

**Comprehensive Waiver Residential
Habilitation and Day Services
Payment/Funding Levels:**

Final Recommendations

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Prepared for:

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I. Introduction

This report presents the Human Services Research Institute (HSRI) *final recommendations* for:

- √ The assignment of individuals to payment *levels* for residential habilitation services furnished through the Colorado Comprehensive HCBS Waiver for persons with developmental disabilities, effective July 1, 2008; and
- √ The assignment of individuals to groups to which *funding maximums* that would apply for the authorization of day services (day habilitation and supported employment) through the waiver, also effective July 1, 2008.

In each instance, individuals would be assigned to levels for payment purposes based on the results of the administration of the Supports Intensity Scale (SIS) assessment instrument .

The final recommendations contained here have been reviewed, modified, and accepted by the Colorado Department of Human Services (CDHS), the Division for Developmental Disabilities (DDD), and Colorado Health Care and Policy Finance (HCPF). This report is an HSRI client working paper, and is intended only to inform decision-making by Colorado state officials. Therefore, is not intended for distribution outside of CDHS, DDD and HCPF, pending a decision by officials to do so.

On October 4, 2007, HSRI forwarded to state officials its revised preliminary recommendations based on its analysis of the SIS representative sample of Comprehensive waiver participants. That revision was based on the HSRI analysis of the more complete “adjusted full population data set” of Comprehensive Waiver participants. This data set is described in more detail in the next section of the report. The “final recommendation presented here contains modifications resulting from feedback provided by state officials in early October 2007.

This HSRI final report does not contain recommendations for residential or day services *payment rates per se*. These recommendations will be provided to Navigant Consulting, Incorporated (NCI). Subsequently, NCI will develop and document the associated payment rates.

This final report contains three major sections:

- √ The next section (“**Adjusted Full Population Data Set**”) discusses how this data set was constructed and furnishes basic descriptive information about the Comprehensive Waiver population;
- √ The **Residential Habilitation Services** section provides additional descriptive information concerning the utilization of residential services. This section also contains the HSRI recommendations for the assignment of persons to SIS-based payment levels; and
- √ The **Day Services** section includes descriptive information along with the HSRI recommendations regarding the assignment of individuals utilizing the SIS to levels of maximum day services funding amounts that would apply to authorization of day habilitation and supported employment services.

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II. Adjusted Full Population Data Set

Introduction

HSRI has created the “adjusted full population data set” in order to advance the development of payment levels beyond the previous limited representative sample to encompass as complete a representation of the entire Comprehensive Waiver population as possible. This section describes how this data set has been constructed. This section also provides descriptive information about the individuals in the data set.

A. Construction of the Adjusted Full Population Data Set

As of mid-September 2007, 18 of the 20 Community Centered Boards (CCBs) had completed the administration of the SIS for all their Comprehensive Waiver participants. Two CCBs (Denver Options and The Resource Exchange (TRE)) continued to be engaged in correcting SIS scoring problems that DDD had identified as well as completing the administration of the SIS for their remaining Comprehensive Waiver participants. These two CCBs are expected to wrap up SIS administration by October 15, 2007.

Rather than delay the analysis of the SIS full population results until these two CCBs have completed administration of the SIS, HSRI proposed to create a data set that is composed of:

- √ The full population results for the 18 CCBs that had completed the SIS for all their waiver participants; and
- √ The Denver Options and TRE representative sample population results scaled up to reflect the proportion of individuals that these two CCBs serve in relation to the full Comprehensive Waiver population.

Essentially, this approach assumes that the Denver Options and TRE representative samples can serve as reasonable interim proxy representations of each CCB’s full Comprehensive Waiver population. The full population results for both CCBs will depart to some unknown extent from their representative sample results. Given the relatively large number of individuals contained in the representative sample for both CCBs, it seems unlikely that any difference in the results between the representative sample and the full population will prove to be large. It is even less likely that the full population results for both CCBs once received will materially affect the overall results for the entire Comprehensive Waiver population.

In order to create the adjusted full population data set, HSRI scaled up the Denver Options and TRE representative samples by creating duplicated “” records. In each instance, six duplicated records were created to match the results for each actual person in the representative sample. For example, the Denver Options representative sample has 69 individuals. The adjusted full population data set for Denver Options contains 483 records (7 x 69). This approximates the 497 individuals served by Denver Options through the Comprehensive Waiver. In the case of TRE, the adjusted full population data set contains 378 records, which approximates the 393 persons that served through the Comprehensive Waiver.

Mechanically, it was not possible to exactly match the number of records in the adjusted full population data set to the total number of persons served by each CCB.

B. Composition of the Adjusted Full Population Data Set

The adjusted full population data set contains records for 3,590 individuals for whom HSRI could match PARs to SIS assessments. The last PAR file received by HSRI from DDD contained 3,718 individual records, not counting people served by the Regional Centers. The difference in the number of individual records (128 records in total) between the PAR count and

the number of individuals contained in the adjusted full population data set stems from: (a) the difference between the number of people in the Denver Options and TRE proxy populations that HSRI created and the number of PAR records for both CCBs (29 records in total) and (b) persons for whom PARs and SIS assessments could not ultimately be matched (99 records in total). These 99 unmatched records are scattered across CCBs. The adjusted full population data set is composed of the following individuals:

- √ All persons served by the 18 CCBs that completed SIS assessments, except for persons with a SIS for whom a matching PAR file could not be located or persons who have a PAR record but no matching SIS. The former group of individuals probably is composed of persons who have left the Comprehensive Waiver since their SIS were completed. The latter group may be composed of individuals who have entered the waiver but for whom a SIS assessment has not been completed. This part of the adjusted full population data set encompasses 2,729 individuals.
- √ The Denver Options and TRE proxy populations, constructed as described above. This portion of the adjusted full population data set contains 861 records (123 actual records and 738 duplicated records).
- √ The adjusted full data set does not include persons served by the Regional Centers. These individuals have been excluded pending the correction of their SIS scores to remove inappropriate frequency maximization and the completion of “redos” at Grand Junction Regional Center due to missing SIS assessment forms.

C. Adjusted Full Population Data Set: Descriptive Information

1. Distribution of Individuals by CCB

Table 1 on the following page shows the distribution of individuals by CCB in the adjusted full population data set.

2. Adjusted Full Population Data Set: SIS Results

a. Background

Between April and August 2007, DDD conducted an intensive review of the initial SIS results. This review was prompted by the decision to reverse the guidance regarding the maximization of the frequency of support in Section 1 of the SIS instrument based on SIS Section 3a (Medical Support Needs) and Section 3b (Behavior Support Needs) results. Frequency maximization had distorted SIS Section 1 results by artificially elevating the SIS Total Index scores and underlying subscale scores for a significant percentage of individuals. In most cases, CCBs were able to back maximization out of their SIS results without having to re-administer the SIS. However, in some cases, it was necessary for CCBs to conduct new SIS interviews. Once maximization was removed, HSRI flagged certain CCBs where there potentially was systematic over or under rating of support needs. The SIS results for these CCBs appeared to be materially different from other CCBs and the overall Colorado sample as well as departed significantly from established SIS U.S. norms. DDD then followed up with these CCBs. In some cases, DDD determined that the SIS results were consistent with the underlying support needs of the people in the sample. In other cases, DDD determined that there were underlying problems in how some CCBs had rated individuals. This triggered “redos.” DDD prioritized redos of people in the representative sample so that final SIS sample results could be transmitted to HSRI by August 15, 2007. By September 15, 2007, except for Denver Options and TRE, all CCBs had made necessary corrections to previously administered SIS assessments and completed the SIS for their remaining waiver participants. Upon receipt of the full population SIS results, HSRI checked for

lingering inappropriate maximization. DDD resolved the small number of cases that HSRI identified as exhibiting maximization.

Table 1: Distribution of Individuals by CCB – Adjusted Full Population Data Set		
Community Centered Board	Persons in Data Set	% of Total Individuals
Arkansas Valley	64	1.78%
Blue Peaks	51	1.42%
Colorado Blue Sky	241	6.71%
Community Connections	54	1.50%
Community Options	101	2.81%
Denver Options*	483	13.45%
DDC/Imagine!	258	7.19%
DD Resource Center	371	10.33%
Dev. Opportunities/Starpoint	86	2.40%
Developmental Pathways	371	10.33%
Eastern	102	2.84%
Envision	173	4.82%
Foothills	261	7.27%
Horizons	38	1.06%
Mesa	166	4.62%
Mountain Valley	76	2.12%
North Metro	256	7.13%
Southeastern	22	0.61%
Southern	38	1.06%
The Resource Exchange*	378	10.53%
TOTAL	3,590	100.00%
* HSRI created proxy populations		

b. SIS Results: Adjusted Full Population Data Set

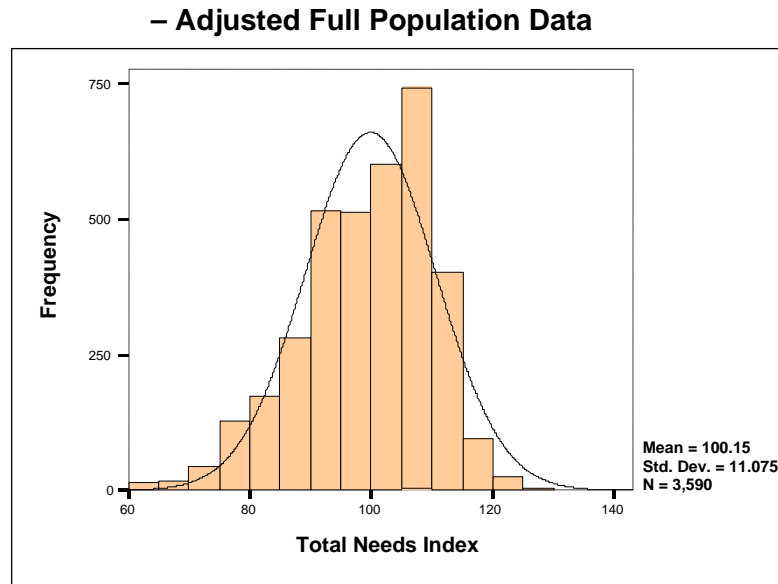
HSRI then focused its attention on analyzing the following SIS metrics for the adjusted full population data set:

- √ **Total SIS Index Score.** This score is a broad measure of an individual’s overall support needs as assessed in Section 1 of the SIS. Section 1 of the SIS addresses the extent of needed support in six areas of everyday living. The Total SIS Index score is a composite of the assessment results for these six areas. The SIS is normed so that a score of 100 falls in the 50th percentile of individuals. That is, one-half of all individuals usually have a score of less than 100 and vice-versa.
- √ **Selected Subscale Scores.** In HSRI’s work on behalf of Colorado and elsewhere, the scores for three Section 1 sub-areas (Section 1A – Home Living Activities, Section 1B – Community Living Activities, and Section 1E – Health and Safety Activities) have usually proven to be particularly important in the development of resource allocation models, especially in the case of residential services.

- √ **Sections 3a and 3b Raw Scores.** Section 3a of the SIS examines the extent to which individuals have exceptional medical support needs. Section 3b assesses the extent of exceptional behavioral support needs. Although not completely independent of Section 1, these sections lend additional dimensionality to the SIS. For example, it is not unusual for people to have relatively low support needs as measured by Section 1 but high support needs as measured in Section 3b.

With respect to the adjusted full population data set, the graph below shows the distribution of the Total SIS Index Score:

Graph 1: Distribution of Total SIS Index Scores



The adjusted full population data set mean Total SIS Index Score is 100.15, slightly greater than the SIS U.S. norm of 100. The mean score also is somewhat bit greater than the previously reported representative sample mean index score of 98.99. The removal of maximization and the rescoring of other people has resulted in a significant reduction in the mean Total SIS Index Score. In March 2007, the representative sample had exhibited a mean Total SIS Index Score of 103.8. The fact that the adjusted full population data set mean Total SIS Index Score falls in the expected range lends some measure of confidence that the underlying ratings are sound.

As also can be seen from Graph 1, the distribution of Total SIS Index scores is not entirely normal. The median Total SIS Index score is 102.0 or about 2 points above the mean. Index scores range from a low of 59 to a high of 129. Table 2 on the following page shows the distribution of Index scores for selected intervals compared to SIS U.S. norms:

SIS Index Score	Percent of Cumulative			U.S. SIS
	Count	Total	Percent	Norm
59 - 84	330	9.19%	9.19%	10.00%
85 -93	638	17.77%	26.96%	30.00%
94 - 97	326	9.08%	36.04%	40.00%
98 - 101	461	12.84%	48.89%	50.00%
102 - 109	1,101	30.67%	79.55%	70.00%
110 - 123	712	19.83%	99.39%	90.00%
124+	22	0.61%	100.00%	100.00%
Total	3,590	100.00%		

The distribution of Total SIS Index scores more or less parallels the SIS U.S. norms for scores up to 101. Above a score of 101, there is a higher frequency of Colorado individuals with scores in the range of 102-109 than would otherwise be expected based on the U.S. SIS norms. The distribution of index scores in the adjusted full population data set is somewhat different than the distribution exhibited by the representative sample. A greater percentage of the full population data exhibits scores above 101.

The adjusted full population data set exhibits a mean score of 29.26 (and a median score of 30.0) for the sum of the standard scores for three SIS Section 1 areas cited above (hereafter referred to as “ABE” score). This mean is a little below the norm of 30.00 associated with these subscales. These subscale scores are generally consistent with the overall mean Total SIS Index score for the full population data set. The distribution of scores also parallels the distribution of the Total SIS Index Scores. The combined ABE scores in the full population data set range from a low of 11 to a high of 41.

With respect to Medical (SIS Section 3a) and Behavioral (SIS Section 3b) Support Needs, the adjusted full population mean total Section 3a score is 2.84 (versus a possible maximum score of 32 and an observed maximum of 22) and the mean raw Section 3b score is 6.11 (versus a possible maximum score of 26 and an observed maximum of 23). In both cases, the mean scores are somewhat greater than those exhibited in the representative sample. The distribution of these scores for selected intervals is shown in Table 3.

Raw Score	Section 3a	% of total	Section 3b	% of total
0	696	19.4	343	9.6
1	679	18.9	317	8.8
2	787	21.9	350	9.7
3	395	11.0	317	8.8
4	316	8.8	275	7.7
5	174	4.8	302	8.4
6	180	5.0	258	7.2
7	107	3.0	211	5.9
8	80	2.2	190	5.3
9-10	70	1.9	325	9.1
11-12	51	1.4	289	8.0
13-14	27	0.7	187	5.2
15-16	8	0.2	109	3.1
17-18	7	0.2	49	1.5
19-20	2	0.0	39	1.1
21+	11	0.3	23	0.6

Total	3,590	100.0	3,590	100.0
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As can be seen, about 60 percent of waiver participants have extraordinary Medical Support Need total scores of 2 or less. A relatively small percentage of individuals exhibit multiple medical support needs; only 3.0 percent of individuals have medical support need raw scores that are in excess of 10.

In contrast, the extent of behavioral support needs is more widely distributed across waiver participants. For example, almost 20 percent of waiver participants have behavioral support need raw scores of 10 or higher, indicating relatively intense support needs across multiple behavior support activities.

Table 4 compares the SIS results for the Colorado adjusted full population data set to the SIS U.S. norms and SIS sample results for two other states with very comparable populations (i.e., adults over age 18 who participate in comprehensive waiver programs):

Group/State	People	Total SIS Index Score	Medical Support Need 3a	Behavioral Support Need 3b
Colorado Adjusted Full Population	3,590	100.15	2.84	6.11
SIS Norm Group	865	100.00	2.47	4.99
State 1	401	101.00	3.27	4.98
State 2	288	100.42	3.23	4.81

The “State 1” sample includes a significant number of individuals who were previously institutionalized. As can be seen, the Colorado Total SIS Index score results are about the same as the U.S. norm group and the two other states. The Colorado results depart most significantly from the SIS norm group and the other states in the dimension of extraordinary behavioral support needs. Nonetheless, these results lend some additional measure of confidence that the Colorado SIS results align reasonably well with results elsewhere and SIS norms.

c. CCB-by-CCB SIS Results

Finally, HSRI compiled CCB-by-CCB SIS descriptive SIS information for the adjusted full population data set. This information is displayed in Table 5 on the following page:

Table 5: CCB-by-CCB Descriptive SIS Statistics

CCB	People	Total Sis Index	Sum ABE Standard	Section 3a Total Medical	Section 3b Total Behavioral
Arkansas Valley	64	91.28	25.22	1.73	4.69
Blue Peaks	51	95.53	27.22	2.39	6.35
Colorado Blue Sky	241	99.91	29.28	3.59	7.68
Community Connections	54	97.93	28.04	1.61	3.69
Community Options	101	98.23	28.81	2.46	4.48
Denver Options	483	101.67	29.80	2.14	6.42
DDC/Imagine!	258	99.64	28.83	3.23	5.59
DDRC	371	101.26	29.67	2.52	5.81
Dev.Oppt/Starpoint	86	102.78	29.72	2.23	6.03
Developmental Pathways	371	99.69	28.88	2.68	6.25
Eastern	102	97.92	27.98	1.84	5.68
Envision	173	100.81	30.01	4.10	6.74
Foothills	261	100.03	29.26	2.84	6.32
Horizon	38	97.68	28.21	2.89	5.50
Mesa	166	100.86	29.55	3.29	6.61
Mountain Valley	76	94.32	26.55	1.61	4.66
North Metro	256	100.69	29.68	3.21	7.46
Southeastern	22	92.36	25.68	1.36	4.36
Southern	39	101.89	30.76	3.16	6.61
The Resource Exchange	378	101.81	30.26	3.61	5.19
	3590	100.15	29.26	2.84	6.11
	MIN	91.28	25.22	1.36	3.69
	MAX	102.78	30.76	4.10	7.46
	MED	99.80	29.07	2.60	5.92

As can be seen from the table, there is variation CCB-to-CCB in the SIS results. However, the extent of the variation is not as wide as was previously observed with respect to the representative sample. For example, in the representative sample, SIS Total Index scores by CCB ranged from a low of 87.00 to a high of 104.08 or about 17 points. In the case of the adjusted full population data set, the range is much narrower (11.5 points). No CCBs exhibit SIS results that statistically are improbable departures from the results for the overall sample or the other CCBs.

D. Summary

To summarize:

- √ The corrective actions initiated by DDD have yielded SIS results for the individuals in the adjusted full population data set that align reasonably well with SIS U.S. norms and SIS results for comparable populations in other states; and
- √ No CCBs stand out as having improbable SIS results.

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III. Residential Habilitation Services

This section contains descriptive statistics concerning the Comprehensive Waiver residential habilitation services. The HSRI approach to formulating residential habilitation payment levels is then discussed. Finally, the recommendations for residential habilitation payment levels are presented.

A. Descriptive Statistics

Here, various descriptive statistics are presented with respect to the residential habilitation services that are furnished to individuals in the adjusted full population data set.

1. Distribution of Individuals by Residential Habilitation Payment Tier

Table 6 shows the distribution of individuals in the adjusted full population data set by the current payment tier (excluding persons served in the Regional Centers):

Residential Habilitation Tier			% of Total
Tier 1 (\$53.15 per day)			6.0%
Tier 2 (\$76.68 per day)			27.3%
Tier 3 (\$110.86 per day)			33.3%
Tier 4 (\$128.20 per day)			15.3%
Tier 5 (\$166.98 per day)			6.5%
Tier 6 (\$196.14 per day)			7.7%
Tier 7 (Special Rates)			3.7%
Total*		3,589	100.00%
* 1 record missing			

In the adjusted full population data set, Tier 7 is slightly overrepresented; the DDD count of the number of people with Tier 7 rates is 128. The overrepresentation is a byproduct of how the Denver Options proxy population was constructed.

Across all persons in the adjusted full population data set, the average per diem authorized payment rate is \$117.59. When Tier 7 individuals are excluded, the average per diem authorized payment rate is \$112.46, approximately the current Tier 3 rate.

2. Distribution of Individuals by Living Arrangement and Residential Habilitation Payment Tier

Table 7 on the following page shows the distribution of individuals in adjusted full population data set by type of living arrangement and residential habilitation payment tier. Some 53.6 percent of individuals in the adjusted full population data set are served in host home settings. Host homes are the most commonly used living arrangement except at Tier 1 and Tier 7. Group homes and other IRSS settings are utilized in about equal proportions. Group home utilization increases in relation to payment tier. In contrast, other IRSS utilization generally declines with payment tier, except for Tier 7. Some CCBs make relatively high use of host homes. For example, 84 percent of the Denver Options representative sample is served in host homes; 91 percent of the individuals served through/by North Metro are supported in host homes.

Residential Habilitation Tier	Group Home	%	Host Home	%	Other IRSS	%	Total
Tier 1 (\$53.15 per day)	34	15.7%	84	38.7%	99	45.6%	217
Tier 2 (\$76.68 per day)	130	13.3%	550	56.2%	299	30.5%	979
Tier 3 (\$110.86 per day)	309	25.8%	692	57.9%	195	16.3%	1,196
Tier 4 (\$128.20 per day)	145	26.4%	326	59.3%	79	14.4%	550
Tier 5 (\$166.98 per day)	86	36.6%	108	46.0%	41	17.4%	235
Tier 6 (\$196.14 per day)	98	35.3%	132	47.5%	48	17.3%	278
Tier 7 (Special Rates)	61	45.5%	31	23.1%	42	31.3%	134
Total	863	24.0%	1,923	53.6%	803	22.4%	3,589

3. CCB-by-CCB Comparison: Average Residential Habilitation Payments

Table 8 on the following page compares the average CCB-by-CCB residential habilitation services daily payment for people in the adjusted full population data set versus the statewide average for all persons. CCBs also are compared after excluding people for whom Tier 7 payments are made.

Considering all persons in Tiers 1-7, there is considerable variance from the state average per diem rate across the CCBs. Average per diem rates range from 20.2 percent below the statewide average to 22.5 percent above the state average. The absolute dollar range is approximately \$50 per day. Only 8 of the 20 CCBs are within ± 5 percent of the state average.

When the Tier 7 rates are removed, the range of per diem rates narrows to \$35 per day but it remains the case that only 8 CCBs are within ± 5 percent of the state average. Since Tier 7 rates are not evenly distributed across CCBs, their impact is to widen the range of per diem rates. At the same time, the fact that a relatively wide payment rate wide range remains after removing the Tier 7 rates reveals that there is considerable underlying disparity across CCBs in resources for residential habilitation services.

4. SIS Results by Residential Habilitation Payment Tier

Table 9 (also on the next page) shows selected SIS results for individuals in the adjusted full population data set for each residential habilitation payment tier. Statistics displayed include: (a) mean Total SIS Index score; (b) the sum of the average total standard scores for the ABE subscales; (c) the average total Section 3A medical support needs score; (d) the average Section 3b behavioral support needs total score; and, (e) the average value of the “community safety risk” item in the CCMS (where no risk = 1, supervised = 2 and convicted =3). This non-SIS item is included because, in past HSRI analyses, it proven useful in explaining some of the variance in residential habilitation payment rates.

CCB	Persons in Tiers 1-7			Persons in Tiers 1-6		
	Persons	Avg. Per Diem	% Variance from State Avg.	Persons	Avg. Per Diem	% Variance from State Avg.
ARKANSAS VALLEY	64	\$95.37	-18.9%	63	\$93.43	-16.9%
BLUE PEAKS	51	\$111.04	-5.6%	51	\$111.04	-1.3%
COLO BLUESKY	241	\$114.14	-2.9%	222	\$103.25	-8.2%
COMM CONNECTIONS	54	\$93.86	-20.2%	54	\$93.86	-16.5%
COMM OPTIONS	101	\$95.41	-18.9%	101	\$95.41	-15.2%
DENVER OPTIONS	483	\$117.81	0.2%	476	\$115.16	2.4%
DDC/IMAGINE!	258	\$129.20	9.9%	234	\$117.75	4.7%
DD RES CENTER	370	\$120.08	2.1%	355	\$115.46	2.7%
DEV OPP/STARPOINT	86	\$103.68	-11.8%	81	\$96.34	-14.3%
DEV PATHWAYS	371	\$144.01	22.5%	329	\$128.66	14.4%
EASTERN	102	\$94.47	-19.7%	99	\$87.12	-22.5%
ENVISION	173	\$114.61	-2.5%	172	\$113.87	1.3%
FOOTHILLS	261	\$119.77	1.9%	258	\$118.46	5.3%
HORIZONS	38	\$106.12	-9.8%	38	\$106.12	-5.6%
MESA	166	\$121.17	3.0%	166	\$121.17	7.7%
MT VALLEY	76	\$104.89	-10.8%	75	\$102.64	-8.7%
NORTH METRO	256	\$115.89	-1.4%	245	\$110.88	-1.4%
S.EASTERN	22	\$108.35	-7.9%	20	\$97.42	-13.4%
SOUTHERN	38	\$93.81	-20.2%	38	\$93.81	-16.6%
THE RESOURCE EXCH	378	\$112.64	-4.2%	378	\$112.64	0.2%
Total	3,589	\$117.59	0.0%	3,455	\$112.46	0.0%

Tier	People	SIS Index Score	Mean ABE	Mean 3a	Mean 3b	Community Safety	% of Persons with Community Safety Status of 2 or 3
1	217	88.41	23.36	1.35	3.78	1.01	1.4%
2	979	95.31	26.70	1.83	4.98	1.04	1.7%
3	1,196	101.37	29.90	2.65	5.95	1.08	6.0%
4	550	104.15	31.28	3.40	7.08	1.13	9.3%
5	235	104.54	31.58	3.61	7.60	1.13	9.4%
6	278	106.67	32.69	5.46	8.28	1.18	14.4%
7	134	105.81	32.25	5.18	8.40	1.43	31.3%
ALL	3,589	100.15	29.26	2.84	6.11	1.09	4.9%

As can be seen, there is generally a positive correlation between payment tier and support needs as measured by the SIS. Greater support needs are associated with higher payment amounts. People in the higher payment tiers tend to be further distinguished from individuals in the lower tiers by greater behavioral and medical support needs. There also is an evident positive correlation between payment tier and community safety status. In fact, community safety status is the principal characteristic that distinguishes people who have Tier 7 rates and those who have Tier 5 or 6 rates.

At the same time, it must be noted that there is overlap tier-to-tier in the measured support needs of individuals. For example, some people in Tier 4 are indistinguishable from individuals in Tiers 3 and 5 and so forth.

B. Recommended Residential Habilitation Payment Levels

This part of the report describes the HSRI approach to the formulation of the Comprehensive Waiver residential habilitation payment levels. The payment levels then are also described in detail.

1. HSRI Approach

HSRI approached the formulation of residential habilitation payment levels in a generally similar fashion to the approach it has used previously in developing potential payment levels.

a. HSRI Analysis

HSRI once again performed statistical analyses to identify the SIS and CCMS factors that contribute to the explanation of variance in current payment levels. These analyses had the following results:

- √ As was the case previously, the most powerful predictive variable is the CCB that serves an individual. Since funding levels vary considerably CCB-to-CCB, this result is not surprising. A somewhat less powerful but still significant predictive variable is type of living arrangement. For example, all other things being equal, payments tend to be lower for people served in host homes than in group homes or other IRSS settings.
- √ In this round of analysis, HSRI took certain steps to attempt to neutralize the influence of differences in CCB-by-CCB funding levels. The purpose of these steps was to drill down to SIS and CCMS factors that seemed to make the most difference in explaining variance in payment levels.
- √ Four factors emerged as the most statistically significant in explaining variances in payment amounts:
 - **Total SIS Index Score.** However, it also is the case that the sum of the Section 1A, 1B and 1E standard scores was found to have about the same level of statistical significance in explaining payment variance as the overall Index Score (a not surprising result, since there is a close correlation between these scores and the Total SIS Index Score). HSRI decided to employ the sum of the ABE scores in the formulation of residential habilitation payment levels rather than the index score because of the variability in CCB scoring of certain other parts of Section 1 of the SIS (most notably “life-long learning”). In any case, SIS Sections 1A, 1B, and 1E address areas of support that are arguably the most relevant in the provision of residential habilitation services.
 - **Section 3a Medical Support Needs.** The total raw score from this section also emerged as a significant predictor of funding.
 - **Section 3b Behavioral Support Needs.** This sections total raw score also is a significant predictor of funding.

- **Community Safety Risk.** Whether a person requires supervision or has convicted status also is a significant predictor of funding.

Altogether, these four factors explain about 30 percent of the variance in residential habilitation payment levels. This level of explanation of variance is greater than was found with respect to the same factors earlier this year by HSRI. The improvement in explanation of variance potentially is the outgrowth of the effort to correct problems in SIS scoring and administration.

The residual unexplained variance is attributable to other “system” factors, again principally the underlying variance in CCB-by-CCB funding levels, residential setting, and the manner in which the present funding tiers were constructed by merging disparate payment rates into a limited number of payment tiers. It is worth pointing out that the level of explained variance utilizing SIS and CCMS factors is relatively high. Elsewhere in other states, the amount of unexplained variance that is attributable to system factors often is higher.

However, because by themselves the SIS and CCMS factors do not account for the majority of variance in payment levels, constructing payment levels solely based on these factors will result in the shifting of funds among individuals.

HSRI did not perform additional step-wise regression analysis to drill down to identify additional discrete SIS or CCMS items that might contribute to explanation of variance. In HSRI’s experience, this type of analysis can result in giving more weight to individual items than they merit. The more global HSRI statistical analysis has identified the main factors that merit being taken into account in formulating residential habilitation payment levels.

HSRI notes that concerns have been expressed that reversing the practice of maximizing the frequency of support would result in residential habilitation payment levels that fail to adequately take into account medical and behavioral support needs. As will be evident, these needs are factored into the recommended payment levels.

b. Framework

These following parameters have been observed in formulating the assignment of Comprehensive Waiver participants to the residential habilitation levels:

- √ There should be no more than seven levels. As will be discussed, HSRI has identified six levels. This leaves in reserve a seventh level to accommodate the Regional Center group homes and/or individual rates for persons who have special circumstances.
- √ The residential habilitation levels must be reflective of current authorization amounts. That is, the overall amount of payment authorizations associated with the proposed levels must be about the same as the current total amount of authorizations. For the purpose of defining levels, this parameter means that additional dollars could not be infused to dampen the impact associated with differences between the amount of funding associated with a person’s current payment tier and the payment level to which the person might be assigned. This parameter means that the levels HSRI has developed are budget neutral. If the current per participant amount of funding associated with each level were converted to a payment rate, spending would not change. It is a state policy decision whether and how to depart from this budget neutrality parameter, especially as part of the rate determination process.
- √ The payment levels would apply waiver wide. This means that the levels are not designed to accommodate CCB-by-CCB differences in overall funding.
- √ Payment levels were not to be constructed around taking into account type of living arrangement. As a consequence, the amount of funding associated with each level is setting-neutral.

- √ Payment levels should be formulated so that they have face validity, have transparency and are understandable to constituencies. That is, differences in funding levels should stem principally from differences in assessed support needs.

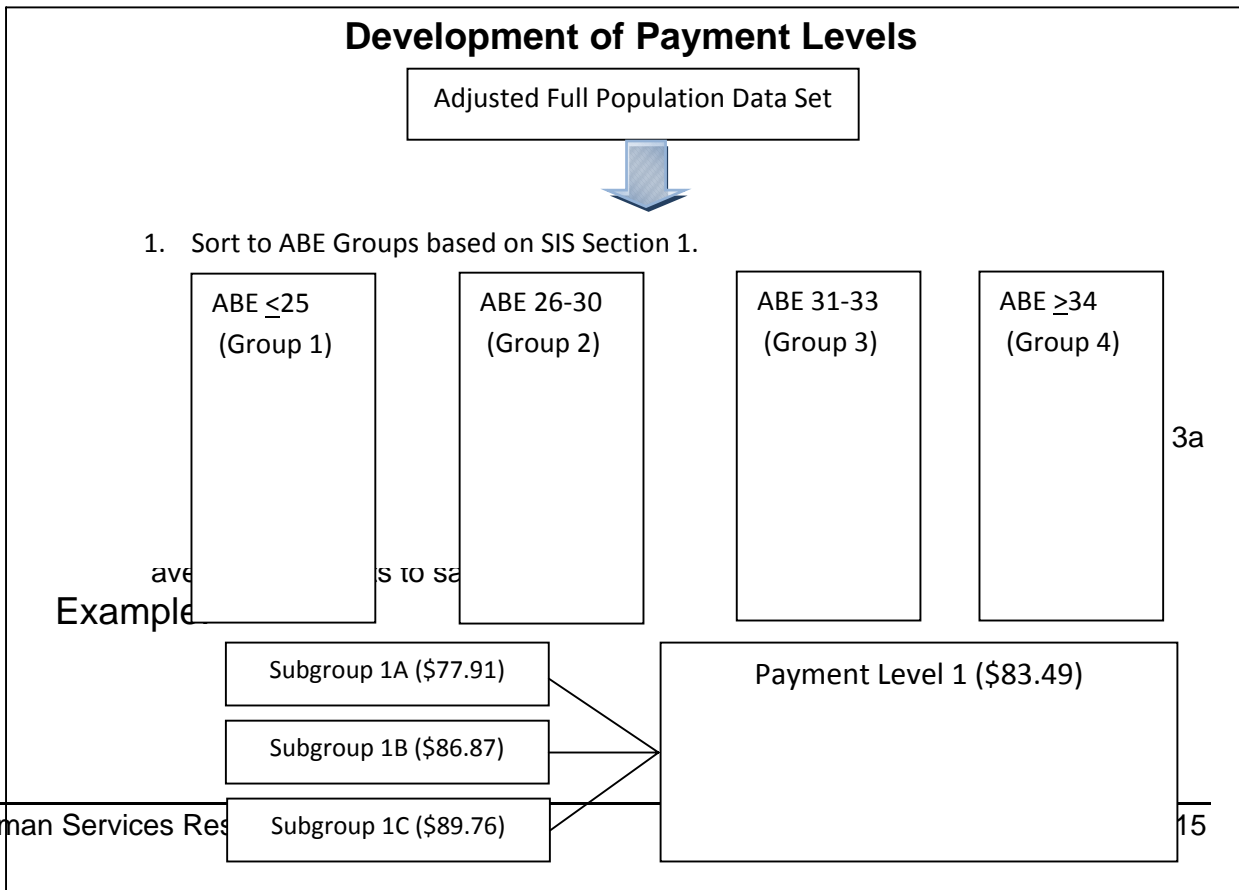
Again, it is worth emphasizing that the residential habilitation levels that HSRI has developed are not the same as payment rates. Subsequent to our work, Navigant will proceed with finalizing proposed payment rates by type of living arrangement for each payment level.

c. Approach to Level Assignment

The basic HSRI approach to assigning individuals to residential habilitation levels is to identify people who have similar characteristics and then group these individuals based on resource consumption patterns. The graphic on the following page depicts the HSRI approach to the formulation of the assignment of individuals to payment levels.

The first step that HSRI took was to sort the adjusted full population data set into four principal groups based on ABE score; in other words, group waiver participants according to their basic support needs. The groupings by ABE score were structured to mirror as closely as possible the distribution of Colorado waiver participants by percentile. The four basic groups are:

- √ **Group 1: ABE Score ≤ 25 .** Persons with ABE scores in this range fall into approximately the 25th percentile or less of waiver participants with respect to the intensity of their basic everyday support needs. Persons in this group may be portrayed as having *relatively* low everyday support needs. The ABE cut-off score for inclusion in this group is a little higher than the U.S. SIS 25th percentile (ABE = 24). For reference, there are 892 people in this group (24.8 percent of the adjusted full population data set);
- √ **Group 2: ABE Score 26 to 30.** Individuals in this group fall between the 26th to 50th percentiles of waiver participants with respect to their basic support needs. These individuals may be portrayed as having relatively “moderate” support needs. For reference, there are 984 people in this group (27.4 percent of the adjusted full population data set). Also, an ABE score of 30 marks the 50th percentile of the U.S. SIS norms;



- √ **Group 3: ABE Score 31 to 33.** Persons in this group have basic support needs in the 51st to 75th percentile relative to all persons in the adjusted full population data set. Their basic support needs are above average but not the most intensive. With respect to the U.S. SIS norms, an ABE score of 33 marks the 60th percentile of support needs. As previously discussed, there is a higher concentration of Colorado waiver participants with scores in this range than would be expected based on the U.S. SIS norms. For reference, there are 823 people in this group (22.9 percent of the adjusted full population data set); and
- √ **Group 4: ABE Score \geq 34.** Persons in this group have support needs that fall into the 7th percentile or higher among all Comprehensive Waiver participants. These individuals may be characterized as having the most intensive basic support needs among waiver participants. For reference, there are 891 people in this group (24.8 percent of the adjusted full population data set).

HSRI elected to use this basic approach to grouping individuals because it is relatively straightforward and easy to understand. These primary groups provide a starting point for the formulation of the residential habilitation levels. The foregoing groupings are somewhat different than those that HSRI used in its analysis of the representative sample.

The Table 10 below provides descriptive statistics for the four major groups:

Group	Persons	Mean Index Score	Mean ABE Score	Mean Medical Support Score (3a)	Mean Behavioral Support Score (3b)	Community Safety Status	Avg. Payment
1. ABE < 25	892	85.34	21.39	1.47	4.54	1.15	\$96.70
2. ABE 26 - 30	984	97.96	28.14	2.02	6.76	1.11	\$110.52
3. ABE 31- 33	823	105.47	32.04	2.57	7.08	1.07	\$120.06
4. ABE > 34	891	112.48	35.80	5.35	6.07	1.02	\$144.42
All	3,590	100.15	29.26	2.84	6.11	1.09	\$117.59

As can be seen, there is a positive correlation between ABE score and average payment. There also is a correlation between Medical Support needs and ABE score across the four groups. The likelihood that a person is in community safety supervised or convicted status diminishes as ABE score increases, a not surprising result.

Table 11 shows the distribution of individuals in each of the four primary groups by residential payment tier.

Primary Group	Number of Persons	Payment Tier							Avg. Per Diem
		Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6	Tier 7	
1. ABE <= 24	892	138	387	207	86	33	26	15	\$96.70
2. ABE 25 - 30	984	56	332	363	102	56	43	32	\$110.52
3. ABE 31 - 36	823	14	173	378	133	42	61	22	\$120.06
4. ABE => 37	891	9	87	248	229	104	148	65	\$144.42

ALL	3,589	217	979	1,196	550	235	278	134	\$117.59
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As can be seen, the proportion of individuals at the lower tiers diminishes as ABE score increases. People with higher support needs tend to be located in the higher payment tiers, although there is not a tight relationship. About one-half of all individuals with Tier 7 rates are in Group 4.

d. Reassignment of Community Safety and Tier 7 Individuals

Next, HSRI reassigned people in community safety “supervised” and “convicted” status with Tier 1-6 rates to Groups 5 and 6 respectively. These persons were relocated to separate groups because their associated payments are higher on average than the ABE group of which they are members, as shown in Table 12.

Group	Group Average Payment	Community Safety Supervised	Community Safety Convicted
1. ABE < 25	\$96.70	\$125.74	\$140.94
2. ABE 26 - 30	\$110.52	\$139.70	\$142.35
3. ABE 31-33	\$120.06	\$127.00	\$138.85
4. ABE > 34	\$144.42	\$171.61	n/a*
All	\$117.59	\$134.88	\$141.13

* Currently no persons in ABE Group 4 are in convicted status

All other things being equal, there are more resources associated with a person who is in supervised or convicted status than one who is not. Failing to take into account the community safety status of these individuals potentially would result in their being assigned to a lower than appropriate payment level.

The reassignment of individuals with Tier 7 rates to Group 7 holds this group of individuals in abeyance, pending a final decision on the disposition of Tier 7 rates, a topic that is addressed below.

After these reassignments, there are 3,251 individuals who remain in ABE Groups 1-4, as shown in Table 13:

Group	Persons	Mean Index Score	Mean ABE Score	Mean Medical Support Score (3a)	Mean Behavioral Support Score (3b)	Avg. Payment
1. ABE < 25	796	85.24	21.42	1.44	3.93	\$90.08
2. ABE 26 - 30	885	97.89	28.13	2.02	6.25	\$102.88
3. ABE 31-33	757	105.51	32.06	2.55	6.58	\$115.72
4. ABE > 34	813	112.39	35.75	5.15	6.03	\$138.82
All	3,251	100.19	29.31	2.79	5.70	\$111.72

The SIS-measured characteristics of these persons are about the same as the full population. However, average payments are about \$6 less per day than the amount associated with the full population.

e. Definition of Subgroups

HSRI then further subdivided each ABE group into ten distinct subgroups. These subgroups are defined in same terms across each of the four primary groups. The subgroups cluster

individuals with similar behavioral and medical support needs within each major group. For example, one subgroup contains persons with minimal medical or behavioral support needs. Another contains persons who have relatively higher behavioral support needs. Creating these finer sub-groupings supports more accurate assignment of individuals to levels based on their resource consumption patterns. This approach is roughly similar to the RUGs framework that is used in conjunction with certain health care payment methods. The ten subgroups are specified in Table 14. For reference, when the report refers to “Group 3A” for example, it means individuals who are in Group 3 (ABE = 31-33) who meet the Subgroup A definition.

Table 14: Subgroup Definitions	
<p>The subgroups begin with individuals who arguably present fewer challenges. Initially medical and behavioral support needs are considered in combination. The groups then branch to take into account medical and behavioral support needs in their own right. For purposes of subgroup assignment, medical support needs are considered first. For example, when a person’s medical support need 3a score is equal to or greater than the person’s behavioral support need 3b score, the 3a score is considered primary for the purpose of assigning a person to a subgroup. Individuals are assigned to the subgroups in an iterative fashion, starting with Subgroup A, then identifying people who met the Subgroup B criteria, then Subgroup C and so forth. A person who meets Subgroup A criteria cannot be selected for a higher subgroup, with the exception of Community Safety Risk Groups 5 & 6 which override sub-groups.. This convention is followed throughout. While the Subgroups appear to overlap, the iterative selection process prevents the dual assignment of a person. Once assigned, an individual is removed from further consideration.</p>	
Subgroup	Specifications
A	Persons who have a Section 3a medical support need score of 1 or less AND a Section 3b behavioral support need score of 2 or less. These persons fall roughly into the 25th percentile with respect to these support need dimensions.
B	Persons not in Subgroup A who have a Section 3a medical support need score of 2 or less AND a behavioral support need score of 5 or less. These persons fall roughly into the 50th percentile with respect to these support needs.
C	Persons not in Subgroups A or B who have a Section 3a medical support need score of 4 or less AND behavioral supports need score of 5 or less. These persons fall roughly into the 75th percentile with respect to their medical support needs.
D	Persons not in Subgroups A-C who have a Section 3a medical support need score of 6 or less, provided that the medical support need score is equal to or greater than the behavioral support need score. A medical support need score of 6 places a person in approximately the 90th percentile with respect to those needs,
E	Persons not in Subgroups A-D who have a Section 3a medical support need score of 8 or less, provided that the medical support need score is equal to or greater than the behavioral support need score. A Section 3a score of 8 places the person in approximately the 95th percentile with respect to medical support needs.
F	Persons not in Subgroups A-E who have a Section 3a medical support need score of 9 or greater, provided that the medical support need score is equal to or greater than the behavioral support need score. These persons have especially intensive medical support needs.
G	Persons not in Subgroups A-F who have a Section 3b behavioral support need index score of 9 or less. In all instances, the persons behavioral support need score will be greater than the medical support need score.
H	Persons not in Subgroups A-G who have a Section 3b behavioral support need index score of 13 or less. These persons have intensive, multiple behavioral support needs.
I	Persons not in Subgroups A-H who have a Section 3b behavioral support need index score of 15 or less. These persons have very intensive behavioral support needs.

J	Persons not in Subgroups A-I who have a Section 3b behavioral support need index score of 16 or greater. These persons have the most intensive behavioral support needs.
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The subgroups are designed to separate individuals by whether their behavioral or medical support needs are dominant and then by the intensity of those needs.

Table 15 on the following page shows the distribution of individuals across the ten subgroups along with their mean Section 3a and 3b scores:

Subgroup	Persons	% of All Persons	Mean 3a	Mean 3b
Subgroup A	410	12.61%	0.50	1.02
Subgroup B	710	21.84%	1.33	3.27
Subgroup C	309	9.50%	3.41	2.56
Subgroup D	179	5.51%	5.54	2.63
Subgroup E	134	4.12%	7.49	3.30
Subgroup F	143	4.40%	12.01	2.57
Subgroup G	693	21.32%	2.07	7.39
Subgroup H	446	13.72%	2.43	11.23
Subgroup I	127	3.91%	2.35	14.34
Subgroup J	99	3.05%	3.21	17.83

In Subgroups A and B, individuals generally have relatively low medical and behavior support needs. Subgroups C-F include persons for whom medical support needs are dominant. In Subgroups G-J, behavioral support needs are clearly dominant. With respect to the distribution of persons among the subgroups, the number of individuals generally decreases the higher the Section 3a or 3b score. HSRI believes that this is a reasonable approach to initially grouping individuals. The approach ensures that people in each subgroup have similar SIS-based characteristics.

It is important to stress that these subgroups were created for analytical purposes. As will be seen, some of the subgroups are combined in formulating residential habilitation levels.

Attachment A of this report contains the detailed results of sorting individuals into the subgroups. In the attachment, the subgroups are listed in order by major ABE group, along with SIS descriptive information and the average payment associated with the subgroup. The payment level to which persons in each subgroup would be assigned also is indicated. The same information is then reordered to display the subgroups associated with each payment level.

2. Formation of Residential Habilitation Levels

Next, HSRI arrayed the average per diem payment amount associated with each subgroup from low to high. HSRI then divided the array into six levels, principally by considering the extent of separation between average per diem payments among the subgroups as well as how many individuals would populate a payment level. For example, Level 1 combines three subgroups for which per diem average payments range from \$77.92 per day to \$89.76 per day. Level 2 starts with a subgroup with an average payment of \$95.31 per day and ends with a subgroup with an average payment of \$104.70 per day. In other words, each level is populated by subgroups with

similar average payment amounts. Table 16 on the following page provides summary information about the financial characteristics of the levels.

Level	Persons	# of Subgroups	Min. Avg. Subgroup Pmt	Max. Avg. Subgroup Pmt.	Range	Avg. Pmt for Level
Level 1	561	3	\$77.92	\$89.76	\$11.84	\$83.49
Level 2	909	9	\$95.31	\$104.70	\$9.39	\$99.29
Level 3	810	7	\$108.82	\$115.68	\$6.86	\$111.48
Level 4	547	9	\$120.51	\$131.87	\$11.36	\$127.60
Level 5	306	8	\$135.49	\$142.50	\$7.01	\$138.74
Level 6	323	6	\$145.18	\$162.26	\$17.08	\$152.37

HSRI also avoided creating residential habilitation levels that would be populated by fewer than 10 percent of individuals in the population. In part, this parameter was necessary to ensure that there would be six or fewer payment levels. Generally, the range of payments in each level is reasonably compact, except for Level 6. Narrowing the Level 6 range would entail shifting subgroups to Level 5, which would result in Level 6 being populated by only 230 individuals.

Obviously, different choices could be made on where to divide the population by level. The dividing lines that HSRI has selected seem reasonable and, as will be discussed next, hang together programmatically. Again, the attachment to the report contains the subgroup-by-subgroup breakdown of these levels.

Lastly, it is worth noting that the parameter that there can be no more than six basic levels necessarily constricts the choices that can be made in dividing the population into levels. HSRI notes that, the fewer the levels, the wider the range of costs must be combined into a level. The wider the cost range, the more likely it is that funding will shift among individuals.

a. Residential Habilitation Levels

Table 17 on the following page shows the six residential habilitation levels that have been developed by HSRI. The description of the individuals included in each level is broad rather than detailed. Again, see the attachment for details about the specific subgroups included in each level.

These levels depart in some measure from the levels that HSRI formulated based on the representative sample, although these levels bear some resemblance to the former levels. This round of level formation has benefited from the expanded number of subgroups. The restructuring of the basic ABE groups also affected the formation of levels.

The residential habilitation levels have the following features:

- √ Persons who are in community safety “supervised” or “committed” status are variously assigned to Levels 4-6 regardless of their SIS results. The community safety supervised group has been broken into two subgroups based on payments. Persons in this status with accompanying high behavior support needs were found to have appreciably higher costs than other persons in this status. People in community safety “convicted” status are assigned to Level 5, again based on costs. This group could be promoted to Level 6, if desired, since their costs are not a great deal different than people in supervised status with

high behavioral support needs. If the community safety supervised group is not broken into two subgroups, the combined group would fall into Level 5.

Table 17: General Description of Residential Habilitation Levels Based on the Sample (Before the Full Adjusted Data Set)								
Residential Habilitation Level	Number of Persons	% of Population	Mean SIS Index Score	Mean ABE Score	Mean Med Sup. Score	Mean Behav. Sup. Score	Mean Com. Safety Rating	Avg. Per Diem Rate
Level 1: Individuals with ABE Score < 25; no community safety risk; low if any Medical Support Needs or Behavioral Support Needs	561	15.6%	84.28	21.04	1.20	2.12	1.00	\$83.49
Level 2: Individuals with no community safety risk and with (a) ABE Score 26 -30 and low Medical Support Needs score and Behavioral Support Needs score less than Medical Score; (b) ABE Score <30 and moderate Behavioral Support Needs; (c) ABE Score 31-33 and low Medical/Behavioral Support Needs	909	25.3%	95.59	26.91	1.74	4.82	1.00	\$99.29
Level 3: Individuals with no community safety risk and with (a) ABE score 31-33 and low Medical Support Needs score and Behavioral Support Needs score less than Medical Score; (b) ABE score 26-30 and moderate behavioral support needs; (c) ABE Score 31-33 and moderate behavior support needs; and, (d) ABE Score 34+ and lower Medical/Behavioral Support needs	810	22.6%	104.79	31.58	2.22	6.91	1.00	\$111.48
Level 4: Individuals in community safety supervised status with moderate or less Behavioral Support needs. The remainder of this group is composed largely of individuals with elevated Behavioral Support needs in ABE Groups 2-4	547	15.2%	107.63	33.07	2.93	8.93	1.13	\$127.60
Level 5: Individuals in community safety "convicted status. The remainder of this group is generally composed of people with elevated medical support needs	306	8.5%	104.70	32.09	5.33	4.59	1.37	\$138.74
Level 6: Individuals in community safety "supervised" status with very high behavioral support needs. The remainder of the group is composed of persons in ABE Groups 3-4 with elevated behavioral support needs.	323	9.00%	109.57	33.96	6.82	10.35	1.24	\$152.37
Level 7: Persons with Tier 7 rates regardless of SIS results	134	3.82%	105.81	32.25	5.18	8.40	1.44	\$249.91

- √ Level 1 is composed entirely of individuals with relatively low support needs as measured by SIS Section1 and generally low medical and behavioral support needs. Some 72% of these persons presently have Tier 1 or Tier 2 payment rates. Individuals at this level with payment rates at Tier 3 or above do not exhibit appreciably different support needs from other individuals at this level.
- √ Similarly, Level 2 is by and large composed of persons with moderate basic support needs who do not have more extraordinary medical or behavioral support needs.
- √ Level 3 is generally composed of persons with moderate to above average basic support needs along with some who have elevated behavioral support needs.
- √ Level 4 is composed of persons with moderate to above average basic support needs but who have more intensive medical support needs along with some individuals with somewhat more elevated behavior support needs.
- √ Level 5 includes persons with higher basic support needs accompanied by elevated medical support needs.
- √ Level 6 is composed of people with higher levels of basic support needs accompanied by more intensive behavioral support needs.

These levels have reasonable face validity. At the same time, the individuals included in Levels 4 -6 are not entirely homogenous with respect to SIS characteristics.

There is some anomalies in the assignment of individuals to levels. Persons in Subgroup 4A are assigned to Level 5 based on costs. But, persons in Subgroup 4B are assigned to Level 3. This anomaly appears to stem from the small number of persons in Subgroup 4A (19 people are in this group). HSRI believes it appropriate to reassign Subgroup 4A to Level 3 despite the cost difference so that both subgroups are collocated at the same level. Similarly, Subgroup 1-I is in Level 5 while Subgroup 1-J is located in Level 4. Both are small subgroups (11 and 4 persons respectively). HSRI recommends moving Subgroup 1-I to Level 4.

b. Alignment of Levels and Current Payment Tiers

Table 18 on the following page shows how the residential habilitation levels align with the present payment rate tiers of individuals (again, excluding Tier 7). As is immediately evident, the levels do not particularly align closely with the current payment tiers. The alignment problems are most evident at Level 4 and above. In large part, the alignment problems stem from the fact that current payments themselves are not well-aligned with assessed support needs. In Colorado, there are quite different payments for people with similar support needs, caused in part by historical funding disparities among CCBs.

		Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6	Total
	Level 1	112	295	117	25	10	2	561
	Level 2	68	357	351	81	31	21	909
	Level 3	25	212	364	123	50	36	810
	Level 4	9	84	187	154	44	69	547
	Level 5	1	20	98	89	52	46	306
	Level 6	2	11	79	79	48	104	323

Undoubtedly, some of the misalignment of the levels and current tier stems from individual factors or situations that the SIS does not address. However, most of the misalignment probably stems from system rather than consumer factors.

c. CCB-by-CCB Impact of Residential Habilitation Levels

Table 19 below shows the CCB-by-CCB impact of the proposed residential habilitation services levels. Again, persons in Tier 7 are not included. This impact assessment assumes that average payment amount associated with each level will be applied to individuals at each CCB. Once payment rates are set, these impacts will change. (Refer to Appendix B for updated information based on the final full population data.)

CCB	Individuals	Current Avg. Pymt.	New Avg. Pymt.	Difference	% Change
Arkansas Valley	63	\$93.43	\$103.09	\$9.66	10.34%
Blue Peaks	51	\$111.04	\$103.94	(\$7.11)	-6.40%
Colorado Blue Sky	222	\$103.25	\$115.55	\$12.31	11.92%
Community Connections	54	\$93.86	\$104.81	\$10.95	11.67%
Community Options	101	\$95.41	\$107.05	\$11.64	12.20%
Denver Options	476	\$115.16	\$113.44	(\$1.72)	-1.49%
DDC/Imagine!	234	\$117.75	\$111.29	(\$6.46)	-5.48%
DDRC	355	\$115.46	\$111.92	(\$3.53)	-3.06%
Dev.Oppt/Starpoint	81	\$96.34	\$111.82	\$15.48	16.06%
Developmental Pathways	329	\$128.66	\$108.33	(\$20.34)	-15.81%
Eastern	99	\$87.12	\$105.61	\$18.49	21.23%
Envision	172	\$113.87	\$116.52	\$2.64	2.32%
Foothills	258	\$118.46	\$114.89	(\$3.56)	-3.01%
Horizon	38	\$106.12	\$108.64	\$2.53	2.38%
Mesa	166	\$121.17	\$117.77	(\$3.39)	-2.80%
Mountain Valley	75	\$102.64	\$102.43	(\$0.21)	-0.20%
North Metro	245	\$110.88	\$115.69	\$4.81	4.34%
Southeastern	20	\$97.42	\$102.04	\$4.62	4.74%
Southern	38	\$93.81	\$114.52	\$20.71	22.07%
The Resource Exchange	378	\$112.64	\$117.03	\$4.39	3.90%

It also is important to recognize that the effect of the new levels is to standardize payments across CCBs based on assessed support needs. Overlaying any standardization scheme atop a system that has not operated under uniform rules inevitably leads to a redistribution of funding.

Ten of the 20 CCBs would experience gains or losses of 5 percent or less. CCBs where average residential habilitation payments currently are significantly above or below the state average for the entire Comprehensive Waiver population generally are the ones that would be most affected by the new payment levels. The largest negative dollar impact would fall on Developmental Pathways, where current residential habilitation payment levels are substantially above the statewide average.

d. Alternate Method of Computing Costs

At the September 10, 2007, DDD officials asked HSRI to consider an alternate method for computing the average payments associated with the subgroups. To that end, HSRI defined “usual and customary” payments as follows:

- √ In each subgroup, start with the most populated residential habilitation tier cell;
- √ Extend to the second most populated tier and continue extending until 85 percent of the individuals in the subgroup have been accounted for; and
- √ Compute the “usual and customary” rate for the subgroup.

This method identifies the payments that are most commonly associated with the subgroup. It deletes the more uncommon rates. Table 20 on the following page shows the computed “usual and customary” rates alongside the actual average payment rate.

With a few exceptions (generally in the Levels 5 and 6 subgroups), the “usual and customary” rates are lower than the actual average payment rate. Across all individuals, the weighted average “usual and customary” rate is \$2.89 per day less than the actual average rate. The reason for this seems to be that the distribution of individuals across the present payment tiers itself is imbalanced. The majority of people have rates at Tier 3 and below. As a result, the method of determining “usual and customary” rates tends to cut off people in Tiers 5 and 6, again except at Levels 5 and 6 (where there is a concentration of Tier 5 and 6 rates).

As also shown in Table 20 on the next page, when the calculated “usual and customary” rates are substituted for each subgroup’s actual average payment, there are only minor effects on the assignment of subgroups by level. Most subgroups would stay at the same level. A few would be promoted up or down. The dollar range between Levels 1 and 6 would increase by about \$12. In other words, using the usual and customary rates spread the levels out to a greater extent.

Using the “usual and customary” rates as a way to sort people into levels has certain advantages, since these rates may better describe “typical” costs than the actual average rate. However, we note again that the use of these rates would only change subgroup level assignment at the margin. In further discussions between HSRI and DDD, this alternate method was discarded.

Table 20: Alternative Level Configurations

Levels: Actual Average Payment Basis			Levels: U/C Average Payment Basis		
Level/Subgroup	People	Actual Avg. Paymnt	Level/Subgroup	People	U/C Avg. Payment
Subgroup 1A	234	\$77.92	Subgroup 1A	234	\$71.02
Subgroup 1B	258	\$86.87	Subgroup 1C	69	\$82.36
Subgroup 1C	69	\$89.76	Subgroup 1B	258	\$84.45
Level 1	561	\$83.49	Level 1	561	\$78.59
Subgroup 2A	106	\$95.31	Subgroup 2C	87	\$91.92
Subgroup 2C	87	\$95.52	Subgroup 1H	54	\$92.07
Subgroup 2B	227	\$96.25	Subgroup 3A	51	\$94.17
Subgroup 1G	151	\$100.20	Subgroup 2B	227	\$94.66
Subgroup 3A	51	\$100.50	Subgroup 1G	151	\$95.73
Subgroup 2G	190	\$103.31	Subgroup 2A	106	\$96.81
Subgroup 1H	54	\$103.89	Subgroup 1D	6	\$97.18
Subgroup 1D	6	\$104.02	Subgroup 2G	190	\$98.37
Subgroup 2D	37	\$104.70	Subgroup 2D	37	\$99.17
Level 2	909	\$99.29	Level 2	909	\$95.62
Subgroup 2H	155	\$108.82	Subgroup 3C	69	\$103.04
Subgroup 3B	162	\$109.65	Subgroup 3B	162	\$104.27
Subgroup 3G	186	\$110.39	Subgroup 3G	186	\$105.10
Subgroup 4B	63	\$111.81	Subgroup 3H	128	\$106.75
Subgroup 3H	128	\$114.80	Subgroup 4B	63	\$107.44
Subgroup 3D	47	\$115.21	Subgroup 2H	155	\$107.66
Subgroup 3C	69	\$115.68	Subgroup 2I	42	\$109.53
Level 3	810	\$111.48	Subgroup 3D	47	\$114.45
Subgroup 2I	42	\$120.51	Level 3	805	\$112.61
Subgroup 5B	70	\$122.13	Subgroup 4G	166	\$118.54
Subgroup 4G	166	\$125.87	Subgroup 5B	70	\$118.99
Subgroup 1J	4	\$129.12	Subgroup 2J	27	\$120.67
Subgroup 2E	9	\$129.21	Subgroup 1J	4	\$129.12
Subgroup 2J	27	\$129.69	Subgroup 1I	11	\$131.69
Subgroup 3I	36	\$131.23	Subgroup 3I	36	\$132.32
Subgroup 4H	109	\$131.27	Subgroup 4D	89	\$132.74
Subgroup 4C	84	\$131.87	Subgroup 4C	84	\$133.92
Level 4	547	\$127.60	Level 4	487	\$125.37
Subgroup 1I	11	\$135.49	Subgroup 4H	109	\$136.36
Subgroup 4E	86	\$136.64	Subgroup 2F	5	\$137.77
Subgroup 2F	5	\$137.77	Subgroup 2E	9	\$138.97
Subgroup 1E	9	\$137.80	Group 6	57	\$140.05
Subgroup 4D	89	\$138.05	Subgroup 4E	86	\$140.77
Group 6	57	\$141.13	Subgroup 1E	9	\$145.44
Subgroup 3E	30	\$141.50	Subgroup 3E	30	\$145.64
Subgroup 4A	19	\$142.50	Subgroup 5A	78	\$146.67
Level 5	306	\$138.74	Subgroup 4A	19	\$147.37
Subgroup 3F	13	\$145.18	Level 5	402	\$141.32
Subgroup 5A	78	\$146.32	Subgroup 3J	35	\$153.35
Subgroup 3J	35	\$149.43	Subgroup 3F	13	\$154.36
Subgroup 4I	38	\$152.57	Subgroup 4F	125	\$160.14
Subgroup 4F	125	\$154.98	Subgroup 4I	38	\$164.39
Subgroup 4J	34	\$162.26	Subgroup 4J	34	\$168.22
Level 6	323	\$152.37	Level 6	245	\$160.64
Level 7 (Tier 7)	134	\$249.91	Level 7 (Tier 7)	134	\$249.91

e. Tier 7

In its September 10, 2007 report, HSRI furnished considerable information about Tier 7 utilization. In a nutshell, HSRI pointed out that Tier 7 rates were disproportionately distributed among the CCBs. HSRI noted that, if Tier 7 were eliminated and individuals assigned to the defined levels, the payments for most individuals would be significantly reduced.

Table 21 on the following shows the residential habilitation level to which Tier 7 people would be assigned if Tier 7 were eliminated.

			Mean SIS	Mean ABE	Mean 3a	Mean 3b	Mean Com
Level	People	Percent	Index Score	Score	Score	Score	Safety
Level 1	0	n/a	n/a	n/a	n/a	n/a	n/a
Level 2	11	8.2%	100.00	29.18	0.45	4.82	1.00
Level 3	15	11.2%	103.33	30.60	2.40	10.33	1.00
Level 4	24	17.9%	104.17	31.21	2.96	8.96	1.32
Level 5	37	27.6%	102.81	30.89	4.68	8.57	1.89
Level 6	47	35.1%	111.15	35.08	8.70	8.19	1.32

As can be seen, only a little more than one-third of individuals would be assigned to Level 6.

f. Nursing Costs

Colorado intends to merge nursing costs into residential habilitation payment rates. HSRI excluded nursing as a variable for residential habilitation level assignment. However, HSRI has integrated nursing dollar authorizations into its working project data base. Navigant will include a nursing component in its proposed residential habilitation rate models.

HSRI has examined the relationship between nursing authorization amounts and SIS Section 3a Medical Support scores. While there is a correlation between the two, there is no clear-cut hard and fast relationship. Nursing services are authorized for a little over 75 percent of Comprehensive Waiver participants. In subgroups populated by people with relatively high Section 3a scores, generally a higher percentage of persons are authorized for nursing but not all. Table 22 shows the pattern of nursing authorization by residential habilitation level:

Level	Persons	Mean 3a Score	Persons with Nursing Auth.	% of All Persons	Avg. Auth. per Person w/ Nursing	Avg. Auth - All Persons
Level 1	561	1.20	428	76.29%	\$2,994.93	\$2,284.90
Level 2	909	1.74	675	74.26%	\$3,064.61	\$2,275.70
Level 3	810	2.22	636	78.52%	\$3,258.44	\$2,558.48
Level 4	547	2.93	419	76.60%	\$3,753.45	\$2,875.13
Level 5	306	5.33	228	74.51%	\$4,679.84	\$3,486.94
Level 6	323	6.82	256	79.26%	\$10,373.77	\$8,221.94
Level 7	134	5.18	102	76.12%	\$5,768.76	\$4,391.14
ALL	3,590	2.84	2,744	76.43%	\$4,120.48	\$3,149.47

The high level of nursing authorization at Level 6 is anomalous. It stems from especially high authorization levels in Subgroup 4-F.

C. Going Forward

Data from Denver options and the Resource Exchange were received and processed by HSRI in October 2007. These data, however, did not substantially alter the results presented in this report.

Following this report are two attachments. Attachment A of this report includes the October 22nd, 2007 residential habilitation levels construction which was completed after an extensive discussion with the Division of Developmental Disabilities (DDD) and the Colorado Department of Human Services (CDHS). This Division approved table showing the residential habilitation

levels for use by Navigant Consulting, Incorporated (NCI) in their work developing rates with the Division in November and December of 2007. Findings resulting from our analysis of the completed data set, are included in Attachment B of this report. Attachment B includes revised graphics showing full population; including tables: 1, 5, 6, 7, 9, 19, 21, and 22.

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IV. Day Habilitation and Supported Employment Services

This section of the paper discusses day services (day habilitation and supported employment services) funding authorization levels. The section includes an analysis of paid claims for 2007 in relationship to these funding authorization levels.

Overview of Day Habilitation Structure

Colorado has decided to structure Comprehensive Waiver funding authorization levels for day habilitation and supported employment services as follows:

- √ Three basic maximum funding authorization levels for day services (day habilitation or supported employment) have been established. A fixed maximum funding ceiling was applied to each level. The maximum funding ceiling for each level is determined by multiplying the current Day Habilitation Tier 1, Tier 2, or Tier 3 rate by 1,440 hours (a standard program year). All Comprehensive Waiver participants are assigned to one of the three levels.
- √ The assignment of individuals to the three day service levels are tied to the already established residential habilitation service levels, as follows:
 - Level 1: Residential Habilitation Levels 1 & 2
 - Level 2: Residential Habilitation Levels 3 & 4
 - Level 3: Residential Habilitation Levels 5-6-7
- √ Individual service plans encompass a single type of day service or a mixture of day services, provided that the total amount authorized does not exceed the maximum funding authorization for the level.
- √ Each specific type of day service (day habilitation and/or supported employment) has a unit-based payment rate. Group day habilitation rates vary by level. Navigant is developed these rates.
- √ Provision s are made for one or two additional exceptional circumstance funding levels to accommodate individuals who require especially intensive staffing on a continuous basis. Individuals are not auto-assigned to these levels based on SIS results; instead, the authorization of funding at these levels is based on individual case review/exceptions.

The day services funding structure is illustrated by Table 23 on the following page.

Impact Analysis

In order to gauge the potential impact of the day services structure, HSRI – after consultation with DDD – relied exclusively on paid claims data for the year ending June 2007, although these data have some eccentric features. PAR data have proven to have little or no utility in analyzing day services.

Level	Annual Funding Maximum	Group Rate	Non-group DH Rates	Supported Employment
Level 1	\$11,980.80	\$8.32/Hour (Current Tier 1 rate) Staffing ratio: 1:8 or better	1:2 Staffing (TBD) 1:1 Staffing (TBD)	Individual Supported Employment: \$45.16/Hour Group Supported Employment:: \$15.32/Hour
Level 2	\$17,913.60	\$12.44/Hour (Current Tier 2 rate) Staffing ratio: 1:6 or better		
Level 3	\$23,385.60	\$ 16.24/Hour (Current Tier 3 Rate) Staffing ratio: 1:4 or better		
Level 4	TBD	TBD (1:2 Staffing)		
Level 5	TBD	TBD (1:1 Staffing)		

1. Distribution of Individuals by Level/Type of Service

The following table shows the distribution of individuals by day service level and type of day service received along with their SIS characteristics:

Level/Service	Persons	Mean SIS Score	Avg. Med 3a Score	Avg. Behav. 3b Score
Day Services Level 1				
Day Hab Only	817	96.19	1.59	3.80
SE + Day Hab	408	90.78	1.40	3.61
SE Only	268	86.96	1.37	2.76
Subtotal	1493	93.05	1.50	3.56
Day Services Level 2				
Day Hab Only	856	105.75	2.76	7.29
SE + Day Hab	135	99.93	2.43	9.79
SE Only	48	98.35	2.48	9.48
Subtotal	1039	104.65	2.70	7.72
Day Services Level 3				
Day Hab Only	716	108.66	5.65	8.37
SE + Day Hab	114	98.12	3.13	10.50
SE Only	26	94.27	1.96	8.58
Subtotal	856	106.82	5.20	8.66

As can be seen, people with higher SIS-measured support needs are located in the upper payment levels. Participation in supported employment (either exclusively or in combination with day habilitation services) diminishes at higher levels.

2. Fit of Levels/Structure to Current Payments

The tables on the next three pages show for each day service level (a) the number of persons whose 2007 paid claims fell within the funding limit for the level and (b) the number who had paid claims that fell outside the funding limit.

Table 25: Day Service Level 1: Paid Claims v. Funding Maximum							
Type of Service	People	Mean Paid Claims	Distribution of Individuals by Amount of Paid Claims				
				Day Service Level 1 <=\$11,980.80	Day Service Level 2 \$17,913.60	Day Service Level 3 <=\$23,385.60	Consumers above Day Service Level 3
People w/Day Hab Only	817	\$10,197.21	Persons	587	200	28	2
			Mean	\$8,300.60	\$14,296.07	\$19,680.55	\$24,197.12
			Max	\$11,978.60	\$17,852.01	\$23,352.67	\$24,871.90
People w/SE Only	268	\$5,937.35	Persons	210	41	16	1
			Mean	\$2,781.10	\$15,847.49	\$20,598.36	\$27,855.97
			Max	\$11,272.08	\$17,833.31	\$22,318.24	\$27,855.97
People w/Combination Day Hab and SE	408	\$10,152.30	Persons	269	115	21	3
			Mean	\$7,346.80	\$14,269.39	\$20,555.09	\$31,070.42
			Max	\$11,871.33	\$17,826.34	\$22,440.01	\$46,304.48
All Persons	1,493	\$9,420.27	Persons	1,066	356	65	6
			% of All Persons	71.40%	23.84%	4.35%	0.40%

Table 26: Day Service Level 2: Paid Claims v. Funding Maximum

Type of Service	People	Mean Paid Claims	Distribution of Individuals by Amount of Paid Claims				
				Day Service Level 1 <=\$11,980.80	Day Service Level 2 \$17,913.60	Day Service Level 3 <=\$23,385.60	Consumers above Day Service Level 3
People w/Day Hab Only	856	\$11,028.21	Persons	545	242	58	11
			Mean	\$8,300.60	\$14,296.07	\$19,680.55	\$24,197.12
			Max	\$11,978.60	\$17,852.01	\$23,352.67	\$24,871.90
People w/SE Only	48	\$6,150.07	Persons	36	9	3	0
			Mean	\$2,959.76	\$14,025.78	\$20,806.57	
			Max	\$10,900.82	\$16,693.39	\$22,621.86	
People w/Combination Day Hab and SE	135	\$11,158.30	Persons	78	44	12	1
			Mean	\$7,716.33	\$14,502.18	\$19,982.20	\$26,613.20
			Max	\$11,901.00	\$17,597.28	\$22,318.32	\$26,613.20
All Persons	1,039	\$10,819.75	Persons	659	295	73	12
			% of All Persons	63.43%	28.39%	7.03%	1.15%

Table 27: Day Service Level 3: Paid Claims v. Funding Maximum

Type of Service	People	Mean Paid Claims	Distribution of Individuals by Amount of Paid Claims				
				Day Service Level 1 <=\$11,980.80	Day Service Level 2 \$17,913.60	Day Service Level 3 <=\$23,385.60	Consumers above Day Service Level 3
People w/Day Hab Only	716	\$11,570.15	Persons	446	172	75	23
			Mean	\$8,123.76	\$14,800.43	\$20,270.82	\$25,871.31
			Max	\$11,954.95	\$17,867.77	\$23,339.84	\$31,157.67
People w/SE Only	26	\$8,675.44	Persons	18	5	3	0
			Mean	\$5,347.44	\$14,321.28	\$19,233.70	
			Max	\$10,900.82	\$16,693.39	\$22,621.86	
People w/Combination	114	\$13,530.37	Persons	56	32	21	5
Day Hab and SE			Mean	\$9,351.53	\$14,803.45	\$19,711.62	\$26,224.30
			Max	\$11,872.25	\$16,285.40	\$21,222.48	\$0.00
All Persons	856	\$11,743.28	Persons	520	209	99	28
			% of All Persons	60.75%	24.42%	11.57%	3.27%

As can be seen, at each level, there is an imperfect fit between the funding limit that applies to each level and the paid claims experience of the individuals who would be assigned to the level. For example, with respect to Level 1, about 29% of all persons who would be assigned to this level had paid claims that exceeded the level’s funding limit of \$11,981.

With respect to Levels 2 and 3, a greater percentage of individuals had paid claims at or below the limit for the level (92 and 97 percent respectively). However, at both levels, the majority of individuals had actual paid claims that were significantly below the maximum for the level. Across all levels, only handful of individuals had paid claims in excess of the Level 3 limit, suggesting that only one additional level may be necessary to accommodate outliers.

HSRI analyzed Level 1 cases where paid claims experience exceeded the Level 1 funding limit. HSRI sought to determine whether there were significant differences between these individuals and people whose paid claims fell within the limit. Because Level 1 is composed of Residential

Habilitation Levels 1 and 2, which themselves span several SIS subgroups, the data was analyzed to determine whether individuals in particular subgroups accounted for most of the people who had paid claims above the limit for the level. No clear relationship emerged. If there were such a relationship, then consideration could be given to shifting subgroups among the levels to achieve a better fit.

Issues

The day services structure is sound conceptually. It imposes needs-based funding limits while creating the opportunity for individuals to mix and match services and supports.

When analyzed against the backdrop of paid claims, however, potential problems emerge with the structure. In particular:

- √ There are a significant number of persons who would be assigned to Level 1 who have a history of consuming more dollars than the Level 1 funding limit.

Levels 2 and 3 pose fewer problems with respect to the impact of imposing a funding limit. However, in each case, there are large numbers of individuals at each level who consume fewer dollars than the applicable limit. Should funding authorizations for these individuals increase toward the funding limit, then expenditures also will increase.

Attachment A: Residential Habilitation Levels: 10/22/2007

Level/Subgroup	Persons	Mean SIS Index Score	Mean ABE Score	Mean Section 3a Score	Mean Section 3b Score	Mean Comm. Safety Score	Average Current Payment
Level 1							
Subgroup 1A	197	82.23	20.10	0.46	0.99	1.00	\$78.16
Subgroup 1B	240	84.55	21.26	1.24	3.20	1.00	\$87.19
Subgroup 1C	77	85.23	21.77	3.32	2.16	1.00	\$90.58
Subgroup 2A	123	96.63	27.98	0.46	1.01	1.00	\$88.20
Subgroup 2B	245	97.51	28.14	1.21	3.29	1.00	\$95.10
Subgroup 2C	100	96.83	28.29	3.44	2.80	1.00	\$92.10
Level 1 Recap	982	90.13	24.34	1.37	2.38	1.00	\$88.24
Level 2							
Subgroup 1D	7	88.00	22.71	5.14	1.86	1.00	\$105.00
Subgroup 1G	141	86.72	22.10	1.72	7.16	1.00	\$100.17
Subgroup 2D	29	96.14	28.38	5.41	3.03	1.00	\$108.55
Subgroup 2G	211	97.53	28.04	1.74	7.45	1.00	\$102.64
Subgroup 3A	55	104.44	31.84	0.47	1.02	1.00	\$101.39
Subgroup 3B	153	104.88	31.97	1.24	3.28	1.00	\$106.09
Level 2 Recap	596	97.32	27.95	1.71	5.44	1.00	\$103.14
Level 3							
Subgroup 1H	57	88.11	22.75	1.95	11.11	1.00	\$109.24
Subgroup 2H	139	98.47	28.29	1.99	11.37	1.00	\$108.67
Subgroup 3C	70	104.44	32.09	3.49	2.73	1.00	\$114.49
Subgroup 3D	44	104.43	32.34	5.59	3.00	1.00	\$114.69
Subgroup 3G	196	105.51	32.02	2.03	7.42	1.00	\$111.11
Subgroup 4A	19	110.11	34.89	0.47	1.32	1.00	\$126.67
Subgroup 4B	64	110.72	35.09	1.39	3.66	1.00	\$113.89
Level 3 Recap	589	102.67	30.70	2.33	7.21	1.00	\$111.82
Level 4							
Subgroup 1E	2	91.00	23.50	7.00	4.50	1.00	\$136.41
Subgroup 1F	0	0.00	0.00	0.00	0.00	0.00	\$0.00
Subgroup 1I	12	89.08	23.25	1.67	14.67	1.00	\$133.44
Subgroup 1J	7	91.57	23.71	1.57	16.71	1.00	\$145.40
Subgroup 2E	13	95.15	28.77	7.54	2.31	1.00	\$125.29
Subgroup 2I	33	98.09	28.18	1.91	14.30	1.00	\$126.56
Subgroup 2J	22	99.86	28.23	2.95	17.82	1.00	\$127.82
Subgroup 3E	29	102.97	32.14	7.48	4.00	1.00	\$124.68
Subgroup 3H	121	105.61	32.04	2.42	11.20	1.00	\$119.05
Subgroup 4C	70	110.79	35.20	3.57	2.59	1.00	\$127.27
Subgroup 4G	180	111.44	35.29	2.88	7.32	1.00	\$124.19
Level 4 Recap	489	106.63	32.81	3.17	8.52	1.00	\$124.32
Level 5							
Subgroup 2F	6	93.00	28.50	10.00	5.00	1.00	\$137.84
Subgroup 3I	30	105.33	32.00	2.20	14.37	1.00	\$132.61
Subgroup 3J	30	106.50	32.13	2.60	17.73	1.00	\$143.35
Subgroup 4D	77	111.47	35.60	5.66	2.64	1.00	\$139.32
Subgroup 4E	81	111.43	35.91	7.51	2.70	1.00	\$140.80
Subgroup 4H	121	112.07	35.51	3.40	11.31	1.00	\$130.99
Subgroup 4I	33	112.33	35.42	3.30	14.33	1.00	\$141.70
Group 5A	126	94.42	26.29	2.22	7.04	2.26	\$129.80
Level 5 Recap	504	106.52	32.79	4.06	8.22	1.32	\$135.15
Level 6							
Subgroup 4J	35	112.29	35.40	4.06	17.66	1.00	\$148.81
Group 6A	99	99.49	28.69	2.39	15.13	2.26	\$152.23
Subgroup 3F	20	103.80	32.20	10.65	3.50	1.00	\$153.04
Subgroup 4F	113	113.65	36.81	12.36	2.73	1.00	\$158.93
Level 6 Recap	267	107.49	33.27	7.45	9.34	1.47	\$154.68
Level 7							
Group 7: Individuals with Tier 7 Rates	134	105.83	32.30	5.43	8.53	1.43	\$248.49

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Attachment B: Revised Graphics Showing Full Population

Graph 1: Distribution of Total SIS Index Scores – Full Population Data

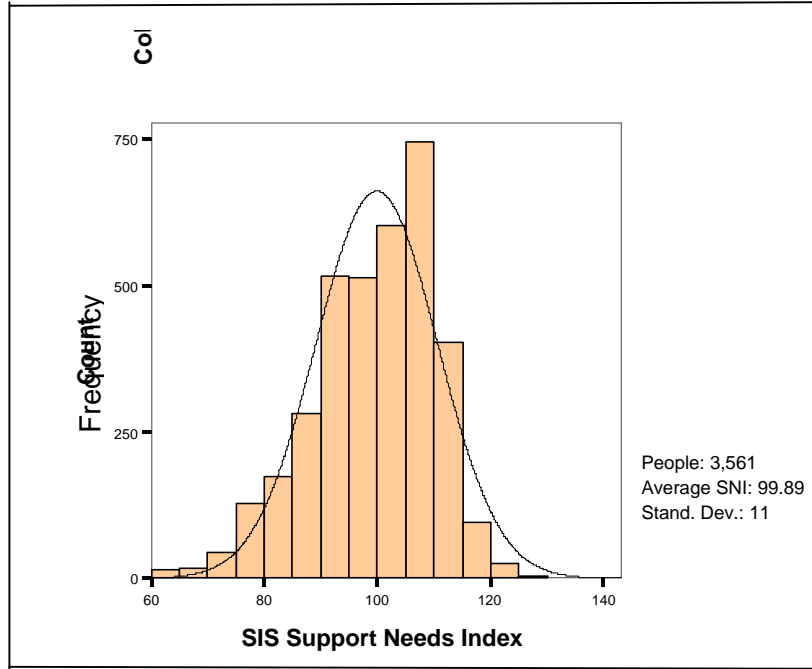


Table 1: Distribution of Individuals by CCB - Full Population Data Set

	Persons in Data Set	% of Total Individual
Arkansas Valley	64	1.80
Blue Peaks	51	1.43
Colorado Bluesky	241	6.77
Community Connections	54	1.52
Community Options	101	2.84
Denver Options	484	13.59
DDC/Imagine!	258	7.25
DD Resource Center	371	10.42
Dev. Opportunities/Starpoint	86	2.42
Developmental Pathways	371	10.42
Eastern	102	2.86
Envision	173	4.86
Foothills	261	7.33
Horizons	38	1.07
Mesa	166	4.66
Mountain Valley	76	2.13
North Metro	256	7.19
Southeastern	22	0.62
Southern	38	1.07
The Resource Exchange	348	9.77
TOTAL	3,561	100.00%

Table 5: CCB-by-CCB Descriptive SIS Statistic

CCB	People	Total SIS Index	Sum ABE Standard	Section 3a Total Medical	Section 3b Total Behavioral
ARK VALLEY	65	91.28	25.12	1.71	4.69
BLUE PEAKS	51	95.53	27.22	2.39	6.35
COLO BLUESKY	245	99.89	29.29	3.58	7.71
COMM CONNECTIONS	54	97.93	28.04	1.61	3.69
COMM OPTIONS	101	98.23	28.81	2.46	4.48
DENVER OPTION	494	100.81	29.46	2.43	5.76
DDC/IMAGINE!	258	99.64	28.83	3.23	5.59
DD RES CTR	373	101.18	29.65	2.53	5.80
DEV OPP/STARPOINT	86	102.78	29.72	2.23	6.03
DEVELOPMENTAL PATHWAYS	371	99.69	28.88	2.68	6.25
EASTERN	106	98.04	28.04	1.96	5.60
ENVISION	174	100.68	29.94	4.08	6.71
FOOTHILLS	261	100.03	29.26	2.84	6.32
HORIZONS	38	97.68	28.21	2.89	5.50
MESA	171	100.94	29.63	3.34	6.63
MT VALLEY	76	94.21	26.49	1.61	4.64
NORTH METRO	266	100.67	29.65	3.13	7.48
S. EASTERN	22	92.36	25.68	1.36	4.36
SOUTHERN	39	102.05	30.82	3.10	6.64
The RESOURCE EXCHANGE	380	100.47	29.53	3.18	6.17
All	3,631	99.88	29.13	2.83	6.13
	MIN	59.00	9.00	0.00	0.00
	MAX	143.00	52.00	25.00	23.00
	MED	101.00	30.00	2.00	5.00

Table 6: Distribution of individuals by Residential Habilitation Payment Tier

Residential Habilitation Tier	Persons	%of Total
Tier 1 (\$53.15 per day)	232	6.5%
Tier 2 (\$76.68 per day)	986	27.7%
Tier 3 (\$110.86 per day)	1,147	32.2%
Tier 4 (\$128.20 per day)	548	15.4%
Tier 5 (\$166.98 per day)	250	7.0%
Tier 6 (\$196.14 per day)	263	7.4%
Tier 7 (Special rates)	134	3.8%
Total*	3,560	100.0%
*1 record missing		

Table 7: Distribution by Type of Living Arrangement and Payment Tier

Residential Habilitation Tier	Table 7: Distribution by Type of Living Arrangement and Payment Tier						Total
	Group Home	%	Host Home	%	Other IRSS	%	
Tier 1 (\$53.15 per day)	37	4.4%	94	5.0%	101	12.2%	232
Tier 2 (\$76.68 per day)	137	16.3%	542	28.7%	307	37.0%	986
Tier 3 (\$110.86 per day)	287	34.0%	665	35.2%	195	11.3%	1,147
Tier 4 (\$128.20 per day)	140	16.6%	314	16.6%	94	11.3%	548
Tier 5 (\$166.98 per day)	92	10.9%	113	6.0%	45	5.4%	250
Tier 6 (\$196.14 per day)	88	10.4%	124	6.6%	51	6.2%	263
Tier 7 (Special rates)	62	7.4%	36	1.9%	36	4.3%	134
Total	843	23.7%	1,889	53.0%	829	23.3%	3,560

Tier	People	SIS Index Score	Mean ABE	Mean 3a	Mean 3b	Community Safety	% of Persons with Community Safety Status of 2 or 3
1	232	89.21	23.86	1.29	3.65	1.01	1.3%
2	986	95.38	26.98	1.84	4.85	1.02	2.1%
3	1,147	100.85	29.85	2.57	6.17	1.08	6.2%
4	548	104.45	31.67	3.52	7.07	1.12	9.1%
5	250	103.98	31.44	3.68	7.21	1.15	11.2%
6	263	105.57	32.20	5.33	8.50	1.25	19.9%
7	134	105.83	32.30	5.43	8.53	1.43	31.3%
ALL	3,560	99.89	29.32	2.82	6.12	1.10	7.5%

CCB	Individuals	Current Avg. Pymt	New Avg. Pymt.	Difference	% Change
Arkansas Valley	64	\$95.84	\$104.07	\$8.23	8.59%
Blue Peaks	51	\$111.04	\$103.59	(\$7.45)	-6.71%
Colorado Blue Sky	241	\$114.33	\$126.15	\$11.82	10.34%
Community Connections	54	\$93.86	\$103.36	\$9.50	10.12%
Community Options	101	\$95.75	\$106.72	\$10.97	11.45%
Denver Options	484	\$111.49	\$114.76	\$3.27	2.93%
DDC/Imagine!	258	\$129.43	\$123.48	(\$5.95)	-4.60%
DDRC	371	\$120.17	\$116.86	(\$3.31)	-2.76%
Dev.Oppt/Starpoint	86	\$103.72	\$118.57	\$14.85	14.31%
Developmental Pathways	371	\$144.12	\$123.84	(\$20.28)	-14.07%
Eastern	102	\$94.93	\$109.07	\$14.14	14.90%
Envision	173	\$114.69	\$118.24	\$3.55	3.10%
Foothills	261	\$119.90	\$116.23	(\$3.68)	-3.07%
Horizon	38	\$106.12	\$108.53	\$2.42	2.28%
Mesa	166	\$121.29	\$117.59	(\$3.69)	-3.04%
Mountain Valley	76	\$105.34	\$103.79	(\$1.55)	-1.47%
North Metro	256	\$116.11	\$121.32	\$5.21	4.49%
Southeastern	22	\$108.50	\$114.99	\$6.49	5.98%
Southern	38	\$94.02	\$114.36	\$20.34	21.63%
The Resource Exchange	348	\$116.08	\$116.43	\$0.35	0.30%

Level	People	Percent	Mean SIS Index Score	Mean ABE Score	Mean 3a Score	Mean 3b Score	Mean Com Safety
Level 1	3	2.2%	86.00	24.33	2.00	2.33	1.00
Level 2	4	3.0%	100.25	29.50	0.75	6.00	1.00
Level 3	8	6.0%	100.38	29.00	2.75	8.50	1.00
Level 4	22	16.4%	104.27	31.64	3.27	10.09	1.00
Level 5	42	31.3%	106.12	32.43	4.29	7.50	1.45
Level 6	55	41.0%	108.51	33.58	8.09	9.22	1.71

Level	Persons	Mean 3a Score	Persons with Paid Claims for Nursing	% of All Persons	Avg. Paid Claims per Person for Nursing	Avg. Paid Claims - All Persons
Level 1	982	1.37	647	65.89%	\$861.59	\$567.67
Level 2	596	1.71	407	68.29%	\$735.62	\$502.34
Level 3	589	2.33	397	67.40%	\$774.81	\$522.24
Level 4	489	3.17	324	66.26%	\$1,020.67	\$676.27
Level 5	504	4.07	346	68.65%	\$1,046.12	\$718.17
Level 6	267	7.45	193	72.28%	\$1,624.60	\$1,167.11
Level 7	134	5.43	101	75.37%	\$935.16	\$704.86
ALL	3,561	2.82	2,400	67.40%	\$937.13	\$635.54