

**Summary of Technical Expert Panel (TEP) Meetings:**

**June 25, 2020**

**September 3, 2020**

**April 26, 2021**

**Primary Care First and Direct Contracting: Days at Home for Patients  
with Complex, Chronic Conditions**

July 26, 2021

**Prepared by:**

Yale New Haven Health Services Corporation – Center for Outcomes Research and Evaluation  
(CORE)

This material was prepared by CORE under contracts to the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy.

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

## Table of Contents

Background .....	3
Measure Development Team.....	3
Overview of the Technical Expert Panel.....	4
Specific Responsibilities of the TEP Members .....	4
TEP Members .....	4
First TEP Meeting Overview .....	6
Second TEP Meeting Overview .....	13
Third TEP Meeting Overview.....	18
Appendix A. CORE Development Team .....	25

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

## Background

The Centers for Medicare & Medicaid Services (CMS), through its Center for Medicare and Medicaid Innovation (Innovation Center), has contracted Yale New Haven Health Services Corporation Center for Outcomes Research and Evaluation (CORE) to develop a quality measure related to keeping patients at home or in community settings rather than in acute care settings. The contract name is Quality Measure Development and Analytic Support, Option Year 1. The contract number is HHSM-75FCMC18D0042, Task Order HHSM-75FCMC19F0003. As part of its measure development process, CORE convenes groups of stakeholders and experts who contribute direction and thoughtful input to the measure developer during measure development and maintenance.

The primary goal of this project is to gather expert and stakeholder input to inform quality measure development focusing on Medicare beneficiaries (patients) with complex, chronic conditions, for implementation in the Direct Contracting and Primary Care First models. This specific quality measure will assess the number of adjusted days at home for a given Model participant, with more days at home indicating better performance on the measure.

The CORE measure development team is comprised of clinicians, statisticians, experts in quality outcomes measurement, and measure development. As is standard with all measure development processes, CORE has convened a Technical Expert Panel (TEP) of clinicians, patients and patient advocates, and other stakeholders. Collectively, the TEP members brought expertise in measure development, caregiving, clinical practice, and the patient experience.

This report summarizes the feedback and recommendations received from the TEP during three TEP meetings held by teleconference in 2020 and 2021.

## Measure Development Team

The Days at Home team was led by Ms. Danielle Purvis, MPH until July 2020. Ms. Purvis had more than 3 years of experience working on CMS contracts to develop, implement, and reevaluate quality measures for hospital and ambulatory settings, including more than 40 claims-based and hybrid measures for multiple CMS reporting programs and the Veterans Health Administration. She also leads rulemaking and drafts federal regulatory language for the Inpatient and Outpatient Prospective Payment System (IPPS/OPPS) rules. She received her MPH degree from Emory University.

As of July 2020, the Days at Home measure team is led Dr. Kelly A. Kyanko. Dr. Kyanko is an Associate Professor of Population Health and Medicine at NYU School of Medicine. In addition to her research in health policy she serves as an academic Primary Care Physician at Bellevue Hospital Center, a large public hospital in New York City with a largely immigrant and underserved population. Dr. Kyanko has worked with CORE since 2016 across a wide range of projects including patient safety and electronic quality measures.

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

CORE’s measure development team is overseen by Dr. Susannah Bernheim, MD, MHS. Dr. Bernheim is a Senior Director of Quality Measurement at CORE, Core Faculty in the Robert Wood Johnson Foundation Clinical Scholars Program, and Associate Professor in the Section of General Internal Medicine at the Yale School of Medicine. Dr. Bernheim leads work funded by the Centers for Medicare and Medicaid Studies to develop the next generation of performance measures across multiple care settings.

Please see [Appendix A](#) for the full list of members of the CORE measure development team.

## Overview of the Technical Expert Panel

In alignment with the CMS Measures Management System (MMS), CORE held a 30-day public call for TEP nominations and convened a TEP for the development of the Quality Measure Assessing Delay in Progression of Chronic Kidney Disease. CORE solicited potential TEP members via emails to individuals and organizations recommended by the measure development team and stakeholder groups, as well as email blasts sent to CMS physician and hospital email listservs, and through a posting on CMS’s website. The TEP is composed of 21 members, listed in [Table 1](#).

The role of the TEP is to provide feedback and recommendations on key methodological and clinical decisions. The three TEP meetings were held on June 25<sup>th</sup>, 2020, September 3<sup>rd</sup>, 2020, and April 26<sup>th</sup>, 2021 via teleconference.

## Specific Responsibilities of the TEP Members

- Complete and submit all nomination materials, including the TEP nomination form, letter of interest, disclosure of conflicts of interests, and curriculum vitae
- Review background materials provided by CORE prior to each TEP meeting
- Attend and actively participate in the TEP webinar(s)
- Provide input and feedback to CORE on key clinical, methodological, and other decisions
- Provide feedback to CORE on key policy or other non-technical issues
- Review the TEP summary report prior to public release
- Be available to discuss recommendations and perspectives following group TEP meetings and public release of the TEP summary report.

## TEP Members

**Table 1: List of individuals participating on the Development of Days at Home Quality Measure TEP**

Name, Credentials	Role, Organization	Location
Sheila Antony, MD, MHCDS	Medical Director, High Risk Care & Population Health - Iora Health	Denver CO

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

Name, Credentials	Role, Organization	Location
Rosie Bartel, MA	Patient Advocate - Patient & Family Advocate Network	Chilton WI
Vipul Bhatia, MD, MBA	Medical Director, Continuing Care Services - WellSpan Health	York PA
Stephanie Bruce, MD, FACP	Medical Director/Physician - Medstar House Call Program	Washington DC
David Casarett, MD, MACP, FAAHPM, HMDC	Professor – Duke University; Chief of Palliative Medicine – Duke Health; Director - Duke Center for Palliative Care	Durham NC
Todd Cook, MBA, MSW, EdD	Vice President/Chief Officer of Longitudinal Case Management - Sharp HealthCare	San Diego CA
Melody Danko-Holsomback, CRNP, MSN	Chief Administrative Officer, Director of Operations – Keystone Accountable Care Organization; Nurse Practitioner – Geisinger Health	Danville PA
Linda Delo, DO	Owner/Physician - Delo Medical Associates	Port Saint Lucie FL
Mark Friedberg, MD, MPP	Senior Vice President, Performance Measurement & Improvement - Blue Cross Blue Shield	Boston MA
Deborah Hill, BS, FAHA	Patient Advocate/Healthcare Consultant	Gainesville FL
Karen Hyden, PhD, APN-BC, MSN/Ed, ACHPN	Area Vice President, Palliative Care - Amedisys Home Health and Hospice	Brentwood TN
Rebecca Kirch, JD	Executive Vice President, Policy and Programs - National Patient Advocate Foundation	Washington DC
Bruce Kinosian, MD	Associate Professor – University of Pennsylvania; Staff Physician - Department of Veterans Affairs	Philadelphia PA
Bruce Leff, MD	Professor - Johns Hopkins School of Medicine	Baltimore MD
David Longnecker, MD, FRCA	Emeritus Chief Clinical Innovations Officer - Coalition to Transform Advanced Care	Washington DC
Dana Lustbader, MD, FAAHPM	Chief, Department of Palliative Medicine - ProHEALTH Care	New York NY
James Mittelberger, MD, MPH, FACP, FAAHPM	Chief Medical Officer, Interim Chief Executive Officer - Center for Elders' Independence	Oakland CA
Jennifer Ofelt, MHA, MSN, RN	Vice President, Home Health & Clinical Operations - UnityPoint at Home	Urbandale IA
Carol Raphael, MPA	Senior Advisor - Manatt Health Solutions	New York NY
Robert Rosati, PhD	Vice President, Research and Quality - Visiting Nurse Association Health Group	Holmdel NJ
Janelle Shearer, RN, BSN, MA, CPHQ	Program Manager - Stratis Health	Bloomington MN

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

## **First TEP Meeting Overview**

In general, TEP meetings follow a structured format consisting of the presentation of key issues, asking each individual to provide feedback, a brief open discussion, and a short summary and response from CORE.

Prior to the meeting, TEP members received detailed meeting materials containing an overview of the Days at Home measure purpose and concept, along with a description of preliminary specifications for the measure cohort, outcome, and risk adjustment approach.

Key issues discussed during the meeting included the benefits of the Days at Home measure concept, possible unintended consequences, cohort inclusion and exclusion criteria, and the preliminary outcome definition of the Days at Home Measure.

During the first TEP meeting, held on June 25, 2020, from 3:00PM – 5:30 PM EST, CORE solicited feedback on the following topics:

1. Key benefits of a Days at Home quality measure
2. Potential unintended consequences of the measure concept and strategies to address them
3. Key exclusion criteria for the measure
4. How to count planned and unplanned episodes of care
5. Potential unintended consequences of the measure outcome and alternatives
6. Key risk factors for the patient risk-adjustment model
7. Next steps for the Days at Home measure

Following the meeting, some TEP members sent additional feedback via email.

### **Introduction and Background**

#### ***Introductions***

- Mr. Kyle Bagshaw welcomed participants, introduced CORE team members, and reminded participants of the confidentiality agreement and funding source, and reviewed the meeting agenda.

#### ***Approval of the TEP Charter***

- Mr. Bagshaw briefly reviewed the TEP charter outlining the panel's goals, responsibilities, and guiding principles, provided to members before the meeting. The TEP ratified the charter unanimously.

#### ***Model Background***

- Dr. Susannah Bernheim described the purpose of the CMS Innovation Center: to test innovative payment and service delivery models to reduce program expenditures while preserving or enhancing the quality of care furnished to individuals. Two such models will use the Days at Home measure to measure quality– Direct Contracting (for

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

Accountable Care Organization [ACO]-like entities) and Primary Care First (for primary care practices and groups), both of which begin in 2021. Both models focus on complex, chronically ill patients and seriously ill patients.

- Innovation Center model co-lead Dr. Perry Payne reviewed the Direct Contracting model. Key goals are to transform risk-sharing arrangements, empower beneficiaries to personally engage in their own care, and reduce providers' administrative burden. The model will include several types of direct contracting entities (DCEs), one being the "High Needs Population DCE" for patients with complex needs.
- Innovation Center model co-lead Dr. Sian Goldson-Desabaye reviewed the Primary Care First Model. Key goals are to reduce Medicare spending and to improve quality of and access to care for all patients, particularly those with serious illness. The model will include special outreach to seriously ill patients to connect them to participating Primary Care First practices. The model will use several measures, including Days at Home, to evaluate quality of care provided by participants and adjust payments.

## **Key Benefits of a Days at Home Quality Measure**

### ***Background Information for Measure Intent***

- Ms. Danielle Purvis stated the intent of the Days at Home measure: to assess the number of days that adults with complex, chronic disease spend at home rather than in healthcare settings. Prior research indicated that remaining at home is a preference of many patients and families, being associated with better outcomes and lower costs. The measure should ideally encourage providers to deliver home-based, primary, and preventive care that supports patients staying at home while decreasing overuse of acute care and long-term institutional care.

### ***TEP Feedback on Measure Intent***

- TEP members offered the following feedback on the measure intent:
  - The Days at Home measure is a strong concept that logically reflects a health care system's ability to act in accordance with patient preferences
  - Support for examining a complex patient population
  - Support for keeping patients at home in the context of the COVID-19 pandemic
  - Support for the measure in potentially providing more "whole-person care" rather than a siloed approach
  - One member noted that some patients do not prefer home care and expressed a wish to be able to capture that fact in the measure design, while noting that this is a powerful bottom-line measure that can incentivize personalizing care delivery in creative ways.

### ***Summary***

- TEP members broadly supported the Days at Home concept as an important patient-centered measure which promotes safe, holistic care as well as care coordination; the

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

Days at Home measure captures when providers perform well across domains that are difficult to measure individually.

## **Measure Concept – Unintended Consequences**

### ***TEP Feedback on Unintended Consequences of the Measure Concept***

- TEP members offered the following feedback on the measure intent:
  - Concern about economic incentives of the measure that may promote gaming
  - A note that not all days at home are created equal and a counting measure may not capture the quality of those days
  - Concern regarding “cherry-picking” patients (for example, if providers stop treating patients with behavioral problems) in order to improve their measure performance
  - Concern that neglectful care could result in a higher score on the measure with a suggestion to add a balancing measure.
  - Concern regarding the possible exacerbation of healthcare inequities due to measure implementation
  - Suggestion to use social risk factors in risk adjustment, such as patient and caregiver education, housing, access, and transportation as factors affecting someone’s ability to stay home (in addition to clinical risk like Hierarchical Condition Category [HCC] scores)
  - Concern that not all acute care is avoidable
  - Concern about the burden placed on caregivers

### ***Summary***

- Dr. Bernheim summarized that members are concerned about equity of access, understanding patient preferences, understanding the roles of caregivers, appropriate risk adjustment, counting days without differentiating the quality of days, and recognizing that not all acute care is avoidable.

## **Measure Cohort – Inclusion and Exclusion Criteria**

### ***Measure Cohort and Key Inclusion and Exclusion Criteria***

- The Primary Care First and Direct Contracting models focus on patients with complex, chronic conditions, defined as those with an HCC composite risk score of at least 2.0. The HCC score was developed by Medicare Advantage for payment purposes, and calculates an overall risk based on patient-level risk factors (including demographics, chronic conditions, and long-term care use). A risk score of 1.0 indicates average risk, with higher scores indicating greater risk.
- CORE’s proposed measure inclusion criteria: Medicare fee-for-service (FFS) patients, aged 18 or older, alive at the start of the performance year, with continuous enrollment in Medicare parts A and B during the performance year and prior year (up to death for patients who died) and an average monthly HCC risk score of 2.0 or greater.

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

### ***TEP Feedback on Measure Cohort and Key Inclusion and Exclusion Criteria***

- One TEP member noted that there may be gaps and variability due to differences in billing, coding, and Medicare Advantage penetration between markets.
  - Dr. Bernheim clarified that while HCC scores were originally based on Medicare Advantage, the Innovation Center is applying that definition to the FFS population using claims from the entire year prior to the performance year to define the eligible cohort.
- One TEP member asked for clarification which HCC score is used, and if the models use prospective or concurrent scores. They said previously the Innovation Center had planned to use concurrent scores to account for frailty variability. They also asked if the Medicare FFS Parts A and B requirement is set by the models or by CORE—for example, if a federal employee (with part A only) would be excluded from the models.
  - CORE confirmed that the prospective HCC score will be used for Direct Contracting’s Standard and New Entrant components while the concurrent HCC score will be used in the High Needs component.
- One TEP member noted that HCC scores measure medical cost and suggested the measure adjust for risk of other institutionalization. They added that frailty scores (such as that used by the PACE program) and socioeconomic factors are relevant to how long patients may stay at home.
- One TEP member noted that it can be challenging for patients with dementia to stay at home independently, for whom an institutional setting may be more appropriate. They suggested considering exclusion of dementia patients, or at least risk adjustment for dementia or other cognitive disorders.
- One TEP member was concerned the measure may miss patients new to Medicare in the performance year and asked if durable medical equipment use is factored into frailty calculations and higher risk.
  - Dr. Bernheim noted that the criteria of Part A and B enrollment in the year prior to the performance period is to ensure everyone in the cohort has the same period of data for risk adjustment.
- One TEP member suggested excluding certain patients for whom staying at home may be risky, for example with a history of adult protective services (APS) referrals (for example, for elder abuse or neglect), or the small group of patients for whom frequently calling emergency medical services to go to the emergency department (ED) is an anxiety management mechanism (though these populations represent a small number of cases).

### ***Summary***

- TEP members considered how the CORE team plans on using HCC risk scores, and noted specific considerations for patients with dementia, new Medicare enrollees, and patients with adult protective services referrals.

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

## **Planned and Unplanned Episodes of Care**

### ***Planned and Unplanned Episodes of Care***

- CORE proposed to count unplanned acute care visits and episodes (that is, short-term acute care and post-acute services part of an unplanned care episode) as days not at home.
- CORE proposed to include other types of care, including planned acute care visits and episodes; hospice care; outpatient visits, procedures, and services; custodial or residential care or treatment facilities; and home health or telehealth as days at home. Short-term acute care facilities include hospitals, inpatient psychiatric facilities, and critical access hospitals. Visits may be planned or unplanned; unplanned acute care may be reduced through timely and coordinated primary or preventive care. CORE and CMS use a Planned Admission Algorithm to identify planned admissions from administrative claims; ED visits (and subsequent hospitalizations or observation stays) are always unplanned.
- Ms. Purvis asked the TEP if they agreed with CORE’s proposal to count planned care episodes as days at home and unplanned episodes as days not at home.

### ***TEP Feedback on Planned and Unplanned Episodes of Care***

- Most TEP members supported not distinguishing between planned and unplanned admissions and considering both as “days not at home” (in other words, as “days in care”).
- Many TEP members noted that the distinction is not always clear-cut and a planned admission can be equally disruptive from a patient’s perspective.
- Unplanned admissions are not necessarily preventable.
- There was a stated concern from several TEP members regarding the disparities in care availability and access between urban and rural communities.

## **Measure Outcome – Other Settings and Unintended Consequences**

- Ms. Purvis summarized CORE’s recommendations for other care settings. CORE proposes counting hospice use; outpatient procedures and visits; nursing homes, assisted living, and group homes; residential treatment facilities; and home health and telehealth as days at home. Ms. Purvis noted that if planned admissions count as days not at home, the measure will not have to specially consider excess days following planned admissions.
- Dr. Bernheim asked the TEP to share additional thoughts on these settings with CORE by email following the meeting.

## **Key Risk Factors for Risk-Adjustment Model**

- Ms. Purvis thanked members for their earlier feedback on risk adjustment factors to consider. TEP members provided additional input on key risk factors by email following the meeting:

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

- One TEP member said that an important risk factor is functional status (such as activities of daily living).
- One TEP member recommended considering other factors for risk adjustment, including patient education, access, caregiver education and engagement, transportation, housing, and language. They expressed concern at excluding end-of-life patients (including hospice and palliative care), suggested considering patients with terminal cancer for exclusion, and asked how the measure will address mortality since the population is at high risk of death.
- One TEP member asked how social determinants of health factor into proposed scoring methodologies.
- One TEP member said that anticipated high caregiver burden is a relevant factor to consider and asked if that would be captured in HCC scores.
- One TEP member noted that available services can differ in urban vs. rural areas, and that urbanicity (with more available institutional facilities) is likely a risk factor for utilization. They recommended establishing benchmarks based on urbanicity or regional beds per capita, as Primary Care First practices likely cannot affect hospital location or bed supply in the short term.

### **Meeting Wrap-Up**

- Ms. Purvis thanked the TEP members for their engagement and encouraged them to communicate any questions or additional thoughts via email.

### **Post-Meeting Responses**

- One TEP member reiterated that Days at Home concept is an important outcome measure for chronically ill patients and their caregivers. They agreed that hospitalizations generally disrupt families and routines, although in some cases they are the means by which overburdened caregivers seek temporary or long-term relief. Specifically in the context of patients with chronic illness, they noted the importance of considering: the quality of days at home (that is, if they are well-supported or conversely represent neglectful care); caregiver burden (including the availability of respite); barriers such as geography or access to certain outpatient services; socioeconomic factors (including urbanicity, community services, education, caregiving, and quality of time at home); and patient preferences. They supported counting planned and unplanned hospitalizations both as days not at home, but if they are combined, there should be a balancing measure to ensure there is not an incentive to avoid planned procedures that would improve quality of life.
- One TEP member responded with some additional thoughts by topic:
  - They noted a benefit of the measure concept is that it captures features of utilization and outcomes of interest to payers and providers that are also important to many patients depending on the perspective.

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

- They noted that not all home days are equal; in the extreme case for patients who are homeless or have sub-standard housing, defining the denominator to capture being adequately housed is a challenge.
- They noted that there is a difference in clinical trajectory between “prevalent” vs. “incident” cohorts, and recommended using an incident or hybrid cohort definition to better count “expected” days at home.
- They recommended using a “head-in-bed” standard to differentiate between days at home and not-at-home (that is, the impact on a patient’s quality of life is similar when in a hospital bed whether it is planned or unplanned). They added there is an “at home” option for each stage of a clinical trajectory and so there should be few if any exclusions by care setting.
- They noted the risk of providers using long-term institutionalization early as a gaming strategy if those days count as “days at home.” For a patient already in a nursing home, counting time there as “at home” makes sense, but it does not make sense for a patient residing in the community who transitions to a nursing home.
- They noted some key risk factors to include are gender (which can have large disparities, particularly in end-of-life care) and social determinants of health. They stated that prospective risk adjustment does not adequately capture the clinical experience of end-of-life patients and cautioned CORE against creating a situation in which the standard is lower for patients in their last year of life.

### **Conclusion and Next Steps**

CORE incorporated the TEP’s feedback, particularly regarding the lack of distinction between planned and unplanned admissions, into the measure specifications. CORE planned to prepare materials on risk adjustment approach for consideration at the next TEP meeting.

## **Second TEP Meeting Overview**

Prior to the second TEP meeting held on September 3, 2020, TEP members received detailed meeting materials.

During the second TEP meeting, CORE solicited feedback on the measure definition, risk adjustment, and the modeling approach and mortality. Following the meeting, TEP members provided additional feedback via email, and these comments were incorporated into the summaries.

### **Introduction and Background**

#### ***Introductions***

- CORE welcomed participants, provided an overview of meeting logistics, reminded participants of the confidentiality agreement and funding source, and reviewed the meeting agenda.
- Dr. Kelly Kyanko introduced herself as the new team lead and the rest of the CORE Days at Home team.

### **Measure Definition**

#### ***Background Information for Measure Definition***

- Dr. Kyanko described the measure outcome, including CORE's recommendations for each care setting or episode. CORE recommends counting planned and unplanned acute care episodes (broadly including admissions to acute and post-acute inpatient facilities, ED visits, or observation stays) as days not at home, and counting other care settings (broadly including hospice, outpatient visits, residential facilities, and home or telehealth services) as days at home. CORE presented the ACO-level distribution of mean Days in Care using 2018 Shared Savings Program (SSP) data, showing a fairly wide range of performance.
- CORE recommended counting select acute obstetrical admissions (for labor and delivery, miscarriage, or elective termination of pregnancy) as days at home based on further consideration and feedback from the Innovation Center.
- Dr. Bernheim noted that CORE is investigating how to account for "Hospital at Home" (HaH) type of care, though its usage is currently rare.

#### ***TEP Feedback on Measure Definition***

- Multiple TEP members recommended considering HaH services as days at home.
- A TEP member suggested that lower level ED visits may be counted as days at home since these visits are often short and uncomplicated, though others noted difficulty with the timing of the coding and that there are already other incentives for providers to reduce ED visitation.

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

- TEP members noted that there are times when the ED is used as a stand-in for other unavailable services.
  - CORE will consider separating out certain kinds of ED visits (similar to an urgent care visit) that may make sense to consider as days at home.
  - CORE will also consider the impact of urbanicity on measure performance.
- Dr. Kyanko asked if a new admission to a nursing home for long-term residential care during the measurement year should be considered days in care, and described the pros and cons of this designation. Dr. Kyanko also asked if dual-eligible beneficiaries should be treated differently than Medicare-only beneficiaries with respect to new nursing home stays (acknowledging the differences in resources between these two populations).
  - Most TEP members preferred treating nursing home stays as days at home, though there was interest in other creative “middle ground” solutions.
  - There was near unanimous agreement that there should not be a differentiation between Medicare-only and dual-eligible beneficiaries’ new nursing home transitions.

***Summary: Measure Definition***

- TEP members suggested HaH services should be considered as days at home, considered ED visitation issues, and issues dealing with rural settings.
- TEP members mostly agreed that nursing home stays should be treated as days at home, and there was broad agreement toward not considering dual-eligible beneficiaries differently.

**Risk Adjustment**

***Background Information for Risk Adjustment***

- Dr. Kyanko introduced the goals of risk adjustment, including defining the range of factors leading to needing acute care or mortality that are independent of care quality. CORE considers age, clinical comorbidities, indicators of frailty based on durable medical equipment (DME) use, and social risk factors in the risk adjustment model.
- CORE sourced candidate claims-based risk variables from a previously developed measure for patients with multiple chronic conditions (53 total), given the similar patient cohort (though there are also some significant differences). Each risk variable is a combination of ICD-10 codes. Due to adequate sample size, CORE has the advantage of using many risk variables.

***TEP Feedback on Risk Adjustment***

- There was concern from some TEP members about how well the measure is capturing frailty and functional status and whether the appropriate indicators are being used.
- Hypertension may be too broad as a risk factor; uncontrolled hypertension may be more appropriate to use.

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

- There was a question as to whether risk adjustment would include ED and hospital utilization from the prior year, as this is a strong predictor of future utilization; Dr. Bernheim responded that CORE generally does not risk-adjust for prior year utilization since providers have different admission practices and we do not want to give ACOs with a high admission rate automatic credit.
- A TEP member asked if the risk categories sufficiently cover patients under age 65.
  - Dr. Kyanko explained that categories excluded from the Multiple Chronic Conditions (MCC) measure (which has a cohort of patients aged 65 years and older) were primarily related to obstetrics and gynecology.
  - Dr. Bernheim stated that rare conditions in the young population can be highly indicative of additional risk.
- One TEP member cautioned against incentivizing continued poor performance of organizations that are creating high-utilizing environments, and that there are regional disparities to be considered.

### **Summary**

- The TEP broadly agreed with the risk adjustment approach and provided some feedback and asked clarifying questions.

### **Modeling Approach and Mortality**

#### ***Background Information for Modeling Approach and Mortality***

- Dr. Kyanko noted that due to high mortality risk in the measure cohort (approximately 12% per year), CORE recommends accounting for mortality at the ACO level. She noted that CORE considered other options with significant drawbacks, and ultimately recommends adjusting the ACO's Days at Home score for mortality.
- CORE proposed using a standardized mortality ratio to adjust a given ACO's performance score on the measure. The measure outcome is adjusted days at home (ADAH); higher ADAH indicates better performance and fewer days in care, for a given patient case mix.
- Dr. Kyanko presented figures and example calculations illustrating the mortality-adjusted excess days in care calculation.
- Beneficiaries who die within the performance period are included. The results of a mortality adjustment at the patient-level and the ACO-level are similar; it is more natural to describe and implement the measure using the patient-level adjustment.
- All days in hospice care are considered days at home.
- Risk adjustment is based on coding from the year prior to the performance year.

#### ***TEP Feedback on Modeling Approach and Mortality***

- A TEP member asked why days in care are used in the calculation rather than days at home.

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

- Dr. Bernheim responded that for statistical purposes, it is easier to model as days in care then later convert to adjusted days at home.
- A TEP member indicated general support for the approach but expressed concern that the specific mortality model CORE proposed, stating that other mortality modeling methods may produce better predictive results.
  - Dr. Bernheim stated that when we create statistical models intending to assess performance, we are not always looking for the best predictive model because some factors are not appropriate to incorporate into models measuring quality.
- Several TEP members were concerned with the added complexity that the mortality adjustment brings to the measure, particularly in terms of explaining the measure.
- Several other TEP members strongly supported CORE’s approach and stated that the complexity may reduce gaming of the measure and eliminate or reduce maladaptive behaviors.
- A TEP member expressed concern that penalizing mortality would lead to less hospice use.
- A TEP member suggested weighting days in care by the intensity of the care, for example, by differentiating between an ED visit and an acute care inpatient stay.
- One TEP member stated that the best approach may be to determine if the mortality adjustment has a significant impact on ACO’s performance scores.

### **Summary**

- TEP members broadly agreed that considering mortality is important and there were a range of suggestions on how to best incorporate the mortality rate into the measure.
- Some TEP members were wary of the approach due to the added complexity, but other TEP panelists preferred the complexity to reduce the ability of participants to game the measure.

### **Meeting Wrap-Up**

- Dr. Bernheim noted that CORE has postponed COVID-19 impact analyses for now, while noting the possibility of differential impact by geographic region.
- Mr. Bagshaw thanked the TEP members for their engagement and encouraged them to communicate any questions or additional thoughts via email.

### **Post-Meeting Responses**

- A TEP member endorsed the idea of having a balancing measure for mortality to ensure patient safety.
- A TEP member suggested splitting the mortality and days at home components and reporting performance in both dimensions. This TEP member recommended CORE consider a claims-based frailty index as a risk factor. The TEP member recommended stratifying the population based on a long-term institution flag in claims data.

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

## **Conclusion and Next Steps**

CORE considered all of the TEP responses and incorporated many suggestions into the measure specifications. CORE finalized clinical risk adjustment variables, which included age, comorbidities, and indicators of frailty based on durable medical equipment (DME) use. CORE acknowledged a number of interesting risk factors raised by the TEP, including caregiver burden, which due to data limitations were not feasible to include. CORE also began to test inclusion of social risk factors and incorporating nursing home use into the measure score.

## **Third TEP Meeting Overview**

Prior to the third TEP meeting held on April 26, 2021, TEP members received detailed meeting materials outlining the measure calculation, risk adjustment, and analyses/testing.

During the third TEP meeting, CORE solicited feedback on the measure calculation methodology, risk adjustment approach, and empirical analyses and testing results.

### **Introduction and Background**

#### ***Introductions***

- CORE welcomed participants, introduced CORE team members, and reminded participants of the confidentiality agreement and funding source, and reviewed the meeting agenda.
- Mr. Kyle Bagshaw reviewed topics covered in previous TEP meetings, including key benefits of the measure, the measure intent, cohort and exclusion criteria, risk adjustment, and possible unintended consequences.

### **Measure Calculation**

#### ***Background Information for Measure Calculation***

- Dr. Kelly Kyanko described the three risk-adjusted models used for calculating the measure: days in care, mortality, and transitions to long-term nursing care. She noted that although we use the term “ACOs,” the measure is intended for use in other types of provider groups or entities as well.
- Dr. Kyanko summarized the feedback regarding long-term nursing home transitions. A transition to a nursing home generally an undesired outcome which providers should be incentivized to avoid, however for some patients this is the best and safest outcome. Providers should be encouraged to reduce further acute care use among patients who already reside in nursing homes, and a day in a nursing home should not be weighed the same as a day in acute care (not as negative of an outcome).
- CORE developed an approach that considers new admissions to nursing homes during the performance year. The risk model, assessing the risk of a patient transitioning to a nursing home due to their provider’s performance compared to a provider of average quality, is used as an adjustment to days at home, along with the mortality model. This provides an incentive to provider groups to prioritize home health-based care.
- CORE uses a method to define nursing home transitions by using claims with nursing home as the place of service that do not overlap with a SNF claim.
- The statistical model calculates the days in care (DIC) for each patient, and this is compared to an expected value to calculate the excess days in care (EDIC).
- The Standard Mortality Ratio (SMR) is the predicted mortality divided by the expected mortality.

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

- Similarly, the Standard Nursing Home Ratio (SNHR) is the predicted transitions divided by the expected transitions.

#### ***TEP Feedback on Measure Calculation***

- A TEP member questioned the necessity of the SMR given the calculation of “days alive” in the main Days in Care model.
  - CORE noted the purpose of the SMR adjustment is to account for providers with greater risk of death than expected.
- Multiple TEP members suggested that the Program for All-Inclusive Care for the Elderly (PACE) program, which aims to incentivize community-based care and prevent the use of nursing homes, is the gold standard. It may be unfair to compare Primary Care First and Direct Contracting participants to PACE, at least initially.
- A TEP member noted the desire to have the Days at Home measure available for varied use cases.
- One TEP member suggested that CORE may have access to the Minimum Data Set for calculating quality measures, and also suggested contacting the National PACE Association to compare to their measure about delaying nursing home use.
- Multiple TEP members expressed concern about waivers dealing with Hospital at Home (HaH) claims for acute care delivered in the home.
- CORE stated the current intent is for the measure to count such days as “days at home” in order to incentivize this care.

#### ***Summary***

- TEP members expressed desire for the measure to have varied use cases in different models, and to compare to the PACE program as feasible.
- TEP members discussed waivers for HaH claims.
- A TEP member asked about the necessity of the mortality adjustment.

### **Risk Adjustment**

#### ***Background Information for Risk Adjustment***

- Dr. Kyanko stated that we considered demographic, clinical, and social risk factors that may affect days at home, mortality, and risk of nursing home transitions. We adjust for baseline characteristics of patients. We used the Multiple Chronic Conditions (MCC) measure for our list of candidate clinical risk variables and then conducted empiric analyses, including prevalence in the cohort, correlation with days in care and risk of death, and correlation between risk variables. The final model includes 51 clinical risk variables.
- CORE identified nine social risk factors (SRFs) and chose to include dual-eligibility status as a social risk factor in the final Days in Care and Nursing Home Transition Models. This variable showed a strong association with days in care. The other SRFs were not included.

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

- Dr. Bernheim noted that CORE found that dual-eligible beneficiaries had a higher risk of transition to nursing home than Medicare-only beneficiaries.
  - A TEP member said (based on their own prior research) that a high-risk subset of dual-eligible beneficiaries (those qualified for Independence at Home) have a slightly lower nursing home rate than Medicare-only beneficiaries because of access to home- and community-based services.
- Dr. Bernheim acknowledged that while this as an important policy decision, the effect on calculated measure scores is minimal.

### ***TEP Feedback on Risk Adjustment***

- A TEP member asked why the measure uses Agency for Healthcare Research and Quality Socioeconomic Status (ARHQ SES) index rather than Area Deprivation Index (ADI).
  - Dr. Bernheim responded that these indices are built on a very similar concept but noted an advantage of ARHQ SES is that the data and methodology are available for CORE to calculate the index independently.
- A TEP member noted rates can be highly contingent on the region and states' use of waivers.
- A TEP member recommended that rather than statistically adjusting the quality measure itself for SRFs, the payment program could account for SRFs by modifying other aspects of payment.
- TEP members discussed advantages and disadvantages of adjusting for various social risk factors.

### ***Summary***

- Most of the feedback from the TEP dealt with the inclusion of dual-eligibility as a social risk factor in the Days in Care and Nursing Home Transition Models; the group was split on the appropriateness of inclusion of SRFs.

## **Analyses and Testing**

### ***Background Information for Analyses and Testing***

- Dr. Kyanko stated that the measure was tested among 610 Shared Savings Program (SSP) ACOs using the 2018 calendar year. The statistical models perform well. Most ACOs perform within a few days of the average but there are significant outliers. The effect of the Mortality and Nursing Home Transition models is small.
- Dr. Kyanko presented the distribution of measure scores and the impact of the standardized mortality ratio (SMR) and risk-standardized nursing home rate (rSNHR) adjustments.
- For reliability testing, CORE used a split-sample test, randomly split the cohort in half, and compared the ACO scores between the two halves.
- The National Quality Forum (NQF) considers TEP face validity and comparisons to other related measures (empiric testing of construct validity). We found modest correlations

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

with other measures demonstrating that the Days at Home measure captures conceptually related constructs. We hypothesized correlations between Days at Home and six different ACO-based measures; we found the expected correlation on four out of six of the measures.

- Dr. Bernheim stated that these measures have distinct differences to the Days at Home measure, while still being conceptually related. We do not expect these measures to be very closely correlated, given they are measuring different aspects of quality.

#### ***TEP Feedback on Analyses and Testing***

- One TEP member was curious about the lack of agreement with the falls screening measure, and hypothesized that this may be due to the fact that the falls measure is a narrow “check the box”-type measure.

#### ***Summary***

- The statistical models perform well, and the effect of the Mortality and Nursing Home Transition Models on a given ACO’s score is small.
- CORE found modest correlations with other measures that capture conceptually related constructs.

#### **Open Feedback Session**

- A TEP member stated that many patients transition to a nursing home when their caregivers are unable to maintain care rather than as a benefit to the caregivers, and that this measure will incentivize health plans to provide more support at home if they understand that their performance will be marked down when a patient can no longer stay at home.
- A TEP member asked about considering the role of home caregivers in real-world use and asked if there is a way to adjust for or recognize the contribution of caregivers that helps patients stay at home. Particularly for patients with serious illness, the caregiver role is very demanding already.
  - A TEP member noted that this conversation highlights the need for home health aides and others who can support the caregivers, and the need for providers to provide meaningful responses and support around the clock. This payment structure would encourage providers in these ways.
  - Dr. Bernheim noted the goal of a broad outcome measure like this is partly to spark innovation – rather than measuring specific processes or structures, different providers can have different answers to the goal of keeping patients at home.
  - A TEP member agreed, noting that previous efforts to measure and reduce avoidable admissions sparked growth in the use of telehealth.
  - A TEP member noted an additional factor: the availability of resources by geography.

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

- Dr. Bernheim noted an advantage of a voluntary program like Direct Contracting is the element of choice – that is, plans in a given geography entering the Direct Contracting model likely have some programs or processes to meet goals given the resources available.
- One TEP member noted the importance of messaging for patients why this measure matters instead of focusing only on technical aspects and losing these bigger picture effects.
- One TEP member liked that the measure includes post-acute as well as hospital days and hopes the measure will help to provide more of an overall quality picture than measures like hospital length-of-stay (which may encourage providers to transfer patients to post-acute settings before they are ready).
  - Dr. Bernheim agreed noting that the Days at Home measure includes more comprehensive settings and looks over a longer timeframe, which may make it harder for providers to “squeeze” days out of different settings.
- One TEP member was surprised at the narrow distribution of ACO scores given large observed variation among patients’ days at home.
  - Dr. Bernheim noted these scores reflect great diversity among patients within an ACO, and that the tails of the distribution do indicate some substantial differences.
- A TEP member noted CORE’s nursing home adjustment method does not actually count nursing home days as days in care and asked why CORE selected this nursing home adjustment method, instead of another approach (such as stratifying the measure based on long-term institutionalization (LTI) status).
  - Dr. Bernheim noted that first, counting LTI days as days in care would overwhelm the days in acute and post-acute settings in the scoring, which was previously noted by the TEP and not supported; second, another approach might lose information about patients who transition from LTI to the acute setting; and third, due to data concerns we don’t believe we can accurately count the number of days in LTI.
- Another TEP member agreed that the nursing home population should be considered separately from those in the community, noting that health systems can use nursing home resources as additional caregivers instead of managing care at home. They stated that counting nursing home days as “not at home” would have greater face validity and might lead to greater variation in the scoring.
- A TEP member suggested at least adding an asterisk to these scores to note this issue, noting that some other similar measures (such as that used by the VA) don’t count long-term care as days at home and the difference in measures should be clear to users. They also asked if CORE has applied the measure to the high-needs subgroup of the Direct Contracting model.

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

- Dr. Bernheim stated that CORE identified this approach to capture ACOs with high rates of transitions to nursing homes without disincentivizing nursing home residence too strongly. This decision was based on previous TEP feedback that for at least some patients the nursing home may not be the worst outcome. CORE does recognize the interest from the TEP in considering other options. CORE is beginning now to look at performance among DCEs directly.
- A TEP member asked if CORE has assessed the stability of the measure over time.
  - Dr. Bernheim responded that CORE has not yet analyzed time trends in the measure but will be considering this during revaluation and maintenance work.
- One TEP member asked about the overall mortality rate among the convenience sample to assess how seriously ill the population is.
  - Mr. Bagshaw reported an observed mortality rate among the test cohort of approximately 12%.
  - Dr. Bernheim noted that the inclusion criteria include roughly the top quartile of patients in terms of complexity.
- A TEP member noted that more care is needed to manage complex, frail patients outside of a SNF, which is a balancing benefit to count SNF as “not at home.”
- A TEP member suggested that models that provide more waivers allowing for more care at home (like Direct Contracting) may have more difference in results, but this context should be taken into account wherever the measure is used.

### **Meeting Wrap-Up**

- Dr. Kyanko thanked the TEP members for their engagement and encouraged them to complete the survey distributed via email.

### **Post-Meeting Responses**

- Following the meeting, each member of the TEP was asked to respond to a survey assessing the face validity of the measure.
- Each member was asked to state if they “strongly agree,” “agree,” “somewhat agree,” “somewhat disagree,” “disagree,” or “strongly disagree” with the statement: “The Days at Home measure, as specified, can be used to distinguish between better or worse performance at ACOs or provider groups.” Members were also asked to provide a rationale for their choice.
- 19 of 21 TEP members responded to the survey. There was broad support for the face validity of the measure, with 2 members indicating “strongly agree,” 15 members indicating “agree,” and 2 responding “somewhat agree.” No members indicated disagreement with the given statement.
- The TEP members felt that the measure was holistic and addresses a currently unmet measurement goal of keeping patients at home and in their communities, rather than in acute care settings.

*The materials within this document do not represent final measure specifications for the Days at Home Measure*

- There was concern from a few TEP members regarding the methods used for the nursing home adjustment.

### **Conclusion and Next Steps**

- Team will consider several key suggestions from the TEP members along with some other items during measure reevaluation moving forward, including testing measure performance within the Direct Contracting model, ensuring HaH care is captured as “days at home,” and investigating the impact of rurality and waivers on measure scores. CORE will also work to ensure clear communication of the approach and rationale for the SMR and SNHR adjustments during the measure implementation process.

## Appendix A. CORE Development Team

**Table 1. Current CORE Team Members**

Name	Role
Susannah Bernheim, MD, MHS	Senior Director of Quality Measurement
Kelly Kyanko, MD, MHS	Project Lead
Zhenqiu Lin, PhD	Analytics Director
Kyaw (Joe) Sint, PhD	Project Analyst
Yongfei Wang, MS	Project Analyst
Kyle Bagshaw, MPH	Project Coordinator
Jacob Miller, MS	Research Associate
Afrin Howlader, MPH	Project Manager
Faseeha Altaf, MPH	Innovation Model Expert; Measure Development Advisor
Kristina Burkholder, MS, CAS	Implementation Expert
Elizabeth Drye, MD, SM	Clinical Consultant
Ilana Richman, MD	Clinical Consultant
Jeph Herrin, PhD	Statistical Consultant
Elizabeth Triche, PhD	Methodological Consultant

**Table 2. Former CORE Team Members**

Name	Role
Danielle Purvis, MPH	Project Lead
Stephen Martinez-Hamilton	Student Research Assistant

*The materials within this document do not represent final measure specifications for the Days at Home Measure*