

# The Care Transitions Measure

## Overview

The Care Transitions Measure is a performance measure used to promote quality improvement in the area of transitional care. The CTM was developed by the University of Colorado Health Sciences Center under the leadership of Dr. Eric Coleman and with the support of The Robert Wood Johnson Foundation, The Commonwealth Fund, The National Institute on Aging, and the Paul Beeson Faculty Scholars in Aging Program.

*The measure is in the public domain and no fees are assessed—permission is requested only to track the use of the CTM in order to report back to funding agencies.*

## Measure Specifications

The CTM exists in two forms: a 15-item version and a 3-item version (a subset of the 15 items). Testing has been conducted with both versions. The 3-item version was created based on advice we received from national experts in performance measurement and quality improvement regarding consumer demand for a more streamlined measure.

## Scoring

The 15-item and 3-item CTMs share the same scaled response set (below): Strongly Disagree; Disagree; Agree; Strongly Agree; and a Don't know/Don't remember/ Not applicable option.

<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Don't Know/ Don't Remember/ Not Applicable</b>
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Based on a subject's response, a score is assigned to each item as follows: Strongly Disagree =1; Disagree =2; Agree =3; Strongly Agree =4. Next, the scores can be aggregated across either the 15 or 3 items, and then transformed to a scale ranging from 0 to 100 (additional detail regarding scoring is provided on our website: [www.caretransitions.org/measures.htm](http://www.caretransitions.org/measures.htm)). Thus the denominator is 100 and the numerator can range from 0 to 100. CTM results are reported either as mean scores for the individual items or as a summary score, ranging from 0-100 out of a possible 100.

## Inclusions/exclusions

The CTM has application across all aspects of the care continuum. The wording of the version included herein is oriented toward transition out of the hospital, though this term could be replaced with another appropriate setting (e.g., skilled nursing facility). Testing has not included children, but the measure may have potential application to this population as well. Persons with cognitive impairment have been included in prior testing, provided they are able to identify a willing and able proxy. A Spanish language version of the CTM is available.

## Data source/s

The primary data source for the CTM has been telephonic survey of patients post-transition (or their designated proxies). More recently, the developers have gained experience administering the CTM through mailed survey.

### Risk-adjustment method and associated data elements

The CTM is a patient-centered measure that assesses the extent to which health care professionals staff accomplished essential care processes. For example, in hospitals these care processes are in fact not optional, but are mandated under Medicare Conditions of Participation and as such, are also integral components of JCAHO accreditation. Thus, these care processes are to be extended universally to all hospitalized patients, regardless of level of disease burden or socio-demographic status. As a result, the CTM, a process of care measure, does not employ risk adjustment techniques in calculating a summary score.

### Sampling method

CTM has been administered between 14-28 days post-transition.

### **Development and Psychometric Properties of the CTM**

The logic behind the CTM items and the CTM scoring algorithms is based on the known factor structure(s) of the items, as presented in the March 2005 issue of *Medical Care*. The main points from this article are summarized below.

Development of the Care Transitions Measure (CTM) was explicitly guided by the reported experiences of recently-hospitalized patients with complex care needs and their family caregivers. CTM developers conducted a series of focus groups, developed items, and then conducted additional focus groups to ensure that the items captured what patients believed to be most important. The items directly address the key domains identified in these focus groups and others that have been reported from across the country. Further testing was completed in several populations and validation was accomplished by concurrently asking patients to respond to 9 additional items that were not part of the CTM but were believed to be correlated with poor or favorable care transitions. CTM scores were significantly associated with these items in the hypothesized directions.

The resulting CTM is a uni-dimensional measure that assesses the quality of preparation for care transitions. It has demonstrated high internal consistency and reliability.

### **Dissemination and Applications of the CTM**

CTM development began in 1999 and it was first used in a quality improvement project in 2000. Since its inception, the CTM has been used in several evaluation and QI projects. To date, CTM developers at University of Colorado Health Sciences Center have received over 180 requests for permission to use the CTM (the measure is in the public domain). Among these requests, approximately 45% were from health care delivery systems, 30% from academic institutions, 16% are from QIOs, and 9% from governmental agencies. The applications and extent to which CTM users have employed the measure vary, but the majority of those who requested the CTM have stated quality improvement as its intended purpose. The CTM is being used in at least 6 care transition quality improvement projects, including a pay-for-performance initiative that utilizes CTM scores as the basis for incremental payment to local hospitals.