The Moran Company Report on Therapy Outcomes for Selected Modalities

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Introduction

Accelerated Care Plus (ACP) commissioned The Moran Company (TMC) to conduct an analysis of patient experience and outcomes related to delivery of physical and occupational therapy in skilled nursing facilities (SNFs) with a focus on specific modalities supported by ACP clinical programs. The study was conducted using data donated by a company that operates more than 80 SNFs and that had started to use the Continuity Assessment Record and Evaluation patient assessment instrument (CARE[1]) assessment items in 2014 to measure self-care and mobility in patients at admission and discharge to the SNF. The CARE items have begun to be used in National Quality Forum (NQF) approved quality measures that are expected to be used in future value based payment in the post-acute care sector for Medicare beneficiaries, but their reporting has not been required to-date. Most SNFs have been using a variety of assessment tools that will be replaced by the CARE items. As a result of the IMPACT Act, CMS began collecting CARE tool functional status items in the SNF minimum data set, version 3.0 (MDS) resident assessment instrument in FY 2016. This study represents the first time CARE data are available to look at outcomes for selected therapy modalities. ACP contracts with SNFs to provide these clinical programs, and the company donating the data is an ACP customer. Therefore, this study examines the outcomes associated with the use of ACP clinical programs for these modalities in SNFs operated by one company.

In this report, we provide highlights of findings from the study that characterize the population studied, its therapy utilization, and outcomes using simplified and non-risk adjusted versions of the NQF defined quality measures: CARE Improvement in Self Care; and CARE Improvement in Mobility. Patients studied were identified based on their use of any therapy, or their use of one or more selected thermal, acoustic, or electrical modalities. The methodology used is described, as well as qualifications that should be kept in mind when interpreting results.

[1] In the Deficit Reduction Act of 2005 (DRA), Congress authorized the Post-Acute Care Payment Reform Demonstration (PAC-PRD), and directed CMS to deliver a report about the demonstration project and make recommendations for legislative and administrative action. As part of PAC-PRD, a standardized patient assessment instrument (PAI) that could be used in acute care hospitals and the four post-acute care (PAC) settings (i.e. skilled nursing facilities (SNFs), inpatient rehabilitation facilities (IRFs), long term care hospitals (LTCHs), and home health agencies (HHAs)), was developed to provide information on clinical and other patient factors associated with cost and resource use, outcomes, discharge placement and care transitions. The PAI is called the CARE (Continuity Assessment Record and Evaluation) tool. Additional information about the CARE tool may be found on the CMS website.

Highlights

The Study Population

- Overall 25,362 Medicare Part A stays provided in 81 SNFs operated by one company were included in the analysis.
- Of patients receiving therapy in any of the study SNFs, about 64% were female and the average age was 79 years old.
- Approximately 58% of Medicare Part A patient stays in the study were fee-for service (FFS) beneficiaries with the remainder enrolled in Medicare Advantage (MA).
- FFS patients that received Part A rehabilitation services were on average about 2.5 years older than MA patients
- Diagnosis coding in therapy claims and the donor database is of inconsistent quality and generally relies upon symptom coding which is too broad to assign patients receiving therapy to a condition based episode of care. Diagnostic and other data are not present in the database to be able to risk adjust patient outcomes.
- Average Medicare Part A SNF length of stay was about 22 days. Patients on FFS Medicare had longer lengths of stay (LOS) then MA patients on average (24 days vs 19 days), about 25% less. This relative difference between payers exists for all therapy patients, whether they received the selected modalities or not, as well as across modalities.
- On average, Medicare Part A patients had 18 days of therapy or a little over 33 hours per stay.
- Patients receiving the selected modalities tended to have longer average LOS than the average Part A patient receiving any therapy services (27 days vs 22 days).
- On average, patients utilizing the selected modalities had 22 days of therapy (about 25% more) and nearly 43 hours of therapy (about 29% more than the average patient receiving therapy services).
- Approximately 43% of patients utilized one or more of the study modalities. Non-pressure ulcer related unattended electrical and diathermy were the most frequently utilized of these modalities (29% and 25% of all Medicare Part A patient stays, respectively), followed by ultrasound that was utilized in about 5% of SNF stays.
- Study modalities are frequently used in conjunction with each other. Overall about 50% of patients that received diathermy also received electrical modalities. Of the patients that received ultrasound, about 44% also received diathermy and 48% also received electrical modalities.
- Of the patients that utilized one or more of the study modalities over the course of their stay, study modality services were delivered on about 8.2 days, or about 37% of the days during their stay.

Therapy Outcomes

- Most Medicare Part A patients admitted to a SNF were relatively independent in terms of eating and oral hygiene, but were less independent for such activities as dressing their lower body, showering, and walking.
- Patients at admission that received one or more of the study modalities during the course of their stay tended to require more assistance or were more often dependent on self-care related and mobility related functional status measures than were patients receiving other types of therapy.
- All types of therapy delivered in the study SNFs improved functional status. The increase in functional status was statistically significant at the 1% level.
    - Average nominal self-care scores improved 17.4 points from 54.3 points at admission, an improvement of 32%.
    - Average nominal mobility scores improved 23.0 points from 43.6 points on average at admission, an improvement of 53%.
- Patients that received study modality treatments started at a lower level of function on average and showed greater improvement in functional status, compared to patients that did not receive any study modality treatments. The increase in functional status for patients receiving study modalities was also statistically significant at the 1% level.
    - Total self-care scores for patients that received one or more of the study modalities increased by 20.1 points compared to 15.1 points for those patients that received other therapy services, an increase in self-care functional improvement of 38% compared to 27%, respectively.
    - Mobility scores for patients that received one or more of the study modalities saw similar improvements. Total mobility scores increased by 27.0 points compared to 19.7 points for patients that received other types of therapy, an increase in mobility functional improvement of 66% compared to 43%, respectively.
- The improvement in functional status for patients receiving therapy is observed across all Level of Assistance categories. Patients that are largely independent at the start of their stay benefit the least from therapy, while those that are dependent or require assistance at the beginning of their stay benefit the most. For example, scores for largely independent patients improved by about 5 points on average during the course of their stay, while those that required moderate assistance improved their self-care score by nearly 20 points on average and their mobility score by nearly 26 points on average, an increase of 43% and 58%, respectively. The increase in functional status was statistically significant at the 1% level across all Level of Assistance categories.

List of Tables

Overview of Data and Methodology

TMC worked with staff from the data donor organization to obtain a data extract based upon a set of data specifications developed by TMC. The data extract is comprised of 7 data files.

- A Facility table with information on the SNFs contributing patients to the study.
- A Patient Stay table with demographic information about Medicare Part A patients.
- A Patient Diagnosis table.
- An Encounter table with therapy utilization data including days, minutes, HCPCS codes, and treating discipline.
- A Resource Utilization Group, version IV (RUG) days table.
- Two Assessment tables that include scores at admission and discharge for the CARE items included in self-care and mobility measures endorsed by NQF.

The study population included Medicare Part A patients receiving therapy services in SNFs operated by the donor organization. The data reflected SNF Part A stays that began on or after April 1, 2014 and were completed by September 30, 2015. Individual patients could have one or more Medicare Part A stays over the study period. This time period represented the most recent period for which all assessment data were available in a standard form. Patients without complete demographic, diagnosis, and encounter data were excluded from the analysis. The study treated all facilities as a single group: facility level analysis would be limited due to small sample sizes. The donor organization had some amount of common supervision over therapy and utilized ACP clinical programs across its facilities, though individual therapists may well have implemented services in different ways. Overall 25,362 Medicare Part A stays provided in 81 SNFs were included in the analysis.

For most Medicare Part A patient stays, the assessment type indicator in the database was used to identify admission and discharge assessments. For patients whose stays occurred after a change was made in the database structure or where an admission or discharge assessment type indicator was missing, the first and last assessments during the course of a patient's Medicare Part A stay was identified and used as the de facto admission and discharge assessments for the stay. Patients without an admission assessment, a discharge assessment, or both were excluded from assessment level analysis.

ACP identified seven physical modalities for investigation as part of this study. The modalities included:

- diathermy (CPT[2] ® code 97024),
- attended electrical (CPT code 97032),
- pressure ulcer related unattended electrical (CPT code G0281),
- non-pressure ulcer related unattended electrical (CPT code G0283),
- ultrasound (CPT code 97035),
- infrared (CPT code 97026), and

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- electro-magnetic therapy for wounds (CPT code G0329).

Due to small sample sizes, patients receiving infrared and electro-magnetic modalities were dropped from the modality level analysis.

Self-care and mobility assessments conducted by the therapists at the donor SNF were based on core and secondary functional status items as defined in the CARE tool. Beginning in FY 2016, CMS began collecting CARE tool functional status items. Overall, 8 self-care and 14 mobility functional status CARE items were examined as part of the study. The self-care items include eating, oral hygiene, dressing upper body, washing upper body, showering / bathing self, dressing lower body, putting on and removing footwear, and toilet hygiene. The mobility CARE tool items include rolling left and right, going from a lying to a sitting position on the side of the bed, going from sitting to standing, going from lying to sitting, the ability to transfer to and from a chair, toilet transfer, car transfer, and picking up objects, as well as items examining walking ability including how far the patient can walk, the ability to walk with two turns, ability to walk on uneven surfaces, the ability to step over a curb, go up and down exterior steps, and the ability to go up and down interior steps. For more information on these self-care and mobility items, see the CARE tool functional status excerpt in Appendix B.

To examine the broad functional capabilities of the Medicare Part A patients utilizing rehabilitation services in SNFs, TMC grouped patients using their overall self-care and mobility functional assessment scores into four categories based on how dependent the patients were on various functional status measures. Both the self-care and mobility based Level of Assistance (LOA) categories are based on the sum of the individual scores for the 8 self-care and 14 mobility functional status measures (See Table 1 below) and converted to a 100 point scale for each functional status domain. Patients were then grouped into four LOA categories[3]: Largely Independent, Minimal Assistance, Moderate Assistance, and Substantially Dependent.

In addition to examining individual CARE items, TMC also computed a simplified version of two self-care and mobility quality measures developed by TMC for the American Health Care Association (AHCA) to assess functional improvement[4]. A full replication of the self-care and mobility quality measures was not possible as many of the key items used to exclude patients and for risk adjustment were not contained in the donor data, were not complete or were not reliably reported. The simplified version reflects the absolute change in overall assessment scores.

[3] Level of Assistance Classification:

Substantially Dependent	Overall score of 35 or less (equivalent to average score of 2.2 or less on each item)
Moderate Assistance	Overall score between 35 and 55 (equivalent to avg. score of 2.2 to 3.3 on each item)
Minimal Assistance	Overall score between 55 and 80 (equivalent to avg. score of 3.3 to 4.8 on each item)
Largely Independent	Overall score between 80 and 100 (equivalent to avg. score of 4.8 to 6 on each item)

[4] The two quality measures are CARE: Improvement in Self Care and CARE: Improvement in Mobility. The measures calculate the average change in self-care and mobility, respectively, for patients admitted from a hospital who are receiving therapy in a SNF. Both were formally endorsed by the National Quality Forum in July 2015, and it is expected that CMS will eventually integrate them into regulations to meet IMPACT Act regulatory reporting requirements.

To compute the quality measures, the CARE tool scoring algorithm was used to assign a value to each of the CARE items for each measure. (See Table 1) The maximum possible self-care and mobility scores were 48 (8 items x 6 maximum points) and 84 (14 items x 6 maximum points), respectively. Items scored as 'N' were given a value of 0 and the maximum score was reduced by 6 for each 'N' coded item. Assessments with 3 or more items scored as 'P' were considered invalid and patient stays based on these assessments were dropped from the analysis. Next, an aggregate starting score based on the admission assessment items and an aggregate ending score based on the discharge assessment items were computed for each stay. Lastly, the aggregate admission and discharge assessment scores were converted to a 100 point scale to allow for consistent comparisons across stays, and the change in score was computed.

Table 1: Functional Status Coding

Score	Description
6	**Independent** – Patient complete the activity by him/herself with no assistance from a helper
5	**Setup – Clean-Up Assistance** – Helper SETS UP or CLEANS UP, and patient complete activity. Helper assists only prior to or following the activity
4	**Supervision of Touching Assistance** – Helper provides VERBAK CUES or TOUCHING / STEADYING assistance as patient completes activity. Assistance may be provided throughout the activity or intermittently
3	**Partial / Moderate Assistance** – Helper does LESS THAN HALF the effort. Helper lifts, holds or support trunk or limbs, but provides less than half the effort
2	**Substantial / Maximal Assistance** – Helper does MORE THAN HALF the effort. Helper lifts or holds trunk or limbs and provides more than half the effort
1	**Dependent** – Helper does ALL of the effort. Patient does none of the effort to complete the task
1	S – Not attempted due to safety concerns
1	A – Task attempted but not completed
1	P – Patient refused
0	N – Not applicable

Overview of Patient Population

To provide a context for interpreting outcome results, we describe the patient population in the study.

- Of patients receiving therapy in one of the study SNFs, about 64% were female and the average age was 79 years old.
- Approximately 58% of Medicare Part A patient stays in the study were FFS beneficiaries with the remainder in Medicare Advantage.
- FFS patients that received Part A therapy services were on average about 2.5 years older than MA patients.
- A substantially larger share of MA patients were less than 65 years of age (16% vs 6%), whereas a substantially larger proportion of FFS patients were 85 years of age or above (39% vs 33%)

- While patients receiving the selected therapy modalities were somewhat younger than patients receiving therapy services overall (about 6 months younger on average), there were no major differences in patient demographics between the two populations.

Table 2: Basic Demographics of Study Patient Population

	Receiving Therapy			Receiving Selected Modalities		
	Overall	**FFS**	**MA**	**Overall**	**FFS**	**MA**
Patient Stays	25,362	14,700	10,662	11,030	6,745	4,285
% Patient Stays	100%	58%	42%	100%	61%	39%
% Female	64%	63%	65%	69%	68%	71%
% Male	36%	37%	35%	31%	32%	29%
Mean Age	79.1	80.2	77.6	78.4	79.4	76.7
% <65 years	10%	6%	16%	12%	8%	19%
% 65-74 years	21%	21%	21%	22%	23%	21%
% 75-84 years	32%	34%	30%	32%	34%	29%
% 85+ years	37%	39%	33%	34%	36%	32%
% in Urban SNFs	89%	86%	95%	87%	83%	92%
% in Rural SNFs	11%	14%	5%	13%	17%	8%

We wanted to classify patient stays based on diagnostic profiles to align results with proposed approaches to post-acute care that are episode of care based. However, the donor company data included diagnoses reported by therapists with uneven quality and consistency. This is a chronic problem in all SNF reporting of diagnoses as well as therapist reported diagnoses: diagnosis code reflects over-use of very general coding, and a lack of precision. As a result, we cannot reliably assign SNF stays to any episode of care categories. A review of the diagnosis coding that is reported in donor data is provided in Table 3.

Table 3: Overview of Most Prevalent Disease Diagnosis

Diagnosis Category	Overall Receiving Therapy Services[1]	Selected Modalities Overall	Diathermy (97024)	Electrical Attended (97032)	Electrical Unattended (Ulcer) (G0281)	Electrical Unattended (Other) (G0283)	Ultrasound (97035)
Joint Disorders	18.9%	21.5%	22.8%	15.6%	18.5%	21.3%	21.4%
Muscle Wasting Related	19.8%	19.3%	19.5%	17.7%	19.4%	19.0%	19.0%
Speech Related	8.2%	7.5%	6.4%	7.3%	8.9%	8.0%	7.1%
Abnormality of Gait / Coordination	7.3%	6.9%	6.7%	8.2%	5.7%	6.9%	7.7%
Heart Diseases	7.8%	5.7%	5.4%	5.7%	5.2%	5.4%	7.1%
Pelvis / Lower Extremity Fractures	4.3%	5.7%	7.2%	3.6%	4.0%	5.0%	4.6%
Cerebrovascular Diseases	5.2%	5.6%	3.5%	10.9%	3.8%	7.1%	4.5%

Joint disorders and muscle wasting related diagnosis categories were most prevalent among the Medicare Part A patients in the sample that utilized SNF therapy services. Overall, 19% of patients in the sample had joint related diagnosis codes and about 20% had muscle wasting related diagnosis codes. The most frequent medical conditions reported include heart disease, pelvic and lower extremity fractures, and cerebrovascular disease related diagnoses.

Due to the generality and inconsistency of the diagnosis coding, we also cannot evaluate outcomes in relation to patient condition based on diagnosis.

Overview of Rehabilitation Utilization

Any therapy outcomes need to be interpreted in the context of the intensity of therapy provided as well as the functional status of patients at admission to the SNF. We examined therapy intensity in terms of days of therapy, as well therapy time reported in the donor data. We found the data on days of therapy to be most useful in evaluating outcomes. A profile of the study population's average length of stay and therapy intensity is shown in Table 4.

- Average Medicare Part A SNF length of stay was about 22 days. Patients on FFS Medicare had longer lengths of stay (LOS) then MA patients on average (24 days vs 19 days), about 25% less. This relative difference between payers exists for all therapy patients, whether they received the selected modalities or not, as well as across modalities.

Table 4: Overview of Overall Therapy Utilization by Study Modality Utilization Category

Modality	Patient Stays (Sample Size)	Average SNF LOS (Days/Stay)	Average Total Therapy		
			Days / Stay	Hours / Stay	Minutes / Tx Day
Overall Receiving Therapy Services[1]	25,362	21.7	17.8	33.3	112
Selected Modalities Overall [2]	11,030	27.0	22.2	42.8	116
Diathermy (97024)	6,355	28.2	23.1	45.1	117
Electrical - Attended (97032)	106	34.0	28.1	54.4	116
Electrical - Unattended (Ulcer) (G0281)	147	35.0	28.7	54.9	115
Electrical - Unattended (Other) (G0283)	7,391	28.5	23.4	45.6	117
Ultrasound (97035)	1,167	33.1	27.5	52.7	115

[1] Represents the demographic profile of Medicare patients (Fee-for-Service and Medicare Advantage) receiving Part A therapy services in the SNF donor organization

[2] Unique count of Patient Stays where one or more of the selected modalities were provided

- Average Medicare Part A SNF length of stay was about 22 days. Patients on FFS Medicare had longer lengths of stay (LOS) then MA patients on average (24 days vs 19 days), about 25% less. This relative difference between payers exists for all therapy patients, whether they received the selected modalities or not, as well as across modalities.
- On average, Medicare Part A patients had 18 days of therapy or a little over 33 hours per stay.
- Patients receiving the selected modalities tended to have longer average LOS than the average Part A patient receiving any therapy services (27 days vs 22 days).
- On average, patients utilizing the selected modalities had 22 days of therapy (about 25% more) and nearly 43 hours of therapy (about 29% more than the average patient receiving therapy services).
- Patients on average received one hour and 50 minutes of therapy per therapy day. The number of minutes of therapy per day did not vary appreciably based on the type of modality patients received during the course of their stay
- Nearly 50% of overall therapy is provided by physical therapists, with a little over 40% provided by occupational therapists, and a little less than 10% provided by speech-language pathologists.

Modality Related Therapy Utilization

While we looked at utilization of all therapy as context for the use of the ACP selected study modalities, we then looked at the use of each modality, and at modalities in combination. Patient outcomes cannot be isolated to an individual modality, as they are likely receiving other therapy services during their SNF stay. However, we do compare those receiving the study modalities to those not receiving those modalities, but receiving other therapy services. Table 5 shows that some patients received more than one of the selected modalities during their stay.

Table 5: Proportion of Patients Utilizing Multiple Modalities by Study Modalities

	Diathermy (97024)	Electrical Attended (97032)	Electrical Unattended (Ulcer) (G0281)	Electrical Unattended (Other) (G0283)	Ultrasound (97035)	Total Patient Stays where modality utilized
Diathermy (97024)	100%	1%	1%	50%	8%	6,355
Electrical - Attended (97032)	39%	100%	-	70%	-	106
Electrical - Unattended (Ulcer) (G0281)	47%	-	100%	68%	-	147
Electrical - Unattended (Other) (G0283)	43%	1%	1%	100%	8%	7,391
Ultrasound (97035)	44%	-	-	48%	100%	1,167
Selected Modalities Overall [2]	58%	1%	1%	67%	11%	11,030

[1] Represents the demographic profile of Medicare patients (Fee-for-Service and Medicare Advantage) receiving Part A therapy services in the SNF donor organization

[2] Unique count of Patient Stays where one or more of the selected modalities were provided

- indicates that these summary statistics are blinded due to small sample size data requirements.

% are row percentages

- Approximately 43% of patients utilized one or more of the study modalities. Non-pressure ulcer related unattended electrical and diathermy treatments were the most frequently utilized of these modalities (29% and 25% of all Medicare Part A patient stays, respectively), followed by ultrasound treatments that was utilized in about 5% of SNF stays.
- As shown in Table 5 below, the study modalities are frequently used in conjunction with each other. Overall about 50% of patients that received diathermy also received electrical treatments. Of the patients that received ultrasound, about 44% also received diathermy and 48% also received electrical treatments.

Table 6: Utilization of Study Modalities by Discipline

Patient Stays Utilizing Modality	Patient Stays (Sample Size)	Average Modality Therapy Utilization			
		Hours / Stay	% PT	% OT	% SLP
Selected Modalities Overall [2]	11,030	4.0	66.4%	33.6%	0.0%
Diathermy (97024)	6,355	3.6	67.2%	32.8%	0.0%
Electrical - Attended (97032)	106	0.7	30.3%	69.7%	0.0%
Electrical - Unattended (Ulcer) (G0281)	147	2.6	73.1%	26.9%	0.0%
Electrical - Unattended (Other) (G0283)	7,391	2.6	66.2%	33.8%	0.0%
Ultrasound (97035)	1,167	1.0	53.2%	46.8%	0.0%

[2] Unique count of Patient Stays where one or more of the selected modalities were provided

- Of the patients that received one or more of the study modalities during the course of their stay, about 4 hours of study modality services were provided on average. The average diathermy patient received about 3.6 hours of diathermy over the course of their stay, while the average electrical modality patient received about 2.6 hours of electrical treatments over the course of their stay. See Table 6.
- Diathermy and unattended electrical treatments were most intensely provided by physical therapists, whereas attended electrical treatment was most intensely provided by occupational therapists.
- Of the patients that utilized one or more of the study modalities over the course of their stay, study modality services were delivered on about 8.2 days, or about 37% of the days during their stay.

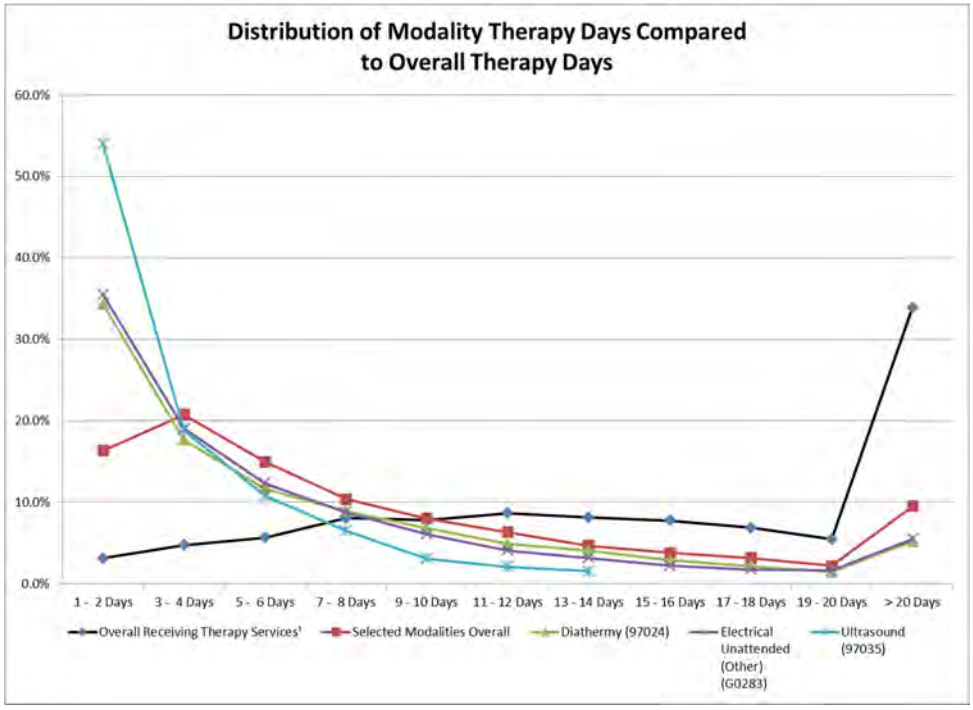
Table 7: Overview of Study Modality Utilization

Modality	Patient Stays	Average Number of Modality Therapy Days Per Stay	Average Percentage of Modality Therapy Days as a Proportion of Total	Average Number of Modality Therapy Hours Per Stay	Average Percentage of Modality Therapy Minutes as a Proportion of Total Therapy Minutes	Average Number of Modality Therapy Minutes Per Day
Selected Modalities Overall [2]	11,030	8.2	37.1%	4.0	9.1%	29.0
Diathermy (97024)	6,355	7.3	31.3%	3.6	11.4%	29.9
Electrical - Attended (97032)	106	1.9	6.8%	0.7	9.3%	22.1
Electrical - Unattended (Ulcer) (G0281)	147	4.4	15.4%	2.6	14.7%	35.3
Electrical - Unattended (Other) (G0283)	7,391	7.4	31.5%	2.6	9.7%	21.4
Ultrasound (97035)	1,167	3.9	14.2%	1.0	7.5%	14.9

[1] Represents the demographic profile of Medicare patients (Fee-for-Service and Medicare Advantage) receiving Part A therapy services in the SNF donor organization

[2] Unique count of Patient Stays where one or more of the selected modalities were provided

Figure 1. Proportion of Modality Therapy Days of All Therapy Days



- Treatment using the study modalities tends to be relatively short. Most patients that utilized attended electrical, electrical for pressure ulcers, or ultrasound treatments received one or two treatments over the course of their stay. By contrast, diathermy and unattended electrical treatments were provided for about 7 days on average over the course of the patient stay.

Overview of Functional Status at Admission

Study modalities may be initiated for patients with different levels of function at admission. The benefit resulting from therapy during the SNF stay is somewhat related to the level of function at admission. So we would expect to see limited functional improvement over the course of a SNF stay for patients that are relatively independent at the time of admission, and more improvement for those with lower levels of function at admission. Outcome data are shown in Appendix A where the difference between admission and discharge scores are reported based on the admission level of function, for patients receiving different modalities of treatment, and based on treatment intensity.

- Most Medicare Part A patients admitted to a SNF were relatively independent in terms of eating and oral hygiene, but were less independent for such activities as dressing their lower body, showering, and walking.
- As shown in Appendix A Tables 1 and 2, patients at admission that received one or more of the study modalities during the course of their stay tended to require more assistance or were more often dependent on self-care related and mobility related functional status measures.
- As shown in Appendix A Tables 3 and 4, SNF Part A patients that received study modality treatments over the course of their stay were less functionally independent as measured by their self-care and mobility scores at admission than patients that did not receive study modality treatments. These findings held across all four level of assistance categories.

Overview of Modality Treatment Outcomes

- All types of therapy delivered in the study SNFs improved functional status. Average nominal self-care scores improved 17.4 points from 54.3 points at admission, an improvement of 32%. Similarly, average nominal mobility scores improved 23.0 points from 43.6 points on average at admission, an improvement of 53%. The increase in functional status was statistically significant at the 1% level. See Table 8.
- Utilization of the study modalities improved functional status comparatively. Patients that received study modality treatment started at a lower level of function on average and showed greater improvement in functional status, compared to patients that did not receive any study modality treatments. The increase in functional status for patients receiving study modalities was also statistically significant at the 1% level.
- Total self-care scores for patients that received one or more of the study modalities increased by 20.1 points compared to 15.1 points for those patients that received other

therapy services, an increase in self-care functional improvement of 38% compared to 27%, respectively.

- Mobility scores for patients that received one or more of the study modalities saw similar improvements. Total mobility scores increased by 27.0 points compared to 19.7 points for patients that received other types of therapy, an increase in mobility functional improvement of 66% compared to 43%, respectively.
- The improvement in functional status for patients receiving therapy is observed across all Level of Assistance categories. Patients that are largely independent at the start of their stay benefit the least from therapy, while those that are dependent or require assistance at the beginning of their stay benefit the most. For example, scores for largely independent patients improved by about 5 points on average during the course of their stay, while those that required moderate assistance improved their self-care score by nearly 20 points on average and their mobility score by nearly 26 points on average, an increase of 43% and 58%, respectively. The increase in functional status was statistically significant at the 1% level across all Level of Assistance categories. See Table 8.

Table 8: Average Improvement in Overall Functional Assessment Scores

Modality	Self Care*	Mobility*
Overall Receiving Therapy Services[1]	17.4	23.0
Selected Modalities Overall [2]	20.1	27.0
Diathermy (97024)	21.3	28.3
Electrical - Attended (97032)	24.0	30.5
Electrical - Unattended (Ulcer) (G0281)	20.3	26.4
Electrical - Unattended (Other) (G0283)	20.0	26.8
Ultrasound (97035)	23.1	30.3
No Selected Modalities Overall	15.1	19.7

*: Simple paired t-test indicate that the improvement in self care and mobility scores are significant at the 1% level for all modality categories

[1] Represents the demographic profile of Medicare patients receiving Part A therapy services in the SNF donor organization

[2] Total Self Care and Mobility Scores are computed as the sum of individual scores for the respective assessments and converted to be on a 100 point scale. See TMC study memorandum for more information on these items for evaluating functional status.

- As shown in Appendix A Tables 3 and 4, patients that received study modality treatments saw a larger improvement in functional status scores than those that had other types of therapy across all Level of Assistance categories.
- For patients that are more dependent at admission, an increase in the number of days of therapy is associated with greater functional performance scores for both self-care and mobility. See Table 9.
- For patients requiring minimal assistance at admission, no benefit is observed associated with greater than 20 treatment days, though benefit does increase with increased treatment days below that level for both self-care and mobility.

Table 9: Average Improvement in Overall Functional Assessment Scores by Level of Assistance and Days of Modality Therapy Intensity

Modality Intensity (Days of Modality Therapy)	Self-Care[1]					Mobility[1]				
	Overall	Substantially Dependent	Moderate Assistance	Minimal Assistance	Largely Independent	Overall	Substantially Dependent	Moderate Assistance	Minimal Assistance	Largely Independent
Low (< 5 days)	17.8	14.2	19.3	18.3	6.9	24.5	23.4	27.3	20.6	9.0
Medium (5 - 10 days)	20.8	17.2	22.3	21.1	8.3	28.8	28.0	31.3	23.2	-
High (10-20 days)	22.8	19.6	24.9	22.1	-	30.7	29.1	33.5	27.2	-
Very High (>= 20 days)	25.2	25.3	27.0	20.0	-	31.2	32.9	30.6	15.8	-

- indicates that these summary statistics are blinded due to small sample size data requirements

[1] Total Self Care and Mobility Scores are computed as the sum of individual scores for each measure and converted to be on a 100 point scale. See TMC study memorandum for more information on these items for evaluating functional status

Discussion

Overall, the study shows that therapy services in general are associated with improved outcomes in self-care and mobility for the SNF patients studied. These improvements are statistically significant. Functional improvement appears to increase with increased therapy treatment days for those who are more dependent at admission.

The study further shows that the utilization of one or more therapeutic modalities like diathermy, electrical, and ultrasound leads to greater functional improvement in patients compared to other Medicare Part A patients that did not receive these selected modalities as part of their SNF stay (See Appendix A Table 5). The study further suggests that the improvement in functional status outcomes improves with the number of days of selected modality related therapy, but does not vary based on the duration of selected modality therapy as measured by the number of minutes of modality therapy per day.

These results are specific to the SNFs operated by the company that donated the data utilized in this study, and cannot be generalized to the overall SNF population. Also, the results are associated with SNFs that are ACP customers, presumably linking improvement to the clinical programs used in these SNFs. We would have to conduct the study with a comparison group of SNFs reporting the same data that do not use ACP clinical programs to determine the extent to which functional improvement can be attributed to the ACP clinical programs, and comparison group data were not available.

This study represents the first such use of the CARE based functional items in measuring therapy improvement for a significant sized SNF Part A population receiving therapy under the auspices of a single corporate entity, and demonstrates the potential for these data to be used to compare patients receiving certain types of therapy to others not receiving those types of therapy. The study would be improved in future years if the donor company improved its diagnosis coding and captured the data to be used in the NQF measures to risk adjust outcome scores. The donor company may have these data elsewhere in its data bases, but the risk adjustment factors from the MDS were not incorporated into the therapy database that was used to provide the data for this study.

Appendix A: Tables

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Appendix A: Table 1: Distribution of Assessment Scoresat Admission by Self Care Assessment Category for Medicare Part A Patients

Comparison of Patients That Subsequently Receive or Did Not Receive a Selected Therapeutic Modality During Their Medicare Part A Stay

Prepared for: Accelerated Care Plus
Data Source: Study administrative and clinical data for Medicare Part A patients in the SNF donor organization, April 2014 - September 2014
Date: 11/16/16

	Eating		Oral Hygiene		Dressing Upper Body		Washing Upper Body		Showering		Dressing Lower Body		Putting On / Removing Footwear		Toilet Hygiene	
Assessment Category	Modality	No Modality	Modality	No Modality	Modality	No Modality	Modality	No Modality	Modality	No Modality	Modality	No Modality	Modality	No Modality	Modality	No Modality
(1) Dependent	2.3%	2.7%	3.1%	3.5%	21.9%	16.1%	34.1%	25.5%	5.7%	5.2%	7.3%	7.4%	17.4%	15.2%	24.1%	18.6%
(2) Substantial / Maximal Assistance	2.3%	2.5%	5.7%	5.2%	39.8%	31.7%	31.4%	27.2%	16.1%	12.3%	18.0%	14.9%	44.2%	34.8%	23.3%	20.0%
(3) Partial / Moderate Assistance	5.6%	5.1%	19.3%	17.5%	28.4%	31.9%	22.6%	24.2%	30.0%	29.4%	35.9%	33.5%	32.5%	38.6%	27.3%	28.8%
(4) Supervision or Touching Assistance	10.3%	11.9%	27.5%	31.8%	7.9%	16.6%	7.7%	16.1%	22.9%	25.9%	23.5%	27.0%	5.3%	9.8%	19.2%	25.5%
(5) Setup or Clean-up Assistance	42.9%	33.9%	35.7%	31.8%	1.2%	2.0%	2.7%	4.2%	21.0%	21.7%	13.3%	14.1%	0.4%	0.7%	3.0%	2.6%
(6) Independent	36.3%	43.3%	8.6%	10.1%	0.8%	1.6%	1.4%	2.7%	4.5%	5.7%	2.0%	3.0%	0.2%	0.6%	3.0%	4.5%

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Appendix A: Table 2: Distribution of Assessment Scores At Admission by Mobility Assessment Category for Medicare Part A Patients

Comparison of Patients That Subsequently Receive or Did Not Receive a Selected Therapeutic Modality During Their Medicare Part A Stay

Prepared for: Accelerated Care Plus
Data Source: Study administrative and clinical data for Medicare Part A patients in the SNF donor organization, April 2014 - September 2014
Date: 11/16/16

	Roll Left and Right		Lying to Sitting on Side of Bed		Sitting to Standing		Sitting to Lying on Bed		Chair / Bed to Chair Transfer		Toilet Transfer		Car Transfer	
Assessment Category	**Modality**	**No Modality**	**Modality**	**No Modality**	**Modality**	**No Modality**	**Modality**	**No Modality**	**Modality**	**No Modality**	**Modality**	**No Modality**	**Modality**	**No Modality**
(1) Dependent	5.6%	4.9%	6.0%	5.6%	11.2%	8.1%	6.6%	5.8%	12.9%	9.5%	14.7%	11.7%	37.8%	30.0%
(2) Substantial / Maximal Assistance	19.1%	12.2%	23.3%	14.8%	18.1%	12.2%	23.4%	14.9%	18.0%	12.2%	17.9%	11.8%	18.3%	15.2%
(3) Partial / Moderate Assistance	35.0%	28.8%	38.7%	33.3%	38.4%	34.7%	39.1%	33.2%	37.1%	35.1%	37.5%	35.6%	29.2%	29.9%
(4) Supervision or Touching Assistance	23.4%	27.4%	20.3%	25.6%	29.2%	37.6%	19.8%	25.5%	29.6%	37.5%	27.6%	35.2%	12.7%	19.4%
(5) Setup or Clean-up Assistance	2.9%	3.6%	2.7%	3.9%	1.0%	1.8%	2.7%	3.6%	0.8%	1.7%	0.9%	1.6%	-	0.7%
(6) Independent	13.7%	22.9%	8.7%	16.7%	1.8%	5.0%	8.3%	16.8%	1.5%	3.8%	1.4%	3.7%	-	1.7%

	Walk / Wheeling Mobility		Walk 50 Feet with 2 Turns		Walk 10 Feet on Uneven Surfaces		Go Up / Down 12 Interior Steps		Go Up / Down 4 Exterior Steps		Go Over A Curb		Picking Up Object From The Floor	
Assessment Category	**Modality**	**No Modality**	**Modality**	**No Modality**	**Modality**	**No Modality**	**Modality**	**No Modality**	**Modality**	**No Modality**	**Modality**	**No Modality**	**Modality**	**No Modality**
(1) Dependent	27.6%	16.6%	55.2%	41.7%	57.2%	45.5%	69.6%	56.4%	65.2%	51.5%	61.0%	48.4%	57.4%	45.1%
(2) Substantial / Maximal Assistance	7.9%	6.1%	6.9%	6.7%	9.0%	8.8%	7.9%	11.2%	9.1%	11.1%	9.8%	10.0%	15.1%	14.7%
(3) Partial / Moderate Assistance	24.5%	27.1%	12.4%	15.5%	19.6%	23.0%	6.3%	8.5%	9.9%	12.7%	15.1%	18.7%	17.3%	21.0%
(4) Supervision or Touching Assistance	35.8%	43.2%	20.8%	29.3%	9.0%	16.0%	-	5.1%	-	8.9%	-	12.4%	7.5%	14.2%
(5) Setup or Clean-up Assistance	0.3%	0.7%	0.2%	0.4%	-	0.3%	-	-	-	-	-	0.3%	0.7%	0.8%
(6) Independent	0.5%	2.1%	0.5%	2.2%	-	1.4%	-	-	-	-	-	1.1%	1.1%	2.4%

- indicates that these summary statistics are blinded due to small sample size data requirements.

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Appendix A: Table 3: Self Care Score Performance for Medicare Part A Patients by Selected Modality

Prepared for: Accelerated Care Plus
Data Source: Study administrative and clinical data for Medicare Part A patients in the SNF donor organization, April 2014 - September 2014
Date: 11/16/16

Self Care Item	Overall Receiving Therapy Services[1]			Selected Modalities Overall			Diathermy (97024)			Electrical Attended (97032)			Electrical Unattended (Ulcer) (G0281)			Electrical Unattended (Other) (G0283)			Ultrasound (97035)			No Modalities Overall		
	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score
Total Self Care Score[2]	54.3	71.6	17.4	52.8	72.9	20.1	52.8	74.1	21.3	52.0	76.0	24.0	50.8	71.1	20.3	52.3	72.4	20.0	52.8	75.9	23.1	55.5	70.6	15.1
Eating	5.0	5.3	0.3	5.0	5.4	0.4	5.0	5.4	0.4	4.9	5.6	0.7	4.7	5.2	0.5	4.9	5.3	0.4	5.0	5.5	0.5	5.0	5.3	0.3
Oral Hygiene	4.1	4.9	0.8	4.1	5.0	0.9	4.2	5.1	0.9	3.8	5.1	1.3	4.3	5.0	0.7	4.1	5.0	0.9	4.2	5.2	1.0	4.1	4.8	0.7
Dressing Upper Body	2.8	4.1	1.3	2.6	4.2	1.5	2.6	4.3	1.7	2.7	4.3	1.7	2.4	4.1	1.7	2.6	4.1	1.5	2.6	4.4	1.7	2.9	4.0	1.2
Washing Upper Body	3.6	4.6	1.0	3.5	4.7	1.1	3.5	4.7	1.2	3.5	4.9	1.4	3.5	4.6	1.1	3.5	4.6	1.1	3.5	4.8	1.3	3.6	4.5	0.9
Showering / Bathing Self	2.5	3.9	1.4	2.3	4.0	1.6	2.3	4.0	1.7	2.3	4.3	2.0	2.1	3.8	1.7	2.3	3.9	1.6	2.3	4.2	1.9	2.6	3.8	1.2
Toilet Hygiene	3.3	4.2	0.9	3.2	4.3	1.1	3.2	4.4	1.1	3.3	4.4	1.1	3.3	4.3	1.0	3.2	4.3	1.1	3.2	4.5	1.2	3.3	4.2	0.8
Dressing Lower Body	2.4	3.4	1.0	2.3	3.5	1.2	2.3	3.6	1.3	2.3	3.7	1.4	2.2	3.4	1.2	2.3	3.5	1.2	2.3	3.7	1.4	2.5	3.4	0.9
Putting On & Removing Footwear	2.4	3.9	1.5	2.2	3.9	1.7	2.2	4.0	1.8	2.3	4.3	2.0	1.9	3.7	1.9	2.2	3.9	1.7	2.2	4.1	2.0	2.5	3.8	1.3

Self-Care Score Performance by Level of Assistance at Admission and Selected Modality for Medicare Part A Patients

Level of Assistance Category	Overall Receiving Therapy Services[1]			Selected Modalities Overall			Diathermy (97024)			Electrical Attended (97032)			Electrical Unattended (Ulcer) (G0281)			Electrical Unattended (Other) (G0283)			Ultrasound (97035)			No Modalities Overall		
	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score
Substantially Dependent	26.2	40.6	14.4	26.5	44.4	17.9	27.2	46.9	19.8	-	-	-	-	-	-	26.1	43.9	17.8	27.8	55.2	27.5	25.9	37.0	11.1
Moderate Assistance	46.1	65.7	19.6	46.0	68.1	22.1	46.0	69.3	23.3	46.9	71.8	24.9	46.2	67.8	21.6	46.2	68.1	21.9	46.0	71.1	25.1	46.2	63.2	17.0
Minimal Assistance	65.4	82.7	17.3	64.9	84.5	19.6	64.5	84.9	20.4	64.0	85.0	21.0	63.4	83.6	20.2	65.0	84.7	19.6	64.2	84.9	20.7	65.7	81.3	15.6
Largely Independent	88.0	93.3	5.3	87.6	94.5	6.9	87.8	94.5	6.7	-	-	-	-	-	-	86.9	94.6	7.7	86.6	95.5	8.9	88.2	92.7	4.5

- indicates that these summary statistics are blinded due to small sample size data requirements.
[1] Represents the demographic profile of Medicare patients receiving Part A therapy services in the SNF donor organization
[2] Total Self Care Score is computed as the sum of individual scores and converted to be on a 100 point scale. See TMC study memorandum for more information on these items for evaluating functional status.

Level of Assistance Classification:

Substantially Dependent	Overall score of 35 or less (equivalent to average score of 2.2 or less on each item)
Moderate Assistance	Overall score between 35 and 55 (equivalent to average score of between 2.2 and 3.3 on each item)
Minimal Assistance	Overall score between 55 and 80 (equivalent to average score of between 3.3 and 4.8 on each item)
Largely Independent	Overall score between 80 and 100 (equivalent to average score of between 4.8 and 6 on each item)

Item Scores (1) Dependent, (2) Substantial / Maximal Assistance, (3) Partial / Moderate Assistance, (4) Supervision or Touching Assistance, (5) Setup or Clean-up Assistance, and (6) Independent

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Appendix A: Table 4: Mobility Score Performance by Functional Assessment Item and Selected Modality for Medicare Part A Patients

Prepared for: Accelerated Care Plus
Data Source: Study administrative and clinical data for Medicare Part A patients in the SNF donor organization, April 2014 - September 2014
Date: 11/16/16

Moblity Item	Overall Receiving Therapy Services[1]			Selected Modalities Overall			Diathermy (97024)			Electrical Attended (97032)			Electrical Unattended (Ulcer) (G0281)			Electrical Unattended (Other) (G0283)			Ultrasound (97035)			No Modalities Overall		
	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score
Total Mobility Score[2]	43.6	66.6	23.0	40.7	67.7	27.0	40.3	68.6	28.3	41.7	72.2	30.5	37.2	63.6	26.4	40.1	66.9	26.8	40.1	70.4	30.3	45.9	65.7	19.7
Roll Left and Right	3.6	4.9	1.2	3.4	4.9	1.5	3.4	5.0	1.6	3.7	5.2	1.6	3.1	4.5	1.4	3.4	4.9	1.5	3.3	5.1	1.8	3.8	4.8	1.0
Lying to Sitting on Side of Bed	3.4	4.7	1.3	3.2	4.8	1.6	3.2	4.9	1.7	3.6	5.2	1.7	2.8	4.5	1.7	3.1	4.8	1.6	3.2	5.0	1.8	3.6	4.7	1.1
Sit to Stand	3.1	4.5	1.3	3.0	4.6	1.6	3.0	4.6	1.6	3.0	4.6	1.6	2.6	4.2	1.6	2.9	4.5	1.6	3.0	4.7	1.7	3.3	4.4	1.1
Sit to Lying	3.4	4.7	1.3	3.2	4.8	1.6	3.1	4.9	1.8	3.5	5.2	1.7	2.8	4.4	1.7	3.1	4.8	1.6	3.2	5.0	1.8	3.6	4.7	1.1
Chair/Bed to Chair Transfer	3.1	4.4	1.3	3.0	4.5	1.6	3.0	4.6	1.6	3.0	4.7	1.7	2.6	4.1	1.6	2.9	4.5	1.6	2.9	4.7	1.8	3.2	4.3	1.1
Toilet Transfer	3.0	4.4	1.3	2.9	4.5	1.6	2.9	4.5	1.6	3.0	4.6	1.6	2.5	4.1	1.6	2.8	4.4	1.6	2.9	4.7	1.8	3.1	4.3	1.1
Car Transfer	2.3	3.7	1.4	2.2	3.8	1.6	2.2	3.8	1.7	2.2	4.1	1.9	2.0	3.7	1.6	2.1	3.7	1.6	2.2	4.0	1.8	2.4	3.6	1.2
Picking up Object	2.0	3.3	1.3	1.8	3.4	1.6	1.8	3.4	1.6	2.1	3.8	1.7	1.8	3.2	1.4	1.8	3.3	1.5	1.8	3.7	1.9	2.1	3.3	1.1
Walking - Level of Independence	2.9	4.1	1.2	2.7	4.2	1.5	2.7	4.2	1.5	2.4	4.3	1.9	2.3	3.9	1.6	2.6	4.1	1.5	2.7	4.4	1.7	3.0	4.0	1.0
Walking 50 Feet with Two Turns	2.2	3.8	1.7	2.0	3.9	1.9	2.0	4.0	2.0	1.8	4.1	2.3	1.9	3.9	2.0	1.9	3.8	1.9	1.9	4.1	2.1	2.3	3.8	1.4
Walking 10 Feet on Uneven Surfaces	1.9	3.4	1.5	1.7	3.4	1.7	1.7	3.5	1.8	1.7	3.9	2.2	1.8	3.4	1.7	1.7	3.4	1.7	1.7	3.6	1.9	2.1	3.3	1.3
12 Steps Interior	1.2	2.3	1.1	1.1	2.4	1.3	1.1	2.4	1.3	1.0	2.6	1.6	1.0	2.1	1.0	1.1	2.4	1.2	1.2	2.6	1.4	1.3	2.3	1.0
4 Steps Exterior	1.4	2.8	1.3	1.3	2.8	1.5	1.3	2.9	1.6	1.2	3.2	2.0	1.2	2.5	1.3	1.3	2.8	1.5	1.3	3.0	1.6	1.5	2.7	1.2
1 (Curb) Step	1.7	3.1	1.4	1.6	3.2	1.7	1.5	3.3	1.7	1.5	3.4	2.0	1.5	3.0	1.5	1.5	3.2	1.6	1.6	3.3	1.8	1.8	3.1	1.3

Mobility Score Performance by Level of Assistance at Admission and Selected Modality for Medicare Part A Patients

Level of Assistance Category	Overall Receiving Therapy Services[1]			Selected Modalities Overall			Diathermy (97024)			Electrical Attended (97032)			Electrical Unattended (Ulcer) (G0281)			Electrical Unattended (Other) (G0283)			Ultrasound (97035)			No Modalities Overall		
	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score	Average Starting Score	Average Ending Score	Change in Score
Substantially Dependent	26.3	49.2	23.0	26.2	53.2	27.0	26.5	55.1	28.6	27.3	61.4	34.1	25.6	51.4	25.7	25.7	52.4	26.7	26.7	60.2	33.5	26.4	44.8	18.4
Moderate Assistance	44.6	70.4	25.8	44.2	73.6	29.4	44.0	74.5	30.5	-	-	-	-	-	-	44.2	73.7	29.5	44.0	74.0	30.0	45.0	67.8	22.8
Minimal Assistance	63.9	82.9	19.0	63.4	84.9	21.6	63.1	84.8	21.7	-	-	-	-	-	-	63.1	84.2	21.1	-	-	-	64.2	81.8	17.6
Largely Independent	89.8	95.0	5.2	85.4	93.0	7.6	85.1	92.4	7.3	-	-	-	-	-	-	85.4	91.8	6.4	-	-	-	90.8	95.4	4.6

- indicates that these summary statistics are blinded due to small sample size data requirements.
[1] Represents the demographic profile of Medicare patients receiving Part A therapy services in the SNF donor organization
[2] Total Self Care Score is computed as the sum of individual scores and converted to be on a 100 point scale. See TMC study memorandum for more information on these items for evaluating functional status.

Level of Assistance Classification:

Substantially Dependent	Overall score of 35 or less (equivalent to average score of 2.2 or less on each item)
Moderate Assistance	Overall score between 35 and 55 (equivalent to average score of between 2.2 and 3.3 on each item)
Minimal Assistance	Overall score between 55 and 80 (equivalent to average score of between 3.3 and 4.8 on each item)
Largely Independent	Overall score between 80 and 100 (equivalent to average score of between 4.8 and 6 on each item)

Item Scores
(1) Dependent, (2) Substantial / Maximal Assistance, (3) Partial / Moderate Assistance,
(4) Supervision or Touching Assistance, (5) Setup or Clean-up Assistance, and (6) Independent

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Appendix A: Table 5: Average Improvement in Overall Self Care and Mobility Functional Assessment Scores by Level of Assistance at Admission Category for Medicare Part A Patients

Prepared for: Accelerated Care Plus
Study administrative and clinical data for Medicare Part A patients in the SNF donor organization, April 2014 - September
Data Source: 2014
Date: 11/16/16

	Self Care[2]			Mobility[2]		
Level of Assistance	**Any Modality**	**No Modality**	**Difference**	**Any Modality**	**No Modality**	**Difference**
Substantially Dependent	17.9	11.1	6.8	27.0	18.4	8.6
Moderate Assistance	22.1	17.0	5.1	29.4	22.8	6.6
Minimal Assistance	19.6	15.6	4.0	21.6	17.6	4.0
Largely Independent	6.9	4.5	2.4	7.6	4.6	3.0

Note: Simple paired t-tests indicate that the improvement in self-care and mobility scores are significant at the 1% level for all modality categories

[2] Total Self Care Score is computed as the sum of individual scores and converted to be on a 100 point scale. See TMC study memorandum for more information on these items for evaluating functional status.

Level of Assistance Classification:

Substantially Dependent	Overall score of 35 or less (equivalent to average score of 2.2 or less on each item)
Moderate Assistance	Overall score between 35 and 55 (equivalent to average score of between 2.2 and 3.3 on each item)
Minimal Assistance	Overall score between 55 and 80 (equivalent to average score of between 3.3 and 4.8 on each item)
Largely Independent	Overall score between 80 and 100 (equivalent to average score of between 4.8 and 6 on each item)

Item Scores (1) Dependent, (2) Substantial / Maximal Assistance, (3) Partial / Moderate Assistance, (4) Supervision or Touching Assistance, (5) Setup or Clean-up Assistance, and (6) Independent

Appendix B: CARE Tool Functional Assessment Items

VI. Functional Status: Usual Performance

A. Core Self Care: The core self care items should be completed on ALL patients.

Code the patient's most usual performance for the 2-day assessment period using the 6-point scale below.

CODING:
Safety and **Quality of Performance** – If helper assistance is required because patient's performance is unsafe or of poor quality, score according to amount of assistance provided.

Code for the most usual performance in the 2-day assessment period.

Activities may be completed with or without assistive devices.

6. **Independent** – Patient completes the activity by him/herself with no assistance from a helper.
5. **Setup or clean-up assistance** – Helper SETS UP OR CLEANS UP; patient completes activity. Helper assists only prior to or following the activity.
4. **Supervision or touching assistance** –Helper provides VERBAL CUES or TOUCHING/ STEADYING assistance as patient completes activity. Assistance may be provided throughout the activity or intermittently.
3. **Partial/moderate assistance** – Helper does LESS THAN HALF the effort. Helper lifts, holds or supports trunk or limbs, but provides less than half the effort.
2. **Substantial/maximal assistance** – Helper does MORE THAN HALF the effort. Helper lifts or holds trunk or limbs and provides more than half the effort.
1. **Dependent** – Helper does ALL of the effort. Patient does none of the effort to complete the task.

If activity was not attempted code:
M. Not attempted due to **medical condition**
S. Not attempted due to **safety concerns**
A. Task **attempted** but not completed
N. **Not applicable**
P. **Patient Refused**

Enter Code in Boxes →

Enter Code	
Enter ☐ Code	**A1. Eating:** The ability to use suitable utensils to bring food to the mouth and swallow food once the meal is presented on a table/tray. Includes modified food consistency.
Enter ☐ Code	**A2. Tube feeding:** The ability to manage all equipment/supplies related to obtaining nutrition.
Enter ☐ Code	**A3. Oral hygiene:** The ability to use suitable items to clean teeth. Dentures: The ability to remove and replace dentures from and to mouth, and manage equipment for soaking and rinsing.
Enter ☐ Code	**A4. Toilet hygiene:** The ability to maintain perineal hygiene, adjust clothes before and after using toilet, commode, bedpan, urinal. If managing ostomy, include wiping opening but not managing equipment.
Enter ☐ Code	**A5. Upper body dressing:** The ability to put on and remove shirt or pajama top. Includes buttoning three buttons.
Enter ☐ Code	**A6. Lower body dressing:** The ability to dress and undress below the waist, including fasteners. Does not include footwear.

VI. Functional Status (cont.)

B. Core Functional Mobility: The core functional mobility items should be completed on ALL patients.

Complete for ALL patients: Code the patient's most usual performance for the 2-day assessment period using the 6-point scale below.

CODING:

Safety and **Quality of Performance** – If helper assistance is required because patient's performance is unsafe or of poor quality, score according to amount of assistance provided.

Code for the most usual performance in the 2-day assessment period.

Activities may be completed with or without assistive devices.

6. **Independent** – Patient completes the activity by him/herself with no assistance from a helper.
5. **Setup or clean-up assistance** – Helper SETS UP OR CLEANS UP; patient completes activity. Helper assists only prior to or following the activity.
4. **Supervision or touching assistance** – Helper provides VERBAL CUES or TOUCHING/ STEADYING assistance as patient completes activity. Assistance may be provided throughout the activity or intermittently.
3. **Partial/moderate assistance** – Helper does LESS THAN HALF the effort. Helper lifts, holds or supports trunk or limbs, but provides less than half the effort.
2. **Substantial/maximal assistance** – Helper does MORE THAN HALF the effort. Helper lifts or holds trunk or limbs and provides more than half the effort.
1. **Dependent** – Helper does ALL of the effort. Patient does none of the effort to complete the task.

If activity was not attempted code:

M. Not attempted due to **medical condition**
S. Not attempted due to **safety concerns**
A. Task **attempted** but not completed
N. **Not applicable**
P. **Patient Refused**

Enter Code in Boxes

Enter ☐ Code	**B1. Lying to Sitting on Side of Bed:** The ability to safely move from lying on the back to sitting on side of bed with feet flat on the floor, no back support.
Enter ☐ Code	**B2. Sit to Stand:** The ability to safely come to a standing position from sitting in a chair or on the side of a bed.
Enter ☐ Code	**B3. Chair/Bed-to-Chair Transfer:** The ability to safely transfer to and from a chair (or wheelchair). The chairs are placed at right angles to each other.
Enter ☐ Code	**B4. Toilet Transfer:** The ability to safely get on and off a toilet or commode.

MODE OF MOBILITY

Enter ☐ Code	**B5.** Does this patient primarily use a wheelchair for mobility? **0. No** (*If No, code B5a for the longest distance completed.*) **1. Yes** (*If Yes, code B5b for the longest distance completed.*)
Enter ☐ Code Enter ☐ Code Enter ☐ Code Enter ☐ Code	**B5a. Select the longest distance the patient walks and code his/her level of independence (Level 1–6) on that distance (observe their performance):** 1. **Walk 150 ft (45 m):** Once standing, can walk at least 150 feet (45 meters) in corridor or similar space. 2. **Walk 100 ft (30 m):** Once standing, can walk at least 100 feet (30 meters) in corridor or similar space 3. **Walk 50 ft (15 m):** Once standing, can walk at least 50 feet (15 meters) in corridor or similar space 4. **Walk in Room Once Standing:** Once standing, can walk at least 10 feet (3 meters) in room, corridor or similar space.
Enter ☐ Code Enter ☐ Code Enter ☐ Code Enter ☐ Code	**B5b. Select the longest distance the patient wheels and code his/her level of independence (Level 1–6) (observe their performance):** 1. **Wheel 150 ft (45 m):** Once sitting, can wheel at least 150 feet (45 meters) in corridor or similar space. 2. **Wheel 100 ft (30 m):** Once sitting, can wheel at least 100 feet (30 meters) in corridor or similar space 3. **Wheel 50 ft (15 m):** Once sitting, can wheel at least 50 feet (15 meters) in corridor or similar space 4. **Wheel in Room Once Seated:** Once seated, can wheel at least 10 feet (3 meters) in room, corridor, or similar space.

VI. Functional Status (cont.)

C. Supplemental Functional Ability: Complete only for patients who will need post-acute care to improve their functional ability or personal assistance following discharge.

Please code patient on all activities they are able to participate in and which you can observe, or have assessed by other means, using the 6-point scale below.

CODING:
Safety and **Quality of Performance** – If helper assistance is required because patient's performance is unsafe or of poor quality, score according to amount of assistance provided.

Code for the most usual performance in the 2-day assessment period.

Activities may be completed with or without assistive devices.

6. **Independent** – Patient completes the activity by him/herself with no assistance from a helper.
5. **Setup or clean-up assistance** – Helper SETS UP OR CLEANS UP; patient completes activity. Helper assists only prior to or following the activity.
4. **Supervision or touching assistance** – Helper provides VERBAL CUES or TOUCHING/ STEADYING assistance as patient completes activity. Assistance may be provided throughout the activity or intermittently.
3. **Partial/moderate assistance** – Helper does LESS THAN HALF the effort. Helper lifts, holds or supports trunk or limbs, but provides less than half the effort.
2. **Substantial/maximal assistance** – Helper does MORE THAN HALF the effort. Helper lifts or holds trunk or limbs and provides more than half the effort.
1. **Dependent** – Helper does ALL of the effort. Patient does none of the effort to complete the task.

If activity was not attempted code:
M. Not attempted due to **medical condition**
S. Not attempted due to **safety concerns**
E. Not attempted due to **environmental constraints**
A. Task **attempted** but not completed
N. **Not applicable**
P. **Patient Refused**

→ **Enter Code in Boxes** →

Enter Code	**C1. Wash Upper Body:** The ability to wash, rinse, and dry the face, hands, chest, and arms while sitting in a chair or bed.
Enter Code	**C2. Shower/bathe self:** The ability to bathe self in shower or tub, including washing and drying self. Does not include transferring in/out of tub/shower.
Enter Code	**C3. Roll left and right:** The ability to roll from lying on back to left and right side, and roll back to back.
Enter Code	**C4. Sit to lying:** The ability to move from sitting on side of bed to lying flat on the bed.
Enter Code	**C5. Picking up object:** The ability to bend/stoop from a standing position to pick up small object such as a spoon from the floor.
Enter Code	**C6. Putting on/taking off footwear:** The ability to put on and take off socks and shoes or other footwear that are appropriate for safe mobility.
MODE OF MOBILITY	
Enter Code	**C7.** Does this patient primarily use a wheelchair for mobility? **0. No** (*If No, code C7a–C7f.*) **1. Yes** (*If Yes, code C7f–C7h.*)
Enter Code	**C7a. 1 step (curb):** The ability to step over a curb or up and down one step.
Enter Code	**C7b. Walk 50 feet with two turns:** The ability to walk 50 feet and make two turns.
Enter Code	**C7c. 12 steps-interior:** The ability to go up and down 12 interior steps with a rail.
Enter Code	**C7d. Four steps-exterior:** The ability to go up and down 4 exterior steps with a rail.
Enter Code	**C7e. Walking 10 feet on uneven surfaces:** The ability to walk 10 feet on uneven or sloping surfaces, such as grass, gravel, ice or snow.
Enter Code	**C7f. Car transfer:** The ability to transfer in and out of a car or van on the passenger side. Does not include the ability to open/close door or fasten seat belt.
Enter Code	**C7g. Wheel short ramp:** Once seated in wheelchair, goes up and down a ramp of less than 12 feet (4 meters).
Enter Code	**C7h. Wheel long ramp:** Once seated in wheelchair, goes up and down a ramp of more than 12 feet (4 meters).

VI. Functional Status (cont.)

C. Supplemental Functional Ability (cont.): Complete only for patients who will need post-acute care to improve their functional ability or personal assistance following discharge.

Please code patient on all activities they are able to participate in and which you can observe, or have assessed by other means, using the 6-point scale below.

CODING:

Safety and **Quality of Performance** – If helper assistance is required because patient's performance is unsafe or of poor quality, score according to amount of assistance provided.

Code for the most usual performance in the first 2-day assessment period.

Activities may be completed with or without assistive devices.

6. **Independent** – Patient completes the activity by him/herself with no assistance from a helper.
5. **Setup or clean-up assistance** – Helper SETS UP OR CLEANS UP; patient completes activity. Helper assists only prior to or following the activity.
4. **Supervision or touching assistance** – Helper provides VERBAL CUES or TOUCHING/ STEADYING assistance as patient completes activity. Assistance may be provided throughout the activity or intermittently.
3. **Partial/moderate assistance** – Helper does LESS THAN HALF the effort. Helper lifts, holds or supports trunk or limbs, but provides less than half the effort.
2. **Substantial/maximal assistance** – Helper does MORE THAN HALF the effort. Helper lifts or holds trunk or limbs and provides more than half the effort.
1. **Dependent** – Helper does ALL of the effort. Patient does none of the effort to complete the task.

If activity was not attempted code:

M. Not attempted due to **medical condition**
S. Not attempted due to **safety concerns**
E. Not attempted due to **environmental constraints**
A. Task **attempted** but not completed
N. **Not applicable**
P. **Patient Refused**

Enter Code in Boxes →

Enter Code	**C8. Telephone-answering:** The ability to pick up call in patient's customary manner and maintain for 3 minutes. Does not include getting to the phone.
Enter Code	**C9. Telephone-placing call:** The ability to pick up and place call in patient's customary manner and maintain for 3 minutes. Does not include getting to the phone.
Enter Code	**C10. Medication management-oral medications:** The ability to prepare and take all prescribed oral medications reliably and safely, including administration of the correct dosage at the appropriate times/intervals.
Enter Code	**C11. Medication management-inhalant/mist medications:** The ability to prepare and take all prescribed inhalant/mist medications reliably and safely, including administration of the correct dosage at the appropriate times/intervals.
Enter Code	**C12. Medication management-injectable medications:** The ability to prepare and take all prescribed injectable medications reliably and safely, including administration of the correct dosage at the appropriate times/intervals.
Enter Code	**C13. Make light meal:** The ability to plan and prepare all aspects of a light meal such as bowl of cereal or sandwich and cold drink, or reheat a prepared meal.
Enter Code	**C14. Wipe down surface:** The ability to use a damp cloth to wipe down surface such as table top or bench to remove small amounts of liquid or crumbs. Includes ability to clean cloth of debris in patient's customary manner.
Enter Code	**C15. Light shopping:** Once at store, can locate and select up to five needed goods, take to check out, and complete purchasing transaction.
Enter Code	**C16. Laundry:** Includes all aspects of completing a load of laundry using a washer and dryer. Includes sorting, loading and unloading, and adding laundry detergent.
Enter Code	**C17. Use public transportation:** The ability to plan and use public transportation. Includes boarding, riding, and alighting from transportation.

T.VI How long did it take you to complete this section? _____ *(minutes)*