

NATIONAL QUALITY FORUM—Evidence (subcriterion 1a)

Measure Number (if previously endorsed): 228

Measure Title: 3-item Care Transitions Measure (CTM-3)

IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here: 6T

Date of Submission: 4/9/2108

Instructions

- Complete 1a.1 and 1a.2 for all measures. If instrument-based measure, complete 1a.3.
- Complete ***EITHER 1a.2, 1a.3 or 1a.4*** as applicable for the type of measure and evidence.
- For composite performance measures:
 - A separate evidence form is required for each component measure unless several components were studied together.
 - If a component measure is submitted as an individual performance measure, attach the evidence form to the individual measure submission.
- All information needed to demonstrate meeting the evidence subcriterion (1a) must be in this form. An appendix of *supplemental* materials may be submitted, but there is no guarantee it will be reviewed.
- If you are unable to check a box, please highlight or shade the box for your response.
- Contact NQF staff regarding questions. Check for resources at [Submitting Standards webpage](#).

Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the evidence for this measure meets NQF's evaluation criteria.

1a. Evidence to Support the Measure Focus

The measure focus is evidence-based, demonstrated as follows:

- **Outcome:** ³ Empirical data demonstrate a relationship between the outcome and at least one healthcare structure, process, intervention, or service. If not available, wide variation in performance can be used as evidence, assuming the data are from a robust number of providers and results are not subject to systematic bias.
- **Intermediate clinical outcome:** a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence ⁴ that the measured intermediate clinical outcome leads to a desired health outcome.
- **Process:** ⁵ a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence ⁴ that the measured process leads to a desired health outcome.
- **Structure:** a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence ⁴ that the measured structure leads to a desired health outcome.
- **Efficiency:** ⁶ evidence not required for the resource use component.
- For measures derived from patient reports, evidence should demonstrate that the target population values the measured outcome, process, or structure and finds it meaningful.
- **Process measures incorporating Appropriate Use Criteria:** See NQF's guidance for evidence for measures, in general; guidance for measures specifically based on clinical practice guidelines apply as well.

Notes

3. Generally, rare event outcomes do not provide adequate information for improvement or discrimination; however, serious reportable events that are compared to zero are appropriate outcomes for public reporting and quality improvement.
4. The preferred systems for grading the evidence are the Grading of Recommendations, Assessment, Development and Evaluation ([GRADE guidelines](#)) and/or modified GRADE.
5. Clinical care processes typically include multiple steps: assess → identify problem/potential problem → choose/plan intervention (with patient input) → provide intervention → evaluate impact on health status. If the measure focus is one step in such a multistep process, the step with the strongest evidence for the link to the desired outcome should be selected as the focus of measurement. Note: A measure focused only on collecting PROM data is not a PRO-PM.

6. Measures of efficiency combine the concepts of resource use and quality (see NQF's [Measurement Framework: Evaluating Efficiency Across Episodes of Care](#); [AQA Principles of Efficiency Measures](#)).

1a.1. This is a measure of: (should be consistent with type of measure entered in De.1)

Outcome

☐ Outcome: [6T](#)

☒ Patient-reported outcome (PRO): **Patient Experience with Transitions Out of the Hospital**

PROs include HRQoL/functional status, symptom/symptom burden, experience with care, health-related behaviors. (A PRO-based performance measure is not a survey instrument. Data may be collected using a survey instrument to construct a PRO measure.)

☐ Intermediate clinical outcome (e.g., lab value): [6T](#)

☐ Process: [6T](#)

☐ Appropriate use measure: [6T 8T](#)

☐ Structure: [6T](#)

☐ Composite: [6T](#)

1a.2 LOGIC MODEL Diagram or briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient's health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

The CTM-3 is a hospital level measure of performance that reports the average patient reported quality of preparation for self-care response among adult patients discharged from general acute care hospitals within the past 30 days.

This patient-reported outcome of experience with transitional care is influenced by:

- The format and content of discharge instructions provided by the healthcare team
- Reconciliation of existing and new medications
- Opportunity for patient to ask questions regarding discharge instructions

1a.3 Value and Meaningfulness: IF this measure is derived from patient report, provide evidence that the target population values the measured **outcome, process, or structure** and finds it meaningful. (Describe how and from whom their input was obtained.)

International Journal of Integrated Care – Vol. 2, 1 June 2002

Background: To improve the quality of care delivered to older persons receiving care across multiple settings, interventions are needed. However, the absence of a patient-centred measure specifically designed to assess this care has constrained innovation.

Objective: To develop a rigorously designed and tested measure, the Care Transition Measure (CTM).

Setting: A large, integrated managed care organisation in Colorado with approximately 55,000 members over the age of 65 years.

Participants: Patients 65 years and older who were recently discharged from hospital and received subsequent skilled nursing care in a facility or in the home.

Methods: Six focus groups of older persons and their caregivers (ns49) were established. Standard qualitative analytic techniques were applied to written transcripts and four key domains were identified: (1) information transfer; (2) patient and caregiver preparation; (3) self-management support; and (4) empowerment to assert preferences. Specific CTM items were developed, pilot tested, and refined. Psychometric testing, conducted in a different population but selected using the same entry criteria (ns60), included content and construct validity, intra-item variation, and floor ceiling properties.

Results: Older patients and clinicians found the measure to be highly relevant and comprehensive (i.e. content validity). Construct validity was assessed by comparing items from the CTM to selected items from a measure developed by Hendriks and colleagues (Medical Care 2001; 39(3): 270–283). Inter-item Spearman correlations ranged 0.388–0.594. No significant floor or ceiling effects were detected.

Conclusions: The CTM was developed with substantial input from older patients and their caregivers. Psychometric testing suggested that the measure was valid. The CTM may serve to fill an important gap in health system performance evaluation by measuring the quality of care delivered across settings.

Med Care 2005;43: 246–255

Background: Evidence that both quality and patient safety are jeopardized for patients undergoing transitions across care settings continues to expand. Performance measurement is one potential strategy towards improving the quality of transitional care. A valid and reliable self-report measure of the quality of care transitions is needed that is both consistent with the concept of patient-centeredness and useful for the purpose of performance measurement and quality improvement.

Objective: We sought to develop and test a self-report measure of the quality of care transitions that captures the patient's perspective and has demonstrated utility for quality improvement.

Subjects: Patients aged 18 years and older discharged from one of the 3 hospitals of a vertically integrated health system were included.

Research Design: Cross-sectional assessment of factor structure, dimensionality, and construct validity.

Results: The Care Transitions Measure (CTM), a 15-item unidimensional measure of the quality of preparation for care transitions, was found to have high internal consistency, reliability, and reflect 4 focus group-derived content domains. The measure was shown to discriminate between patients discharged from the hospital who did and did not have a subsequent emergency department visit or rehospitalization for their index condition. CTM scores were significantly different between health care facilities known to vary in level of system integration.

Conclusions: The CTM not only provides meaningful, patient-centered insight into the quality of care transitions, but because of the association between CTM scores and undesirable utilization outcomes, it also provides information that may be useful to clinicians, hospital administrators, quality improvement entities, and third party payers.

****RESPOND TO ONLY ONE SECTION BELOW -EITHER 1a.2, 1a.3 or 1a.4) ****

1a.2 FOR OUTCOME MEASURES including PATIENT REPORTED OUTCOMES - Provide empirical data demonstrating the relationship between the outcome (or PRO) to at least one healthcare structure, process, intervention, or service.

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Home Health Care Services Quarterly (The Haworth Press, Inc.) Vol. 26, No. 4, 2007, pp. 93-104;

SUMMARY. The objectives of this study were: (1) to demonstrate the ability of the Care Transitions Measure (CTM) to identify care deficiencies; (2) to devise and implement a quality improvement approach designed to remedy these deficiencies; (3) to assess the impact of the quality improvement approach on CTM scores; and (4) to test whether the CTM-3 predicts return to the emergency department. The CTM was found to be a sensitive tool able to capture changes in performance. The 3-item CTM was found to significantly predict post-hospital return to the emergency department within the first 30 days ($p = 0.004$). doi:10.1300/J027v26n04_07

1a.3. SYSTEMATIC REVIEW(SR) OF THE EVIDENCE (for INTERMEDIATE OUTCOME, PROCESS, OR STRUCTURE PERFORMANCE MEASURES, INCLUDING THOSE THAT ARE INSTRUMENT-BASED) If the evidence is not based on a systematic review go to section 1a.4) If you wish to include more than one systematic review, add additional tables.

What is the source of the systematic review of the body of evidence that supports the performance measure? A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data. (IOM)

- ☐ Clinical Practice Guideline recommendation (with evidence review)
- ☐ US Preventive Services Task Force Recommendation
- ☐ Other systematic review and grading of the body of evidence (e.g., *Cochrane Collaboration*, *AHRQ Evidence Practice Center*)
- ☐ Other

Source of Systematic Review: <ul style="list-style-type: none">• Title• Author• Date• Citation, including page number	
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• URL	
Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the SR.	
Grade assigned to the evidence associated with the recommendation with the definition of the grade	
Provide all other grades and definitions from the evidence grading system	
Grade assigned to the recommendation with definition of the grade	
Provide all other grades and definitions from the recommendation grading system	
Body of evidence: <ul style="list-style-type: none"> Quantity – how many studies? Quality – what type of studies? 	
Estimates of benefit and consistency across studies	
What harms were identified?	
Identify any new studies conducted since the SR. Do the new studies change the conclusions from the SR?	

1a.4 OTHER SOURCE OF EVIDENCE

If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, please describe the evidence on which you are basing the performance measure.

1a.4.1 Briefly SYNTHESIZE the evidence that supports the measure. A list of references without a summary is not acceptable.

The measure was developed with direct input from consumers/patients who identified the key domains and helped shape the eventual wording. The items were subsequently shown to function as a single construct with strong validity/reliability and later were shown to actually predict adverse or undesirable outcomes. Perhaps more importantly the measure has been in actual use for over 8 years and has demonstrated its value and utility in promoting person-centered care.

1a.4.2 What process was used to identify the evidence?

Author's contributions and author's affiliation with other researchers.

1a.4.3. Provide the citation(s) for the evidence.

1. **Coleman EA**, Smith JD, Frank JC, Eilertsen TB, Thiare JN, Kramer AM. Development and testing of a measure designed to assess the quality of care transitions. *International Journal of Integrated Care*. 2002;2(April-June). www.ijic.org. PMID: 16896392

2. **Coleman EA**, Mahoney E, Parry C. Assessing the quality of preparation for post-hospital care from the patient's perspective: the Care Transitions Measure. *Medical Care*. 2005;43(3):246-255. PMID: 15725981
3. Parry, C, Mahoney E, Chalmers SA, **Coleman EA**. Assessing the quality of transitional care: further applications of the Care Transitions Measure. *Medical Care*. 2008;46(3):317-322. doi: 10.1097/MLR.0b013e3181589bdc PMID: 18388847
4. **Coleman EA**, Parry C, Chalmers SA, Chugh A, Mahoney E. The central role of performance measurement in Improving the quality of transitional care. *Home Health Care Services Quarterly*. 2007;26(4):93-104. PMID: 18032202
5. Shadmi E, Zisberg A, **Coleman EA**. Translation and validation of the Care Transition Measure into Hebrew and Arabic. *International Journal for Quality in Health Care*. 2009;21(2):97-102.. doi: 10.1093/intqhc/mzp004 PMID: 19196739
6. Flink M, Tessma M, Cvancarova Smastuen M, Marlène Lindblad M, **Coleman EA**, Ekstedt M. Measuring care transitions in Sweden – validation of the Care Transitions Measure. *International Journal for Quality in Health Care*. doi.org/10.1093/intqhc/mzy001 PMID:29432554
7. Goldstein JN, et al. Is the Care Transitions Measure Associated with Readmission Risk? Analysis from a Single Academic Center *J Gen Intern Med*. 2016 Jul; 31(7): 732–738. doi: [10.1007/s11606-016-3610-9](https://doi.org/10.1007/s11606-016-3610-9) PMID: [26868279](https://pubmed.ncbi.nlm.nih.gov/26868279/)