Complementary and Integrative Health Services Evaluation

Annual Report SFY 2017-18

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Evaluation Background

The Home and Community Based Services – Spinal Cord Injury (HCBS-SCI) Pilot Program was created under the authority of Colorado Revised Statute §25.5-6-1303 (2009) and a waiver approved by the Centers for Medicare and Medicaid Services (CMS) pursuant to Section 1915 (c) of the Social Security Act. The HCBS-SCI Pilot Program allowed individuals with spinal cord injuries to receive alternative therapies, now called Complementary and Integrative Health Services (CIHS) (acupuncture, chiropractic care and massage therapy), in addition to other home- and community-based services already provided through the Elderly, Blind and Disabled (EBD) waiver.

The HCBS-SCI Pilot Program was established for a 3-year period, from July 1, 2012 through June 30, 2015. Each year, the program enabled up to 67 eligible individuals to receive CIHS for spinal cord injury. To participate in the pilot program, the individuals and their complimentary and integrative health services (CIHS) providers agreed to provide data, complete forms and respond to interviews or surveys related to the pilot program. National Research Center, Inc. (NRC) conducted the evaluation of this pilot program and submitted a final report to Colorado Department of Health Care Policy and Financing (HCPF or "the Department") in July of 2015.

The original Pilot Program showed promise, but did not provide enough data to conclude whether SCI Waiver Members saw improvements in their conditions from the alternative therapies. The Department renewed the program for an additional five years (ending June 30, 2020) with some changes in response to the Pilot Program evaluation and other stakeholder input. Changes of note for this evaluation seek to rectify deficiencies in the Pilot program related to ambiguity of "alternative therapies," a small sample size and bottlenecks to receiving services. These changes include:

- To provide a better descriptive, "alternative therapies" (acupuncture, chiropractic care and massage therapy) are now referred to as "complimentary and integrative health services (CIHS).
- The definition of SCI was broadened to improve enrollment eligibility.
- The cap of 67 SCI Waiver Members was increased to 120, with the option to increase this cap if need is shown. This is intended to serve a larger group and provide a sufficient number of participants to draw conclusions in the evaluation. This has also allowed the elimination of the waitlist.
- The requirement that CIHS providers be center-based, with a supervising physician at the site was removed. Individual CIHS providers and centers without physicians can now apply to become CIHS providers under the waiver. This is intended to ensure SCI Waiver Members have access to the CIHS, reducing the service bottlenecks experienced in the three-year pilot program.

NRC was retained to implement the evaluation for the new five-year SCI waiver program. Specifically this evaluation will assess whether:

- CIHS helped reduce the need for continuous or more expensive procedures, medications, and hospitalizations for a person with a spinal cord injury.
- The HCBS-SCI program results in cost savings for the State compared to the estimated expenditures that would have otherwise been spent for the same persons with spinal cord injuries absent the program.
- CIHS led to any changes to the health status or health outcomes of persons using the services.
- CIHS led to any changes to the quality of life of persons using the services.
- CIHS allowed persons with a spinal cord injury to become and/or remain employed.

Additionally, the study will identify any specific ways to improve the HCBS-SCI program based on participant feedback and overall study findings.

2016-2020 Evaluation Components

Upon enrollment onto the Medicaid HCBS-SCI waiver, each individual is provided a consent form by their case manager informing them of the evaluation and their participation in the study. The consent form is collected by the participant's CIHS provider prior to their first appointment. If an individual refuses consent, they are not included in the evaluation.

To achieve the goals of the study evaluation, five components are being implemented:

1. Provider-administered three question assessment that is conducted at the start of each CIHS session.
2. Self-administered assessments of health status, employment and quality of life, administered at the first CIHS appointment and annually (in March) and/or semi-annually (in March and September).
    a. Form 1: Self-Administered Health History (annually)
    b. Form 2: Self-Administered Health Assessment (semi-annually)
    c. Form 3: Self-Administered Quality of Life Assessment (WHOQOL-BREF, semi-annually)
    d. Form 4: Self-Administered Functional Assessment (CHART, annually)
3. Feedback surveys to assess satisfaction with the program and areas for improvement, implemented annually in April/May.
4. Analysis of data from the HCPF claims database, MMIS, to assess service usage and costs; results culled annually for the Annual Report.
5. Analysis of the ULTC 100.2 Long Term Care Assessment form, filled out by each participant's Medicaid Case Manager annually (and updated with changes in treatment plans); results culled annually for the Annual Report.

This report details the results of the evaluation for the third year of the five year program.

Program Participant Details

CIHS Provider Enrollment

As of April 30, 2018, there are four CIHS providers enrolled:

- Spinal Cord Injury Recovery Project
  866 E. 78th Avenue
  Denver, CO 80229-5934
- The Chanda Plan Foundation (Lakewood)
  1630 Carr Street
  Lakewood, CO 80214
- The Chanda Plan Foundation (PEAK Center)
  3425 S. Clarkson Street
  Englewood, CO 80113-2811
- Unity Community Acupuncture
  1355 E 22nd Ave
  Denver, CO 80205-5220

SCI Waiver Member Enrollment

As of April 30, 2018 there were 118 people on the SCI Waiver. Of these, 73 had claims made to HCPF for CIHS that received payment as of December 2017 (the latest available claims data due to lags in the administrative processes) and had also participated in the March 2018 iteration of the evaluation. █ had participated in March 2018, but did not yet have claims data (likely due to the lag). █ did not participate in the March 2017 evaluation but had claims in late 2017; as such it was unknown if they continue to receive CIHS. The remaining members were too new to the program to have a processed claims or chosen a provider, were waiver members but were not known to have accessed CIHS, or were known to have stopped using the services. Not included in this study are █ former SCI waiver members who left the waiver (moved out of region were not using services) or passed away.

Table 1: SCI Waiver Member Overall Status

	Number	Percent
Total	118	100%
Forms Mar 2018, Claims late 2017	73	62%
Forms Mar 2018, no CIHS claims ever	█	█%
No forms Mar 2018, but had claims late 2017	█	█%
No forms Mar 2018, provider said now inactive	█	█%
New, no provider or claims yet	█	█%
No forms Mar 2018, claims stopped prior to late 2017	█	█%
No forms Mar 2018 and never had claims	█	█%

Table 2: SCI Waiver Member Evaluation Participation Status

	Number	Percent
Total	118	100%
Currently participating in evaluation (completing forms)	77	65%
Participated prior to Mar 2018	█	█%
Never completed forms OR never had CIHS claims	█	█%

Table 3: SCI Waiver Member CIHS Claims Status as of December 2017

	Number	Percent
Total	118	100%
Ever had CIHS claims	93	79%
Never had CIHS claims	█	█%

Evaluation Participation

The primary difference between services provided under the EBD waiver and the SCI waiver is access to CIHS (the other difference is that Alternative Care Facility, a residential service, is available under EBD but not included in the SCI Waiver). As such, to best evaluate the effect of the SCI waiver, only members who are using CIHS are included in the evaluation (i.e., those on the SCI waiver who are not receiving CIHS are considered equivalent to not being on the SCI waiver).

Of the 118 current SCI Waiver members, 97 have participated in the evaluation at some point since its inception, 93 have had CIHS claims, 92 have completed all four evaluation forms at least once and 77 are known to be actively receiving CIHS; 76 of these completed Form 1 in March 2018 (83% of those who completed all four evaluation forms at least once and 99% of those known to be active in March 2018).

Table 4: Number of Form 1 Evaluations Completed by Year

		Annually		
	At outset	**2016**	**2017**	**2018**
Form 1: Self-Administered Health History (annually)	92	48	84	76

Note that start dates for each participant is unique, so not all were in the program each year. However, each should have completed all four forms at the outset of their care.

Table 5: Number of Form 1 Evaluations Completed by Iteration

		Iteration		
	At outset	**1**	**2**	**3**
Form 1: Self-Administered Health History (annually)	92	92	79	37

Note that start dates for each participant is unique, so not all were in the program each year. However, each should have completed all four forms at the outset of their care.

All 77of the waiver members known to currently be receiving CIHS completed Form 2 in March 2018 (84% of those who completed all four evaluation forms at least once and 100% of those known to be active in March 2018).

Table 6: Number of Form 2 Evaluations Completed by Year

Form 2: Self-Administered Health Assessment (semi-annually)		Semi-Annually				
	At outset	June/July 2016	September 2016	March 2017	September 2017	March 2018
	92	■	45	59	82	77

Note that start dates for each participant is unique, so not all were in the program each year. However, each should have completed all four forms at the outset of their care.

Table 7: Number of Form 2 Evaluations Completed by Iteration

Form 2: Self-Administered Health Assessment (semi-annually)		Semi-Annually				
	At outset	1	2	3	4	5
	92	92	76	57	40	■

Note that start dates for each participant is unique, so not all were in the program each year. However, each should have completed all four forms at the outset of their care.

Seventy-four of the waiver members known to currently be receiving CIHS completed Form 3 in March 2018 (80% of those who completed all four evaluation forms at least once and 96% of those known to be active in March 2018).

Table 8: Number of Form 3 Evaluations Completed by Year

Form 3: Self-Administered Quality of Life Assessment (WHOQOL-BREF, semi-annually)		Semi-Annually				
	At outset	June/July 2016	September 2016	March 2017	September 2017	March 2018
	92	■	45	60	81	74

Note that start dates for each participant is unique, so not all were in the program each year. However, each should have completed all four forms at the outset of their care.

Table 9: Number of Form 3 Evaluations Completed by Iteration

Form 3: Self-Administered Quality of Life Assessment (WHOQOL-BREF, semi-annually)		Semi-Annually				
	At outset	1	2	3	4	5
	92	92	76	57	39	■

Note that start dates for each participant is unique, so not all were in the program each year. However, each should have completed all four forms at the outset of their care.

Form 4 had the lowest level of completion in March 2018, with 68 filled out (74% of those who completed all four evaluation forms at least once and 88% of those known to be active in March 2018).

Table 10: Number of Form 4 Evaluations Completed by Year

Form 4: Self-Administered Functional Assessment (CHART, annually)	At outset	Annually		
		2016	2017	2018
	92	48	82	68

Note that start dates for each participant is unique, so not all were in the program each year. However, each should have completed all four forms at the outset of their care.

Table 11: Number of Form 4 Evaluations Completed by Iteration

Form 4: Self-Administered Functional Assessment (CHART, annually)	At outset	Iteration		
		1	2	3
	92	92	72	

Note that start dates for each participant is unique, so not all were in the program each year. However, each should have completed all four forms at the outset of their care.

Participant Demographics

Participant demographics are culled from the most recently completed Form 1 and from the Medicaid registration/claims database. As shown in Table 12, a majority of participants are male (66%), single (65%) and rely on Social Security (77%) for their income. There is a wide age range, about half have a high school education or less and half have a college degree and 42% live alone. Close to half are able to drive themselves (45%) while █% rely on others to drive them while others use buses or taxis for their primary transportation. Most do not drink alcohol (63%), smoke cigarettes (86%) or use other tobacco products (95%).

Table 12: Demographic Profile of SCI Waiver Evaluation Participants

		Percent	Number
	Male	66%	61
	Female	█%	█
Gender	Total	100%	92
	18 to 34	█%	█
	35 to 54	48%	44
	55 or older	█%	█
Age	Total	100%	92
	Disabled	66%	61
	Unemployed	█%	█
	Part time	█%	█
	Retired	█%	█
	Full time	█%	█
	Sick leave	█%	█
	Student	█%	█
Work status	Total	100%	92
	Social Security	77%	70
	Disability Comp	█%	█
	Salary	█%	█
	Other	█%	█
	Pension	█%	█
Income Source	Total	100%	91
	Drive	45%	41
	Others drive	█%	█
	Taxi	█%	█
	Bus	█%	█
	Other	█%	█
Primary mode of transportation	Total	100%	92

Demographic Profile of SCI Waiver Evaluation Participants (continued)

		Percent	Number
	Single	65%	59
	Divorced	█%	█
	Married	█%	█
	Widowed	█%	█
	Separated	█%	█
Marital status	Total	100%	91
	Alone	42%	36
	Parents or siblings	█%	█
	Children	█%	█
	Spouse	█%	█
	Other	█%	█
	Friends	█%	█
	Significant other	█%	█
Live with	Total	100%	86
	House	61%	56
	Apartment	█%	█
	Other	█%	█
	Retirement housing	█%	█
	Assisted living	█%	█
Live in	Total	100%	92
	Grade School	█%	█
	High School	46%	42
	College	41%	37
	Postgraduate	█%	█
Highest grade completed	Total	100%	91
	No	63%	58
	Yes	█%	█
Drink alcoholic beverages	Total	100%	92
	No	86%	79
	Yes	█%	█
Smoke cigarettes	Total	100%	92
	No	95%	87
	Yes	█%	█
Use other tobacco products	Total	100%	92

Source: Gender and age from HCPF database, all other items from each participant's most recently completed Form 1 (questions 1 to 10).

Just under half of the evaluation participants (43%) received their spinal cord injury (SCI) 10 or more years prior to this evaluation. Most had injuries in the C1-8 region (78%) and 50% were quadriplegic.

Table 13: Injury Profile of SCI Waiver Evaluation Participants

Years with SCI	Less than 2 years	█%	█
	2-5 years	█%	█
	6-9 years	█%	█
	10 or more years	43%	36
	Total	100%	84
Level of SCI (can choose more than one)	C5-C8	█%	█
	C1-C4	█%	█
	T6-T12	█%	█
	T1-T5	█%	█
	L1-L5	█%	█
	S1-S5	█%	█
	Total	100%	81
Type/Result of SCI (can choose more than one)	Quadriplegia	50%	41
	Paraplegia	█%	█
	Tetraplegia	█%	█
	Other	█%	█
	Total	100%	82

Source: Most recently completed Form 1 (questions 11 to 13).

The most common medical conditions and symptoms experienced by evaluation participants were muscle, back, neck, and joint pain. Most also had experienced sleep problems currently or in the past.

Table 14: Diagnosed Medical Conditions and Symptoms for SCI Waiver Evaluation Participants

	Current		Current or Past	
	Number	Percent	Number	Percent
Muscle pain	58	63%	63	72%
Back pain	54	59%	62	70%
Neck pain	54	59%	64	73%
Joint pain	47	51%	54	61%
Sleep problems	[illegible]	[illegible]	47	53%
Seasonal allergies	[illegible]	[illegible]	40	45%
Headaches	[illegible]	[illegible]	[illegible]	[illegible]%
Depression	[illegible]	[illegible]	44	50%
Osteoporosis	[illegible]	[illegible]	[illegible]	[illegible]
Arthritis	[illegible]	[illegible]	[illegible]	[illegible]
Anxiety	[illegible]	[illegible]	42	48%
Vision problems	[illegible]	[illegible]	[illegible]	[illegible]
Memory problems	[illegible]	[illegible]	[illegible]	[illegible]
Skin problems	[illegible]	[illegible]	[illegible]	[illegible]
Chronic fatigue	[illegible]	[illegible]	[illegible]	[illegible]
Obesity	[illegible]	[illegible]	[illegible]	[illegible]
High blood pressures	[illegible]	[illegible]	[illegible]	[illegible]
Thyroid problems	[illegible]	[illegible]	[illegible]	[illegible]
Heartburn	[illegible]	[illegible]	[illegible]	[illegible]
Diabetes	[illegible]	[illegible]	[illegible]	[illegible]
Hearing problems	[illegible]	[illegible]	[illegible]	[illegible]
High cholesterol	[illegible]	[illegible]	[illegible]	[illegible]
Kidney problems	[illegible]	[illegible]	[illegible]	[illegible]
Difficulty chewing or swallowing	[illegible]	[illegible]	[illegible]	[illegible]
Asthma	[illegible]	[illegible]	[illegible]	[illegible]
Lung disease	[illegible]	[illegible]	[illegible]	[illegible]
Migraines	[illegible]	[illegible]	[illegible]	[illegible]
Eye disease	[illegible]	[illegible]	[illegible]	[illegible]
Blood clots	[illegible]	[illegible]	[illegible]	[illegible]
Cancer	[illegible]	[illegible]	[illegible]	[illegible]
Heart disease	[illegible]	[illegible]	[illegible]	[illegible]
Seizures	[illegible]	[illegible]	[illegible]	[illegible]
Ulcers	[illegible]	[illegible]	[illegible]	[illegible]
Stroke	[illegible]	[illegible]	[illegible]	[illegible]
No current conditions	[illegible]	[illegible]		

Source: Most recently completed Form 1, Question 14: Have you had any of the following diagnosed medical conditions or symptoms? Check one: Currently, In the past, or Never

Cost and Utilization of CIHS

Notes on Comparisons by Year

SCI waiver participants generally participated in the HCBS-EBD (Elderly, Blind, & Disabled) waiver before enrolling in the SCI waiver. Therefore, for most participants, Medicaid claims costs can be tracked pre and post joining the SCI waiver.

As discussed above, the only difference between services provided under the EBD waiver and the SCI waiver is access to complimentary and integrative health services (CIHS). As such, for the purpose of this study, the start date for determining the impact of the SCI waiver is the first day the participant received a CIHS.

The start date for first year of CIHS differs for each SCI waiver participant, so calendar years are not used for comparisons. Throughout the report, years are defined as "1 Year Pre," "1 Year Post," "2 Years Post," etc., anchored on the first date the individual started CIHS.

While this is the report for the third year of the five-year study of the renewed SCI waiver program, many of the current participants also participated in the three-year pilot program and therefore have been receiving CIHS for up to three full years.

To ensure comparability, annual usage and costs are only included if the participant had participated for the full year (i.e., all 12 months in "1 Year Pre," or "1 Year Post," or "2 Years Post," etc.).

Utilization of CIHS

The number of units of CIHS that have been paid for by Medicaid under the SCI waiver are shown in Table 15 (with claims ending December 2017). These exclude participants who left the waiver and those with only partial years on the waiver. The "years post" shown in Table 15 and throughout the report are tethered to each individuals starting date (the date of their first CIHS). Each successive annual report should have more participants with longer term SCI Waiver membership providing an increasingly robust comparison of the changes in utilization and cost over time.

Massage therapy was the most frequently used CIHS with an average of 82 units being used in the first year of joining the SCI waiver and starting CIHS treatments. Acupuncture was second most frequently used (an average of 71 units in the first year) and chiropractic was used by fewer people (44 compared to 63 using massage therapy) and the least frequently (an average of 21 units in the first year).

Table 15: Hours and Cost of CIHS Paid for by Medicaid (Full Year Data)

Only those with a full year of data are included (adjusted dollars)		Number of Participants	Total Cost	Average Cost per year	Total Units1	Average Units per year
Acupuncture	1 Year Post	N=61	$77,452	$1,270	4,305	71
	2 Year Post	N=40	$39,932	$998	2,192	55
	3 Year Post	N=█	$29,771	$1,489	1,630	82
Chiropractic	1 Year Post	N=44	$16,087	$366	911	21
	2 Year Post	N=█	$15,339	$639	778	32
	3 Year Post	N=█	$12,522	$963	630	48
Massage	1 Year Post	N=63	$71,699	$1,138	5,170	82
	2 Year Post	N=41	$38,914	$949	2,768	68
	3 Year Post	N=█	$25,848	$1,231	1,838	88

[1] Each paid unit is 15 minutes.
Data source: Medicaid claims billing database, claims ending December 2017.

Overall Medicaid Costs (Including CIHS)

Changes in Healthcare Costs

As Medicaid claims rates may change each fiscal year, comparisons of real dollars (not adjusted for changes in reimbursement rates) may hide real changes in expenditures. As such, in this report past health care costs were adjusted to 2017-18 dollars based on the rate changes below.

Table 16: Changes in Medicaid Reimbursement Rates

State Fiscal Year	Rate Change
2009-10	1.5% decrease as of Sept and 1% decrease beginning December
2010-11	1% decrease effective July
2011-12	None
2012-13	None
2013-14	8.26% increase effective July
2014-15	2% increase effective July
2015-16	0.5% increase effective July
2016-17	None
2017-18	1.4% across the board effective October and Emergency Transportation 7.01% increase effective July

Source: HCPF (email correspondence 3/21/2018)

Overall Medicaid Costs

Table 17 shows the costs for all claims paid by Medicaid for evaluation participants. Table 18 shows only those who had a full year of data both pre and post starting CIHS. Both Table 17 and Table 18 show a decreasing trend in total Medicaid costs after starting CIHS.

Table 17: Total Medicaid Costs by Year

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre	56	$3,102,043	$55,394	$41,399	$1,553	$210,707
1 Year Pre	85	$5,703,978	$67,106	$53,907	$9	$276,558
1 Year Post	63	$4,076,897	$64,713	$51,708	$5,281	$298,569
2 Year Post	56	$3,616,239	$64,576	$49,970	$2	$273,079
3 Year Post	48	$2,932,850	$61,101	$47,975	$1,326	$267,447
4 Year Post		$1,154,607	$52,482	$33,944	$278	$100,507
5 Year Post		$331,815	$33,181	$27,038	$22	$77,893

Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year). The time frame for each year varies by participant.

Table 18: Total Medicaid Costs by Year (with at least one full year pre and post CIHS)

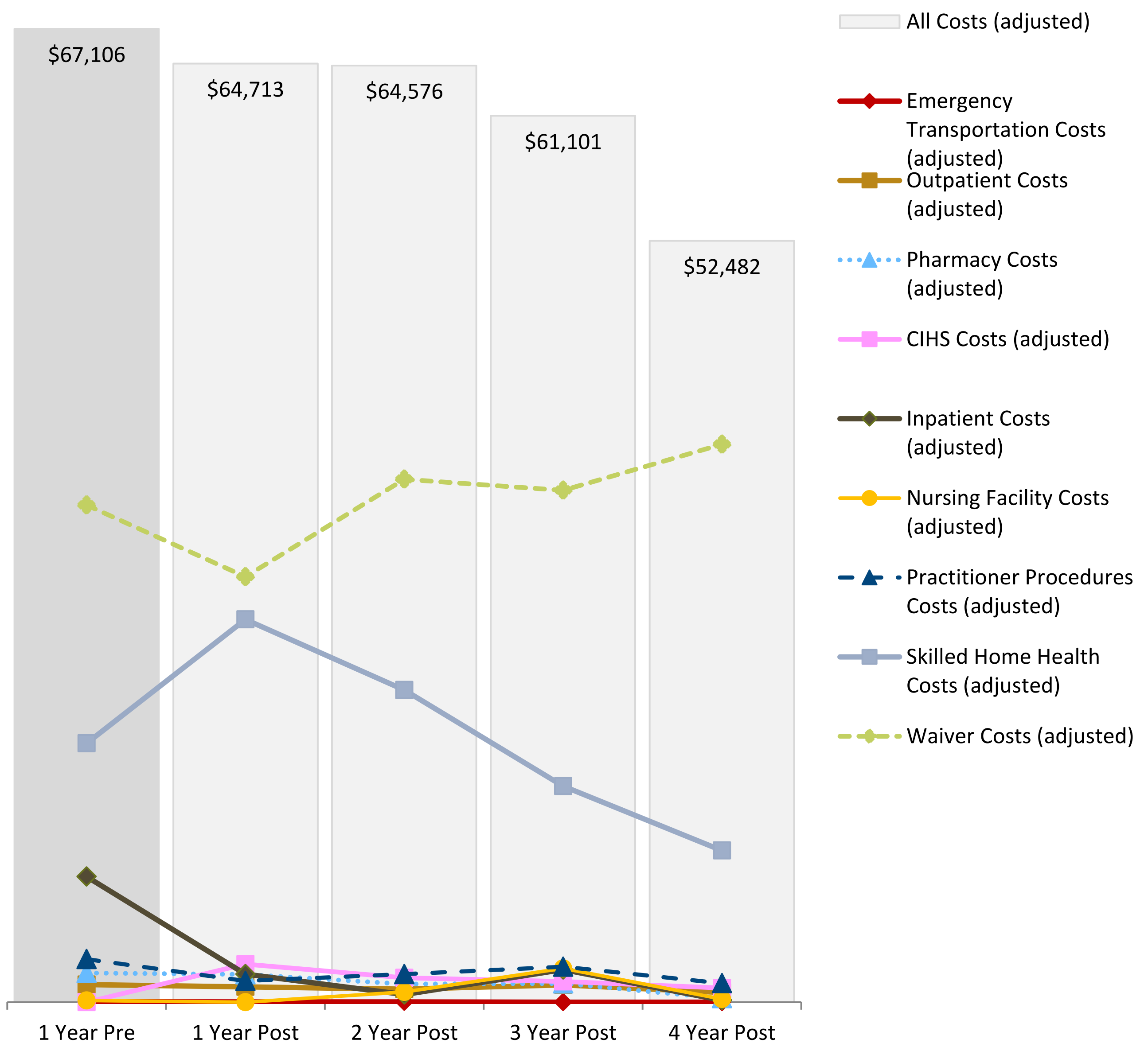
Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre		$1,822,018	$60,734	$51,659	$1,553	$210,707
1 Year Pre	51	$3,591,911	$70,430	$57,482	$131	$276,558
1 Year Post	51	$3,404,039	$66,746	$53,995	$5,281	$298,569
2 Year Post	46	$2,994,279	$65,093	$51,816	$2	$273,079
3 Year Post	40	$2,501,395	$62,535	$50,423	$1,326	$267,447
4 Year Post		$1,154,607	$52,482	$33,944	$278	$100,507
5 Year Post		$331,815	$33,181	$27,038	$22	$77,893

Data source: Medicaid claims billing database.
Only included if participated for one full year pre and post CIHS. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year). The time frame for each year varies by participant.

Medicaid Cost by Category

While it is hypothesized that the use of CIHS will lead to a reduction, or at least no increase, in overall Medicaid claims, not all Medicaid costs are expected to be impacted by CIHS use. Figure 1 shows all costs for those who had a full 12 months of data in each year. There was an increase in claims made for waiver services after CIHS were started and decreases in in-patient and skilled home health claims. Other claims remained relatively similar. Details for each are presented in the following pages.

Figure 1: Average Medicaid Costs by Category by Year (Adjusted for Cost Inflation)



Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year). The time frame for each year varies by participant.

CIHS were initiated once joining the SCI waiver (1 Year Post) with average costs of $2,623 in that first year. Average CIHS costs dropped in the second year post-CIHS ($1,682) and third year post-CIHS ($1,420).

Table 19: CIHS Costs by Year

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre	56	$0	$0	$0	$0	$0
1 Year Pre	85	$0	$0	$0	$0	$0
1 Year Post	63	$165,238	$2,623	$1,532	$129	$6,078
2 Year Post	56	$94,185	$1,682	$1,722	$0	$6,125
3 Year Post	48	$68,141	$1,420	$1,939	$0	$5,749
4 Year Post	■	$21,591	$981	$1,784	$0	$6,111

Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year). The time frame for each year varies by participant.

Table 20: CIHS Costs by Year (with at least one full year pre and post CIHS)

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre	■	$0	$0	$0	$0	$0
1 Year Pre	51	$0	$0	$0	$0	$0
1 Year Post	51	$136,944	$2,685	$1,506	$129	$6,078
2 Year Post	46	$74,178	$1,613	$1,697	$0	$5,337
3 Year Post	40	$50,286	$1,257	$1,781	$0	$5,558
4 Year Post	■	$21,591	$981	$1,784	$0	$6,111

Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year).Only included if participated for one full year pre and post CIHS.

Waiver services include services such as non-medical transportation, personal emergency response systems, adult day care and unskilled personal and home care services. Needs for personal emergency systems, unskilled personal and home care services are not expected to change due to receiving CIHS services, while non-emergency transportation may increase as participants go to more CIHS appointments and potentially feel well enough to leave their homes more frequently for other purposes (less than one-half of participants are able to drive themselves). These costs are showing an upward trend.

Table 21: Waiver Services Costs by Year

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre	56	$1,618,830	$28,908	$29,858	$0	$95,053
1 Year Pre	85	$2,912,855	$34,269	$31,352	$0	$123,931
1 Year Post	63	$1,847,671	$29,328	$27,799	$0	$91,572
2 Year Post	56	$2,019,157	$36,056	$29,417	$0	$98,929
3 Year Post	48	$1,693,852	$35,289	$30,044	$0	$95,200
4 Year Post	■	$846,048	$38,457	$33,491	$0	$94,711

Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year). The time frame for each year varies by participant.

Table 22: Waiver Services Costs by Year (with at least one full year pre and post CIHS)

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre	■	$708,741	$23,625	$30,910	$0	$95,053
1 Year Pre	51	$1,486,788	$29,153	$29,818	$0	$91,780
1 Year Post	51	$1,555,450	$30,499	$28,200	$0	$91,572
2 Year Post	46	$1,705,190	$37,069	$30,078	$0	$98,929
3 Year Post	40	$1,414,290	$35,357	$29,979	$0	$95,200
4 Year Post	■	$846,048	$38,457	$33,491	$0	$94,711

Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year).Only included if participated for one full year pre and post CIHS.

The greatest decrease in costs (from pre to post SCI Waiver) was seen skilled home health care services (such as occupational or physical therapy care or evaluations). These may be being replaced by lower-cost CIH services.

Table 23: Average Skilled Home Health Services Costs by Year

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre	56	$938,164	$16,753	$38,003	$0	$189,683
1 Year Pre	85	$1,517,203	$17,849	$41,927	$0	$265,220
1 Year Post	63	$1,662,296	$26,386	$51,340	$0	$281,899
2 Year Post	56	$1,205,027	$21,518	$44,846	$0	$233,377
3 Year Post	48	$715,133	$14,899	$38,951	$0	$236,849
4 Year Post		$230,009	$10,455	$20,418	$0	$69,033

Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year). The time frame for each year varies by participant.

Table 24: Skilled Home Health Services Costs by Year (with at least one full year pre and post CIHS)

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre		$799,768	$26,659	$48,428	$0	$189,683
1 Year Pre	51	$1,327,240	$26,024	$51,215	$0	$265,220
1 Year Post	51	$1,391,345	$27,281	$53,797	$0	$281,899
2 Year Post	46	$960,422	$20,879	$45,159	$0	$233,377
3 Year Post	40	$624,236	$15,606	$41,816	$0	$236,849
4 Year Post		$230,009	$10,455	$20,418	$0	$69,033

Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year).Only included if participated for one full year pre and post CIHS.

It is hypothesized that better pain management through CIHS will lead to a reduced need for pharmaceuticals to manage pain and depression. Early data shows some support for this hypothesis.

Table 25: Pharmacy Costs by Year

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre	56	$115,485	$2,062	$4,134	$0	$18,927
1 Year Pre	85	$171,117	$2,013	$8,160	$0	$72,457
1 Year Post	63	$120,654	$1,915	$3,710	$0	$15,092
2 Year Post	56	$69,624	$1,243	$2,928	$0	$14,905
3 Year Post	48	$61,435	$1,280	$2,906	$0	$13,477
4 Year Post	[illegible]	$5,859	$266	$704	$0	$3,160

Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year). The time frame for each year varies by participant.

Table 26: Pharmacy Costs by Year (with at least one full year pre and post CIHS)

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre	[illegible]	$77,815	$2,594	$4,325	$0	$17,818
1 Year Pre	51	$84,700	$1,661	$3,209	$0	$14,678
1 Year Post	51	$103,827	$2,036	$3,914	$0	$15,092
2 Year Post	46	$62,763	$1,364	$3,158	$0	$14,905
3 Year Post	40	$53,729	$1,343	$3,095	$0	$13,477
4 Year Post	[illegible]	$5,859	$266	$704	$0	$3,160

Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year).Only included if participated for one full year pre and post CIHS.

Health maintenance requires regular visits to primary physicians and this is not expected to change due to the introduction of CIHS. Data shows a variable, but generally low average cost for practitioner services before and after starting to receive CIH services.

Table 27: Practitioner Services Costs by Year

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre	56	$111,024	$1,983	$2,845	$0	$12,650
1 Year Pre	85	$252,068	$2,966	$6,596	$0	$40,499
1 Year Post	63	$92,339	$1,466	$2,489	$0	$14,226
2 Year Post	56	$108,121	$1,931	$4,386	$0	$26,260
3 Year Post	48	$116,821	$2,434	$6,028	$0	$37,068
4 Year Post	[illegible]	$28,634	$1,302	$1,286	$0	$4,973

Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year). The time frame for each year varies by participant.

Table 28: Practitioner Services by Year (with at least one full year pre and post CIHS)

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre	[illegible]	$43,110	$1,437	$2,466	$0	$12,650
1 Year Pre	51	$115,507	$2,265	$6,086	$0	$38,050
1 Year Post	51	$63,170	$1,239	$1,775	$0	$8,431
2 Year Post	46	$80,100	$1,741	$4,007	$0	$26,260
3 Year Post	40	$89,255	$2,231	$5,827	$0	$37,068
4 Year Post	[illegible]	$28,634	$1,302	$1,286	$0	$4,973

Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year).Only included if participated for one full year pre and post CIHS.

Many of the inpatient services received by SCI waiver participants were related to urinary and intestinal issues. These are areas that CIHS are hypothesized to improve, which may lead to reductions in needs for inpatient services. Preliminary data suggest a drop in these costs.

Table 29: Inpatient Services Costs by Year

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre	56	$233,567	$4,171	$15,780	$0	$107,846
1 Year Pre	85	$735,541	$8,653	$32,155	$0	$207,883
1 Year Post	63	$121,509	$1,929	$6,622	$0	$34,334
2 Year Post	56	$29,064	$519	$1,799	$0	$8,850
3 Year Post	48	$107,983	$2,250	$12,820	$0	$87,467
4 Year Post		$2,889	$131	$616	$0	$2,889

Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year). The time frame for each year varies by participant.

Table 30: Inpatient Services by Year (with at least one full year pre and post CIHS)

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre		$149,871	$4,996	$19,923	$0	$107,846
1 Year Pre	51	$510,006	$10,000	$36,892	$0	$207,883
1 Year Post	51	$93,888	$1,841	$6,447	$0	$34,334
2 Year Post	46	$29,064	$632	$1,971	$0	$8,850
3 Year Post	40	$107,983	$2,700	$14,030	$0	$87,467
4 Year Post		$2,889	$131	$616	$0	$2,889

Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year).Only included if participated for one full year pre and post CIHS.

Outpatient services such as imaging, lab work, emergency room visits and physical or occupational therapy are services that may see a reduction in use if access to CIH services leads to improved overall health and fewer illnesses and injuries. Early data suggest these costs are relatively steady.

Table 31: Outpatient Services Costs by Year

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre	56	$70,537	$1,260	$1,739	$0	$6,769
1 Year Pre	85	$102,893	$1,211	$2,398	$0	$15,684
1 Year Post	63	$66,243	$1,051	$1,807	$0	$9,252
2 Year Post	56	$50,662	$905	$1,349	$0	$4,661
3 Year Post	48	$57,177	$1,191	$1,802	$0	$6,675
4 Year Post	[illegible]	$14,753	$671	$856	$0	$2,825

Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year). The time frame for each year varies by participant.

Table 32: Outpatient Services Costs t by Year (with at least one full year pre and post CIHS)

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre	[illegible]	$42,145	$1,405	$2,079	$0	$6,769
1 Year Pre	51	$57,187	$1,121	$1,971	$0	$12,506
1 Year Post	51	$58,737	$1,152	$1,959	$0	$9,252
2 Year Post	46	$42,306	$920	$1,366	$0	$4,661
3 Year Post	40	$49,306	$1,233	$1,873	$0	$6,675
4 Year Post	[illegible]	$14,753	$671	$856	$0	$2,825

Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year).Only included if participated for one full year pre and post CIHS.

While it is hoped that accessing CIHS will reduce the need for emergency medical transportation and nursing facility care, both of these services were rarely used by SCI waiver participants (both before and after joining the SCI waiver). As such they are not expenses that are expected to change significantly.

Table 33: Emergency Transportation Costs by Year

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre	56	$873	$16	$54	$0	$308
1 Year Pre	85	$2,537	$30	$117	$0	$695
1 Year Post	63	$946	$15	$62	$0	$290
2 Year Post	56	$679	$12	$74	$0	$534
3 Year Post	48	$377	$8	$31	$0	$159
4 Year Post		$0	$0	$0	$0	$0

Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year). The time frame for each year varies by participant.

Table 34: Emergency Transportation Costs by Year (with at least one full year pre and post CIHS)

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre		$568	$19	$64	$0	$308
1 Year Pre	51	$718	$14	$69	$0	$459
1 Year Post	51	$678	$13	$58	$0	$290
2 Year Post	46	$534	$12	$79	$0	$534
3 Year Post	40	$377	$9	$34	$0	$159
4 Year Post		$0	$0	$0	$0	$0

Data source: Medicaid claims billing database.
Only included if participated for one full year pre and post CIHS.

Table 35: Nursing Facilities Costs by Year

Adjusted for Cost Inflation	Number	Sum	Mean	Standard Deviation	Minimum	Maximum
2 Years Pre	56	$13,564	$242	$1,813	$0	$13,564
1 Year Pre	85	$9,765	$115	$1,059	$0	$9,765
1 Year Post	63	$0	$0	$0	$0	$0
2 Year Post	56	$39,721	$709	$5,308	$0	$39,721
3 Year Post	48	$111,932	$2,332	$16,156	$0	$111,932
4 Year Post		$4,824	$219	$1,029	$0	$4,824

Data source: Medicaid claims billing database. Costs are in real 2017/18 dollars adjusted for inflation. Data is not included if the participant had only a partial year of services in the service year (i.e., was on the EBD or SCI waiver for fewer than 12 months in that year). The time frame for each year varies by participant.

Quality of Life Measurements

Treatment Session Self-Assessment

At the outset of each treatment session, for all three CIHS (acupuncture, chiropractic care and massage therapy), participants are asked three questions:

(1) How are you feeling, today on the following scale?
(2) How does this compare to your last visit?
(3) What is your area of primary concern today?

These questions were asked starting in July 2017, and as such, most participants do not have a full year of data for comparison. In future years the average ratings for all assessments within a year will be compared by year and patterns will be explored.

Table 36 shows the results from the first question. On average most respondents rated their pain issues at 4.2, where 0= no pain/issues and 10=worst pain/issues.

Table 36: Status at Treatment Session

	Acupuncture	Chiropractic	Massage	All
No pain/issues (0)	7%	6%	7%	7%
None/ mild (1)	7%	5%	3%	4%
Mild (2)	17%	15%	11%	14%
Mild/ moderate (3)	15%	20%	18%	17%
Moderate (4)	16%	16%	18%	17%
Moderate/ severe (5)	12%	14%	14%	13%
Severe (6)	8%	9%	11%	10%
Severe/ very severe (7)	7%	8%	9%	8%
Very severe (8)	6%	4%	6%	5%
Very severe/ worst (9)	3%	1%	2%	2%
Worst pain/issues (10)	2%	1%	2%	2%
Number of sessions	**1,864**	**974**	**2,610**	**5,448**
Average score	**4.0**	**3.9**	**4.4**	**4.2**

Source: On-Going Assessment Forms, Q1: How are you feeling, today on the following scale? 0= No pain/issues, 1=None/ mild, 2=Mild, 3=Mild/ moderate, 4=Moderate, 5=Moderate/ severe, 6=Severe, 7=Severe/ very severe, 8=Very severe, 9=Very severe/ worst, 10=Worst pain/issues.

Table 37 shows changes in ratings from the first the most recent session. As these ratings are made just before a session, it is not clear that a reduction in this rating should be seen across sessions; it may be that the session is beneficial, but that the benefits fade in the time between sessions and the rating before each assessment is similar. Looking at the change from first to most recent session, some patients gave higher ratings of pain before their most recent session than had before their first session, some gave similar ratings and some had lower ratings of pain before their most recent session than had before their first session. While fluctuations in ratings across sessions are expected, overall, slightly more had improvements in ratings than saw ratings of pain worsen.

Table 37: Change in Status Score from Participant's First to Most Recent Treatment Session

	Acupuncture		Chiropractic		Massage	
Worse	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Same	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Improved	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	N=69	100%	N=50	100%	N=82	100%

Source: On-Going Assessment Forms, Q1 How are you feeling, today on the following scale?
Average rating where 0= No pain/issues, 1=None/ mild, 2=Mild, 3=Mild/ moderate, 4=Moderate, 5=Moderate/ severe, 6=Severe, 7=Severe/ very severe, 8=Very severe, 9=Very severe/ worst, 10=Worst pain/issues

The second question is a self-assessment of whether patients feel better or worse at the current session compared to the last session. Most indicated that they felt the same (42%) or better (38%). This was similar across modalities.

Table 38: Change from Last Treatment Session

	Acupuncture	Chiropractic	Massage	All
Much better	[illegible]	[illegible]	[illegible]	[illegible]%
Somewhat better	[illegible]	[illegible]	[illegible]	28%
Same	50%	[illegible]	44%	42%
Somewhat worse	[illegible]	[illegible]	[illegible]	[illegible]
Much worse	[illegible]	[illegible]	[illegible]	[illegible]
Number of people	**N=70**	**N=53**	**N=84**	**N=207**
Average score	**2.7**	**2.5**	**2.9**	**2.8**

Source: On-Going Assessment Forms, Q2: How does this compare to your last visit?
Average score where 1=Much better, 2=Somewhat better, 3=Same, 4=Somewhat worse, 5=Much worse

Clients were asked to tell their CIHS provider what primary concerns they wanted to address in the session. Table 39 outlines the frequency that each area of concern was mentioned across all sessions.

While issues with the neck/shoulder area, pain and upper body issues (back or trunk) were the most frequently addressed by all modalities, massage therapy was more often addressing neck/shoulder issues, chiropractic was most often focused on relieving pain in the upper body and those seeking treatment for sleep and depression issues were most often addressing these with acupuncture.

Table 39: Change from Last Treatment Session (Rating from Most Recent Session)

	Acupuncture	Chiropractic	Massage	All
Neck/shoulder	23%	35%	39%	33%
Pain (ache, soreness)	33%	53%	24%	32%
Upper body (back, spine, trunk, trapezius, core, glutes, chest)	25%	31%	30%	29%
Leg (knee, calve, hamstring, IT band)	10%	10%	16%	13%
Central body (hip, buttocks, sacrum, pelvis)	10%	7%	13%	11%
Arm (arms, triceps, biceps, hands, finger)	7%	8%	12%	10%
Spasms	11%	2%	3%	6%
Ankle/feet	2%	5%	7%	5%
Muscle (tightness, stiffness)	5%	2%	3%	3%
Mental health (depression, sadness, anxiety, emotion, mood, stress)	8%	0%	1%	3%
GI (digestion, constipation, stomach, bloating, bowel)	7%	1%	1%	3%
Nothing	3%	3%	3%	3%
Sleep (energy, fatigue, tired, exhausted)	7%	1%	1%	3%
Head (headache, cold, sinus, migraine)	4%	2%	2%	2%
UTI (bladder)	4%	1%	1%	2%
Reproductive (cervical, prostrate)	1%	0%	1%	1%
Weight	1%	1%	0%	1%
Other	4%	3%	2%	3%

Source: On-Going Assessment Forms, Q3 What is your area of primary concern today?
Note: could mention more than one concern.

Self-Administered Health Issue Assessment

At the initial treatment session and every March and September, participants are asked to complete the Form 2 Self-Administered Health Assessment. Those in the current study could have completed it up to five times (at outset, September 2016, March and September 2017and March 2018), but may have completed fewer iterations depending on when they started CIH services. The iterations shown in the tables below are based on the each individual's CIHS start date.

Table 40 shows the average ratings for participants' first through fourth completion of Form 2. As fewer than 20 had completed five iterations, only four iterations are shown in the tables of results. On average, the most severe issues experienced by participants were muscle spasms and overall, muscle and nerve pain. Average ratings for pain were similar to national averages shown in Table 41.

Table 40: Self-Administered Health Issue Assessment by Iteration

	Iteration							
	1		2		3		4	
Overall pain	N=92	4.2	N=67	3.8	N=51	4.2	N=█	4.6
Muscle pain	N=83	4.1	N=76	3.5	N=56	3.7	N=40	3.7
Muscle spasms	N=92	4.1	N=75	4.2	N=56	3.8	N=39	3.9
Nerve pain	N=90	3.5	N=75	3.5	N=56	4.1	N=40	4.0
Muscle wasting or atrophy	N=90	3.3	N=76	3.2	N=56	2.9	N=40	2.6
Joint problems	N=91	2.9	N=75	2.7	N=56	2.9	N=39	2.4
Urinary tract complications (UTI)	N=91	2.4	N=75	1.8	N=56	2.5	N=40	1.5
Sadness, disinterest, depression	N=91	2.2	N=76	2.2	N=56	1.8	N=40	1.2
Bowel dysfunction	N=92	1.9	N=76	2.0	N=56	1.7	N=40	1.4
Blood pressure issues	N=91	1.5	N=75	1.1	N=56	1.5	N=39	0.8
Pressure sores or skin breakdown	N=92	1.0	N=76	1.3	N=56	1.3	N=40	0.8
Pneumonia or other respiratory problems	N=92	0.9	N=76	0.3	N=56	0.5	N=39	0.4

Source: Form 2 Self-Administered Health Assessment. Average rating where 0=not at all, 1=not at all/mild, 2=mild, 3=mild/moderate, 4=moderate, 5=moderate/severe, 6=severe, 7=severe/very severe, 8=very severe, 9=very severe/worst and 10=worst. Timing of iterations varies by start date for SCI services. SCI waiver members are intended to complete Form 2 when they start services and every March and September following.

Table 41: National Severity of Average Pain Scores by Post Injury Year

Post-Injury year	**1** (N=8387)	**5** (N=5654)	**10** (N=4264)	**15** (N=3238)	**20** (N=3009)	**25** (N=2879)	**30** (N=2429)	**35** (N=1323)	**40** (N=377)
Past 4 weeks' usual level of pain	4.2	4.4	4.5	4.4	4.3	4.2	4.3	4.2	4.2

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2017 Annual Statistical Report – Complete Public Version (Table 107). Includes all Form IIs entered into the database since March 1, 2001.

Table 42 shows the change in the rating from the first to the most recent evaluation for those participants who completed at least two iterations of Form 2 (and had ratings for the item on both iterations). The average ratings from the first and most recent evaluations were not statistically different, but generally more clients showed decreases in the intensity of symptoms (improved) than had decreases in the intensity of symptoms (felt worse).

Table 42: Changes in Self-Administered Health Issues from First to Most Recent Assessment

		Average score (SD)		Change in score (percent of participants)		
	Number	**Initial**	**Last**	**Improved**	**Same**	**Worse**
Overall pain	N=77	4.2 (1.9)	3.8 (2.4)	57%	█	█
Muscle pain	N=73	3.9 (2.3)	3.4 (2.3)	58%	█	█
Muscle spasms	N=80	3.8 (2.7)	3.8 (2.4)	█	█	█
Nerve pain	N=79	3.5 (2.3)	3.3 (2.5)	51%	█	█
Muscle wasting or atrophy	N=80	3.2 (2.6)	2.9 (2.6)	█	█	█
Joint problems	N=83	2.8 (2.5)	2.5 (2.7)	43%	█	█
Urinary tract complications (UTI)	N=81	2.2 (2.6)	1.6 (2.3)	█%	46%	█%
Sadness, disinterest, depression	N=83	2.1 (2.2)	2.0 (2.1)	█	█	█
Bowel dysfunction	N=82	1.9 (2.4)	1.6 (2.2)	█%	48%	█%
Blood pressure issues	N=83	1.5 (2.2)	1.2 (1.8)	█%	48%	█%
Pressure sores or skin breakdown	N=83	1.0 (1.8)	1.1 (2.0)	█%	54%	█%
Pneumonia or other respiratory problems	N=81	0.5 (1.3)	0.6 (1.5)	█%	71%	█%

Average rating where 0=not at all, 1=not at all/mild, 2=mild, 3=mild/moderate, 4=moderate, 5=moderate/severe, 6=severe, 7=severe/very severe, 8=very severe, 9=very severe/worst and 10=worst.

Timing of iterations varies by start date for SCI services. SCI waiver members are intended to complete Form 2 when they start services and every March and September following.

Comparison between those participants who completed Form 2 at the initial visit and at least once more, difference is between initial assessment and most recent assessment.

Source: Form 2 Self-Administered Health Assessment.

WHOQUAL-Bref Assessment

At the initial treatment session and every March and September, participants are asked to complete the Form 3: WHOQOL-BREF Assessment. Those in the current study could have completed it up to five times (at outset, September 2016, March and September 2017and March 2018), but may have completed fewer iterations depending on their start date. The iterations shown in the following tables are based on the each individual's CIHS start date.

The World Health Organization Quality of Life –BREF instrument (WHOQOL-BREF, Form 3) is a 26-item measure that asks individuals to self-report their quality of life in four primary domains: (1) physical capacity, (2) psychological well-being, (3) social relationships and (4) environment. Multiple studies have confirmed the cross-cultural reliability and validity of the WHOQOL with SCI patient populations of diverse backgrounds[1,2] In addition to its strong psychometric properties, the WHOQOL-BREF has the advantage of being easy to score and requiring minimal time and effort for both patient and physician. The instrument places measures patients' own perception of their quality of life within the past two weeks, allowing researchers to assess changes in patients' recovery experiences over time.

The average WHOQOL-BREF domain scores calculated from assessments made at the initial visit and subsequent iterations are shown in Table 43. Participants had the highest average scores for their environment and the lowest average score physical health and social relationships.

Ratings did not differ statistically by iteration.

Table 43: WHOQOL-BREF Average Scores by Iteration

	Iteration							
	1		2		3		4	
Environment	N=90	69	N=75	70	N=56	70	N=38	72
Psychological	N=89	63	N=74	64	N=55	64	N=39	69
Physical health	N=88	54	N=74	56	N=56	57	N=39	59
Social relationships	N=86	54	N=75	56	N=56	59	N=38	60

Average score where 100=best and 0=worst.
Timing of iterations varies by start date for SCI services. SCI waiver members are intended to complete Form 3 (WHOQOL-BREF) when they start services and every March and September following.
Physical health includes activities of daily living, dependence on medicinal substances and medical aids, energy and fatigue, mobility, pain and discomfort, sleep and rest and work capacity.
Psychological includes bodily image and appearance, negative feelings, positive feelings, self-esteem, spirituality/religion/personal beliefs, thinking, learning, memory and concentration.
Social relationships include personal relationships, social support and sexual activity.
Environment includes financial resources, freedom, physical safety and security, health and social care, accessibility and quality, home environment, opportunities for acquiring new information and skills, participation in and opportunities for recreation/leisure activities, physical environment (pollution/noise/traffic /climate) and transportation.
Data source: Form 3 Self-Administered Quality of Life Assessment (WHOQOL-BREF).

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[1] *Hu Y, Mak JN, Wong YW, Leong JC, & Luk, KD (2008). Quality of life of traumatic spinal cord injured patients in Hong Kong.*

[2] *Jang Y, Hsieh CL, Wang YH, Wu YH (2004). A validity study of the WHOQOL-BREF assessment in persons with traumatic spinal cord injury.*

Table 44 shows the change in the WHOQOL-BREF domain scores from the initial assessment and the most recent assessment. For those who completed the initial and at least one follow-up WHOQOL-BREF assessment, average ratings were similar in both iterations for all four domains. Compared to population benchmarks for the USA general population (see Table 45) evaluation participants had higher scores on average for environmental factors, similar for psychological and lower scores on average for social relationships and physical health. For three of the four categories, more clients showed improvement from the first to last iteration than saw scores worsen.

Table 44: Changes in WHOQOL-BREF Average Scores Initial Compared to Most Recent Assessment

		Average score (SD)[2]		Change in score (percent of participants)		
	Number	Initial	Last	Better/ more satisfied	Same	Worse/ less satisfied
Environment	N=82	69	71	44%		
Psychological	N=81	63	62			
Social relationships	N=78	56	57	48%		
Physical health	N=80	54	57			

Average score where 100=best and 0=worst. Timing of iterations varies by start date for SCI services. SCI waiver members are intended to complete Form 3 (WHOQOL-BREF) when they start services and every March and September following.
Comparison between those participants who completed Form 3 at the initial visit and at least once more, difference is between initial assessment and most recent assessment.
Physical health includes activities of daily living, dependence on medicinal substances and medical aids, energy and fatigue, mobility, pain and discomfort, sleep and rest and work capacity.
Psychological includes bodily image and appearance, negative feelings, positive feelings, self-esteem, spirituality/religion/personal beliefs, thinking, learning, memory and concentration.
Social relationships include personal relationships, social support and sexual activity.
Environment includes financial resources, freedom, physical safety and security, health and social care, accessibility and quality, home environment, opportunities for acquiring new information and skills, participation in and opportunities for recreation/leisure activities, physical environment (pollution/noise/traffic /climate) and transportation.
Data source: Form 3 Self-Administered Quality of Life Assessment (WHOQOL-BREF).

Table 45: Comparative WHOQOL-BREF Domain Scores

			Dutch Rehabilitation Patients[3]			UK Patients by Condition[4]	
Mean (SD)	USA General Population[1]	Brazil SCI (N=47)[2]	Musculo-skeletal (N=280)	Chronic pain (N=174)	Neurological (N=59)	Musculo-skeletal (N=493)	Neurological (N=45)
Environment	59	55	73 (11)	70 (12)	70 (11)	60 (17)	68 (16)
Psychological	69	64	70 (12)	66 (12)	69 (13)	55 (18)	57 (18)
Social relationships	66	69	77 (16)	71 (17)	73 (19)	62 (23)	63 (21)
Physical health	78	59	57 (13)	51 (13)	53 (15)	40 (20)	55 (20)

1 S.M. Skevington, M. Lotfy & K.A. O'Connell. The World Health Organization's WHOQOL-BREF quality of life assessment: Psychometric properties and results of the international field trial A Report from the WHOQOL Group, WHO Centre for the Study of Quality of Life, Department of Psychology, University of Bath, Bath, UK. Average score was converted from a 20-point scale to a 100-point scale for comparability.
2 e Franca, I. S., Coura, A. S., de Franca, E. G., Basilio, N. N., & Souto, R. Q. (2011). Quality of life of adults with spinal cord injury: A study using the WHOQOL-bref. Revista da Escola de Enfermagem da USP, 45 (6), 1364–1371.
3 Ernst Schrier, Irene Schrier, Jan H. B. Geertzen, and Pieter U. Dijkstra. Quality of life in rehabilitation outpatients: normal values and a comparison with the general Dutch population and psychiatric patients. Average score was converted from a 20-point scale to a 100-point scale for comparability.

4 Skevington, S. M., & McCrate, F. M. (2012). Expecting a good quality of life in health: Assessing people with diverse diseases and conditions using the WHOQOL-BREF. Health Expectations, 15(1), 49–62.

Functional Status Measurements

At their initial CIHS treatment appointment and every March thereafter, evaluation participants should complete the Craig Handicap Assessment and Reporting Technique (CHART, Form 4)[3] to assess their day-to-day functionality. The CHART is a 27-item self-report measure designed to assess six dimensions of disability identified by the World Health Organization: (1) physical independence, (2) cognitive independence, (3) mobility, (4) occupation, (5) social integration and (6) economic self-sufficiency. Because the CHART asks respondents to quantify specific behaviors (e.g., "On a typical day, how many hours are you out of bed?"), it is able to index disability more objectively than similar inventories that tap into respondent attitudes or beliefs about their disability.

At the time of the initial visit, participants' highest average scores were for social integration, cognitive independence and mobility and the lowest average scores were for occupation and economic self-sufficiency.

CHART Functional Assessment

Table 46: CHART Average Domain Scores by Iteration

	Iteration					
	1		2		3	
Social integration	N=81	80	N=67	80		76
Cognitive independence	N=87	75	N=67	77		73
Mobility	N=92	75	N=72	74		78
Physical independence	N=91	65	N=72	63		68
Economic self sufficiency	N=73	43	N=59	39		50
Occupation	N=92	37	N=72	44		52

Average score where 100=best and 0=worst.
Timing of iterations varies by start date for SCI services. SCI waiver members are intended to complete Form 4 (CHART) when they start services and every March following.
Data source: Form 4 Self-Administered Functional Assessment (CHART).

[3] *Whiteneck GG, Charlifue SW, Gerhart KA, Overhosler JD, Richardson GN (1992). Quantifying handicap: A new measure of long-term rehabilitation outcomes.*

Comparing ratings for those who completed at least two assessments, the initial and most recent scores were statistically similar, but for the most part more people saw their scores improve than saw them worsen. Compared to the National CHART Domain Scores, social integration and mobility were similar to the national benchmark, but physical independence and occupation had lower scores.

Table 47: CHART Average Domain Scores Initial Compared to Last Assessment

CHART Domain	Number	Average score (SD)		Change in score (percent of participants)		
		Initial	Last	Improved	Same	Worse
Social integration	N=68	79	77			
Cognitive independence	N=73	75	77			
Mobility	N=77	74	77			
Physical independence	N=76	67	68			
Economic self sufficiency	N=61	41 (36)	44 (37)			
Occupation	N=77	38	49	62%		

Average score where 100=best and 0=worst.
Timing of iterations varies by start date for SCI services. SCI waiver members are intended to complete Form 4 (CHART) when they start services and every March following.
Comparison between those participants who completed Form 4 at the initial visit and at least once more, difference is between initial assessment and most recent assessment.
Data source: Form 4 Self-Administered Functional Assessment (CHART).

Table 48: National CHART Domain Scores for Persons with SCI by Post-Injury Year

Average score (number)	1	5	10	15	20	25	30	35	40
Social integration	86.5 (10,243)	86.1 (6,917)	86.1 (5,136)	87.1 (4,241)	86.8 (3,729)	87.2 (3,012)	86.0 (2,398)	86.5 (1,315)	85.1 (375)
Cognitive independence	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mobility	73.5 (10,435)	77.2 (7,041)	78.0 (5,173)	78.9 (4,280)	78.8 (3,767)	78.8 (3,046)	76.2 (2,429)	76.3 (1,324)	75.6 (374)
Physical independence	71.5 (10,504)	76.8 (7,078)	78.5 (5,200)	80.7 (4,294)	83.2 (3,780)	83.3 (3,056)	84.1 (2,434)	87.0 (1,329)	87.9 (378)
Economic self-sufficiency	NA	NA	NA	NA	NA	NA	NA	NA	NA
Occupation	49.2 (10,314)	58.3 (6,978)	59.7 (5,147)	62.3 (4,243)	63.7 (3,739)	65.6 (3,029)	63.2 (2,407)	60.8 (1,316)	58.5 (378

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2017 Annual Statistical Report – Complete Public Version (Tables 100 to 103). Includes all Form IIs entered into the database since January, 1996.

Long Term Care Assessment

Functional status under the HCBS SCI and EBD waivers is measured using the Uniform Long Term Care (ULTC) 100.2 Assessment. This form is filled out by a Medicaid Case Manager annually and, in the rarer instance, within six months of a significant change in functional abilities that warrant a reassessment or change to scoring. As such, there may be more than one functional assessment completed in a given year. For comparison purposes, we report the scores for the last functional assessment completed in the given year, assuming this is most representative of how that year's services have influenced the participant's functionality.

On average participants were most independent in the areas of memory (the age appropriate ability to acquire and use information, reason, problem solve, complete tasks or communicate needs in order to care for oneself safely) and behavior (the ability to engage in safe actions and interactions and refrain from unsafe actions and interactions). They were most dependent in the areas of transferring, bathing, dressing, toileting and mobility. A detailed description of each assessment category can be found in *Appendix B: ULTC 100.2 Long Term Care Assessment Protocol.*

Compared to EBD Waiver members who qualify for the SCI Waiver (see Table 50), SCI waiver members (Table 49) had higher scores for memory and behavior but lower scores in the areas of bathing, dressing, toileting, mobility, transferring and eating. Those who sign up may be better able to advocate for themselves, but likely have more severe injuries than the average person who qualifies for the SCI waiver but has not signed up.

Table 49: Long Term Care Assessment Scores by Year (SCI Waiver Members)

	Year relative to the start date of SCI Waiver													
	2 Years Pre		1 Year Pre		1 Year Post		2 Years Post		3 Years Post		4 Years Post		5 Years Post	
	N	Sc	N	Sc	N	Sc	N	Sc	N	Sc	N	Sc	N	Sc
Bathing	89	30	111	32	100	33	66	30	57	34	47	31	38	30
Dressing	89	30	111	35	100	34	66	37	57	38	47	36	38	37
Toileting	89	31	111	34	100	36	66	35	57	33	47	35	38	35
Mobility	89	29	111	30	100	31	66	32	57	32	47	33	38	32
Transferring	89	17	111	20	100	21	66	20	57	20	47	20	38	18
Eating	89	57	111	58	100	60	66	62	57	61	47	59	38	60
Behaviors	89	89	111	86	100	86	66	88	57	86	47	89	38	88
Memory/ Cognition Deficit	89	93	111	92	100	92	66	92	57	92	47	90	38	88

Average rating where 100=independent, 66.7=mostly independent, 33.3=mostly dependent and 0=dependent.
See Appendix B: ULTC 100.2 Long Term Care Assessment Protocol for further details on how independence is rated for each activity of daily living (ADL).
N=Number of participants
Sc=Score
Data source: ULTC 100.2 Long Term Care Assessment.

Table 50: Long Term Care Assessment Scores by Year (EBD Waiver Members*)

	Year 1		Year 2		Year 3		Year 4		Year 5	
	N	Sc	N	Sc	N	Sc	N	Sc	N	Sc
Bathing	979	41	810	40	693	39	582	39	458	38
Dressing	979	49	810	48	693	47	582	46	458	45
Toileting	979	56	810	54	693	52	582	51	458	49
Mobility	979	35	810	33	693	33	582	33	458	33
Transferring	979	35	810	33	693	33	582	31	458	30
Eating	979	71	810	70	693	70	582	69	458	67
Behaviors	979	81	810	81	693	81	582	80	458	82
Memory/ Cognition Deficit	979	78	810	77	693	76	582	77	458	76

** EBD Waiver members who qualify for the SCI Waiver.*
Average rating where 100=independent, 66.7=mostly independent, 33.3=mostly dependent and 0=dependent.
See Appendix B: ULTC 100.2 Long Term Care Assessment Protocol for further details on how independence is rated for each activity of daily living (ADL).
N=Number of participants
Sc=Score
Data source: ULTC 100.2 Long Term Care Assessment.

Program Stakeholder Annual Feedback

Each year in April/May, SCI waiver members who are participating who are receiving CIHS, CIHS providers and SCI waiver case managers and supervisors are asked to complete a survey that asks about their overall experience with the SCI waiver. These surveys gather input on how the process is working and also ask stakeholders for their impressions of the effectiveness of the waiver. An overview of the results for the 2018 survey is presented in this section. Detailed results from the annual feedback surveys are provided in *Appendix A: Participant, Provider and Case Manager Experience Surveys*. In April/May 2018, ██ SCI waiver members completed the survey, along with 19 Medicaid case managers and case manager supervisors and 11 CIHS providers (chiropractors, acupuncturists, massage therapists and staff tasked with managing the program in the provider office).

4.5.1 Impact of SCI Waiver on Participants

When asked if they would recommend joining the SCI waiver to other people with spinal cord injuries, 100% of respondents to the SCI Waiver participant survey and 95% of respondents to the case manager survey, said they would recommend joining the SCI waiver. The one case manager who would not recommend the waiver did not answer the follow-up question to explain why they would not recommend the waiver.

When asked why they would recommend the waiver almost all participants cited their increased quality of life and reduction in pain.

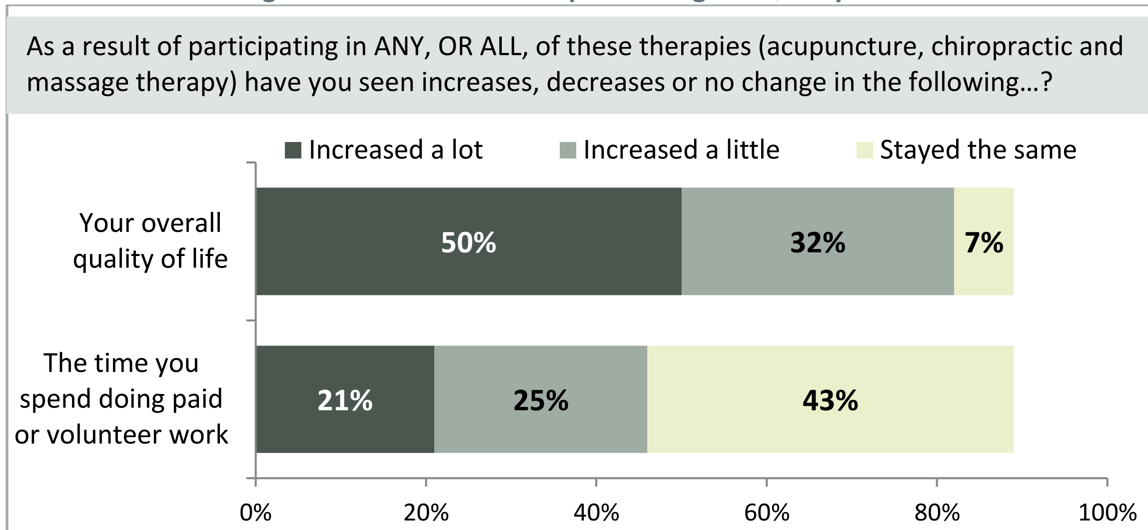
> *"The all-around care and benefits from having the full use of the SCI waver program is so great for your body, gradually increasing your motion with less pain. I truly look forward to each session, the ability to function better helps so much in your mental outlook as well."*
>
> *"My experience with the therapists is that they are very skilled and have helped me a great deal"*
>
> *"Helps cut down pain and stiffness without just using meds."*
>
> *"It has been an incredible blessing in my life and know my quality of life would be decreased without these services."*
>
> *(See Appendix A: Participant, Provider and Case Manager Experience Surveys for all participant comments)*

Case managers and supervisors echoed these comments, as they had heard the same from their clients.

> *"All of my clients that are currently receiving the therapy benefits of SCI treatments report it helping manage their pain and improve their quality of life. I also think the supportive atmosphere of the treatment centers is providing a community that is really life-giving to clients and I want as many of my clients as possible to receive these benefits."*
>
> *"Most of my clients report that attending their SCI therapies is a bright spot in their week. It's something they look forward to and really feel the physical and emotional benefits from the therapies. I truly believe that these modalities are helping my clients reduce their pain levels, muscle spasms, depression and anxiety symptoms and ultimately helping them maintain a higher level of physical and emotional health."*

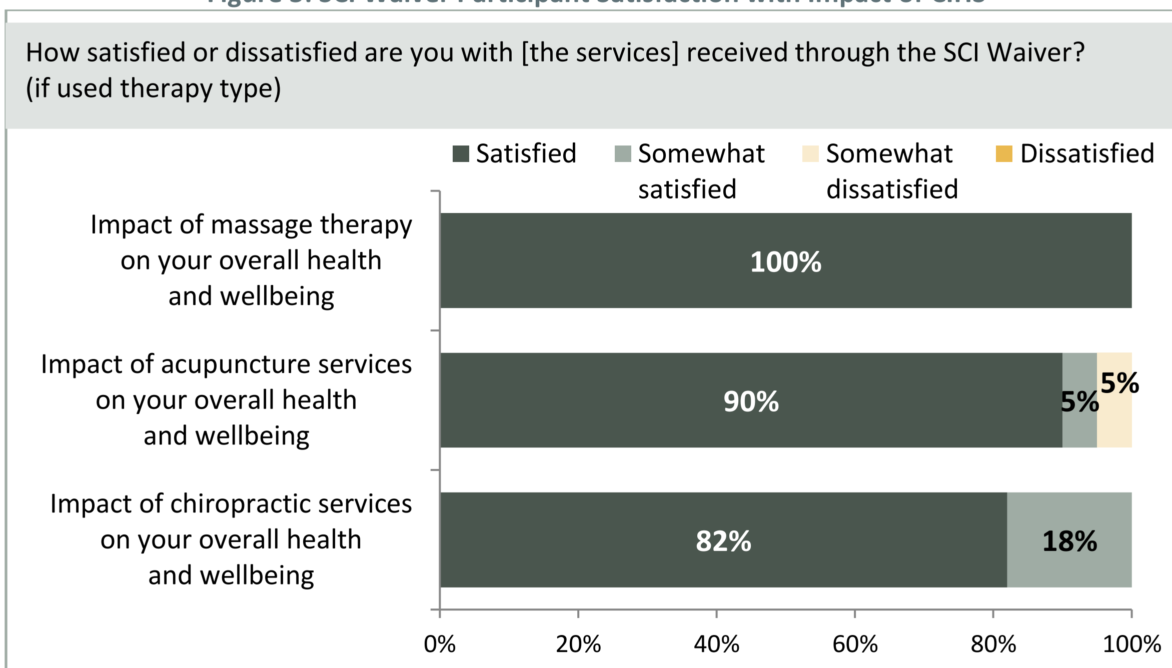
Most SCI waiver participant survey respondents said they thought receiving CIHS had increased their quality of life a lot (50%) or a little (32%). Close to half also said it had resulted in a lot or at least a little increase in the time they spent doing paid or volunteer work (46%).

Figure 2: SCI Waiver Participant Change in Quality of Life



When asked how satisfied they were with the impact of each of the CIHS modalities on their health and wellbeing, a large majority were satisfied with the outcomes and most others were somewhat satisfied. Satisfaction was highest with the outcomes of massage therapy.

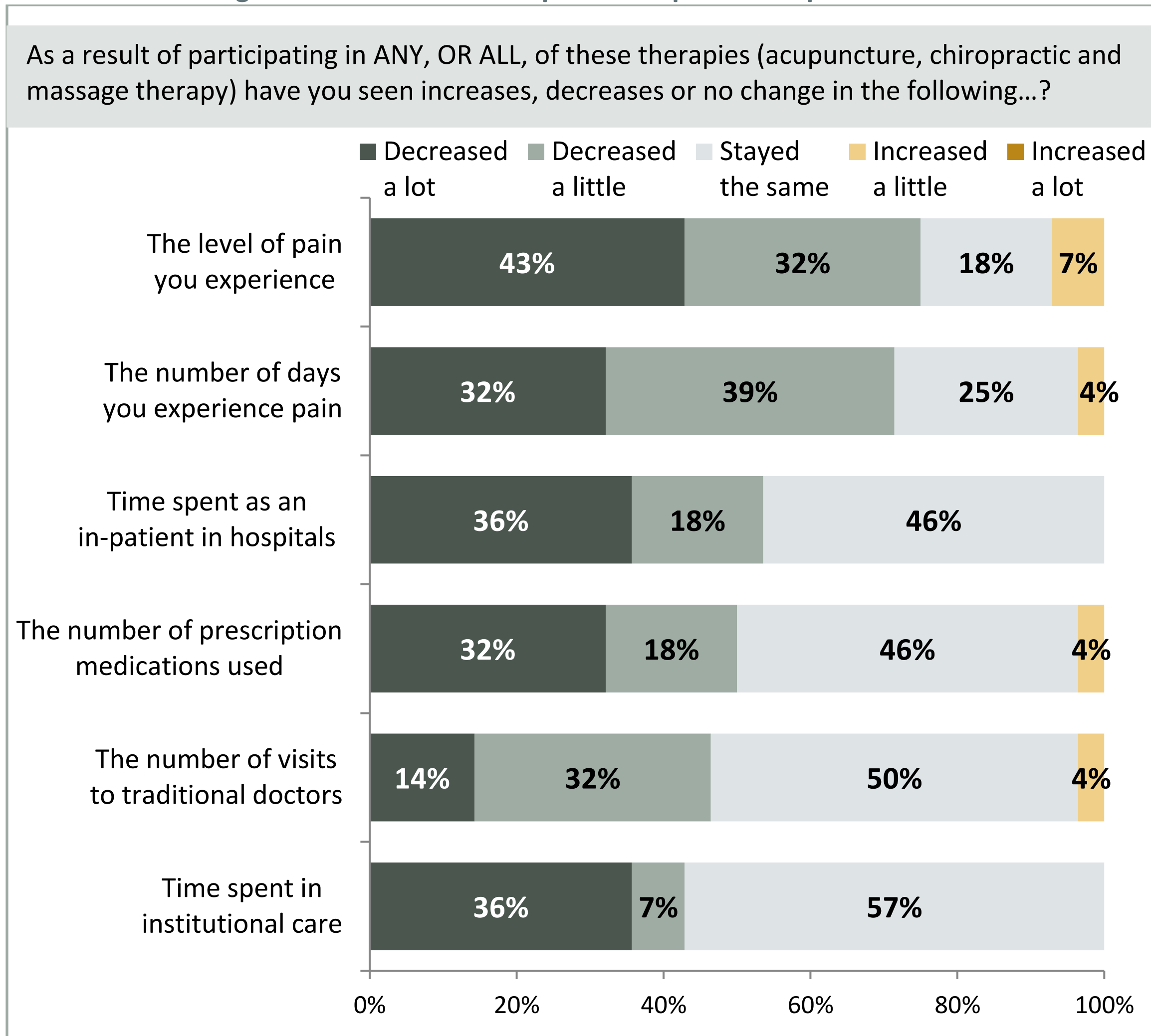
Figure 3: SCI Waiver Participant Satisfaction with Impact of CIHS



The most commonly cited result of receiving CIHS was a decrease in pain; 71% of participant respondents said that they experienced pain on fewer days and 75% said their level of pain had decreased as a result of CIHS.

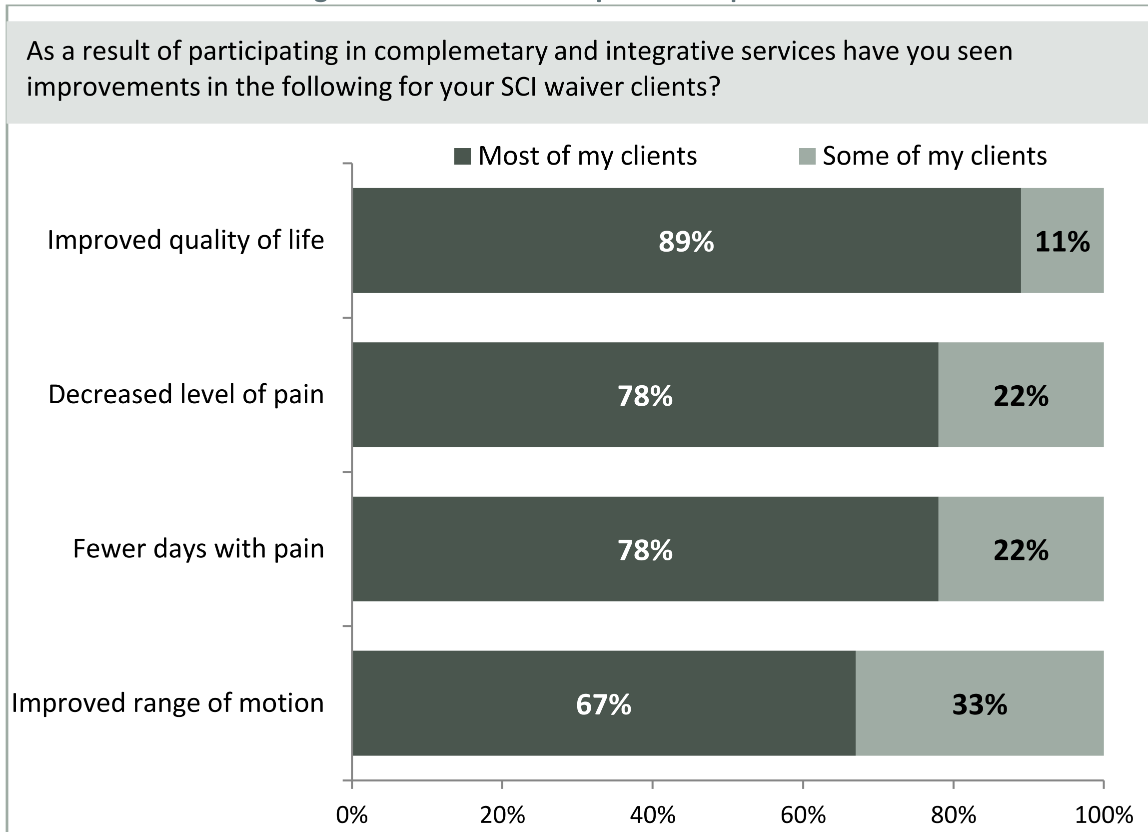
About half (50%) also said they were able to decrease the number of prescription medications that they used and time spent as an in-patient.

Figure 4: SCI Waiver Participant Perception of Impact of CIHS



CIHS providers also perceived an improvement in the quality of life of their SCI waiver clients. One hundred percent of providers said that most, or at least some, of their clients had an improved quality of life, reduced level of pain, improved range of motion and fewer days with pain.

Figure 5: Providers Perception of Impact of CIHS



4.5.2 Satisfaction with CIHS Service Implementation

SCI waiver participants were generally satisfied with the overall quality of the services they received from massage therapists (100% satisfied or somewhat satisfied), acupuncturists (100% satisfied or somewhat satisfied) and chiropractors (89% satisfied or somewhat satisfied). A similar proportion of participants were also satisfied with how safe they felt while getting these services.

Figure 6: SCI Waiver Participant Satisfaction with Overall Quality of Services

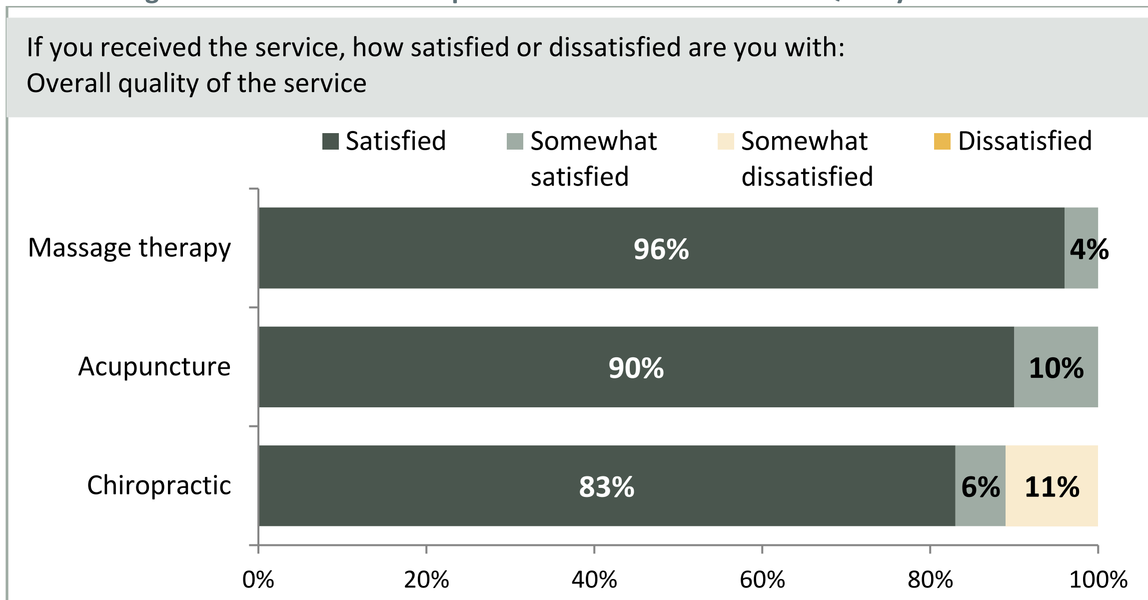
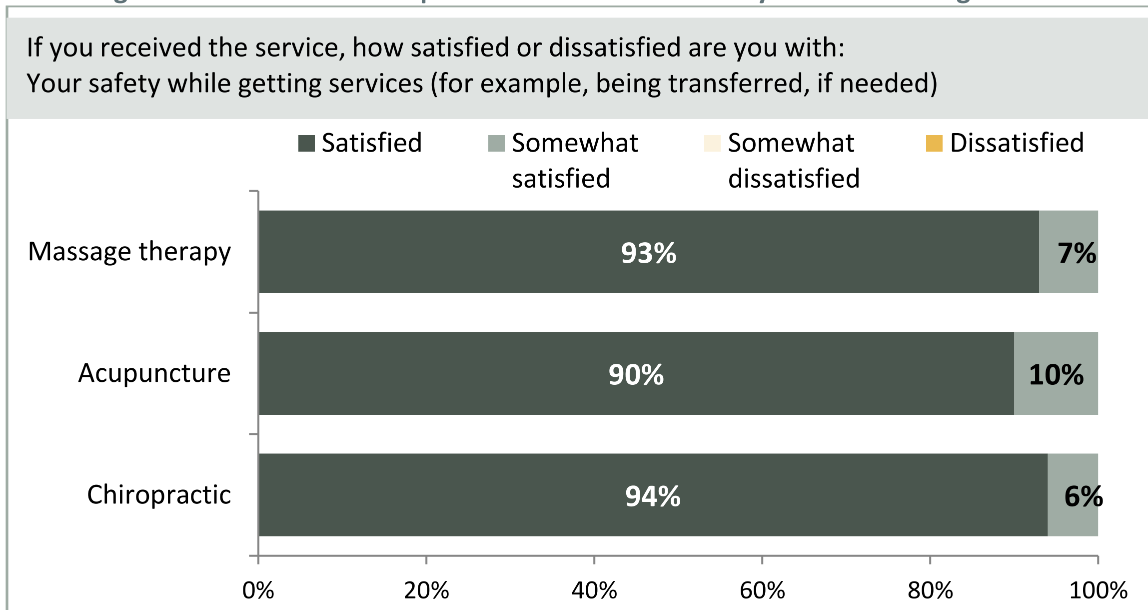
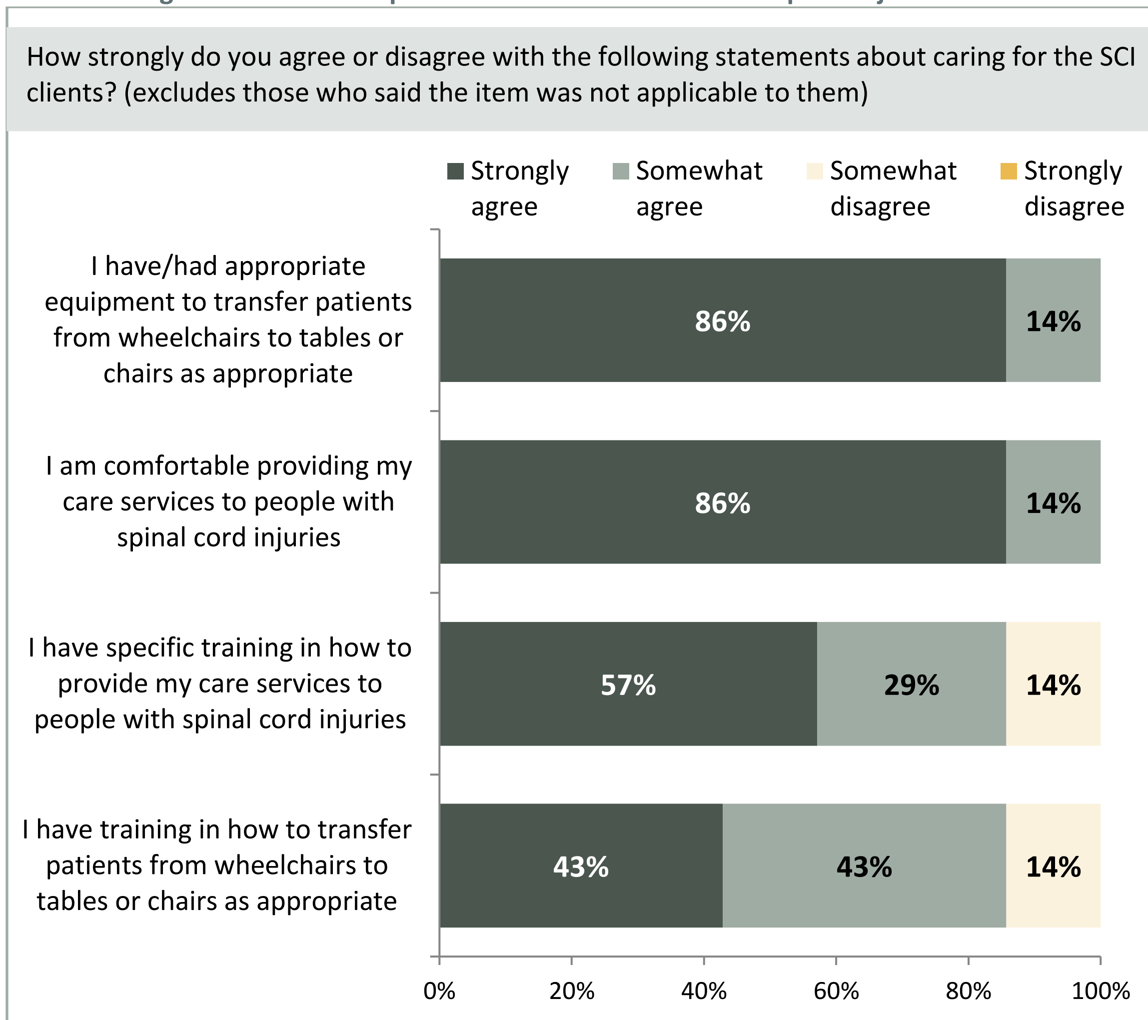


Figure 7: SCI Waiver Participant Satisfaction with Safety While Receiving Services



SCI waiver participants generally felt safe getting services, and most CIHS providers had training in providing services to people with spinal cord injuries. This was a significant improvement from the three-year pilot program and reflects an effort to ensure this training has been provided.

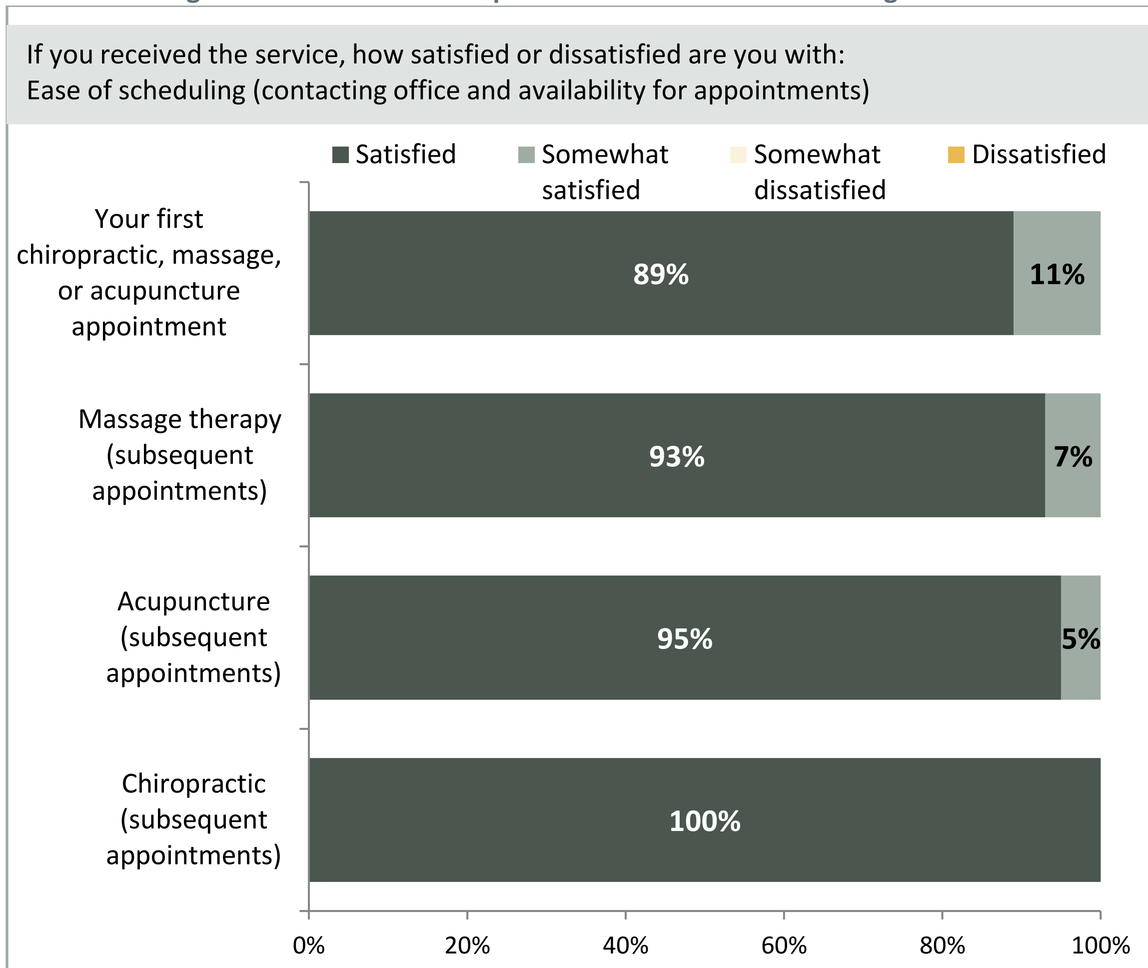
Figure 8: Provider Experience with Satisfaction with Spinal Injured Clients



4.5.3 Satisfaction with Scheduling CIHS

Respondents to the participant survey were satisfied with the ease of scheduling CIHS (Figure 9). When asked if they had encountered challenges accessing CIHS under the SCI waiver, only 7% said yes and transportation was mentioned.

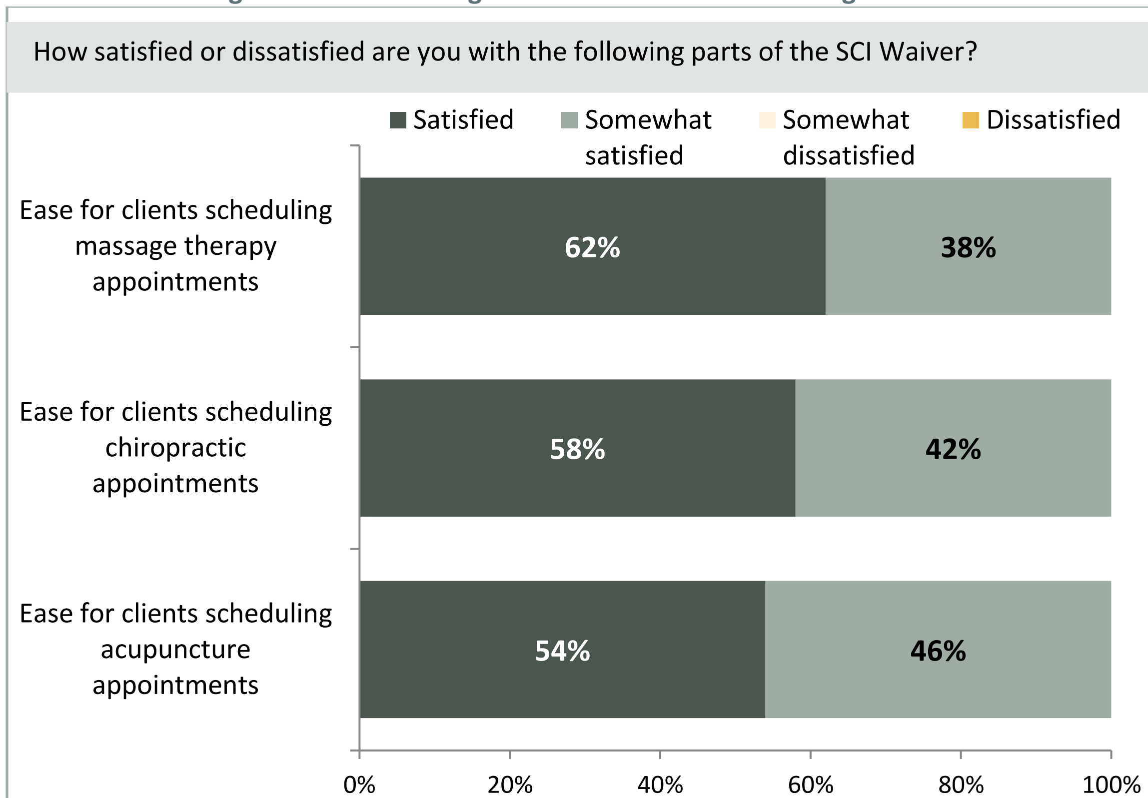
Figure 9: SCI Waiver Participant Satisfaction with Scheduling Services



All case managers were at least somewhat satisfied with the scheduling processes, and most were fully satisfied, which was an improvement from the original three year pilot study when only about 60% were at least somewhat satisfied.

When asked about challenges accessing services, 42% said their clients had encountered problems and most of these mentioned that providers were too far away (would take too long to get there) and transportation was hard to arrange, a few said preferred providers were not available.

Figure 10: Case Manager Satisfaction with Scheduling Services



4.5.4 Satisfaction with SCI Waiver Administration

About [redacted] said they had problems or challenges joining the SCI waiver, but 96% were satisfied or somewhat satisfied with the ease of joining the waiver (Figure 11). However, 50% of case managers or supervisors said they had problems or challenges transferring clients from a different waiver (see Figure 12) and when asked further about the types of challenges, most had trouble getting forms from doctors or clients.

Most case managers were at least somewhat satisfied with the ease of determining eligibility and enrolling clients.

Almost all of the SCI participant survey respondents were satisfied or somewhat satisfied with their CIHS plan.

Figure 11: SCI Waiver Participant Satisfaction with Administration

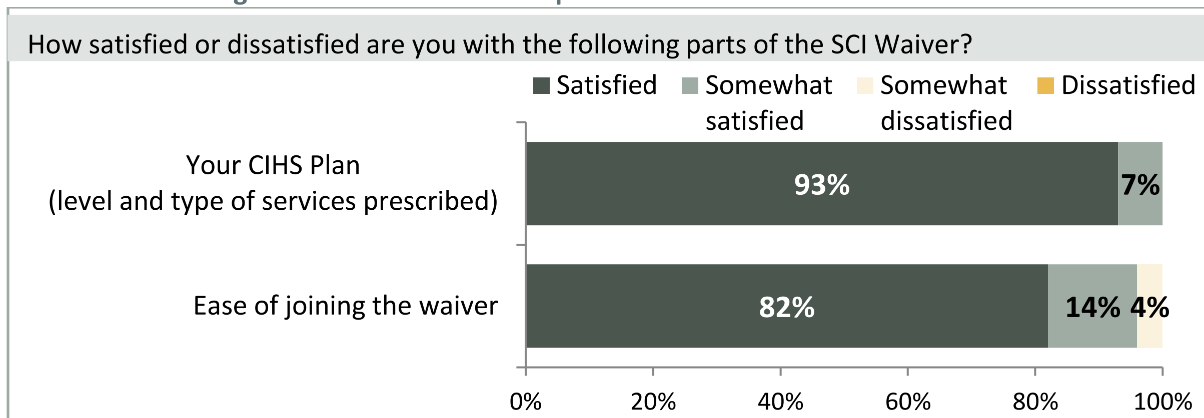
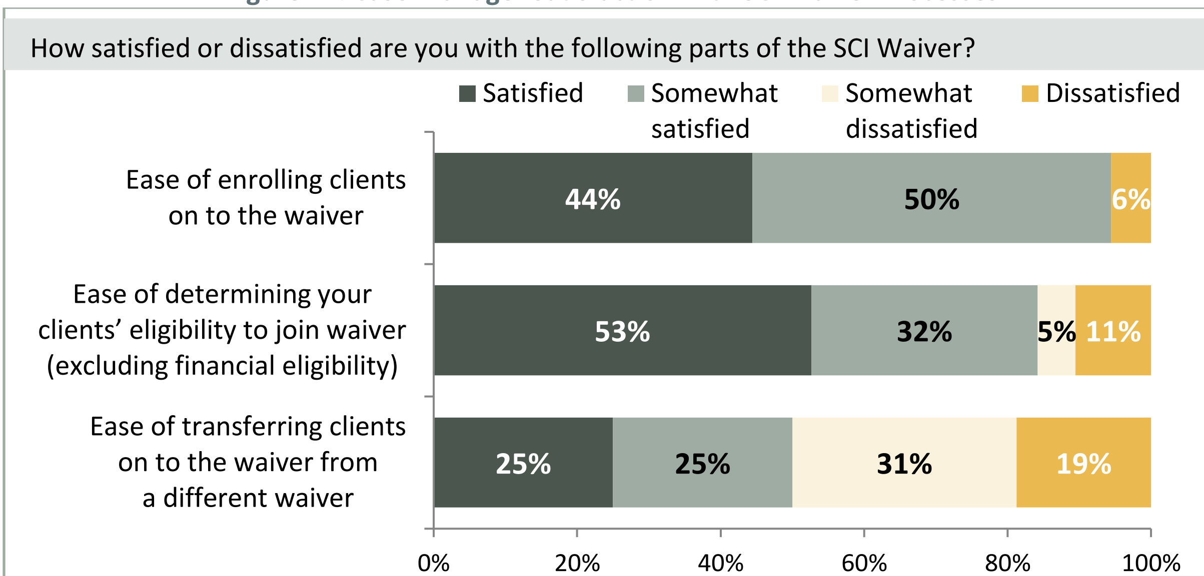
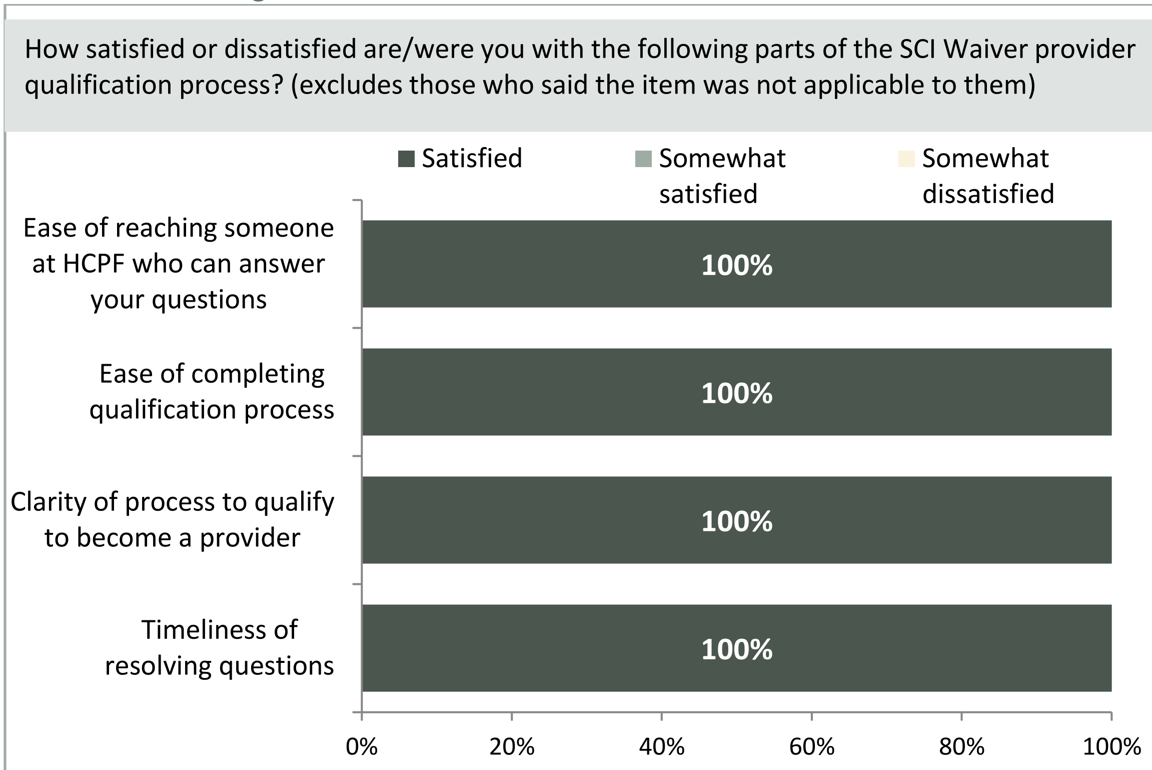


Figure 12: Case Manager Satisfaction with SCI Waiver Processes



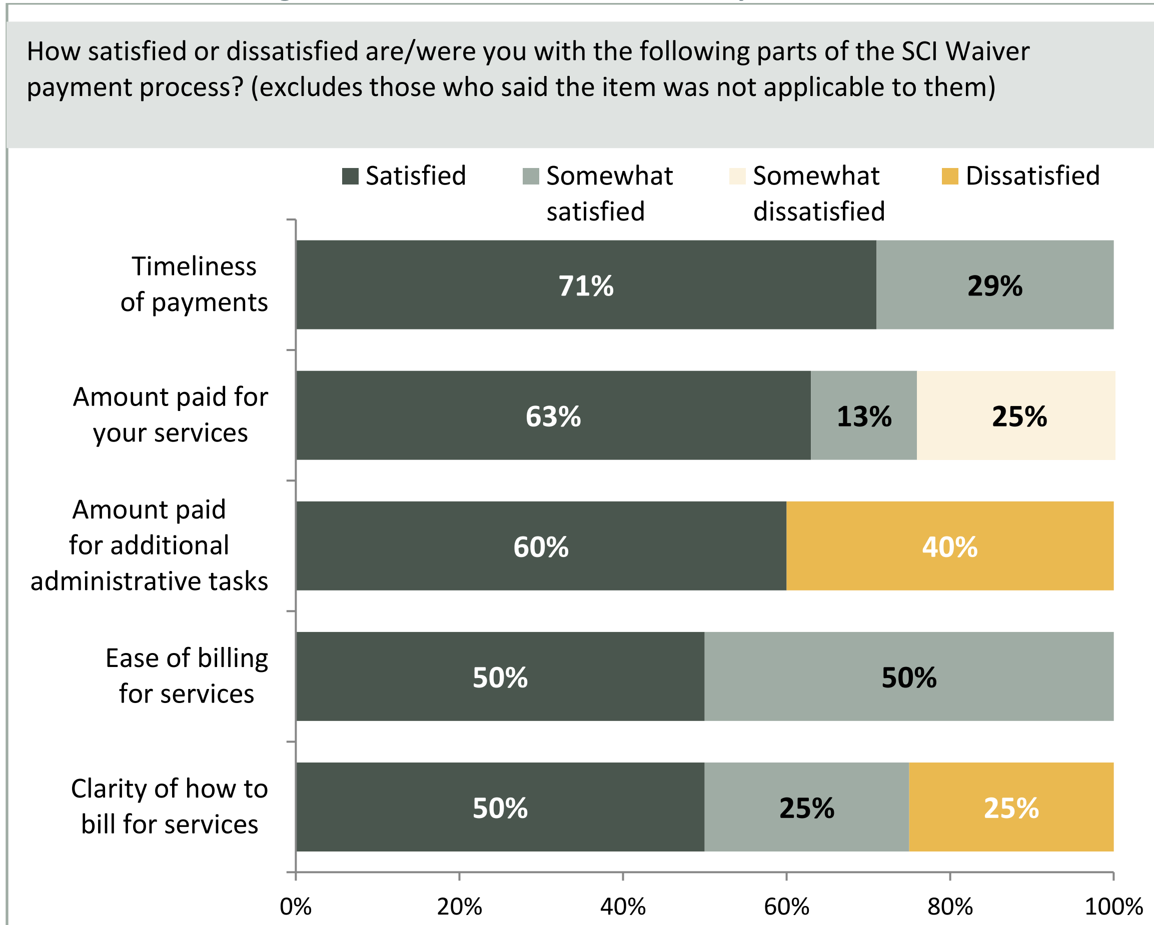
The three respondents to the provider survey, who were involved in the application process to become a SCI waiver CIHS provider, were satisfied with that process.

Figure 13: Provider Satisfaction with Qualification Process



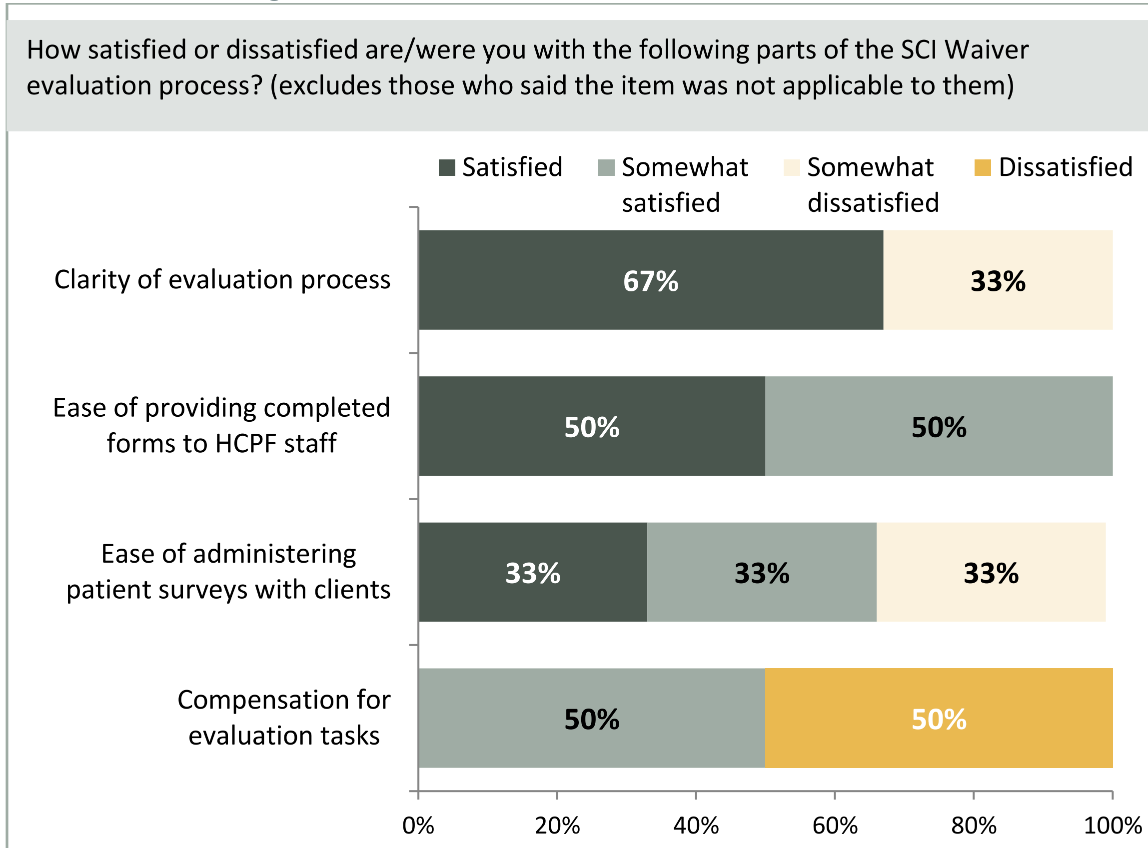
The billing process held some challenges for providers, but over half were fully satisfied with the level of compensation for administrative tasks the amount paid for services. Most were also satisfied with the timeliness of payment.

Figure 14: Provider Satisfaction with Payment Process



While there are challenges in managing the data collection for the evaluation, providers were generally at least somewhat satisfied with the process, except for the amount of compensation.

Figure 15: Provider Satisfaction with Evaluation Process



4.6 Conclusions

The number of SCI waiver participants continues to increase and comparisons continue to become more robust as more people on the waiver receive CIHS for longer periods. While results should be considered preliminary until the end of the five-year study, initial evidence from the SCI waiver participants included in our evaluation suggests that CIHS are reducing the cost of care and increasing or maintaining the quality of life.

Changes in ratings of functional status and quality of life measured by comparing point- in-time scores on the evaluative forms (Self-Administered Health Issue Assessment, Uniform Long Term Care (ULTC) 100.2 Assessment, Craig Handicap Assessment and Reporting Technique (CHART) assessment and World Health Organization Quality of Life –BREF instrument (WHOQOL-BREF), were not statistically significant.

However when asked to reflect on the impact of the program on their health and wellbeing (in a survey at the end of evaluation period) most participants were effusive in their description of how the program improved their overall quality of life, reducing the number of days they spent in pain and the level of pain of those days.

Improvements from 2015 to 2018 were seen in the implementation of the evaluation forms by providers, satisfaction with the level of compensation for services and training for transferring and working with the SCI population.

The major challenges of the first iteration of the SCI waiver program were bottlenecks in booking services due to limited numbers of providers. This seems to have been significantly alleviated through the changes made to the provider requirements (allowing more providers to join), but is still an issue for some. Distance travelled to receive care remains a challenge, so increasing the regional diversity of providers would be helpful to clients.

Appendix A: Participant, Provider and Case Manager Experience Surveys

In April 2018 SCI Waiver participants, CIHS service providers and case managers for those on the SCI waiver were asked to complete a survey to reflect on their experience with the SCI Waiver. The detailed results from the three surveys are shown in this appendix.

2018 Participant Survey

Table 51: Satisfaction with SCI Waiver

1. How satisfied or dissatisfied are you with the following parts of the SCI Waiver?	Satisfied	Somewhat satisfied	Somewhat dissatisfied	Dissatisfied	No opinion/ Not applicable	Total
Ease of joining the waiver	82%	14%	4%	0%	0%	100%
Ease of scheduling your first chiropractic care, massage, or acupuncture appointment	89%	11%	0%	0%	0%	100%
Your Alternative Therapy Care Plan (level and type of services prescribed)	93%	7%	0%	0%	0%	100%

Table 52: Initial Source of Information about SCI Waiver

2. How did you first find out about the SCI Waiver? (Check all that apply)	Percent	Number
My case manager told me about it	43%	
From the Chanda Plan Foundation	39%	
Friend or family member told me about it	21%	
Another SCI Waiver participant told me about it	11%	
From SCIRP	11%	
Other, please specify:	0%	
Total	100%	

Table 53: Frequency of Use of SCI Waiver Alternative Therapy Services

3. In the past year, while you have been on the SCI Waiver, how frequently did you receive these services through the SCI Waiver?	Never	A few times a year	At least once a month	More than once a month	Total
Acupuncture	29%	7%	4%	61%	100%
Chiropractic	32%	7%	0%	61%	100%
Massage therapy	0%	4%	7%	89%	100%

Table 54: Satisfaction with Acupuncture Services

4. IF YOU RECEIVED ACUPUNCTURE. How satisfied or dissatisfied are you with acupuncture services received through the SCI Waiver?	Satisfied	Somewhat satisfied	Somewhat dissatisfied	Dissatisfied	Total
Ease of scheduling acupuncture (contacting office and availability for appointments)	95%	5%	0%	0%	100%
Overall quality of acupuncture services	90%	10%	0%	0%	100%
Your safety while getting acupuncture services (for example, being transferred, if needed)	90%	10%	0%	0%	100%
Impact of acupuncture services on your overall health and well	90%	5%	5%	0%	100%

Table 55: Satisfaction with Chiropractic Services

5. IF YOU RECEIVED CHIROPRACTIC SERVICES. How satisfied or dissatisfied are you with chiropractic services received through the SCI Waiver?	Satisfied	Somewhat satisfied	Somewhat dissatisfied	Dissatisfied	Total
Ease of scheduling chiropractic services (contacting office and availability for appointments)	100%	0%	0%	0%	100%
Overall quality of chiropractic services	83%	6%	11%	0%	100%
Your safety while getting chiropractic services (for example, being transferred, if needed)	94%	6%	0%	0%	100%
Impact of chiropractic services on your overall health and well	82%	18%	0%	0%	100%

Table 56: Satisfaction with Massage Therapy Services

6. IF YOU RECEIVED MASSAGE THERAPY SERVICES. How satisfied or dissatisfied are you with Massage Therapy Services received through the SCI Waiver?	Satisfied	Somewhat satisfied	Somewhat dissatisfied	Dissatisfied	Total
Ease of scheduling massage therapy (contacting office and availability for appointments)	93%	7%	0%	0%	100%
Overall quality of massage therapy services	96%	4%	0%	0%	100%
Your safety while getting massage therapy (for example, being transferred, if needed)	93%	7%	0%	0%	100%
Impact of massage therapy on your overall health and well	100%	0%	0%	0%	100%

Table 57: Change in Health as a Result of SCI Waiver Alternative Therapy Services

7. As a result of participating in ANY, OR ALL, of these therapies (acupuncture, chiropractic and massage therapy) have you seen increases, decreases or no change in the following�?	Increased a lot	Increased a little	Stayed the same	Decreased a little	Decreased a lot
The number of prescription medications used	0%	4%	46%	18%	32%
The number of visits to traditional doctors	0%	4%	50%	32%	14%
Time spent as an in	0%	0%	46%	18%	36%
Time spent in institutional care	0%	0%	57%	7%	36%
The number of days you experience pain	0%	4%	25%	39%	32%
The level of pain you experience	0%	7%	18%	32%	43%

Table 58: Change in Quality of Life as a Result of SCI Waiver Alternative Therapy Services

8. As a result of participating in ANY, OR ALL, of these therapies (acupuncture, chiropractic and massage therapy) have you seen increases, decreases or no change in the following?	Increased a lot	Increased a little	Stayed the same	Decreased a little	Decreased a lot
Your overall quality of life	50%	32%	7%	7%	4%
The time you spend doing paid or volunteer work	21%	25%	43%	7%	4%

Table 59: Challenges Joining the SCI Waiver

9. Did you have any problems or challenges joining the SCI waiver?	Percent	Number
Yes	18%	
No	82%	
Total	100%	

Table 60: Types of Challenges Joining the SCI Waiver

9a. [IF YES] What problems or challenges did you have in joining the SCI waiver?	Percent	Number
Other, please specify:	60%	
No spots were available (I was put on a wait list)	40%	
Total	100%	

Table 61: "Other" Types of Challenges Joining the SCI Waiver

9a. [IF YES] What problems or challenges did you have in joining the SCI waiver?
Doctor's office took forever to return paperwork to the state
Getting a hold of the right people to sign up.
Getting the doctors to pick out the correct diagnosis

Table 62: Challenges Receiving Acupuncture, Chiropractic or Massage Therapy Services on the SCI Waiver

10. Have you had any problems or challenges receiving acupuncture, chiropractic or massage therapy services on the SCI waiver?	Percent	Number
Yes	7%	
No	93%	
Total	100%	

Table 63: Types of Challenges Receiving Services on the SCI Waiver

10a. [IF YES] What problems or challenges did you have receiving acupuncture, chiropractic or massage therapy services on the SCI waiver? (Select all that apply)	Percent	Number
I could not find transportation to appointments	50%	
Other, please specify:	50%	
Total	100%	

Table 64: "Other" Types of Challenges Receiving Services on the SCI Waiver

10a. [IF YES] What problems or challenges did you have receiving acupuncture, chiropractic or massage therapy services on the SCI waiver? (Select all that apply)	Number
The turnover in the acupuncturists has been difficult. I'm very sad that my acupuncturist has to leave recently.	

Table 65: Recommend the SCI Waiver

11. If they were eligible, would you recommend joining the SCI waiver to other people with spinal cord injuries?	Percent	Number
Yes	100%	
No	0%	
Total	100%	

Table 66: Reasons Would Recommend the SCI Waiver

12a. Please explain why you would recommend joining the SCI waiver to other people with spinal cord injuries.
The all-around care and benefits from having the full use of the sci waver program is so great for your body, gradually increasing your motion with less pain. I truly look forward to each session, the ability to function better helps so much in your mental outlook as well. I wish to compliment the state of Colorado for offering this plan and hope they can offer it to more. The experience of working with trained, caring professionals is such a positive influence in the life and outlook of a disabled person. Having recently moved to the Grand Junction area, I very much wish that the program would be offered here in the near future. I can only say a huge "Thank you!" for the opportunity to have been able to take part in this program and, as you can see, I have a very positive attitude about it all.
Because even though needles suck...our bodies really DO respond to acupuncture and with day to day muscle atrophy and stiffness, massage is helpful as well.
Because the service providers are very knowledgeable and care about their patients. is a standout example. He's willing to work with you and learn about you to improve his services
Can keep them in better health and also provides opportunities to interact with other disabled people while at the or other providers.
Good people, great program
Great team; great staff; great services
Having the ability to get the amenities on this plan is worth it!
Helps cut down pain and stiffness without just using meds.
I believe it has improved my overall quality of life.
I believe the therapies can really benefits people with SCIs lives.
It has changed my overall wellness in life
It has gotten me off of medication, it has improved the quality of my life, and allowed me to get back to work
it has helped decrease my pain a lot and has helped me to be able to relax some witch is nice when your always stressed
It is a positive approach of encouraging approach to have your body help heal itself instead of using drugs that cause new issues
Quality of life increases and pain relief.
The benefits are countless
The benefits are definitely worth it.
The chiropractor, massage therapists, and acupuncturists have changed my life in a positive way. There have been many major changes in the building and administrative staff but I try to focus on what services I receive and the individual people that provide those services (chiropractic, massage, and acupuncture) are amazing.
The SCI waiver has helped me to decrease my pain medications, decrease my pain levels and increase my energy and overall quality of life.
The treatments provided are the very best thing for my recovery. And the quality of life benefits are unmeasurable.
The waiver is a very good thing. The sooner the better. SCI patients this is a good thing.
These treatments are very beneficial to the body and provide relief. On the waiver its at no cost to you as being on fixed income you likely cannot afford these treatments.
They offer hope as well as services and their positive attitude helps keep people upbeat

12a. Please explain why you would recommend joining the SCI waiver to other people with spinal cord injuries.
Through the SCI Waiver, I am able to receive the therapies necessary to keep my body healthy, decreasing the number of days/months I would need to spend as an in-patient, and the waiver allows me health care services I would not otherwise be able to afford.

Table 67: Additional Comments about SCI Waiver

13. Is there anything else you would like to share about your experience on the SCI waiver?
the care giving to me was above and beyond belief
I absolutely appreciate it. And feel that it is completely necessary.
I am so grateful for the SCI waiver
I have immense gratitude for the SCI waiver and all of the services and help it provides me.
I like going to the [redacted] and the people there.
I wish I would be able to participate more and have good alternative transportation methods that feel safe and secure
I've been with you for a long time and love your services!
[redacted]. I hope things stay the same from here on out. I love to receive the services I get and I hope that doesn’t change with the new administration.
It has been an incredible blessing in my life and know my quality of life would be decreased without these services.
Just a great program that is available. Can’t say enough about how thankful I am to have access to massage and chiropractic services every week.
Love it and so thankful for it! Some truly great providers are part of this program also!
My experience with the therapists is that they are very skilled and have helped me a great deal.
No
Not at this time. Thank you.
Thank you for doing a great job and being present when you do you work. Job well done!
The Chanda Center for Health is amazing!
The SCI waver changed my life.
They need to be hiring providers that have experience with spinal cord injuries and also experience with people who have back fusions[redacted]
This helped me so much. I truly have come to rely on every week.

2018 Provider Survey

Table 68: SCI Waiver Service Provider Role

1. What is your role in providing care under the SCI Waiver?	Percent	Number
Massage Therapist	36%	N=4
Chiropractor	27%	N=3
Provider Administrator	18%	N=2
Other, please specify:	9%	N=1
Acupuncturist	9%	N=1
Total	100%	N=11

Table 69: "Other" SCI Waiver Service Provider Role

1. What is your role in providing care under the SCI Waiver? (Other, Specify)	Number
PT	N=1

Table 70: Continue to Work with SCI Waiver Participants

3. Are you still working with SCI waiver participants?	Percent	Number
Yes	100%	N=10
No	0%	N=0

Table 71: Involvement with SCI Waiver Qualification Process

4. Were you involved in the process of qualifying to become a SCI waiver service provider?	Percent	Number
No	78%	N=7
Yes	22%	N=2
Total	100%	N=9

Table 72: Satisfaction with SCI Waiver Qualification Process

5. [IF YES TO 4] How satisfied or dissatisfied are/were you with the following parts of the SCI Waiver provider qualification process? (excludes those who said the item was not applicable to them)	Satisfied	Somewhat satisfied	Somewhat dissatisfied	Dissatisfied	Total
Clarity of process to qualify to become a provider	100%	0%	0%	0%	100%
	N=2	N=0	N=0	N=0	N=2
Ease of completing qualification process	100%	0%	0%	0%	100%
	N=2	N=0	N=0	N=0	N=2
Ease of reaching someone at HCPF who can answer your questions	100%	0%	0%	0%	100%
	N=1	N=0	N=0	N=0	N=1
Timeliness of resolving questions	100%	0%	0%	0%	100%
	N=1	N=0	N=0	N=0	N=1

Table 73: Satisfaction with SCI Waiver Payment Process

6. How satisfied or dissatisfied are/were you with the following parts of the SCI Waiver payment process? (excludes those who said the item was not applicable to them)	Satisfied	Somewhat satisfied	Somewhat dissatisfied	Dissatisfied	Total
Amount paid for your services	63%	13%	25%	0%	100%
	N=5	N=1	N=2	N=0	N=8
Clarity of how to bill for services	50%	25%	0%	25%	100%
	N=2	N=1	N=0	N=1	N=4
Ease of billing for services	50%	50%	0%	0%	100%
	N=2	N=2	N=0	N=0	N=4
Timeliness of payments	71%	29%	0%	0%	100%
	N=5	N=2	N=0	N=0	N=7
Amount paid for additional administrative tasks	60%	0%	0%	40%	100%
	N=3	N=0	N=0	N=2	N=5

Table 74: Involvement with SCI Waiver Evaluation Process

7. Were you involved in administering program evaluation surveys to SCI waiver participants?	Percent	Number
No	67%	N=6
Yes	33%	N=3

Table 75: Satisfaction with SCI Waiver Evaluation Process

8. [IF YES TO 7] How satisfied or dissatisfied are/were you with the following parts of the SCI Waiver evaluation process? (excludes those who said the item was not applicable to them)	Satisfied	Somewhat satisfied	Somewhat dissatisfied	Dissatisfied	Total
Clarity of evaluation process	67%	0%	33%	0%	100%
	N=2	N=0	N=1	N=0	N=3
Ease of administering patient surveys with clients	33%	33%	33%	0%	100%
	N=1	N=1	N=1	N=0	N=3
Ease of providing completed forms to HCPF staff	50%	50%	0%	0%	100%
	N=1	N=1	N=0	N=0	N=2
Compensation for evaluation tasks	0%	50%	0%	50%	100%
	N=0	N=1	N=0	N=1	N=2

Table 76: Involvement with Physical Care or Examinations

9. Did you provide physical care or examinations for your SCI Waiver clients?	Percent	Number
Yes	78%	N=7
No	22%	N=2
Total	100%	N=9

Table 77: Satisfaction with SCI Waiver Evaluation Process

10. [IF YES TO 9] How strongly do you agree disagree with the following statements about caring for the SCI clients? (excludes those who said the item was not applicable to them)	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Total
I have specific training in how to provide my care services to people with spinal cord injuries	57%	29%	14%	0%	100%
	N=4	N=2	N=1	N=0	N=7
I am comfortable providing my care services to people with spinal cord injuries	86%	14%	0%	0%	100%
	N=6	N=1	N=0	N=0	N=7
I have training in how to transfer patients from wheelchairs to tables or chairs as appropriate	43%	43%	14%	0%	100%
	N=3	N=3	N=1	N=0	N=7
I have/had appropriate equipment to transfer patients from wheelchairs to tables or chairs as appropriate	86%	14%	0%	0%	100%
	N=6	N=1	N=0	N=0	N=7

Table 78: Improvements for SCI Waiver Participants

12. As a result of participating in alternative therapies have you seen improvements in the following for your SCI waiver clients?	Most of my clients	Some of my clients	Few of my clients	None of my clients	Don't know	Total
Improved range of motion	67%	33%	0%	0%	0%	100%
	N=6	N=3	N=0	N=0	N=0	N=9
Fewer days with pain	78%	22%	0%	0%	0%	100%
	N=7	N=2	N=0	N=0	N=0	N=9
Decreased level of pain	78%	22%	0%	0%	0%	100%
	N=7	N=2	N=0	N=0	N=0	N=9
Improved quality of life	89%	11%	0%	0%	0%	100%
	N=8	N=1	N=0	N=0	N=0	N=9

Table 79: Greatest Barriers to Receiving Care

13. What were the greatest barriers for your clients in receiving care?
Transportation.
transportation.
Transportation troubles, weather.
transportation
Timer frame for getting services started. Non-responsive case managers - which I am sure they are busy.
The hours I am available to be present at the center
Misconceptions about what chiropractic care entailed
Knowledge of the program, transportation to appointments, reliable home caregivers (to get them out of bed).

Table 80: Desired Improvements to SCI Waiver Program

14. What would you most like to see changed about how the SCI Waiver program is administered?
Unknown
To be able to see patients in my own office setting and not just at one Center
not just look at pain as an indicator of progress
more clarity on start dates between case manager agencies. Less issues with PAR and billing systems that result in denials.
Increase in pay to providers. Ease in filing Medicaid payments online, more information on denials and suspensions.
I haven't been there long enough to have an opinion on this… so far I love how it is administered!
Fewer barriers to entry for patients and providers.

Table 81: Additional Comments

15. Is there anything else you would like to share about your experience being a SCI Waiver service provider?
This is an amazing program for our participants. We get asked every day when Medicaid will cover Adaptive Exercise programs, and clients ask why Medicaid doesn't understand the need for the physical activity, verses a passive treatment.
I am so delighted to be working with the SCI waiver participants! It's incredibly rewarding to be part of their support systems. For the most part, their investment in improving their health/wellness/pain levels is very high which is incredible to partner with. My job satisfaction is sky-high!
Everyone with a spinal cord injury should have access to alternative therapies. Let's get this program national.

2018 Case Manager/Supervisor Survey

Table 82: Satisfaction with SCI Waiver

1. How satisfied or dissatisfied are you with the following parts of the SCI Waiver?	Satisfied	Somewhat satisfied	Somewhat dissatisfied	Dissatisfied	Total
Ease of determining your clients' eligibility to join waiver (excluding financial eligibility)	53%	32%	5%	11%	100%
	N=10	N=6	N=1	N=2	N=19
Ease of enrolling clients on to the waiver	44%	50%	0%	6%	100%
	N=8	N=9	N=0	N=1	N=18
Ease of transferring clients on to the waiver from a different waiver	25%	25%	31%	19%	100%
	N=4	N=4	N=5	N=3	N=16
Ease for clients scheduling acupuncture appointments	54%	46%	0%	0%	100%
	N=7	N=6	N=0	N=0	N=13
Ease for clients scheduling chiropractic appointments	58%	42%	0%	0%	100%
	N=7	N=5	N=0	N=0	N=12
Ease for clients scheduling massage therapy appointments	62%	38%	0%	0%	100%
	N=8	N=5	N=0	N=0	N=13

Table 83: Improvements for Clients through SCI Waiver

2. As a result of participating in alternative therapies have you seen improvements in the following for your clients that participate in the SCI waiver?	Most of my clients	Some of my clients	Few of my clients	None of my clients	Don't know	Total
Fewer prescription medications used	11%	26%	0%	5%	58%	100%
	N=2	N=5	N=0	N=1	N=11	N=19
Fewer visits to traditional doctors	16%	26%	0%	5%	53%	100%
	N=3	N=5	N=0	N=1	N=10	N=19
Less time spent as an in-patient in hospitals	16%	21%	5%	5%	53%	100%
	N=3	N=4	N=1	N=1	N=10	N=19
Less time spent in institutional care	21%	26%	0%	5%	47%	100%
	N=4	N=5	N=0	N=1	N=9	N=19
Fewer days with pain	42%	16%	11%	5%	26%	100%
	N=8	N=3	N=2	N=1	N=5	N=19
Decreased level of pain	37%	21%	11%	5%	26%	100%
	N=7	N=4	N=2	N=1	N=5	N=19
Improved quality of life	53%	16%	11%	5%	16%	100%
	N=10	N=3	N=2	N=1	N=3	N=19

Table 84: Challenges Assisting Clients in Joining the SCI Waiver

3. Did you have any problems or challenges assisting clients in joining the SCI waiver?	Percent	Number
Yes	42%	N=8
No	58%	N=11
Total	100%	N=19

Table 85: Types of Challenges Assisting Clients in Joining the SCI Waiver

3a. [IF YES] What problems or challenges did you have assisting clients in joining the SCI waiver? (Select all that apply)	Percent	Number
Other, please specify:	88%	N=7
Getting the PMIP back from the Doctor in time	38%	N=3
No spots were available (client was put on a wait list)	13%	N=1
Getting clients to complete the forms	13%	N=1
Total	100%	N=8

Table 86: "Other" Types of Challenges Assisting Clients in Joining the SCI Waiver

3a. [IF YES] What problems or challenges did you have assisting clients in joining the SCI waiver? (Select all that apply)
All of the forms that need to be filed out by clients, doctors and providers at the clinics. It’s still a little confusing re: the care plan and units. The process from beginning to end is not entirely smooth paperwork wise and then the providers have not been able to service the client for one reason or another and the locations were prohibitive for my client. I do believe the added location in the south area has helped quite a bit though.
difficulty transferring from one waiver to another by DHS
Financial Coding
financial recoding from DHS to roll a client from one waiver to another
Getting correct coding back from the county in a timely manner
No Chiro, no massage
trouble getting doctor to write SCI diagnosis on PMIP

Table 87: Challenges Receiving Acupuncture, Chiropractic or Massage Therapy Services on the SCI Waiver

4. Have your clients had any problems or challenges receiving acupuncture, chiropractic or massage therapy services on the SCI waiver?	Percent	Number
Yes	42%	N=8
No	58%	N=11
Total	100%	N=19

Table 88: Types of Challenges Receiving Services on the SCI Waiver

4a. [IF YES] What problems or challenges did your clients have receiving acupuncture, chiropractic or massage therapy services on the SCI waiver? (Select all that apply)	Percent	Number
Could not find transportation to appointments	50%	N=4
The service providers were too far away (would take too long to get there)	50%	N=4
Did not like the service center provider(s) that were available	38%	N=3
Did not like the individual therapists that were available	25%	N=2
Other, please specify:	25%	N=2
The providers were too busy; they could not fit the client in	13%	N=1
Total	100%	N=8

Table 89: "Other" Types of Challenges Receiving Services on the SCI Waiver

4a. [IF YES] What problems or challenges did your clients have receiving acupuncture, chiropractic or massage therapy services on the SCI waiver? (Select all that apply)
HCPF said to present program and there are no providers in Jeffco, now he is on SCI waiver and par is denied d/t no services.
I do believe that these issues have been resolve now though with the added south area location. At one time, my client reported that the provider at one of the centers was not familiar with how to physically assist/transfer a paraplegic client. But as I said, I think these issues have been resolved with the new provider my client goes to.

Table 90: Recommend the SCI Waiver

5. If they were eligible, would you recommend joining the SCI waiver to other people with spinal cord injuries?	Percent	Number
Yes	95%	N=18
No	5%	N=1
Total	100%	N=19

Table 91: Reasons Would Recommend the SCI Waiver

[IF YES] Please explain why you would recommend joining the SCI waiver to other people with spinal cord injuries.
According to my clients who actively participate in alternative therapies, it helps to improve quality of life and decrease pain. The majority of individuals on the SCI waiver have reported that they enjoy having access to alternative therapies of their choice.
All of my clients that are currently receiving the therapy benefits of SCI treatments report it helping manage their pain and improve their quality of life. I also think the supportive atmosphere of the treatment centers is providing a community that is really life-giving to clients and I want as many of my clients as possible to receive these benefits.
Alternative therapies

Alternative therapies seem to be an amazing way for people with spinal cord injuries to have a better quality of life and have less pain.
b/c SCI offers massages that I believe would be beneficial for SCI injuries
free ATs
I believe that certain clients benefit from these types of therapy.
I would recommend any client who is suffering from chronic pain. I only have one client on the program and even though he had a lot of frustration getting the services he needed initially, he has reported that the services do help with his pain management.
I'm a new employee so I haven't seen many clients quite yet, but the ones I have seen LOVE having massage, acupuncture, and chiropractic and have reported improvements in the pain they experience and feel the services are impacting their quality of life in a good way! I hope that these services can continue to be offered to my SCI clients.
If the services are available it would be great for clients. Jeffco only has acupuncture.
Most of my clients report that attending their SCI therapies is a bright spot in their week. It's something they look forward to and really feel the physical and emotional benefits from the therapies. I truly believe that these modalities are helping my clients reduce their pain levels, muscle spasms, depression and anxiety symptoms and ultimately helping them maintain a higher level of physical and emotional health.
My clients have expressed overall decrease in pain and assistance with mobility and qualify of living.
The alternative therapies that are offered have been amazing for clients with spinal cord injuries. I have heard nothing but positive things from our members about how the therapies have helped them and made their quality of life better. the therapies have cut down on pain and medication intake needed. It has also brought less hospitalizations and medical issues that members faced in the past.
The majority of my clients already using services rave about them. Most mention reduced pain and medications, and an over-all feeling of better health and well-being with use of the services.
The services provide are beneficial to the client

Table 92: Reasons Would Not Recommend the SCI Waiver

[IF NO] Please explain why you would NOT recommend joining the SCI waiver to other people with spinal cord injuries.
No response

Table 93: Additional Comments about SCI Waiver

6. Is there anything else you would like to share about your experience being a case manager for someone on the SCI Waiver?
I am always inspired and encouraged by the clients we serve with SCI. They have truly amazing stories of strength and resiliency and I think we need to continue fighting to keep and expand these service benefits for SCI clients and beyond.
I love to hear the stories of my clients who are benefiting from these non-traditional treatment modalities. They have persevered through so much on their individual quests in healing. I think these therapies are an integral part of helping them achieve the quality of life they deserve.
In my experience the majority of my clients on the SCI waiver feel satisfied with the alternative therapies they are provided, the most common complaint is the transportation issues.

6. Is there anything else you would like to share about your experience being a case manager for someone on the SCI Waiver?
It is amazing to complete HV's with these people who have an entire different outlook on life because of how these services are positively impacting their life.
Most difficult part for clients is transportation.
My only issue is transferring/switching waivers for clients. The issue lies with the state Bridge system, however, and not the provider agencies.
no
This is a wonderful wavier, with great providers. I can only hope that more providers are able to join and that alternative therapies become a service among all waivers.
Transportation is our biggest barrier to care; many of my clients want to receive alternative therapies, but can't find reliable Medicaid NMT to get them to and from appts.

Appendix B: ULTC 100.2 Long Term Care Assessment Protocol

The ULTC 100.2 Assessment form is filled out by a Medicaid Case Manager annually and each time a Medicaid participant under the Home and Community-Based Services Elderly, Blind and Disabled (HCBS-EBD) Waiver or the HCBS-SCI waiver has a change in condition (like hospitalization).

Table 94: Long Term Care Eligibility Assessment Description of Activities of Daily Living (ADL) and Assessment Levels

ADL	ADL description	Independent (100)	Mostly independent (67)	Mostly dependent (33)	Dependent (0)
Bathing	The ability to shower, bathe or take sponge baths for the purpose of maintaining adequate hygiene.	The client is independent in completing the activity safely.	The client requires oversight help or reminding; can bathe safely without assistance or supervision, but may not be able to get into and out of the tub alone.	The client requires hands on help or line of sight standby assistance throughout bathing activities in order to maintain safety, adequate hygiene and skin integrity.	The client is dependent on others to provide a complete bath.
Dressing	The ability to dress and undress as necessary. This includes the ability to put on prostheses, braces, anti-embolism hose or other assistive devices and includes fine motor coordination for buttons and zippers. Includes choice of appropriate clothing for the weather. Difficulties with a zipper or buttons at the back of a dress or blouse do not constitute a functional deficit.	The client is independent in completing activity safely.	The client can dress and undress, with or without assistive devices, but may need to be reminded or supervised to do so on some days.	The client needs significant verbal or physical assistance to complete dressing or undressing, within a reasonable amount of time.	The client is totally dependent on others for dressing and undressing

ADL	ADL description	Independent (100)	Mostly independent (67)	Mostly dependent (33)	Dependent (0)
Toileting	The ability to use the toilet, commode, bedpan or urinal. This includes transferring on/off the toilet, cleansing of self, changing of apparel, managing an ostomy or catheter and adjusting clothing.	The client is independent in completing activity safely.	The client may need minimal assistance, assistive device, or cueing with parts of the task for safety, such as clothing adjustment, changing protective garment, washing hands, wiping and cleansing.	The client needs physical assistance or standby with toileting, including bowel/bladder training, a bowel/bladder program, catheter, ostomy care for safety or is unable to keep self and environment clean.	The client is unable to use the toilet. The client is dependent on continual observation, total cleansing, and changing of garments and linens. This may include total care of catheter or ostomy. The client may or may not be aware of own needs.
Mobility	The ability to move between locations in the individual's living environment inside and outside the home. Note: Score client's mobility without regard to use of equipment other than the use of prosthesis.	The client is independent in completing activity safely.	The client is mobile in their own home but may need assistance outside the home.	The client is not safe to ambulate or move between locations alone; needs regular cueing, stand-by assistance, or hands on assistance for safety both in the home and outside the home.	The client is dependent on others for all mobility.
Transferring	The physical ability to move between surfaces from bed/chair to wheelchair, walker or standing position; the ability to get in and out of bed or usual sleeping place; the ability to use assisted devices for transfers. Note Score client's mobility without regard to use of equipment.	The client is independent in completing activity safely.	The client transfers safely without assistance most of the time, but may need standby assistance for cueing or balance; occasional hands on assistance needed.	The client transfer requires standby or hands on assistance for safety; client may bear some weight.	The client requires total assistance for transfers and/or positioning with or without equipment.

ADL	ADL description	Independent (100)	Mostly independent (67)	Mostly dependent (33)	Dependent (0)
Eating	The ability to eat and drink using routine or adaptive utensils (including via tube feedings or intravenously). This also includes the ability to cut, chew and swallow food.	The client is independent in completing activity safely	The client can feed self, chew and swallow foods but may need reminding to maintain adequate intake; may need food cut up; can feed self if food brought to them, with or without adaptive feeding equipment.	The client can feed self but needs line of sight standby assistance for frequent gagging, choking, swallowing difficulty; or aspiration resulting in the need for medical intervention. The client needs reminder/assistance with adaptive feeding equipment; or must be fed some or all food by mouth by another person.	The client must be totally fed by another person; must be fed by another person by stomach tube or venous access.
Behaviors	The ability to engage in safe actions and interactions and refrain from unsafe actions and interactions (Note, consider the client's inability versus unwillingness to refrain from unsafe actions and interactions).	The client demonstrates appropriate behavior; there is no concern.	The client exhibits some inappropriate behaviors but not resulting in injury to self, others and/or property. The client may require redirection. Minimal intervention is needed.	The client exhibits inappropriate behaviors that put self, others or property at risk. The client frequently requires more than verbal redirection to interrupt inappropriate behaviors.	The client exhibits behaviors resulting in physical harm for self or others. The client requires extensive supervision to prevent physical harm to self or others.
Memory/ Cognition Deficit	The age appropriate ability to acquire and use information, reason, problem solve, complete tasks or communicate needs in order to care for oneself safely.	Independent no concern	The client can make safe decisions in familiar/routine situations, but needs some help with decision making support when faced with new tasks, consistent with individual's values and goals.	The client requires consistent and ongoing reminding and assistance with planning, or requires regular assistance with adjusting to both new and familiar routines, including regular monitoring and/or supervision, or is unable to make safe decisions, or cannot make his/her basic needs known.	The client needs help most or all of time.