

**Colorado Department of Health Care
Policy and Financing
Consumer Directed Care Evaluation**

**Comparative Service Satisfaction and Cost
Analysis Report (4.11.5.1)**

June 20, 2018



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Introduction

This report provides findings from the Cost Comparison and Service Satisfaction analysis component of the larger Consumer Directed Care (CDC) evaluation that we (TriWest Group) are conducting for the Colorado Department of Health Care Policy and Financing (Department).

This report contains three sections:

1. Costs Associated with Inpatient Services (5 year trends)
2. Costs Associated with Emergency Room Services (5 year trends)
3. Participant Satisfaction with Services

For each of these areas, we compare Consumer Directed Attendant Support Services (CDASS) and In-Home Support Services (IHSS) service delivery participants with a comparison group of individuals participating in other agency-based care service delivery options (traditional agency-administered personal care, long-term home health, and private duty nursing).

Data for this report come from two primary sources: 1) surveys conducted with CDASS and IHSS participants as well as a comparison group of participants in other agency based care delivery, and 2) Medicaid claims data.

Survey Methods

Participants were surveyed so that we could compare the experiences and outcomes of participants in the CDASS and IHSS programs with those who receive traditional state benefits (agency based, private duty nursing, and long-term home health care). However, individuals each enter the CDASS and IHSS programs through different Medicaid waivers, based on their health needs. Because these populations tend to be very different, we used a stratified sampling methodology to select groups of respondents from each waiver type as well as specific comparison group populations.

A full explanation of the survey methodology and tool can be found in the Survey Methodology and Instrument document. Table 1, below, shows the 12 different samples selected for surveys.

Table 1: Survey Sampling Approaches

Survey Sampling Approach			
Survey Group	Target Completed Surveys (30% Response)	Sample Frame (Random Sample Requested from Department)	Total Population Served
CDASS/BI Waiver	30	54	54
CDASS/CMHS Waiver	50	173	173
CDASS/EBD Waiver ¹	300	1,000	3,413
CDASS/SCI Waiver	30	58	58
Total CDASS Sample	410	1,285	3,164
IHSS only/EBD Waiver (adults)	200	675	2000
IHSS + Long Term HH	50	165	346
IHSS/CHCBS Waiver (pediatric)	50	165	405
IHSS/SCI Waiver ²	--	--	--
Total IHSS Sample	300	1,005	2,751
State Plan – Long Term HH only	50	165	--
State Plan – Personal Care only	50	165	NA
State Plan – LTHH and Personal	100	300	NA
State Plan – Pediatric (Personal)	50	165	NA
State Plan – Pediatric (LTHH)	50	165	
Total Comparison Group	300	960	NA
Total Sample	1,010	3,250	NA

The sampling frame included all clients who received services at any time during state fiscal year (SFY) 2017, regardless of enrollment date.

¹ This will include a distribution of CDASS clients who receive just personal care/home health services, long-term home health care, or both. Because of the size of the sampling frame and the random sampling method, this should match the population overall.

² The total population of this group falls below the “Safe Harbor” threshold, meaning there is a risk of identifying an individual just by virtue of group membership. The IHSS/SCI Waiver group will be included with the IHSS/EBD waiver group for the purpose of survey sampling.

Survey Administration

We had the opportunity to meet with the Participant Directed Programs Policy Collaborative (PDPPC) and with Department staff to discuss past survey experiences and potential concerns of participants who will be asked to complete a survey. Overall, we made the decision, in conjunction with Department staff, to make the survey administration anonymous, determining that this would be the best option for alleviating participants' concerns and potentially increasing response rates.

We did not collect individual identifying information in the surveys. However, each survey was marked according to the respondent's program/waiver grouping (e.g., CDASS/EBD) to allow us to code responses by targeted subgroup.

Respondents had the option of completing a hard copy of the survey via U.S. mail or an online survey through Survey Monkey.

Claims Data

We received Medicaid claims for all individuals (not a random sample) that fit into any of the 12 survey sampling categories listed in Table 1, and completed a comprehensive cost analysis for each group. This report specifically reports emergency room and inpatient services costs for the specific CDASS and IHSS groups, and costs for a matched comparison group. Descriptions of each sub-group used in comparisons are included with the cost analysis results.

Emergency Room and Inpatient Cost Comparisons

In this cost analysis, we focused on comparing emergency room (ER) and inpatient hospitalizations (inpatient) costs for CDASS and IHSS service participants with ER and inpatient costs for the comparison group that received traditional agency-based services. Because the goal is to determine annual costs, our analysis only included individuals who participated in either CDASS or IHSS for at least 10 months of any given year. This eliminated individuals who may have begun participation at the end of the year, meaning their ER costs likely occurred prior to program participation. Our analysis also excluded any participants who ended participation early in the year and who had subsequent ER costs that were unrelated to their CDASS or IHSS services.

In order to ensure that the CDASS and IHSS populations were being compared to similar populations of participants in other traditional, agency-based long-term home health or State Plan services, CDASS and IHSS participants were divided based on their participation in specific Medicaid waiver programs. Comparison populations were drawn from Medicaid claims data that matched CDASS and IHSS participants according to Waiver program participation and participation in general types of services, for at least 10 months out of the year, that were

similar to the CDASS and IHSS services.

This report describes average emergency room and inpatient hospitalization costs for each of three main waiver types:³

- Elderly, Blind, Disability (EBD) Waiver
- Community Mental Health Services (CMHS) Waiver (CDASS participants only)
- Children's Home and Community Based Services (CHCBS) Waiver (IHSS participants only)

Medicaid Costs for Emergency Room and Inpatient Hospital Utilization: EBD Waiver Participants

Number of program participants: This is the number of people participating in the waiver program for at least 10 months of the year in which costs were incurred.

Number (percentage) with any ER visit: This is the number and percentage of program participants who had any claim for ER services, even if the amount paid by Medicaid for that claim was \$0 (likely because claims were paid by third party insurance).

Average annual ER cost to Medicaid per person with a Medicaid paid ER claim: This is the average annual ER cost to Medicaid for all program participants for whom there was at least one paid ER claim in the year. Using this metric as a comparison is difficult because, while average costs for a program could be higher, the program could have a lower proportion of participants with ER visits, which lowers total program costs.

Average Medicaid paid ER costs per program participant: This is the average cost to Medicaid for all ER visits across all program participants. This number is calculated by summing all Medicaid ER costs for program participants and dividing that sum by the total number of participants. This is the best metric for comparing across programs because it accounts for differences in the percentage of participants with any ER claims.

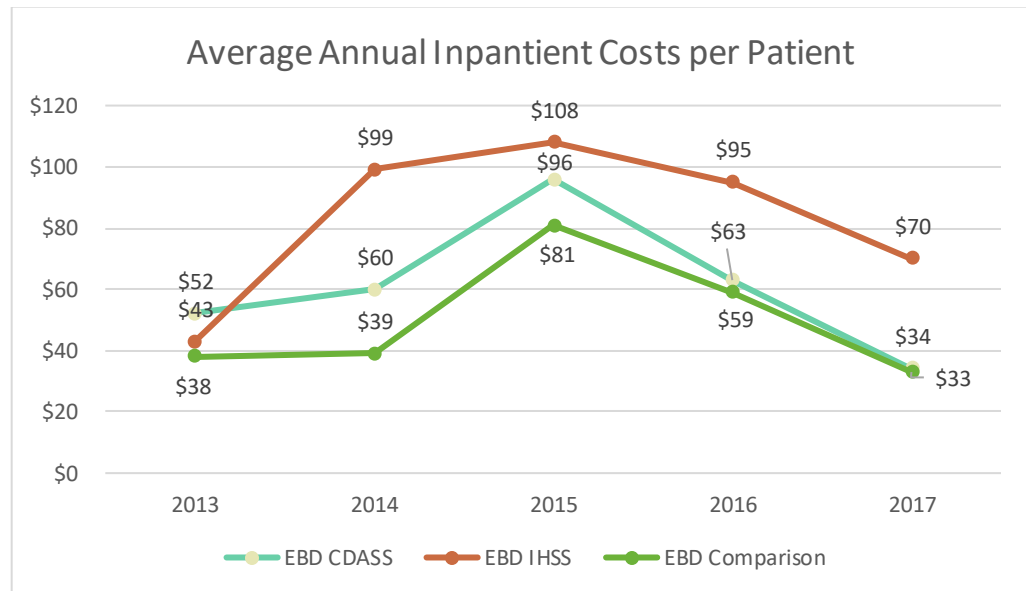
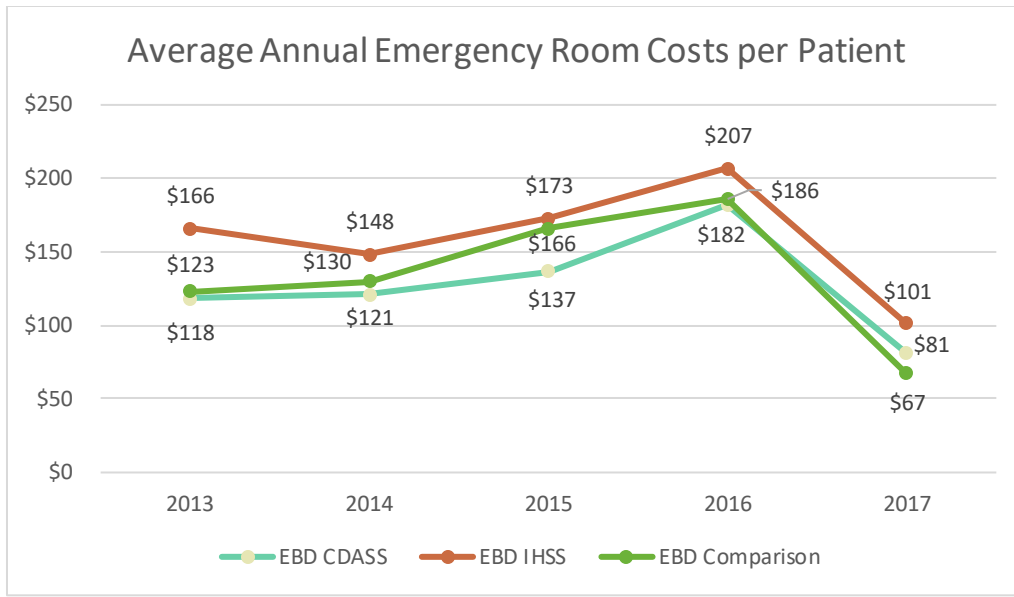
³ There were too few participants in the Brain Injury and Spinal Cord Injury Waiver programs to report data without the potential of inadvertently identifying an individual.

EBD Comparison Group: Includes all individuals who:

1. Met requirements for the EBD Waiver and participated in that program, but did not participate in CDASS or IHSS;
2. Received the same types of services as CDASS and IHSS participants for at least 10 months of the year (such as long term home health services , homemaker services, and state plan or wavier personal care) through traditional agency-based care options.

Costs to Medicaid: 5 Year Trends in Average Costs: Elderly, Blind, Disability (EBD) Waiver Participants							
Group	Emergency Room				Inpatient Hospital		
	Number of Program Participants	Number (Percent) with Any ER Visit	Average Annual ER Cost to Medicaid per Person with a Medicaid Paid ER Claim	Average Medicaid Paid ER Costs per Program Participant	Number (Percent) with Any Inpatient Claim	Average Annual Inpatient Cost to Medicaid per Person with a Medicaid Paid Inpatient Claim	Average Medicaid paid Inpatient Costs per Program Participant
2013							
EBD CDASS	2,025	858 (42%)	\$319	\$118	438 (22%)	\$281	\$52
EBD IHSS	229	75 (33%)	\$584	\$166	55	\$317	\$43
EBD Comparison	10,012	4,463 (46%)	\$316	\$123	2269	\$275	\$38
2014							
EBD CDASS	2,270	971(43%)	\$316	\$121	452 (20%)	\$473	\$60
EBD IHSS	340	148 (42%)	\$592	\$148	80	\$696	\$99
EBD Comparison	10,288	4,725 (46%)	\$329	\$130	2241	\$294	\$39
2015							
EBD CDASS	2,458	1,090 (44%)	\$365	\$137	505 (20%)	\$424	\$96
EBD IHSS	500	211 (43%)	\$411	\$173	104	\$498	\$108
EBD Comparison	10,283	4783 (47%)	\$357	\$166	2185	\$345	\$81

Costs to Medicaid: 5 Year Trends in Average Costs: Elderly, Blind, Disability (EBD) Waiver Participants							
Group	Emergency Room				Inpatient Hospital		
	Number of Program Participants	Number (Percent) with Any ER Visit	Average Annual ER Cost to Medicaid per Person with a Medicaid Paid ER Claim	Average Medicaid Paid ER Costs per Program Participant	Number (Percent) with Any Inpatient Claim	Average Annual Inpatient Cost to Medicaid per Person with a Medicaid Paid Inpatient Claim	Average Medicaid paid Inpatient Costs per Program Participant
2016							
EBD CDASS	2,564	1062 (41%)	\$502	\$182	564 (22%)	\$344	\$63
EBD IHSS	686	307 (45%)	\$551	\$207	151	\$537	\$95
EBD Comparison	10,327	4,695 (45%)	\$478	\$186	2136	\$344	\$59
2017							
EBD CDASS	2681	1,111	\$81	\$81	515 (19%)	\$344	\$34
EBD IHSS	1,262	560	\$101	\$101	283	\$635	\$70
EBD Comparison	10,701	4,663	\$67	\$67	2165	\$600	\$33

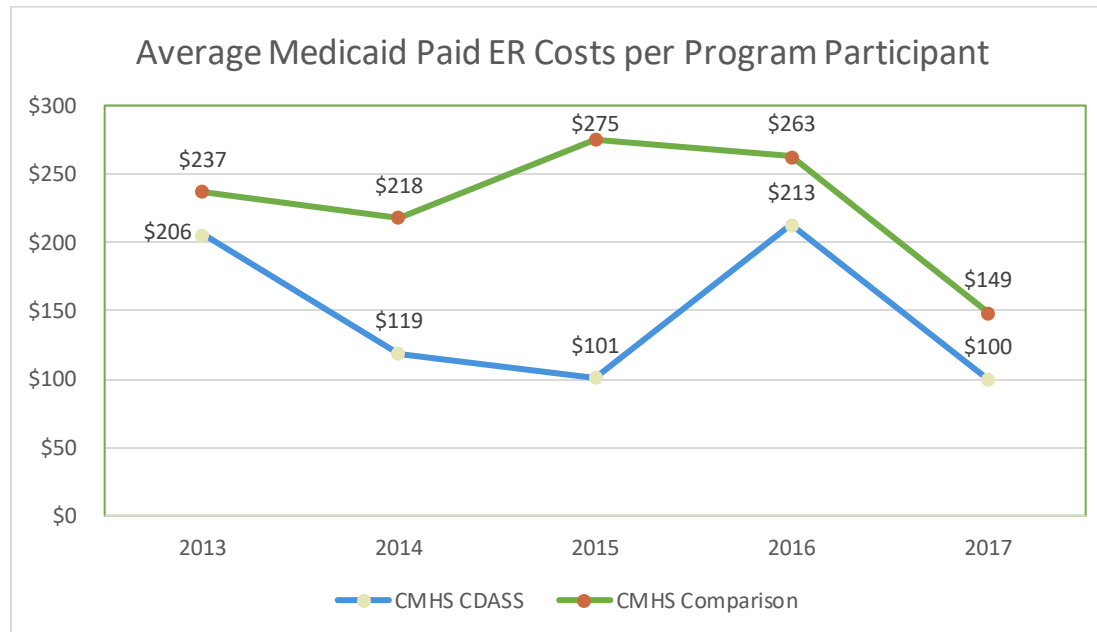


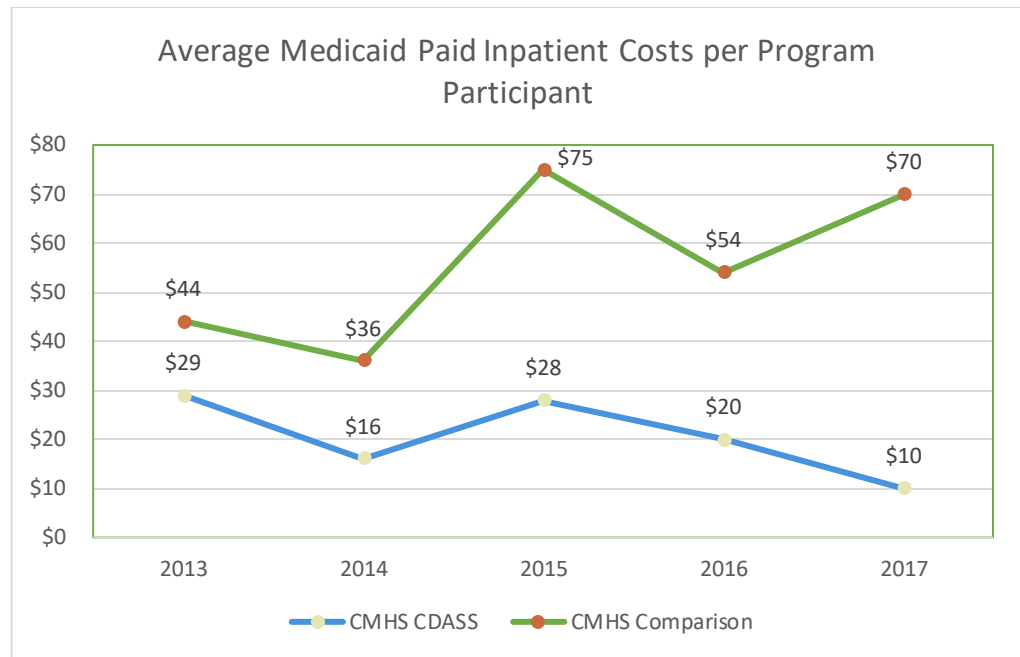
CMHS Comparison Group: Includes all individuals who:

1. Met requirements for the CMHS waiver and participated in that program, but did not participate in CDASS or IHSS;
2. Received the same types of services as CDASS and IHSS participants for at least 10 months of the year (such as long term home health services , homemaker services, and state plan and waiver personal care) through traditional agency-based care options.

Costs to Medicaid: 5 Year Trends in Average Costs: Community Mental Health Services Waiver Participants							
Group	Emergency Room				Inpatient Hospital		
	Number of Program Participants	Number (Percent) with Any ER Visit	Average Annual ER Cost to Medicaid per Person with a Medicaid Paid ER Claim	Average Medicaid Paid ER Costs per Program Participant	Number (Percent) with Any Inpatient Claim	Average Annual Inpatient Cost to Medicaid per Person with a Medicaid Paid Inpatient Claim	Average Medicaid paid Inpatient Costs per Program Participant
2013							
CMHS CDASS	68	37 (54%)	\$412	\$206	11	\$183	\$29
CMHS Comparison	977	462 (47%)	\$538	\$237	201	\$314	\$44
2014							
CMHS CDASS	95	40 (42%)	\$307	\$119	16	\$124	\$16
CMHS Comparison	943	447 (47%)	\$501	\$218	198	\$332	\$36
2015							
CMHS CDASS	107	49 (46%)	\$487	\$101	11	\$271	\$28
CMHS Comparison	954	458 (48%)	\$572	\$275	158	\$443	\$75
2016							
CMHS CDASS	120	52 (43%)	\$569	\$213	18	\$170	\$20

Costs to Medicaid: 5 Year Trends in Average Costs: Community Mental Health Services Waiver Participants							
Group	Emergency Room				Inpatient Hospital		
	Number of Program Participants	Number (Percent) with Any ER Visit	Average Annual ER Cost to Medicaid per Person with a Medicaid Paid ER Claim	Average Medicaid Paid ER Costs per Program Participant	Number (Percent) with Any Inpatient Claim	Average Annual Inpatient Cost to Medicaid per Person with a Medicaid Paid Inpatient Claim	Average Medicaid paid Inpatient Costs per Program Participant
CMHS Comparison	991	454	\$576	\$263	173	\$393	\$54
2017							
CMHS CDASS	138	55	\$346	\$100	15	\$153	\$10
CMHS Comparison	1195	524	\$341	\$149	213	\$424	\$70





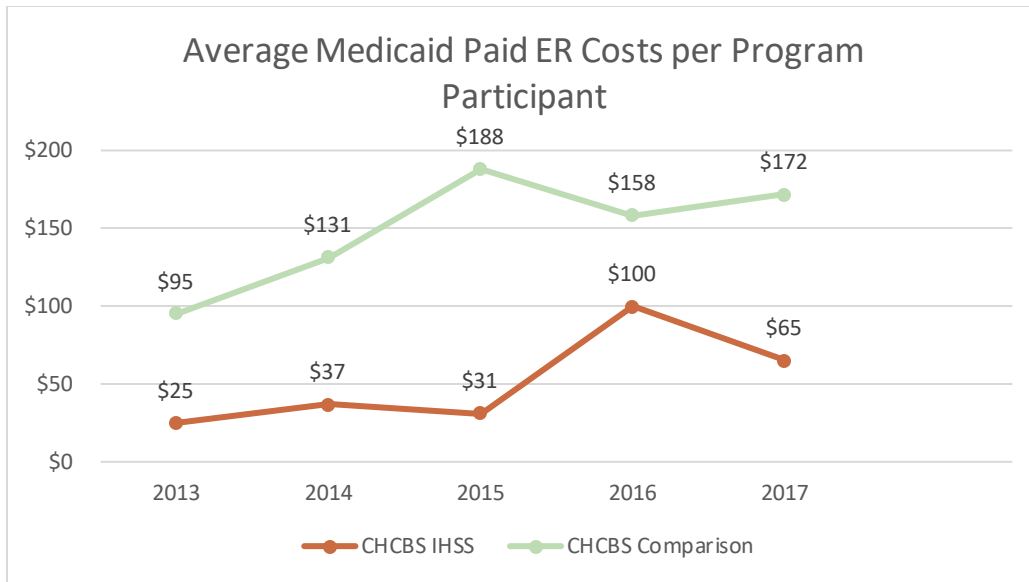
HCBS Comparison Group: Includes all individuals who:

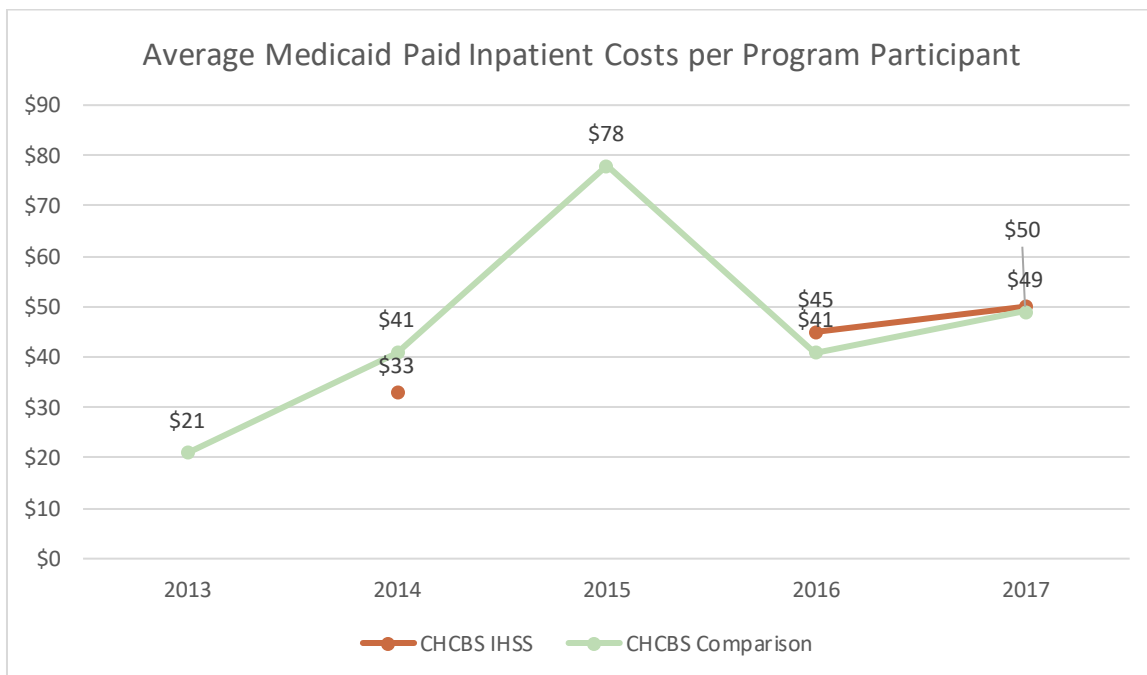
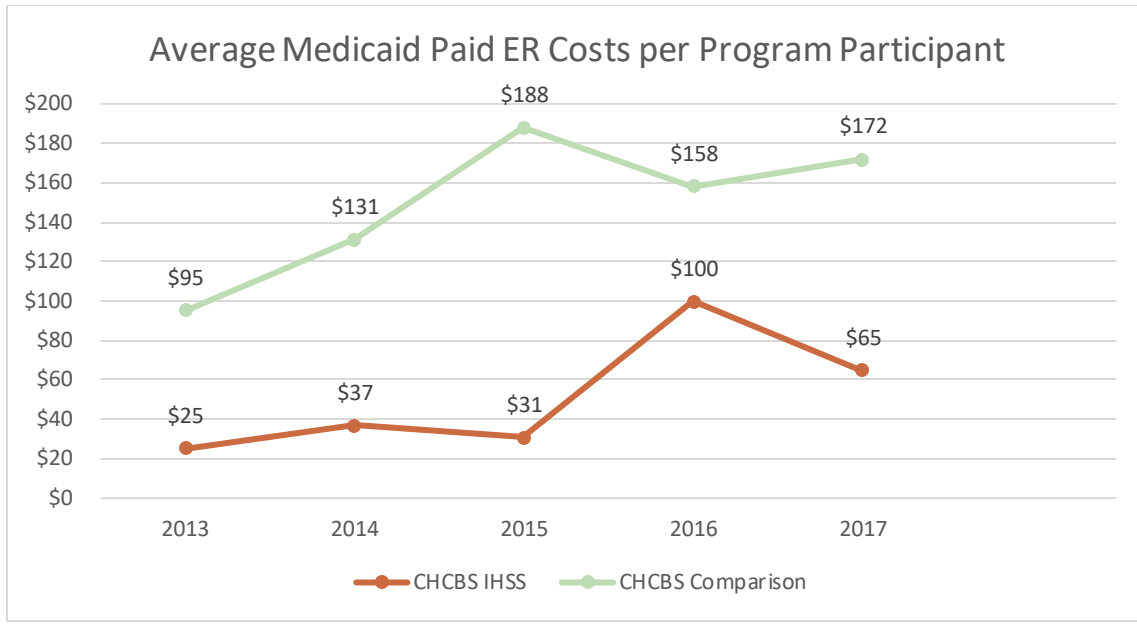
1. Were under the age of 18 at the start of service delivery participation;
2. Received home health maintenance services through traditional agency based services, including State Plan and long-term home health for at least 10 months of the year.

Costs to Medicaid: 5 Year Trends in Average: Children’s Home and Community Based Services (CHCBS) Waiver							
Group	Emergency Room				Inpatient Hospital		
	Number of Program Participants	Number (Percent) with Any ER Visit	Average Annual ER Cost to Medicaid per Person with a Medicaid Paid ER Claim	Average Medicaid Paid ER Costs per Program Participant	Number (Percent) with Any Inpatient Claim	Average Annual Inpatient Cost to Medicaid per Person with a Medicaid Paid Inpatient Claim	Average Medicaid paid Inpatient Costs per Program Participant
2013							
CHCBS IHSS	87	12	\$242	\$25	-- ⁴	--	--
CHCBS Comparison	356	157	\$238	\$95	90	\$215	\$21
2014							
CHCBS IHSS	123	30	\$231	\$37	16	\$369	\$33
CHCBS Comparison	209	98	\$325	\$131	53	\$162	\$41
2015							
CHCBS IHSS	179	36	\$267	\$31	--	--	--
CHCBS Comparison	356	154	\$683	\$188	60	\$462	\$78
2016							
CHCBS IHSS	212	49	\$287	\$100	16	1,064	\$45

⁴ Not reported due to small sample size (fewer than 10 participants).

Costs to Medicaid: 5 Year Trends in Average: Children’s Home and Community Based Services (CHCBS) Waiver							
Group	Emergency Room				Inpatient Hospital		
	Number of Program Participants	Number (Percent) with Any ER Visit	Average Annual ER Cost to Medicaid per Person with a Medicaid Paid ER Claim	Average Medicaid Paid ER Costs per Program Participant	Number (Percent) with Any Inpatient Claim	Average Annual Inpatient Cost to Medicaid per Person with a Medicaid Paid Inpatient Claim	Average Medicaid paid Inpatient Costs per Program Participant
CHCBS Comparison	436	208	\$516	\$158	83	\$271	\$41
2017							
CHCBS IHSS	311	78	\$398	\$65	32	\$618	\$50
CHCBS Comparison	447	234	\$425	\$172	92	\$512	\$49





Consumer Satisfaction

The following section summarizes findings from surveys with eight (8) groups of service delivery participants: four (4) who had been receiving services from Consumer Directed Support Services (CDASS) and four (4) who had been receiving services from In Home Support Services (IHSS). Groups were divided according to participation with specific Medicaid waivers (e.g., the Elderly, Blind, Disability Waiver) in CDASS and IHSS. In addition, surveys were sent to randomly selected individuals in four “comparison” groups that were created based on their service utilization profiles within traditional in-home, agency-based care.

Response rates were good, ranging from 21% to 43%, depending on the specific sub-group surveyed.

CDC Survey Response Rates				
Group	Sample Frame	Target	Responses Received	Response Rate Percent
1 – CDASS BI WAIVER	51	30	22	43.14%
2 – CDASS CMHS Waiver	160	50	49	30.63%
3 – CDASS EBD Waiver	970	300	317	32.68%
4 – CDASS SCI Waiver	55	30	17	30.91%
5 – IHSS EBD Waiver	634	200	171	26.97%
6 – IHSS LTHH Waiver	141	50	44	31.21%
7 – IHSS CHCBS Waiver	158	50	52	32.91%
8 – Comparison LTHH	151	50	44	29.14%
9 – Comparison Private Duty Nursing	148	50	30	20.27%
10 – Comparison LTHH and Personal	280	100	82	29.29%
11 – Comparison Pediatric (Personal)	72	50	19	26.39%
12 – Comparison Pediatric (LTHH)	153	50	34	22.22%

To summarize consumer satisfaction with services, survey questions were grouped into five areas:

- Satisfaction with the Care Plan (Services Authorized)
- Satisfaction with Attendant Quality
- Independence and Ability to Make Choices
- Health and Quality of Life
- Overall Satisfaction with Services

Satisfaction was rated on a scale from 1 to 4, with '1' meaning "Very Unsatisfied" (or similar) and '4' meaning "Very Satisfied" (or similar). We calculated average scores for each of the five areas listed above. As shown in the table below, satisfaction scores were higher for CDASS and IHSS participants than for those receiving traditional agency-based care.

Table X: Average Satisfaction Scores by Service Delivery

Average Satisfaction Scores by Service Delivery			
Dimension	CDASS	IHSS	Comparison
Care Plan*	2.94	2.83	2.68
Attendant Quality*	2.73	2.73	2.57
Independence and Choices	2.07	2.06	2.03
Health and Quality of Life	2.90	2.83	2.83
Overall Satisfaction with Services*	3.84	3.76	3.61

**Difference between groups was statistically significant ($p < .05$).⁵*

As can be seen in the Table X above, average scores for the *Care Plan* and *Health and Quality of Life* dimensions were high (close to a score of '3,' which translates to "satisfied" on our four-point scale). While CDASS and IHSS participants tended to rate their satisfaction with care planning higher than comparison participants, their ratings of health and quality of life survey items were not significantly different than the comparison group.

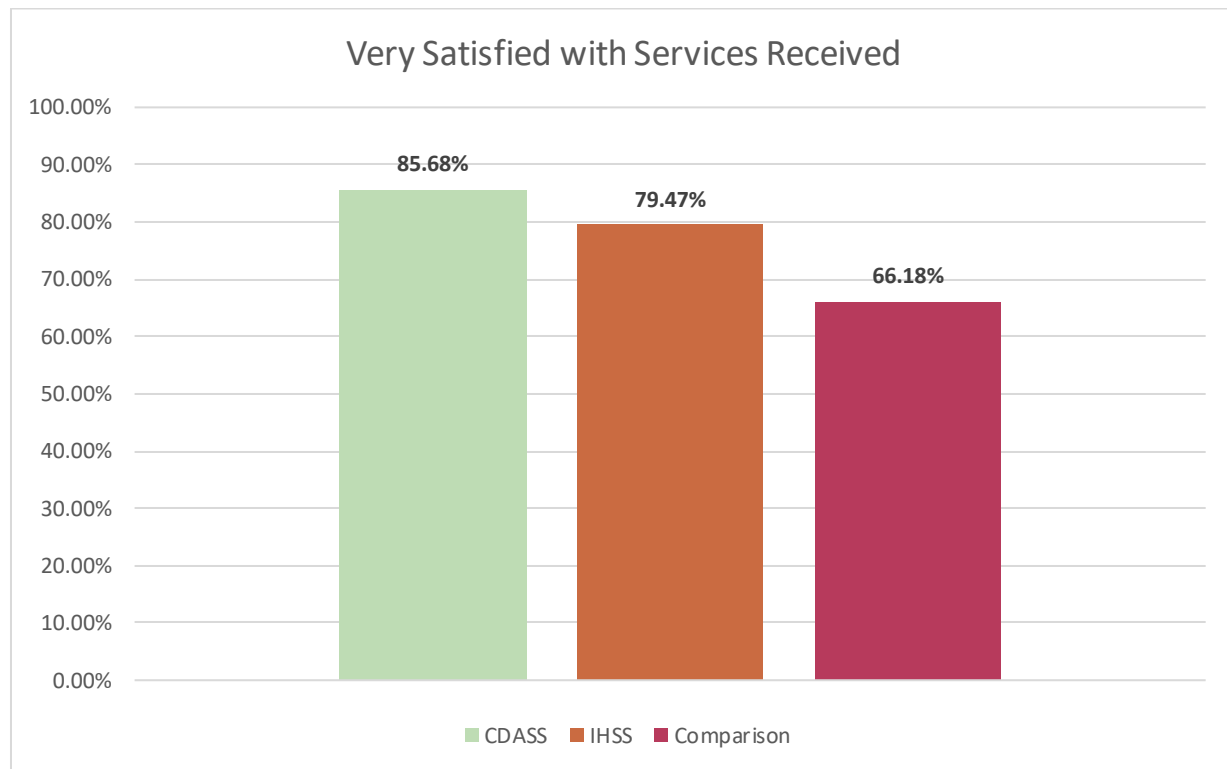
On items related to mental health and happiness, participants in long-term home health consistently had lower ratings than CDASS and IHSS participants. While these differences were not statistically significant, they are consistent with findings in the literature, specifically that

⁵ For *Independence and Choices* and *Health and Quality of Life*, differences were not statistically significant, meaning the differences were so small compared to the number of people surveyed that they are likely due to chance or sampling error.

greater senses of freedom and efficacy are correlated with better emotional health and feelings of well-being. Overall survey response rates were higher for CDASS and IHSS participants (although also not statistically significant). This may suggest that participants in the consumer-directed programs were more engaged, which may also be correlated with greater senses of efficacy and independence. This is not surprising since these populations are required to be able to direct their own services or appoint an authorized representative. CDASS also requires participants be in "stable" health, while IHSS allows for unstable health if participants are able to direct their care/appoint an authorized representative (AR). The State Plan (see Table 1: Survey Sampling Approaches) comparison groups do not have those requirements.

In addition, ratings of satisfaction with choice of attendants were higher among CDASS and IHSS participants than among the comparison group participants. This difference was statistically significant.

Finally, overall satisfaction was very high for all groups, but was highest for CDASS participants, followed by IHSS participants, then comparison group participants.



CDASS and IHSS participants also had higher average scores on several important individual survey items. These are summarized in Table X on the following page. All of the differences in this table were statistically significant. This table below lists the specific areas where CDASS and IHSS participants had statistically significantly higher satisfaction scores than comparison group

participants.

Table X: Significantly Different Mean Satisfaction Scores

Significantly Different Mean Satisfaction Scores (1 indicates lower satisfaction; 4 indicates highest possible score)			
Measure	CDASS	IHSS	Comparison
Ease of Finding Satisfactory Attendants	3.32	3.32	2.91
Able to Hire Attendant of Choice	1.97	1.91	1.73
Services Meet Needs and Goals	3.72	3.68	3.54
Better Able to Choose Activities Due to Services Received	3.78	3.62	3.51
Services Result in a Good Life	3.68	3.58	3.47
Final Say in Care Plan	1.94	1.92	1.87
Ability to Choose/Change Services	1.93	1.84	1.79
Treated with Respect by Attendants	3.98	3.98	3.87
Attendants are Respectful of Family's Culture	3.80	3.77	3.50
Attendant Reliability	2.00	1.96	1.85
Mobility—Non-medical	1.95	1.91	1.85
Choices in Everyday Routines	1.95	1.90	1.85
Freedom in Daily Activities	1.93	1.84	1.81
Freedom in Decisions	1.95	1.92	1.89

We found no relationship between satisfaction and self-reports of hospitalizations in the survey data, meaning that those who were more satisfied with services were no more or no less likely to report a hospitalization in the past year.

However, it is noteworthy that CDASS participants had overall higher levels of satisfaction and generally had lower ER and inpatient costs than both IHSS and the comparison group, with the exception of EBD waiver participants. For those with EBD waivers, satisfaction was higher, but ER costs were similar.

IHSS participants reported lower satisfaction than CDASS, but higher than the comparison group. Their ER costs trended lower than the comparison group for both waiver types reported here (EBD and CHBC participants).

Qualitative Analysis of Survey Responses

In addition to the five content areas listed above, each group was asked if there was anything else they would like to share. Below is a summary of the major themes and suggestions for improvements, grouped by the consumer's participation in either CDASS, IHSS, or traditional agency-based services.

CDASS Responses

The majority of CDASS survey participants, 40 out of 58 (69%), had positive comments about their services. The themes found in these responses were pleasure with the service, the beneficial impact of the service on their life and the lives of their family, the freedom experienced by the flexibility and multiple options available both in the home and in the community, more reliable and consistent scheduling of personal care attendants, and a feeling of increased quality of life. Three respondents said that without CDASS, they would be in nursing homes.

Sixteen (28%) had concerns or a suggestion for improvement. These comments were varied in nature, with some within the influence of the CDASS services and others outside the scope of these services. Concerns and suggestions included the following:

- Two respondents felt their requests for a re-evaluation of needed changes to services were ignored.
- The following issues were found to be less than satisfactory, but no specific ideas were offered for how improvements could be made: case management support at the single-entry point (SEP) in Colorado Springs, caseworkers who seem to lack an understanding of consumer need, the staffing turnover rate at Rocky Mountain Options, desire for more personal care hours each week, "back office" requirements that can be frustrating, the new wage increase and lowered allowance which resulted in less hours of care for one respondent, PPL automated telephone response system is difficult to navigate.

Some of the specific suggestions for improvements were:

- Help provide opportunities for more social events for consumers to meet and network.
- Assist in finding respite care resources.
- Partner with other service entities such as Developmental Disabilities Resource Center.
- Help care attendants and other service providers stop using the term "client," which is seen as outdated and may be offensive.
- Help find and fund alternative pain management methods.
- Assist with personal vehicle repairs.
- Help find caregivers who are physically able to load, transport and push wheelchair so consumer can be out in the community more often. This particular respondent is relying

on their spouse for this service.

- Find a way to carry over allocations rather than “use it or lose it.”

IHSS Responses

The majority of IHSS survey respondents, 25 out of the 46 responses (54%), had positive comments about their services. The themes found in these responses included the level of excellence in services, gratitude for the caring providers, and the perceived beneficial impacts on their quality of life. One respondent said that without IHSS, her mother would not be able to remain in her home.

Six (13%) had concerns or suggestions for improvement. These comments were varied in nature. Some were within the area of influence of IHSS services and others were outside of its area of influence. Concerns and suggestions included the following:

- Request for assistance in accessing transportation to specialty care medical appointments in Denver.
- Requests (two respondents) for accessible equipment or home modifications (e.g., grab bar, scooter, or a walk-in tub) in order to prevent falls.
- Requests (two respondents) for more hours of services from their personal care attendants (PCA) and the ability to schedule the PCA beyond the maximum limit of 70 hours a week.
- Request for assistance in finding quality physical therapists.

Three respondents had concerns about the communication and customer service provided by their agencies.

Traditional In-Home Service Responses

Eleven out of 34 (32%) respondents had positive comments about their services. The themes found in these responses included appreciation for the good services they have had from home health companies and a general sense of gratitude for the services they receive. One respondent said Colorado does a wonderful job of providing services and programming.

Some concerns were identified. Three respondents said transportation was an issue, and three others said they required more personal care hours. Other concerns mentioned by a single respondent included issues with the accessibility and timeliness of replies from case workers, low hourly wages of CNAs, and the poor quality of meal delivery services to the home.

The following list includes suggestions for improvement:

- Access to and funding for respite care for family members who are personal care providers.

- Access to more long-term care residential placement programs.
- A menu of approved services that a health aide can provide.
- More mental health services.
- More choice from consumer and family in how to use allocations.
- Ensuring that Community Center Boards (CCB) are doing more for families ; however, no specific way to do this was mentioned.