



# Testing of Standardized Function Assessment Items in Home Health

## Summary of Findings

### Outcome and Assessment Information Set (OASIS) Quality Measure Development and Maintenance Project

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## Table of Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>1. FIELD TEST BACKGROUND.....</b>	<b>3</b>
1.1 Purpose and Legislative Authority.....	3
1.2 Field Test Objectives.....	3
1.3 Background on Standardized Items Tested.....	4
<b>2. FIELD TEST OVERVIEW .....</b>	<b>6</b>
2.1 Provider Recruitment and Selection.....	6
2.2 Data Collection and Submission .....	6
2.2.1 Training and Agency Support .....	6
2.2.2 Data Collection .....	7
2.2.3 Data Submission .....	8
2.3 Analyses.....	9
2.3.1 Quantitative.....	9
2.3.2 Qualitative.....	9
2.4 Field Test Data Collection Forms .....	9
2.4.1 Standardized CARE Functional Assessment Items Collected at SOC/ROC ....	10
2.4.2 Standardized CARE Functional Assessment Items Collected at Discharge .....	12
<b>3. FIELD TEST FUNCTION ITEMS FINDINGS .....</b>	<b>14</b>
3.1 Inter-rater Analysis.....	14
<b>4. DISCUSSION AND NEXT STEPS .....</b>	<b>16</b>
4.1 Lessons Learned.....	16
4.1.1 Recruitment and Provider Participation .....	16
4.1.2 Patient enrollment .....	16
4.1.3 Standardized versus extant functional assessment items .....	16
4.2 Conclusions.....	17
4.3 Next Steps .....	17
<b>5. APPENDIX I.....</b>	<b>19</b>

## EXECUTIVE SUMMARY

The Improving Medicare Post-Acute Care Transformation (IMPACT) Act of 2014 mandates Centers for Medicare & Medicaid Services (CMS) to develop and implement standardized patient assessment data items in several domains across post-acute care (PAC) settings, including home health agencies (HHAs). CMS contracted with Abt Associates to conduct a field test of the Outcome and Assessment Information Set (OASIS) for home health patients, to assess the reliability, validity and feasibility of both current OASIS items and standardized items that could be used to meet the mandate of the IMPACT Act, including standardized functional assessment items. For this latter goal, Abt Associates tested functional items from the Continuity Assessment Record and Evaluation (CARE) Item Set, developed as part of the national Post-Acute Care Payment Reform Demonstration (PAC-PRD). This testing focused on items in two functional domains, self-care and mobility, at both the beginning and end of a home health episode.

Researchers recruited twelve agencies in four states, for a mixed-methods, non-experimental field test design, and provided individualized training and ongoing support to each agency. The testing procedure included: follow-up visits within 24 hours to select patients by a second clinician to assess inter-rater reliability; a medical record review to validate a subset of assessment items; administration of the PROMIS Global Health scale; and quantitative and qualitative data collection from participating clinicians on the new, standardized items tested. Data collection was conducted between August 2016 and April 2017.

A total of 213 home health patients participated in the field test. These patients were primarily cognitively intact, in order to consent to the study, and had slightly higher physical function than home health patients overall. The majority of field test patients, approximately 70 percent, had an institutional stay prior to receiving home health; most often in an acute, inpatient setting. Analysis of the assessment data found inter-rater reliability for the standardized functional assessment items ranged from slight to substantial agreement, using a linear, weighted Kappa statistic. Agreement was higher at the end of care

than beginning. There was no consistent pattern between the mean scores of observers vs. inter-raters. In addition, many patients were assessed as functionally independent in one or more functional activities upon the start of the care episode.

Because the field test instrument included both the standardized CARE functional items and existing OASIS item measuring activities of daily living (ADLs) and instrumental activities of daily living (IADLs), researchers were able to compare performance of the two item sets. There was stronger agreement between observer vs. inter-rater for the current OASIS functional items when compared with observer vs. inter-rater agreement for the CARE items at the beginning of the home health episode, but this difference largely disappears at discharge. There are important differences between the two item sets in terms of the rating scale, activities and functional performance assessed.

Overall, the field test demonstrated the feasibility of the standardized functional items, as well as their reliability across multiple raters, both registered nurses and physical therapists. Qualitative feedback obtained from participating clinicians provides important insight for developing future guidance and training around the standardized functional items. CMS intends to share detailed, individual findings with participating HHAs, as part of a pilot test of a feedback loop for stakeholders supporting quality measure and item testing. In addition, a comprehensive report describing all components of the field test, and results for all items, will be published later in 2017. This document will discuss reliability results of the functional assessment items collected in this pilot.

## 1. FIELD TEST BACKGROUND

### 1.1 Purpose and Legislative Authority

The Improving Medicare Post-Acute Care Transformation Act of 2014 (Pub. L. 113-185, enacted on October 6, 2014) (IMPACT Act) amended Title XVIII of the Act, in part, by adding a new section 1899B of the Act, entitled “Standardized Post-Acute Care (PAC) Assessment Data for Quality, Payment, and Discharge Planning,” and by enacting new data reporting requirements for certain PAC providers, including HHA). New sections 1899B(a)(1)(A)(ii) and (iii) of the Act require HHAs, Inpatient Rehabilitation Facilities (IRFs), Long Term Care Hospitals (LTCHs) and Skilled Nursing Facilities (SNFs), under each of their respective quality reporting program to report data on quality measures for at least five domains, and data on resource use and other measures for at least three domains. In addition, Section 1899B(a)(1)(A)(i) of the Act requires each of these PAC providers to report under their respective quality reporting programs standardized patient assessment data in accordance with five specific categories: functional status; cognitive function and mental status; special services, treatments, and interventions; medical conditions and co-morbidities; and impairments. All of the data that must be reported in accordance with this section of the Act must be standardized and interoperable, so as to allow for the exchange of the information among PAC providers and other providers, as well as for the use of such data to enable access to longitudinal information and to facilitate coordinated care.

### 1.2 Field Test Objectives

The Outcome and Assessment Information Set (OASIS) is the standardized data collection instrument required for adult, non-maternity patients served by Medicare-certified home health HHAs. CMS has contracted with Abt Associates to establish reliability and validity of current and potential OASIS items. To support meeting the requirement for standardized assessment data in the domain of “functional status; cognitive function and mental status,” the field test included data collection for a set of standardized self-care and mobility functional items, to assess their reliability and feasibility in the home health setting. Among these are the standardized function items needed to support an Application of the

quality measure Percent of Long-Term Care Hospital Patients with an Admission and Discharge Functional Assessment and a Care Plan That Addresses Function (NQF #2631) in the home health setting. The purpose of the field test was to contribute evidence to inform implementation and further testing of standardized data items and associated quality measures intended for use across PAC settings.

### **1.3 Background on Standardized Items Tested**

The functional assessment items included in the functional status quality measure, *Percent of Long-Term Care Hospital Patients with an Admission and Discharge Functional Assessment and a Care Plan That Addresses Function (NQF #2631)*, were originally developed and tested as part of the Continuity Assessment Record and Evaluation (CARE) Item Set. The CARE Item Set was developed as part of the national Post-Acute Care Payment Reform Demonstration (PAC-PRD) mandated by Congress under the Deficit Reduction Act of 2005. This item set is designed to standardize assessment of patients' medical, functional, cognitive, and social support status across acute and post-acute settings, including LTCHs, IRFs, SNFs, and HHAs. The goal was to standardize the items used in each of the existing assessment tools while posing a minimal administrative burden to providers. The functional status items on the CARE Item Set are daily activities that clinicians typically assess at the time of admission and/or discharge to determine patients'/residents' needs, evaluate patient/resident progress and prepare patients/residents and families for a transition to home or to another provider. The development of the CARE Item Set and a description and rationale for each item is described in a report entitled "The Development and Testing of the Continuity Assessment Record and Evaluation (CARE) Item Set: Final Report on the Development of the CARE Item Set: Volume 1 of 3."<sup>1</sup>

Reliability and validity testing were conducted as part of CMS' Post-Acute Care Payment Reform Demonstration, and CMS concluded that the functional status items have acceptable reliability and validity. A description of the testing methodology and results are available in

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<sup>1</sup> <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Post-Acute-Care-Quality-Initiatives/CARE-Item-Set-and-B-CARE.html>

several reports, including the report entitled "The Development and Testing of the Continuity Assessment Record And Evaluation (CARE) Item Set: Final Report On Reliability Testing: Volume 2 of 3"<sup>10</sup> and the report entitled "The Development and Testing of The Continuity Assessment Record And Evaluation (CARE) Item Set: Final Report on Care Item Set and Current Assessment Comparisons: Volume 3 of 3." The reports are available on CMS' Post-Acute Care Quality Initiatives webpage at; <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Post-Acute-Care-Quality-Initiatives/CARE-Item-Set-and-B-CARE.html>.

## 2. FIELD TEST OVERVIEW

### 2.1 Provider Recruitment and Selection

The Field Test was designed as a non-experimental, mixed methods study. The study team recruited Medicare-certified HHAs in four states: Colorado, Massachusetts, North Carolina and Ohio. The Field Test team, with CMS support, sent outreach information to local, state, regional and national home health stakeholders to invite interest and participation in the Field Test. From the substantial and positive response to outreach, the team selected twelve Medicare-certified HHA to serve as study sites, three each in Colorado, Massachusetts, North Carolina and Ohio. These agencies represented a mix of profit and non-profit, urban, suburban and rural, and independent and hospital-affiliated agencies that were geographically accessible to the Clinical Site Coordinators. Participating HHAs received a modest honoraria to partially offset the cost of additional staff time to participate in the study. Table 1 below provides additional information about participating HHAs.

**Table 1. HHA Characteristics**

State	ID	HHA Size	Ownership	Service Area
CO	A121	Medium branch	National for-profit chain	Urban-suburban
CO	A132	Small	Independent for-profit	Suburban-rural
CO	A193	Large	Independent for-profit	Urban-suburban-rural
MA	B102	Large	Not-for-profit, hospital affiliated	Urban-suburban
MA	B121	Small	Local independent	Urban-suburban
MA	B133	Medium branch	National for-profit chain	Suburban-rural
NC	C121	Medium branch	Regional not-for-profit chain	Suburban-rural
NC	C142	Medium branch	National for-profit chain	Suburban-rural
NC	C163	Small	Public health department	Rural
OH	D101	Small	Local not-for-profit independent	rural
OH	D143	Small	Hospital affiliated not-for-profit	Rural
OH	D182	Large branch	Independent not-for-profit	Urban-suburban-rural

### 2.2 Data Collection and Submission

#### 2.2.1 Training and Agency Support

A Field Test Clinical Site Coordinator was assigned to work with an HHA liaison, usually a clinical manager, to coordinate and conduct the study at each site. The Field Test team trained HHA registered nurses (RNs) and physical therapists (PTs) to identify eligible patients, conduct informed



consent, and collect data during home visits at start or resumption of care (SOC/ROC) and discharge. The Clinical Site Coordinators conducted a half-day in-person education session at each HHA for liaisons, RNs, and PTs on their roles and responsibilities and all Field Test procedures and activities. The test procedure training included identification of eligible patients and obtaining patient consent, along with the data collection forms and processes. Because several items being tested were not on the current OASIS version, OASIS-C2, clinicians received additional training and written guidance on completing these items, including the standardized functional assessment items in the self-care and mobility domains.

### **2.2.2 Data Collection**

The goal was for each HHA to enroll 25 patients for data collection at SOC/ROC, discharge and in record review. Some patients were enrolled for data collection at both start/resumption of care and discharge; others were enrolled for data collection at only one time point. HHA patients were eligible to be enrolled in the Field Test if they met the criteria for OASIS data collection (18 years and older referred to the HHA for skilled services) and were able to speak and understand English. HHA patients receiving hospice or pre/post-natal services were excluded, as were patients unable to provide informed consent to take part in the study. HHA teams began collecting data as each site completed the required education session, in late July and August of 2016. Data collection concluded in April 2017.

The HHA clinicians collected inter-rater reliability data by conducting two home visits to the same enrolled patient within 24 hours. One clinician completed the assessment during the first home visit and a second clinician completed the same assessment during the second home visit. This method of using different raters completing independent assessments within a short time frame produces closer to ideal reliability data on the OASIS items tested, as it mirrors practice in the field, where thousands of clinician collect OASIS data annually. Completed paper assessments were sent to Abt Associates for data entry and cleaning. Field Test Site Coordinators conducted follow-up as needed, including on-going support for questions and refresher trainings upon request.

Following data collection, HHA liaisons and clinicians participated in an online survey and focus group to explore their perceptions and feedback about the OASIS items tested. Field Test Clinical Site Coordinators facilitated the focus groups at each HHA, and completed record reviews for selected HHA patients to collect additional information about item validity.

### 2.2.3 Data Submission

A total of 213 home health patients consented and were enrolled in the Field Test across all twelve HHAs. In accordance with the sampling plan provided to each HHA, some patients had assessments completed at both start and resumption of care (SOC/ROC) and discharge, for a total of 154 SOC/ROC assessments and 126 discharge assessments. Table 2 below shows the demographic characteristics of participating patients.

**Table 2. Descriptive Statistics for Total Sample (N=213)**

<b>Age cohorts</b>	<b>n (%)</b>
< 60	30 (14.1)
61-64	19 (8.9)
65-74	42 (19.7)
75-84	46 (21.6)
85+	65 (30.5)
Missing	11 (5.2)
<b>Gender</b>	<b>n (%)</b>
Male	76 (35.7)
Female	126 (59.2)
Missing	11 (5.2)
<b>Race/ethnicity</b>	<b>n (%)</b>
White	131 (61.5)
Black	24 (11.3)
Hispanic	4 (1.9)
Missing	52 (24.4)
<b>Type of insurance</b>	<b>n (%)</b>
Medicare	118 (55.4)
Medicare-managed	30 (14.1)
Medicaid	23 (10.8)
Medicaid-managed	4 (1.9)
Private	7 (3.3)
Private-managed	6 (2.8)
Missing	27 (12.7)

Approximately 30 percent of field test patients did not have an inpatient stay prior to their home health episode. More than 40 percent had a prior proximal hospital stay, and another 20 percent transitioned to the HHA from a skilled nursing facility. Because of the selection criteria for participation, participating patients primarily had only minor, if any, cognitive impairments. Additionally, many patients were rated as “independent” for at least some of the standardized functional items from the CARE item set. Detailed results for these items are presented in Appendix I.

## **2.3 Analyses**

### **2.3.1 Quantitative**

Several types of quantitative analyses, such as descriptive statistics and cross-tabulations, were performed with the assessment data that were collected. This report presents only a subset of these analyses specifically on the functional assessment items. Specifically, we examined data collected by paired clinicians for the same patient for correlation and percent agreement across items, and to calculate linear weighted Kappa to determine item-level reliability. Additional analyses include descriptive statistics, to evaluate item performance and compare field test patients with the general home health population. Future analysis will include validation of select data elements against the medical record.

### **2.3.2 Qualitative**

The Clinical Site Coordinators who conducted the clinician focus groups following data collection took detailed notes on clinicians’ questions and feedback regarding new OASIS items. These notes, and on-line survey results are being analyzed to identify themes. The goal of these analyses is to identify where additional guidance, training and clarification are needed, and to inform interpretation of quantitative results.

## **2.4 Field Test Data Collection Forms**

As part of the overall field test data collection procedure, HHA clinicians collected standardized CARE functional assessment data at both SOC/ROC and discharge, using a subset of these items in two domains: self-care and mobility. Clinicians completed the assessment using paper forms that included no

identifying patient information, only assigned study IDs. These forms were sent to Abt Associates via Federal Express for entry. Item language and format are shown below.

### 2.4.1 Standardized CARE Functional Assessment Items Collected at SOC/ROC

GG0130. Self-Care	
Code the patient's usual performance at SOC/ROC for each activity using the 6-point scale. If activity was not attempted at SOC/ROC, code the reason. Code the patient's discharge goal(s) using the 6-point scale. Do not use codes 07, 09 or 88 to code discharge goal(s).	
1. Admission Performance	2. Discharge Goal
<p><b>CODING:</b>  <b>Safety and Quality of Performance</b> – If helper assistance is required because patient's performance is unsafe or of poor quality, score according to amount of assistance provided.  <i>Activities may be completed with or without assistive devices.</i>  <b>06. Independent</b> – Patient completes activity him/herself with no assistance from a helper.  <b>05. Setup or clean-up assistance</b> – Helper assists only prior to or following the activity.  <b>04. Supervision or touching assistance</b> – Helper provides VERBAL CUES or STEADYING assistance as patient completes activity. Assistance may be intermittent or throughout activity.  <b>03. Partial/moderate assistance</b> – Helper does LESS THAN HALF the effort. Helper lifts, holds trunk or limbs but provides less than half the effort.  <b>02. Substantial/maximal assistance</b> – Helper provides MORE THAN HALF the effort. Helper lifts or holds trunk or limbs and provides more than half the effort.  <b>01. Dependent</b> – Patient does none of the effort, OR – the assistance of 2 or more helpers is required.</p> <p>If activity was not attempted, code the reason:            07. Patient refused            09. Not applicable            88. Not attempted due to <b>medical condition</b> or <b>safety concerns</b></p>	
<b>Enter Codes in Boxes</b>	
	A. <b>Eating</b> – 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.
	B. <b>Oral hygiene:</b> The ability to use suitable items to clean teeth. [Dentures (if applicable): The ability to remove and replace dentures from and to the mouth, and manage equipment for soaking and rinsing them.]
	C. <b>Toileting hygiene:</b> The ability to maintain perineal hygiene, adjust clothes before and after using the toilet, commode, bedpan or urinal. If managing an ostomy, include wiping the opening but not managing equipment.
	D. <b>Wash upper body:</b> The ability to wash, rinse, and dry the face, hands, chest, and arms while sitting in a chair or bed.

<b>GG0170. Mobility</b>	
Code the patient's usual performance at SOC/ROC for each activity using the 6-point scale. If activity was not attempted at SOC/ROC, code the reason. Code the patient's discharge goal(s) using the 6-point scale. Do not use codes 07, 09 or 88 to code discharge goal(s).	
<b>1. Admission Performance</b>	<b>CODING:</b> 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. <i>Activities may be completed with or without assistive devices.</i> 06. Independent – Patient completes activity him/herself with no assistance from a helper. 05. Setup or clean-up assistance – Helper assists only prior to or following the activity. 04. Supervision or touching assistance – Helper provides VERBAL CUES or STEADYING assistance as patient completes activity. Assistance may be intermittent or throughout activity. 03. Partial/moderate assistance – Helper does LESS THAN HALF the effort. Helper lifts, holds trunk or limbs but provides less than half the effort. 02. Substantial/maximal assistance – Helper provides MORE THAN HALF the effort. Helper lifts or holds trunk or limbs and provides more than half the effort. 01. Dependent – Patient does none of the effort, OR – the assistance of 2 or more helpers is required.  If activity was not attempted, code the reason: 07. Patient refused 09. Not applicable 88. Not attempted due to medical condition or safety concerns
<b>2. Discharge Goal</b>	
<b>Enter Codes in Boxes</b>	
	A. Roll left and right: The ability to roll from lying on back to left and right side, and return to lying.
	B. Sit to lying: The ability to move from sitting on side of bed to lying flat on the bed.
	C. Lying to sitting on side of bed: The ability to safely move from lying on the back to sitting on the side of the bed with feet flat on the floor, and with no back support.
	D. Sit to stand: The ability to safely come to a standing position from sitting in a chair or on the side of the bed.
	E. Chair/bed-to-chair transfer: The ability to safely transfer to and from a bed to a chair/ wheelchair
	F. Toilet transfer: The ability to safely get on and off a toilet or commode.
	<b>H1. Does the patient walk?</b> 0. No and walking goal is not clinically indicated. Skip to GG0170 Q1 Does patient use wheelchair/scooter? 1. No and walking goal is clinically indicated. Code patient's discharge goal(s) for items GG0170 I, J and K. For Admission Performance, skip to GG0170 Q1. Does patient use a wheelchair/scooter? 2. Yes Continue to GG0170 I Walk 10 feet.
	I. Walk 10 feet: Once standing, the ability to walk at least 10 feet in a room, corridor or similar space.
	J. Walk 50 feet with two turns: Once standing, the ability to walk 50 feet and make two turns.
	K. Walk 150 feet: Once standing, the ability to walk at least 150 feet in a corridor or similar space.
	<b>Q1. Does the patient use a wheelchair /scooter?</b> 0. No Skip to next item 1. Yes Continue to GG 0170R Wheel 50 feet with 2 turns
	R. Wheel 50 feet with two turns: Once seated in wheelchair/scooter, the ability to wheel at least 50 feet and make two turns.
	<b>RR1. Indicate the type of wheelchair/ scooter used.</b> 1. Manual 2. Motorized
	S. Wheel 150 feet: Once seated in wheelchair/scooter, ability to wheel at least 150 feet in a corridor or similar space.
	<b>SS1. Indicate the type of wheelchair/scooter used.</b> 1. Manual 2. Motorized

## 2.4.2 Standardized CARE Functional Assessment Items Collected at Discharge

GG0130. Self-Care (3-day assessment period)													
<b>Code the patient's usual performance at discharge for each activity using the 6-point scale. If an activity was not attempted at discharge, code the reason.</b>													
<p><b>CODING:</b>  <b>Safety and Quality of Performance</b> - If helper assistance is required because patient's performance is unsafe or of poor quality, score according to amount of assistance provided.  <i>Activities may be completed with or without assistive devices.</i></p> <p>06. <b>Independent</b> - Patient completes the activity by him/herself with no assistance from a helper.</p> <p>05. <b>Setup or clean-up assistance</b> - Helper SETS UP or CLEANS UP; patient completes activity. Helper assists only prior to or following the activity.</p> <p>04. <b>Supervision or touching assistance</b> - Helper provides VERBAL CUES or TOUCHING/ STEADYING assistance as patient completes activity. Assistance may be provided throughout the activity or intermittently.</p> <p>03. <b>Partial/moderate assistance</b> - Helper does LESS THAN HALF the effort. Helper lifts, holds or supports trunk or limbs, but provides less than half the effort.</p> <p>02. <b>Substantial/maximal assistance</b> - Helper does MORE THAN HALF the effort. Helper lifts or holds trunk or limbs and provides more than half the effort.</p> <p>01. <b>Dependent</b> - Helper does ALL of the effort. Patient does none of the effort to complete the activity. Or, the assistance of 2 or more helpers is required for the patient to complete the activity.</p> <p><b>If activity was not attempted, code reason:</b></p> <p>07. <b>Patient refused</b></p> <p>09. <b>Not applicable</b></p> <p>88. Not attempted due to <b>medical condition or safety concerns</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"><b>3. Discharge Performance</b></td> <td></td> </tr> <tr> <td style="text-align: center; padding: 5px;">↓ Enter Codes in Boxes</td> <td></td> </tr> <tr> <td style="text-align: center; padding: 5px;"><input style="width: 40px; height: 20px;" type="text"/></td> <td style="padding: 5px;"><b>A. Eating:</b> 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.</td> </tr> <tr> <td style="text-align: center; padding: 5px;"><input style="width: 40px; height: 20px;" type="text"/></td> <td style="padding: 5px;"><b>B. Oral hygiene:</b> The ability to use suitable items to clean teeth. [Dentures (if applicable): The ability to remove and replace dentures from and to the mouth, and manage equipment for soaking and rinsing them.]</td> </tr> <tr> <td style="text-align: center; padding: 5px;"><input style="width: 40px; height: 20px;" type="text"/></td> <td style="padding: 5px;"><b>C. Toileting hygiene:</b> The ability to maintain perineal hygiene, adjust clothes before and after using the toilet, commode, bedpan or urinal. If managing an ostomy, include wiping the opening but not managing equipment.</td> </tr> <tr> <td style="text-align: center; padding: 5px;"><input style="width: 40px; height: 20px;" type="text"/></td> <td style="padding: 5px;"><b>D. Wash upper body:</b> The ability to wash, rinse, and dry the face, hands, chest, and arms while sitting in a chair or bed.</td> </tr> </table>	<b>3. Discharge Performance</b>		↓ Enter Codes in Boxes		<input style="width: 40px; height: 20px;" type="text"/>	<b>A. Eating:</b> 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.	<input style="width: 40px; height: 20px;" type="text"/>	<b>B. Oral hygiene:</b> The ability to use suitable items to clean teeth. [Dentures (if applicable): The ability to remove and replace dentures from and to the mouth, and manage equipment for soaking and rinsing them.]	<input style="width: 40px; height: 20px;" type="text"/>	<b>C. Toileting hygiene:</b> The ability to maintain perineal hygiene, adjust clothes before and after using the toilet, commode, bedpan or urinal. If managing an ostomy, include wiping the opening but not managing equipment.	<input style="width: 40px; height: 20px;" type="text"/>	<b>D. Wash upper body:</b> The ability to wash, rinse, and dry the face, hands, chest, and arms while sitting in a chair or bed.
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**GG0170. Mobility (3-day assessment period)**

**Code the patient's usual performance at discharge for each activity using the 6-point scale. If an activity was not attempted at discharge, code the reason.**

<p><b>CODING:</b>  <b>Safety and Quality of Performance</b> - If helper assistance is required because patient's performance is unsafe or of poor quality, score according to amount of assistance provided.  <i>Activities may be completed with or without assistive devices.</i></p> <p>06. <b>Independent</b> - Patient completes the activity by him/herself with no assistance from a helper.</p> <p>05. <b>Setup or clean-up assistance</b> - Helper SETS UP or CLEANS UP; patient completes activity. Helper assists only prior to or following the activity.</p> <p>04. <b>Supervision or touching assistance</b> - Helper provides VERBAL CUES or TOUCHING/ STEADYING assistance as patient completes activity. Assistance may be provided throughout the activity or intermittently.</p> <p>03. <b>Partial/moderate assistance</b> - Helper does LESS THAN HALF the effort. Helper lifts, holds or supports trunk or limbs, but provides less than half the effort.</p> <p>02. <b>Substantial/maximal assistance</b> - Helper does MORE THAN HALF the effort. Helper lifts or holds trunk or limbs and provides more than half the effort.</p> <p>01. <b>Dependent</b> - Helper does ALL of the effort. Patient does none of the effort to complete the activity. Or, the assistance of 2 or more helpers is required for the patient to complete the activity.</p> <p><b>If activity was not attempted, code reason:</b></p> <p>07. <b>Patient refused</b></p> <p>09. <b>Not applicable</b></p> <p>88. Not attempted due to <b>medical condition or safety concerns</b></p>	<p><b>3.</b>  <b>Discharge Performance</b></p>	
	<p>↓  <b>Enter Codes in Boxes</b></p>	
	<input type="text"/> <input type="text"/>	<p><b>A. Roll left and right:</b> The ability to roll from lying on back to left and right side, and return to lying on back.</p>
	<input type="text"/> <input type="text"/>	<p><b>B. Sit to lying:</b> The ability to move from sitting on side of bed to lying flat on the bed.</p>
	<input type="text"/> <input type="text"/>	<p><b>C. Lying to sitting on side of bed:</b> The ability to safely move from lying on the back to sitting on the side of the bed with feet flat on the floor, and with no back support.</p>
	<input type="text"/> <input type="text"/>	<p><b>D. Sit to stand:</b> The ability to safely come to a standing position from sitting in a chair or on the side of the bed.</p>
	<input type="text"/> <input type="text"/>	<p><b>E. Chair/bed-to-chair transfer:</b> The ability to safely transfer to and from a bed to a chair (or wheelchair).</p>
	<input type="text"/> <input type="text"/>	<p><b>F. Toilet transfer:</b> The ability to safely get on and off a toilet or commode.</p>
	<input type="checkbox"/>	<p><b>H3. Does the patient walk?</b></p> <p><b>0. No</b> → Skip to GG0170Q3. Does the patient use a wheelchair/scooter?</p> <p><b>2. Yes</b> → Continue to GG0170L. Walk 10 feet</p>
	<input type="text"/> <input type="text"/>	<p><b>I. Walk 10 feet:</b> Once standing, the ability to walk at least 10 feet in a room, corridor or similar space.</p>
	<input type="text"/> <input type="text"/>	<p><b>J. Walk 50 feet with two turns:</b> Once standing, the ability to walk 50 feet and make two turns.</p>
	<input type="text"/> <input type="text"/>	<p><b>K. Walk 150 feet:</b> Once standing, the ability to walk at least 150 feet in a corridor or similar space.</p>
	<input type="checkbox"/>	<p><b>Q3. Does the patient use a wheelchair/scooter?</b></p> <p><b>0. No</b> → Skip to H0350. Bladder Continence</p> <p><b>1. Yes</b> → Continue to GG0170R. Wheel 50 feet with two turns</p>
	<input type="text"/> <input type="text"/>	<p><b>R. Wheel 50 feet with two turns:</b> Once seated in wheelchair/scooter, the ability to wheel at least 50 feet and make two turns.</p>
<input type="checkbox"/>	<p><b>RR3. Indicate the type of wheelchair/scooter used.</b></p> <p><b>1. Manual</b></p> <p><b>2. Motorized</b></p>	
<input type="text"/> <input type="text"/>	<p><b>S. Wheel 150 feet:</b> Once seated in wheelchair/scooter, the ability to wheel at least 150 feet in a corridor or similar space.</p>	
<input type="checkbox"/>	<p><b>SS3. Indicate the type of wheelchair/scooter used.</b></p> <p><b>1. Manual</b></p> <p><b>2. Motorized</b></p>	

### 3. FIELD TEST FUNCTION ITEMS FINDINGS

#### 3.1 Inter-rater Analysis

As noted above, the field test design comprised multiple data collection efforts and both current, home health-specific and potential standardized assessment items. The preliminary findings presented in this pilot summary document only address the reliability of the standardized CARE functions items necessary to calculate *Percent of Long-Term Care Hospital Patients with an Admission and Discharge Functional Assessment and a Care Plan That Addresses Function (NQF #2631)*. A future report will address the remaining items, analyses, and will present final results for all items tested in the pilot.

Inter-rater reliability of the standardized CARE functional assessment items was tested using HHA RNs and PTs as raters. Different raters conducted home visits to the same patient within 24 hours to complete data collection for the same set of items. There were a total of 154 paired assessments from the beginning of a home health episode (SOC/ROC) and 126 from the end of the episode (discharge). There was no consistent pattern between the mean scores of observer vs. inter-rater for these pairs. For example, in 10 cases for OASIS items at SOC the inter-rater was higher than the observer and in 16 cases the inter-rater was lower than the observer.

Inter-rater reliability was calculated as linear weighted kappa, which measures agreement between raters for categorical items and may be interpreted as poor ( $< 0$ , less than chance agreement), slight (0.01 – 0.20), fair (0.21 – 0.40), moderate (0.41 – 0.60), substantial (0.61 – 0.80) or almost perfect agreement (0.81 – 0.99)<sup>2</sup>. Reliability results for mobility (GG0170) and self-care (GG0130) items are displayed in Table 3, below.

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<sup>2</sup> Cohen. A coefficient of agreement for nominal scales. *Educ Psychol Meas* 20:37-46, 1960



**Table 3. Linear Weighted Kappa for Field Test Standardized Functional Assessment Items**

Standardized Item	Linear Weighted Kappa Score	
	SOC/ROC*	DC**
<b>GG0130 Self-Care</b>		
GG0130 Eating	0.14	0.26
GG0130 Oral hygiene	0.52	0.76
GG0130 Toileting hygiene	0.24	0.80
GG0130 Wash upper body	0.32	0.74
<b>GG0170 Mobility</b>		
GG0170A Roll left and right	0.23	1.00
GG0170B Sit to lying	0.47	0.67
GG0170C Lying to sitting	0.59	0.85
GG0170D Sit to stand	0.48	0.46
GG0170E Chair transfer	0.45	0.35
GG0170F Toilet transfer	0.50	0.54
GG0170I Walk 10 feet	0.43	-0.02
GG0170J Walk 50 feet	0.29	0.25

\*SOC/ROC=Start or resumption of care; \*\*DC=Discharge

The OASIS field test included both the standardized functional assessment items derived from CARE and the current activity of daily living (ADL) and instrumental activity of daily living (IADLs) items from OASIS-C2. These items address similar constructs in some instances, such as ambulation, transferring, eating and personal hygiene, but vary in wording, functional assessment (“usual performance” compared to “ability”) and rating scales. We found there was stronger agreement between observer vs. inter-rater for the current OASIS functional items when compared with observer vs. inter-rater agreement for the CARE items at SOC/ROC, but this difference largely disappears at discharge.

Table 4, below, presents results for extant OASIS-C2 functional items.

**Table 4. Linear Weighted Kappa for OASIS-C2 Functional Assessment Items**

OASIS-C2 Functional items	Linear Weighted Kappa	
	SOC/ROC*	Discharge*
<b>Item Number/Name</b>		
M1800 Grooming	0.37	0.57
M1810 Dress upper body	0.51	0.72
M1820 Dress lower body	0.58	0.77
M1830 Bathing	0.51	0.43
M1840 Toilet transferring	0.49	0.56
M1845 Toilet hygiene	0.51	0.59
M1850 Transferring	0.42	0.45
M1860 Ambulation	0.43	0.67
M1870 Eating	0.22	0.32
M1880 Prepare light meals	0.41	0.60
M2020 Management of oral meds.	1.00	0.65

\*SOC/ROC=Start or resumption of care; \*\*DC=Discharge

## 4. DISCUSSION AND NEXT STEPS

### 4.1 Lessons Learned

#### 4.1.1 Recruitment and Provider Participation

It was found that HHAs at all levels were enthusiastic about the opportunity to contribute to testing and appreciated the chance to participate in the field test. Response to initial recruitment efforts was positive. However, researchers, especially those who had been involved in previous OASIS testing, found that the industry had changed relative to the last major OASIS field test in ways that presented multiple, unanticipated challenges. Specifically, HHAs had a difficult time freeing up clinicians' schedules so that they could conduct the field test home visits. Additionally, the liaisons at each agency were challenged in their efforts to carve out time from their regular responsibilities for field test implementation and coordination. Some agencies had to drop out from the field test in the early stages; these were replaced by other agencies in the same geographic area.

#### 4.1.2 Patient enrollment

By design, patients enrolled in the field test were limited to those who could provide informed consent. This resulted in an essentially cognitively intact cohort. Early data analysis also suggests that these patients were less functionally-impaired as well, and more likely to be receiving home health after an inpatient stay, relative to the national home health population.

#### 4.1.3 Standardized [CARE items] versus extant OASIS functional assessment items

In addition to the inter-rater differences between OASIS-C2 and CARE items noted above, we also collected qualitative feedback on use of the standardized functional items relative to extant ones. Overall, PTs were more comfortable with the new, 6-point scale for the CARE items than RNs. Some clinicians noted concerns with the standardized scales for the CARE items, suggesting that the scales "didn't offer enough options" and lacked discrimination at higher levels of function, which are most relevant for home health patients who may on average be less functionally-impaired than patients in other PAC settings. Clinicians also reported that the activities in the standardized CARE functional items were

more “specific” than OASIS. They further noted that they did not always observe functional performance for all activities, and inferred ratings in some cases.

## **4.2 Conclusions**

The OASIS field test demonstrated the feasibility of collecting the standardized functional assessment data items with home health patients, using items derived from the CARE Tool. Inter-rater reliability ranged from slight to substantial, as measured by a linear weighted kappa score, for individual activities in each domain. Agreement was higher at discharge than SOC/ROC. These findings are consistent with the PAC-PRD testing, which similarly found feasibility and reliability for the CARE functional items<sup>3</sup>. Many field test patients were rated as independent in several functional activities at the beginning of their home health episode, making it more difficult to assess the sensitivity of the standardized items to measuring functional change. Further testing is needed to better assess item sensitivity and the performance of the standardized items among patients with cognitive impairment and functional disability.

The field test also offered valuable insight into the questions and training needs of clinicians for completing the standardized assessment items. Specifically, we found that guidance and training should address use of the six-point scale, determining goals for discharge performance, and assessment when direct observation is not possible or safe.

## **4.3 Next Steps**

Abt Associates is undertaking additional qualitative and quantitative analyses of all field test data collected, including analysis of current OASIS-C2 items and other standardized assessment items that were tested for potential future inclusion in the OASIS. The field test also included collection of patient-reported outcomes data that researchers will compare to clinical assessment data. The results of these analyses will be presented in a comprehensive field testing report to be released later in 2017. In the

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<sup>3</sup> See <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Post-Acute-Care-Quality-Initiatives/CARE-Item-Set-and-B-CARE.html>

interim, Abt Associates and CMS are piloting a feedback process to share agency-specific and aggregate results with the participating HHAs. This pilot will feature presentations and data-sharing directly with the providers whose efforts contributed to the successful completion of the field test.

## 5. APPENDIX I

### FUNCTIONAL ITEM FREQUENCIES

GG Functional items	n (%) SOC/ROC (n=154)	n (%) Discharge (n=126)
<b>GG0130 Eating</b>	<b>n = 153</b>	<b>n = 124</b>
Dependent	1 (0.65)	-
Partial/moderate assistance	1 (0.65)	1 (0.81)
Supervision	3 (1.96)	3 (2.42)
Setup or clean-up assistance	26 (16.99)	5 (4.03)
Independent	119 (77.78)	115 (92.74)
Patient refused	1 (0.65)	-
Not applicable	2 (1.31)	-
<b>GG0130 Oral hygiene</b>	<b>n = 153</b>	<b>n = 124</b>
Dependent	1 (0.65)	-
Substantial/maximal assistance	1 (0.65)	1 (0.81)
Partial/moderate assistance	3 (1.96)	1 (0.81)
Supervision	10 (6.54)	1 (0.81)
Setup or clean-up assistance	31 (20.26)	8 (6.45)
Independent	100 (65.36)	113 (91.13)
Patient refused	3 (1.96)	-
Not applicable	3 (1.96)	-
Not attempted (medical/safety concerns)	1 (0.65)	-
<b>GG0130 Toileting hygiene</b>	<b>n = 153</b>	<b>n = 124</b>
Dependent	1 (0.65)	3 (2.42)
Substantial/maximal assistance	6 (3.92)	2 (1.61)
Partial/moderate assistance	14 (9.15)	1 (0.81)
Supervision	31 (20.26)	1 (0.81)
Setup or clean-up assistance	34 (22.22)	5 (4.03)
Independent	64 (41.83)	112 (90.32)
Patient refused	2 (1.31)	-
Not applicable	1 (0.65)	-
<b>GG0130 Wash upper body</b>	<b>n = 153</b>	<b>n = 119</b>
Dependent	4 (2.61)	3 (2.52)
Substantial/maximal assistance	3 (1.96)	3 (2.52)
Partial/moderate assistance	13 (8.50)	3 (2.52)
Supervision	26 (16.99)	6 (5.04)
Setup or clean-up assistance	38 (24.84)	8 (6.72)
Independent	65 (42.48)	96 (80.67)
Patient refused	4 (2.61)	-

<b>GG Functional items</b>	<b>n (%) SOC/ROC (n=154)</b>	<b>n (%) Discharge (n=126)</b>
<b>GG0170A Roll left and right</b>	<b>n = 152</b>	<b>n = 119</b>
Dependent	1 (0.66)	3 (2.52)
Substantial/maximal assistance	6 (3.95)	-
Partial/moderate assistance	7 (4.61)	1 (0.84)
Supervision	17 (11.18)	1 (0.84)
Setup or clean-up assistance	9 (5.92)	2 (1.68)
Independent	102 (67.11)	108 (90.76)
Patient refused	6 (3.95)	3 (2.52)
Not attempted (medical/safety concerns)	4 (2.63)	1 (0.84)
<b>GG0170B Sit to lying</b>	<b>n = 151</b>	<b>n = 124</b>
Dependent	-	2 (1.61)
Substantial/maximal assistance	6 (3.97)	-
Partial/moderate assistance	15 (9.93)	1 (0.81)
Supervision	24 (15.89)	2 (1.61)
Setup or clean-up assistance	10 (6.62)	1 (0.81)
Independent	88 (58.28)	112 (90.32)
Patient refused	6 (3.97)	4 (3.23)
Not applicable	1 (0.66)	-
Not attempted (medical/safety concerns)	1 (0.66)	2 (1.61)
<b>GG0170C Lying to sitting</b>	<b>n = 153</b>	<b>n = 124</b>
Dependent	-	2 (1.61)
Substantial/maximal assistance	8 (5.23)	1 (0.81)
Partial/moderate assistance	17 (11.11)	1 (0.81)
Supervision	30 (19.61)	2 (1.61)
Setup or clean-up assistance	11 (7.19)	4 (3.23)
Independent	77 (50.33)	109 (87.9)
Patient refused	6 (3.92)	4 (3.23)
Not applicable	1 (0.65)	-
Not attempted (medical/safety concerns)	3 (1.96)	1 (0.81)
<b>GG0170D Sit to stand</b>	<b>n = 152</b>	<b>n = 124</b>
Dependent	-	2 (1.61)
Substantial/maximal assistance	6 (3.95)	1 (0.81)
Partial/moderate assistance	17 (11.18)	2 (1.61)
Supervision	51 (33.55)	2 (1.61)
Setup or clean-up assistance	15 (9.87)	6 (4.84)
Independent	60 (39.47)	107 (86.29)
Patient refused	-	1 (0.81)
Not applicable	1 (0.66)	1 (0.81)
Not attempted (medical/safety concerns)	2 (1.32)	2 (1.61)

<b>GG Functional items</b>	<b>n (%) SOC/ROC (n=154)</b>	<b>n (%) Discharge (n=126)</b>
<b>GG0170E Chair transfer</b>	<b>n = 152</b>	<b>n = 124</b>
Dependent	1 (0.66)	2 (1.61)
Substantial/maximal assistance	5 (3.29)	1 (0.81)
Partial/moderate assistance	15 (9.87)	1 (0.81)
Supervision	60 (39.47)	4 (3.23)
Setup or clean-up assistance	17 (11.18)	6 (4.84)
Independent	50 (32.89)	106 (85.48)
Patient refused	1 (0.66)	3 (2.42)
Not applicable	1 (0.66)	-
Not attempted (medical/safety concerns)	2 (1.32)	1 (0.81)
<b>GG0170F Toilet transfer</b>	<b>n = 149</b>	<b>n = 123</b>
Dependent	1 (0.67)	2 (1.63)
Substantial/maximal assistance	4 (2.68)	1 (0.81)
Partial/moderate assistance	16 (10.74)	1 (0.81)
Supervision	54 (36.24)	3 (2.44)
Setup or clean-up assistance	14 (9.40)	4 (3.25)
Independent	56 (37.58)	109 (88.62)
Patient refused	3 (2.01)	2 (1.63)
Not attempted (medical/safety concerns)	1 (0.67)	1 (0.81)
<b>GG0170H Does the patient walk?</b>	<b>n = 152</b>	<b>n = 124</b>
Yes	141 (92.76)	117 (94.35)
No	11 (7.24)	7 (5.65)
<b>GG0170I Walk 10 ft.</b>	<b>n = 141</b>	<b>n = 112</b>
Substantial/maximal assistance	3 (2.13)	-
Partial/moderate assistance	15 (10.64)	-
Supervision	57 (40.43)	1 (0.89)
Setup or clean-up assistance	13 (9.22)	1 (0.89)
Independent	53 (37.59)	109 (97.3)
Patient refused	-	1 (0.89)
<b>GG0170J Walk 50 ft.</b>	<b>n = 141</b>	<b>n = 117</b>
Dependent	1 (0.71)	-
Substantial/maximal assistance	4 (2.84)	-
Partial/moderate assistance	8 (5.67)	-
Supervision	56 (39.72)	7 (5.98)
Setup or clean-up assistance	10 (7.09)	2 (1.71)
Independent	31 (21.99)	100 (85.47)
Patient refused	2 (1.42)	2 (1.71)
Not applicable	1 (0.71)	-
Not attempted (medical/safety concerns)	28 (19.86)	6 (5.1)

<b>GG Functional items</b>	<b>n (%) SOC/ROC (n=154)</b>	<b>n (%) Discharge (n=126)</b>
<b>GG0170K Walk 150 ft.</b>	<b>n = 137</b>	<b>n = 117</b>
Dependent	3 (2.19)	-
Substantial/maximal assistance	3 (2.19)	-
Partial/moderate assistance	4 (2.92)	-
Supervision	43 (31.39)	11 (9.4)
Setup or clean-up assistance	5 (3.65)	1 (0.85)
Independent	20 (14.60)	89 (76.07)
Patient refused	8 (5.84)	2 (1.71)
Not applicable	3 (2.19)	3 (2.56)
Not attempted (medical/safety concerns)	47 (34.31)	11 (9.40)
Dashed	1 (0.73)	-
<b>GG0170Q Does the patient use a wheelchair?</b>	<b>n = 143</b>	<b>n = 123</b>
No	123 (86.01)	106 (86.18)
Yes	20 (13.99)	17 (13.83)
<b>GG0170R Wheel 50 ft.</b>	<b>n = 18</b>	<b>n = 14</b>
Dependent	3 (16.67)	4 (28.57)
Substantial/maximal assistance	-	1 (7.14)
Supervision	2 (11.11)	1 (7.14)
Setup or clean-up assistance	-	1 (7.14)
Independent	8 (44.44)	5 (35.71)
Patient refused	1 (5.56)	1 (7.14)
Not attempted (medical/safety concerns)	4 (22.22)	1 (7.14)
<b>GG0170S Wheel 150 ft.</b>	<b>n = 18</b>	<b>n = 15</b>
Dependent	4 (22.22)	4 (26.67)
Substantial/maximal assistance	-	1 (6.67)
Setup or clean-up assistance	-	1 (6.67)
Independent	7 (38.89)	5 (33.33)
Patient refused	1 (5.56)	1 (6.67)
Not attempted (medical/safety concerns)	5 (27.78)	3 (20.00)
Dashed	1 (5.56)	-