

Reducing the Cost of Providing Supported Employment Services: A Preliminary Study

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This study investigated the costs and outcomes generated by two groups of supported employees—31 supported employees receiving follow along services by traditional agency staff (i.e., job coaches) and 19 supported employees receiving follow along services by individuals not associated with adult service agencies. Results suggest that individual-provided supported employees generated far fewer costs on average (\$382 per month of services; \$7.49 per hour worked) than did agency-provided supported employees with similar demographics (\$808 per month of services; \$11.94 per hour worked). Further, more individual-provided supported employees had retained their positions in the community three months later (61.5%) than their agency-provided peers (33.3%). Finally, agency-provided supported employees were more likely to be placed in facility-based programs after three months (55.6%) than were individual-provided supported employees (7.7%).

Since the 1980s, individuals with severe disabilities throughout the world have achieved competitive employment within their communities via supported employment programs. The supported employment process is traditionally broken into two phases. The first involves initial placement and training, where the supported employee is placed in a community-based position and taught how to perform the essential functions of the job. The second phase involves continued follow along services that help ensure the supported employee is able to satisfactorily maintain their position. In this stage, employment specialists may visit the supported employee periodically to provide additional training that the supported employee may need.

Before supported employment was officially defined in the federal legislation, research explored the financial implications of empowering individuals with disabilities to work within their communities (cf. Brickey & Campbell, 1981; Cho & Schuermann, 1980). Over three decades later, the consensus in the rehabilitation literature is that, in most situations, supported employment seems to be more cost-effective than

facility-based vocational programs, such as sheltered workshops (Cimera, 2012; Kregel, Wehman, Revell, Hill, & Cimera, 2000). With this in mind, recent economic literature on supported employment has shifted away from exploring how much supported employment costs to how costs can be reduced while improving the outcomes achieved by workers with disabilities (e.g., increasing the length of time supported employees keep their jobs).

Many studies have explored how to improve the initial placement and training phase of supported employment. For example, several studies have examined the merits of utilizing “natural supports” when training supported employees (Cimera, 2001, 2007; Zivolich, Shueman, & Weiner, 1997). However, to date, no study has explored ways to provide more efficient and cost-effective follow along services. Given that follow along services may last for years, compared to only a few months of initial training, identifying a method of providing effective and efficient follow along service is paramount in improving supported employment programs as a whole. Moreover, as the amount of funding available to supported employment decreases, finding more effective and efficient methods for delivering vocational services is essential.

It is for this reason that this preliminary study explored a method of reducing the costs of follow along services while improving the vocational outcomes achieved by support-

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ed employees (e.g., wages earned, hours worked, length of employment). Specifically, in Wisconsin, follow along services can be provided by adult service agency staff (e.g., job coaches) or individuals who do not work for any agency (e.g., coworkers, friends, family members of the supported employee).

Critics of Wisconsin's follow along programs may argue that individuals (i.e., non-job coaches) who provide follow along services are untrained and, therefore, could not provide quality services. They may even suggest that there is a risk of exploitation; that is, friends and family members may attempt to become service providers solely for their own financial gain. Either way, supported employees may suffer.

Proponents of individually-provided follow along services argue that individuals agreeing to provide follow along services are more likely to know the supported employee on a personal basis than professional job coaches. Therefore, they would be more inclined to support and motivate the supported employee—which could result in better vocational outcomes at a reduced cost. Further, advocates argue that individuals providing follow along service would be more likely to have the supported employee's best interests in mind than agency-based job coaches who see the supported employee as a "client" rather than a person.

Clearly, many questions remain about the efficacy of "individually-provided" follow along services. For instance, can individuals provide the same quality of services as agency-based job coaches? Do supported employees trained by individuals keep their jobs as long as supported employees trained by more traditional means? Can the cost of services be reduced by utilizing non-agency service providers? As previously indicated, there has been no investigation of which method of providing follow along produces better outcomes.

The present study conducted a preliminary exploration of these issues by examining two groups of supported employees. One group was provided follow along by job coaches employed by vocational training agencies. The second group was provided follow along services by individuals who were not affiliated with vocational training agencies. Supported employees in both groups were matched by six demographics. The vocational outcomes achieved by both groups were then compared.

Methods

Source of Data

Representatives from the State of Wisconsin requested that the author conduct a cost-analysis of the follow along services provided within their state. They provided the author with data on all supported employees in individualized competitive placements in their community who were receiving follow along services within the state as of July 26th, 2011. Data provided included: (a) extensive information on each supported employee's diagnoses, functional abilities, and other demographics, (b) the amount Wisconsin's Family Care and Waiver funding systems reimbursed service providers for

follow along services, and (c) whether or not the personnel providing the follow along services were from vocational training agencies. Additionally, in October, 2011, representatives of the State of Wisconsin sent questionnaires to case managers in order to obtain data on each supported employee's: (a) employment status, (b) hours worked, and (c) gross wages earned.

Sample Selection

On July 26th, 2011, 227 supported employees were receiving follow along services in Wisconsin. Of these 227 supported employees, 20 were provided follow along services by individuals who were not associated with vocational training agencies. Of these 20 supported employees, one was excluded from the study because it was impossible to match her to agency-provided supported employees with similar demographics. Thus, the sample for this study included 19 supported employees who were provided follow along services by individual (i.e., non-agency based) providers.

These 19 individual-provided supported employees were each matched to *three* supported employees who received follow along services from agency staff (except in one case where only one suitable match was found). Individual-provided supported employees were matched to multiple agency-provided supported employees in an effort to insure that the comparisons were being made to supported employees representative of the agency-provided cohort and that erroneous results were not obtained due to matches being made to outliers, or exceptional individuals.

Matching Procedures

Matches were made across six variables, the presence of: (a) autism, (b) intellectual disabilities, (c) physical disability, (d) mental illness, (e) offensive behaviors, and (f) self-abusive behaviors. In order to be matched, participants had to possess exactly the same variables. For instance, if a supported employee from the "individual-provided" cohort was diagnosed with autism and an intellectual disability as well as had self-abusive behaviors, he was matched with three supported employees from the "agency-provided" cohort who all had the same demographics.

In five cases, multiple supported employees in the individual-provided cohort had the same combination of demographics (e.g., had intellectual disabilities and no other variables present). However, there were not enough supported employees in the agency-provided population for each of the individual-provided supported employees to be matched to three unique peers. In such cases, the individual-provided supported employee was matched to three agency-provided supported employees chosen randomly by computer from the suitable matches available. Consequently, some of the agency-provided supported employees were compared to more than one individual-provided supported employee. As a result, the sample of agency-provided supported employees numbered 31, not 57 (i.e., 19 x 3).

Demographics for the 19 supported employees comprising the individual-provided cohort, the 31 supported employees comprising the agency-provided cohort, as well as all agency-provided supported employees throughout the state are presented in Table 1.

Variables

Individual v. agency-provided services. Agencies were defined as fiscal entities that employed multiple employees. For the purposes of this study, supported employees who received services furnished by these entities were termed "agency-provided" supported employees. Individual service providers were those who did not employ other employees, just themselves. For the purposes of this study, supported employees who received services from these providers were termed "individual-provided" supported employees.

In Wisconsin, there were no requirements to become an individual service provider other than supported employees indicating that they were willing to have the individuals provide them services. Consequently, the individual service provider may or may not have had any training or formal education about people with disabilities. Adult vocational agencies in Wisconsin, however, had to be accredited by the Commission on Accreditation of Rehabilitation Facilities (CARF).

Matching variables. Each matching variable was dichotomous. For instance, individuals either had a diagnosis of autism or they did not. The same was true for intellectual disabilities, physical disabilities, and mental illnesses. Individuals with "offensive behaviors" were defined as individuals who had a documented history of violent behaviors toward others. "Self-abusive behaviors" were reported "behaviors that cause or could cause injury to the applicant" (Wisconsin Department of Health Services, 2009). Autism, intellectual disabilities, physical disabilities, and mental illnesses were selected as

matching criteria because they represented a diverse array of possible diagnoses experienced by the 19 individual-provided supported employees. Offensive and self-injurious behaviors were utilized in the matching criteria as a method of distinguishing the level of functioning ability that occurs within disability categories. Data for the matching variables were entered into the State-operated database by case coordinators at the time individuals entered supported employment programs as well as each year after that point. The demographic data utilized here were the most recent available.

Cost of services. In the cases of the 50 supported employees participating in this study (i.e., 19 individual-provided and 31 agency-provided), follow along services were not furnished directly by the funding agencies. Instead, they were contracted to service providers (i.e., either agency-based or individuals). For the purposes of the present study, the dollar amount reimbursed by the funding agencies was the cost of the follow services. Total cost of service was divided by the number of months services were provided, thus producing a cost-per-month.

Months of services. Months of services were the number of months in which services were billed for by the service provider. If services were provided on only one day of a month, that period counted as a full month.

Current employment status, hours worked, and wages earn per month. Representatives from the State of Wisconsin sent surveys to the case managers of each of the 50 supported employees participating in this evaluation. Case managers were asked about the employment status of the supported employee as of October, 2011. If the supported employee remained employed, the service providers were also asked to provide the average number of hours the supported employee worked in the community and their current hourly wage.

Complete data were obtained on 40 supported employees (80% of total sample)—27 agency-provided and 13 individually provided. There was no attempt to determine whether the ten incomplete respondents were representative of the sample as a whole.

Research Questions

This study explored three questions. The first sought to determine which method of providing follow along services produced the least amount of cost to funding sources. In these analyses, costs

Table 1. Demographics of Individual and Agency-Provided Supported Employees

	Matched Groups		Agency-Provided (entire state)
	Individual- Provided	Agency-Provided	
Sample Size	19	31	208
Severe Mental Illness	0.0%	0.0%	10.1%
Mental Retardation	68.4%	68.4%	71.6%
Autism	26.3%	26.3%	13.0%
Physical Disability	10.5%	10.5%	14.4%
Multiple Disabilities*	31.6%	31.6%	14.4%
Exhibits Self-Injurious Behavior	10.5%	10.5%	18.3%
Exhibits Offensive Behavior	26.3%	26.3%	32.2%

*To be considered to have "multiple disabilities," supported employees had to have more than one of the four disabilities listed here.

generated by the two cohorts were compared with regard to monthly cost, cost per hour worked, and cost per dollar earned in the community. The second question attempted to determine which method of service delivery produced the best vocational outcomes (e.g., hours worked, wages earned, retention of employment). Finally, this study investigated whether individual-provided supported employees were somehow demographically different than supported employees throughout the rest of the state. In other words, policymakers within the State of Wisconsin were interested in knowing if the individual-provided supported employees had "milder" disabilities than supported employees served by agencies throughout the state (i.e., a "creaming" effect).

Results

Question 1: Which Method of Service Delivery Produced the Least Amount of Costs?

The costs of the two service delivery models evaluated here were investigated in relation to three sets of analyses. The first compared the average costs generated per month by the individual-provided cohort to the average costs generated per month by the agency-provided cohort. The second cost-comparison involved the average cost per hour worked in the community; and the third, the average cost per dollar earned. In each of these three analyses, costs generated by the individual-provided supported employees were compared to: (a) the entire agency-provided cohort, (b) the least expensive supported employees in the agency-provided cohort, and (c) the most expensive supported employees in the agency-provided cohort.

Average Costs per Month

As can be seen in Table 2, the 19 individual-provided supported employees received follow along services costing an average of \$382 per month. Conversely, the 31 agency-provided supported employees received follow along services costing an average of \$808 per month, an increase of 111.5% over the individual-provided cohort.

When compared to the average costs generated by all of the matched agency-provided supported employees, individual-provided supported employees were more cost-effective 89.5% of the cases (i.e., 17 out of 19). When compared to the highest and lowest costing agency-provided supported employee in the matched groups, individual-provided supported employees produced fewer costs in 94.4% (i.e., 17 out of 18) and 77.8% (i.e., 14 out of 18) of the cases,

respectively.

Cost per Hour Worked

By taking the average cost of services discussed above and dividing it by the hours worked presented in Question 2 below, it is possible to calculate the cost per hour worked in the community. The lower the cost per hour worked, the more cost-effective a service delivery model is.

As can be seen in Table 3, individual-provided supported employees received follow along services costing \$7.49 per hour that they worked in the community. This is compared to \$11.94 per hour worked for the entire agency-provided cohort and \$8.98 for the least costly of the agency-provided cohort. In all analyses completed, follow along services provided by individuals produced a lower average cost-per-hour worked than did services provided by agency staff.

Cost per Dollar Earned

As can also be seen in Table 3, individual-provided supported employees received follow along services costing an average of \$1.11 per dollar earned in the community. In comparison, agency-provided supported received services costing

Table 2. Cost-per-Month of Follow Along Service by Provider Type

Individual-Provided Supported Employees		Agency-Provided Supported Employees		
ID #	Average Cost-per-Month	Average Cost-per-Month	High Cost-per-Month	Low Cost-per-Month
1	\$255	\$740	\$1,035	\$481
2	\$120	\$843	\$1,393	\$411
3	\$280	\$630	\$746	\$480
4	\$547	\$753	\$1,035	\$480*
5	\$1,055	\$921*	\$1,393	\$753*
6	\$466	\$711	\$746	\$665
7	\$140	\$532	\$706	\$411
8	\$51	\$436	\$513	\$397
9	\$19	\$397	\$399	\$397
10	\$1,146	\$797*	\$896*	\$638*
11	\$245	\$797	\$896	\$638
12	\$393	\$1,097	\$1,383	\$932
13	\$90	\$815	\$977	\$538
14	\$339	\$1,257	\$1,693	\$888
15	\$60	\$1,257	\$1,693	\$888
16	\$117	\$550	\$722	\$423
17	\$822	\$1,095	\$1,467	\$851
18	\$690	\$829	\$968	\$669*
19**	\$425	\$890	n/a	n/a
Average	\$382	\$808	\$1,037	\$608

*Indicates instances where agency-provided supported employees produced fewer costs than their individual-provided counterpart.

**Only one agency-provided supported employee matched individual-provided supported employee number 19. Consequently, there was no high or low cost comparison.

a range from \$1.64 (i.e., low cost group) to \$2.81 (i.e., high cost group), with the average for the entire cohort being \$2.19 per dollar earned. As with cost-per-hour worked, in every analysis examined, supported employees who were provided follow along services by individuals produced average costs per dollar earned that were lower than supported employees who had their follow along services provided by agency staff.

Question 2: Which Method of Service Delivery Produced the Best Vocational Outcomes?

Of the 13 individual-provided supported employees upon whom useable vocational data were obtained, 8 (61.5%) were still employed in the community as of October 2011. One (7.7%) was receiving services in facility-based programs and 4 (30.8%) were unemployed. Of the agency-provided supported employees with usable vocational data, 9 out of the 27 (33.3%) were employed, 15 (55.6%) were receiving services in facility-based programs, and 3 (11.1%) were unemployed (see Table 4).

Agency-provided supported employees worked more hours per month (67.7 hours) and earned more gross wages (\$369.67) than did individual-provided supported employees (51.0 hours and \$344.67). However, individual-provided sup-

ported employees earned significantly more per hour (\$6.76 v. \$5.46 per hour).

Question 3: Do Individual-Provided Supported Employees Have Different Demographics Than The Average Supported Employee Served in the State?

In order to determine whether the individual-provided supported employees were somehow different than the population of supported employees being served throughout Wisconsin, the demographics of the 19 individual-provided supported employees studied here were compared to the demographic of the 208 supported employees provided follow along services by agency staff in Wisconsin on July 26th, 2011. As indicated in Table 1, both methods of providing follow along served mainly individuals with intellectual disabilities (i.e., 68.4% for individual-provided v. 71.6% for agency-provided). However, individual-provided supported employees were more likely to have autism and multiple disabilities; whereas, agency-provided supported employees were more likely to have mental illnesses.

Discussion

Finding methods of reducing the costs of supported employment, while increasing the vocational outcomes achieved by supported employees, is imperative if supported employment programs are to survive in this era of budget cuts. The present study is a preliminary exploration of two methods of providing follow along services. It attempted to determine which method produced the best outcome (i.e., continued employment) at the lowest cost to funding sources.

The data presented here suggest that follow along services provided by individuals were less costly than services provided by agency staff. In every analysis undertaken (i.e., cost-per-month of service, cost-per-hour worked, cost-per-dollar earned), individual-provided supported employees cost funding sources significantly less than agency-provided supported employees with the same demographic backgrounds. For instance, individual-provided supported employees cost 52.7% less than the average agency-provided supported employee (\$382 v. \$808 per month, respectively). Even when compared to the most cost-effective agency-provided supported employees, individual-provided supported employees generated considerably fewer expenditures (i.e., \$382 v. \$608 per month). Such savings are sub-

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stantial and would enable funding sources to provide services to more individuals at a lower total cost to taxpayers.

Another potentially important finding identified here is that individual-provided supported employees were nearly twice as likely to keep their jobs in the community than agency-provided supported employees. Specifically, 61.5% of individual-provided supported employees were employed three months after cost data were obtained. This is compared to only 33.3% of agency-provided supported employees. However, taken as is, these numbers may be deceiving.

If it is assumed that all of the non-respondents to the vocational outcome survey were unable to be contacted because they were unemployed, the differences in rates of continued community-based employment may become more accurate. In this scenario, 42.1% of the individual-provided and 29.0% of the agency-provided supported employees would be competitively employed three months after the initial collection of data.

In other words, even when non-respondents to the vocational outcomes survey were presumed to be unemployed, these findings seem to suggest that individual service providers were better able at providing effective follow along services (i.e., enabling workers to maintain competitive employment) than agency-based staff. This result is surprising given that individuals providing follow along services may not have received training or had any formal education regarding individuals with disabilities. Individuals became follow-along providers simply by having a supported employee indicate that they wanted the person to provide them services.

One possible explanation for these findings is that agency staff may be required to obtain a certain amount of billable hours each month in order to maintain their own employment. In order to achieve these hours, agency staff may provide services that are not entirely needed by the supported employee. It could also be that adult service staff have to fill their workday by providing vocational-related activities. In other words, they cannot simply spend substantial portions of their work day not doing anything productive (e.g., sitting around the office, drinking coffee). Therefore, when they have a free moment, they may be more inclined to check on a stable supported employee's progress than an individual service provider who, more than likely, works part-time and doesn't have a supervisor to appease or billable hours to accumulate.

Another potential explanation for these differences is that individuals providing follow along services may know the supported employee better than agency staff do. Individual service providers were likely relatives or close friends of the supported employee and, therefore, may have been more aware of how to relate and motivate them. This familiarity may result in better training. For instance, family members of a supported employee with autism would not only be intimately aware of the supported employee's strengths, but they would also understand what events or stimuli may trigger unwanted behavior. Such knowledge may make them more ef-

fective service providers than agency-staff who do not know the supported employee on a personal level. A third potential explanation for the findings presented here may involve other services that the agencies offer (e.g., pre-vocational programs).

By October 2011, over half (55.6%) of agency-provided supported employees were working in facility-based programs compared to only 7.7% of individual-provided supported employees. This data may suggest that agency staff are quicker to allow competitive placements to end because they have facility-based programs to fall back upon. That is, it may be that agency staff feel less pressure to have supported employees succeed in the community because, if the community-based placement fails, the supported employee could always return to the agency's facility-based programs.

This interpretation raises an interesting question: "Does being associated with facility-based programs undermine an agency's commitment to facilitating community-based, competitive employment?" In other words, is there a conflict of interest when a supported employee is provided services by an agency that also has facility-based programs?

Although critical to understand from a policy viewpoint, these questions cannot be answered in this preliminary study. Additional research will be needed to explore these and other issues.

Finally, this study found that individual-provided supported employees had, in many ways, demographics that were comparable to agency-provided supported employees throughout Wisconsin. Both service delivery models served primarily workers with intellectual disabilities (i.e., 68.4% for individual-provided and 71.6% for agency-provided). Further, they have similar percentages of individuals with physical disabilities (i.e., 10.5% for individual-provided and 14.4% for agency-provided). However, there were a couple noteworthy differences.

Individual-provided supported employees were more likely to have autism (26.3%) than agency-provided supported employees (13.0%). Further, individual-provided supported employees were more than twice as likely as to have multiple disabilities (31.6%) compared to agency-provided supported employees (14.4%). On the other hand, agency-provided supported employees were more likely to have mental illnesses (10% v. 0%, respectively).

Taken in total, these findings would suggest that individuals providing follow along services are not "creaming", or choosing the easiest supported employees with whom to work. It appears as if the individual-provided supported employees had challenges as significant as agency-provided supported employees.

Several limitations must be kept in mind when considering the findings discussed here. First and foremost, due to its small sample size (i.e., 19 (13) individual-provided supported

employees and 31 (27) agency-provided supported employees) this study's findings may not generalize to the population as a whole and, therefore, must be considered a pilot study. Additional research will need to replicate the findings presented here when greater numbers of supported employees receiving services from non-agency staff are available.

Further, it may be that the two groups compared were different in ways other than the six matching demographics. For example, perhaps the age of each supported employee or their level of education, impacted the results. Future research will have to explore these possibilities as well.

Although the individual-provided supported employees were matched to multiple agency-provided supported employees (except in one occasion where the individual-provided supported employee was matched to only one agency-provided supported employee with the same demographics), it maybe that the matching agency-provided supported employees were outliers and do not represent agency-provided supported employees throughout Wisconsin.

Finally, it was assumed here that supported employees wanted to be employed within their communities and that becoming unemployed was a negative outcome. However, it may have been that supported employees left their community-based positions because they no longer wanted to be employed or that they wished to return to a facility-based program. In such circumstances, the outcomes presented here (i.e., loss of community-based employment) should not be considered detrimental to supported employment, but rather a positive outcome that is in concert with the supported employee's wishes. Without interviewing each supported employee to determine their vocational goals, it is impossible for this study to investigate this possibility. Future research will need to explore this issue.

Conclusions

The discussion of cost-effectiveness often makes service providers cringe. After all, they are in the business to help people with disabilities realize their dreams of becoming competitively employed within their communities, not counting expenditures and managing annual budgets. However, given the fiscal constraints currently being felt, coordinators of vocational programs and vocational rehabilitation counselors must be conscious of the costs generated by their services or their programs may cease to exist. Yet, the issue of cost-effectiveness cannot be discussed without also addressing the quality of outcomes achieved. Inexpensive services that don't produce successful case closures are just as unacceptable as effective services that funding agencies cannot afford.

Findings from this preliminary study suggest that supported employees who were provided follow along services by individuals (i.e., non-agency staff) obtained better vocational outcomes (e.g., kept their jobs longer) and generated lower costs than supported employees receiving follow along services by more traditional methods (i.e., agency-based job

coaches). This is not to propose that all job coaches should be replaced by family members of supported employees.

Nevertheless, these results seem to suggest that agency-based staff can learn something from individual service providers. For example, if job coaches were to become better acquainted with supported employees, perhaps the services that they provide would not only be more effective, but also more efficient. In the end, however, it is important to keep in mind that the services that a supported employee receives should be based upon their own unique needs, situation, and wishes—not the general findings of one research study.

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