

Florida Statewide Quality Assurance Program

**Outcome Results Analysis
Best Predictors of Percent of Outcomes Met**

July 1, 2003 – June 7, 2005

Florida DD HCBS Waiver

Prepared by the Delmarva Foundation

Introduction and Background

Funding for over 24,000 individuals with developmental disabilities in Florida is provided through the Medicaid Developmental Disabilities Home and Community Based Services (DD HCBS) Waiver. Administered by the Florida Agency for Healthcare Administration (AHCA), the DD HCBS Waiver allows for the provision of services in community-based settings as an alternative to institutional care. The Delmarva Foundation, through a contract with AHCA, has provided a quality assurance program for persons served through the DD HCBS Waiver, called the Florida Statewide Quality Assurance Program (FSQAP).¹

The Council on Quality and Leadership (CQL) has participated as a subcontractor with Delmarva in the program for four years. As part of their responsibilities, CQL representatives have trained Delmarva reviewers/consultants in the interview techniques specific to their 25 Personal Outcome Measures (POM).² The purpose of the interviews is to help determine the degree to which the 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. Staff from CQL regularly monitor the reviewers and also provide reliability oversight. As part of the FSQAP program, Personal Outcome Measures interviews have been conducted with over 7,000 individuals served through the DD Waiver program.

Having 13 or more POM items Met has been established as an important indicator of quality of life. While it is unrealistic to assume any individual should achieve *all* of the outcomes measured, it was determined that having at least 13 met was a minimum standard to attain, a level providers must achieve in order to be accredited by CQL. During the second year of the contract, analyses were performed to determine which of the 25 POM items were most important in predicting how well individuals do in fact have at least 13 POMs met. Results indicated that when people were able to choose where they work and/or choose their services, they were also more likely to have achieved 13 or more outcomes in total. These were labeled “driver indicators” and have been tracked through data collected for the FSQAP contract.

The purpose of this study is, in part, to determine if these two driver indicators, *chooses work* and *chooses services*, are still the most important predictors of quality of life, as measured through the POM interview, for individuals with developmental disabilities in the DD HCBS waiver program. In addition, we examine the association between all the POM items and their ability to predict the total number of outcomes met for individuals.

- We examine the impact each POM item has on the likelihood of achieving the other 24 outcomes. For example, if an individual meets the POM item indicating an ability to participate in the life of the community, how well does that predict the percent of outcomes met on the remaining POM items?

¹ Persons with disabilities who elect the CDC+ HCBS Waiver are also included in this study.

² See Attachment 1 for a list of the POM indicators, within each of the seven POM domains.

- We also examine the association between each POM item and “13 or more met” on the measures. Which POM items are most highly correlated with the likelihood of achieving Met on 13 or more of the POM items? Have the “driver indicators” changed?

Data and Methods

Sample

Data for this study were taken from the random samples of 6,164 individuals receiving services through the DD HCBS waiver who completed a POM interview between July 2001 and June 2004.³ The samples were designed to be large enough to generate results that were statistically valid with a 95 percent confidence level statewide, \pm five percentage points, and with 90 percent confidence at the area level (formerly district), \pm 10 percentage points.⁴ Descriptive analyses are completed showing trends across the different demographic indicators, as described below. We use results from 2,259 interviews completed during the third year (July 2003 – June 2004) in the regression (prediction) analysis. Because the sample was selected disproportionately from different areas, the results are weighted appropriately.⁵

Methods

Statistical analyses in this study use only the Year Three data for several reasons.

- Formal Prior Service Authorization (PSA) began in Year Two of the contract. While no study has scientifically linked the onset of PSA with reduced outcomes, in Year One there was not a consistent method to approve services and therefore a tendency for consumers to receive any services they wanted.
- When too many cases are used in an analysis, every relationship may be “statistically significant” due to the large sample size. Thus, relationships that are substantively small may appear more important than they actually are.
- By Year Three, consultants had gained considerable experience administering the POM interviews and less variation among them is expected.

Correlation analyses are used to determine the extent to which each POM item is associated with achieving 13 or more outcomes. Standard Pearson’s r correlations test the strength of the association and t-tests determine the statistical significance of the association. Pearson’s r values range from -1 to 1. The closer the value is to zero, the weaker the association. If people who achieve a Met on the POM item are also likely to have 13 or more of the 25 POM items Met, the Pearson’s r value will be further from

³ Currently, Delmarva consultants have not yet completed interviews with the total sample of individuals selected for the fourth year of the contract (July 2004 – June 2005). Thus, results from these interviews are not used in this study. In addition, individuals selected for the longitudinal study are excluded from the analyses.

⁴ In other words, at the state level, we could say that only five percent of the point estimates are likely to be in error, and the estimate is accurate with five points on either side.

⁵ The weight factor was calculated based on the proportion of consumers in the population from each area and the proportion of consumer from each area in the sample.

zero in either direction. The probability associated with the t-score informs us how likely it is the association is due to chance. A standard probability level used to determine “statistical significance” is $p=.05$. This means there is only a five percent probability the results from the sample are due to sampling fluctuation or chance.

We also developed a regression model to test the net impact of each independent variable on the overall quality of life for individuals, based on the total percent of outcomes they had achieved on all 25 POMs. R Square reflects the percent of variance in the dependent variable that is explained by the variables in the equation. This value will increase as additional variables are added to the equation, explaining more of the variation in the percent of outcomes met. However, by establishing a base model and interjecting the POM items one at a time, we can compare the difference in the R Square for each item and determine which have the greatest impact on the explained variance. The method also generates a partial correlation which gives us the correlation between the POM item and the total outcomes, net of other influences. This ranges from -1 to 1 and shows us the strength of the relationship. The closer this is to zero, the weaker the association.

Dependent Variables

There are two dependent variables. The dependent variable for the correlation analysis is a dichotomy indicating whether or not people had 13 or more outcomes met on the 25 POM items. The percent of people falling into this category of having 13 or more met has decreased every year for the first three years of the FSQAP contract, from 54.7 percent to 39.2 percent.

13 or More Outcomes Met by Year

July 1, 2001 - June 30, 2004

Contract Year	Number Interviews	13+ Met	Percent 13+ Met
Year 1	1530	837	54.7%
Year 2	2,375	1,172	49.3%
Year 3	2,259	886	39.2%
Total	6,164	2,895	47.0%

The regression analysis uses the Percent Met on all 25 items from the POM interviews (Year Three only). The following table shows the distribution for each indicator. People were most likely to have the outcome met indicating they are free from abuse and neglect, 82.9 percent met on that outcome. People in the sample were, in general, satisfied with their personal life situations, with 72.6 percent achieving that outcome. Individuals were least likely to achieve the outcomes *perform different social roles*, *chooses services* and *chooses where they work*.

Percent Met: POM Items
July 2004 - June 2005
 Number of Interviews = 2,259

Outcome	Number Met	Percent Met
Choose personal goals	898	39.8%
Choose where/with whom they live	801	35.5%
Chooses where they work	511	22.6%
Have intimate relationships	1,008	44.6%
Are satisfied with services	1,063	47.1%
Satisfied with life situations	1,641	72.6%
Choose their daily routine	1,054	46.7%
People have privacy	1,443	63.9%
Decide when to share information	1,021	45.2%
Use their environments	769	34.0%
Live in integrated environments	613	27.1%
Participate in life of community	857	37.9%
Interact w/ members of community	970	42.9%
Perform different social roles	493	21.8%
People have friends	625	27.7%
People are respected	1,070	47.4%
Chooses services	502	22.2%
Realize personal goals	1,084	48.0%
Connected to natural supports	1,454	64.4%
People are safe	1,509	66.8%
People exercise rights	749	33.2%
People are treated fairly	1,362	60.3%
Have best possible health	887	39.3%
Free from abuse and neglect	1,873	82.9%
Experience continuity and security	842	37.3%

Independent Variables

Multiple situations and factors influence the extent to which individuals are able to achieve outcomes and goals that are important to them. We are limited to the factors available in the Delmarva data, collected during the interview process: gender, area size, age and the type of disability they have are available for analysis. The size of the area in which they live is based upon information from Medicaid claims. Because larger urban areas may offer a broader array of services and also more community programs and employment opportunities, it is possible consumers living in these areas are more likely to have their needs met than people in more rural settings.

Evidence from previous work has consistently indicated that children under age 18 are more likely than adults to have a high percent of outcomes met. Because they are often in school environments, they are more likely to have supports present that lead to better outcomes. In addition, people living in family homes have access to support systems

often unavailable to people in group homes and they are therefore more likely to have their outcomes and goals achieved.⁶ Little work has been completed that examines the effectiveness of the DD HCBS services for people with different disabilities.

In this study we are able to determine the impact each of these independent variables has on the percent of POM items scored as Met. We then “control” for these factors (independent variables) when determining the net effect each POM item has on the total outcomes met on the other 24 items. The independent variables used in the analysis are measured as follows:

- Gender: Male and Female
- Age: We show descriptive results for various age groups and analyze age as a continuous variable (without breaking it down by age groups) in the regression models.
- Area Size: The Medicaid Claims data from AHCA were used to identify the number of consumers living in each 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 areas. Medium size areas had from 1,000 to 1,999 consumers (e.g., Jacksonville, Pensacola, Tampa) and Small areas fewer than 1,000 consumers. The categories contain the following areas:
 - Large—7, 11, 23
 - Medium—1, 2, 3, 4, 9, 10 and 13
 - Small—8, 12, 14 and 15
- Home Type: There are several types of living arrangements available to people who receive services on the DD HCBS waiver. We have grouped these into three categories for this analysis. These are:
 - Family—family home and foster care
 - Independent—Independent Living and Supported Living
 - Group Homes—Large and Small Group Homes, Assisted Living Facilities (ALF), and Residential Treatment Facilities
- Disability: Consumers with six different disabilities are included in the sample. These are grouped as follows:
 - Mental Retardation
 - Cerebral Palsy
 - Autism
 - Other/Unknown—includes Epilepsy (3), Spina Bifida (37), Prader Willi (1), and Other (24)

Distribution by Gender

The table below shows the distribution of the number and percent of POM interviews for male and female consumers. The ratio of male to female consumers who were interviewed each year has remained fairly constant, with a slightly higher proportion of men than women. On average 56.5 percent in the sample are male and 43.5 percent are

⁶ See Quarterly and Annual reports submitted to AHCA for Year Two and Year Three.

female. This distribution is similar to the DD HCBS population, and therefore, on average, a good representation of the population in terms of gender.⁷

Percent Outcomes Met by Gender

July 2001 - June 2004

Contract Year	Number		Percent	
	Female	Male	Female	Male
Year 1	691	839	45.2%	54.8%
Year 2	1,018	1,367	42.7%	57.3%
Year 3	974	1,285	43.1%	56.9%
Total	2,683	3,491	43.5%	56.5%

Distribution by Age Group

The following table shows the distribution of individuals who received a POM interview for the first three years of the FSQAP project. The proportion of children in the sample has decreased somewhat since Year One, from over 18 percent to 13 percent. This is noteworthy because, as discussed above, previous research has shown that children are likely to have more POM outcomes met than are adults. Compared to the population, the sample in Year Three has relatively fewer children and a greater proportion of young adults (age 26-44). However, the differences are five percentage points or fewer, and the sample appears to be a good representation of the population as a whole regarding age.

POM Interviews by Age Group

July 2001 - June 2005

Age Group	Number			Percent		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
<=17	281	346	293	18.4%	14.6%	13.0%
18 - 21	123	185	152	8.0%	7.8%	6.7%
22 - 25	151	237	208	9.9%	10.0%	9.2%
26 - 44	624	1045	1044	40.8%	44.0%	46.2%
45 - 54	248	348	362	16.2%	14.7%	16.0%
55 - 64	70	156	157	4.6%	6.6%	6.9%
65+	33	58	43	2.2%	2.4%	1.9%
Total	1,530	2,375	2,259	100.0%	100.0%	100.0%

⁷ See FSQAP Year Four Annual Report, submitted to AHCA September 15, 2005, for population characteristics by gender, age, disability and home type.

Distribution by Area Size

The distribution of individuals by the size of the area in which they live is presented below. On average, the proportion living in Medium size areas has grown somewhat while the proportion living in Small areas has decreased. However, the differences are small. Proportionately more individuals in the sample lived in areas defined as Medium size, with 1,000 to 1,999 consumers as residents than in either Large or Small areas.

POM Interview by Size of Area

July 2001 – June 2004

Number

Area Size	Year 1	Year 2	Year 3	Total
Large	184	293	323	800
Medium	695	1,134	1,081	2,910
Small	651	948	855	2,454
Total	1,530	2,375	2,259	6,164

Percent

Area Size	Year 1	Year 2	Year 3	Total
Large	12.0%	12.3%	14.3%	13.0%
Medium	45.4%	47.7%	47.9%	47.2%
Small	42.5%	39.9%	37.8%	39.8%
Total	100.0%	100.0%	100.0%	100.0%

Distribution by Home Type

The majority of individuals in the sample, as well as in the population as a whole, live in family homes.⁸ Over the three year period, approximately 30 percent of individuals interviewed lived in a small or large group home. This compares favorably with the population, but with a somewhat smaller proportion of the sample in Family Homes and a somewhat greater proportion in group homes. Because people in family home environments typically report better outcomes than individuals in group homes, this could serve to depress outcome data somewhat.

⁸ Due to recording errors, the residence (home type) of consumers is unknown for a large number of people who were interviewed in Year Two (10.4%).

POM Interviews by Home Type

July 2001 - June 2004

Number				
Home Type	Year 1	Year 2	Year 3	Total
Family	811	1,181	1,137	3,129
Independent	222	299	357	878
Groups Homes	457	696	709	1,862
Unknown	40	199	56	295
Total	1,530	2,375	2,259	6,164

Percent				
Home Type	Year 1	Year 2	Year 3	Total
Family	53.0%	49.7%	50.3%	50.8%
Independent	14.5%	12.6%	15.8%	14.2%
Groups Homes	29.9%	29.3%	31.4%	30.2%
Unknown	2.6%	8.4%	2.5%	4.8%
Total	100.0%	100.0%	100.0%	100.0%

Distribution by Disability

The greatest percent of consumers have Mental Retardation as their primary disability. The next largest category is people with Cerebral Palsy. The proportion of individuals within each primary disability category has remained fairly consistent over the years.

POM Interviews by Disability

July 2001 - June 2004

Number				
Disability	Year 1	Year 2	Year 3	Total
Mental Retardation	1,292	1,845	1,873	5,010
Cerebral Palsy	150	149	177	476
Autism	49	83	88	220
Other	37	51	65	153
Unknown	2	247	56	305
Total	1,530	2,375	2,259	6,164

Percent				
Disability	Year 1	Year 2	Year 3	Total
Mental Retardation	84.4%	77.7%	82.9%	81.3%
Cerebral Palsy	9.8%	6.3%	7.8%	7.7%
Autism	3.2%	3.5%	3.9%	3.6%
Other	2.4%	2.1%	2.9%	2.5%
Unknown	0.1%	10.4%	2.5%	4.9%
Total	100.0%	100.0%	100.0%	100.0%

Disability by Home Type

Previous research has informed us that consumers with Mental Retardation are less likely to have outcomes met than are consumers with other disabilities. In addition, consumers living in group homes (large or small) are less likely to have outcomes met than individuals living in family homes or independent/supported living environments. Therefore, it is important to examine the extent of association between disability and residential status to help determine if it is mental retardation that makes it difficult to achieve outcomes, or the fact that consumers with mental retardation are more likely to live in an environment that itself produces lower outcomes.

As noted above, the residence (home type) of consumers is unknown for a large number of people who were interviewed in Year Two. Therefore, we use only Year Three data to show the relationship between primary disability and where consumers live.

POM Individuals by Disability and Home Type

July 2003 - June 2004

Number					
Home Type	MR	CP	Autism	Other	Total
Family	918	106	69	75	1,168
Independent	305	42	3	18	368
Groups Homes	649	29	16	28	722
Unknown	1	0	0	0	1
Total	1,873	177	88	121	2,259

Percent					
Home Type	MR	CP	Autism	Other	Total
Family	49.0%	59.9%	78.4%	62.0%	51.7%
Independent	16.3%	23.7%	3.4%	14.9%	16.3%
Groups Homes	34.7%	16.4%	18.2%	23.1%	32.0%
Unknown	0.1%	0.0%	0.0%	0.0%	0.0%
	100.0%	100.0%	100.0%	100.0%	100.0%

A larger percentage of individuals with Mental Retardation tend to live in a Group Home setting as compared with all other disabilities. Individuals with any other disability are much more likely to live in a Family or Foster home setting (In Home) than in any other environment. These results indicate that while people with Mental Retardation are apparently less likely to have their outcomes met, it is possibly a result of living in a group home setting and being less likely to have family/friends supports to help increase quality of life.

Results

Descriptive Analyses

Outcomes for individuals being served under the DD HCBS Waiver program have been reviewed and reported upon in several reports and Quality Improvement Studies.⁹ A summary of the percent of outcomes met by demographic characteristics is presented in the table in the following table.

Percent Outcomes Met: Demographic Characteristics
July 2001 - June 2004

Age Group	Percent Outcomes Met		
	Year 1 (1,530)	Year 2 (2,375)	Year 3 (2,259)
<=17	62.8%	58.9%	56.5%
18 - 21	49.1%	48.0%	41.6%
22 - 25	50.6%	50.1%	44.7%
26 - 44	53.5%	50.6%	44.1%
45 - 54	49.9%	46.1%	42.4%
55 - 64	46.0%	43.6%	38.0%
65+	44.3%	49.4%	40.0%
Gender			
Female	54.7%	49.7%	44.9%
Male	52.4%	51.0%	44.8%
Home Type			
Family	59.2%	55.5%	49.9%
Independent	57.4%	57.7%	51.5%
Groups Homes	41.1%	39.6%	33.3%
District Size			
Small	56.5%	54.0%	37.8%
Medium	54.2%	47.2%	44.8%
Large	51.8%	53.2%	47.6%
Disability			
Mental Retardation	51.8%	49.4%	43.3%
Cerebral Palsy	62.6%	58.0%	51.6%
Autism	58.7%	59.0%	58.3%
Other/unk	65.6%	50.8%	48.5%
Total	53.4%	50.4%	44.8%

⁹ See Quarterly and Annual Reports submitted to AHCA during the contract years. Also see, CDC+, Outcomes Not Met and Supports Not Present QI studies.

Demographic results are highlighted as follows:

- The only demographic group that did not show a decline in outcomes from Year One to Year Three consisted of individuals with Autism.
- Children are much more likely to have their outcomes met than adults.
- Men and women are about equally likely to have outcomes met.
- Individuals living in group homes are much less likely to achieve their desired outcomes than those in any other living arrangement.
- In Year One consumers living in Small areas were most likely to have outcomes met, compared to consumers in Medium or Large areas. However, by Year Three they were least likely to achieve desired outcomes. The percent of outcomes met for individuals residing in Small areas decreased by nearly 19 percentage points over the three year period.
- People with Mental Retardation have a lower percent of outcomes met than people with any other disability in all three years.

Because living arrangements and disability both appear to effect outcomes for individuals, we examine the relationship between these two characteristics in the following table. In almost every case, across all three years and all living arrangements, individuals on the DD HCBS Waiver program with Mental Retardation experienced a lower percent of outcomes met than did individuals with any other disability. Therefore, it appears that in any residential setting, people with Mental Retardation do not have as good a quality of life as others on the Waiver.

Percent Outcomes Met by Disability and Home Type

July 2001 - June 2004

Home Type	Mental Retardation		
	Year 1	Year 2	Year 3
In Home	57.9%	54.2%	48.1%
Ind/Sup Living	56.8%	56.4%	51.0%
Groups Homes	40.6%	39.7%	33.0%

Home Type	Other Disabilities		
	Year 1	Year 2	Year 3
In Home	64.3%	59.7%	56.4%
Ind/Sup Living	60.4%	61.2%	53.9%
Groups Homes	49.1%	38.7%	36.2%

Correlation Analysis: 13 or More Met

The following table provides information on the association of each POM item with the criterion of 13 or more Met for the 12 month period ending June 2004. The Bivariate Correlation reflects the results of the one-to-one correlation between each item and

whether or not 13 or more POM items were met (N=2,259). The Percent Met column shows the percent of individuals who achieved a Met on each POM item, among individuals who had 13 or more POM items scored as met (N=866).¹⁰ These provide some indication of the correlation between each item and quality of life using the criterion of 13 or more POM items met.

13 or More Met
 Bivariate Correlations and Percent Met
 July 2004 - June 2005

Outcome	Bivariate Correlation (2,259)	Percent Met (866)
Choose personal goals	0.444	68.3%
Choose where/with whom they live	0.528	66.9%
Chooses where they work	0.420	44.4%
Have intimate relationships	0.443	72.2%
Are satisfied with services	0.356	70.1%
Satisfied with life situations	0.367	94.4%
Choose their daily routine	0.566	82.1%
People have privacy	0.389	88.4%
Decide when to share information	0.433	73.8%
Use their environments	0.523	66.0%
Live in integrated environments	0.305	43.5%
Participate in life of community	0.416	63.6%
Interact w/ members of community	0.507	75.4%
Perform different social roles	0.375	42.1%
People have friends	0.413	50.3%
People are respected	0.538	81.9%
Chooses services	0.493	50.0%
Realize personal goals	0.321	68.0%
Connected to natural supports	0.246	80.8%
People are safe	0.174	77.6%
People exercise rights	0.555	66.9%
People are treated fairly	0.420	86.9%
Have best possible health	0.295	57.7%
Free from abuse and neglect	0.215	94.7%
Experience continuity and security	0.408	63.4%

Pearson's r values are given to reflect the bivariate association between each POM indicator and whether or not the individuals have 13 or more POM items met. Correlations range from a low of 0.174 on the item identifying if *people are safe* to a high of 0.566 on the item indicating people are able to *choose their daily routine*. *People exercise rights, are respected, choose where and with whom they live and use their*

¹⁰ Two additional tables are available in Appendix 1, Attachments 2 and 3. The tables are sorted from high to low on the correlation value and also on the percent met.

environments, round out the top five POM items with the strongest correlations with the criterion of having 13 or more met.

Among the subset of consumers on the DD HCBS Waiver program who have 13 or more POM items met (N=866), which POM items are most likely to be scored as met? The Percent Met for each ranges from a low of 42.1 percent indicating individuals are able to *perform different social roles*, to a high of 94.7 percent reflecting that most of these individuals are *free from abuse and neglect*. *People are satisfied with life situations, have privacy, are treated fairly and choose their daily routine*, round out the top five items that are met among this group.

Using these two different techniques, there does not appear to be a great deal of association between the Pearson's r value and the Percent Met on these items. The personal outcome indicating that individuals are *free to choose their own daily routine* is the only one in the top five for each criterion. The Pearson's r of .566 demonstrates the strongest bivariate association with the criterion of 13 or more met, and among individuals with 13 or more met, over 82 percent scored Met on this item. The POM item indicating that *people are respected* also ranks high in both of these methods, with a correlation of 0.538 to 13 or more met and almost 82 percent met among individuals with 13 or more met (ranking 6th).

The “driver indicators”, *chooses services* and *chooses work*, have only moderate correlations with the 13 or more met criterion, 0.49 and 0.42 respectively. Finally, the top five items listed in each group do not concentrate in any one POM Domain, but rather are distributed across Identity, Autonomy, Affiliation, Rights and Health and Wellness.

Regression Analysis Results

Results from the base regression model using the Percent Met on all 25 POM items as the dependent variable are presented in the following table. The R Square value indicates that only 12.8 percent of the variation in the percent of outcomes met for the individuals in the sample is explained by the nine variables in the equation. These nine variables represent the individual's age, gender, living arrangement, size of area and primary disability. Apparently many other factors greatly impact the outcomes people achieve.

The t-score and probability listed for each variable reflect the “statistical significance” of the relationship between each variable and the percent of outcomes met. A probability of .05 or smaller (t-score of two or greater) is generally considered to be a significant relationship—one that is not due to chance or sampling error. The larger the t-score the less likely it is the effect documented in the sample is due to chance, meaning there is a real impact on the dependent variable.

Area size, residential setting and disability are examined in the form of “dummy variables”. This means they are grouped into several categories, and the results are interpreted in terms of the “reference” group. For example, the results for consumers living in independent/supported living or group homes are compared to the results for

people living in family homes. Family home is the reference group. The reference group for area size is Large Areas and the reference group for disabilities is Mental Retardation.

Regression Results: Percent Outcomes Met

N = 2,259

<i>Base Model R Square</i>		<i>12.8%</i>		
Independent Variables	t-score	Probability or p value	Partial Correlation	
Age	-3.22	0.001	-0.068	
Gender	0.07	0.943	0.002	
Independent/Supported Living	2.51	0.012	0.053	
Group Homes	-12.25	0.000	-0.250	
Medium Size Areas	-3.58	0.000	-0.075	
Small Areas	-5.40	0.000	-0.113	
Cerebral Palsy	2.33	0.020	0.049	
Autism	4.16	0.000	0.087	
Other Disabilities	1.46	0.144	0.031	

All of the variables in the base model analysis show a significant impact on the percent of outcomes met for consumers, with the exception of gender and “other disabilities”. The data inform us that

- Older people on the DD HCBS program are less likely to have outcomes met, regardless of where they live, their gender, the size of their area or their primary disability.
- People living in independent or supported living environments are likely to have a higher percent of outcomes met than people living in family homes, net of other factors.
- However, a more robust relationship exists for people in group homes compared to family homes. Individuals in group home settings are less likely to have outcomes met compared to those in family homes, net of other factors in the analysis. The large t-score and small p value indicate it is very unlikely this is due to chance or to sampling error. This relationship also displays the largest correlation in the model (-.25) to the overall percent of outcomes met for individuals.
- Individuals living in large areas are more likely to have outcomes met than for residents of either Medium or Small areas.
- Individuals with mental retardation listed as their primary disability are less likely to have outcomes met than people with any other type of disability, net of the other factors in the equation. So, for example, people with mental retardation generally have lower outcomes, but they are also more likely to live in group homes where outcomes are lower. This analysis suggests that even within group homes, whether children or adults, whether living in a large or small area, people

with mental retardation do not have as many outcomes met as people with other disabilities.

In the next table we display the change in R Sq with each POM item and the partial correlation between that item and the percent of outcomes met on the other 24 items. With this analysis we can begin to determine the impact each POM item has on the likelihood that all other POM items will be achieved for the individual.

Impact of Individual POM Indicators on Total Percent Met

July 2004 - June 2005

Variance Explained Base Model (R Sq) = 12.8%

POM Outcome	R Square	Change in R Square	Partial Correlation
People are respected	35.6%	22.8%	0.51
People exercise rights	33.6%	20.8%	0.49
Interact w/ members of community	33.0%	20.2%	0.48
Choose services	32.9%	20.1%	0.48
Use their environments	31.3%	18.5%	0.46
Choose their daily routine	29.3%	16.5%	0.45
Are satisfied with services	28.6%	15.8%	0.41
Choose personal goals	27.8%	15.0%	0.42
Experience continuity and security	27.8%	15.0%	0.41
Decide when to share information	27.5%	14.7%	0.41
People are treated fairly	27.2%	14.4%	0.41
Satisfied with life situations	26.3%	13.5%	0.39
Participate in life of community	26.1%	13.3%	0.39
Have intimate relationships	25.6%	12.8%	0.38
Choose where/with whom they live	24.4%	11.6%	0.38
Perform different social roles	24.1%	11.3%	0.36
Have friends	23.9%	11.1%	0.35
Have best possible health	21.7%	8.9%	0.30
Have privacy	21.2%	8.4%	0.32
Choose where they work	21.1%	8.3%	0.31
Free from abuse and neglect	18.6%	5.8%	0.25
Realize personal goals	17.7%	4.9%	0.24
Connected to natural supports	17.1%	4.3%	0.24
People are safe	17.1%	4.3%	0.19
Live in integrated environments	14.0%	1.2%	0.16

The Change in R Square column denotes the percentage point increase, from 12.8 percent, in the percent of variance explained for each outcome. The analyses indicate that *people are respected* has the greatest impact on the likelihood that other POM items will be met. The correlation between this and the percent met on the other 24 items is relatively high at .51. *People exercise rights, people interact with members of their*

communities and *chooses services* (one of the driver indicators) are also relatively strong indicators of quality of life in terms the percent of outcomes met.

At the other end of the spectrum the outcome reflecting that *people live in integrated environments* has the least net overall impact on the other outcome indicators. This is true for people of all ages and in all living arrangements. Other factors that appear to have little impact on the likelihood of having a better quality of life as measured by the POMs (less than five percentage point increase) are that *individuals realize personal goals, are connected to natural supports, or are safe*.

As indicated above, *chooses services*, one of the driver indicators, does appear to have a relatively strong impact on the likelihood that a high proportion of the other 24 POM items will be achieved. However, *chooses work* has a relatively small impact on these outcomes.

Discussion and Recommendations

The results of this study concurs with results of previous work that has examined the Personal Outcome Measures indicators in the lives of people who receive services through the DD HCBS Waiver. The additional contribution is that demographic factors that have been tracked for several years in quarterly and annual reports are examined in a regression analysis in order to determine their net effect on outcomes. The impact of each individual POM item on the quality of life as measured by the POMs is also examined. An effort is made to help determine if the driver indicators, as defined in Year Two, remain significant determinants of quality of life, and also to identify other POM items significant in predicting total POM outcomes achieved.

In previous research it has been shown that children in this population generally have better outcomes than adults. It is assumed this is true mostly because they are more likely to live in family homes and also go to schools that supply needed supports in their lives. Results of this study suggest that even if children live in group homes, and regardless of the type of disability they have, they are more likely to have outcomes met. This could be the powerful effect of being in the school environments where they are more likely to make friends and have teachers who help them achieve goals they desire. These results may indicate the positive and important impact of being integrated into the environment/community where friends are made and supports/networks can be established.

Recommendation: The state should continue the current focus on integrating people into their communities via supported employment. Working in our communities provides not only a sense of independence and self worth, but also social networks that help provide vital supports that improve our quality of life.

Similar results are apparent in terms of an individual's primary disability. Regardless of age, gender, living arrangement or size of area, people with Mental Retardation are less

likely to have outcomes met. While individuals with Mental Retardation are more likely to live in group homes than are other consumers in the program, even within a group home environment their outcomes tend to be lower.

Recommendation: The state and area offices should work with Delmarva to identify barriers to achieving outcomes that may be specific to people with Mental Retardation. The program office should address any programmatic or administrative issues identified through this effort that may be impacting outcomes specific to the needs of this subgroup in the population. Education/training sessions could also be developed to help providers increase their awareness of current problems that prevent attainment of outcomes and to develop programs to meet needs specific to this large subgroup of the DD HCBS population.

The current bivariate correlation analysis indicates that when people are *free to choose their own daily routine*, when they are able to *exercise their rights* and when *they feel respected* they are more likely to have 13 or more POMs met. If they are able to *choose where and with whom they live*, if they *use their environments* and if they are able to *interact with members of community* also show relatively strong bivariate associations with this criterion (all have Pearson's $r \geq 0.5$). When controlling for other factors that may effect outcomes (regression analysis), the POMs informing us that *people feel respected* and that they are able to *exercise their rights* both have partial correlations (unique) that are relatively strong ($r \geq 0.5$), indicating that when these are met individuals are more likely to have a high percent of all the POMs met. Therefore, an ability to exercise rights and attain a feeling of being respected appears to be integral to having the other outcomes met and improving quality of life.

Recommendation: The state, in conjunction with Delmarva, should continue to expand and improve training for providers in the areas of rights, dignity and respect. Education for individuals in these areas is also a vital component. By increasing individuals' awareness we will enhance their ability to be self advocates in achieving their rights and enhancing their dignity and self-respect.

Results for the driver indicators are somewhat ambiguous. While this study suggests that *chooses services* remains an important component in attaining other outcomes, *chooses work* does not appear as significant. This could in part reflect circumstances similar to the broader society in that we often tolerate our work as a means to get to the things we enjoy. Many of us, not just the developmentally disabled, have little or no choice in our livelihoods. Choosing our work may not be as integral to the quality of our lives as simply having work, with the income, independence, self-worth, and networking it provides. However, we are less satisfied with life in general if we live in areas where roads are not maintained, transportation is unavailable, little entertainment is offered in the community, or we have no means to socially network with others.

Similarly, the DD population is likely to be less satisfied with life in general if transportation is unavailable to allow them to participate in any community events, or to have independence to acquire or change jobs, or to be unable to develop social networks.

DD services provide the link to work, community, family, friends, and networks of support that enhance outcomes for individuals. Being able to choose services they need, *all* of the services they need, is a vital link in the process of increasing the quality of life for the disabled. It is reasonable to assume that when people can not choose the services they feel are necessary in their lives, life in general will be less satisfying for them.

Recommendation: There has been an abundance of anecdotal evidence to suggest that individuals on the DD HCBS program and their support coordinators have had numerous problems obtaining needed services since the onset of increased prior authorization requirements set forth during the second year of the FSQAP contract. Because services are the lifeline for people with disabilities, it is important to allow them to choose the services they believe they need. On the other hand, the state has budgetary needs and a directive to ensure services are economically, efficiently and appropriately rendered. The program office should actively examine the continued allegations that needed services are denied to people on the program, and provide empirical evidence as to the consequences, if any, of the denied services. If problems are identified, a work group should be initiated to help address issues that prevent individuals (with their support coordinators) from choosing the services they believe they need.

Attachment 1

Personal Outcome Measures

Identity

- People choose personal goals.
- People choose where and with whom they live.
- People choose where they work.
- People have intimate relationships.
- People are satisfied with services.
- People are satisfied with their personal life situations.

Autonomy

- People choose their daily routine.
- People have time, space and opportunity for privacy.
- People decide when to share personal information.
- People use their environments.

Affiliation

- People live in integrated environments.
- People participate in the life of the community.
- People perform different social roles.
- People have friends.
- People are respected.

Attainment

- People choose services.
- People realize personal goals.

Safeguards

- People are connected to natural support networks.
- People are safe.

Rights

- People exercise rights.
- People are treated fairly.

Health and Wellness

- People have the best possible health.
- People are free from abuse and neglect.
- People experience continuity and security.

Attachment 2

13 or More Met: Sorted by Bivariate Correlations

13 or More Met
 Bivariate Correlations and Percent Met
July 2004 - June 2005

Outcome	Bivariate Correlation (2,259)	Percent Met (866)
Choose their daily routine	0.566	82.1%
People exercise rights	0.555	66.9%
People are respected	0.538	81.9%
Choose where/with whom they live	0.528	66.9%
Use their environments	0.523	66.0%
Interact w/ members of community	0.507	75.4%
Chooses services	0.493	50.0%
Choose personal goals	0.444	68.3%
Have intimate relationships	0.443	72.2%
Decide when to share information	0.433	73.8%
Chooses where they work	0.420	44.4%
People are treated fairly	0.420	86.9%
Participate in life of community	0.416	63.6%
People have friends	0.413	50.3%
Experience continuity and security	0.408	63.4%
People have privacy	0.389	88.4%
Perform different social roles	0.375	42.1%
Satisfied with life situations	0.367	94.4%
Are satisfied with services	0.356	70.1%
Realize personal goals	0.321	68.0%
Live in integrated environments	0.305	43.5%
Have best possible health	0.295	57.7%
Connected to natural supports	0.246	80.8%
Free from abuse and neglect	0.215	94.7%
People are safe	0.174	77.6%

Attachment 3
13 or More Met: Sorted by Percent Met

13 or More Met
Bivariate Correlations and Percent Met
July 2004 - June 2005

Outcome	Bivariate Correlation (2,259)	Percent Met (866)
Free from abuse and neglect	0.215	94.7%
Satisfied with life situations	0.367	94.4%
People have privacy	0.389	88.4%
People are treated fairly	0.420	86.9%
Choose their daily routine	0.566	82.1%
People are respected	0.538	81.9%
Connected to natural supports	0.246	80.8%
People are safe	0.174	77.6%
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