

Achieving competitive, customized employment through specialized services for Veterans with spinal cord injuries (ACCESS-Vets): A randomized clinical trial protocol

Lisa Ottomanelli^{a,b,*}, Tammy Jorgensen Smith^b, Bridget A. Cotner^{a,c}, Peter A. Toyinbo^a, Hari H. Venkatachalam^a, Scott McDonald^{d,e,f}, Lance Goetz^{e,g}, Julie Cessna-Palas^a, Samantha Mendelson^a, Christina J. Dillahunt-Aspillaga^b, Areana Cruz^{a,b}, Liron McCauley^h and Bradford S. Pierce^a

^a*James A. Haley Veterans' Hospital and Clinics, Tampa, FL, USA*

^b*Department of Rehabilitation and Mental Health Counseling, College of Behavioral and Community Sciences, University of South Florida, Tampa, FL, USA*

^c*Department of Anthropology, University of South Florida, Tampa, FL, USA*

^d*Mental Health Service, Central Virginia VA Health Care System, Richmond, VA, USA*

^e*Department of Physical Medicine and Rehabilitation, School of Medicine, Virginia Commonwealth University, Richmond, VA, USA*

^f*Department of Psychology, College of Humanities and Sciences, Virginia Commonwealth University, Richmond, VA, USA*

^g*Spinal Cord Injury and Disorders Service, Central Virginia VA Health Care System, Richmond, VA, USA*

^h*Central Virginia VA Health Care System, Richmond, VA, USA*

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Abstract.

BACKGROUND: To date, the Individual Placement and Support (IPS) model is the only vocational intervention that has been rigorously studied and shown to be effective with Veterans with spinal cord injury (SCI). Customized Employment (CE) is an innovative vocational intervention with promising results among people with disabilities which has yet to be tested in persons with SCI.

OBJECTIVE: To determine whether a Customized Employment (CE) intervention adapted for SCI rehabilitation is more effective than the standard care (IPS) for helping Veterans with SCI obtain and maintain employment.

*Address for correspondence: Lisa Ottomanelli, James A. Haley Veterans' Hospital and Clinics, 13000 Bruce B. Downs Blvd, Tampa, FL 33612-4745, USA. E-mail: lisa.ottomanelli@va.gov.

METHODS: A 4-year, 2-site randomized clinical trial (RCT) with concurrent mixed methods using an intent-to-treat (ITT) approach. The primary outcome is competitive integrated employment as defined by the Work Innovation and Opportunity Act. Secondary outcomes are employment indicators, quality of life (QOL), and participation.

RESULTS: This is a methods paper so there are no results to present at this time.

CONCLUSION: The proportion of Veterans who attain employment will be greater for the CE group than the IPS group and they will outperform the IPS group on other employment-related metrics (e.g., higher job satisfaction, wages, and retention). Employed Veterans will demonstrate significant improvements in self-sufficiency, QOL, and participation. Qualitative data obtained from interviews will assist with adaptation strategies and will identify barriers to implementing CE.

Keywords: Customized employment, disability, randomized clinical trial, spinal cord injury, supported employment, Veterans, vocational rehabilitation

1. Introduction

1.1. Background

Restoring employment is critical for Veterans with spinal cord injury (SCI). People with SCI view gainful employment as key to social reintegration (Cotner et al., 2018, Ottomanelli, O'Connor, Njoh et al., 2018; Hilton et al., 2018). Central to social participation, employment is a feature of overall functioning according to the International Classification of Functioning, Disability, and Health (World Health Organization, 2013). In a recent study of a large national cohort of Veterans with SCI (N=1,047) treated by the Veterans Health Administration (VHA), less than 10% were currently employed (Goetz et al., 2018). This unemployment rate is alarming because it is associated with decreased quality of life (QOL) (Krause et al., 2012; O'Neill & Ottomanelli, 2018) and increased mortality, including suicide (Kennedy & Garmon-Jones, 2017). Employment improves QOL, well-being, and independence. Employed Veterans with SCI have greater social integration, productivity, and participation (Ottomanelli et al., 2013), all highly valued outcomes for Veterans (Cotner, Ottomanelli, O'Connor, Njoh et al., 2018).

The VHA Vocational Rehabilitation Service provides recovery-oriented clinical services for Veterans with disabilities for whom the primary objective is competitive employment (Department of Veterans Affairs, 2019). Department of Veterans Affairs medical centers have Compensated Work Therapy programs offering Supported Employment (SE) and other vocational programs. In a recent study of Compensated Work Therapy for Veterans with mental health disabilities (N=38,199) (Abraham et al., 2017), competitive employment outcomes were modest, but the highest rates resulted from emphasizing community employment. Research is needed to

assess modifiable factors in VHA vocational services and to evaluate effective private sector vocational services not yet available within VHA (Drebing et al., 2012).

For Veterans with SCI, the Individual Placement and Support (IPS) model of SE (Roels et al., 2016; Trenaman et al., 2014), which integrates vocational services into rehabilitation and health care, demonstrates the best outcomes (Bond & Drake, 2014; Ottomanelli et al., 2009, 2012). IPS includes rapid job search and job development guided by consumer preferences, benefits counseling, and time-unlimited supports (Marshall et al., 2014). In two multi-center VHA studies of IPS for Veterans with SCI, employment rates were 25 and 43% (Ottomanelli et al., 2012, 2017). Although significantly better than usual care, these rates are lower than those for persons with mental health disabilities who receive IPS. After SCI, significant comorbidities and impairments likely contributed to a lower employment rate than other populations. Despite SE, Veterans with SCI take longer to locate and secure a job, and the majority do not obtain competitive employment (Post et al., 2020).

1.2. Customized employment as an innovative strategy to address barriers

Customized Employment (CE), a vocational rehabilitation intervention for people with complex disabilities (Smith et al., 2017) and an evolution of SE (Griffin et al., 2008), is “a flexible process designed to personalize the employment relationship between a job seeker and an employer in a way that meets the needs of both” (Office of Disability Employment Policy, 2002). It involves additional customization of job responsibilities and the workplace environment (Wehman et al., 2018) and a Discovery process that identifies individual interests, skills, and support needs prior to the job search. Personal

networks and interpersonal relationships (social capital) are leveraged to forge workforce connections and engage a natural support system. CE emphasizes employer engagement to match specific needs of targeted employers with an individual's skills and talents and ensures "the provision of reasonable accommodations and supports necessary for the individual to perform the functions of a job that is individually negotiated and developed" (Disability Employment Policy Office, 2002). The comprehensive process also integrates disability benefits analyses to identify appropriate work incentives and to enable informed decision-making on the part of the job seeker. CE strategies of employment matching and employment customization may provide additional means to help Veterans with SCI overcome employment barriers.

Discovery is the foundation of CE and distinguishes it from other employment interventions (Inge et al., 2018). Qualitative interviewing and observation are used to discover strengths and employability by interacting with the jobseeker, support systems, and communities to customize competitive, integrated employment (Workforce Innovation and Opportunity Act, 2014). Hence, CE differs from current practices by: (1) engaging the jobseeker in Discovery prior to initiating job development, (2) aligning with qualitative research approaches, and (3) relying heavily on social capital to connect job seekers with employment opportunities. Engaging Veterans in their natural social contexts using these distinctive CE strategies could enhance employment outcomes for Veterans with complex disabilities who need more intensive and customized services to address their unique employment barriers.

1.2.1. State of the science on customized employment

Despite the longstanding availability of CE, it has only recently become available through public vocational rehabilitation and VA systems. Although evidence indicates CE may be a promising strategy to support employment among persons with complex disabilities, it has not yet established the threshold of an evidence-based practice (Smith et al., 2019; Wehman et al., 2016; Citron et al., 2008; Luecking et al., 2008; Ellison et al., 2008; Luecking et al., 2006; Staines et al., 2004). Early studies, funded through the Office of Disability Employment Policy, showed promise for CE and informed Workforce Innovation and Opportunity Act legislation (Rogers et al., 2008; Riesen et al., 2015; Wehman et al.,

2016). More recently, the Achieving Competitive Customized Employment through Specialized Services (ACCESS) intervention was developed as part of a National Institute of Mental Health (NIMH) pilot study to test a CE intervention for its utility in improving competitive employment outcomes for adults with autism spectrum disorders (Smith et al., 2019). The ACCESS model protocolizes the CE process and integrates a fidelity instrument, the Benchmarks of Quality Checklist (BQC), to measure the level of adherence to the CE process at the individual participant level. In Phase 1, open trial (N=10), the study tested feasibility and acceptability of ACCESS. During the open trial, 100% of those who completed the ACCESS intervention achieved competitive integrated employment outcomes that align with the job seekers' interests, skills, and talents. Phase 2 preliminary data analyses show linear increases in competitive, integrated employment rates, average weekly hours worked, and hourly wages (Smith et al., in development).

A recent review of the literature identifies 18 studies that 1) were published in a peer-reviewed journal; 2) clearly stated a research question or objective related to CE; and 3) included a summary of quantitative or qualitative data regarding employment outcomes or procedures (Riesen et al., 2022). Findings indicated that most CE research remains descriptive in nature, is not well defined, relies on small sample sizes with homogeneous populations, and has a shortage of RCT studies (Riesen et al., 2022). Furthermore, additional research is needed to determine which CE elements lead to competitive, integrated employment outcomes, and to examine how CE services impact people with disabilities (Inge et al., 2022; Riesen et al., 2022). Inconsistent implementation of the CE process has created an additional barrier to fully understanding this service strategy (Inge et al., 2022). In summary, while study findings support CE as a promising intervention to improve employment outcomes, future studies will benefit from increased scientific methodological rigor to establish a solid foundation of evidence of its effectiveness for Veterans with disabilities.

1.3. Critical gaps in the literature

There is consensus by vocational researchers and implementation experts in both the private sector and VHA that further research is needed on specifying and defining the evidence-based practices for

CE (Inge et al., 2018) by: (1) evaluating how Discovery could translate into provision of ongoing job supports after job acquisition to ensure job retention, (2) determining how to train CE providers on the use of qualitative interviewing and participant observation skills and how to ensure fidelity when implementing CE, and (3) understanding how to facilitate the use of social networks (social capital) to improve employment outcome. These recommendations are consistent with the call for research among VHA vocational experts and researchers who state that CE is one of the most promising directions in the field and warrants study within the VHA (Drebing et al., 2012, 2018; Drebing et al., 2012; Staines et al., 2004; Wewiorski et al., 2018). Specifically, future vocational research in VHA is recommended on (1) efficacy of CE with a range of target populations, and (2) development and inclusion of fidelity measures assessed at the participant level.

To address these gaps, the ACCESS-Vets study will evaluate the effectiveness of CE in VHA for Veterans with SCI. The purpose of this study is to determine whether a Customized Employment (CE) invention adapted for SCI rehabilitation is more effective than standard care (IPS) for helping Veterans with SCI obtain and maintain employment. Specifically, this study examines the effects of a Veteran-driven CE intervention adapted from the studies of Achieving Competitive Customized Employment through Specialized Services (ACCESS) model with SCI. As the next step in developing evidence on CE, this research will evaluate whether CE can be adapted for use with fidelity within VHA vocational services. This mixed methods study will address knowledge gaps by obtaining data on (1) the CE process from Discovery through ongoing job supports and its impact on outcomes; (2) how standardized training in qualitative skills and well-specified benchmarks facilitate CE fidelity; and (3) how CE, including the use of social networks, reduces barriers to employment goals. This study is innovative in examining CE within healthcare and will determine whether collaboration between CE providers and VA rehabilitation teams strengthens CE practice and reduces or eliminates barriers to employment for Veterans with SCI. The goal of this paper is to present the methods followed for this study in accordance with the Standard Protocol Items: Recommendations for Interventional Trials (SPIRIT) guidelines (Chan, Tetzlaff, Altman et al., 2013; Chan, Tetzlaff, Gøtzsche et al., 2013).

1.4. Research hypotheses and qualitative questions

To determine the effectiveness of CE in the VHA clinical setting, our primary hypothesis is that compared to the IPS Supported Employment group (treatment as usual, [TAU]), the CE group will show a greater proportion of employment attainment (H1.1). The secondary hypothesis states that for Veterans who attain employment, the CE group will achieve higher job satisfaction, wages, and job retention, than the IPS group (H1.2). Regardless of intervention, we hypothesize that Veterans who attain employment will demonstrate greater improvements in self-sufficiency, quality of life, and participation in life roles, compared to Veterans who do not (H2.1).

Veteran and provider qualitative interviews will improve understanding of impact of employment on Veterans' lives (Q2.1), and identify strategies used in CE and TAU, to address barriers to employment (Q3.1). Qualitative data will also identify how practitioners adapt the CE intervention for use in the VHA clinical setting (Q3.2).

2. Methods

2.1. Participants

The study is open for enrollment at two VHA SCI/D Centers and their affiliated clinics located in the eastern region of the United States who serve a combined active registry of 2,747 Veterans with SCI. Recruitment for the study will be restricted to English-speaking Veterans over 18 years of age who want to find work in their community and who have received or are currently receiving IPS. Veterans will be excluded if they live more than a two-hour drive from the recruited VA medical center, have a progressive or terminal spinal cord disorder (e.g., multiple sclerosis), moderate to severe traumatic brain injury, a psychosis diagnosis within the previous 6 months, or an untreated substance use disorder. Any visual, hearing, or cognitive impairment that would prevent providing informed consent or being able to participate in essential study and intervention activities will also be used as criteria for exclusion from the study sample. To ensure adherence to human subjects' protection regulations, this study was reviewed by the VA Central Institutional Review Board (CIRB), and the local VA Research and Development Service (R&D) committees.

2.1.1. Quantitative sample size

The sample size was determined from power calculations drawn from expected group differences in competitive and integrated employment attainment (H1.1). An assumption of a 37% probability of employment for the IPS group was drawn from previous studies (range: 25%-43%). Unpublished results of the ACCESS program have shown success rates of over 75%. A conservative competitive and integrated employment attainment rate of 65% for the CE group was assumed. A sample size of 100 subjects (50 per treatment arm) will provide 80.9% power (2-sided $\alpha = 0.05$) to detect a difference in proportions of 0.28 (i.e., difference between 0.65 and 0.37). The sample size calculation accounts for this difference between the two treatment arms occurring at any of the employment assessment timepoints. Using effect sizes and notations from Cohen (1988), the sample size is sufficient to detect a moderate standardized effects size of 0.4.

Statistical power for testing the secondary hypotheses was calculated with an $N = 100$ for each of the proposed models and by treating all secondary outcomes as continuous. Attrition was ignored in all power analyses as all randomized Veterans will be included in the analysis by performing missing data imputation. The hypothesized employment attainment rates and sizes of treatment arms were used to estimate a subsample of 32 veterans assigned to CE and 18 to IPS who will attain competitive and integrated employment and be assessed under H1.2. Under the assumptions of a first-order autoregressive covariance structure, 1.0 standard deviation of a single observation, alpha level of 0.05, and correlation between observations on the same subject ranging from 0.3 to 0.5, the study is expected to be sufficiently powered to detect a minimum standardized difference between 0.5 and 0.6 (medium effects size).

Additionally, a power analysis was performed for longitudinal linear mixed-effects models. Due to multiple outcomes with potentially different and unknown parameters, the application's default value of 0.5 was accepted for the amount of baseline variance at the subject level and 0.03 for the ratio of the random slope variance to the within-subject variance. On these assumptions, an $N = 100$ achieves 83% power to detect a medium Cohen's d effects size of 0.6.

2.1.2. Qualitative sample size

At each of the two sites, 15 Veterans and 10 Providers (vocational providers a SCI interdis-

plinary team members) will be purposively sampled and invited to be interviewed via telephone. Qualitative interview sample size was determined with the goal of achieving conceptual saturation. Saturation has been noted to occur within the first 12 interviews (Sandelowski, 1995; Strauss & Corbin, 1998). Purposive sampling of providers will be completed with input from study-wide team members and vocational providers to facilitate representation of interdisciplinary team members.

2.2. Measures

2.2.1. Quantitative

The primary quantitative outcome is competitive integrated employment defined as "full or part-time work at minimum wage or higher, with wages and benefits similar to those without disabilities performing the same work, and fully integrated with co-workers without disabilities" (Civic Impulse, 2015, p. 571). Veteran data on rates of attainment of competitive and integrated employment (H1.1), employment-related metrics, and QOL metrics will be collected via Qualtrics, a remote and secure data collection platform for completing online self-reported surveys. Participants who achieve employment will be followed up until we have 3 post-employment data points, at 3-month intervals extending up to 18 months from baseline. Quantitative measures are outlined in Table 1.

2.2.2. Qualitative

To address the study's qualitative questions, three sources of data will be used: (1) telephone interviews will be conducted to evaluate CE and IPS experiences among Veterans, and to collect implementation data from providers; (2) open-ended question responses from the Benchmarks of Quality Checklist will provide information on how CE providers adapted or modified the intervention, and (3) open-ended question responses from the online Employment Questionnaire will provide information on accommodations, supports, transportation, and barriers. Demographic information (e.g., sex, race, ethnicity, age) to describe the provider sample will be obtained using a short demographic survey via telephone.

Interviews will be scheduled for 30–45 minutes and conducted via telephone. Veteran participants will be interviewed up to 3 timepoints, baseline, 9 months, and 12 months to capture their experiences over time. Provider participants will also be interviewed at three implementation timepoints during

Table 1
Quantitative domains, measures, and timepoints

Domain	Measure	Brief description	Administered time point
Participant characteristics	Demographics, injury, health conditions assessment	Demographics and collection of co-variates	Baseline
	Work and vocational history	Provides details on work history	Baseline
	Employment & job seeking	Seeks information about pursuit of employment	Baseline, 6, 9, 12 months ¹
Job placement effectiveness	Employment questionnaire	Collects data on H1.1 (Employment status)	6, 9, 12 months ¹
Employment – satisfaction, wages, retention	Employee satisfaction survey	Collects data on H1.2 (Employment-related metrics)	6, 9, 12 months ¹
Quality of life	Spinal Cord Injury- Quality of Life (SCI-QOL) Scales	Collects data on H2.1 (Quality of life, participation, psychological, and emotional metrics)	Baseline, 6, 9, 12 months ¹
Self- sufficiency	Employment Hope Scale (EHS)	Collects data on H2.1 (Self-sufficiency metrics)	Baseline, 6, 9, 12 months ¹
	Perceived Barrier Scale (PEBS)	Collects data on H2.1 (Self-sufficiency metrics)	Baseline, 6, 9, 12 months ¹

¹Measures will be collected from employed participants beyond 12 months from Baseline through 3 post-employment time points or until the data collection period ends.

the study intervention period: To guard against bias, two qualitative researchers, who are not involved in development or delivery of the interventions will conduct the interviews. A team-based approach to interviewing will be used to increase reliability and the potential for new insights (Eisenhardt, 1989).

Interviews will be open-ended and conversational but will follow specific questions developed with input from the research team to ensure all topics are covered. Interviewers will solicit attitudes, opinions, and reports about preferences and pros and cons of CE, including perceptions of usefulness, facilitators and barriers to employment, perceived value of the intervention in addressing quality of life and participation; and for provider interviews, how the intervention was adapted.

Standard communication techniques will be used to stimulate discussion, with prompts, summarizing statements, and silence. Interviews will be recorded using a VA-approved encrypted recorder with a telephone interview adaptive device. These recordings will be downloaded and stored on a secure network server at the primary site. Recorded documents will be remotely retrieved, and professionally transcribed and reviewed by the study team for completeness of information. Open-ended responses from the Employment questionnaire and BQC provider notes will be extracted for analysis.

2.2.3. Fidelity measures

Fidelity measures will be collected every six months after the intervention period begins to assess adherence to the treatment methodologies, and to describe constancy of treatment across the participant pool. CE practitioners will complete the Benchmarks of Quality Checklist (BQC) to document fidelity to the CE model. Additionally, data obtained from the BQC will guide practitioners as they implement CE by providing information on common barriers to implementation, and by providing creative solutions and alternative approaches to CE steps. Fidelity to IPS will be measured by the IPS Fidelity Scale (Bond et al., 1997) which will be completed by the supervisors of the IPS vocational specialists at each site.

2.3. Procedures

Prospective participants will be drawn from the pool of participants listed in the SCI registries at both study sites. Veterans will be contacted through IRB-approved letters. Additional recruitment will be performed through SCI team member referrals and self-referrals obtained through flyers located in SCI clinic areas and via VA approved social media. Veterans who are screened eligible for inclusion/exclusion criteria will be referred to the study coordinator for further screening and consent (see Fig. 1).

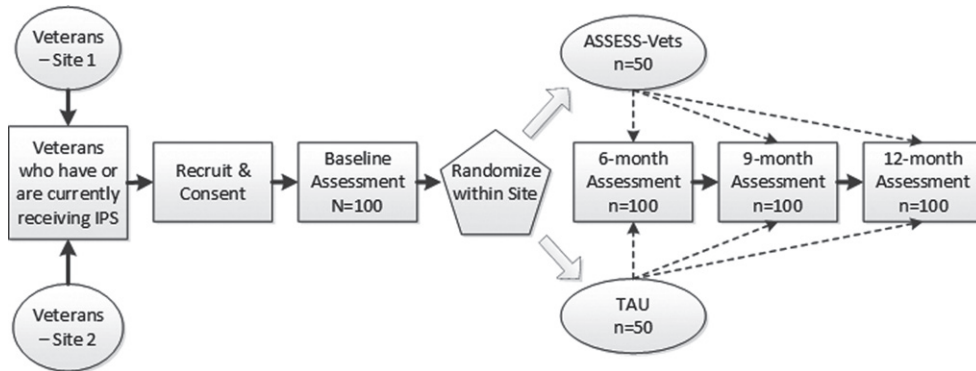


Fig. 1. Study flow chart.

2.3.1. Interventions

The CE treatment arm elements include Discovery, CE planning, job development, CE negotiation, and accommodations and job retention supports (see Table 2). CE intervention will follow the ACCESS model and will be informed by The Essential Elements of Customized Employment for Universal Application. ACCESS improves upon CE by standardizing its application via tools, templates, and logs, and is supported by the BQC fidelity instrument.

The IPS treatment arm, also known as evidence-based supported employment, will serve as an active control group consistent with TAU. IPS treatment includes the elements of zero exclusion, integrated services, competitive employment, rapid job search, worker preferences, systematic job development, benefits planning, and time-unlimited supports.

Participants will be randomly assigned to the CE or IPS treatment arms based on an *a priori* generated matrix, stratified by (1) site and (2) by functional severity of the SCI. SCI functional severity was based on the American Spinal Injury Association Impairment Scale (AIS) rating of SCI impairment (AIS A, B, or C vs AIS D) (Scivoletto et al., 2014). The AIS stratification reflects the relatively good prognosis for functional walking among individuals with AIS D SCI (Scivoletto et al., 2014). Participants, clinical team members, and project managers will be blinded to the participants' assigned treatment groups until after baseline data collection. The data manager assigned to the study will ensure blinding and use the matrix to assign treatment in temporal order of study enrollment.

Treatment will be administered by vocational specialists trained in content modules associated with the treatment groups. Both treatment arms are expected to take 8 months or less depending on individ-

ual participants needs. The ACCESS intervention developers (two study Co-Investigators) will provide intensive training to vocational specialists providing the CE treatment. VA clinical vocational specialists already trained in IPS will be used to administer the IPS treatment. Ongoing technical assistance and mentorship for vocational specialists providing the CE treatment will be provided both in group settings and individually and through in-person, email, and phone mediums. IPS assistance will be provided through extant staff meetings, conference calls, and monthly field call.

3. Results: Data analysis plan

To test the primary hypothesis (H1.1), chi-square test analyses will be used to compare rates of competitive integrated employment between the treatment arms at baseline and by 6-, 9-, and 12-months (See Fig. 2).

To test whether CE results in higher job satisfaction, wages, and retention than IPS (H1.2), generalized estimating equations will be used to test the time-averaged difference in both groups by specifying an auto-regressive [AR(1)] correlation structure for the longitudinal continuous data. Intervention will be the main explanatory variable while clinical site, contact time, and other explanatory variables that show significant group differences will be included as covariates. A significantly positive coefficient of the intervention variable will support the hypothesis.

H2.1 will be tested using data from all Veterans who attain employment, regardless of intervention assignment. We will test whether the employed group shows greater improvement over time than the no-employment group separately for each continuous

Table 2
Customized Employment (CE) intervention

CE process elements	Activities/duration	Services	Veteran product/ deliverable
Discovery	Qualitative assessment of interests, skills, and support needs Up to 6 months	Community-based Discovery activities: home and neighborhood visits, conversational interviews, familiar and novel activities	Vocational profile* - a robust, narrative description of the Veteran that captures information learned through the Discovery process
CE planning	Action planning completed within 2 weeks of completing Discovery process 1-2 days	Person-centered planning meeting where team completes a series of structured activities to develop an action plan	Employment blueprint* – an action plan that bridges what is learned during Discovery with the employment outcome. Outlines steps to employment with timelines and person(s) responsible
Job development	Informational interviews and business tours to assess the needs of targeted businesses Up to 2 months	Development of tools to market the job seeker to potential employers. Interviews and business tours conducted with business owner or hiring authority to identify business needs	Career portfolio – a marketing tool with letters of recommendation, awards, degrees, certificates, and, if needed, a visual resume that utilizes photos and videos to demonstrate the Veteran doing essential functions of the job
CE negotiation	Customization of job to meet the needs of the employer through the skills of the Veteran Up to 2 months	Negotiation of elements of the job that may need to be modified to best utilize the talents/skills of the job seeker to meet the needs of the employer, e.g., job restructuring, job creation	Completed customized Employment Job Development and Negotiation form* (part of the ACCESS template package)
Accommodations and job retention supports	Environmental restructuring, training, and job supports to enhance Veteran success and job retention Up to 3 months	Retention services and supports individualized for reasonable accommodations. Supervisor and coworker training for development of natural support systems within the workplace	Environmental or interpersonal supports depending on job seeker abilities and job demands, e.g., elevated, or modified workstation, flexible scheduling, or standing wheelchair

outcome (self-sufficiency, quality of life, and participation) by fitting linear growth models specifying random intercept and slope. Each model will include an intervention-by-time interaction term that tests for significant difference in the two group slope trajectories (improvement) of the outcome.

Missing data will be investigated by tabulating attrition of Veterans stratified by intervention group and dropout time. Missing completely at random principles will be assumed if there are no significant differences between the stratified trajectories of the missing data. Missing outcome values will be imputed using multiple imputation with chained equations. Additionally, Veterans who drop out will be compared with those who do not on each outcome, intervention group, and baseline variables by using

cross tabulations with correlation tests (Cramer's V, point-biserial), t-tests, or chi-squared tests as appropriate.

Matrix analysis, a rapid assessment approach (Beebe, 2001), will be used to identify and summarize themes from open-ended responses from the employment questionnaire and BQC provider notes. Interview transcript data will be managed and coded in Atlas.ti, a qualitative analysis software program, using descriptive content analytical methods to identify domains and taxonomies of participant CE experiences (Drebing et al., 2012). Systematic coding of text is a key to qualitative data analysis as codes represent underlying assumptions (Miles & Huberman, 1994). An initial set of codes for research domains will be identified and defined a priori. A

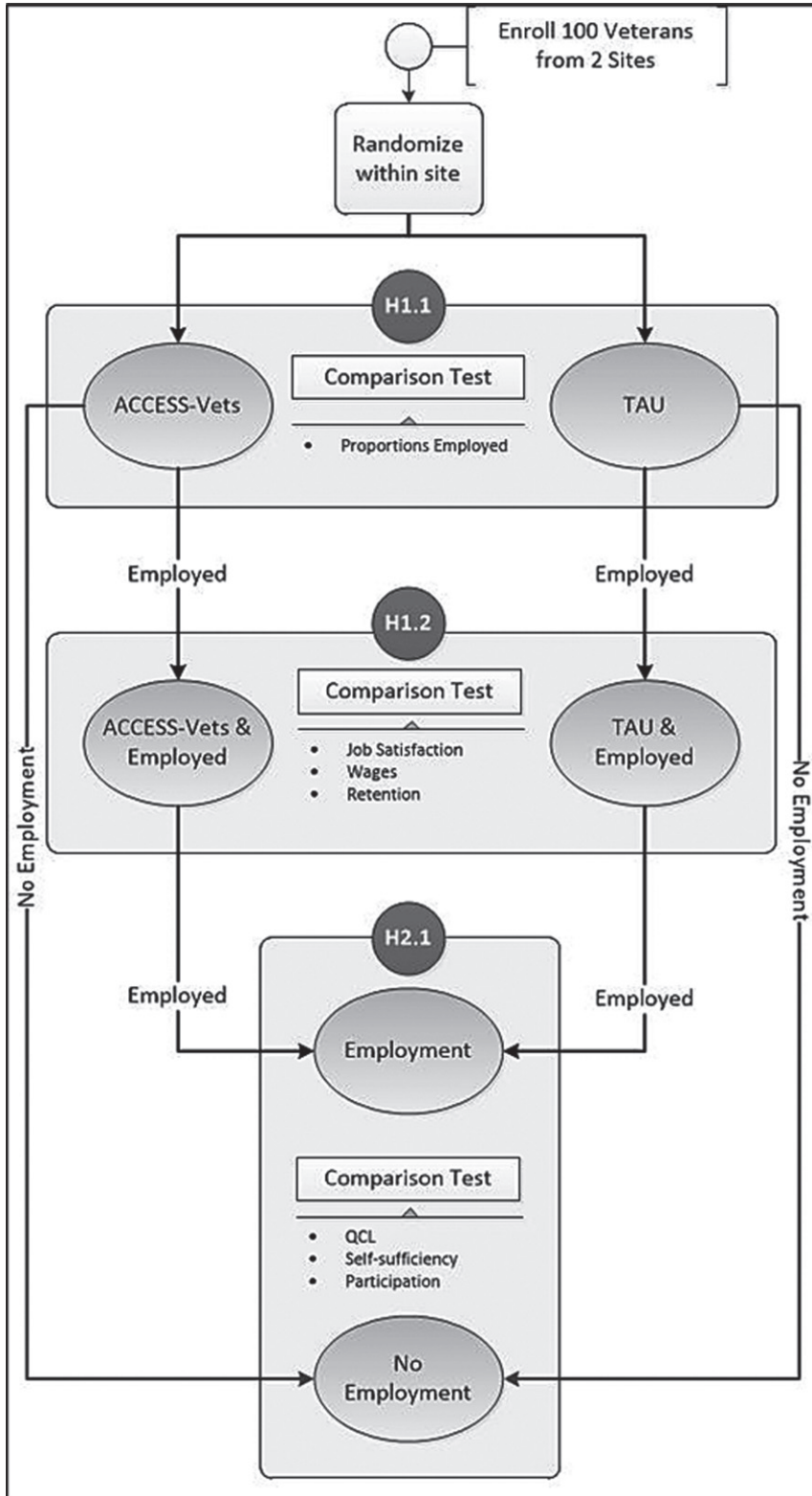


Fig. 2. Binary group comparisons proposed for hypothesis testing.

codebook will be developed to include code names, definitions, inclusion and exclusion criteria, and an exemplar that illustrates how code may be presented within the text codebook (Guest & MacQueen, 2008). New codes will be developed if unidentified themes arise during analyses. Categories will be compared, and relationships identified. As coding schemas are developed to create domains and taxonomies, data samples will be extracted and coded by qualitative research team members and evaluated for inter-rater reliability at 80% with periodic checks of reliability to ensure consistency and limit potential drift in coding (Huberman & Miles, 2002). Initial themes will be reviewed by the team to enhance credibility, and alternative explanations for data patterns will be discussed to strengthen internal reliability and build explanatory power (Yin, 2003). Any discrepancies will be discussed and resolved. Descriptive and comparative matrices that identify patterns of regularities (shared) and inconsistencies (unique or varied) will then be constructed for Veterans and providers. Comparative matrices enable identification of the most relevant, shared, and perhaps representative components and, thereby, enhance the potential representation of the findings. Finally, a complex cross-case data matrix will be developed to summarize the significant taxonomic outcome structures identified within and between Veterans. This process of descriptive and comparative matrix analysis will enable detection of the most salient and representative components identified by Veterans and providers. This analysis will examine site variations in adapting the intervention for use in VHA.

4. Discussion

This clinical trial provides an opportunity to establish an evidence base for customized employment which is currently considered a best practice (Riesen et al., 2022). The protocolized ACCESS intervention includes a fidelity measure to ensure the CE process is implemented consistently across time and place. By conducting this study with a novel population (Veterans with SCI) within the VA system, public sector VR programs may benefit from data that identifies practices and approaches unique to the VA system including interdisciplinary team involvement to provide more seamless services and supports, a primary vocational rehabilitation specialist who works with the Veteran through the full CE process, and a post-employment support system that is not time limited.

It is anticipated that collection of qualitative data from Veterans and interdisciplinary team members will provide additional insight regarding strengths and weaknesses of the intervention and aid in the process of identifying specific variables that contribute to successful attainment of competitive, integrated employment.

5. Conclusion

The expected outcomes based on study hypotheses are that proportion of Veterans who attain employment will be greater for the CE group than the IPS group and they will outperform the IPS group on other employment-related metrics (e.g., higher job satisfaction, wages, and retention). It is expected that employed Veterans will demonstrate significant improvements in secondary measures of self-sufficiency, QOL, and participation. Qualitative data obtained from interviews will assist with adaptation strategies and will identify barriers to implementing CE. These outcomes will be reported in future publications and presentations to the field and disseminated through VHA communication channels.

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Conflict of interest

The authors declare that they have no conflict of interest.

Ethics statement

This study was approved by the Department of Veterans Affairs, VA Central Institutional Review Board Panel 2, James A. Haley Veterans Hospital (no. 1643929-1; 21-11 Tampa).

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Informed consent

This minimum risk study received a waiver of documentation of informed consent approved in the VA Central IRB Form 112b. Verbal consent was provided by study participants after they were informed of the study procedures and requirements, and had all questions and concerns addressed. Participation in the study was voluntary and participants could withdraw from the study at any time without adverse consequences.

References

- Abraham, K. M., Yosef, M., Resnick, S. G., & Zivin, K. (2017). Competitive employment outcomes among veterans in VHA Therapeutic and Supported Employment Services programs. *Psychiatric Services, 68*(9), 938-946. <https://doi.org/10.1176/appi.ps.201600412>
- Anderson, C. J., & Vogel, L. C. (2002). Employment outcomes of adults who sustained spinal cord injuries as children or adolescents. *Archives of Physical Medicine and Rehabilitation, 83*(6), 791-801. <https://doi.org/10.1053/apmr.2002.32742>
- Beebe, J. (2001). *Rapid Assessment Process: An Introduction*. AltaMira.
- Bond, G., Becker, D., Drake, R., & Vogler, K. (1997). A fidelity scale for the individual placement and support model of supported employment. *Rehabilitation Counseling Bulletin, 40*, 265-284.
- Bond, G., & Drake, R. E. (2014). Making the case for IPS supported employment. *Administration and Policy in Mental Health and Mental Health Services Research, 41*(1), 69-73. <https://doi.org/10.1007/s10488-012-0444-6>
- Botticello, A. L., Chen, Y., & Tulskey, D. S. (2012). Geographic variation in participation for physically disabled adults: The contribution of area economic factors to employment after spinal cord injury. *Social Science & Medicine, 75*(8), 1505-1513. <https://doi.org/10.1016/j.socscimed.2012.06.010>
- Chan, A-W., Tetzlaff, J. M., Altman, D. G., Laupacis, A., Gøtzsche, P. C., Krleža-Jerić, K., Hróbjartsson, A., Mann, H., Dickersin, K., Berlin, J., Doré, C., Parulekar, W., Summerskill, W., Groves, T., Schulz, K., Sox, H., Rockhold, F. W., Rennie, D., & Moher, D. (2013). SPIRIT 2013 Statement: Defining standard protocol items for clinical trials. *Ann Intern Med, 158*, 200-207. <https://doi.org/10.7326/0003-4819-158-3-201302050-00583>
- Chan, A-W., Tetzlaff, J. M., Gøtzsche, P. C., Altman, D. G., Mann, H., Berlin, J., Dickersin, K., Hróbjartsson, A., Schulz, K. F., Parulekar, W. R., Krleža-Jerić, K., Laupacis, A., & Moher, D. (2013). SPIRIT 2013 Explanation and Elaboration: Guidance for protocols of clinical trials. *BMJ, 346*, e7586. <https://doi.org/10.1136/bmj.e7586>
- Citron, T., Brooks-Lane, N., Crandell, D., Brady, K., Cooper, M., & Revell, G. (2008). A revolution in the employment process of individuals with disabilities: Customized employment as the catalyst for system change. *Journal of Vocational Rehabilitation, 28*(3), 169-179.
- Cohen, J. (1988). Statistical power. *Analysis for the behavioral sciences, 273-406*.
- Collins, L. M., Schafer, J. L., & Kam, C. M. (2001). A comparison of inclusive and restrictive strategies in modern missing data procedures. *Psychological Methods, 6*(4), 330-351. <https://doi.org/10.1037/1082-989X.6.4.330>
- Cotner, B. A., Keleher, J., O'Connor, D. R., Trainor, J. K., & Ottomanelli, L. (2014). The role of social networks for Veterans with spinal cord injury in obtaining employment. *Annals of Anthropological Practice, 37*(2 (Qualitative Research at the VA [special issue])), <https://doi.org/10.1111/napa.12034>
- Cotner, B. A., Ottomanelli, L., O'Connor, D. R., Njoh, E. N., Barnett, S. D., & Miech, E. J. (2018). Quality of life outcomes for veterans with spinal cord injury receiving individual placement and support (IPS). *Topics in Spinal Cord Injury Rehabilitation, 24*(4), 325-335. <https://doi.org/10.1310/sci17-00046>
- Cotner, B. A., Ottomanelli, L., O'Connor, D. R., & Trainor, J. K. (2018). Provider-identified barriers and facilitators to implementing a supported employment program in spinal cord injury. *Disability and Rehabilitation, 40*(11), 1273-1279. <https://doi.org/10.1080/09638288.2017.1294209>
- Cotner, B., Njoh, E., Trainor, J., O'Connor, D., Barnett, S., & Ottomanelli, L. (2015). Facilitators and barriers to employment among veterans with spinal cord injury receiving 12 months of evidence-based supported employment services. *Topics in Spinal Cord Injury Rehabilitation, 21*(1), 20-30. <https://doi.org/10.1310/sci2101-20>
- Department of Veterans Affairs. (2019). VHA Psychosocial rehabilitation and recovery services.(VHA Directive 1163). Veterans Health Administration. https://www.va.gov/vhapublications/ViewPublication.asp?pub_ID=8438
- Disability Employment Policy Office. (2002). *Customized Employment Program*. Federal Register. <https://www.federalregister.gov/documents/2002/06/26>
- Drebing, C., Bell, M., Campinell, E., Fraser, R., Malec, J., Penk, W., & Pruitt-Stephens, L. (2012). Vocational services research: Recommendations for next stage of work. *Journal of Rehabilitation Research & Development, 49*(1), 101-120. <https://doi.org/10.1682/JRRD.2010.06.0105>

- Drebing, C. E., Mueller, L., Van Ormer, E. A., Duffy, P., LePage, J., Rosenheck, R., Drake, R., Rose, G. S., King, K., & Penk, W. (2012). Pathways to vocational services: Factors affecting entry by veterans enrolled in Veterans Health Administration mental health services. *Psychological Services, 9*(1), 49-63. <https://doi.org/10.1037/a0026662>
- Drebing, C., Mueller, L., Waltrous, C., & Penk, W. (2018). Vocational rehabilitation, chapt 12. In L. Roberts & C. Warner (Eds.), *Military and veteran mental health: A comprehensive textbook* (pp. 169-182). Springer. https://doi.org/10.1007/978-1-4939-7438-2_12
- Eisenhardt, K. M. (1989). Building theories from case study research. *The Academy of Management Review, 14*(4), 532. <https://doi.org/10.2307/258557>
- Elinson, L., Frey, W. D., Li, T., Palan, M. A., & Horne, R. L. (2008). *Evaluation of customized employment in building the capacity of the workforce development system, 28*(3), 141-158.
- Goetz, L. L., Ottomanelli, L., Barnett, S. D., Sutton, B., & Njoh, E. (2018). Relationship between comorbidities and employment among veterans with spinal cord injury. *Topics in Spinal Cord Injury Rehabilitation, 24*(1), 44-53. <https://doi.org/10.1310/sci16-00047>
- Griffin, C., Hammis, D., Geary, T., & Sullivan, M. (2008). Customized Employment: Where we are; where we're headed. *Journal of Vocational Rehabilitation, 28*(3), 135-139.
- Guest, G., & MacQueen, K. (2008). *Handbook for team-based qualitative research*. AltaMira Press.
- Hilton, G., Unsworth, C., & Murphy, G. (2018). The experience of attempting to return to work following spinal cord injury: A systematic review of the qualitative literature. *Disability and Rehabilitation, 40*(15), 1745-1753. <https://doi.org/10.1080/09638288.2017.1312566>
- Holmlund, L., Guidetti, S., Eriksson, G., & Asaba, E. (2018). Return to work in the context of everyday life 7-11 years after spinal cord injury—A follow-up study. *Disability and Rehabilitation, 40*(24), 2875-2883. <https://doi.org/10.1080/09638288.2017.1362597>
- Huberman, A. M., & Miles, M. B. (Eds.). (2002). *The qualitative researcher's companion*. Sage.
- Inge, K. J., Graham, C. W., Brooks-Lane, N., Wehman, P., & Griffin, C. (2018). Defining customized employment as an evidence-based practice: The results of a focus group study. *Journal of Vocational Rehabilitation, 48*(2), 155-166. <https://doi.org/10.3233/JVR-180928>
- Inge, K., Sima, A. P., Riesen, T., Wehman, P., & Brooks-Lane, N. (2022). The essential elements of customized employment: Results from a national survey of employment providers. *Rehabilitation Counseling Bulletin, 0*(0). <https://doi.org/10.1177/00343552221088256>
- Kennedy, P., & Garmon-Jones, L. (2017). Self-harm and suicide before and after spinal cord injury: A systematic review. *Spinal Cord, 55*(1), 2-7. <https://doi.org/10.1038/sc.2016.135>
- Krause, J. S., Saunders, L. L., & Acuna, J. (2012). Gainful employment and risk of mortality after spinal cord injury: Effects beyond that of demographic, injury and socioeconomic factors. *Spinal Cord, 50*(10), 784-788. <https://doi.org/10.1038/sc.2012.49>
- Luecking, R., Cuzzo, L., & Buchanan, L. (2006). Demand-side workforce needs and the potential for job customization. *Rehabilitation Counseling, 37*, 5-13. <https://doi.org/10.1891/0047-2220.37.4.5>
- Luecking, D., & Luecking, R. (2006). A descriptive study of customizing the employment process for job seekers with significant disabilities. *Journal of Applied Rehabilitation Counseling, 37*(4), 14-21. <https://doi.org/10.1891/0047-2220.37.4.14>
- Luecking, R., Cuzzo, L., Leedy, M., & Seleznow, E. (2008). Universal one-stop access: Pipedream or possibility? *Journal of Vocational Rehabilitation, 28*(3), 181-189.
- Marshall, T., Goldberg, R. W., Braude, L., Dougherty, R. H., Daniels, A. S., Ghose, S. S., George, P., & Delphin-Rittmon, M. E. (2014). Supported Employment: Assessing the Evidence. *Psychiatric Services, 65*(1), 16-23. <https://doi.org/10.1176/appi.ps.201300262>
- Meade, M. A., Forchheimer, M. B., Krause, J. S., & Charlifue, S. (2011). The influence of secondary conditions on job acquisition and retention in adults with spinal cord injury. *Archives of Physical Medicine and Rehabilitation, 92*(3), 425-432. <https://doi.org/10.1016/j.apmr.2010.10.041>
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). SAGE Publications.
- Office of Disability Employment Policy. (2002). *Customized Employment*. U.S. Department of Labor. Retrieved November 12, 2022, from <https://www.dol.gov/odep/topics/CustomizedEmployment.htm>
- O'Neill, J., & Ottomanelli, L. (2018). Vocational rehabilitation for individuals with spinal cord injury. In S. Kirshblum & V. W. Lin (Eds.), *Spinal Cord Medicine* (3rd ed., pp. 777-789). DemosMedical; V:Zotero Library. <https://www.springerpub.com/spinal-cord-medicine-9780826137746.html>
- Ottomanelli, L., Barnett, S. D., & Goetz, L. L. (2013). A prospective examination of the impact of a supported employment program and employment on health-related quality of life, handicap, and disability among Veterans with SCI. *Quality of Life Research, 22*(8), 2133-2141. <https://doi.org/10.1007/s11136-013-0353-5>
- Ottomanelli, L., Barnett, S. D., & Goetz, L. L. (2014). Effectiveness of supported employment for veterans with spinal cord injury: 2-year results. *Archives of Physical Medicine and Rehabilitation, 95*(4), 784-790. <https://doi.org/10.1016/j.apmr.2013.11.012>
- Ottomanelli, L., Goetz, L., Barnett, S., Njoh, E., & on behalf of the PrOMOTE Group. (2018). Predictors of employment outcomes among supported employment program participants with spinal cord injury. *J Vocat Rehabil, In press*. <https://doi.org/10.3233/JVR-180960>
- Ottomanelli, L., Goetz, L. L., Barnett, S. D., Njoh, E., Dixon, T. M., Holmes, S. A., LePage, J., Ota, D., Sabharwal, S., & White, K. T. (2017). Individual placement and support in spinal cord injury: A longitudinal observational study of employment outcomes. *Arch Phys Med Rehabil, 98*(8), 1567-1575. <https://doi.org/10.1016/j.apmr.2016.12.010>
- Ottomanelli, L., Goetz, L. L., McGeough, C., & Kashner, T. M. (2007). Building research capacity through partnerships: Spinal Cord Injury-Vocational Integration Program Implementations and Outcomes inaugural meeting. *Journal of Rehabilitation Research and Development, 44*(1), vii-xii. <https://doi.org/10.1682/JRRD.2006.06.0072>
- Ottomanelli, L., Goetz, L. L., Suris, A., McGeough, C., Sinnott, P. L., Toscano, R., Barnett, S. D., Ciper, D. J., Lind, L. M., Dixon, T. M., Holmes, S. A., Kerrigan, A. J., & Thomas, F. P. (2012). Effectiveness of supported employment for veterans with spinal cord injuries: Results from a randomized multisite

- study. *Archives of Physical Medicine and Rehabilitation*, 93(5), 740-747. <https://doi.org/10.1016/j.apmr.2012.01.002>
- Ottomanelli, L., Goetz, L., McGeough, C., Suris, A., Sippel, J., Sinnott, P., Wagner, T. H., & Cipher, D. J. (2009). Methods of a multisite randomized clinical trial of supported employment among veterans with spinal cord injury. *Journal of Rehabilitation Research and Development*, 46(7), 919-930. <https://doi.org/10.1682/JRRD.2008.10.0145>
- Ottomanelli, L., & Lind, L. (2009). Review of critical factors related to employment after spinal cord injury: Implications for research and vocational services. *The Journal of Spinal Cord Medicine*, 32(5), 503-531. <https://doi.org/10.1080/10790268.2009.11754553>
- Post, M., Reinhardt, J., Avellanet, M., Escorpizo, R., Engkasan, J., Schwegler, U., & Leulfusrud, A. (2020). Employment Among People With Spinal Cord Injury in 22 Countries Across the World: Results From the International Spinal Cord Injury Community Survey. *Arch Phys Med Rehabil*, 101(12), 2157-2166. <https://doi.org/10.1016/j.apmr.2020.05.027>
- Riesen, T., Morgan, R. L., & Griffin, C. (2015). Customized employment: A review of the literature. *Journal of Vocational Rehabilitation*, 43(3), 183-193. <https://doi.org/10.3233/JVR-150768>
- Riesen, & Morgan, R. L. (2018). Employer views of customized employment: A focus group analysis. *Journal of Vocational Rehabilitation*, 49(1), 33-44. <https://doi.org/10.3233/JVR-180952>
- Riesen, T., Snyder, A., Byers, R., Keeton, B., & Inge, K. (2022). An updated review of the customized employment literature. *Journal of Rehabilitation*. vol. Pre-press, no. Pre-press, 1-12. <https://doi.org/10.3233/JVR-221222>
- Roels, E. H., Aertgeerts, B., Ramaekers, D., & Peers, K. (2016). Hospital- and community-based interventions enhancing (re)employment for people with spinal cord injury: A systematic review. *Spinal Cord*, 54(1), 2-7. <https://doi.org/10.1038/sc.2015.133>
- Rogers, C. Lavin, D., Tran, T., Gantenbein, T., & Sharpe, M. (2008). Customized employment: Changing what it means to be qualified in the workforce for transition-aged youth and young adults. *Journal of Vocational Rehabilitation*, 28, 191-207.
- Sandelowski, M. (1995). Sample size in qualitative research. *Research in Nursing & Health*, 18(2), 179-183. <https://doi.org/10.1002/nur.4770180211>
- Schalock, R., Borthwick-Duffy, S., Buntinx, W., Coulter, D., & Craig, E. (2010). *Intellectual disability: Definition, classification, and systems of supports* (11th ed). American Association on Intellectual and Developmental Disabilities.
- Scivoletto, G., Tamburella, F., Laurenza, L., Torre, M., & Molinari, M. (2014). Who is going to walk? A review of the factors influencing walking recovery after spinal cord injury. *Frontiers in human neuroscience*, 8, 141. <https://doi.org/10.3389/fnhum.2014.00141>
- Shogren, K. A. (2013). A social-ecological analysis of the self-determination literature. *Intellectual and Developmental Disabilities*, 51(6), 496-511. <https://doi.org/10.1352/1934-9556-51.6.496>
- Smith, T. J., Dillahunt-Aspillaga, C. J., Ching, D., & Weston, A., & Lu, Y. (in development). Impact of a customized employment model on competitive employment in adults with autism. *For submission to Research in Autism Spectrum Disorders*.
- Smith, T. J., Ching, D., Weston, A., & Dillahunt-Aspillaga, C. J. (2019). Achieving competitive, customized employment through specialized services (ACCESS). *Journal of Vocational Rehabilitation*, 1-10. <https://doi.org/10.3233/JVR-191004>
- Smith, T. J., Dillahunt-Aspillaga, C. J., & Kenney, R. M. (2017). Implementation of Customized Employment provisions of the Workforce Innovation and Opportunity Act within vocational rehabilitation systems. *Journal of Disability Policy Studies*, 27(4), 195-202. <https://doi.org/10.1177/1044207316644412>
- Smith-Morris, C., Lopez, G., Ottomanelli, L., Goetz, L., & Dixon-Lawson, K. (2014). Ethnography, fidelity, and the evidence that anthropology adds: Supplementing the fidelity process in a clinical trial of supported employment. *Medical Anthropology Quarterly*, 28(2), 141-161. <https://doi.org/10.1111/maq.12093>
- Staines, G. L., Blankertz, L., Magura, S., Bali, P., Madison, E. M., Spinelli, M., Horowitz, E., Guarino, H., Grandy, A., Fong, C., Gomez, A., Dimun, A., & Friedman, E. (2004). Efficacy of the customized employment supports (CES) model of vocational rehabilitation for unemployed methadone patients: Preliminary results. *Substance Use & Misuse*, 39(13-14), 2261-2285. <https://doi.org/10.1081/JA-200034618>
- Strauss, A. C., & Corbin, J. M. (1998). *Basics of Qualitative Research: Second Edition: Techniques and Procedures for Developing Grounded Theory* (2nd ed.). Sage Publications, Inc.
- Trenaman, L. M., Miller, W. C., & Escorpizo, R. (2014). Interventions for improving employment outcomes among individuals with spinal cord injury: A systematic review. *Spinal Cord*, 52(11), 788-794. <https://doi.org/10.1038/sc.2014.149>
- U.S. Congress. (2014, July 22). H.R. 803 (113th): Workforce Innovation and Opportunity Act, Title IV, Sec 403(7). *Govtrack*. <https://www.govtrack.us/congress/bills/113/hr803>
- Wehman, P., Brooke, V., Brooke, A. M., Ham, W., Schall, C., McDonough, J., Lau, S., Seward, H., & Avellone, L. (2016). Employment for adults with autism spectrum disorders: A retrospective review of a customized employment approach. *Research in Developmental Disabilities*, 53-54, 61-72. <https://doi.org/10.1016/j.ridd.2016.01.015>
- Wehman, P., Taylor, J., Brooke, V., Avellone, L., Whittenburg, H., Ham, W., Brooke, A. M., & Carr, S. (2018). Toward Competitive Employment for Persons with Intellectual and Developmental Disabilities: What Progress Have We Made and Where Do We Need to Go. *Research and Practice for Persons with Severe Disabilities*, 43(3), 131-144. <https://doi.org/10.1177/1540796918777730>
- Wewiorski, N. J., Gorman, J. A., Scoglio, A. A. J., Fukuda, S., Reilly, E., Mueller, L., O'Connor, M., Penk, W. E., & Drebing, C. E. (2018). Promising practices in vocational services for the community reintegration of returning veterans: The individual placement and support model and beyond. *Psychological Services*, 15(2), 191-199. <https://doi.org/10.1037/ser0000177>
- Winsor, J., Timmons, J., Butterworth, J., Migliore, A., Domin, D., Zalewska, A., & Shepard, J. (2021). *State Data: The national report on employment services and outcomes through 2018*. Boston, MA: University of Massachusetts Boston, Institute for Community Inclusion.
- Workforce Innovation and Opportunity Act, Pub. L. No. 113-128, Permalink (2014). https://www.govtrack.us/congress/bills/113/hr803/text/enr#link=IV_A_404.5~Q1.5&nearest=H4FB0FD4B86FB4621A032AF5D1E4A1DE3

World Health Organization (WHO). (2013). *How to use the ICF. A practical manual for using The International Classification of Functioning, Disability and Health (ICF). Exposure draft For comment.* World Health Organization (WHO). <https://www.who.int/classifications/drafticfpracticalmanual.pdf>

Yin, R. (2003). *Case study research: Design and methods.* Sage Publications.