer accommodations for older workers with disabilities; and enforcement of anti-age discrimination policies.[16]

- The domains and outcomes examined followed those specified in the Employment and Training protocol;17 in addition, if eligible studies reported on secondary outcomes such as health and well-being or other measures of financial security such as retirement savings for older workers, we included those in our review as long as

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[14] https://www.census.gov/prod/2010pubs/p25-1138.pdf

[15] Pitt-Catsouphes, M., Smyer, M. A., Matz-Costa, C., & Kane, K. (2007). *The national study report: Phase II of the national study of business strategy and workforce development*. Chestnut Hill, MA: Center on Aging and Work at Boston College. Retrieved from http://dlib.bc.edu/islandora/object/bc-ir:100478/datastream/PDF/download/citation.pdf

[16] DOL is interested in studies of broad federal or state policies, such as changes in Social Security rules for older workers and changes in federal tax policies.

[17] Retirement expectation is considered as an eligible outcome for older workers topic area.

the study also included an eligible employment, earnings, education, or public benefit receipt outcome.18

- Because of the particular challenges facing older workers who are long-term unemployed (defined by the Bureau of Labor Statistics as those unemployed and looking for work for 27 weeks or more), CLEAR included the long-term unemployed as a subgroup of interest to the subtopic. This means analyses of older workers who are long-term unemployed will receive a causal evidence rating separate from that of the study overall, and results from the analysis of the subgroup will be reported separately.

CLEAR applied the literature search parameters described in the body of the Employment and Training protocol and Appendix A, with some exceptions. We provide details on the literature search for the older workers subtopic below.

Database search details

Table F.1 lists the electronic databases searched for this subtopic.

Table F.1. Electronic citation databases for older workers subtopic

Platform	Database
EBSCO	Academic Search Premier
	Business Source Corporate
	Cochrane Database of Systematic Reviews
	E-Journals
	EconLit
	Education Research Complete
	SocIndex with full text
ProQuest Dialog	ERIC
	PsycINFO
ProQuest LLC	ProQuest Dissertations and Theses
Scopus	Scopus

Table F.2 lists the keywords used in the database search for the older workers subtopic. CLEAR searched for these keywords in the following database search fields, when possible: title, abstract, subject, and keyword.[19]

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[18] For this subtopic, we considered Social Security retirement benefit receipt to be part of the public benefit receipt domain.

[19] Some databases in the table do not allow searching in all four of these fields.

Table F.2. Keywords used in database search for older workers subtopic

Concept	Keywords
Impact terms	Efficac*, effect*, impact, benefit, improve*, progress, growth, increase, gain; decrease; reduce, assess*, trial*, evaluat*, pilot, examin*, curricul*, estimat*, delay*
Outcome terms	Reemploy*, re-employ*, employ*, earning*, wage*, self-sufficien*; transitional, job*; occupation; pay; reti*; career*, recareer*; re-career*; financial security; income; self-employ*, working longer, bridge job*, pension, disability benefit*, social security, joint retirement, phased retirement, labor force participation, labor supply, labour supply, labor force behavior, labour force behavior
Topic terms	Older work*, aged work*, aging work*, ageing work*, senior citizen, retired work*, retired employee, older employee, aging employee, ageing employee, aged employee, seniors, baby boomer, Generation X, late* career, middle-age*,older adult*, older job seeker*, older Americans, older individuals, elderly work*, elderly employee, elderly labor, elderly labour, age 60, age 61, age 62, age 63, age 64, age 65, age 66, age 67, age 68, age 69, age 70, older men, older women

Note: An asterisk indicates a truncation. When used in a search term, all words with the root will be returned. For instance, a search on "effect*" will return citations with the words that have "effect" as the first six letters, including "effect," "effects," "effective," and "effectiveness."

Grey literature search details

In addition to the organizational websites listed in Appendix A, CLEAR also searched the Harvard Think Tank custom Google search engine and the following websites:

- AARP
- Center for Retirement Research at Boston College
- Michigan Retirement Research Center
- Social Security Administration
- W.E. Upjohn Institute
- Work, Aging and Retirement

CLEAR searched for the following keywords in the grey literature search for the older workers subtopic:

- Older workers
- Older adults
- Older employee
- Aged workers
- Aging workers
- Seniors
- Elderly workers
- Elderly employee
- Impact

- Evaluate
- Employment
- Unemployment
- Retirement
- Labor force participation
- Labor supply
- Earnings
- Income

Citations used for snowballing

Agbayani, C., Gasperini, B., Moore, J., Nanda, N., Patterson, L., & Wandner, S. (2016). *Labor market and DOL-funded employment assistance for older workers: Literature review report*. Washington, DC: U.S. Department of Labor.

Kevin, E., James, J.B., & Pitt-Catsouphes, M. (2015). The impact of a randomly assigned time and place management initiative on work and retirement expectations. *Work, Aging and Retirement, 1*(4), 350-368.

Tishman, F.M., Van Looy, S., & Bruyère, S.M. (2012). *Employer strategies for responding to an aging workforce*. New Brunswick, NJ: NTAR Leadership Center.

Vere, J.P. (2011). Social Security and elderly labor supply: Evidence from the Health and Retirement Study. *Labour Economics, 18*(5), 676-686.

Wandner, S.A., Balducchi, D.E., & O'Leary, C.J. (2015). *Selected public workforce development programs in the United States: Lessons learned for older workers*. Washington, DC: AARP Public Policy Institute.

Zhang, T. (2011). *Workforce Investment Act training for older workers: Toward a better understanding of older worker needs during the economic recovery* (ETA Occasional Paper - ETAOP 2011-10). Washington, DC: U.S. Department of Labor, Employment and Training Administration.

Intervention names

- The Workforce Investment ACT (WIA) Dislocated Worker program
- Individual Training Accounts
- Reemployment and Eligibility Assessment (REA) initiative
- The Senior Community Service Employment Program (SCSEP)
- Alternative Trade Adjustment Assistance (ATAA)
- The Aging Worker Initiative (AWI)
- The Age Discrimination in Employment Act (ADEA)

APPENDIX G:
VETERANS SUBTOPIC

Although the unemployment rate for veterans overall is comparable to that of the civilian population,[20] some veterans face unique challenges related to their service, such as physical or mental health disabilities. These can result in job loss, long-term unemployment and, in some cases, homelessness. A number of programs and policies have been developed to improve veterans' labor-market outcomes, including supported employment programs and various GI bills that provide postsecondary education for qualifying veterans. In addition, the U.S. Department of Labor instituted a priority of service provision whereby veterans receive priority of service for qualified job training programs. The Veterans Employment and Training Service provides grants to state and local workforce investment boards, faith-based and community-based organizations, and other public and private entities to offer programs to help reintegrate homeless veterans or veterans who were previously incarcerated.

CLEAR developed this subtopic area in consultation with Dr. Meredith Kleykamp, an associate professor of sociology and the director of the Center for Research on Military Organization at the University of Maryland. Dr. Kleykamp is a subject matter expert in the determinants and consequences of military service in the United States. Dr. Kleykamp provided input on all aspects of this protocol. CLEAR also consults topic area subject matter experts on issues that arise in conducting reviews and for input on any syntheses of the research in the topic area.

This subtopic focuses on employment and training programs and policies designed specifically for veterans. In this subtopic area, CLEAR described study results for male and female veterans separately, whenever possible. Eligibility criteria specific to the veterans subtopic included the following:

- Searches were conducted to find literature from 1990 through 2017. The publication period begins in 1990 in order to include studies of the military drawdown that began in the late 1980s as well as the period of the first Gulf War.

- Interventions of interest included any education or training program or policy designed to support and/or improve the employment prospects of veterans. These could include, among others, supported employment programs, subsidies or other financial incentives offered to employers for hiring veterans, and employer accommodations for veterans with disabilities.

- The domains and outcomes examined followed those specified in the Employment and Training protocol; in addition, if eligible studies reported on health and well-being and entrepreneurship outcomes for veterans, we included those in our review as long as the study also included an eligible employment, earnings, education, or public benefit receipt outcome.

CLEAR applied the literature search parameters described in the body of the Employment and Training protocol and Appendix A, with some exceptions. We provide details on the literature search for the veterans subtopic below.

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[20] http://www.bls.gov/news.release/pdf/empsit.pdf

Database search details
Table G.1 lists the electronic databases searched for this subtopic.

Table G.1. Electronic citation databases for veterans subtopic

Platform	Database
EBSCO	Academic Search Premier
	Business Source Complete
	Cochrane Database of Systematic Reviews
	E-Journals
	EconLit
	Education Research Complete
	SocIndex with full text
ProQuest Dialog	ERIC
	PsycINFO
ProQuest LLC	ProQuest Dissertations and Theses
Scopus	Scopus

Table G.2 lists the keywords used in the database search for the veterans subtopic. CLEAR searched for these keywords in the following database search fields, when possible: title, abstract, subject, and keyword.[21]

Table G.2. Keywords used in database search for veterans subtopic

Concept	Keywords
Impact terms	benefit, decreas*, effect*, efficac*, gain, growth, impact, improv*, increas*, progress, reduc*
Outcome terms	reemploy*, re-employ*, employ*, unemploy*, earning*, wage*, self-sufficien*, job*, occupation, pay, income, career, reintegrat*, labor, labour, hire, hiring, education*, return-to-work
Topic terms	veteran*

Note: An asterisk indicates a truncation. When used in a search term, all words with the root will be returned. For instance, a search on "effect*" will return citations with the words that have "effect" as the first six letters, including "effect," "effects," "effective," and "effectiveness."

Grey literature search details

In addition to the organizational websites listed in Appendix A, CLEAR also searched the Harvard Think Tank custom Google search engine and the following websites:

- Institute for Veterans and Military Families (IVMF) at Syracuse University

- Penn State University Clearinghouse for Military Family Readiness

- U.S. Department of Veterans Affairs

- USC Center for Innovation and Research on Veterans and Military Families

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[21] Some databases in the table do not allow searching in all four of these fields.

CLEAR searched for the following keywords in the grey literature search for the veterans subtopic:

- veteran
- effective
- effect
- impact
- increase
- decrease
- significant

- employment
- job
- earnings
- wages
- education
- career
- hire

- hiring
- income
- earning
- wage
- pay
- occupation

Citations used for snowballing

LePage, J.P., Lewis, A.A., Crawford, A.M., Parish, J.A., Ottomanelli, L., Washington, E.L., & Cipher, D.J. (2016). Incorporating individualized placement and support principles into vocational rehabilitation for formerly incarcerated veterans. *Psychiatric Services, 67*(7), 735-742.

Stanley, M. (2003). College education and the midcentury GI bills. *Quarterly Journal of Economics, 118*(2), 671-708.

Twamley, E.W., Jak, A.J., Delis, D.C., Bondi, M.W., & Lohr, J.B. (2014). Cognitive symptom management and rehabilitation therapy (CogSMART) for veterans with traumatic brain injury: Pilot randomized controlled trial. *Journal of Rehabilitation Research & Development, 51*(1), 59-69.

Intervention names

- Transition Assistance Program (TAP)
- Veterans Priority of Service (POS)
- Army Partnership for Youth Success (PaYS)
- 2011 VOW to Hire Heroes Act
- Work Opportunity Tax Credit (WOTC)

APPENDIX H:
EMPLOYMENT AND REENTRY FOR FORMERLY INCARCERATED PERSONS SUBTOPIC

Each year, more than 600,000 people are released from state and federal prison and more than 700,000 spend time in local jails.[22] Individuals returning from incarceration face unique challenges reintegrating into society. They may face stigma associated with a criminal record,[23] disruption in their social and family lives,[24] and loss of human capital and connections to social networks,[25] all factors that can influence employment, earnings, and well-being. As a result, about two-thirds of ex-offenders are arrested for a new crime within three years of their release, and more than half return to prison as a result of a new arrest or probation violation.[26] Successful reentry for the formerly incarcerated disrupts the cycle of recidivism, reducing subsequent criminal activity and the associated criminal justice system costs.

CLEAR developed this subtopic area in consultation with Dr. Christy Visher, a professor of sociology and criminal justice and director of the Center for Drug and Health Studies at the University of Delaware. Dr. Visher is a subject matter expert in communities and crime. Dr. Visher provided input on all aspects of this protocol.

CLEAR applied the eligibility criteria and causal evidence guidelines described in the body of the Employment and Training protocol. Criteria specific to the reentry subtopic included the following:

- For the reentry subtopic, CLEAR reviewed research conducted in English in the United States and released from 2000 to 2017. The publication period starts in 2000 in order to cover the period in which there was an emphasis on employment as part of the reentry process and greater use of rigorous research designs.

- Interventions of interest included any reentry, education or training programs, or policies designed to support and/or improve the employment prospects of formerly incarcerated persons or people with justice involvement (even if they were never

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[22] Carson, E.A. (2015). *Prisoners in 2014*. Washington, DC: Bureau of Justice Statistics. Retrieved from https://www.bjs.gov/content/pub/pdf/p14.pdf

Kaeble, D., Glaze, L., Tsoutis, A., & Minton, T. (2015). *Correctional populations in the United States, 2014* (Bureau of Justice Statistics Bulletin NCJ 249513). Retrieved from http://www.bjs.gov/content/pub/pdf/cpus14.pdf

[23] Pager, D. (2003). The mark of a criminal record. *American Journal of Sociology, 108*, 937-975.

Pager, D. (2007). *Marked: Race, crime, and finding work in an era of mass incarceration*. Chicago, IL: University of Chicago Press.

[24] Travis, J., & Waul, M. (2003). *Prisoners once removed: The impact of incarceration and reentry on children, families, and communities*. Washington, DC: The Urban Institute.

Wildeman, C. (2014). Parental incarceration, child homelessness, and the invisible consequences of mass imprisonment. *Annals of the American Academy of Political and Social Science*, *651*(1), 74-96.

[25] Loeffler, C.E. (2013). Does imprisonment alter the life course? Evidence on crime and employment from a natural experiment. *Criminology*, *51*(1), 137-166.

[26] Durose, M.R., Cooper, A.D., & Snyder, H.N. (2014). *Recidivism of prisoners released in 30 states in 2005: Patterns from 2005 to 2010*. Washington, DC: Bureau of Justice Statistics.

incarcerated). For this subtopic, we included interventions targeted to young adults (ages 18 to 24) and/or adults (age 25 and older).These interventions could occur within correctional facilities, in the community, or in both settings. These intervention could include, among others, occupational training programs offered within a correctional facility such as career pathways programs and credentialing programs in high-demand industries; services to ease the transition to post-incarceration employment including trainings and other employment services offered in residential reentry centers; policies aimed at reducing discrimination by employers such as Ban the Box legislation; and subsidies or other incentives offered to employers for hiring individuals with criminal records, such as the Work Opportunity Tax Credit and federal bonding programs. As specified in the broader Employment and Training protocol, interventions whose primary aim is not employment related—such as reducing recidivism or treating mental illness or other issues—were not included.

- The domains and outcomes examined follow those specified in the Employment and Training protocol; in addition, if eligible studies reported on recidivism outcomes for formerly incarcerated individuals, we included those in our review. Recidivism outcomes include but are not limited to arrest, conviction, incarceration, or criminal activity. We defined short-term recidivism outcomes as outcomes within one year, and long-term recidivism outcomes as outcomes greater than one year.

- Studies in the reentry subtopic must control for criminal history by measuring pre-intervention criminal justice involvement or criminal activity.

CLEAR applied the literature search parameters described in the body of the Employment and Training protocol and Appendix A, with some exceptions. We provide details on the literature search for the reentry subtopic below.

Database search details

Table H.1 lists the electronic databases searched for this subtopic.

Table H.1. Electronic citation databases for reentry subtopic

Platform	Database
EBSCO	Academic Search Premier
	Business Source Complete
	Cochrane Database of Systematic Reviews
	E-Journals
	EconLit
	Education Research Complete
	SocIndex with full text
ProQuest Dialog	ERIC
	PsycINFO
ProQuest LLC	ProQuest Dissertations and Theses
Scopus	Scopus

Table H.2 lists the keywords used in the database search for the reentry subtopic. CLEAR searched for these keywords in the following database search fields, when possible (unless noted in the table): title, abstract, subject, and keyword.[27]

Table H.2. Keywords used in database search for reentry subtopic

Concept	Keywords
Impact terms (searched in title and abstract only)	assessment*, benefit, decrease, effect*, efficac*, evaluation*, examin* , gain, growth, impact, improv*, increas*, pilot, progress, reduc*, trial* estimat*
Outcome terms (searched in title and abstract only)	Reemploy*, re-employ*, employment, employer, employee, earning*, wage*, self-sufficien*; job*; occupation; pay; income; career; hire*; hiring
Topic terms	employment, employer, employee, criminal*, court, jail*, prison, correctional, incarcerat*, adjudicat*, probation*, parole*, offense*, diversion, expunge*, "ban the box", "work release," residential reentry center, sheltered employment, pre-release, reentry, "re-entry", recidivism, reintegrat*, re-integrat*
Population terms (searched in abstract only)	justice-involved, court-involved, ex-offender*, offender*, ex-convict*, convict*, ex-prisoner*, inmate*, prisoner*, returning citizen*, court-mandated, court-ordered, incarcerat*, prison

Note: An asterisk indicates a truncation. When used in a search term, all words with the root will be returned. For instance, a search on "effect*" will return citations with the words that have "effect" as the first six letters, including "effect," "effects," "effective," and "effectiveness."

Grey literature search details

In addition to the organizational websites listed in Appendix A, CLEAR also searched the Harvard Think Tank custom Google search engine and the following websites:

- Justice Policy Institute: http://www.justicepolicy.org/index.html
- Justice Research and Policy: http://www.jrsa.org/pubs/index.html
- Vera Institute: https://www.vera.org/
- Counsel of State Governments Justice Center: http://csgjusticecenter.org/nrrc
- What Works in Reentry Clearinghouse: https://whatworks.csgjusticecenter.org/
- Center for Court Innovation: https://www.courtinnovation.org/publications
- Laura and John Arnold Foundation: https://www.arnoldventures.org/
- Prison Policy Initiative: https://www.prisonpolicy.org/reports.html
- Office of Justice Programs: https://www.ncjrs.gov/App/Publications/AlphaList.aspx#
- National Institute of Justice: https://www.nij.gov/publications/Pages/welcome.aspx
- Crime Solutions.gov: https://www.crimesolutions.gov/
- National Criminal Justice Reference Service: https://www.ncjrs.gov/
- Bureau of Justice Statistics: https://www.bjs.gov/research.cfm
- PEW: http://www.pewtrusts.org/en
- Justice Strategies: https://www.justicestrategies.net/

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[27] Some databases in the table do not allow searching in all four of these fields.

- Campbell Collaboration:
  https://www.campbellcollaboration.org/component/jak2filter/?Itemid=1352&issearch=1&isc=1&category_id=101&xf_4[0]=1&xf_8[0]=3&ordering=publishUp
- University of Chicago Crime Lab: https://urbanlabs.uchicago.edu/labs/crime
- Brennan Center for Justice: https://www.brennancenter.org/publications
- Annual Review of Criminology: http://www.annualreviews.org/journal/criminol
- The Russell Sage Foundation working papers:
  https://www.russellsage.org/publications/report-working-paper

CLEAR searched for the following keywords in the grey literature search for the reentry subtopic:

- justice-involved
- court-involved
- offender
- convict
- prisoner
- incarcerated
- reentry
- re-entry
- court-mandated
- court-ordered
- diversion
- expunge
- ban the box
- work release
- reintegration
- employment
- earnings
- earn
- income
- effect
- evaluation
- impact
- estimate

Citations used for snowballing

Cook, P., Kang, S., Braga, A., Ludwig, J., & O'Brien, M. (2015). An experimental evaluation of a comprehensive employment-oriented prisoner re-entry program. *Journal of Quantitative Criminology, 31*(3), 355-382.

Lattimore, P.K., & Visher, C.A. (2014). The impact of prison reentry services on short-term outcomes: Evidence from a multisite evaluation. *Evaluation Review, 37*(3-4), 274-313.

Uggen, C. (2000). Work as a turning point in the life course of criminals: A duration model of age, employment, and recidivism. *American Sociological Review*, *2000*, 529-546.

Zweig, J., Yahner, J., & Redcross, C. (2011). For whom does a transitional jobs program work? Examining the recidivism effects of the center for employment opportunities program on former prisoners at high, medium, and low risk of reoffending. *Criminology & Public Policy, 10*(4), 945-972.

Intervention names

- Center for Employment Opportunities
- Post Release Employment Project
- Project Greenlight
- Serious and Violent Offender Reentry Initiative
- Transitional Jobs Reentry Demonstration

- Prisoner Reentry Initiative
- Incarcerated Veterans Transition Program
- Reintegration of Ex-offenders
- Reentry Employment Opportunities
- UNICOR
- Young Adult Court
- Thinking for a Change
- Transition from Jail to Community
- Risk Needs Responsivity
- Wisconsin Risk Assessment
- Level of Service Inventory Revised
- Integrated Risk and Employment Strategy
- Resource Allocation and Service Matching
- Sectoral Employment and Training Model
- Active Career Exploration Service Model
- Ready4Work
- Alliance for Quality Career Pathways Framework
- Enhanced Transitional Jobs Demonstration
- Young Adult Internship Program
- Subsidized and Transitional Employment Demonstration
- Second Chance Act Demonstration Projects

APPENDIX I:
APPRENTICESHIP/WORK-BASED TRAINING SUBTOPIC

The work-based training subtopic within the broader employment and training topic area focuses on training delivered in the workplace or a job-like setting that may also include related classroom study that occurs outside of the workplace. The work-based training subtopic expands and generalizes the apprenticeship/on-the-job training subtopic, which reviewed literature published between 2005 and 2014,[28] to include all types of work-based training programs. Examples of work-based training include apprenticeships, pre-apprenticeships, internships, mentoring, on-the-job training, integrated education and training, transitional jobs, and subsidized training and employment.[29] Participants can be incumbent workers, students, or unemployed individuals. Providers of work-based training include but are not limited to employers; educational institutions; and federal, state, or local government agencies.[30]

CLEAR originally developed this subtopic area in consultation with Dr. Carolyn Heinrich, the Sid Richardson Professor of Public Affairs, affiliated Professor of Economics, and Director of the Center for Health and Social Policy at the Lyndon B. Johnson School of Public Affairs, University of Texas at Austin. Dr. Heinrich provided input on all aspects of this protocol. CLEAR also consults topic area subject matter experts on issues that arise in conducting reviews and for input on any syntheses of the research in the topic area. CLEAR updated this subtopic review in 2024 to include publications from 2017 through 2023.

Eligibility criteria specific to the apprenticeship/work-based training subtopic included the following:

Searches were conducted to find literature from 2005 through October 2023.

The domains and outcomes examined followed those specified in the Employment and Training protocol; no additional domains or outcomes of interest were included in the review.

CLEAR applied the literature search parameters described in the body of the Employment and Training protocol and Appendix A, with some exceptions. We provide details on the literature search for the apprenticeship/work-based training subtopic below.

Database search details

For the work-based training subtopic, CLEAR searched the electronic citation databases listed in Table I.1.

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[28] See Appendix E.

[29] Studies of supported employment interventions targeting people with disabilities are not included in the work-based training subtopic.

[30] The definition and examples of work-based training used here are informed by the following sources: https://cte.ed.gov/wbltoolkit/; http://www.mdrc.org/sites/default/files/Subsidized_employ_020113.pdf; https://www.gov.uk/guidance/professional-development-for-work-based-learning-practitioners-apprenticeships

Table I.1. Electronic citation databases

Platform	Database
EBSCO	Academic Search Premier
	Business Source Complete
	Cochrane Database of Systematic Reviews
	E-Journals
	EconLit
	Education Research Complete
	SocIndex with full text
ProQuest Dialog	ERIC
	PsycINFO
ProQuest LLC	ProQuest Dissertations and Theses
Scopus	Scopus

Table I.2 lists the keywords used in the database search for the older workers subtopic. CLEAR searched for these keywords in the title and abstract fields.

Table I.2. Keywords used in database searches for work-based training subtopic

Concept	Keywords
Design terms	Causal, evaluation*, experiment*, random*, regression, quantitative, quasi*, statistical
Outcome terms	career advance*, certificat*, completion rate, credential, earning*, employ*, journeyman, productiv*, re-employ*/reemploy*, retention, return on investment, skills, wage*, promot*
Impact terms	Effect*, impact*, improv*, gain, growth, increase, benefit
Keyword terms	apprentic*, pre-apprentic*, pre apprentic*, preapprentic*, "registered apprenticeship" AND competency-based occupat*, national occupational framework, work-based training, work-based learning, work based learning, work based training, career-focused education, career focused education, career pathways, cooperative education, internship, hands-on learning, hands on learning, job shadowing, learning by doing, OJT, on-the-job training, on-the-job learning, on the job training, on the job learning, paid work experience, workplace education, workplace learning, related training instruction, customized training, supported employment, subsidized employment, school-based/school based enterprise, sectoral program, transitional job, "training and sector*", "training and vocation*"

Note: An asterisk indicates a truncation. When used in a search term, all words with the root will be returned. For instance, a search on "effect*" will return citations with the words that have "effect" as the first six letters, including "effect," "effects," "effective," and "effectiveness."

[a] CLEAR originally included supported employment interventions in the work-based training subtopic area, so we included supported employment as a literature search term. However, supported employment studies are no longer included in this subtopic area.

Grey literature search details

CLEAR conducted a search of the organizational websites listed in Appendix A of the Employment and Training topic area protocol using the following search terms: work-based training, work-based learning, workplace learning, on-the-job training OR OJT, employer-provided training, apprentic*.

Citations used for snowballing

2024 Update

Butrica, B.A., Sattar, S., Jones, E., Sotelo, V. and L. Rosenberg (2023). A review of the literature on registered apprenticeships. Washington, DC: Urban Institute.

Butrica, B. A., Kuehn, D. & Sirois, M. (2023). Women in apprenticeships and nontraditional occupations in the United States: Apprenticeship evidence-building portfolio. Washington, DC: Urban Institute.

Gallup, A. (2024). What we know about registered apprenticeship: A systematic review and synthesis of 30 years of empirical research. *Economic Development Quarterly* 38(1), 25-39.

Harrington, A. R. R., Sattar, S., & Eyster, L. (2022). Understanding the capacity of state apprenticeship systems: Apprenticeship evidence-building portfolio (Research Report). Prepared for the U.S. Department of Labor, Chief Evaluation Office. Washington, DC: Urban Institute.

Kuehn, D., Payne, J., Trutko, J., & Trutko, A. (2023). Youth apprenticeship in the United States. Washington, DC: The Urban Institute.

Manzo, Jill, Frank Manzo, and Robert Bruno. 2019. The Impact of construction apprenticeship programs in Minnesota: A return-on-investment analysis. Champaign: University of Illinois at Urbana–Champaign.

Miller, T. Y. (2022). Factors that influence high school students' postsecondary career decision in a guaranteed-tuition based school district. (Doctoral dissertation, Western Michigan University).

Social Policy Research Associates (2020). Funding inclusive apprenticeships: Strategies for braiding, blending and aligning resources. Washington, DC: U.S. Department of Labor, Office of Disability Employment Policy.

Walton, D., Gardiner, K. N., & Barnow, B. (2022). Expanding apprenticeship to new sectors and populations: The experiences and outcomes of apprentices in the American apprenticeship initiative. Prepared for the U.S. Department of Labor, Employment and Training Administration. Rockville, MD: Abt Associates

Original Search

Bartel, A. (1995). Training, Wage Growth, and Job Performance: Evidence from a Company Database, *Journal of Labor Economics, 13*(3), 401-425.

Bell, S. H., & Orr, L. L. (1994). Is subsidized employment cost effective for welfare recipients? Experimental evidence from seven state demonstrations. *Journal of Human Resources*, 42-61.

Lerman, R., F. Kramer, & J. Pedroza. (2008). Retrospective on Registered Apprenticeship: A review of program initiatives and their policy implications. A report to the Office of Apprenticeship, U.S. Department of Labor. Washington, DC: Urban Institute.

U.S. Department of Labor. (2014). What Works in Job Training: A Synthesis of the Evidence. Washington, DC: U.S. Department of Labor.

Intervention names

CLEAR also conducted a customized Google Scholar search for specific program names:

- Apprenticeship 2000
- IBM New Collar
- CareerWise
- Apprenticeship Carolina
- Partnership on Inclusive Apprenticeship
- PAY Check Program
- Manufacturing Careers Internship Program
- SEIU Early Educator Apprenticeships
- YouthBuild

APPENDIX J:
LITERACY SUBTOPIC

CLEAR's literacy subtopic reviews the quality of existing causal research on the effectiveness of literacy interventions for adults, including English-language learners that are designed to improve reading, writing, technological/digital and financial skills and impact employment and earning outcomes. Low literacy levels are linked to poverty, low wages, and unemployment.[31] Eligibility criteria specific to the literacy subtopic included the following:

- The review includes studies published since January 2000 to ensure inclusion of eligible digital literacy literature, much of which was published between 2000 and 2004.

- Interventions of interest included those designed to support and/or impact employment-related outcomes for participants. These interventions may include English as a Second Language (ESL) training programs designed to improve spoken and written English, basic skills programs for job seekers, job-specific vocabulary instruction for new employees, financial literacy education, and computer or digital literacy education.

- The domains and outcomes examined follow those specified in the Employment and Training Protocol; no additional domains or outcomes of interest were included in the review. Outcomes related to changes in attitude, beliefs, knowledge, skills, behaviors, or perceptions of ability in financial or digital literacy are not included.

- Studies solely focused on educational outcomes are not included. The exception is outcomes related to improvements in reading and writing skills for adults with limited English proficiency. These are included as secondary outcomes.

- The review includes studies of programs serving adults aged 18 and over.

CLEAR applied the literature search parameters described in the body of the Employment and Training protocol and Appendix A with some exceptions. We provide details on the literature search for the literacy subtopic below.

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[31] https://proliteracy.org/Resources/Adult-Literacy-Facts

Database search

For the literacy subtopic, CLEAR searched the electronic citation databases listed in Table J.1.

Table J.1. Electronic citation databases

Platform	Database
EBSCO	Academic Search Premier
	Business Source Corporate Plus
	Education Research Complete
	E-Journals
	PsycINFO
	SocINDEX with full text
ProQuest Dialog	EconLit
	ERIC
	ProQuest Dissertations and Theses
Scopus	Scopus

Table J.2 lists the keywords used in the database search for this subtopic. CLEAR searched for these keywords in the title and abstract fields.

Table J.2. Keywords used in database searches for literacy subtopic

Concept	Keywords
Design terms	causal, evaluation, experiment*, quantitative, quasi experiment*, quasi-experiment*, random*, regression, statistical*
Impact terms	effect*, efficac*, impact, improve*, progress, gain, growth, increase, benefit
Outcome terms	employ*, job, occupation*, work*, career, earning*, pay, wage*, income, saving*, credential*, certificat*, degree, career advancement, promotion, productivity
Keyword terms	(adult* and (literacy or read* or writ* or listen* or speak* or "basic skills" or "financial education" or "English language learner*" or "English as a second language" or "ESL" OR "English for speakers of other languages" OR "ESOL" OR "English learner*" OR "language minorit*" or "limited english proficien*" or "limited english speak*" or "non English speak*" or "vocational english as a second language" OR "VESL" OR immigrant* or refugee*))

Note: The asterisk indicates a truncation. When used in the search term, all words with the root will be returned. For example, the root "employ" would include terms leading with employ (e.g., employment, employees, employee training).

Grey literature search

CLEAR also searched an identified list of organizational internet websites using a limited set of keywords. This search identified studies that have not been published, such as technical reports from government agencies or working papers, and studies not available through the database search. In addition to the organizations listed in Appendix A, this list includes:

- American Association of Adult and Continuing Education (AAACE)
- Avar Consulting
- Center for Applied Linguistics
- Consumer Financial Production Bureau (CFPB)
- Council for Adult and Experiential Learning (CAEL)
- Financial Literacy and Education Commission (FELC)
- Information Resources Management Association
- JBS International
- Management Systems International
- Migration Policy Institute
- National Center for the Study of Adult Learning and Literacy (NCSALL)
- National Coalition for Literacy (NCL)
- National Institute for Literacy
- Organisation for Economic Co-operation and Development (OECD)
- Pew Research Center
- Westat

The search strategy for these websites used a search string of literacy AND (employment OR job OR earning OR certification OR income OR credential OR productivity) -health -"early literacy" -child -news with a set date range of 2000 through 2018. The search also was limited to studies published in English and conducted in the United States or its territories.

Citations used for snowballing

Beder, H. (1999). *The outcomes and impacts of adult literacy education in the United States*. Cambridge, MA: National Center for the Study of Adult Learning and Literacy.

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Intervention names

- Adult Education Literacy (AEL) Program
- Boston SkillWorks
- Centers for Working Families, Local Initiatives Support Corporation (LISC)/Chicago
- Community and Technical Colleges Adult Basic Education (ABE)
- English @ Work
- Equipped for the Future (EFF) project
- Family Independence Initiative
- Opportunity Grants Pilot Program
- Southwest Organizations Unifying Resources for Community and Employees (The SOURCE)
- Supplemental Workforce Fund for Basic Skills – New Jersey