## CBE ID

0429

## Title

Change in Basic Mobility as Measured by the AM-PAC:

## Project

Patient Experience and Function

## Endorsement Status

Endorsement Removed

## Is Under Review

No

## Previous Endorsement Cycle

Fall 2017

## Removal Date

Tue, 10/23/2018 - 20:00

## Initial Endorsement

Wed, 07/30/2008 - 20:00

## Steward

CREcare

## 1.0 New or Maintenance

Maintenance

## 1.1 Measure Structure

Single Measure

## 1.3 Electronic Clinical Quality Measure (eCQM)

No

## 1.6 Measure Description

The Activity Measure for Post Acute Care (AM-PAC) is a functional status assessment instrument developed specifically for use in facility and community dwelling post acute care (PAC) patients. It was built using Item Response Theory (IRT) methods to achieve feasible, practical, and precise measurement of functional status (Hambleton 200, Hambleton 2005). Based on factor analytic work and IRT analyses, a Basic Mobility domain has been identified which consists of functional tasks that cover in the following areas: transfers, walking, wheelchair skills, stairs, bend/lift/ and carrying tasks. (Haley, 2004, 2004a, 2004b).

The AM-PAC adaptive short form (ASF) versions of the Basic Mobility scale are being submitted to

The National Quality Forum. The ASF version of the Basic Mobility scale consists of 2 different 10-item forms, one for inpatients versus those receiving care in a community setting. Built using IRT methods, the Basic Mobility ASFs allow different questions to be targeted to each setting (inpatient/community), generating an interval level score that is common across both ASFs. The scale is transformed from a logit scale to a standardized scale which ranges from 0 - 100 where 100 is the best possible mobility function. We believe that these short forms are the best compromise between needed breadth of functional content across inpatient and community functional tasks, and the need to minimize response burden.

The ASFs for Basic Mobility were built from an item bank that contains a rich assortment of 131 calibrated items that have been developed, tested, calibrated and applied in clinical research over the past seven years. In developing and evaluating the AM-PAC, we employed two different samples of 1081 patients who received post acute care in acute inpatient rehabilitation units, long-term care hospitals, skilled nursing homes, home health care, and outpatient therapy care settings. The ASFs were developed on an initial sample of 485 post acute care patients (see Haley et al, 2004)

The existence of a detailed item bank enables the basic AM-PAC forms to be enhanced and improved in a very timely fashion (Jette et al, 2007, Haley et al, 2008) for examples of this process).
Scoring estimates from the ASFs and the computer adaptive test (CAT) are directly comparable, given they are taken from the same item bank, the same IRT analysis and use the same scoring metric. Using computer simulations with the AM-PAC item bank, we demonstrated excellent scoring comparability between the AM-PAC adaptive short forms and the CAT. (Haley et al., 2004)

Advantages of using the CAT over the short forms include: less test burden on patients, decreased standard errors around score estimates, and improved scoring accuracy at the lower and higher ends of the AM-PAC functional scales. (Haley et al., 2004) However, the adaptive short forms can generate sufficiently accurate scores on the AM-PAC functional domains and those scores can be directly compared to scores provided from a CAT application of the same item pool.

---

Cella D, Gershon R, Lai J-S, Choi S. The future of outcomes measurement:item banking, tailored short forms, and computerized adaptive assessment. Qual Life Res. 2007;16:133-141.

Haley SM, Coster WJ, Andres PL, et al. Score comparability of short-forms and computerized adaptive testing: simulation study with the Activity Measure for Post-Acute Care (AM-PAC). Arch Phys Med Rehabil. 2004;85:661-666.

Jette AM,Haley SM. Contemporary measurement techniques for rehabilitation outcome assessment. Journal of Rehabilitation Medicine 2005; 37: 339-345.

Haley SM, Coster WJ, Andres PL, Ludlow LH, Bond T, Sinclair SJ, Jette AM. Activity outcome measurement for post-acute care. Medical Care ; 42: Suppl. 1: I-49 – I-61, 2004.

Coster WJ, Haley, SM Andres PL, Ludlow LH, Bond T. Refining the conceptual basis for rehabilitation outcome measurement: personal care and instrumental activities domain. Medical

Care ; 42: Suppl. 1:I-62 - I-72, 2004.

Coster, WJ, Haley, SM, Ludlow LH, Andres PL, Ni PS. Development of an Applied Cognition Scale to Measure Rehabilitation Outcomes. Archives of Physical Medicine and Rehabilitation ; 85:2030-2035, 2004a.

Coster W, Haley S, Jette A: Measuring patient-reported outcomes after discharge from inpatient rehabilitation settings. J of Rehabilitation Medicine, 38:237-242, 2006

Haley S, Ni P, Hambleton R, Slavin M, Jette A: Computer Adaptive Testing Improved Accuracy and Precision of Scores over Random Item Selection in a Physical Functioning Item Bank. J Clin Epidem, 59: 1174-1182, 2006.

Haley SM, Ni P, Jette AM, Tao W, Moed R, Meyers D, Zurek M. Ludlow LH. Replenishing a Computerized Adaptive Test (CAT) of Patient Reported Outcomes. In press,Quality of Life Research 2008).

Cella, D., Gershon, R., Lai, J.-S., & Choi, S. (2007). The future of utcomesmeasurement:Item banking, tailored short forms, and computerized adaptive assessment. Quality of Life Research, 16, 133-141.

Tao W, Haley SM, Coster WJ, Ni P, Jette AM. An exploratory analysis of functional staging using an Item Response Theory approach. Archives of Physical Medicine & Rehabilitation, in press 2008

Jette A, Haley S, Tao W, Ni P, Meyers D, Zurek M: Prospective evaluation of the AM-PAC-CAT in outpatient rehabilitation settings. PHYSICAL THERAPY. 87(4): 385-398, 2007
Jette A, Tao W, Norweg A, Haley S: Interpreting rehabilitation outcome measurements. J of Rehabilitation Medicine, 39(8):585-90,2007..

---

Haley SM, Coster WJ, Andres PL, Ludlow LH, Bond T, Sinclair SJ, Jette AM. Activity outcome measurement for post-acute care. Medical Care ; 42: Suppl. 1: I-49 – I-61, 2004.

Haley SM, Coster WJ, Andres PL, Kosinski M, Ni P. Score comparability of short-forms and computerized adaptive testing: an illustration with the Activity Measure for Post-Acute Care (AM-PAC) Archives of Physical Medicine & Rehabilitation. :85; 661-666, 2004a.

Haley SM, Andres PL, Coster WJ, Kosinski M, Ni P, Jette AM. Short-form activity measures for post-acute care (AM-PAC) Archives of Physical Medicine & Rehabilitation. 85;649-660, 2004b.

Jette A, Haley S, Tao W, Ni P, Meyers D, Zurek M: Prospective evaluation of the AM-PAC-CAT in outpatient rehabilitation settings. PHYSICAL THERAPY. 87(4): 385-398, 2007.

Haley SM, Ni P, Jette AM, Tao W, Moed R, Meyers D, Zurek M. Ludlow LH. Replenishing a Computerized Adaptive Test (CAT) of Patient Reported Outcomes. Quality of Life Research, 2008

Hambleton RK (2000). Emergence of item response modeling in instrument development and data analysis. Medical Care 38(9):II-60.

Hambleton RK (2005). Applications of Item Response Theory to Improve Health Outcomes Assessment: Developing Item Banks, Linking Instruments, and Computer-Adaptive Testing. In: Lipscomb J, Gotay CC, Snyder C, editors. Outcomes Assessment in Cancer. Cambridge, UK: Cambridge University Press; p 445-64.

### 1.7 Measure Type

Outcome

### 1.8 Level of Analysis

Clinician: Individual, Facility

### 1.9 Care Setting

Home Care, Inpatient/Hospital, Outpatient Services, Post-Acute Care

### 1.14 Numerator

The number (or proportion) of a clinician's patients in a particular risk adjusted diagnostic category who meet a target threshold of improvement in Basic Mobility functioning. We recommend that the target threshold is based on the percentage of patients who exceed one or more Minimal Detectable Change (MDC) thresholds. The percentage threshold is derived from a normative database used for benchmarking. MDC is considered the minimal amount of change that is not likely to be due to measurement error. It is one of the more common change indices, which can be used to identify reliable changes in an outcome like Basic Mobility function adjusting for the amount of measurement error inherent in the measurement. MDC can be reported at different confidence levels. (see Haley & Fragala, 2006)_____Haley SM, Fragala-Pinkham MA. Interpreting change scores of tests and measures used in physical therapy. Physical Therapy 2006; 86(5): 735-743.

### 1.15 Denominator

All patients in a risk adjusted diagnostic category with a mobility goal for an episode of care. Cases to be included in the denominator could be identified based on ICD-9 codes or alternatively, based on CPT codes relevant to treatment goals focused on Basic Mobility function.

### 1.20 Types of Data Sources

Other

### 6.1.2 Current or Planned Use(s)

Public Reporting, Quality Improvement (Internal to the specific organization)

### 6.1.3 Current Use(s)

Public Reporting, Quality Improvement (Internal to the specific organization)

## Exclusions

Those patients who did not have one or more mobility function goals for the episode of care.

## Planned Use

Public Reporting, Quality Improvement (Internal to the specific organization)

## Risk Adjustment

Statistical risk model

## Target Population

Elderly

## Steward Organization

CREcare

## Steward POC email

richmoed@crecare.com