Cost effectiveness of supported employment programs: What we need to do to improve outcomes

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Cost effectiveness of supported employment can only be meaningful studied in the context of how meaningful the actual outcomes are. This paper examines how to assess outcomes, how funding agencies purchase services, and describes how two states, Massachusetts and Oklahoma, provide funding for supported employment. A summary of cost effectiveness recommendations is provided as well.

Keywords: Results-based funding, cost-effectiveness of supported employment

1. Introduction

Supported employment is one program specifically designed to assist persons with the most significant disabilities to achieve competitive level, community integrated employment. Supported employment first received public funding though the Rehabilitation Act Amendments of 1986. It has enjoyed steadily increasing popularity since its inception and has achieved carefully documented positive outcomes [10,15]. The major premise of a supported employment program is that many persons with significant disabilities need some additional support at the jobsite to work successfully. Through the use of employment specialists, mentors, coworkers and employers, the impediments to employment faced by prospective workers are reduced,

The ability to be employed is important for many reasons. First, working in competitive employment provides an opportunity to receive wages and benefits that may lead to greater independence and mobility in the community at large. Second, being productive on a daily basis in a meaningful vocation is critically important to one's self-esteem and dignity. Third, establishing new friendships and networks of social support in the community is almost always facilitated by having a job within a career path. And finally, the extraordinary costs associated with maintaining persons with disabilities on Social Security disability rolls are a highly nonproductive and inefficient use of human potential that are now reaching an unacceptable level in this country. This high level of entitlement leads to greater federal deficits and ultimately fosters the incorrect perception among society that people with disabilities must be dependent on public support and are not capable of active lives that include competitive employment.

As we consider the obvious need to increase our nations's resolve to promote employment for people with disabilities, one must look carefully at how supported employment might play a role. A number of specialized employment programs for individuals with disabilities have been developed over the years. Some have been effective and some less so. Supported employment is one of the few specialized programs in the Rehabilitation Act that has grown to a size where it has the potential to make a real national impact on the hundreds of thousands of people with disabilities still unemployed. It is a program with carefully documented positive employment outcomes for persons with disabilities in a number of important areas, including consumer satis-

and their abilities and work potentials are emphasized through supports designed at the workplace. Despite the demonstrated success and value of this model and research that confirms its efficacy [2,5,6], supported employment has not yet been fully utilized to impact the thousands of people with disabilities who remain unemployed.

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faction [16], job placements [10], wages and benefits [8, 17], favorable employer perceptions [9], and effective support strategies [14]. Therefore, supported employment has shown itself to be a highly useful program with potential for expansion.

One area that has not been studied closely enough in supported employment has been the cost effectiveness of the program. Supported employment has shown that it is cost-efficient in comparison to alternative programs models, such as sheltered employment for person with developmental disabilities and rehabilitative day treatment programs for persons with severe mental illness [3,4]. However, it is the purpose of this report to look more closely at recommendations for promoting more cost effectiveness in supported employment.

For vocational rehabilitation agencies, recommendations for improving the cost effectiveness of supported employment must address the relationship between the quality of the supported employment outcome and the costs to achieve that outcome. The substantial variance in the quality of supported employment outcomes across states is clearly documented [18]. For example, consider the following: (1) There is variance in participation by persons who are the most significantly disabled. (2) There is wide variance in the wage outcomes for supported employment participants with mean state wages ranging from well above minimum wage to below minimum wage. (3) There also is a wide variance in the costs for achieving a supported employment outcome. These variances have been documented repeatedly over the past decade. To address the core issue of the quality of supported employment outcomes related to costs, there are two areas that will be discussed. One is the nature and quality of outcome, as related to costs. The other is results based funding. The results to date of these two lines of research have clear implications for recommendations on improving the cost effectiveness of supported employment. A brief summary of these results are presented next.

2. Cost-effectiveness of supported employment related to meaningful employment outcomes

The assessment of cost-effectiveness of supported employment programs can best be understood in the context of systematic assessment of (1) program services, (2) case mix, and (3) vocational outcomes. Regarding program services, many providers offering supported employment fail to provide services that exemplify the critical ingredients of supported employ-

ment. Bond [1] has developed an instrument, known as the Quality of Supported Employment Implementation Scale (QSEIS), which assesses programs on 33 behavioral indicators via a brief interview. Indicators include intensity of service, length of follow-up, rapid job search procedures, integration of vocational and treatment services, and placements based on consumer preferences and needs. Interviews have been completed with 42 providers in 3 states. The variation in ratings on this scale suggest unequal implementation along quality dimensions, which in turn may relate to program effectiveness and serve as an upper bound on cost effectiveness. A program that is not effective in helping people obtain employment cannot be cost effective. Regarding case mix, it is clear that costs vary widely according to intensity of services provided, which in turn is likely to vary widely as a function of severity of disability. Our research continues to seek the best indicators of case mix. With regard to vocational outcomes, we have found that different outcome measures are not always highly correlated. If the VR closure rate is used as the primary indicator of performance, then it will not necessarily lead to desired job tenure outcomes. In our pilot research, those programs that emphasize vocational planning and long-term support had better job tenure. However, these same programs did not have the highest VR closure rates. In other words, choice of employment outcome indicators is a critical decision that impacts the evaluation of a program's cost-effectiveness [1].

Future direction needed for this research is to inquire into the validity of the QSEIS and employment indicators to better understand what services are effective, with which clients, and for which outcomes. Validation requires a sufficiently large data base to obtain interpretable patterns of relationships. Cost effectiveness can then be tied to these indicators. The SEC has been sampling in widely diverse service settings to enhance the external validity of this methodology. Research can adapt this instrument for use as a checklist that can be used by family members and consumers for making informed decisions about services, especially as we move toward voucher systems in which consumers have a choice among providers. The QSEIS can be a highly useful tool to quantitatively connect quality supported employment outcomes with cost effectiveness.

3. Cost-effectiveness of supported employment related to how funding agencies purchase services

It is essential to ground a discussion of cost effectiveness related to funding methodologies in the day to day realities faced by state agencies, providers, and individual job coaches working with funding and cost issues. For example, consider this issue at the job coach level. Inge [7] has recently run a Web-based course on supported employment. This course was targeted to direct service staff. Students were recently asked to post questions on funding difficulties they are experiencing related to persons with the most significant disabilities. Here are two representative postings: (1) "My experience has been that our VR agency feels that persons that are significantly disabled and persons with developmental disabilities are a risk to open eligibility on. The VR program is so tied to outcomes of closures of success that there is a resistance to eligibility." (2) "Probably the biggest obstacle that we have come up against is getting funding for individuals with significant disabilities is VR funding. VR funding is so limited that most of the monies available go to more readily employable people. VR agencies seem to be in a pinch of sorts and are more willing to help the people who are ready to go to work right away with little accommodations." These responses point directly to the ongoing struggle of VR to effectively allot resources to services for persons with the most significant disabilities. Funding designs are needed that match efficient use of funds to securing competitive employment outcomes for persons with the most significant disabilities.

One must also review this issue at the provider level. A provider agency asked recently for help in evaluating a results-based, fixed price funding contract proposal being offered by a local (non-VR) funding agency. The provider was concerned that the proposed outcomes payments would not cover the true cost of services required by the population. Subsequently, it was determined that the contract did under-fund the necessary services. The funding agency pushed cost efficiency (controlling costs) at the expense of effectiveness (quality of SE outcome). If the provider entered into the contract, covering costs would mean the staff of this agency would have to "cream" (only provide services to those individuals who required the least supports) its referral pool and/or cut back on service quality, usually resulting in poorer quality job matches and tenuous job security. The provider rejected this funding proposal. Program improvements are needed in supported employment that fairly match costs to outcomes, leading directly to funding designs that balance the desire of funding agencies for cost efficiencies and the need of persons with the most significant disabilities for quality services and supports.

Here is a final example, one that occurs at the state level: Last fiscal year, a state vocational rehabilitation agency had a severe fiscal crisis. The agency, with minimal lead-time, implemented a results based funding design for supported employment that replaced an hourly fee program. The supported employment state VR program manager subsequently asked consultants to help review the recently implemented new system and to point out possible improvements. State VR agencies are aggressively seeking to redesign funding methods for supported employment. The efficacy and impact of these designs need evaluation. A trial and error approach to these funding methodologies will only compound the documented difficulties VR is already experiencing in providing supported employment services to persons with the most significant disabilities in a cost efficient and effective manner.

4. Preliminary findings on key characteristics of successful funding designs

Results based funding designs are being implemented that clearly identify the desired employment outcome, define the quality indicators that substantiate the achievement of those outcomes, and establish a payment schedule specific to outcomes achieved. Research completed to date on achieving a balance between cost efficiency and effectiveness in the funding of supported employment services points directly to the importance of five specific characteristics of successful funding designs [12]. These five areas are assuring collaboration by key stakeholders, setting payments that truly cover the cost of services, tying payments to valued outcomes, emphasis on participant choice and selfdetermination, and avoiding disincentives that discourage access to SE for persons who face the most significant employment challenges. These characteristics are described in Table 1.

States such as Massachusetts and Oklahoma have developed results based funding programs. The Community Based Employment Services (CBES) system used in MA and the Milestones system used in OK take substantially different approaches in key areas such as use of fixed (MA) versus negotiated (OK) rates, definition of key intermediate outcomes, and incorporation of in-

Table 1 Critical characteristics of successful results based funding designs

Balance the interests of key stakeholders through collaboration: The challenge is to balance the interests of SE participants, providers and funding agencies. Participants seek self-determined, not imposed, employment outcomes with full and uninterrupted access to needed supports. SE providers seek funding that covers the true cost of services, and funding agencies seek quality outcomes at a reasonable cost. Case studies in Alabama and Oklahoma point directly to the critical importance of early involvement by all stakeholders.

Insure that funding levels are workable for providers of service: Attention is needed to the spacing and weighting of payment points, inclusion of proactive assessment job planning strategies, including in payments costs associated with participants who fail to reach key benchmarks, replacement of participants who lose jobs or seek career-oriented job changes.

Tie payments to the achievement of valued performance measures: Focus on increasing the number of people who have quality jobs by defining outcome-oriented performance measures (i.e.: degree of employer and consumer satisfaction, employment retention, wages and benefits)

Emphasize individualization, flexibility and choice: Support responsiveness to the individual participant by evaluating achieved work outcome against identified job interest, acceptable geographic location, wage and benefit requirements, and work schedule.

Avoid creating disincentives to serving people with the most significant disabilities: Utilize options such as tiered payment levels or incentive payments that help assure access to services by the more highly challenged.

centives to encourage services to frequently unserved and underserved populations. However, both CBES and Milestones are firmly grounded in the five principles presented above and both have documented success in improving the cost effectiveness of supported employment services from the perspective of a funding agency [11,13]. Impact evaluations of the OK Milestones program document improved cost efficiencies with no loss in effectiveness as measured by participation of the most highly challenged population, reduced waiting lists, reduced time to employment for persons in job development, and increased numbers of successful supported employment outcomes. The evaluation of the impact of the MA CBES program reported the following results:

- High consumer satisfaction with the model of service delivery
- Potential for flexibility and customization of services
- Reimbursement based on performance outcomes
- Increased numbers of consumers enrolled in this model of service delivery
- Inter-agency collaboration, including cost-sharing of services
- High levels of communication between provider and state agencies
- Provider and state agency satisfaction with component structure
- Provider and state agency satisfaction with rate structure

The inter-agency collaboration referred to in the CBES results summary includes shared funding for coverage of extended employment services following completion of VR funded time-limited services. Both OK and MA, using different approaches to results based

funding, have successfully matched payment schedules to participant outcomes in a manner viewed by the funding agencies as cost effective. Clearly, the accomplishments reported by both Massachusetts and Oklahoma reflect the type of cost effectiveness improvements sought by RSA, VR, and other SE funding agencies.

How then can vocational rehabilitation promote improvements in the cost effectiveness of the supported employment program in terms of the quality of employment outcomes in relation to the costs to achieve these outcomes? The keys to improving cost effectiveness are found in two areas. First is the purchase of service relationship between VR and its provider agencies from whom it secures supported employment services. The second area is the collaborative relationship between VR and funding sources for extended supported employment services. Future efforts to improve cost effectiveness of the field application of supported employment should be targeted specifically to these two primary areas.

5. Summary of cost effectiveness recommendations

It is clear that supported employment can be (but may not always be) cost effective. In the hands of the right vocational counselor, the right provider, or in the context of the right state agency policies, cost effectiveness can occur regularly. However, in the wrong hands, much like a delicate medical procedure or surgery, different costs and outcomes can and will occur.

It is also very clear that examining costs without closely examining quality of outcome in an equally diligent fashion is a major scientific flaw. Of course, we can achieve cost effectiveness if we shoot for poor quality jobs, low hours, poor retention, etc., etc., or if

we identify the "easiest" clients. But that is not why supported employment emerged 20 years ago—the plan always was to target those with the most challenging needs and help them enter competitive integrated employment. Consider the following six recommendations as a way to improve these goals:

- Disseminate information on a targeted number/group of states to evaluate state specific cost effectiveness of funding arrangements look to identify at least one Results Based Funding Model (i.e. like Oklahoma) in each of the 10 Rehabilitation Services Administration regions.
- 2) Work with exemplary programs, and disseminate their results to VR state and local agencies.
- 3) Improve collaborative relationships between VR and funding sources for extended employment services, therefore reducing the demand of VR \$\$ through using areas such as: Medicaid Waiver, Work with SSA on PASS, IRWE and Ticket to Work, TANF.
- Offer state VR agencies access to a national team of experts to evaluate cost effectiveness of current state cost funding designs and assist states in redesign.
- 5) Hold national meetings with vocational rehabilitation management on improving cost effectiveness of SE services, followed by a series of regional workshops. Utilize existing state examples as basis for workshops.
- 6) Concentrate efforts on identifying areas that have the greatest impact on the cost of SE services (i.e.: relationship between direct and indirect service costs).

We do not recommend any significant restructuring of the supported employment program at the Federal level. Since first authorized in 1986, Title VI of the Rehabilitation Act has provided designated case service funds for supported employment that effectively promote use of this service and leverage VR Title I, Section 110 funds (as well as non-VR funds) into supporting this program [18]. Regulatory modification efforts aimed at furthering stated Congressional and vocational rehabilitation goals for supported employment have not been consistently effective. These goals have included supported employment services truly reaching people with the most significant disabilities, improving the quality of work-place integration for persons in SE, and matching SE jobs to self-determined career goals of persons in SE. No specific regulatory action is recommended in core supported employment areas. However, aggressive rehabilitation efforts are needed to clarify legislative intent in areas such as Section 102 of the Act on presumed eligibility of SSI/SSDI recipients and Section 361.52 (b) and (c) on providing information to consumers to support informed choice. Although these are not cost specific strategy areas, clear federal rehabilitation guidance here would address areas important to consumers of supported employment services and would solidify the framework within which states should measure the effectiveness of supported employment services.

References

- [1] G.R. Bond, J. Picone, B. Mauer, S. Fishbein and R. Stout, The Quality of Supported Employment Implementation Scale, in: The impact of supported employment for people with significant disabilities: Preliminary findings from the National Supported Employment Consortium, G. Revell, K.J. Inge, D. Mank and P. Wehman, eds., Virginia Commonwealth University, Richmond, VA. 1999.
- [2] G.R. Bond, L.L. Dietzen, J.H. McGrew and L.D. Miller, Accelerating entry into supported employment for persons with severe psychiatric disabilities, *Rehabilitation Psychology* 40(1) (1995), 17–37.
- [3] R.E. Cimera and F.R. Rusch, The cost-efficiency of supported employment programs: A review of the literature, *Interna*tional Review of Research on Mental Retardation, 1999.
- [4] R.E. Clark, P.W. Bush, D.R. Becker and R.E. Drake, A costeffectiveness comparison of supported employment and rehabilitative day treatment, *Administration and Policy in Mental Health* 24 (1996), 63–77.
- [5] C. Coker, K. Osgood and K. Clouse, A comparison of job satisfaction and economic benefits of four different employment models for persons with disabilities, University of Wisconsin-Stout, Rehabilitation Research and Training Center on Improving Community-Based Rehabilitation Programs, Menomonie, WI, 1995.
- [6] R. Drake, G. McHugo, D. Becker, W. Anthony and R. Clark, The New Hampshire study of supported employment for people with severe mental illness, *Journal of Counseling and Clinical Psychology* 64(2) (1996), 391–399.
- [7] K.J. Inge, Supported Employment WEb Based Certificate Series, Available [On-Line]:http://www.wcb.vcu.edu/wcb/ schools/ALH/reh/kinge/3/index.html, 1999.
- [8] J. Kregel, P. Wehman and D. Banks, Effects of consumer characteristics and types of employment models of individual outcomes in supported employment, *Journal of Applied Behavior Analysis* 22 (1989), 407–415.
- [9] J. Kregel and D. Unger, Employer perceptions of the work potential of individuals with disabilities: An illustration from supported employment, *Journal of Vocational Rehabilitation* 3(4) (1993), 17–25.
- [10] D. Mank, C. O'Neill and R. Jensen, Quality in supported employment: A new demonstration of the capabilities of people with severe disabilities, *Journal of Autism and Developmental Disabilities* (in press).
- [11] Massachusetts Rehabilitation Commission, *CBES year II evaluation report*, author, Boston, MA, December 10, 1998.

- [12] J. Novak, D. Mank, G. Revell and D. O'Brien, Paying for success: Results-based approaches to funding supported employment, in: The impact of supported employment for people with significant disabilities: Preliminary findings from the National Supported Employment Consortium, G. Revell, K.J. Inge, D. Mank and P. Wehman, eds., Virginia Commonwealth University, Richmond, VA, 1999.
- [13] D. O'Brien and B. Cook, The Oklahoma Milestone Payment System, [Online] Available http://www.onenet.net/home/ milestone, December 1998.
- [14] W. Parent, W. Gibson, D. Unger and C. Clements, The role of the job coach: Orchestrating community and workplace supports, in: *New directions in supported employment*, P. Wehman and J. Kregel, eds., Virginia Commonwealth University, Rehabilitation Research and Training Center on Supported

- Employment, Richmond, 1994, pp. 40-52.
- [15] W.G. Revell, P. Wehman, J. Kregel, M. West and R. Rayfield, Supported employment for persons with severe disabilities: Positive trends in wages, models, and funding, *Education and Training in Mental Retardation and Developmental Disabilities* 29(4) (1994), 256–264.
- [16] D.W. Test, K.B. Hinson, J. Solow and P. Keul, Job satisfaction of persons in supported employment, *Education and Training* in *Mental Retardation* (March 1993), 38–46.
- [17] L. Thompson, G. Powers and B. Houchard, The wage effects of supported employment, *Journal of The Association for Per*sons with Severe Handicaps 17(2) (1992), 87–94.
- [18] P. Wehman, G. Revell and J. Kregel, Supported employment: A decade of rapid growth and development, *American Rehabilitation* 24(1) (1999), 31–43.