Approaches to Core Set Prioritization

Background

Transforming healthcare payment from volume to value requires quality, patient experience, and efficiency metrics to assess the success of the models and their participants. The increased reliance on performance measures as part of these models has led to a proliferation of measures and a corresponding increase in burden on providers collecting the data, confusion among consumers and purchasers seeing conflicting measure results, and operational difficulties among payers.

The Core Quality Measures Collaborative (CQMC) is a membership-driven and funded effort with additional funding provided by the Centers for Medicare and Medicaid Services (CMS) and America's Health Insurance Plans (AHIP). Originally founded in 2015, the CQMC is a broad-based coalition of healthcare leaders. The CQMC is comprised of over 70 member organizations including CMS, health insurance providers, primary care and specialty societies, and consumer and employer groups. These leaders are working together in partnership with the National Quality Forum (NQF) to address the proliferation of measures by facilitating cross-payer measure alignment through the development of core sets of measures by clinical area to assess the quality of healthcare in the United States.

The following are the goals of the CQMC:

- Identify high-value, high-impact, evidence-based measures that promote better patient outcomes and provide useful information for improvement, decision-making, and outcomes-based payment.
- Align measures across public and private payers to achieve congruence in the measures being used for quality improvement, transparency, and payment purposes.
- Reduce the burden of measurement by eliminating low-value metrics, redundancies, and inconsistencies in measure specifications and quality measure reporting requirements across payers.

The CQMC is accomplishing these goals through the development and implementation of core measure sets. The CQMC defines a core measure set as a parsimonious group of scientifically sound measures that efficiently promote a patient-centered assessment of performance specific to a particular clinical area or care approach. Value-based purchasing (VBP) and alternative payment models (APMs) should prioritize the inclusion of measures in the core sets. In this document, we summarize past approaches to core measure set topic selection and propose future approaches to core set development. In addition, we offer recommendations for topics that should be considered for new core set development.

Historical Approach: Core Set Topic Selection

2015

In a changing environment, healthcare quality measurement must evolve as well. To realize this vision, AHIP and its member plans' chief medical officers convened leaders from CMS and NQF, as well as national physician organizations, to form the CQMC. These leaders prioritized conditions that have high incidence, high prevalence, or high healthcare spending and ones that would benefit from increased measure alignment to drive coordinated improvement in key areas while minimizing provider burden to select the topic areas for the initial CQMC core sets.

The CQMC initially partnered with physician organizations that were actively engaged in quality measurement efforts and had begun active collaboration with other stakeholder groups. To develop the initial eight core sets, the CQMC split into workgroups. Each workgroup reviewed measures currently in use by CMS, and health plans, measures endorsed by NQF, and measures recommended for discussion by CQMC members. Based on this review and discussion, the workgroups identified a consensus core set for the selected clinical areas. The consensus core sets were then discussed by the CQMC Steering Committee and the full CQMC before being finalized. The eight sets are:

1) Accountable Care Organizations (ACOs), Patient-Centered Medical Homes (PCMH) and Primary Care
2) Cardiology
3) Gastroenterology
4) HIV and Hepatitis C
5) Medical Oncology
6) Obstetrics and Gynecology
7) Orthopedics
8) Pediatrics

2018

As the CQMC evolved to incorporate additional stakeholder perspectives, it sought to identify additional opportunities for measure alignment and recognize where CQMC core sets could be most useful. To better understand how other organizations prioritized core set work, NQF staff conducted an environmental scan of approaches used by other initiatives seeking to develop core sets. This work aligns with CMS' Meaningful Measures Initiative. A review of the approaches used by organizations referenced in the environmental scan illuminates several considerations for determining topics for the development of new core sets and for organizing measures into sets. Each consideration has strengths and weaknesses, and some may be more suited to specific measurement applications than others.

NQF searched for efforts by other groups that were developing or had developed core sets of measures or that had identified principles for a core set. NQF initially identified 18 initiatives. Initiatives were included if there was publicly available information describing why core set topics were selected and/or how topics were prioritized. Efforts that established principles for measure selection but did not create specific sets of measures were excluded. Twelve national and state efforts fit these inclusion criteria. NQF assessed the initiatives' rationales for selecting certain focus areas for their core sets and categorized each initiative by the approach used.

Some themes arose across the efforts. The majority of efforts created core sets in response to a specific

need or requirement such as legislation or as part of work undertaken as awardees of the State Innovation Models (SIM) Initiative.[1] Some efforts focused on creating a core set of measures to address a specific purpose (e.g., for use in ACOs), while others created multiple sets addressing different topics (e.g., a set of measures to include in hospital contracts and a different set to include in clinician contracts).

The scan revealed five general approaches to identifying topics for organizing measures into core sets. CQMC should consider these factors when deciding how to organize measures into core sets.

1. Stakeholder priorities: Core set topics were chosen based on the priorities of the stakeholders involved in the core set creation.
2. Cross-cutting topics (i.e., applying to multiple conditions, settings, or models): Core sets were chosen to address cross-cutting topics of interest.
3. Purpose specific: Core sets were developed for a specific purpose, such as supporting a payment model or measuring the impact of an initiative or change.
4. Setting specific: Core sets were chosen to evaluate care in a specific setting, such as a hospital or an ambulatory clinic.
5. Specialty specific (current CQMC approach): Core sets were chosen to evaluate care provided by a specific specialty.

The CQMC decided to continue using a specialty specific approach. To facilitate CQMC's decisions about which specialty-specific topics to prioritize for additional core sets, NQF identified conditions that have high-incidence, high-prevalence, or high healthcare spending and that would benefit from increased measure alignment to drive coordinated improvement in key areas while minimizing provider burden. In line with this approach, the eight consensus core sets developed in prior years (ACO/PCMH, Cardiology, Gastroenterology, HIV/Hepatitis C, Medical Oncology, OB/GYN, Orthopedics, and Pediatrics) were reviewed and updated by the workgroups in 2020. Two new consensus core sets, the Behavioral Health and Neurology sets, were also developed during this time as they were identified as the next priority topics for core set development and were recently approved and published in November 2020.

The CQMC plans to continue its work through ongoing maintenance of these existing core measure sets. Ad hoc reviews will be made annually as needed to address minor updates. A full review will occur every two years to reflect the changing measurement landscape, including, but not limited to, changes in evidence-based clinical practice guidelines, data sources, or risk adjustment. It further aims to expand into new topic areas not yet addressed. In addition, the CQMC seeks to identify gaps in measurement and challenges in implementation in order to advance adoption of the core sets.

Potential New Approaches to Set Development

Factors Considered in Core Set Prioritization

The CQMC currently considers the following factors in prioritizing core sets:

1. Prevalence: Does the proposed topic address a high-prevalence area? Is the topic relevant to a significant number of patients or a large population?
2. Impact on cost of care: Does the proposed topic represent an area of high healthcare spending? Is there variation in cost? Could improvement result in lower healthcare costs or more efficient care? Is there an opportunity to improve measure alignment across programs in the topic area to reduce burden and improve efficiency?

3. Relevance to membership: Is the proposed topic relevant to a significant portion of the CQMC membership? Does the topic address an area of concern to many payers? Is the topic relevant to different types of clinical organizations? Does CQMC membership include expertise on the topic?
4. Opportunity for improvement: Is there known variation in outcomes of interest for the topic area? Is there a gap between current performance and optimal performance? Are there disparities in care relevant to the topic area?
5. Feasibility: Does the topic area have relevant measures available? Do most provider and payers currently have the capability to implement the available measures?

NQF staff considered how to best incorporate these factors into the prioritization process. The CQMC could implement a formal decision grid and ask members to score potential topics by factor. If desired, factors could be weighted to indicate relative importance or emphasis. While this type of quantitative decision-making could bring rigor and objectivity to the process, it will not create the same level of investment and buy-in as a consensus-based decision-making process. If there are too many topics under consideration to efficiently reach consensus, these factors could be utilized to narrow the list of topics for Steering Committee discussion. However, given the multistakeholder nature of the CQMC and the need for voluntary alignment around and adoption of the core measure sets, we recommend the continued use of consensus-based decision making for final prioritization of topics.

For consistency, Steering Committee members should be mindful of these factors for every topic under consideration as they work to form consensus opinion on which topics to pursue. The process used to prioritize new core set topics will continue to progress towards greater standardization as the CQMC and its members gain experience. However, the approach must remain adaptable enough to allow the CQMC's work to align with the care that patients need and to recognize the priorities of multiple stakeholders. These factors and decision-making processes can work with the existing approach of organizing topics by specialty or could be used to evaluate other types of topics (for example, cross-cutting topic areas such as safety or patient experience). The flexibility in prioritization will allow the CQMC to be nimble and address emerging issues and topics as they arise, such as the impact of public health emergencies like COVID-19 on measurement capabilities and the ways in which measurement must adapt to account for new and different ways care is being provided.

Measure Organization

To date the CQMC has chosen to focus on clinician measurement, primarily in the outpatient care setting, and to identify measure sets that could support multiple care delivery models. To this end, CQMC has chosen to organize core sets primarily by specialty.

CQMC should consider flexibility in organizing measures, including using more than one approach at a time (a hybrid approach). For instance, measures may be relevant to multiple specialties and/or groups seeking to develop procedure- or condition-based VBP or APMs. The Orthopedics core set added measures of functional outcomes after spine surgery in its most recent update. Spine surgery quality is of great interest to CQMC members and is performed by more than one specialty. These measures could belong to Orthopedics, a future Neurosurgery set, and could also be part of a set encompassing spine surgery or spine care. Offering different options maximizes the flexibility for payers and purchasers seeking to implement VBP or APMs.

Several options for organizing CQMC measures are presented below.

Organizing Measures by Condition/Specialty

This is the approach used for existing CQMC core sets. Continuing this focus on clinical condition or specialty area has many benefits, including maintaining momentum. This approach allows for the creation of core sets that users can apply in multiple payment or delivery models, including reporting and VBP programs. This approach also allows the CQMC to capitalize on the expertise of its members and could increase buy-in across stakeholders as clinicians may feel a greater degree of control over measures in their specialty. This approach could be combined with an approach focusing on cross-cutting topics, as the CQMC Principles for Measure Selection include a criterion that promotes consideration of key cross-cutting areas for measurement. Including cross-cutting measures in condition-specific sets could help emphasize the need for adoption of these measures. For example, if measures addressing disparities are in the cardiovascular core set rather than in a separate disparities core set, it will increase visibility for those measures.

This approach has its limitations. Use of specialty- or condition-focused core measure sets may encourage an isolated approach to quality over a system approach, in part by omitting all-cause or all-condition measures from the core sets. This approach could also potentially limit the scope of CQMC efforts to targeted clinical areas. Focusing on specific clinical areas could limit the ability of some members to participate in new core set creation and to use the new core sets, and it may risk alienating members that have a broader focus. CQMC members also may not be in consensus about which conditions should be prioritized. The sets may not align closely with the continuum of care for patients, especially patients who are complex, who lack a diagnosis, who have a condition with more than one possible care path, or who may have more than one specialty involved in their care.

Organizing Measures by Cross-Cutting Areas

Many efforts revealed by the scan identified core sets for use in specific delivery models or for assessing quality of care in a specific setting or specialty. However, another option would be to organize measures into core sets that cut across care settings and practice areas. For example, the Measure Applications Partnership (MAP) identified measure families to help highlight gaps in cross-cutting areas.[2] CMS has developed Meaningful Measures 2.0 to promote innovation and modernization of all aspects of quality. Examples of cross-cutting topic areas include care coordination/transitions of care, patient safety, access to care, appropriate use, or population health.

Organizing measures by cross-cutting areas offers potential benefits. First, creating core sets using this approach could allow for a more holistic view of quality by focusing on key elements of care not addressed by specialty-specific measures. Moreover, this approach could highlight the importance of these topics in improving healthcare quality. This approach could also allow for an assessment of care across settings and providers, and over time, allow for the inclusion of broader measures (e.g., all-cause or all-condition) which may not align well with the CQMC's current specialty-based framework. The broad coverage and applicability across settings and providers could yield information useful to a wide variety of patients in many situations. This approach could also help reduce measurement burden, as each measure would be broadly applicable across multiple providers and specialties.

Drawbacks to organizing measures into cross-cutting sets also exist. Placing cross-cutting measures in separate sets risks isolating important concepts like patient experience, disparities, and safety rather than integrating them into various clinical topic areas as central elements. In addition, the CQMC has highlighted cross-cutting topics and priorities in its Principles for Measure Selection to ensure that available measures in these areas were considered for inclusion in each of the core sets. Using a cross-cutting approach could result in misalignment among the CQMC core sets or conflict with the principles.

Expanding the Current Core Sets to Address Additional Levels of Analysis and/or Settings

To date, the CQMC's sets explicitly focus on clinician measurement in the outpatient setting. Some other efforts have focused on identifying core measures that work across the care continuum and address multiple care settings. In the future, CQMC could revisit the scope of its efforts if it sees value in this effort. To date, the CQMC's sets focus mainly on clinician-level measurement in the outpatient setting. Some workgroups have opted to include facility-level measures, split sets between inpatient and outpatient settings, or distinguish between measures based on whether they are intended for use in a specific delivery model (e.g., ACO versus PCMH).

Workgroups have expressed interest in expanding the CQMC's focus to other care settings or levels of analysis. For example, some workgroup members expressed interest in creating separate "sets," (e.g., outpatient care and hospital-level, each under the Cardiology umbrella). The Cardiology Workgroup felt omitting hospital-level measures would prevent the core set from fully addressing the quality of cardiac care. Additionally, workgroup members noted that physicians play a role in performance results for hospital-level measures and that these measures are increasingly being attributed to physicians and used to assess their performance.

This approach has potential benefits of its own. First, it builds upon the current sets for a more comprehensive picture of quality for a particular condition and allows for measurement across the care continuum. It also promotes alignment of measures across settings, reducing burden from conflicting specifications. This approach supports holding a variety of providers responsible for the quality of an individual's care as one moves through the health system. Addressing additional levels of analysis—in particular, adding clinician-level analysis—could help address some specific use cases. Patients may seek information at the individual clinician level when choosing specific care such as surgery. Meaningful clinician-level information is rarely available to patients. Expanding the level of analysis on some measures could help close this gap.

In a second use case, necessary care may be available in more than one setting (e.g., inpatient and a surgery center). The settings may have different cost implications for an accountable organization, insurer, employer, and/or patient. Without comparable quality information for the two settings, determining if the care is truly higher value, as opposed to simply lower cost, is impossible. Having this information could contribute to performing well in APMs, value-based benefit design, and lowering patient out-of-pocket costs. Finally, this could allow the CQMC to build on its existing expertise. Current workgroups already include many of the necessary experts to expand work in the existing core set areas, while still allowing for involvement of new CQMC members.

This approach also has potential disadvantages. First, it could challenge the current parsimony and focus of the core sets. Multiple measures may need to be added to address a similar topic, as measures may not be specified to cross settings or levels of analysis. For example, a measure assessing hospital readmissions may need different specifications for use in assessing hospital performance versus clinician performance. Additionally, attribution challenges could further complicate measure selection, as there may be a lack of consensus as to which provider or system should be held accountable for an outcome. For example, payer members have expressed interest in seeing the CQMC support cost measures for the core sets, but many of the current episode-based cost measures attribute all costs for a given time period to the accountable entity of the measure. That is, a hospital may be attributed post-acute care costs, or a clinician may be attributed costs for a hospitalization. The accountable entities of the measures may disagree with the attribution, jeopardizing buy-in to the measures and sets that contain them. The issue of whether clinicians should be held accountable for each of the core set measures has been a key discussion point by all workgroups. Clear guidance about how measures should be applied

would be essential if core sets are expanded to additional levels of analysis.

Not every measure set will benefit from expansion across settings or level of analysis. For example, pressure injury measures could be important to include in a safety set for inpatient settings but might be less applicable to an outpatient setting. Similarly, vaccination measures could be appropriate for outpatient measurement but less meaningful for inpatient settings. Expansion to additional levels of analysis or care settings would benefit from consideration of the prioritization factors to avoid negatively affecting the overall efficiency and usefulness of the core sets. This approach may also delay the expansion of core sets to other clinical or cross-cutting topic areas or remove focus from promoting adoption of the current sets for programs or payment models that involve clinician measurement.

Potential New Topics for Sets

The CQMC aims to streamline core set creation to focus on the highest-priority areas of care and associated outcomes. The CQMC has an opportunity to drive implementation of more innovative, high-bar quality measures such as outcome measures (including patient-reported outcome-based performance measures (PRO-PMs) and composites) and digital measures. A core set design strategy that considers the clinical coherence of core sets, as well as promotes progress on cross-cutting topics applicable across specialties, would offer great potential to advance the quality measurement enterprise. The below topic areas, categorized as cross-cutting or condition-specific, represent potential core set development areas for coming years.

Cross-Cutting Sets

The Analysis of Measurement Gap Areas and Measure Alignment report emphasizes several opportunities for enhancing the CQMC's work by focusing on cross-cutting issues. If core sets are created based on cross-cutting area, the CQMC would provide guidance on how cross-cutting and condition-specific measures can be used together within value-based programs. Several cross-cutting topics areas that may benefit from core set creation include:

- **Patient-Reported Measures**. The CQMC seeks to promote the adoption of innovative measures, including PRO-PMs. Capturing the patient's perspective along their health journey, both disease-agnostic and disease-specific patient-reported outcomes can help clinicians gather information that may not be available from other sources and ensure the patient voice is considered in care delivery planning. Several workgroups were interested in including PRO-PMs when applicable, but there were a limited number of fully tested PRO-PMs available for review. There was also some concern about the burden of capturing patient-reported data and reporting PRO-PMs.
- **Digital Quality Measures (dQMs)**. dQMs originate from sources of health information that are captured as part of the typical clinical workflows and that can be transmitted electronically via interoperable systems. eCQMs are a common form of dQMs, but dQMs also include data that is automatically pulled from sources like registries, health information exchanges (HIEs), claims, patient experience surveys, medical devices, etc. Focusing on increasing the number of digital measures in the core sets while exploring strategies for greater implementation of this measure type across payers will support a system-wide approach to reducing burden while maintaining or even improving the quantity and quality of the data collected.
- **Social Determinants of Health (SDOH).** SDOH are conditions in the places where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. Measures that consider SDOH are a prominent gap across CQMC core sets and in quality measurement in general. Work in this area may also consider

how the CQMC can guide identifying and addressing disparities as part of the core sets.

- **Patient Safety**. Patient safety is achieved when no preventable harm to patients results from the provision of care, and risks of harm are minimized. Patient safety measures can address a variety of conditions, including "never events" (e.g., surgery on wrong body part), healthcare-acquired infections (HAIs), medication errors, accidental lacerations and punctures, falls, etc. Future CQMC work on patient safety could include creation of a patient safety core set or adding patient safety measures to the existing clinical areas and could draw on NQF's Patient Safety measure portfolio (56 measures) and past work on reducing diagnostic error.
- **General Cross-Cutting** (inclusive of multiple topics appliable across sets). Cross-cutting measures can be widely adopted across core sets regardless of clinical areas. Examples include medication reconciliation, access to care, shared decision making, care coordination, general population screening, patient safety, and patient experience. A core set of measures that together reflect these topics would have the potential to have broad impact across specialties. Creating a cross-cutting set combining these topics versus developing separate sets for each area would reduce the number of core sets and solve for the challenge of limited measures available if each of these topics were to be a separate core set. The CQMC could also create an ideal framework of cross-cutting measure concepts to support a proactive approach to core set development.

Condition Specific

New condition-based core sets can be built from prior CQMC work on measure gaps in addition to existing stakeholder priorities. Condition-specific topics identified for consideration include the following:

- **Pulmonology** (examples include asthma and chronic obstructive pulmonary disease [COPD])
    - Approximate cost: The direct costs of asthma were estimated at $50.1 billion a year in 2011.[3] The total cost of asthma (including absenteeism and mortality) was $81.9 billion in 2013.[4] Costs attributable to COPD were estimated at $32.1 billion in 2010 with national medical costs projected to increase to $49.0 billion in 2020.[5]
    - Impact: 7.7 percent of Americans have asthma,[6] and more than 16.4 million Americans are diagnosed with COPD, based on a 2020 estimate.[7]
    - Measure availability: NQF's current portfolio includes 14 endorsed measures that address aspects of asthma care and 14 measures focused on care for COPD.
- **Endocrinology** (diabetes, for example)
    - Approximate cost: The direct costs of diabetes were estimated at $237 billion in 2017, while indirect costs totaled $90 billion.[8] Another study estimated the cost of diabetes, urogenital, blood, and endocrine disorders at $224.5 billion in 2013, with diabetes costs totaling $101.4 billion.[9]
    - Impact: In 2015, it was estimated that 10.5 percent of the U.S. population had diabetes and 34.5 percent of U.S. adults had prediabetes.[10]
    - Measure availability: The NQF portfolio includes 19 endorsed measures addressing endocrine conditions. The majority focus on diabetes care.
- **Emergency Medicine**
    - Approximate cost: A 2016 study estimates that more than one in 10 healthcare dollars in the U.S. is spent on emergency department episodes of care.[11]
    - Impact: In the U.S. in 2017, there were 139.0 million emergency department visits.[12]

    - Measure availability: NQF has approximately 21 measures related to care delivered in the emergency department, though few of these measures are at the clinician level. The Merit-based Incentive Payment System (MIPS) uses several other measures in this category that could be considered.
- **Geriatrics** (for example, chronic conditions and impairments, polypharmacy, and quality of life in the elderly)
    - Approximate cost: According to a 2015 study of medical costs in the U.S., elderly individuals in the top 5 percent of the distribution of total expenditures spend about $98,000 per year, nearly seven times the overall average of $14,000 and accounting for 35 percent of all medical spending.[13]
    - Impact: In 2018, 16 percent of the population was over 65 years, and it is estimated that 63.7 percent of older adults have two or more chronic conditions.[14,15]
    - Measure availability: There are over 100 NQF-endorsed measures that focus on care for elderly patients in the outpatient setting.
- **Nephrology** (including chronic kidney disease (CKD), End Stage Renal Disease (ESRD) prevention)
    - Approximate cost: In 2016, Medicare spending on ESRD and CKD totaled over $114 billion, or 23% of all total Medicare fee-for-service spending. ESRD spending accounted for $35.4 billion, or 7 percent of total Medicare fee-for-service spending.[16] In 2017, Medicare spending on CKD rose to over $84 million, while spending on ESRD rose to $36 billion.[17]
    - Impact: 37 million U.S. adults are estimated to have CKD, or 15 percent of the adult population. In 2016, there were over 726,000 cases of ESRD in the U.S., with the number of ESRD cases rising by approximately 20,000 cases each year.[16]
    - Measure availability: There are 36 NQF-endorsed measures focusing on renal conditions, including acute kidney injury, CKD, ESRD, and kidney infections. QPP included 12 measures relevant to kidney care in 2019.

Recommendations and Path Forward

The CQMC aims to identify the most meaningful healthcare performance measures and prioritize them for implementation. The current approach of prioritization of topics through Steering Committee consensus and organization of sets by specialty is a solid foundation that has proven effective for engaging stakeholders and developing core sets. As the CQMC continues to evolve and works to increase the inclusion and adoption of higher-bar measures, it should be flexible in its approaches, focusing on the optimal path to each outcome. Increasing the adoption and use of higher-bar measures such as dQMs, measures of outcomes of care, and PRO-PMs may require focusing specifically on these cross-cutting areas and addressing structural, technological, and cultural barriers. Over the past year, discussions among workgroup members have highlighted some of the challenges in implementing these measures. Workgroup members have been hesitant to support the addition of measures with an unclear path to implementation. Increasing the uptake of these measures may require work to address barriers to implementation such as lack of data standardization and interoperability.

We recommend the CQMC build on its existing foundation by balancing work on specialty-based sets with work on cross-cutting sets and foundational elements. This work should be prioritized with a goal of improving healthcare value through removing barriers, increasing measurement capabilities, and generating alignment. Accomplishing this work will likely require a mix of approaches and flexibility in methods, each one best suited to the task and goal at hand.

References

1 Barnett SBL, Nurmagambetov TA. Costs of asthma in the United States: 2002-2007. *J Allergy Clin Immunol*. 2011;127(1):145-152.

2 Nurmagambetov T, Kuwahara R, Garbe P. The economic burden of asthma in the United States, 2008-2013. *Ann Am Thorac Soc*. 2018;15(3):348-356.

3 Ford ES, Murphy LB, Khavjou O, et al. Total and state-specific medical and absenteeism costs of COPD among adults aged 18 years in the United States for 2010 and projections through 2020. *Chest*. 2015;147(1):31-45.

4 CDC. Most recent asthma data available from CDC. Centers for Disease Control and Prevention. https://www.cdc.gov/asthma/most_recent_data.htm. Published March 24, 2020. Last accessed October 2020.

5 American Lung Association. How Serious Is COPD. https://www.lung.org/lung-health-diseases/lung-disease-lookup/copd/learn-about-copd. Published May 28, 2020. Last accessed October 2020.

6 American Diabetes Association. Economic costs of diabetes in the U.S. in 2017. *Diabetes Care*. 2018;41(5):917-928.

7 Dieleman JL, Baral R, Birger M, et al. US spending on personal health care and public health, 1996-2013. *JAMA*. 2016;316(24):2627-2646.

8 Centers for Disease Control and Prevention. *National Diabetes Statistics Report, 2020*. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Department of Health and Human Services; 2020. https://www.cdc.gov/diabetes/data/statistics-report/index.html. Published August 28, 2020. Last accessed October 2020.

9 Galarraga JE, Pines JM. Costs of ED episodes of care in the United States. *Am J Emerg Med*. 2016;34(3):357-365.

10 FastStats. https://www.cdc.gov/nchs/fastats/emergency-department.htm. Published February 21, 2020. Last accessed October 2020.

11 Nardi MD, French E, Jones JB, et al. Medical spending of the US elderly. *Fisc Stud*. 2016;37(3-4):717-747.

12 Boersma P, Black LI, Ward BW. Prevalence of Multiple Chronic Conditions Among US Adults, 2018. *Prev Chronic Dis*. 2020;17:E106. https://pubmed.ncbi.nlm.nih.gov/32945769/. Last accessed October 2020.

13 Administration for Community Living (ACL). *2019 Profile of Older Americans.* Washington, DC: U.S. Department of Health and Human Services, ACL; 2020. https://acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2019ProfileOlderAmericans508.pdf. Last accessed October 2020.

14 Center for Medicare and Medicaid Innovation. State Innovation Models Initiative: General Information. https://innovation.cms.gov/initiatives/state-innovations/. Last accessed October 2020.

15 National Quality Forum (NQF). *Finding Common Ground for Healthcare Priorities: Families of Measures for Assessing Affordability, Population Health, and Person- and Family-Centered Care.* Washington, DC: NQF; 2014. https://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=77001. Accessed October 2020.

16 Institute of Medicine of the National Academies. *Vital Signs: Core Metrics for Health and Health Care Progress*. Washington, DC: The National Academies Press; 2015. https://www.nap.edu/read/19402/chapter/1. Last accessed October 2020.

17 Rutgers Center for State Health Policy. New Jersey State Innovation Model Design Project. http://www.cshp.rutgers.edu/content/nj-state-innovation-model. Last accessed October 2020.

18 Rhode Island Office of the Health Insurance Commissioner. Measure Alignment (Rhode Island State Innovation Model). http://www.ohic.ri.gov/ohic-measure%20alignment.php. Last accessed October 2020.

19 Washington Health Alliance. Washington State Common Measure Set for Health Care Quality and Cost. https://wacommunitycheckup.org/about/common-measure-set/. Last accessed October 2020.

20 NQF. Measure Applications Partnership. http://www.qualityforum.org/map/. Last accessed October 2020.

21 Oregon Health Authority. Metrics and Scoring Committee. https://www.oregon.gov/oha/hpa/analytics/Pages/Metrics-Scoring-Committee.aspx. Last accessed October 2020.

22 Maine Department of Health and Human Services. Maine State Innovation Model. https://www.maine.gov/dhhs/sim/evaluation/index.shtml. Last accessed October 2020.

23 Commonwealth of Massachusetts. *Massachusetts Executive Office of Health and Human Services (MA EOHHS) Quality Alignment Taskforce: Report on Work through July 2018.* Massachusetts: MA EOHHS; 2018. https://www.mass.gov/how-to/ma-eohhs-quality-alignment-taskforce-report-on-work-through-july-2018. Last accessed October 2020.

24 Centers for Medicare and Medicaid Services. Vermont All-Payer ACO Model. https://innovation.cms.gov/initiatives/vermont-all-payer-aco-model/. Last accessed October 2020.

25 Minnesota Department of Health. Measurement Framework. https://www.health.state.mn.us/data/hcquality/measfrmwk.html. Last accessed October 2020.

26 Kentuckiana Health Collaborative. Kentucky Core Healthcare Measures Set. https://www.khcollaborative.org/kchms/. Last accessed October 2020.

27 New York State Department of Health. The New York State Health Innovation Plan. https://www.health.ny.gov/technology/innovation_plan_initiative/. Last accessed October 2020.