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Memo

November 30, 2021

To: Consensus Standards Approval Committee (CSAC)

From: Primary Care and Chronic Illness Project Team

Re: Primary Care and Chronic Illness Spring 2021 Cycle

CSAC Action Required

The CSAC will review recommendations from the Primary Care and Chronic Illness project at its November 30 and December 1, 2021, meeting, and vote on whether to uphold the recommendations from the Standing Committee.

This memo includes a summary of the project, measure recommendations, themes identified, responses to the public and member comments, and results from member expression of support. The following document accompanies this memo:

- **Primary Care and Chronic Illness Spring 2021 Draft Report**. The draft report has been updated to reflect the changes made following the Standing Committee's discussion of public and NQF member comments. The complete draft report and supplemental materials are available on the project webpage.

Background

Primary care providers serve as the most common contact point for many people within the U.S. healthcare system. As such, primary care has a central role in improving the health of people and populations. Continuity of care is an essential element of primary care; it involves collaborative care management, including the patient and their care team, with the goal of achieving high quality medical care over time.

Over the last 15 years, NQF has endorsed dozens of measures addressing improvements in primary care and chronic illnesses. These measures are used in many national- and state-level public reporting and accountability programs, as well as for quality improvement. With the formation of the Primary Care and Chronic Illness (PCCI) Standing Committee in 2017, NQF was able to consolidate and streamline the measure maintenance and
endorsement process for a broad set of measures related to primary care and chronic illness. High quality performance measurement that captures the complexity of primary care and chronic illnesses is essential to improve diagnosis, treatment, and management of conditions. Chronic illnesses are long lasting or persistent health conditions or diseases that patients and providers must manage on an ongoing basis.

For the spring 2021 cycle, the Standing Committee reviewed one measure related to continuity of care.

The Standing Committee recommended the following measure:

- **#3617** Measuring the Value-Functions of Primary Care: Provider Level Continuity of Care Measure, American Board of Family Medicine (ABFM) (new)

Draft Report

The Primary Care and Chronic Illness Draft Report presents the results of the evaluation of one measure considered under the Consensus Development Process (CDP). The Standing Committee recommended this measure for endorsement.

The measure was evaluated against the 2019 version of the measure evaluation criteria.

Measures under Review	Maintenance	New	Total
Measures under review	0	1	1
Measures recommended for endorsement	0	1	1
Measures not recommended for endorsement or trial use	0	0	0
Reasons for not recommending	Importance - 0 Scientific Acceptability - 0 Use - 0 Overall - 0 Competing Measure - 0	Importance - 0 Scientific Acceptability - 0 Use - 0 Overall - 0 Competing Measure – 0	0

CSAC Action Required

Pursuant to the CDP, the CSAC is asked to consider endorsement of one candidate measure.

Measures Recommended for Endorsement

- 3617 Measuring the Value-Functions of Primary Care: Provider Level Continuity of Care Measure (American Board of Family Medicine) (New)

Overall Suitability for Endorsement: Yes-13; No-4

Comments and Their Disposition

NQF received one public comment after the measure evaluation meeting from the measure developer, ABFM, pertaining to the draft report and measure under review.

Measure-Specific Comments

#3617: Measuring the Value-Functions of Primary Care: Provider Level Continuity of Care Measure (ABFM)

The American Board of Family Medicine provided additional evidence-centered data supporting the assertion that continuity of care decreases emergency department (ED) utilization and increases desirable utilization.

Measure Steward/Developer Response:

No response required.

NQF Staff Response:

Thank you for your comment. Since the measure was recommended by the Standing Committee and the comment does not require deliberation by the Standing Committee, the spring 2021 post comment meeting was not convened. Please reach out with any questions.

Action Item:

No action required.

Member Expression of Support

Throughout the 16-week continuous public commenting period, NQF members had the opportunity to express their support ('support' or 'do not support') for the measure submitted for endorsement consideration to inform the Standing Committee's recommendations. No NQF members provided their expression of support or non-support.

Removal of NQF Endorsement

One measure previously endorsed by NQF has not been re-submitted, and endorsement has been removed.

Measure	Reason for Removal of Endorsement
#3153 Continuity of Primary Care For Children With Medical Complexity	Developer can no longer support the measure.

Appendix A: CSAC Checklist

The table below lists the key considerations to inform the CSAC's review of the measures submitted for endorsement consideration.

Key Consideration	Yes/No	Notes
Were there any process concerns raised during the CDP project? If so, briefly explain.	No	*
Did the Standing Committee receive requests for reconsideration? If so, briefly explain.	No	*
Did the Standing Committee overturn any of the Scientific Methods Panel's ratings of Scientific Acceptability? If so, state the measure and why the measure was overturned.	No	*
If a recommended measure is a related and/or competing measure, was a rationale provided for the Standing Committee's recommendation? If not, briefly explain.	N/A	No related and/or competing measures were noted.
Were any measurement gap areas addressed? If so, identify the areas.	No	*
Are there additional concerns that require CSAC discussion? If so, briefly explain.	No	*

* Cell intentionally left blank

Appendix B: Measures Not Recommended for Endorsement

The Primary Care and Chronic Illness Standing Committee recommended the candidate measure for endorsement.

Appendix C: NQF Member Expression of Support Results

No NQF members provided their expression of support or non-support.

Appendix D: Details of Measure Evaluation

Rating Scale: H=High; **M**=Moderate; **L**=Low; **I**=Insufficient; **NA**=Not Applicable; **Y**=Yes; **N**=No

Vote totals may differ between measure criteria and between measures as Standing Committee members often have to join calls late or leave calls early. NQF ensures that quorum is maintained for all live voting. All voting outcomes are calculated using the number of Standing Committee members present during the meeting for that vote as the denominator. Denominator vote counts may vary throughout the criteria due to intermittent Standing Committee attendance fluctuation. The vote totals reflect members present and eligible to vote at the time of the vote. Quorum (a minimum of 16 out of 23 active Standing Committee members present) was reached and maintained for the duration of all measure evaluation meeting on July 8, 2021.

#3617 Measuring the Value-Functions of Primary Care: Provider Level Continuity of Care Measure

Measure Worksheet

Description: This is a process measure evaluating primary care physicians (PCPs); for each physician, their denominator is all of the patients they saw during the evaluation period who had at least 2 PCP visits (could include visits to other PCPs), and the numerator is the number of those patients whose Bice-Boxerman Continuity of Care Index is >= 0.7.

The Bice-Boxerman index is a validated measure of patient-level care continuity that ranges from 0 to 1; "0" reflects completely disjointed care (a different provider for each visit), and "1" reflects complete continuity with the same provider for all visits.

Numerator Statement: The numerator is the number of patients with a continuity index of at least 0.7.

Denominator Statement: The denominator is the total number of patients with continuous enrollment with at least 2 visits to any PCP during the measurement period. The requirement of continuous enrollment ensures that all of the patient encounters will be captured in the data, and the requirement of at least 2 visits is necessary to calculate a Continuity of Care index (the notion of "continuity" is not applicable to someone who only has 1 physician visit [i.e., there needs to be at least 2 visits to determine whether they consistently visit the same or different physicians]).

Exclusions: Since Continuity of Care is about seeing the same clinician, we did not consider patients with only one visit as an exclusion; therefore, we do not have any denominator exclusions.

Adjustment/Stratification: No risk adjustment or risk stratification occurred. No stratification of measure results is required.

Level of Analysis: Clinician: Individual

Setting of Care: Outpatient Services

Type of Measure: Process

Data Source: Claims

Measure Steward: American Board of Family Medicine

STANDING COMMITTEE MEETING: July 8, 2021

1. Importance to Measure and Report: <u>The measure meets the Importance criteria.</u>

(1a. Evidence, 1b. Performance Gap)

1a. Evidence: **Total Votes = 17; H-0; M-11; L-6; I-0**; 1b. Performance Gap: **Total Votes = 16; H-0; M-13; L-3; I-0**

<u>Rationale</u>:

- The Standing Committee noted that the developer provided seven studies published between 2007 and 2019.
- The Standing Committee noted that only two studies were conducted in the U.S., and both studies focused on the Medicare population, which was a fraction of the population included in the measure. The developer noted that several U.S.-based studies with broader populations existed; although they were not included in the submission, these studies could still be provided for additional support.
- The Standing Committee stated it was unclear whether tracking continuity of care would result in better outcomes. The developer noted that a number of studies show that measuring continuity of care can enable change, which would ultimately improve outcomes.

- The Standing Committee questioned whether the studies quoted in the measure submission included all patients or only patients with chronic illnesses. The developer clarified that the studies included both groups.
- The Standing Committee expressed concern with the structure of the measure, which prioritized continuity of care over access and patient convenience. According to the developer, there is evidence showing that continuity of care should be complementary to patient choice; the developer also highlighted another study showing that continuity of care does not necessarily impede access.
- The Standing Committee agreed there was evidence to support the measure.
- The Standing Committee noted the mean performance of 0.2763 with a standard deviation of 0.3058 based on Optum claims data, which indicated low performance. The Standing Committee also noted that disparities in care data were not included; in contrast, literature addressing disparities in care on the specific focus of measurement was included.
- The Standing Committee agreed that the performance gap to warrant a national performance measure.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria.

(2a. Reliability precise specifications, testing; 2b. Validity testing, threats to validity)

2a. Reliability: **Total Votes = 18; H-2; M-12; L-4; I-0**; 2b. Validity: **Total Votes = 17; H-2; M-9; L-6; I-0**

Rationale:

Reliability

- The Standing Committee noted the focus of the measure: PCPs; however, primary care is often team based. A patient may see a different physician, nurse practitioner, or physician's assistant at the same practice. The Standing Committee requested more information on how team-based care would be accounted for and whether the patient seeing another member of the team at the same practice would count against the primary physician.
- The Standing Committee also questioned whether teaching hospitals would be at a disadvantage due to the use of residents to provide care.
- The developer acknowledged that many PCPs utilize a team-based approach but reassured the Standing Committee that it would not count against the physician. The developer further clarified that the data are pulled using claims data. While the measure does focus on PCPs, it could be easily altered to review a broader group if a practice wanted to use the measure for internal improvement purposes. The developer added that many teaching hospitals are able to code using the resident's information, and the use of residents should not affect/have an impact on the measure.
- The Standing Committee noted that reliability testing was conducted at the performance-score level using a beta-binomial model to determine signal-to-noise; they also highlighted that as the sample size increased, the reliability scores improved, which further suggested that the low reliability values may be a function of small sample sizes as opposed to the inherent reliability of the measure itself.
- [Result to be added once votes are complete}
- The Standing Committee noted that validity testing was conducted at the measure-score level using empirical validity testing.
- The Standing Committee expressed concern that clinicians with a small number of patients might be penalized because they do not see patients frequently. The developer stated that 12 months was chosen due to public reporting criteria; however, practices can extend the window of measurement for quality improvement.
- [Result to be added once votes are complete}

3. Feasibility: Total Votes = 17; H-3; M-10; L-4; I-0

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c. Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)

Rationale:

- The Standing Committee noted that the measure's data elements are generated or collected by and used by healthcare personnel during the provision of care; all data elements are in defined fields in electronic clinical data and [Result to be added once votes are complete}.

4. Use and Usability

(4a. Use; 4a1. Accountability and transparency; 4a2. Feedback on the measure by those being measured and others; 4b. Usability; 4b1. Improvement; 4b2. The benefits to patients outweigh evidence of unintended negative consequences to patients)

4a. Use: **Total Votes = 17; Pass-15; No Pass-2** 4b. Usability: **Total Votes = 17; H-2; M-10; L-4; I-1**

Rationale:

- The Standing Committee noted the measure had been approved for use in the Centers for Medicare & Medicaid Services' (CMS) Merit-Based Incentive Payment System (MIPS) program and had been used in the PRIME Qualified Clinical Data Registry (QCDR) since the 2018 measurement period.
- The Standing Committee stated that users of the measure are able to provide feedback and noted that the developer had received mostly positive feedback. The Standing Committee noted that the developer reported a recent update to the measure specifications; however, current data cannot be used to compare performance over time.

5. Related and Competing Measures

- No related or competing measures were noted.

6. Standing Committee Recommendation for Endorsement: **Total Votes = 17; Yes-13; No-4**

Rationale

7. Public and Member Comment

- The measure developer posited that further research is needed on primary care continuity, specifically utilization. The developer also furnished additional evidence supporting that continuity of care decreases emergency department utilization and increases desirable utilization.
- Since the measure was recommended by the Standing Committee and the comment does not require deliberation by the Standing Committee, the spring 2021 post comment meeting was not convened.
- No comments were received prior to the evaluation meeting.

8. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X

9. Appeals

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Primary Care and Chronic Illness Spring 2021 Review Cycle

CSAC Review

November 30 – December 1, 2021

Funded by the Centers for Medicare & Medicaid Services under contract HHSM-500-2017-00060I Task Order HHSM-500-T0001

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Primary Care and Chronic Illness Standing Committee Recommendations

- **One measure reviewed for Spring 2021**
  - The measure was not reviewed by the Scientific Methods Panel
- **One measure recommended for endorsement**
  - **3617** Measuring the Value-Functions of Primary Care: Provider Level Continuity of Care Measure (American Board of Family Medicine) (new)

Primary Care and Chronic Illness: Public and Member Comment and Member Expressions of Support

- One public comment was received after the evaluation meeting
  - One in support of measure under review (measure #3617)
- No NQF members provided expressions of support or non-support for the measure under review.

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Primary Care and Chronic Illness Contact Information

- NQF Project Team:
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- Project Webpage: https://www.qualityforum.org/Primary_Care_and_Chronic_Illness.aspx
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Primary Care and Chronic Illness, Spring 2021 Cycle: CDP Report

DRAFT REPORT FOR CSAC REVIEW
NOVEMBER 30, 2021

This report is funded by the Centers for Medicare & Medicaid Services under contract HHSM-500-2017-00060I Task Order HHSM-500-T0001.

https://www.qualityforum.org

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Executive Summary

The National Quality Forum (NQF) has a body of endorsed measures related to the provision of primary care and the management of chronic disease, which is overseen by the Primary Care and Chronic Illness (PCCI) Standing Committee. This Standing Committee is convened with the recognition that the most common contact point for many people within the United States (U.S.) healthcare system is their primary care provider. Primary care practitioners work with each patient to manage the health of that individual. In the primary care setting, diagnosis and treatment focus on the health of the entire patient and not a single disease. The review and evaluation of measures affecting primary care and dealing with chronic illness have long been a priority of NQF, with the endorsement for such measures tracing back to NQF's inception. At present, there are 48 NQF-endorsed PCCI measures. The background and description of NQF's most recent PCCI Standing Committee meeting as well as previous meetings are available on NQF's project webpage. This Standing Committee oversees the measurement portfolio used to advance accountability and quality in the delivery of primary care services.

The patient-clinician relationship is a central feature of primary care, and recent developments in the delivery of healthcare have tended to limit continuity of care.[1] Continuity is a benefit in healthcare and is an important part of patient-centric care, the goal of which is to provide healthcare that is responsive to a patient's needs and respectful of their preferences and values. The *Journal of Family Practice* defines *continuity of care* as "care over time by a single individual or team of healthcare professionals and to effective and timely communication of health information."[2] It is influenced by multiple factors, including demographics; interprofessional, organizational, and patient-healthcare professional relationships; the role of receptionists; and more.

For this project, the Standing Committee evaluated one newly submitted measure against NQF's standard evaluation criteria. The Standing Committee recommended the measure for endorsement.

The endorsed measure is listed below:

- **NQF #3617** Measuring the Value-Functions of Primary Care: Provider Level Continuity of Care Measure (American Board of Family Medicine [ABFM])

Brief summaries of the measure currently under review are included in the body of the report; detailed summaries of the Standing Committee's discussion and ratings of the criteria for the measure are in Appendix A.

Introduction

Over the last 15 years, NQF has endorsed dozens of measures addressing improvements in primary care and chronic illnesses. These measures are used in many national- and state-level public reporting and accountability programs, as well as for quality improvement. With the formation of the PCCI Standing Committee in 2017, NQF was able to consolidate and streamline the measure maintenance and endorsement process for a broad set of measures related to primary care and chronic illness. High quality performance measurement that captures the complexity of primary care and chronic illnesses is essential to improve diagnosis, treatment, and management of conditions. Chronic illnesses are long-lasting or persistent health conditions or diseases that patients and providers must manage on an ongoing basis. For the spring 2021 cycle, the Standing Committee reviewed one measure related to continuity of care.

Primary care providers serve as the most common contact point for many people within the U.S. healthcare system. As such, primary care has a central role in improving the health of people and populations. Continuity of care is an essential element of primary care; it involves collaborative care management, including the patient and their care team, with the goal of achieving high quality medical care over time.[3] Studies have shown that continuity of care reduces care utilization, hospitalizations, and costs.[4] Continuity is a benefit in healthcare and is an important part of patient-centric care, the goal of which is to provide healthcare that is responsive to a patient's needs and respectful of their preferences and values. The *Journal of Family Practice* defines *continuity of care* as "care over time by a single individual or team of healthcare professionals and to effective and timely communication of health information." It is influenced by multiple factors, including demographics; interprofessional, organizational, and patient-healthcare professional relationships; the role of receptionists; and more.

NQF Portfolio of Performance Measures for Primary Care and Chronic Illness Conditions

The PCCI Standing Committee (Appendix C) oversees NQF's portfolio of Primary Care and Chronic Illness measures (Appendix B), which includes 48 measures: 41 process measures, two outcome measures, four intermediate outcome measures, and one composite measure (see table below).

Table 1. NQF Primary Care and Chronic Illness Portfolio of Measures

	Process	Outcome	Intermediate Outcome	Composite
Ears, Nose, Throat (ENT), Eye Care	12	0	0	0
Endocrine	8	0	2	1
Infectious Disease	8	2	1	0
Musculoskeletal	7	0	0	0
Pulmonary	5	0	0	0
Cardiovascular: Coronary Artery Disease	1	0	1	0
Total	41	2	4	1

Other measures related to Primary Care and Chronic Illness have been assigned to other portfolios. These include functional status measures (Patient Experience and Function), opioid use measures (Patient Safety, Behavioral Health and Substance Abuse [BHSU]), diabetes-related admission rate measures (Prevention and Population Health), and a variety of condition- or population-specific measures (Cardiovascular, Pediatric, Geriatrics and Palliative Care, etc.).

Primary Care and Chronic Illness Measure Evaluation

On July 8, 2021, the PCCI Standing Committee evaluated one new measure against NQF's standard measure evaluation criteria.

Table 2. Primary Care and Chronic Illness Measure Evaluation Summary

Measure Summary	Maintenance	New	Total
Measures under consideration	0	1	1
Measures recommended for endorsement	0	1	1
Measure withdrawn from consideration	1	0	1

Comments Received Prior to Standing Committee Evaluation

NQF accepts comments on endorsed measures on an ongoing basis through the Quality Positioning System (QPS). In addition, NQF solicits comments for a continuous 16-week period during each evaluation cycle via an online tool located on the project webpage. For this evaluation cycle, the commenting period opened on April 29, 2021, and closed on September 17, 2021. No comments were received prior to the evaluation meeting.

Comments Received After Committee Evaluation

The continuous 16-week public commenting period closed on September 17, 2021. Following the Standing Committee's evaluation of the measure under review, NQF received one comment from one organization pertaining to the draft report and to the measure under review (Appendix G). The comment for the measure under review has also been summarized in Appendix A. Throughout the 16-week continuous public commenting period, NQF members have the opportunity to express their support ('Support' or 'Do Not Support') for each measure to inform the Standing Committee's recommendations during the commenting period. This expression of support (or not) during the commenting period replaces the member voting opportunity that was previously held subsequent to Standing Committee deliberations. During the 16-week public commenting period, NQF did not receive any expressions of support for the measure under endorsement consideration for the current cycle.

Summary of Measure Evaluation

The following brief summaries of the measure evaluation highlight the major issues that the Standing Committee considered. Details of the Committee's discussion and ratings of the criteria for the measure are included in Appendix A.

#3617 Measuring the Value-Functions of Primary Care: Provider Level Continuity of Care (ABFM): (Not) Recommended

Description: This is a process measure evaluating primary care physicians (PCPs); for each physician, their denominator is all of the patients they saw during the evaluation period who had at least two PCP visits (could include visits to other PCPs), and the numerator is the number of those patients whose Bice-Boxerman Continuity of Care Index is greater than or equal to 0.7. The Bice-Boxerman index is a validated measure of patient-level care continuity that ranges from 0 to 1; "0" reflects completely disjointed care (a different provider for each visit), and "1" reflects complete continuity with the same provider for all visits. **Measure Type**: Process; **Level of Analysis**: Clinician: Individual; **Setting of Care**: Outpatient Services; **Data Source**: Claims

This clinician-level measure was newly submitted for endorsement. It is publicly reported nationally in the Quality Payment Program's (QPP) Merit-Based Incentive Payment System (MIPS). There were concerns regarding the evidence submitted by the developer, namely that it was largely related to U.S. Medicare patients and could impede patient choice. After hearing from the developer, the Standing Committee agreed that the evidence provided supported this measure and passed the measure on the evidence criterion. There were also concerns regarding the performance gap submitted by the developer, namely that it was largely related to patient panel size, the frequency of patient visits, and the role of nurse practitioners/physician's assistants. After some discussion, the Standing Committee agreed that substantial gaps exist and voted to pass the measure on the performance gap criterion. The Standing Committee had no further discussion or comments and passed the measure on validity as well as feasibility and use. During the discussion on usability, concerns were raised regarding the 12-month measurement period, namely that it may penalize primary care providers who either work part-time or take extended leave. The Standing Committee passed the measure on usability during offline voting and recommended the measure for endorsement.

NQF received one post-evaluation comment (Appendix G) on the Standing Committee recommendations and draft technical report. The comment was submitted by the measure developer, which posited that further research is needed on primary care continuity, specifically healthcare resources utilization. The developer also furnished additional evidence supporting that continuity of care decreases emergency department utilization and increases desirable healthcare resource utilization. No comments were received prior to the measure evaluation meeting.

Measures Withdrawn From Consideration

One measure previously endorsed by NQF has not been resubmitted for maintenance of endorsement or has been withdrawn during the endorsement evaluation process. Endorsement for this measure will be removed.

Table 3. Measure Withdrawn From Consideration

Measure	Reason for Withdrawal
#3153 Continuity of Primary Care for Children With Medical Complexity	Developer can no longer support the measure.

References

1 Continuity of Care | Advanced Medical Reviews. https://www.admere.com/amr-blog/continuity-of-care-improving-patient-outcomes. Last accessed July 2021.

2 Fan VS, Burman M, McDonell MB, et al. Continuity of care and other determinants of patient satisfaction with primary care. *J Gen Intern Med*. 2005;20(3):226-233.

3 Continuity of Care, Definition of. https://www.aafp.org/about/policies/all/continuity-of-care-definition.html. Last accessed July 2021.

4 Bazemore A, Petterson S, Peterson LE, et al. Higher Primary Care Physician Continuity is Associated With Lower Costs and Hospitalizations. *The Annals of Family Medicine*. 2018;16(6):492-497.

Appendix A: Details of Measure Evaluation

Rating Scale: H=High; **M**=Moderate; **L**=Low; **I**=Insufficient; **NA**=Not Applicable

Vote totals may differ between measure criteria and between measures as Standing Committee members often have to join calls late or leave calls early. NQF ensures that quorum is maintained for all live voting. All voting outcomes are calculated using the number of Standing Committee members present during the meeting for that vote as the denominator. Denominator vote counts may vary throughout the criteria due to intermittent Standing Committee attendance fluctuation. The vote totals reflect members present and eligible to vote at the time of the vote. Quorum (a minimum of 16 out of 23 active Standing Committee members present) was reached and maintained for the duration of all measure evaluation meeting on July 8, 2021.

Measure Recommended

#3617 Measuring the Value-Functions of Primary Care: Provider Level Continuity of Care Measure

Measure Worksheet | Specifications

Description: This is a process measure evaluating primary care physicians (PCPs); for each physician, their denominator is all of the patients they saw during the evaluation period who had at least 2 PCP visits (could include visits to other PCPs), and the numerator is the number of those patients whose Bice-Boxerman Continuity of Care Index is >= 0.7.

The Bice-Boxerman index is a validated measure of patient-level care continuity that ranges from 0 to 1; "0" reflects completely disjointed care (a different provider for each visit), and "1" reflects complete continuity with the same provider for all visits.

Numerator Statement: The numerator is the number of patients with a continuity index of at least 0.7.

Denominator Statement: The denominator is the total number of patients with continuous enrollment with at least 2 visits to any PCP during the measurement period. The requirement of continuous enrollment ensures that all of the patient encounters will be captured in the data, and the requirement of at least 2 visits is necessary to calculate a Continuity of Care index (the notion of "continuity" is not applicable to someone who only has 1 physician visit [i.e., there needs to be at least 2 visits to determine whether they consistently visit the same or different physicians]).

Exclusions: Since Continuity of Care is about seeing the same clinician, we did not consider patients with only one visit as an exclusion; therefore, we do not have any denominator exclusions.

Adjustment/Stratification: No risk adjustment or risk stratification occurred. No stratification of measure results is required.

Level of Analysis: Clinician: Individual

Setting of Care: Outpatient Services

Type of Measure: Process

Data Source: Claims

Measure Steward: American Board of Family Medicine

STANDING COMMITTEE MEETING: July 8, 2021

1. Importance to Measure and Report: The measure meets the Importance criteria.

(1a. Evidence, 1b. Performance Gap)

1a. Evidence: **Total Votes = 17; H-0; M-11; L-6; I-0**; 1b. Performance Gap: **Total Votes = 16; H-0; M-13; L-3; I-0**

Rationale:

- The Standing Committee noted that the developer provided seven studies published between 2007 and 2019.
- The Standing Committee noted that only two studies were conducted in the U.S., and both studies focused on the Medicare population, which was a fraction of the population included in the measure. The developer noted that several U.S.-based studies with broader populations existed; although they were not included in the submission, these studies could still be provided for additional support.

- The Standing Committee stated it was unclear whether tracking continuity of care would result in better outcomes. The developer noted that a number of studies show that measuring continuity of care can enable change, which would ultimately improve outcomes.
- The Standing Committee questioned whether the studies quoted in the measure submission included all patients or only patients with chronic illnesses. The developer clarified that the studies included both groups.
- The Standing Committee expressed concern with the structure of the measure, which prioritized continuity of care over access and patient convenience. According to the developer, there is evidence showing that continuity of care should be complementary to patient choice; the developer also highlighted another study showing that continuity of care does not necessarily impede access.
- The Standing Committee agreed there was evidence to support the measure.
- The Standing Committee noted the mean performance of 0.2763 with a standard deviation of 0.3058 based on Optum claims data, which indicated low performance. The Standing Committee also noted that disparities in care data were not included; in contrast, literature addressing disparities in care on the specific focus of measurement was included.
- The Standing Committee agreed that the performance gap to warrant a national performance measure.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria.

(2a. Reliability precise specifications, testing; 2b. Validity testing, threats to validity)

2a. Reliability: **Total Votes = 18; H-2; M-12; L-4; I-0**; 2b. Validity: **Total Votes = 17; H-2; M-9; L-6; I-0**

Rationale:

Reliability

- The Standing Committee noted the focus of the measure: PCPs; however, primary care is often team based. A patient may see a different physician, nurse practitioner, or physician's assistant at the same practice. The Standing Committee requested more information on how team-based care would be accounted for and whether the patient seeing another member of the team at the same practice would count against the primary physician.
- The Standing Committee also questioned whether teaching hospitals would be at a disadvantage due to the use of residents to provide care.
- The developer acknowledged that many PCPs utilize a team-based approach but reassured the Standing Committee that it would not count against the physician. The developer further clarified that the data are pulled using claims data. While the measure does focus on PCPs, it could be easily altered to review a broader group if a practice wanted to use the measure for internal improvement purposes. The developer added that many teaching hospitals are able to code using the resident's information, and the use of residents should not affect/have an impact on the measure.
- The Standing Committee noted that reliability testing was conducted at the performance-score level using a beta-binomial model to determine signal-to-noise; they also highlighted that as the sample size increased, the reliability scores improved, which further suggested that the low reliability values may be a function of small sample sizes as opposed to the inherent reliability of the measure itself.
- [Result to be added once votes are complete}
- The Standing Committee noted that validity testing was conducted at the measure-score level using empirical validity testing.
- The Standing Committee expressed concern that clinicians with a small number of patients might be penalized because they do not see patients frequently. The developer stated that 12 months was chosen due to public reporting criteria; however, practices can extend the window of measurement for quality improvement.
- [Result to be added once votes are complete}

3. Feasibility: Total Votes = 17; H-3; M-10; L-4; I-0

(3a. Clinical data generated during care delivery; 3b. Electronic sources; 3c. Susceptibility to inaccuracies/ unintended consequences identified 3d. Data collection strategy can be implemented)

Rationale:

- The Standing Committee noted that the measure's data elements are generated or collected by and used by healthcare personnel during the provision of care; all data elements are in defined fields in electronic clinical data and [Result to be added once votes are complete}.

4. Use and Usability

(4a. Use; 4a1. Accountability and transparency; 4a2. Feedback on the measure by those being measured and others; 4b. Usability; 4b1. Improvement; 4b2. The benefits to patients outweigh evidence of unintended negative consequences to patients)

4a. Use: **Total Votes = 17; Pass-15; No Pass-2** 4b. Usability: **Total Votes = 17; H-2; M-10; L-4; I-1**

Rationale:

- The Standing Committee noted the measure had been approved for use in the Centers for Medicare & Medicaid Services' (CMS) Merit-Based Incentive Payment System (MIPS) program and had been used in the PRIME Qualified Clinical Data Registry (QCDR) since the 2018 measurement period.
- The Standing Committee stated that users of the measure are able to provide feedback and noted that the developer had received mostly positive feedback. The Standing Committee noted that the developer reported a recent update to the measure specifications; however, current data cannot be used to compare performance over time.

5. Related and Competing Measures

- No related or competing measures were noted.

6. Standing Committee Recommendation for Endorsement: **Total Votes = 17; Yes-13; No-4**

Rationale

7. Public and Member Comment

- The measure developer posited that further research is needed on primary care continuity, specifically utilization. The developer also furnished additional evidence supporting that continuity of care decreases emergency department utilization and increases desirable utilization.
- Since the measure was recommended by the Standing Committee and the comment does not require deliberation by the Standing Committee, the spring 2021 post comment meeting was not convened.
- No comments were received prior to the evaluation meeting.

8. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X

9. Appeals

Appendix B: Primary Care and Chronic Illness Portfolio—Use in Federal Programs[a]

NQF #	Title	Federal Programs: Finalized or Implemented as of July 20, 2021
0046	Screening for Osteoporosis for Women 65-85 Years of Age	Healthcare Effectiveness Data and Information Set (HEDIS) Quality Measure Rating System (Implemented 2006) Merit-Based Incentive Payment (MIPS) Program (Implemented 2018) Physician Compare (Implemented 2018)
0053	Osteoporosis Management in Women Who Had a Fracture	HEDIS Quality Measure Rating System (Implemented 2007) Medicare Part C Star Rating (Implemented 2018) Merit-Based Incentive Payment System (MIPS) Program (Implemented 2018)
0055	Comprehensive Diabetes Care: Eye Exam (Retinal) Performed	HEDIS Quality Measure Rating System (Implemented 1999) Marketplace Quality Rating System (QRS) (Implemented 2015) Medicare Part C Star Rating (Implemented 2018)
0056	Comprehensive Diabetes Care: Foot Exam	None
0057	Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Testing	HEDIS Quality Measure Rating System (Implemented 1999)
0059	Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)	HEDIS Quality Measure Rating System (Implemented 1999) Medicaid (Implemented 2013) Medicare Shared Savings Program (Implemented 2012) Merit-Based Incentive Payment System (MIPS) Program (Implemented 2018)
0061	Comprehensive Diabetes Care: Blood Pressure Control (<140/90 mm Hg)	HEDIS Quality Measure Rating System (Implemented 2007)
0062	Comprehensive Diabetes Care: Medical Attention for Nephropathy	HEDIS Quality Measure Rating System (Implemented 2020) Medicare Part C Star Rating (Implemented 2018)
0086e	Primary Open-Angle Glaucoma (POAG): Optic Nerve Evaluation	Medicaid Promoting Interoperability Program for Eligible Professionals (Implemented 2019) Merit-Based Incentive Payment System (MIPS) (Implemented 2018) Physician Compare (Implemented 2018)

[a] Per CMS Measures Inventory Tool as of 07/20/2021

NQF #	Title	Federal Programs: Finalized or Implemented as of July 20, 2021
0089	Diabetic Retinopathy: Communication With the Physician Managing Ongoing Diabetes Care	Merit-Based Incentive Payment (MIPS) Program (Implemented 2018) Physician Compare (Implemented 2018)
0089e	Diabetic Retinopathy: Communication With the Physician Managing Ongoing Diabetes Care	None
0541	Proportion of Days Covered (PDC): Three Rates by Therapeutic Category	Marketplace Quality Rating System (Implemented 2015) Medicare Part D Star Rating (Implemented 2018)
0575	Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)	HEDIS Quality Measure Rating System (Implemented 2009) Marketplace Quality Rating System (QRS) (Implemented 2015)
1800	Asthma Medication Ratio	HEDIS Quality Measure Rating System (Implemented 2012) Marketplace Quality Rating System (Implemented 2021) Medicaid (Implemented 2018)
2522e	Rheumatoid Arthritis: Tuberculosis Screening (Recommended for eMeasure Trial Approval)	None
2523e	Rheumatoid Arthritis: Assessment of Disease Activity	Merit-Based Incentive Payment System (MIPS) Program (Implemented 2018) Physician Compare (Implemented 2018)
2525e	Rheumatoid Arthritis: Disease Modifying Anti-Rheumatic Drug (DMARD) Therapy (Recommended for eMeasure Trial Approval)	None
2856	Pharmacotherapy Management of COPD Exacerbation	Medicare Shared Savings Program (Implemented 2012) Physician Compare (Implemented 2018)
3059e	One-Time Screening for Hepatitis C Virus (HCV) for Patients at Risk	Merit-Based Incentive Payment System (MIPS) Program (Implemented 2018) Physician Compare (Implemented 2018)

NQF #	Title	Federal Programs: Finalized or Implemented as of July 20, 2021
3475	Appropriate Use of DXA Scans in Women Under 65 Years Who Do Not Meet the Risk Factor Profile for Osteoporotic Fracture	Medicaid Promoting Interoperability Program for Eligible Professionals (Implemented 2019) Merit-Based Incentive Payment System (MIPS) (Implemented 2019)

Appendix C: Primary Care and Chronic Illness Standing Committee and NQF Staff

Standing COMMITTEE

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Appendix D: Measure Specifications

#3617 Measuring the Value-Functions of Primary Care: Provider Level Continuity of Care Measure

STEWARD

American Board of Family Medicine

DESCRIPTION

This is a process measure evaluating primary care physicians; for each physician, their denominator is all of the patients they saw during the evaluation period who had at least 2 PCP visits (could include visits to other PCPs), and the numerator is the number of those patients whose Bice-Boxerman Continuity of Care Index is >= 0.7.

The Bice-Boxerman index is a validated measure of patient-level care continuity that ranges from 0 to 1; 0 reflects completely disjointed care (a different provider for each visit) and 1 reflects complete continuity with the same provider for all visits.

TYPE

Process

DATA SOURCE

Claims Administrative claims data.

LEVEL

Clinician: Individual

SETTING

Outpatient Services

NUMERATOR STATEMENT

The numerator is the number of patients with a continuity index of at least 0.7.

NUMERATOR DETAILS

The numerator equals the number of eligible patients who have a Bice-Boxerman continuity index score of at least 0.7 during the measurement time period.
For each patient, the continuity index score is calculated using the Bice-Boxerman Continuity of Care calculated as follows: Bice Boxerman-Continuity of Care Patient = See Appendix A.1 page 2 for calculation (since the NQF system only allows HTML text, it strips “special characters” in formulas, thus we had to add the calculation to the appendix).

Where k is the number of providers, n_i is the number of visits to provider i, and N is the total number of visits. (Note that it is necessary that the patient has at least two visits.)
The index can range from 0 to 1, the higher the number the greater the Continuity of Care. If someone has all of their visits with a single provider, their index would equal 1; while someone who saw a different provider for each visit (e.g., 1 visit each to 2 or more providers) would have an index of 0. Someone who saw one provider 5 times and a second provider 1 time would have an index equal to 0.67.

Compared to lower scores (e.g., 0.6 or lower), continuity index scores of 0.7 or higher have been associated significantly lower Medicare expenditures and significantly lower odds of hospitalization1.

1. Higher Primary Care Physician Continuity is Associated with Lower Costs and Hospitalizations. Bazemore et al. Annals of Family Medicine. 2018. 16, 492-497..

DENOMINATOR STATEMENT

The denominator is the total number of patients with continuous enrollment with at least 2 visits to any primary care physicians in the measurement period. The requirement of continuous enrollment ensures that all of the patient encounters will be captured in the data, and the requirement of at least 2 visits is necessary to calculate a Continuity of Care index (the notion of "continuity" isn't applicable to someone who only has 1 physician visit (i.e., there needs to be at least 2 visits to determine if they consistently visit the same or different physicians).

DENOMINATOR DETAILS

For each physician, the denominator is calculated by summing the total number of patients with two or more primary care visits who had at least one of those visits with that physician. This means if a patient saw more than one PCP, they would be in the denominator for each of those PCPs. When using claims, patients must have continuous enrollment over the measurement period (i.e., from 2018-07-01 to 2019-06-30).

EXCLUSIONS

Since Continuity of Care is about seeing the same clinician, we did not consider patients with only one visit as an exclusion; therefore, we do not have any denominator exclusions.

EXCLUSION DETAILS

Not applicable.

RISK ADJUSTMENT

No risk adjustment or risk stratification

STRATIFICATION

No stratification of measure results is required.

TYPE SCORE

Rate/proportion/better quality = higher score

ALGORITHM

Step 1: Identify all patients with at least 2 visits to a Primary Care Provider in either the office or outpatient setting. In the Optum data, this reflects the situation where a claim indicates that a primary care physician was seen and the place of service is in office or other outpatient place of service. This is done using the health care services categorization code (i.e., HCCC=01) to identify primary care physicians and the place of service codes
(i.e., POS= 01,02,03,04,11,12,13,14,15,16,17,41,42,49,50,53,57,60, or 71). More detail is provided in the data dictionary.

Step 2: Retain the unique physician identifier (NPI) associated with each visit for the patients in step 1. A patient will appear in the denominator for each physician they see during the time period (i.e., if someone sees Dr. "A" once and Dr. "B" three times, that patient will appear in the denominator for Dr. A and the denominator for Dr. B).

Step3: Calculate patient continuity index score using the Bice-Boxerman calculation as follows:

Bice-Boxerman-Continuity of Care Patient = See Appendix A.1 page 2 for calculation (since the NQF system only allows HTML text, it strips “special characters” in formulas; thus, we had to add the calculation to the appendix).

Where k is the number of providers, n_i is the number of visits to provider i, and N is the total number of visits. Note that it is necessary that the patient has at least two visits.

So, in the example above, the patient who saw Dr. A once and Dr. B three times would have a Bice-Boxerman Continuity of Care index of: [(12 + 3^2)] – 4 / 12 = 0.5. Some simple calculations would show that if this person had only seen Dr. B for all 4 visits their Continuity of Care index would be = 1.0, and similarly, if another visit was added to another PCP (Dr. C), their Continuity of Care index would be less than 0.5, reflecting their experience of more disparate care.

Step 4: Determine if the patient level continuity has Met or Not Met the 0.7 threshold. For each patient, if their index is >=0.7, then they are included in the numerator. In the above example, the patient (using the original scenario) would be in the denominator for both Dr. A and Dr. B but would NOT be in either numerator.

Step 5: Divide the numerator by the denominator. This reflects the proportion of patients that provider saw who have a Continuity of Care index of at least 0.7. 151674| 150289

Appendix E: Related and Competing Measures

No related or competing measures were identified.

Appendix F: Pre-Evaluation Comments

No comments have been received as of July 8, 2021.

Appendix G: Post-Evaluation Comments

Comments received as of September 17, 2021.

Measure-Specific Comments on Primary Care and Chronic Illness Spring 2021 Submissions

NQF #3617 Measuring the Value-Functions of Primary Care: Provider Level Continuity of Care Measure, Comment #7766

Standing Committee Recommendation: Measure Recommended for Endorsement

Comment ID#: 7766

Commenter: Denise Pavletic, American Board of Family Medicine

Council / Public: Quality Measurement, Research and Improvement Council

Comment Period: Post-Evaluation Public and Member Commenting

Date Comment was Submitted: 9/9/2021

Developer Response Required? Yes ☐ N ☒

Theme: Further research is needed on primary care continuity, specifically on utilization. However, the existing evidence has proven to be sufficient to indicate that future policy should promote primary care continuity and build on the efforts of prior healthcare policy.

Comment

Continuity of care is considered a crucial aspect of family medicine, which makes it an important variable to investigate in order to assess its impact. Interpersonal continuity of care can be defined as the ongoing relationship between the physician and the patient.

The American Board of Family Medicine (ABFM) identified 66 studies since 2002 that examine continuity and outcomes, analyzing either healthcare costs or some form of healthcare utilization. A wide variety of study types and sample sizes have been used to measure this concept. Continuity itself is measured using both pre-existing developed measures, such as the Bice-Boxerman, Patient-sided continuity/Usual provider continuity index (UPC), Sequential Continuity (SECON) and others, as well as study specific measures using survey responses. The pre-existing scales tend to examine either the density,dispersion, or sequence of physician visits. In general, more visits to a single primary care physician will result in a higher continuity score.

Existing research on primary care continuity's impact on healthcare policy outcomes can be grouped into two categories: cost and utilization. As it pertains to cost, the vast majority of studies found that improved primary care continuity reduces a variety of healthcare costs. This includes total costs, ED costs, inpatient costs, primary care costs, and costs for specific conditions or treatments. Drug and pharmaceutical costs were the only form of costs that didn't uniformly decrease as continuity increased across each study that examined it.

Many different forms of healthcare utilization were assessed, but most commonly hospitalizations or emergency department(ED) utilization were analyzed. For hospitalizations, Ambulatory Care Sensitive Conditions(ACSC) hospitalizations, diabetes-related hospitalizations, and all-cause hospitalizations were most frequently analyzed. Most studies that measured it found that continuity decreased the likelihood or rate of hospitalizations. ED visits showed a similar pattern, with continuity reducing ED utilization. There was some variation in these studies' outcomes, with one study finding that continuity had a greater impact on urban populations, and others analyzing the likelihood of using the ED as compared to other healthcare services, such as primary care.

Many studies did not limit their utilization to hospitalizations and ED visits. Several studies analyzed the impact of continuity on the likelihood of receiving desirable utilization, such as utilization for a variety of cancer screenings, testing for other diseases, and immunizations, among others. Continuity appeared to be less related to this form of utilization, with only approximately half of the 12 studies that examined it finding that continuity increased desirable utilization. However, this could possibly be due to a lack of volume of studies analyzing it, as ED utilization and hospitalizations were examined in a significantly greater number of studies. Similarly, other forms of undesirable utilization were also analyzed by several studies. This type of utilization includes measurements of overuse of medical procedures, over-prescribing medications, and total inpatient and outpatient days, among others. These also revealed conflicting results, with studies finding that continuity reduced utilization of some forms of undesirable utilization, but had no effect on some, and even increased utilization for a few procedures. Lastly, 11 studies analyzed some form of primary care utilization. These measures included, but were not limited to, using primary care resources during scheduled or out-of-hours times, the frequency of primary care visits, and the likelihood of using primary care over other healthcare services. Overall, about half of the studies found that better continuity led to improved primary care utilization.

In summary, the majority of the evidence indicates that continuity of care will improve policy outcomes, though the association may differ for different types of outcomes. Continuity has been heavily researched throughout the past 2 decades. The findings of such studies overwhelmingly indicate that primary care continuity should be promoted. More research should continue to be conducted to improve our understanding of primary care continuity, specifically in the areas of utilization where less research has been conducted(desirable utilization and primary care utilization). However, the existing evidence has proven to be sufficient to indicate that future policy should promote primary care continuity and build on the efforts of prior healthcare policy.

The following studies demonstrates the relationship between Continuity of Care and Decreased Hospitalizations:

1. Lin W, Huang I-C, Wang S-L, Yang M-C, Yaung C-L. Continuity of diabetes care is associated with avoidable hospitalizations: evidence from Taiwan's National Health Insurance scheme.International Journal for Quality in Health Care. 2010;22(1):3-8. doi:10.1093/intqhc/mzp059

2. Enlow E, Passarella M, Lorch SA. Continuity of care in infancy and early childhood health outcomes. Pediatrics. 2017;140(1). doi:10.1542/peds.2017-0339

3. Reddy A, Wong E, Canamucio A, et al. Association between continuity and team-based care and health care utilization: an observational study of medicare-eligible veterans in VA patient aligned care team. Health Serv Res. 2018;53(Suppl Suppl 3):5201-5218. doi:10.1111/1475-6773.13042

4. Menec VH, Sirski M, Attawar D, Katz A. Does continuity of care with a family physician reduce hospitalizations among older adults? Journal of Health Services Research & Policy. 2006;11(4):196-201. doi:10.1258/135581906778476562

5. Johnston KJ, Hockenberry JM. Are two heads better than one or do too many cooks spoil the broth? The trade-off between physician division of labor and patient continuity of care for older adults with complex chronic conditions. Health Serv Res. 2016;51(6):2176-2205. doi:10.1111/1475-6773.12600

6. Skarshaug LJ, Kaspersen SL, Bjørngaard JH, Pape K. How does general practitioner discontinuity affect healthcare utilisation? An observational cohort study of 2.4 million Norwegians 2007-2017. BMJ Open. 2021;11(2):e042391. Published 2021 Feb 16. doi:10.1136/bmjopen-2020-042391

7. Van Loenen T, Faber MJ, Westert GP, Van den Berg MJ. The impact of primary care organization on avoidable hospital admissions for diabetes in 23 countries. Scand J Prim Health Care. 2016;34(1):5-12. do i:10.3109/02813432.2015.1132883

8. Jacobs R, Aylott L, Dare C, et al. The association between primary care quality and hospital care utilisation. NIHR Journals Library; 2020. Accessed March 4, 2021. Chapter 4 https://www.ncbi.nlm.nih.gov/books/NBK558195/

9. Cree M, Bell N r., Johnson D, Carriere K c. Increased continuity of care associated with decreased hospital care and emergency department visits for patients with asthma. Disease Management. 2006;9(1):63-71. doi:10.1089/dis.2006.9.63

10. Ride J, Kasteridis P, Gutacker N, et al. Impact of family practice continuity of care on unplanned hospital use for people with serious mental illness. Health Serv Res. 2019;54(6):1316-1325. doi:10.1111/1475-6773.1

11. Bentler SE, Morgan RO, Virnig BA, Wolinsky FD. The association of longitudinal and interpersonal continuity of care with emergency department use, hospitalization, and mortality among medicare beneficiaries. PLoS One. 2014;9(12). doi:10.1371/journal.pone.0115088

12. Cheng SH, Chen CC, Hou YF. A longitudinal examination of continuity of care and avoidable hospitalization: evidence from a universal coverage health care system. Arch Intern Med. 2010;170(18):1671-1677. doi:10.1001/ archinternmed.2010.340

13. Knight JC, Dowden JJ, Worrall GJ, Gadag VG, Murphy MM. Does higher continuity of family physician care reduce hospitalizations in elderly people with diabetes? Population Health Management. 2009;12(2):81-86. doi:10.1089/pop.2008.0020

14. Kuo H-C, Cheng S-F, Hung J-L, Xiong J-H, Tang P-L. Continuity of care and multiple chronic conditions impact frequent use of outpatient services. Health Informatics J. 2020;26(1):318-327. doi:10.1177/1460458218824720

15. Gudzune KA, Bleich SN, Richards TM, Weiner JP, Hodges K, Clark JM. Doctor shopping by overweight and obese patients is associated with increased healthcare utilization. Obesity (Silver Spring). 2013;21(7):1328- 1334. doi:10.1002/oby.20189

16. Katz DA, McCoy KD, Vaughan-Sarrazin MS. Does greater continuity of Veterans Administration primary care reduce emergency department visits and hospitalization in older veterans? J Am Geriatr Soc. 2015;63(12):2510-2518. doi:10.1111/jgs.13841

17. Bayliss EA, Ellis JL, Shoup JA, Zeng C, McQuillan DB, Steiner JF. Effect of continuity of care on hospital utilization for seniors with multiple medical conditions in an integrated health care system. Ann Fam Med. 2015;13(2):123-129. doi:10.1370/afm.1739

18. Chen Y-Y, Hsieh C-I, Chung K-P. Continuity of care, follow-up care, and outcomes among breast cancer survivors. Int J Environ Res Public Health. 2019;16(17):3050. doi:10.3390/ijerph16173050

19. Barker I, Steventon A, Deeny SR. Association between continuity of care in general practice and hospital admissions for ambulatory care sensitive conditions: cross sectional study of routinely collected, person level data. BMJ. 2017;356:j84. doi:10.1136/bmj.j84

20. Nyweide DJ, Anthony DL, Bynum JP, et al. Continuity of care and the risk of preventable hospitalization in older adults. JAMA Intern Med. 2013;173(20):1879-1885. doi:10.1001/jamainternmed.2013.10059

21. Solomon SR, Gooding HC, Reyes Nieva H, Linder JA. Acute care utilization by patients after graduation of their resident primary care physicians. J Gen Intern Med. 2015;30(11):1611-1617. doi:10.1007/s11606-015- 3305-7

The following studies demonstrate Continuity of Care and Decreased ED Utilization

1. Enlow E, Passarella M, Lorch SA. Continuity of care in infancy and early childhood health outcomes. Pediatrics. 2017;140(1). doi:10.1542/peds.2017-0339

2. Reddy A, Wong E, Canamucio A, et al. Association between continuity and team-based care and health care utilization: an observational study of medicare-eligible veterans in VA patient aligned care team. Health Serv Res. 2018;53(Suppl Suppl 3):5201-5218. doi:10.1111/1475-6773.13042

3. Huang ST, Wu SC, Hung YN, Lin IP. Effects of continuity of care on emergency department utilization in children with asthma. Am J Manag Care. 2016;22(1):e31-e37. Published 2016 Jan 1.

4. Johnston KJ, Hockenberry JM. Are two heads better than one or do too many cooks spoil the broth? The trade-off between physician division of labor and patient continuity of care for older adults with complex chronic conditions. Health Serv Res. 2016;51(6):2176-2205. doi:10.1111/1475-6773.12600

5. Brousseau DC, Meurer JR, Isenberg ML, Kuhn EM, Gorelick MH. Association between infant continuity of care and pediatric emergency department utilization. Pediatrics. 2004;113(4):738-741. doi:10.1542/peds.113.4.738

6. Ionescu-Ittu R, McCusker J, Ciampi A, et al. Continuity of primary care and emergency department utilization among elderly people. CMAJ. 2007;177(11):1362-1368. doi:10.1503/cmaj.061615

7. Burge F, Lawson B, Johnston G. Family physician continuity of care and emergency department use in end-of-life cancer care. Med Care. 2003;41(8):992-1001. doi:10.1097/00005650-200308000-00012

8. Arthur KC, Mangione-Smith R, Burkhart Q, et al. Quality of care for children with medical complexity: An analysis of continuity of care as a potential quality indicator. Academic Pediatrics. 2018;18(6):669-676. doi:10.1016/j.acap.2018.04.009

9. Holderness H, Angier H, Huguet N, et al. Where do Oregon Medicaid enrollees seek outpatient care post-Affordable Care Act Medicaid expansion? Med Care. 2019;57(10):788-794. doi:10.1097/MLR.0000000000001189

10. Chaiyachati KH, Gordon K, Long T, et al. Continuity in a VA patient-centered medical home reduces emergency department visits. PLoS One. 2014;9(5). doi:10.1371/journal.pone.0096356

11. Nyweide DJ, Anthony DL, Bynum JP, et al. Continuity of care and the risk of preventable hospitalization in older adults. JAMA Intern Med. 2013;173(20):1879-1885. doi:10.1001/jamainternmed.2013.10059

12. Jacobs R, Aylott L, Dare C, et al. The association between primary care quality and hospital care utilisation. NIHR Journals Library; 2020. Accessed March 4, 2021. Chapter 4 https://www.ncbi.nlm.nih.gov/books/NBK558195/

13. Cree M, Bell N r., Johnson D, Carriere K c. Increased continuity of care associated with decreased hospital care and emergency department visits for patients with asthma. Disease Management. 2006;9(1):63-71. doi:10.1089/dis.2006.9.63

14. Ride J, Kasteridis P, Gutacker N, et al. Impact of family practice continuity of care on unplanned hospital use for people with serious mental illness. Health Serv Res. 2019;54(6):1316-1325. doi:10.1111/1475-6773.1

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Evidence that Continuity of Care is Valued by Patients:

The Continuity of Care quality measure was developed with extensive input from patients and physicians during measure development, implementation, and testing. Crowd-sourced samples of 412 patients, 525 primary care physicians, and 85 health care payers were asked to describe what value in

primary care means to them and the same question was asked in a 2 1/2-day international conference consisting of 70 primary care and health services experts (with funding by AHRQ) - Continuity of Care was clearly identified as a primary care function of critical importance to both patients and physicians.There is more evidence over three decades to support Continuity of Care's value to clinicians, patients and our health care system than for most other current measures in CMS' portfolio.

The following journal articles demonstrate that patients value this measure:

1. A UK study found that seeing a known and trusted doctor was especially important to patients with chronic, complex, and emotional problems. doi:10.1186/1471-2296-7-11

2. Other recent research in primary care in Europe has found that patients seek interpersonal continuity of care with a GP in order to have sense of security based on four core foundations – (1) coherence (2) confidence in care (3) trusting relationship and (4) access. 10.1093/fampra/cmi103.

3. Earlier studies confirm the importance of empathy, relationship, and a sense of partnership. PMID: 8517195

4. Consulting the regular doctor, trust and satisfaction with consultations are associated, and patients who consult a doctor they trust report the highest levels of satisfaction with consultations. https://doi.org/10.1080/0283430310000528

5. A group studied priorities for care among 225 patients attending the medical clinics of a university teaching hospital. Eight attributes of medical care were considered: continuity, coordination, comprehensiveness, availability, convenience, cost, expertise, and compassion. Continuity of care was the highest priority for these patients, while cost and convenience were lowest. https://doi.org/10.1097/00005650-198302000-00010

6. A study demonstrated consistent and significant positive relationship exists between interpersonal continuity of care and patient satisfaction. 10.1370/afm.91

7. Self-reported continuity of care is strongly associated with higher patient satisfaction. This suggests that improving continuity of care may improve patient satisfaction with physicians as well as with their health care organization. 10.1111/j.1525-1497.2005.40135.x

8. Available literature reflects it is likely a significant association exists between interpersonal continuity and improved preventive care and reduced hospitalizations. 10.1370/afm.285

9. A study demonstrated evidence of relationships between the attributes of FM and the service outcomes measured by indicators of satisfaction, health, and cost. User satisfaction was associated with accessibility, continuity of care, consultation time and the doctor–patient relationship. Improvement in patient's health was related to continuity, consultation time, doctor–patient relationship and the implementation of preventive activities. Coordination of care showed mixed results with health outcomes. Continuity, consultation time, doctor–patient communication and prevention were cost-effective in the primary care setting. doi:10.1093/fampra/cmi112

Developer Response

N/A

NQF Response

Thank you for your comment. Since the measure was recommended by the Standing Committee and the comments do not require deliberation by the Standing Committee, the spring 2021 post comment meeting was not convened. Please reach out with any questions.

NQF Committee Response

N/A

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