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Customized employment as a pathway to competitive integrated employment: An analysis of RSA 911 data of state vocational rehabilitation agencies with the highest use of this intervention

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Abstract.

BACKGROUND: Customized employment (CE) is a highly relevant but underused strategy for individuals with significant disabilities. It is important to examine how CE has been utilized in state vocational rehabilitation agencies (SVRAs).

OBJECTIVE: The purpose of this study is to identify SVRAs' CE service patterns and outcomes from 2017 to 2020.

METHOD: Descriptive analysis, chi-square, and *t*-test comprised data analysis.

RESULTS: 78% of the consumers receiving CE were associated with 10 SVRAs. This sample (N = 1,779) was 57.4% male and 42.6% female and had a mean age of 31.61 years. 77% were White. The frequent services provided with CE were VR counseling and guidance, assessment, and job placement assistance. Based on the service provision pattern, the agencies were separated into Group A, using co-occurring services other than supported employment (SE), and Group B, using SE along with CE. Consumers served by Group B are more likely to have cognitive impairment, intellectual disability, and the most significant disability. Group A is associated with lower employment, higher weekly earning and weekly hours worked.

CONCLUSION: VR agencies and providers should consider these findings to refine and improve their service delivery and policies/procedures particularly for customized employment.

Keywords: Customized employment, CE, vocational rehabilitation, competitive integrated employment, competitive employment, individuals with significant disabilities

1. Introduction

Early Office Disability Employment Policy (ODEP) demonstration and system change projects

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in the mid-2000 s suggested that customized employment (CE) produced valued employment outcomes for individuals with disabilities (Citron et al., 2008; Elinson et al., 2008; Fesko et al., 2008). These projects highlighted the promise of CE as a vocational rehabilitation intervention and demonstrated that CE had the potential to mitigate the disparity in employment opportunities and outcomes that exist for people with significant disabilities. In 2014, CE was outlined in statute when the Rehabilitation Act was amended in the Workforce Innovation and Opportunity Act (WIOA, 2014). Specifically, CE was defined as: "competitive integrated employment, for an individual with a significant disability that is based on an individualized determination of the strengths, needs, and interests of the individual with a significant disability, and is designed to meet the specific abilities of the individual with a significant disability and the business needs of the employer" (29 U.S.C §705(7), p. 1634). The statute also outlined specific strategies for implementing CE including: (a) exploring jobs with the individual; (b) working with employers to facilitate placement, including customizing a job description based on current employer needs or on previously unidentified and unmet employer needs; (c) developing a set of job duties, a work schedule, and job arrangement, along with specifics of supervision (including a performance evaluation review), and determining a job location; (d) representing a professional chosen by the individual, or self-representation of the individual in working with an employer to facilitate placement; and (e) providing services and supports at the job placement (29 U.S.C §705 et seq.).

Customized employment represents a significant shift in the way employment support services are developed and provided for people with the most significant disabilities. CE is a sequential, cumulative process that includes three interconnected phases: *discovery*, *customized job development*, and *ongoing supports*. Discovery is the first CE phase used to determine an individual's strengths, interests, skills, and support needs to obtain and maintain customized employment. The discovery process includes interviews, observations, interactions with the employment seeker, and documentation review (Inge, et al., 2018; Workforce Innovation Technical Assistance Center [WINTAC], 2017). Interviews are conducted with family members and other influential people in the employment seeker's life. Observations take place in settings where the job seeker participates in familiar and less familiar activities. The information obtained from task-based discovery activities is used to inform how best to support a job seeker in a customized job.

Discovery is the foundation for the second phase, customized job development, and is used to identify businesses that represent the job seeker's vocational themes. Informational interviews provide the framework to learn more about businesses' needs, working conditions, and potential employers who engage in similar work. Customized job development assumes that jobs are negotiated based on an employment proposal that accounts for the job seeker's unique skills and interests. The job developer, also known as an employment specialist, completes a job site analysis and plan (Hall & Keeton, 2021) that can be used to develop the employment proposal. The final phase includes providing individually tailored ongoing supports to the customized employee and employer.

Providing customized employment to assist people with the most significant disabilities is critical, because they remain chronically unemployed. In fact, only 21.1% of people with intellectual and developmental disabilities work in competitive integrated employment settings, while the remaining 78.9% receive services in facility-based work and non-work settings (Winsor, et al., 2021). There is ongoing research that supports the utility of CE as a rehabilitation service that can be used to improve the poor employment outcomes for individuals with the significant disabilities (Inge, et al., 2022; Riesen, et al., 2021a; Riesen, et al., 2021b).

Although CE is a promising rehabilitation practice (Riesen, et al., under review), there appears to be inconsistent CE implementation and utilization across the country and poor overall CE outcomes (Kim, et al., 2023). Kim and colleagues reported on preliminary data extracted from the Rehabilitation Services Administration Case Service Report (RSA-911) for program years (PY) 2017–2020 to determine outcomes for individuals receiving CE as a Vocational Rehabilitation (VR) service. RSA's Case Service Report is the administrative data collected by each state Vocational Rehabilitation agency (SRVA) on consumers exiting in a program year. Their results showed that 10 SVRAs were associated with 78% of the 2,280 individuals that received CE who exited after being served under an Individualized Plan for Employment (IPE). Of these 2,280 individuals, only 692 (30.4%) successfully exited to competitive integrated employment (CIE). These individuals worked a median of 15 hours per week and received a median wage of $11.24 an hour.

The low utilization of CE is concerning because rehabilitation professionals generally view CE as a highly relevant strategy for individuals with significant disabilities (Inge, et al., 2022; Leahy, et al., 2018). Therefore, it is important to more fully examine how SVRAs are utilizing CE as a service and identify the systemic and practitioner barriers to effective implementation and successful CIE closures (Bishop, Zhou, Iwanaga, Chan, & Tansey, 2021). The purpose of this study is to expand the analysis of RSA PY 2017 through PY 2020 to determine SRVRA customized employment service patterns and outcomes. The following research questions were examined for this study:

RQ1. What are the characteristics of SRVAs in terms of CE service provisions/patterns?

RQ2. Are there differences in the services used in conjunction with CE services among the 10 state SRVAs with 78% of the individuals who exited services after an IPE and received CE services?

RQ2. Are individuals more likely to exit VR services in CIE when the SVRA utilizes CE with co-occurring services?

RQ3. What is the median wage for individuals exiting services in CIE for SVRAs that utilize CE as co-occurring services?

2. Method

2.1. Participants and data source

Data used in the current study was extracted from RSA-911 database, a federal data source of SVRA services and customers served by SVRAs. The cases analyzed in this research were selected based on the following criteria: (a) consumers who received services from a SVRA and exited from PY 2017 through PY 2020, (b) consumers who received customized employment services from a SVRA or from agency/providers, (c) consumers who were served by one of the 10 SVRAs with the highest service utilization of customized employment. According to these criteria, 1,779 cases were selected for the analyses.

2.2. Procedures

Multiple analyses were conducted to understand service patterns and service outcomes related to customized employment services provided by SVRAs. A frequency test was used to identify the 10 SVRAs with the highest utilization of customized employment services. Descriptive analyses were conducted to understand the demographic characteristics of the VR cases that met the sample criteria. Another frequency test was used to identify the most frequent VR services provided to individuals receiving customized employment services within the 10 SVRAs. Based on the differences that were identified in the frequency of VR services used in conjunction with CE, the 10 SVRAs were assigned to one of two groups. Chi-square analyses were then used to test the differences in frequency of services utilization with CE between the two groups. Finally, analyses of variance (ANOVA) were conducted to examine the differences between the two groups in employment outcomes including employment at the time of exit, weekly earning, and weekly working hours.

3. Results

3.1. Selection of SVRAs

A frequency test was conducted to identify the rate of CE service utilization in the SVRAs across the United States. The result shows that 10 agencies out of 77 SVRAs were associated with 78% of the VR recipients who exited services after being served under an IPE and received customized employment. VR state agencies operate as (1) Combined VR agencies, (2) Blind VR agencies that serve individuals who are blind or have visual impairments, and 3) General VR agencies that serves individuals with all other types of disabilities. The 10 agencies associated with 78% of the VR recipients who exited after being served under an IPE and received CE were General/Combined VR agencies. The remaining 67 agencies accounted for 22% of CE service utilization. To capture the service patterns and employment outcomes associated with customized employment, 1,779 consumers who met the study criteria in these 10 SVRAs were selected for further analyses.

3.2. Descriptive statistics

Descriptive analysis was conducted to identify the demographic characteristics of the 1,779 consumers who received customized employment services. Table 1 presents this information. Most of the sample was white ($n = 1{,}370$, 77%) with a mean age of 31.61 years old ($SD = 12.39$, ranging from 18 to 84). A slightly larger percentage of the sample were male (57.4%, $n = 1{,}022$), as compared to female (42.4%, $n = 755$). The most prevalent disability source of impairment was cognitive impairments

Table 1
Descriptive statistics of consumers served by 10 SVRAs

Variables	*N*	%
Age	Mean=31.61 (SD = 12.39, range 18 to 84)	
Gender		
Male	1,022	57.4
Female	755	42.4
Unidentified	2	0.1
Race/ethnicity		
White	1,370	77.0
Black/African American	264	14.8
Asian	39	2.2
Multi-racial	39	2.2
American Indian	18	1.0
Native Hawaiian/other pacific	5	0.3
Unidentified	44	2.5
Most common disability source		
Cognitive impairments	862	48.5
Psychosocial impairments	496	27.9
Mental impairments	74	4.2
Physical impairments	71	4.0
Communicative impairments	50	2.8
Other 13 categories		12.6
Primary source of disability		
Intellectual disability	380	21.4
Autism	311	17.5
Depressive/other mood disorder	175	9.8
Learning disabilities	167	9.4
Attention-deficit hyperactivity disorder	121	6.8
Other (18 categories)		35.1
Most common Barriers to CIE		
Low-income status	884	49.7
Long-term employment	809	45.5
Basic skills deficiency	589	33.1
Exited in CIE		
Yes	538	30.2
No	1,241	69.8

($n = 862$, 48.5%), and the primary source of disability was intellectual disability ($n = 380$, 21.4%). The most common barriers to CIE included low-income status ($n = 884$, 49.7%), long-term unemployment ($n = 809$, 45.5%), and basic skills deficiency ($n = 589$, 33.1%).

The number of consumers who exited in CIE after receiving customized employment services was 538 (30.2%); while 1,241 (69.8%) did not achieve a competitive integrated employment outcome. Of those who exited in employment, the median working hour was 13 hours (mean = 15.41, $SD = 11.16$), the median hourly wage was $11.50 (mean = $11.25, $SD = 5.81$) and the median weekly wage was $150 (mean = $191.54, $SD = 197.95$).

3.3. VR Services provided with customized employment

For the 10 SVRAs, frequency of VR services provided with customized employment was examined to understand service patterns. This data is presented in Table 2. The services provided to more than 10% of the consumers served with customized employment were vocational rehabilitation counseling and guidance ($n = 831$, 46.7%), assessment ($n = 457$, 25.7%), job placement assistance ($n = 433$, 24.3%), benefits counseling ($n = 393$, 22.1%), supported employment ($n = 311$, 17.5%), short term job supports ($n = 233$, 13.1%), and information and referral services ($n = 233$, 13.1%).

Agency level discrepancies were observed in the types of services provided with customized employment. The SVRA with highest utilization rate of rehabilitation counseling and guidance provided this service to 100% of consumers ($n = 65$), whereas SVRA with the lowest utilization provided it to only 3.3% of consumers ($n = 2$). The discrepancy was also found in the assessment (highest 57.4%, $n = 35$, lowest 9.7%, $n = 47$), job placement assistance (highest 63.7%, $n = 216$, lowest 0%), benefits

Table 2
VR services provided with customized employment

VR service	Group A (N = 1,171)		Group B (N = 608)		Total (N = 1,779)	
	N	%	*N*	%	*N*	%
VR counseling and guidance	520	44.4	311	51.2	831	46.7
Assessment	229	19.6	228	37.5	457	25.7
Job placement assistance	323	27.6	110	18.1	433	24.3
Benefits counseling	144	12.3	249	41.0	393	22.1
Supported employment	64	5.5	247	40.6	311	17.5
Short term job supports	172	14.7	61	10.0	233	13.1
Information and referral services	73	6.2	160	26.3	233	13.1

counseling (highest 65.5%, $n = 156$, lowest 0%), supported employment (highest 55.7%, $n = 49$, lowest 0%), short-term job supports (highest 39.5%, $n = 49$, lowest = 0%), and information and referral services (highest 100%, $n = 116$, lowest 0%).

3.4. Difference in service patterns in conjunction with customized employment

An analysis of service patterns indicated that there are two markedly different approaches to customized employment by SVRAs. Some SVRAs are more likely to include referrals for supported employment (SE), while others are more likely to use services other than supported employment in conjunction with customized employment. Based on this finding, the 10 SVRAs were separated into two groups. Group A ($n = 1,171$) consists of five SVRAs using co-occurring services with customized employment other than supported employment. Group B ($n = 608$) consists of the other five SVRAs more likely to use supported employment in addition to customized employment. The statistical significance of differences in service patterns was examined between groups using chi-square tests. As a results, the analysis confirmed that Group B is significantly more likely to include supported employment service in addition to customized employment compared to Group A ($\chi^2(1, N = 1,779) = 342.955$, $p < 0.001$). In further analysis, SVRAs included in Group A were more likely to provide job placement assistance ($\chi^2(1, N = 1,779) = 19.577$, $p < 0.001$) and short-term job support ($\chi^2(1, N = 1,779) = 7.621$, $p = 0.006$). SVRAs in Group B were more likely to include assessment ($\chi^2(1, N = 1,779) = 67.504$, $p < 0.001$), benefits counseling ($\chi^2(1, N = 1,779) = 190.957$, $p < 0.001$), information and referral services ($\chi^2(1, N = 1,779) = 141.800$, $p < 0.001$), and vocational rehabilitation guidance and counseling ($\chi^2(1, N = 1,779) = 7.314$, $p = 0.007$). The frequencies of SVR services provided by each group are presented in Table 2.

3.5. Difference in demographic characteristics

Analysis to identify group differences in demographic characteristics indicated significant differences in consumers' disability type and disability significance. The proportion of consumers with cognitive impairment was significantly higher ($\chi^2(1, N = 1,779) = 87.271$, $p < 0.001$)) in Group B (63.8%) compared to Group A (40.5%). The proportion of consumers with intellectual disability was significantly higher ($\chi^2(1, N = 1,779) = 211.107$, $p < 0.001$) in Group B (41.0%) compared to Group A (11.2%). In addition, the proportion of consumers who were most significantly disabled was higher in Group B (93.9%) compared to Group A (74.5%; $\chi^2(2, N = 1,779) = 101.608$, $p < 0.001$). Almost 90% of consumers with either cognitive impairment or intellectual disability were identified to be most significantly disabled. There were no significant differences in race/ethnicity between groups.

3.6. Difference in employment outcome

In the final analysis, the differences in employment status at the time of exit, weekly earnings, and weekly hours worked were examined between the SVRAs in Group A that provide customized employment as a co-occurring service with job placement assistance and short-term job support, and those in Group B that are more likely to use referral for supported employment. In the employment outcome, consumers served in Group B were more likely to exit in competitive integrated employment (59.4%) than individuals served in Group A (15.1%; ($\chi 2(1, N = 1,779) = 371.620$, $p < 0.001$). Detailed information regarding the number of consumers who exited with CIE from each state VR

Table 3
10 SVRAs' consumers closed in CIE

State VR agencies	# closed in CIE receiving CE	All closures in CIE	% cases closed in CIE receiving CE
Group A states			
State #1	33	487	6.8%
State #2	84	339	24.8%
State #3	38	99	38.4%
State #4	17	185	9.2%
State #5	5	61	8.2%
Total of group A	177	1,171	15.1%
Group B states			
State #1	34	65	47.7%
State #2	42	116	36.2%
State #3	47	88	53.4%
State #4	228	238	95.8%
State #5	10	101	9.9%
Total of group B	361	608	59.4%

agency is presented in Table 3. There was significant difference in the comparison of weekly earning (t (538) = 7.57, $p < 0.001$) and weekly working hours (t (538) = 9.11, $p < 0.001$) between the two groups. The consumers served by Group A was identified to earn more wage (mean = $279.34, SD = 250.75) compared to consumers served by Group B (mean = 148.49, SD = 148.53). Those served by Group A (mean = 21.24, SD = 13.37) also worked more hours in a week compared to those served by Group B (mean = 12.55, SD = 8.57).

Further, considering the between-group disparity in the demographic characteristics, cognitive impairment, intellectual disability, and severity of disability were included in the further analysis to examine their impact on employment outcomes. As a result, statuses of cognitive impairment ($\chi^2(1, N = 1,779) = 60.517$, $p < 0.001$), intellectual disability ($\chi^2(N = 1,779) = 61.136$, $p < 0.001$), and being significantly disabled ($\chi^2(2, N = 1,779) = 43.144$, $p < 0.001$) were the significant predictors of higher employment rate. However, cognitive impairment was associated with lower weekly wage (mean = 176.51, SD = 176.92; t (538) = 2.26, $p < 0.05$) and lower weekly hours worked (mean = 14.57, SD = 10.62; t (538) = 2.28, $p < 0.05$) compared to consumers with other types of primary impairments (weekly age mean = 216.55, SD = 226.96; weekly working hours mean = 16.80, SD = 11.90). Intellectual disability was also associated with lower weekly earning (mean = 124.16, SD = 82.43; t (538) = 5.69, $p < 0.001$) and lower weekly hours worked (mean = 11.68, SD = 7.63; t (538) = 5.58, $p < 0.001$) compared to other types of disabilities (weekly age mean = 224.58, SD = 227.59; weekly working hours mean = 17.24, SD = 12.13).

4. Discussion

The number of VR recipients exiting SVRAs during 2017 to 2020 who received CE services is concerning. In 77 SVRAs, only 2,280 individuals exited services after receiving customized employment. Ten states were responsible for 78% of this number, while the other 22% utilization of CE was accounted for by 67 agencies. The number of recipients in the 10 states who exited in CIE after receiving customized employment services was low ($n = 538$, 30.2%; while over twice as many, 1,241 (69.8%) did not exit in employment after receiving SVRA services.

Limited diversity in terms of race and ethnicity was observed among VR recipients who received CE. The majority of the individuals were white ($n = 1,370$, 77%) followed by Black/African American ($n = 264$, 14.8%). This same limited diversity is seen in the overall sample of VR recipients exiting SRVAs during this time period who achieved a CIE outcome. For comparison, 74.8% of all VR participants with an employment outcome in 2020 identified as White; while 22% identified as Black; 7.7% as Hispanic as examples (Revell et al., in press). Efforts are needed to reach individuals from diverse racial and ethnic backgrounds to ensure that they have equitable access to services. This includes identifying and remediating barriers that potentially bias their access to VR services including CE.

The low numbers of VR recipients exiting in CIE after receiving customized employment services raise questions regarding the capacity of SVRAs to provide CE to individuals with the most significant disabilities. Although RSA 911 data does not indicate why the number of VR recipients receiving CE services is low, there may be several factors associated with

this outcome. Approximately 58% of the states in the United States have a CE state policy; 18% have a CE fee schedule; and 8% are using the Discovery Fidelity Scale developed by Hall, et al., 2016 (D. Crandell, personal communication, October 6, 2022). A lack of clear state policy, absence of a CE fee schedule, limited system wide adoption of validated CE procedures, and limited published research can all contribute to underutilization of CE services. To authorize and vend for CE as service, VR counselors must have a cadre of agencies who understand how to provide substantive CE services. In addition, they must be able to effectively oversee providers, review documentation, and assess whether fidelity CE standards have been met.

Although there is overlap in the two services, there are clear distinctions in SE and CE service delivery. VR counselors may need guidance on who to refer for customized employment services versus supported employment. A question that has been asked by states receiving technical assistance (TA) from the Vocational Rehabilitation Technical Assistance Center on Quality Employment (VRTAC-QE) is who should be referred for customized employment.

Another concern is the implementation of services by the agencies that are vendors of CE for the SVRAs. Riesen et al. (in press) found that only 27 SVRAs have separate internal or external training requirements for SE and CE vendors. The Association of Community Rehabilitation Educators (ACRE) approves training curriculum based on competencies for customized employment, and some states are requiring service providers to complete an approved training curriculum. Nationally, there are only nine curricula approved by the ACRE to issue the Basic Certificate with an emphasis in Customized Employment (D. Wilkerson, personal communication, July 28, 2022). These nine agencies with approved training have issued 3,026 certificates to (service providers (e.g., employment specialists/job coaches)) according to the certificate registry on the ACRE website (Association of Community rehabilitation Educators, 2022) In comparison, there are 16,621 listed as holding the Basic Employment Certificate. As more states are requiring the Basic Certificate in Customized Employment for vendors to bill for this service or considering doing so, it is concerning that the demand for providers outweighs the supply. This disparity may account for the low numbers of VR recipients who are receiving CE services. States must begin to determine how they can increase the capacity of their vendors to provide customized employment with fidelity. This may include allowing agencies to provide CE by service providers who hold the Basic Employment Certificate while setting a timeline for their obtaining the Basic Certificate in Customized Employment. During this time, SVRAs should ensure that technical assistance (TA) is available for service providers to ensure fidelity of the intervention. In other words, service providers must be able to demonstrate knowledge of CE services as well as demonstrate skills to implement the services. Currently, VRTAC-QE is one source of technical assistance for states to work towards their goals of improving their capacity in customized employment. It may also be beneficial for SVRAs to establish a stipend or provide financial support to agencies in order for them to meet their requirements for providing CE services.

The median hours worked by the individuals in this sample who received CE services and exited in competitive integrated employment were 13 hours per week, which is less than those for all VR recipients exiting in CIE. The average hours worked per week at closure for all VR recipients exiting in CIE were 29.7 hours in program year (PY) 2018, 29.9 hours in PY 2019, and 29.1 hours in PY 2020. The median hourly wage for those who exited in CIE was \$11.5 (mean = \$11.25, SD = 5.81), and the median weekly wage was \$150 (mean = \$191.54, SD = 197.95). Although this hourly wage is more than the \$7.25 federal minimum wage, it is less than the hourly wage achieved at closure for all VR recipients exiting in CIE. As a comparison, the average earnings per hour at closure for all VR recipients exiting in CIE was \$13.00 per hour in PY 2018; \$14.00 in 2019; and \$13.10 per hour in PY 2020. Associated with the low hourly minimum wages is the low weekly wage for this sample. VR recipients who received CE services and exited in CIE earned a median weekly wage of \$150 (mean = \$191.54, SD = 197.95) per week. This is less per week than other VR recipients who exited in CIE during this same time period. In 2018, the average earnings per week at closure for all VR recipients exiting in CIE were \$392.04 in 2018; \$418.60 in 2019; and \$419.19 in 2020 (Revell, Inge, Cimera, Brinck, & Keeton, in press). The low number of hours worked and wages earned are concerning for a number of reasons. First, working so few hours raises the concern of what workers with disabilities will do the remainder of their week. Likewise, a median weekly wage of \$150 is clearly below the poverty level. As such, there is a concern that individuals obtaining employment through CE interventions are

experiencing underemployment relative to comparable peers being served by SVRAs.

Negotiation and customization are two primary features of customized employment, and agencies providing these services need to negotiate for more hours and greater wages that, at a minimum, reflect the hours and wages of other VR recipients who exit services in CIE. Individuals who receive CE services are, by federal definition, individuals with significant disabilities. Typically, these individuals will have greater barriers to employment than other VR recipients, which may include lower expectations for their employment outcomes. However, VR service providers should not expect that individuals with significant disabilities can only work a minimum number of hours per week or that they cannot earn commensurate wages to employees without disabilities for the same work. One issue may be that when negotiating positions, not enough work is identified under the proposed job description. Ongoing negotiation to ensure that additional job duties, hours, and increased wages must occur as the worker with disabilities develops new skills just as it would be negotiated for any employee of the business.

In the final analysis, the differences in employment status were examined between the SVRAs in Group A and those in Group B. VR recipients served in Group B (i.e., higher percentage referred for supported employment) were more likely to exit in competitive integrated employment (59.4%) than individuals served in Group A (15.1%). This is an important finding as the Essential Elements of Customized Employment for Universal Application does not include on the job support as a component of customized employment (WINTAC, 2017). According to this document, individuals who need ongoing supports should be referred to supported employment for these services. Recognizing that the individuals in this sample who were referred for supported employment were more likely to exit in CIE after receiving services is important to ensure that VR recipients receive these needed services after placement in a negotiated position.

4.1. Study limitations

One limitation of this study is the information available from the Rehabilitation Services Administration Case Service Report. While the RSA 911 data provides the type of services that VR recipients are receiving and their employment outcomes, there is no information on how the services are implemented or their quality. CE policy is state specific, and there are variations in how the SVRAs interpret and fund CE. Services provided in one state, for example, may not be similar to those provided in another even though the name of the service is the same. The quality of the service could also vary by agencies in the same state.

Although the manual and training for data entry are available, there could be inconsistency in the way staff code and enter information, which will impact the analysis. CE is a sequential, cumulative process that includes three interconnected phases: discovery, customized job development, and ongoing supports. One challenge however is that this is not articulated in WIOA or reflected in the RSA 911 data collection system. This creates an inconsistency in how CE services are reported. The statute outlines specific strategies for implementing CE including: (a) exploring jobs with the individual; (b) working with employers to facilitate placement, including customizing a job description based on current employer needs or on previously unidentified and unmet employer needs; (c) developing a set of job duties, a work schedule, and job arrangement, along with specifics of supervision (including a performance evaluation review), and determining a job location; (d) representing a professional chosen by the individual, or self-representation of the individual in working with an employer to facilitate placement; and (e) providing services and supports at the job placement (29 U.S.C §705 et seq.). However, the RSA 911 data does not collect data on the delivery of these as services. As another example, SVRAs may have different ways of reporting Discovery in the RSA 911 data, because they do not know how to report this service. Some states are reporting Discovery as assessment even though it is not intended as an assessment. This creates a challenge for analyzing and interpreting the RSA 911 data and comparing states' outcomes.

5. Conclusion

This study highlighted several important findings related to CE service patterns and utilization. Based on these findings, several recommendations to improve CE service delivery and utilization can be made. First, a comprehensive assessment of SVRA policy should be conducted. This policy assessment will help researchers and policy makers determine how states are defining a provision of CE and to determine of SRVA policy reflects operationalized

procedures needed to implement the distinct phases of CE to fidelity. Specific policy should then be cross-referenced with validated CE practices to ensure that SVRA CE policies and procedures align with CE validate practices for discovery, customized job development, and ongoing support. Second, revisions to RSA's case service report should be revised to ensure consistent language and reporting for CE cases. For example, discovery is considered an essential element of the CE process; however, there is no mention of discovery in the RSA case services report and the only data element for VRCs to report is "Assessment, service provided by agency staff" or Assessment, provided through VR agency purchase." As assessment is a relatively broad service domain used for numerous activities in support of providing vocational rehabilitation services (e.g., eligibility determination, career counseling, individual plan for employment development), the capacity to distinguish Discovery in the data will allow for increased scrutiny of the utilization and efficacy of this initial step in customized employment. Further, VRCs must be provided with ongoing and reliable training about how more accurately enter RSA case service data to reflect the CE services being provided (Bishop, et al., 2021).

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Conflict of interest

The authors declare that they have no conflict of interest.

Data availability statement

Data analyzed in the current study can be obtained from the corresponding author upon reasonable request.

Ethics statement

This study used secondary data and is thus exempt from Institutional Review Board approval.

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Informed consent

This study used secondary data so informed consent was not needed.

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