

Florida Statewide Quality Assurance Program

**Longitudinal Panel Analysis:
Impact of Support Coordinator Turnover on Outcomes**

July 1, 2001 – June 30, 2005

Florida DD HCBS Waiver

Prepared by the Delmarva Foundation

Submitted to the Agency for Health Care Administration

and

The Agency for Persons with Disabilities

Execute Summary

Challenges faced by people with disabilities are consistent across the nation: recruiting, training and retaining direct care staff. Retaining providers is particularly important for providers who are intimately involved with individuals, such as Waiver Support Coordinators (WSC). As part of the Florida Statewide Quality Assurance Program (FSQAP), Delmarva Foundation conducted a study to explore the impact of WSC turnover on individuals' outcomes as measured by the 25 Personal Outcome Measures (POM) developed by The Council on Quality and Leadership.

Data for the study were taken from the Year Four (July 2004 – June 2005) random sample of individuals selected for the POM interview process and from a panel of 150 individuals who elected to participate in a POM interview each year for four years, from September of 2001 through June 2005. Regression analysis was used to explore the following research questions:

1. Does having more than one WSC over the four year period impact the overall percent of Outcomes Met in the fourth year?
2. Does having more than one WSC across the four years impact the quality of life of the individual, resulting in a reduced number of outcomes met over time?

Results from the Year Four random sample indicate that individuals with more than one WSC over the four year period (September 2001 – June 2005) were more likely to have fewer outcomes present in their lives in the final year of the four year period. This suggests that a change in WSCs can negatively impact the lives of people with disabilities. Results from the panel of 150 participants were somewhat inconclusive. A small ($p=.065$) association may exist between a change in outcomes and turnover, but the indication is that having more than one WSC improves outcomes *over time*. However, this association becomes irrelevant when adding to the equation the percent of outcomes met in the first year of the study—the starting point of outcomes for each individual. Regardless of the number of WSCs, individuals with fewer outcomes in Year One were more likely to experience an increase in the number of outcomes met, than individuals with more outcomes in Year One.

Finally, individuals living in small, rural APD Areas were more likely to improve over time than were individuals in larger more urban Areas, regardless of WSC turnover. This may suggest that smaller Areas already have supports in place, everyone knows someone in the community. With the onset of the FSQAP program, individuals in these Areas may have found it easier to connect to these supports than individuals living in busy urban Areas.

From the results of the study we make the following recommendations:

Recommendation 1: We recommend APD conduct an in-depth analysis of the turnover rate of WSCs in the state, including the cost of that turnover to the state (i.e., training and

other costs). This should include investigating the number and consequences of WSCs who move from one consumer to another versus those who simply leave the field completely and need to be replaced. Using this information, APD should initiate a program that will help recruit and retain high quality support coordinators.

Recommendation 2: We suggest a modified continuation of the longitudinal panel study, if time and budget allow. A sample of 300 individuals who were interviewed between July 1, 2005, and June 30, 2006,(Year Five) should be selected for a POM interview during Year Seven of the contract (July 2007 – June 2008). At that point, a more in-depth panel analysis can be completed and reported to the state in Year Eight. As part of this study, the reason for changing a support coordinator should be explored, as well as who initiated the change.

Recommendation 3: If the assumption is true, that rural Areas provide individuals more easy access to supports that may already be in place, that help them improve outcomes in their lives, it once again echoes the need for individuals to be connected to their communities and to develop a variety of social roles within those communities. The Area Quality Leaders in the more rural Areas may be helpful in exploring this hypothesis and bringing back to the other AQLs what they know about “best practices” in rural areas that may help WSCs better connect individuals to their communities in larger, more urban areas.

Introduction

The Delmarva Foundation, through a contract with the Agency for Health Care Administration (AHCA) and in conjunction with the Agency for Persons with Disabilities (APD) since September 2001, has provided a quality assurance program for persons served through the Developmental Disabilities Home and Community Based Services (DD HCBS) Waiver, called the Florida Statewide Quality Assurance Program (FSQAP). The Council on Quality and Leadership (CQL) has participated as a subcontractor with Delmarva in the program since the contract's inception. As part of their responsibilities, CQL representatives have trained Delmarva's Quality Improvement Consultants in the interview techniques specific to their 25 Personal Outcome Measures (POM).¹ The purpose of the interviews is to help determine the degree to which participants in the program have supports in place to improve their quality of life and to measure how well they are achieving outcomes in their lives that are important to them.

As part of the FSQAP program, a random sample of individuals receiving services through the DD HCBS Waiver has been selected each year of the contract. QICs have completed well over 8,000 POM interviews with these individuals. In addition, 377 individuals were contacted to solicit their participation in a longitudinal panel study, to be interviewed each year for the first four years of the contract. A total of 156 of these individuals completed four interviews and are the focus of this study. The purpose of the study is to explore changes in the outcomes and supports of these individuals over the four year period and to examine the impact of Waiver Support Coordinator turnover on those outcomes.

Background

Challenges faced by people with disabilities are consistent across the nation: recruiting, training and retaining direct care staff. Retaining providers is particularly important for providers who are intimately involved with individuals, such as Support Coordinators. They must not only develop a relationship of trust and understanding with individuals but also develop a relationship with other providers on whom the individual depends. Providing optimal services requires that support coordinators be familiar with the individual's communication style, needs, goals, strategies for reaching those goals and desired outcomes. However, turnover rates among providers of services to people with disabilities have historically been quite high.

Amy Hewitt reported that since the implementation of community support services in the 1970s, research has consistently demonstrated turnover rates for direct support professionals (DSP) to be between 45 percent and 70 percent.¹ However, a recent review of the literature found that in eight different studies conducted between 1992 and 2004, turnover rates for long term care facilities (nursing homes, home care and community-

¹ Go to <http://www.thecouncil.org/> for more information on the POM measures and CQL.

based organization, a majority serving individuals with developmental disabilities) ranged from 40 percent to 166 percent.² Staff turnover rates in Residential/In-home and Vocational/Day settings that serve people with intellectual or developmental disabilities have been shown to range between 46 percent and 53.6 percent.³ Most studies quote a national average to be around 50 percent.

Understanding the reasons for these high turnover rates is vital to an organization's ability to render optimal services to people with disabilities. Many researchers have focused on factors that drive turnover at an organizational level for Long Term Services and Supports (LTSS) staff. Several studies have identified a number of correlates associated with LTSS staff turnover among DSPs serving individuals with intellectual disabilities and other developmental disabilities:

1. As deinstitutionalization continues, the wage gap between institutional (mostly state employed) DSPs and community (mostly privately employed—lower pay) DSPs in some states has been associated with substantially higher turnover rates in community settings. It was not clear as to whether turnover meant that LTSS moved to a different, better paying LTSS position, or actually left the field;
2. Community settings were opened much more recently than institutional settings (newer programs experience higher turnover);
3. Eligibility for and attractiveness of benefits (turnover is higher in settings that provide benefits to fewer employees);
4. The small size of the community homes (turnover is higher in smaller sites); and
5. Less favorable staff ratios in community homes (turnover is higher in settings with fewer staff per number of consumers).⁴

At the employee level, low wages have been found to be the most consistent correlate of turnover for all types of developmental disabilities residential facilities.⁵ In addition to wages, “inadequate training and supervisory support; the level of difficulty providing services to high need individuals; increasing demand on existing staff; and the high availability of less stressful jobs with equal or greater wages” are contributing factors.⁶ Work satisfaction, job strain, younger staff age and easier subjective labor conditions elsewhere have also been demonstrated to be associated with higher turnover rates.⁷

Until recently, little research has examined the impact of high turnover and most studies have focused on financial and organizational issues. Given an average national DSP turnover rate of 50 percent, organizations serving people with developmental disabilities across the nation will have to recruit nearly 600,000 new DSPs by 2010, primarily to replace those leaving their jobs.⁸ The costs of recruiting and training new staff repeatedly throughout the year have been estimated to be in the range of \$4,200 to \$5,200 per direct-care worker.⁹ While few studies have explored the impact on individual's lives, one study in Montana suggested that “individuals who experienced a change in (their) Personal Assistant (PA) had significantly more secondary conditions that limited participation, more emergency room visits and more hospitalization days during the past

year than did individuals not changing PAs” and had significantly more injury-related secondary conditions.¹⁰

No research to date has explored the impact of provider turnover on personal outcomes of individuals receiving services. The purpose of this study is to examine the effect of Waiver Support Coordinator (WSC) turnover on outcomes for individuals, as measured with the POM interviews. In order to be an effective provider of support coordination, WSCs must become intimately familiar with the life setting, goals, desires, family and friends of the individuals they serve. They must also work effectively with other service providers, coordinating services needed by each individual and ensuring optimal delivery of these services. Because these processes take time, frequent changes in WSCs may hinder their ability to become aware of concerns and/or issues relevant to the person, impacting the individual’s ability to strive toward the goals most important to them.

The information provided previously focused on organizational turnover and providers of various services, but did not specifically refer to support coordination. In examining staff turnover rates and their impact on individual outcomes, a distinction is usually made between organizational turnover and “team” turnover. Organizational turnover may be high, but may not directly impact an individual if no one on the immediate team of supports for that individual leaves the organization. Team turnover is a change in providers that is actually seen by the individual. Team stability has been shown to enhance “client satisfaction that in turn enhances job satisfaction and positive team climate.”¹¹ In the Florida DD HCBS program, the WSC coordinates the team of providers who serve each individual. Therefore, WSC turnover is important, but not the only type of turnover that can potentially impact an individual.

However, the current study utilizes claims data to identify turnover and focuses on WSCs for two important reasons:

- Claims data utilize a provider number for both the WSC agency (pay-to provider) and the WSC actually working with the individual (treating provider). Therefore, it is possible to track changes in WSCs who are directly working with each individual, even if those WSCs are working for a large agency.
- Claims for other waiver services do not have an identifying number for treating providers. An individual could be attending an Adult Day Training center that has 100 percent staff turnover during the year, but the provider number for the agency in the claims data would remain the same. Therefore, turnover rates within other services would only be accurate for solo providers.

Data and Methods

The Florida Developmental Disabilities Program has been in the forefront of efforts to provide a community-based person centered/outcomes approach to delivery of services for people with developmental disabilities. They have adopted the use of the Personal

Outcomes Measures (POMs) developed and published by The Council on Quality and Leadership (CQL) to report Performance Indicators to the State of Florida.ⁱⁱ The POM is a component of the onsite consult of WSCs (Waiver Support Coordination Consultation--WiSCC), conducted as a part of the FSQAP program. The focus of the consult is on measures that emphasize values-based supports and services, individualized planning, and personal outcomes. Other components of the WiSCC include follow-up interviews, a central record review with the WSC, and a Medical Peer Review.

Year Four Random Sample

A random sample of individuals has been selected each year of the FSQAP contract.ⁱⁱⁱ If the individuals are willing, they participate in a POM interview with one of Delmarva's Quality Improvement Consultants (QIC). Staff from CQL train each QIC, and provide annual reliability testing and regular oversight/observation throughout the year. In this study we first analyze the POM results from the Year Four random sample (July 2004 – June 2005) to examine the impact of WSC turnover on the overall percent of outcomes met for individuals on the DD HCBS Waiver. Claims data were used to identify treating providers for the four year period ending June 30, 2005. There were 1,026 individuals from the Year Four random sample who were successfully merged to the claims data, had no missing values and were available for this analysis.

Longitudinal Panel

Subsequent to the completion of all the interviews in the first year (September 2001 – June 2002), a group of 377 individuals who had been interviewed were contacted and asked to participate in a panel study, completing a POM interview for the next three years. This number allowed for a 15 percent attrition rate each year, an over sample of 101 individuals, with a final sample targeted at 170. A total of 156 individuals completed an interview each of the four years. Of these, only 150 had an identifier that linked them successfully to the claims data to identify the number of WSCs they had over the years. These 150 are used in the panel analysis. Outcome and supports data were collected each year, scoring the 25 items as met or not met. Data from the interviews are used to provide comparisons on outcomes and supports across the years and results from the panel are compared to similar data for the random sample of individuals interviewed each year of the contract (July 2001 – June 2005).

Methodology

The primary purpose of the study is to explore the impact of WSC turnover on outcomes. We explore two different research questions:

3. Does having more than one WSC over the four year period impact the overall percent of Outcomes Met in the fourth year?

ⁱⁱ Go to <http://www.thecouncil.org> for information on the history of the Council, their mission statement and the development of the POM tool.

ⁱⁱⁱ The POM data, processes, samples, annual results and trends have been presented in various reports and studies throughout the FSQAP contract. Go to <http://www.dfmc-florida.org/index2.htm> for more information and details.

4. Does having more than one WSC across the four years impact the quality of life of the individual, resulting in a reduced number of outcomes met over time?

Regression analyses are used to determine the significance of these associations, net of other mitigating factors available in the data (independent variables are discussed below). In regression analysis data can be analyzed at the multivariate level. The net effect of each independent variable on the dependent variable is calculated, controlling for all other independent variables in the equation. In other words, individual effects from each independent variable are “parceled out”, and the resulting effect of each factor in the equation is from “only” that factor, not intertwined with the other variables.

Standard Pearson’s r correlations test the strength of the association and t -tests determine the statistical significance of the association. The partial correlation gives us the correlation of each independent variable with the dependent variable, net of other influences controlled for in the equation. Values range from $r = -1$ to $r = 1$. The closer the r value is to zero, the weaker the association. The probability (p -value) associated with the t -test informs us how likely it is the association is due to chance. A standard probability level used to determine “statistical significance” is $p \leq .05$ (t -score of 1.96 or greater). This means there is only a five percent probability or less the results from the sample are due to sampling fluctuation or chance.

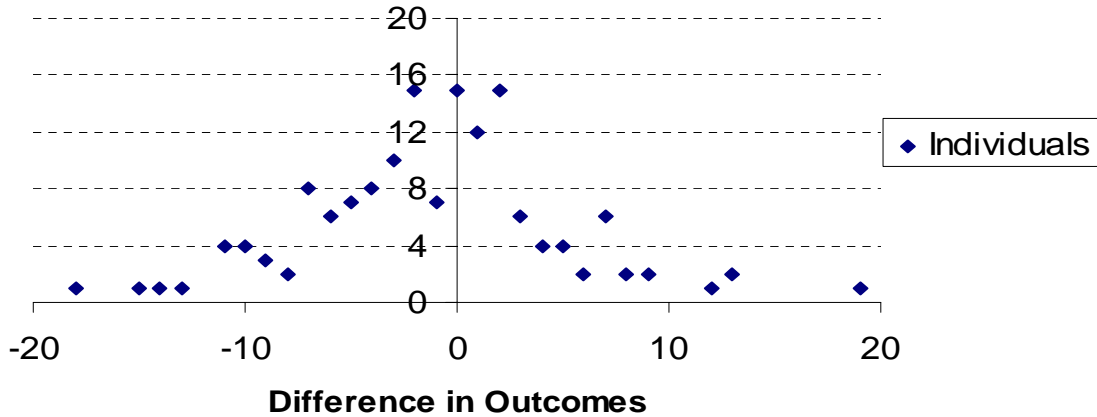
In addition to the strength and significance of the relationship, the B Coefficient informs us of the magnitude of the relationship (the slope). If the association between the individuals living in group homes (compared to family homes) and the Percent of Outcomes Met is significant ($p \leq .05$), and the B coefficient is $-.158$, this tells us that for an individual living in a group home, compared to a family home, the percent of outcomes met will decrease, on average, by close to 16 percentage points, holding the other variables constant. It is how much the change on the independent variable generates a change on the dependent variable.

Dependent Variables

Two different regression models are used. In the Year Four Random Sample model, the *Percent of Outcomes Met* is the dependent variable. This variable was normally distributed with a range of 0 ($n=7$) to 96 percent ($n=9$), an average of 44.6 percent, and a median of 44 percent.

The *Difference in Outcomes* over the time period is used as the dependent variable in the Longitudinal Panel analysis. Year One was a “start-up” year with all consultants gaining experience with the POM interview. Also, a less stringent prior service authorization process was in place and results in Year One were generally higher than in subsequent years. Therefore, to determine the difference in outcomes for this sample over the years, we calculate the difference from Year Two to Year Four. The average change in outcomes among the 150 individuals is -1.1 with a median change of -1 . As demonstrated in Figure 1, the distribution is fairly normally distributed, with most cases falling around the mean.

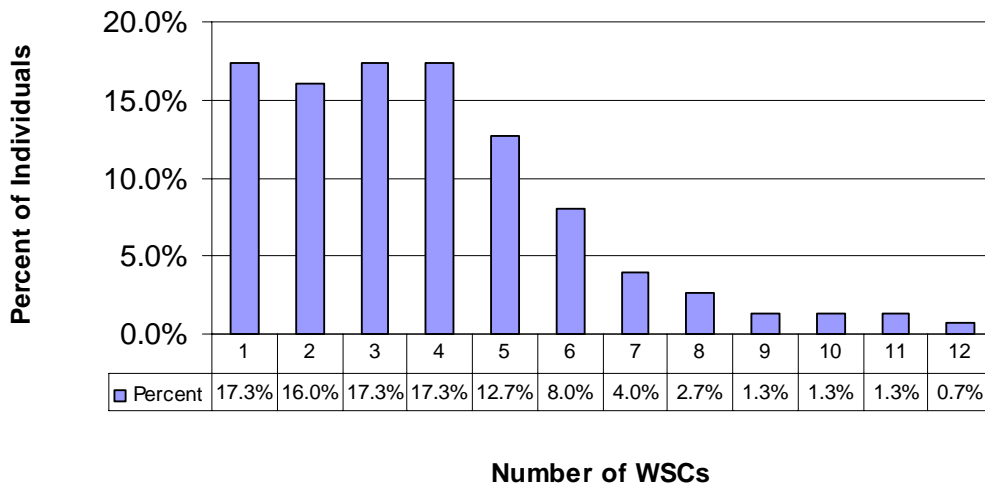
**Figure 1: Longitudinal Panel Data
Difference in Outcomes: Year 2 to Year 4
N = 150**



Independent Variables

Turnover was measured as the number of WSCs each individual used throughout the four years and was derived from the Medicaid Claims data, identified by the treating provider number. Claims data with a first service date between July 1, 2001, and June 30, 2005, were used. Close to 83 percent of the panel members had more than one WSC over the time period. The total number of WSC per individual in the longitudinal panel ranged from one to 12, with a mean of 3.8 and a median of 3.

**Figure 2: Number of Waiver Support Coordinators
July 2001 - June 2005
N = 150**



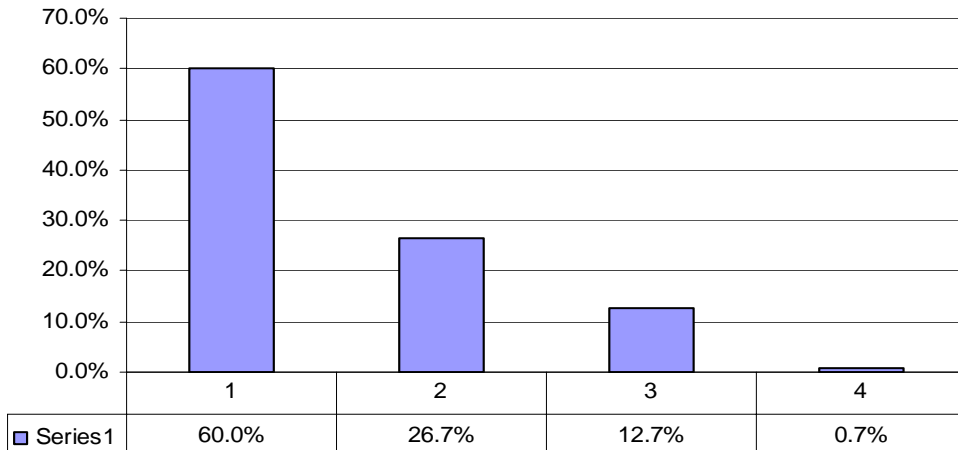
As demonstrated in Figure 2, unlike the normal distribution for the difference in outcomes, the distribution for the total number of WSCs used by each individual over the four years is weighted heavily toward the left (one to four), with a few individuals (29 or 19%) having had six or more providers of support coordination over the time period. This is dichotomized to test the impact of having one WSC v having two or more WSCs over the four year period.

Turnover is measured in the same way in the Year Four Random Sample analysis. The total number of WSC per individual ranged from one (34.2% or 351) to 10 (one individual), with a mean of 2.5 and a median of two. Close to 66 percent of sample members had more than one WSC over the time period. The average number of WSC per individual is somewhat higher for members of the longitudinal panel than for the general random sample, 3.8 compared to 2.5 respectively. The distribution on *turnover* is similar to the longitudinal panel as shown in Figure 2.

An additional variable that may impact outcomes is the stability of or consistency in one's home environment. We are able to track the number of changes in an individual's living situation (*home type change*) over the four years and include this in the longitudinal panel analysis. Moving from one home environment to another can be a positive change for individuals, but this can also be disruptive to their lives, making it more difficult for them to obtain needed supports and achieve desired outcomes. While the data indicate a change in home type, such as a move from a family home to a group home, we are unable to track movement within home types. For example, if an individual moved from one supported living home to another, we are not able to identify that as a change in home type, even though the environment itself could be very different.

While the majority of people in the panel remained in one home environment, over 40 percent (60) of individuals interviewed each year had some change in their living situation during the study period. Close to 27 percent (40) had one move, 12.7 percent (19) had two changes and one individual had three (Figure 3 below). This rate of change in home type is high, considering the overall problems a change in environment can cause in terms of consistency with services, community involvement and contact with friends. We control for this as an Independent Variable in the analysis of members of the longitudinal panel.

**Figure 3: Number of Home Types
July 2001 - June 2005
N=150**



Other independent (control) variables available in the data and used in both analyses are the age and APD Area of the individual in Year Four, and the primary disability. In previous research, these have been shown to impact the outcomes of individuals and we include them in the current analysis.^{iv}

- Age is entered in the regression analyses as a continuous variable.
- The primary disability is categorized as individuals having an intellectual disability v all other disabilities. Over 77 percent of the panel members (n = 116) and close to 65 percent of the Year Four sample (661) have an intellectual disability.
- Home type is coded using family home as the reference variable. Results for individuals living in group homes or independent/supported living are compared to those in family homes.
- The Medicaid Claims data from AHCA were used to determine the size of an Area. We identify the number of consumers living in each APD Area during the study period. Areas with over 2,000 consumers on the DD HCBS waiver were categorized as Large. These include the Orlando, Miami-Dade and Suncoast (Tampa) areas. Medium size areas had from 1,000 to 1,999 consumers (e.g., Jacksonville, Pensacola,) and Small areas fewer than 1,000 consumers. The categories contain the following APD Areas:
 - Large—7, 10 ,11, 23 (Panel n = 52, Year Four n = 531)

^{iv} See the Quality Improvement study, Outcomes Results Analysis: Best Predictors of Percent of Outcomes Met. http://www.dfmc-florida.org/quality_improvement_studies/2004-2005/index.htm.

- Medium—1, 2, 3, 4, 9, and 13 (Panel n = 81, Year Four n = 350)
- Small—8, 12, 14 and 15 (Panel n = 17, Year Four n = 145)

The distribution of individuals who participated in the panel study and the Year Four Random Sample across age groups, APD Area size, home type and disability is shown in the following table. The proportion of individuals on the DD Waiver during the same time period is also given.

Table 1: Individual Demographics
Year Four of Study: July 2004 - June 2005

Age Group	Panel	Year Four	DD Waiver Population
0 to 17	8.0%	15.0%	17.5%
18 to 21	4.7%	6.8%	7.8%
22 to 25	8.0%	9.5%	9.1%
26 to 44	51.3%	45.6%	41.8%
45 to 54	17.3%	14.7%	14.0%
55 to 64	6.0%	6.2%	7.5%
65+	4.7%	2.1%	2.2%
APD Area Size			
Small	11.3%	14.1%	13.3%
Medium	45.3%	34.1%	36.5%
Large	43.3%	51.8%	50.2%
Home Type			
Family Home	31.3%	52.8%	59.4%
Ind/Sup Living	24.7%	19.1%	13.2%
Small Group Home	24.0%	18.3%	17.7%
ALF	4.7%	2.6%	0.0%
Foster Home	0.7%	1.5%	1.8%
Large Group Home	14.0%	4.7%	6.6%
Res Treat Ctr	0.7%	1.0%	1.3%
Primary Disability			
Intellectual Disability	77.3%	81.3%	83.8%
Cerebral Palsy	12.0%	9.9%	8.6%
Epilepsy	2.7%	0.3%	0.0%
Autism	4.7%	5.1%	4.8%
Spina Bifida	2.7%	2.7%	2.7%
Other	0.7%	0.7%	0.1%
Number of Individuals	150	1,026	23,986

Some highlights from Table 1 include the following:^v

- Similar to the population, the relatively largest age group is the 26 to 44 year old category. However, the panel is comprised of a much smaller proportion of children under age 18, 8.0 percent compared to 17.5 percent in the population. This is an important factor when comparing outcomes because children have historically achieved higher outcomes on the POMs.
- Members of the panel are somewhat more likely to be served by WSCs from Medium size Areas than the population in general, and less likely to be served by WSCs from Large Areas.
- A much smaller percent of individuals in the longitudinal study resided in a family home compared to the population, a difference of 28 percentage points. A larger percent of the panel members (11.5 points higher) resided in independent or supported living situations, where outcomes are historically highest, and a larger percent in small or large group homes, where outcomes are typically lower.
- Relatively fewer members of the panel have an Intellectual Disability as their primary disability, 77.3 percent compared to 83.8 percent. Because outcomes are generally lower for this subset of the DD population, this is an important difference to note.
- Members of the Year Four sample share very similar characteristics to the population across all of the demographic variables, as we would expect given the random nature of the sample.

One final independent variable used in the Year Four analyses is the *Provider Type*. WSCs operate in a solo capacity or as part of an agency. Because previous research suggests this may impact the WSCs performance level and thus the outcomes of the individuals they serve, we control for this in the Year Four regression model. Just over 53 percent (n = 547) of the WSCs work for an agency.

Results

Preliminary results from the panel data were presented in the Second Quarterly report to the state. Members of the panel demonstrated a lower percent of outcomes met and supports present than the random sample of individuals interviewed each year. A smaller proportion of the panel had 13 or more outcomes met each year as well. The difference between the panel and the annual random sample on the 13 or more met criteria is greater than for the overall percent of outcomes met, and this difference has increased since the first year. Just over 33 percent of the panel had 13 or more outcomes met in the 12 month period ending June 30, 2005, compared to 41 percent of the annual random sample. However, even though the panel appears to have had, on average, fewer outcomes met and fewer have 13 or more outcomes met, the panel and the random

^v This table differs slightly from the information presented in the FSQAP 2nd Quarterly Report submitted to AHCA, as in this study we exclude the six cases we were unable to link to the claims data.

samples of individuals selected each year demonstrated a similar downward trend on both of these quality of life indicators over the first three years, leveling off in Year Four.

Table 2: Longitudinal Panel and DD Waiver Random Samples
July 2001 - June 2005

Year	Percent Outcomes and Supports Met			
	Panel		DD Waiver Sample	
	Outcomes	Supports	Outcomes	Supports
Jul 01 - Jun 02	49.2%	57.1%	52.8%	59.5%
Jul 02 - Jun 03	47.7%	53.5%	49.6%	53.6%
Jul 03 - Jun 04	42.3%	47.0%	44.9%	48.9%
Jul 04 - Jun 05	43.1%	47.8%	45.1%	48.2%

Year	Percent With 13 or More Met			
	Panel		DD Waiver Sample	
	Outcomes	Supports	Outcomes	Supports
Jul 01 - Jun 02	48.0%	61.3%	54.5%	63.9%
Jul 02 - Jun 03	44.0%	50.7%	49.3%	56.3%
Jul 03 - Jun 04	34.7%	41.3%	39.8%	46.0%
Jul 04 - Jun 05	33.3%	43.3%	41.1%	46.5%

Regression Analysis—Year Four Sample

Regression analysis results, using the Year Four random sample of individuals included in this study and the *Percent of Outcomes Met* as the dependent variable, are presented below in a series of three tables. The first, Table 3, shows the analysis of the impact of each independent variable on individual outcomes:

- Age
- Provider type
- Home type—*independent/supported living and group homes compared to family homes;*
- Intellectual disability compared to other disabilities
- Small and Medium size APD areas compared to Large areas
- Individuals with more than one WSC compared to those with only one WSC

Close to 17 percent of the variance in the percent of outcomes met is explained by the variables in the equation (R-square value). Associations with a p-value of .05 or less are generally considered statistically significant, indicating there is a five percent probability, or less, the association is due to chance or to sampling fluctuation.

Results reflect findings from previous research. Younger individuals receiving services on the DD HCBS Waiver are more likely to have a higher percent of outcomes met than older consumers.^{vi} Individuals in group homes are less likely to have outcomes met than individuals in family homes, and this is the strongest association with a correlation to the percent of outcomes met of nearly 30 percent. The B Coefficient informs us that individuals in group homes, controlling for other factors, on average have a 15 percentage point decrease in outcomes met. Individuals in independent or supported living are more likely to have outcomes met than individuals in family homes.

Table 3: Regression Analysis Results
Year Four Random Sample: Dependent Variable Percent Outcomes Met

	B	t-score	p-value	Partial Correlation
Age	-0.002	-3.452	0.001	-0.108
Agency Provider	-0.022	-1.646	0.100	-0.052
Independent/Supported Living	0.060	3.320	0.001	0.104
Group Home	-0.153	-9.615	0.000	-0.289
Intellectual Disability	-0.053	-3.066	0.002	-0.096
Small Area	0.004	0.200	0.842	0.006
Medium Area	0.009	1.272	0.204	0.040
> One WSC	-0.033	-2.330	0.020	-0.073

R-squared = 16.7%; N = 1,026

Results of the regression suggest that, net of the other factors in the equation, if individuals had more than one WSC over the four year period, they are more likely to have fewer of the 25 POM outcomes met than individuals with only one WSC ($p = .020$). The average percent of outcomes met for individuals with only one WSC over the four years was 46.8 percent, compared to an average of 43.5 percent for individuals with more than one WSC during the same time period. This analysis demonstrates the difference is significant, controlling for the individual's age, the type of WSC provider (agency v solo), home type, disability and size of APD Area.

In addition to the factors controlled for in this first equation, we know the amount of supports an individual receives is highly correlated with the outcomes achieved. When supports are in place, individuals with disabilities are more likely to be integrated into the community, exercise their rights, and have choices in matters that impact their quality of life. Therefore, using the same model as before, we add the Percent of Supports Present as an independent variable to the equation, and results are presented in Table 4.

^{vi} Analysis not shown here suggests the impact of age is predominately due to children up to age 17. When children are removed from the analysis, age does not come through as a significant factor in predicting individual outcomes.

Table 4: Regression Analysis Results*Year Four Random Sample: Dependent Variable Percent Outcomes Met*

	B	t-score	p-value	Partial Correlation
Age	0.000	-1.882	0.060	-0.059
Agency Provider	0.004	0.609	0.543	-0.019
Independent/Supported Living	0.017	1.871	0.062	0.059
Group Home	-0.036	-4.319	0.000	-0.134
Intellectual Disability	-0.026	-3.020	0.003	-0.094
Small Area	0.001	0.125	0.901	0.004
Medium Area	0.009	2.448	0.015	0.077
Percent Supports Present	0.734	54.931	0.000	0.865
> One WSC	-0.010	-1.411	0.159	-0.044

R-squared = 79.0%; N = 1,026

Controlling for the Percent of Supports produces some interesting changes in the results. Age, always a strong predictor of outcomes, slips to just beyond the significance level, with a p-value of 0.06. While this does not necessarily mean age is not still important, it provides some empirical evidence that supports in children’s lives are what drive their higher outcomes. A similar effect is reflected in the results for individuals living in independent or supported living environments.

The impact of the Supports is powerful, a partial correlation of over 86 percent with the Percent of Outcomes Met. With the addition of supports, 79 percent of the variance in outcomes is now explained. The effect of having more than one WSC is no longer significant ($p = 0.159$). Therefore, the impact demonstrated in Table 3 may be moderated by the supports individuals have in their lives. In the final model we test this possibility by adding an interaction variable to the equation (Supports*Turnover). If an interaction is present between them, we would know that having more than one WSC impacts outcomes for individuals, but that relationship may vary depending upon the level of supports that are present.

Results reflect a significant interaction effect and a significant turnover impact (Table 5). Therefore, changing an individual’s support coordinator, even more than just one time over a four year period, may hinder the well being of that individual—but this depends upon the level of support the individual has. If the individual has a higher percent of supports, this appears to alleviate the effect of changing providers. Individuals with more supports available to them have other providers, family members and friends to help them achieve outcomes and also help them adjust to the new WSC.

Table 5: Regression Analysis Results*Year Four Random Sample: Dependent Variable Percent Outcomes Met*

	B	t-score	p-value	Partial Correlation
Age	0.000	-1.775	0.076	-0.056
Agency Provider	0.004	0.544	0.586	0.017
Independent/Supported Living	0.016	1.716	0.087	0.054
Group Home	-0.036	-4.371	0.000	-0.136
Intellectual Disability	-0.026	-3.041	0.002	-0.095
Small Area	0.002	0.175	0.861	0.006
Medium Area	0.009	2.515	0.012	0.079
Percent Supports Present	0.694	31.858	0.000	0.707
> One WSC	0.060	2.274	0.023	0.071
Interaction: Supports/Turnover	-0.039	-2.674	0.008	-0.084

R-squared = 79.1%; N = 1,026Regression Analysis—Longitudinal Panel

While the purpose of this study was to explore the impact of the turnover in WSCs on the outcomes of individuals using results from the Panel data, findings from this part of the analysis are somewhat ambiguous and weak. This is likely due to the small number of individuals who remained in the study for the entire four years. Independent Variables in this analysis include:

- Age (Year Four)
- Intellectual Disability compared to other disabilities
- Small and Medium size APD Areas compared to Large Areas (Year Four)
- Changing home types one or more times compared to one home type

We explore the impact of having more than one WSC on the *Change in Outcomes* (Year 4 – Year 2) for the individual, controlling for these factors. Therefore, with this analysis we see if people have reduced outcomes due to a change in WSCs, regardless of whether they started with a high or low number of outcomes met in Year One. Results of the regression are presented in Table 6.

The results inform us that age, disability and changing house holds one or more times over the four years did not appear to impact a change in outcomes for individuals. However, living in small rural Areas appears to be beneficial over time as individuals in these Areas were more likely to have positive changes in outcomes when compared to individuals living in larger Areas.

Table 6: Regression Analysis Results
Longitudinal Panel: Dependent Variable Change in Outcomes

	B	t-score	p-value	Partial Correlation
Age (Year 4)	0.026	0.742	0.459	0.062
Intellectual Disability	0.446	0.387	0.700	0.032
> One Change in Home Type	1.016	1.026	0.307	0.085
Small Area	3.886	2.528	0.013	0.207
Medium Area	0.668	1.359	0.176	0.113
> One WSC	2.317	1.856	0.065	0.153

R-squared = 7.1%; N = 150

The impact of having more than one WSC over the four years has a p-value just over the .05 threshold, indicating there is a 6.5 percent probability this result could be due to chance. Given the small sample size, this is a somewhat robust finding. However, it suggests the people with more than one WSC over the years were likely to have positive changes in their outcomes, improving the overall percent of outcomes met over the years.

It is possible the turnover impact described may be tied to the level of outcomes individuals had in Year One. Those with higher outcomes may have been less likely to improve regardless of any turnover effect. Therefore, we added this to the equation and the results are presented in the following table.

Table7: Regression Analysis Results
Longitudinal Panel: Dependent Variable Change in Outcomes

	B	t-score	p-value	Partial Correlation
Age (Year 4)	0.029	0.878	0.382	0.073
Intellectual Disability	0.504	0.450	0.654	0.038
> One Change in Home Type	0.795	0.824	0.411	0.069
Small Area	3.824	2.561	0.011	0.210
Medium Area	0.895	1.852	0.066	0.154
Year One Outcomes	-6.210	-3.097	0.002	-0.252
> One WSC	1.681	1.367	0.174	0.114

R-squared = 13.0%; N = 150

Results from this analysis suggest the turnover impact may be moderated by the initial level of outcomes each individual had. Year One Outcomes is association with the Change in Outcomes over time, informing us people with higher outcomes in Year One were less likely to improve over time, regardless of WSC turnover. Unlike the interaction effect we found above, there was no interaction effect between the Year One

Outcome level and WSC turnover in terms of the association with any change in outcomes. Therefore, the results indicate the change in outcomes over time is impacted more by the initial quality of life than by changing WSCs. Living in Small areas remains a fairly robust predictor of the change in outcomes, regardless of the initial starting point for individuals.

Individual POMs

Because living in smaller rural Areas as compared to larger more urban settings appears to have enhanced outcomes over time, we explored the change in individual outcomes from Year Two to Year Four, comparing the different Area sizes. Part of the magnitude of the differences in the smaller Areas is likely due to a much smaller number of cases, only 18 each year. The table in Attachment 1 gives the Percent of Outcomes Met on each individual POM for Year Two and Year Four, within each APD Area Size, and the difference in outcomes for the Small and Large Areas.

- The largest negative differences, where Panel members in both Small and Large areas demonstrated a loss of outcomes met, occurred with the POMs *Uses their environment*, *Has the best possible health*, and *Experiences continuity and security*.
- *Interacts with members of the community* also showed a large decrease over time, but this is attributed mostly to individuals in the Large and Medium size areas.
- Only two POMs, *Realizes personal goals* and *Satisfied with personal life situations*, reflected an overall increase.
- On average, individuals in Small Areas saw an improvement on 16 of the 25 POMs, and individuals in Large Areas had an improvement on only two. This is graphically displayed in Attachment 2 of Appendix 1.

Limitations

- Because there are only 150 cases for the longitudinal panel analysis, results are based on a small sample. Large confidence intervals are reflected in the results, indicating the point estimates may not be particularly precise.
- The random sample from which the 150 panel members were first selected (from Year One) was somewhat different than the Year Four sample. In Year One cases were stratified by level of need and APD Area whereas in Year Four individuals were randomly selected using a cluster sample design, two per WSC. The random samples were sufficiently large to minimize any impact this may have had on comparisons between the two. However, differences may be due, in part, to the variable sampling techniques used in the two different years.

Discussion and Recommendations

Research has demonstrated a consistently high turnover rate of providers who render services to the developmentally disabled across the nation. This turnover rate produces a tremendous cost to organizations and creates inconsistency in services provided to individuals. Because it is essential for Direct Service Professionals to understand the communication style, desired goals, and day-to-day needs of individuals with disabilities, the inconsistency in services created by high turnover hinders a provider's ability to become intimately aware of the individual's needs, negatively impacting the lives of people with developmental disabilities who consistently rely on these service professionals.

In this study we first examined the effect of Waiver Support Coordinator turnover on the Percent of Outcomes Met, using the 25 Personal Outcome Measures developed by The Council on Quality and Leadership. Controlling for the individual's age, disability, size of APD Area and home type, results demonstrate individuals may be negatively impacted with just one change in a support coordinator over the course of four years. Further, after experiencing one WSC change, additional turnover does not appear to significantly impact outcomes.^{vii} Therefore, retaining one provider is a valuable component of the DD HCBS waiver programs for individuals.

There could be several reasons for this positive effect of retaining only one WSC across the years. As noted, the WSC is essentially responsible for leading a team of providers and other supports, ensuring they are providing needed services and helping the individual reach desired goals and outcomes. This process requires getting to know not only the individual but the services available in the community and the providers working with that individual. Developing the trust of the individual and the confidence and respect of service providers is a long term endeavor and a break in the process appears to hinder the quality of life of individuals with disabilities.

Another potential factor could be one of self-selection. WSCs who are dedicated to the program, with a desire to positively impact people's lives, may be more likely to work intimately with individuals and providers, actively advocating for needed services. They may also be more likely to stay with the position for longer periods of time. Thus, individuals with the same WSC over time may have been fortunate enough to have recruited someone who is more likely to help them achieve desired outcomes.

Because improving outcomes for people using services on the DD HCBS waiver is a primary directive of the Agency for Persons with Disabilities and the FSQAP program, this is an area that should command additional resources. Previous research has indicated that turnover is costly in terms of dollars and also in terms of quality of life, a finding in

^{vii} Data for this were not shown. However analyses performed by changing the Turnover cut off point up to two, three or more did not significantly impact outcomes.

this study (outcomes). In addition, a high turnover of WSCs has been noted as a barrier to services by providers across Florida.^{viii}

Recommendation 1: We recommend APD conduct an in-depth analysis of the turnover rate of WSCs in the state, including the cost of that turnover to the state (i.e., training and other costs). This should include investigating the number and consequences of WSCs who move from one consumer to another versus those who simply leave the field completely and need to be replaced. Using this information, APD should initiate a program that will help recruit and retain high quality support coordinators.

One limitation to the above analysis is not having information on outcomes for the individuals previous to the Year Four POM results. An individual could have started with a high percent of outcomes met, used multiple WSCs with a resulting decline in outcomes, but still have a relatively high percent of outcomes met. Thus the effect could be somewhat masked or confounded. Using a panel of individuals who participated in a POM interview every year for four years, July 2001 – June 2005, we analyzed the effect of changing a WSC more than one time on the impact to outcomes over time.

Results of this analysis are inconclusive, largely due to a small sample size (n=150). Results suggest that one or more changes in a WSC is not a significant indicator of *Change in Outcomes* over time. The likelihood the association is due to chance is just over the 0.05 limit, at p=.065. Therefore, there is a 6.5 percent likelihood the result is due to chance or sampling fluctuation, still fairly small. This small impact is in the opposite direction than expected: more than one WSC is associated with an increase in outcomes over time.^{ix} This provides some evidence of a need to explore the benefits of “healthy turnover”, such as supports that help individuals know when and how to hire a new WSC to better meet their needs. In this study, we do not know who initiated the change in WSC, the individual, a family member, a guardian or the coordinator. On the other hand, when controlling for the percent of outcomes in the first year of the study, this effect is reduced further, to a probability level of 0.174. Results indicate that regardless of the number of WSCs used by the individual, people with a lower percent of outcomes met initially, were more likely to experience an increase in outcomes met over time. Having more than one WSC did not negatively impact outcomes in this sample.

Regression analysis with a panel of 150 cases can only serve to scratch the surface of potential relationships among important predictors of outcomes for individuals. A larger sample may help to tease out important relationships not evident in this analysis. A larger sample may only confirm the potential relationship we have found here to be a reflection of sampling error and not statistically significant. The length of time the WSC has been providing services and the number of services the individual receives may be

^{viii} Quality Improvement Study, Barriers Analysis, submitted to AHCA and APD but not yet approved.

^{ix} Note that this does not necessarily mean outcomes for individuals with more than one WSC were better on average, contrary to earlier findings, but that they may have improved over time.

important variables to factor into the equation.^x In addition, changes in other service providers should be examined if possible. However, with a small number of cases, each additional independent variable “spreads the cases” over more cells to complete the analysis. When cells contain small numbers, the analysis can be compromised.

Recommendation 2: We suggest a modified continuation of the longitudinal panel study, if time and budget allow. A sample of 300 individuals who were interviewed between July 1, 2005, and June 30, 2006, (Year Five) should be selected for a POM interview during Year Seven of the contract (July 2007 – June 2008). At that point, a more in-depth panel analysis can be completed and reported to the state in Year Eight. As part of this study, the reason for changing a support coordinator should be explored, as well as who initiated the change.

One other interesting result in this study was the fairly robust impact of the size of the APD Area in which support coordinators provide services, on the change in outcomes over time. Individuals receiving services from providers in Small rural areas showed improved outcomes compared to individuals in Large urban areas. Individuals in Small Areas improved on 15 different POM items. In rural areas most everyone knows everyone else. Therefore, it is possible the DD HCBS program was able to help connect people in rural areas to supports that were already in place compared to urban areas with a faster busy pace.

Recommendation 3: If the assumption is true, that rural Areas provide individuals more easy access to supports that may already be in place, that help them improve outcomes in their lives, it once again echoes the need for individuals to be connected to their communities and to develop a variety of social roles within those communities. The Area Quality Leaders in the more rural Areas may be helpful in exploring this hypothesis and bringing back to the other AQLs what they know about “best practices” in rural areas that may help WSCs better connect individuals to their communities in larger, more urban areas.

^x During the analysis, we explored the length of time Solo WSC had been offering services on the DD HCBS Waiver, as far back as the beginning of the FSQAP program. This did not impact outcomes. However, because of the difficulty in merging WSCs to the correct treating provider number, the sample size for this was quite small.

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