NATIONAL
QUALITY FORUM

Priority Setting for Health Performance Measurement: Addressing Performance Measure Gaps in Care Coordination

DRAFT REPORT FOR COMMENT

June 16, 2014

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Contents

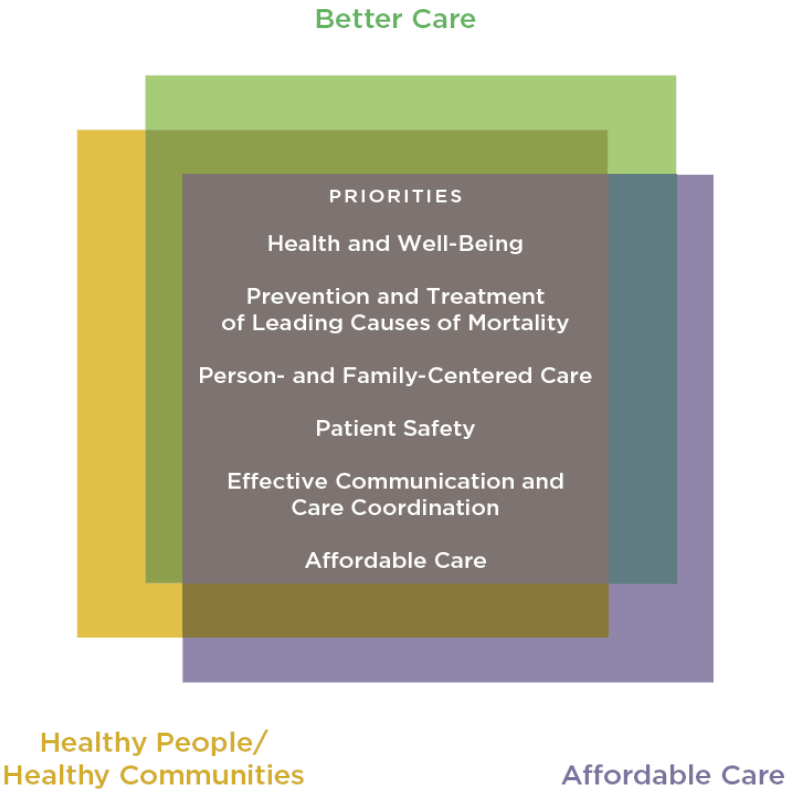
Project Foundation

Over the past ten years, the use of healthcare performance measurement has exploded in the U.S. Despite the proliferation of measures, it is widely recognized that many gaps in important measurement areas still exist. Section 1890(b)(5) of the Social Security Act requires the National Quality Forum (NQF), as the consensus-based entity, to describe gaps in endorsed quality and efficiency measures in the Annual Report to Congress and the Secretary of the Department of Health and Human Services (HHS). Building on work done by NQF in 2011 and 2012 on the status of measure gaps more broadly, this project is intended to further advance the aims and priorities of the National Quality Strategy (Figure 1) by identifying priorities for performance measurement; scanning for potential measures and measure concepts to address these priorities; and developing multistakeholder recommendations for future measure development and endorsement. This draft report presents findings in the topic area of care coordination.

Environmental Context

The National Quality Strategy (NQS) serves as the overarching framework for guiding and aligning public and private efforts across all levels (local, state, and national) to improve the quality of health care in the United States. The Centers for Medicare & Medicaid Services (CMS) has also published a CMS Quality Strategy (CMSQS) that aligns with the NQS and includes a framework for measure development for quality improvement. The NQS establishes the "three-part aim" of better care, affordable care, and healthy people/communities, focusing on six priorities to achieve those aims as shown in Figure 1 below.

Figure 1: National Quality Strategy Aims and Priorities



In pursuit of the NQS, HHS has contracted with NQF to focus on measure gaps in five specific areas, including:

- Adult Immunizations
- Alzheimer's Disease and Related Dementias
- Care Coordination
- Health Workforce
- Person-Centered Care and Outcomes

The recommendations generated through this project will be instrumental in coordinating measure development efforts by ensuring that financial and human resources are strategically targeted. Clear priorities will lead us to the measures that matter to care recipients and their families, and that will ultimately drive improvement in health and healthcare. This work is part of an ongoing partnership between HHS and NQF to advance this critical area of quality measurement by bringing together diverse stakeholders to provide balanced input. HHS plans to begin additional measure development work in 2015, making this an ideal time to recommend specific measure concepts to the Department. Specifically, the project presents a unique opportunity for a multistakeholder committee to influence the *de novo* development of eMeasures.

Several Committee recommendations on care coordination measurement priorities are closely related to findings that emerged from exploration of the other gap areas, particularly the health workforce topic. Use the links provided above to find more information on those related efforts.

Setting Priorities for Care Coordination Performance Measurement

This project supports the goals of HHS to promote the integration of population health and primary care in pursuit of wellness. With the majority of one's health and well-being determined by factors outside of the healthcare delivery system, there is a growing recognition of the need to extend quality measurement beyond the clinical setting to support the whole person in living healthfully through person-centered care planning. Thus, the care coordination topic area of this project took a special focus on examining opportunities to measure care coordination in the context of a broad "health neighborhood." The project explored coordination between safety-net providers of primary care and providers of community and social services that impact health. Although the safety-net perspective is specifically captured, this report is relevant to care coordination across all settings and types of providers.

The work is intended to broaden the current scope of care coordination performance measurement to account for the influence of social determinants of health. Socioeconomic status (SES) is often discussed as one of the most dominant social determinants, but it goes hand-in-hand with less-recognized and more discrete factors such as neighborhood geography, accessible transportation, food security/nutrition, education/employment, and local supply of behavioral health services and long-term services and supports. Identifying opportunities to better measure the integration of primary care and community health is essential.

To support this work, NQF convened a multistakeholder committee to identify existing measures and measure concepts that could successfully measure care coordination in the targeted topic areas. The

Committee developed recommendations and priorities for care coordination measurement, exploring opportunities to link health information technology (HIT) with data systems used by community service providers in support of care coordination and measurement. The Committee roster is provided in Appendix B.

Definition of Care Coordination

The term "care coordination" means different things to different people, and a recent review identified more than 40 definitions.[1] Lack of consensus on the definition partially results from the varied perspectives of the stakeholders involved in coordinating care, including care recipients and their families, health professionals, and system representatives. Moreover, care coordination does not consist of a well-defined set of processes, especially when such coordination spans health and human services systems. The Committee discussed at length what aspects of care coordination it most wanted to convey through the definition, and agreed that an emphasis on the *deliberate synchronization* of activities and information most effectively expressed the multidirectional and dynamic nature of care coordination. These sentiments are shared with other experts in the field and build on earlier definitions put forth by AHRQ. For purposes of this project and its conceptual framework, the team developed a hybrid definition of previous AHRQ and NQF definitions that additionally incorporates the important linkage to community services:

> *"Care coordination is the deliberate synchronization of activities and information to improve health outcomes by ensuring that care recipients' and families' needs and preferences for healthcare and community services are met over time."*

Definition of Community Services

Definitions for the terms "community" and "community services" are as numerous as those for "care coordination." For purposes of this conceptual framework, community services refer to a range of health and social supports available outside of the formal healthcare delivery system. Examples include, but are not limited to: nutrition programs for vulnerable populations (e.g., mothers and children, home-bound older adults), peer-based groups to support recovery from substance abuse, screening and treatment of sexually transmitted infections delivered through the public health system, and personal assistance services for individuals with disability. These services are delivered by entities that are not typically considered healthcare organizations. Care coordination between primary care and community services is desired by many stakeholders but is not often observed in the current delivery system.

Related Efforts in Care Coordination and Measurement

NQF Consensus Development Process

NQF began to address the complex issue of care coordination measurement in 2006. At that time, sufficiently developed measures of care coordination could not be identified for endorsement as consensus standards. However, NQF did endorse a definition and a framework for care coordination measurement.[2] The framework identified five topical domains essential to the future measurement of care coordination:

- Healthcare Home;
- Proactive Plan of Care and Follow-Up;
- Communication;
- Information Systems; and
- Transitions or Handoffs.

In 2010, NQF published the *Preferred Practices and Performance Measures for Measuring and Reporting Care Coordination Consensus Report*.[3] Recognizing the need to establish a meaningful foundation for future development of a set of practices with demonstrated impact on outcomes, NQF endorsed 25 Preferred Practices through this project. Preferred practices are not performance measures, but activities described in the practices could have performance measures based upon them. Identification of practices was intended to stimulate measure development. The preferred practices were evaluated based on their effectiveness, generalizability, potential benefit, and readiness for implementation. In many cases, Preferred Practices specifications were purposely futuristic and envisioned as “stretch goals” that would accelerate the evolution of the field, and those emphasizing coordination through primary care and the inclusion of community services were considered for this project. Those most closely aligned with the scope of this project were refined to reflect a focus on community-based services and social determinants of health. Committee review of the preferred practices contributed to a shared understanding of evidence-based care coordination activities and later formulation of the project’s conceptual framework and measure domains. A comprehensive list of the revised Preferred Practices is included in Appendix C. Two examples are provided below.

Preferred Practice 3 – Original Language: The healthcare home shall develop infrastructure for managing plans of care that incorporate systems for registering, tracking, measuring, reporting, and improving essential coordinated services.

> ***Preferred Practice 3 – Revised:*** The healthcare home shall develop infrastructure for managing plans of care and ensuring that those plans of care are delivered and received by all relevant entities. The infrastructure should incorporate systems for registering, tracking, measuring, reporting, and improving essential coordinated services.

Preferred Practice 9 – Original Language: The plan of care should include community and nonclinical services as well as healthcare services that respond to a patient’s needs and preferences and contributes to achieving the patient’s goals.

> ***Preferred Practice 9 – Revised:*** The plan of care should include the entire array of community, nonclinical, behavioral, and healthcare services that respond to a person’s needs and preferences and contribute to achieving the person’s goals.

Subsequent NQF measure evaluation projects—including one ongoing through October, 2014—have resulted in the endorsement of a limited number of care coordination measures. Though a handful of foundational measures are available, there remains a great need for new measures that truly capture multidirectional exchanges of information and integration rather than just "one side of the handshake." For example, measuring whether or not a plan of care was transmitted to another provider does not capture care coordination. The NQF Steering Committee that evaluates measures for endorsement is impatient to review stronger measures. A more meaningful measure could examine whether the plan of care was received and acted upon.

Although a relative lack of evidence may present a challenge to measure development and subsequent NQF endorsement under the current endorsement review criteria, this project provides the opportunity to offer HHS upstream recommendations on the most fertile ground for constructing new measures of care coordination. The prioritization process considered the availability of evidence to support measure development in recommended areas, and the Committee expressed a strong desire for the results of the measure development process to be submitted for NQF measure endorsement as rapidly as possible.

Connecting Efforts on Care Coordination to Improve Population Health Outcomes

In addition to NQF's Care Coordination consensus development work, this project seeks to align with and build upon other related efforts at NQF as well as a number of external projects. For example, the NQF Population Health Framework Committee has developed a common framework for communities to offer practical guidance for improving population health. The framework focuses on broad wellness outcomes and can be used by anyone desirous to improve population health outcomes, whether at the local, state or national level. Efforts described in the framework would complement recommended practices for care coordination as hospital providers undertake community health needs assessments and begin to engage more systematically with community-based services to support population health outcomes. In addition, the Measure Applications Partnership (MAP) Person- and Family-Centered Care Task Force is creating a "family" of recommended measures and gaps to support person- and family-centered care as a recommended starting place for stakeholders interested in measuring that topic.

In January, 2014, the Robert Wood Johnson Foundation released the latest report from its Commission to Build a Healthier America. The report issued sweeping recommendations to improve public health outcomes by describing how community settings –such as homes, schools and workplaces –affect a population's health. One central recommendation is to "fundamentally change how we revitalize neighborhoods, fully integrating health into community development," a desire shared by this project Committee. Other activities support measurement to quantify progress in linking primary care and community health resources. Specifically, the Institute of Medicine (IOM) identified domains and measures that capture the social determinants of health to shape the future of meaningful use of electronic health records. The American Nurses Association (ANA) also released a Framework for Measuring Nurses' Contributions to Care Coordination that identifies and quantifies the aspects of care coordination driven by nurses, laying out a roadmap for performance measurement and accountability systems.

Numerous innovations focused on increasing engagement with non-clinical entities are occurring at the state and local levels as well. The state of New York, for example, has recognized the link between stable housing and health outcomes and is investing in supportive housing for many of its high-risk Medicaid enrollees.[4] Texas has also implemented a unique Medicaid 1115 waiver that earmarks funding for investments in population health.[5] Locally, hospitals and health centers are increasingly collaborating with organizations like Health Leads to provide navigators to assist individuals with unmet basic needs like food and heat. Health Leads Advocates work with care recipients and families to navigate the complexity of the resource landscape – including tracking down phone numbers, printing maps, securing transportation, and completing applications. The Advocates follow up with patients regularly by phone, email, or during clinic visits. These examples represent only a fraction of the innovative work currently attempting to push the care coordination field beyond its traditional focus on clinical settings.

Final Conceptual Framework

To develop a conceptual framework to organize Committee deliberations, NQF first considered the Agency for Healthcare Research and Quality's (AHRQ) concept of clinical-community relationships as described in two reports, the Clinical-Community Relationships Measures Atlas (CCRM) and the Clinical-Community Relationships Evaluation Roadmap. The CCRM sought to explore how the characteristics of—and relationships between—primary care clinicians and clinics, patients, and community resources influence the effectiveness of linkages for the delivery of clinical preventive services. It further discussed how these relationships might vary in different circumstances and recommended methods and measures for improving and evaluating the effectiveness of these services.

The CCRM examines the measurement of ongoing relationships rather than temporary, transactional links between providers. For example, handing someone a flyer for a community service during a medical visit does not constitute coordination with that external service. Focusing on permanent relationships that exist across providers enables the CCRM to meaningfully explore structural challenges. In order for coordination between primary care and community settings to be effective, primary care provider groups need a sense of services currently available in the community. At the same time, community-based providers and patients need to consistently bring information on external services to the primary care environment.

The CCRM framework describes six interrelated components that may influence the ability of a provider to effectively connect a patient with needed community resources. It begins with three basic elements:

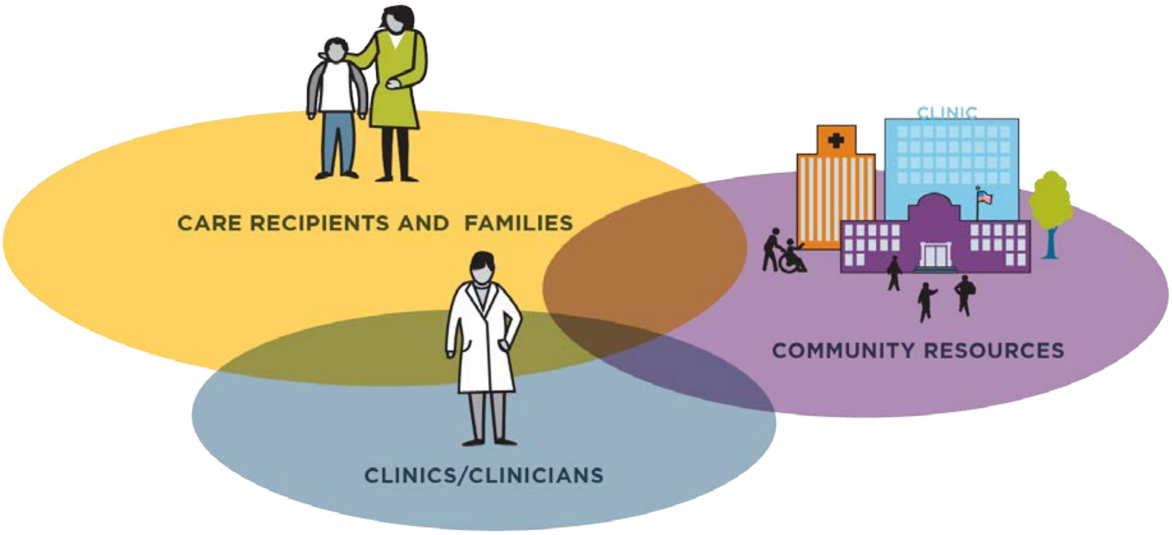
- Clinic/clinician;
- Patient; and
- Community resource.

The following dyadic relationships between the basic elements are then explored:

- Clinician-patient relationship;
- Clinician-community resource relationship; and
- Patient-community resource relationship.

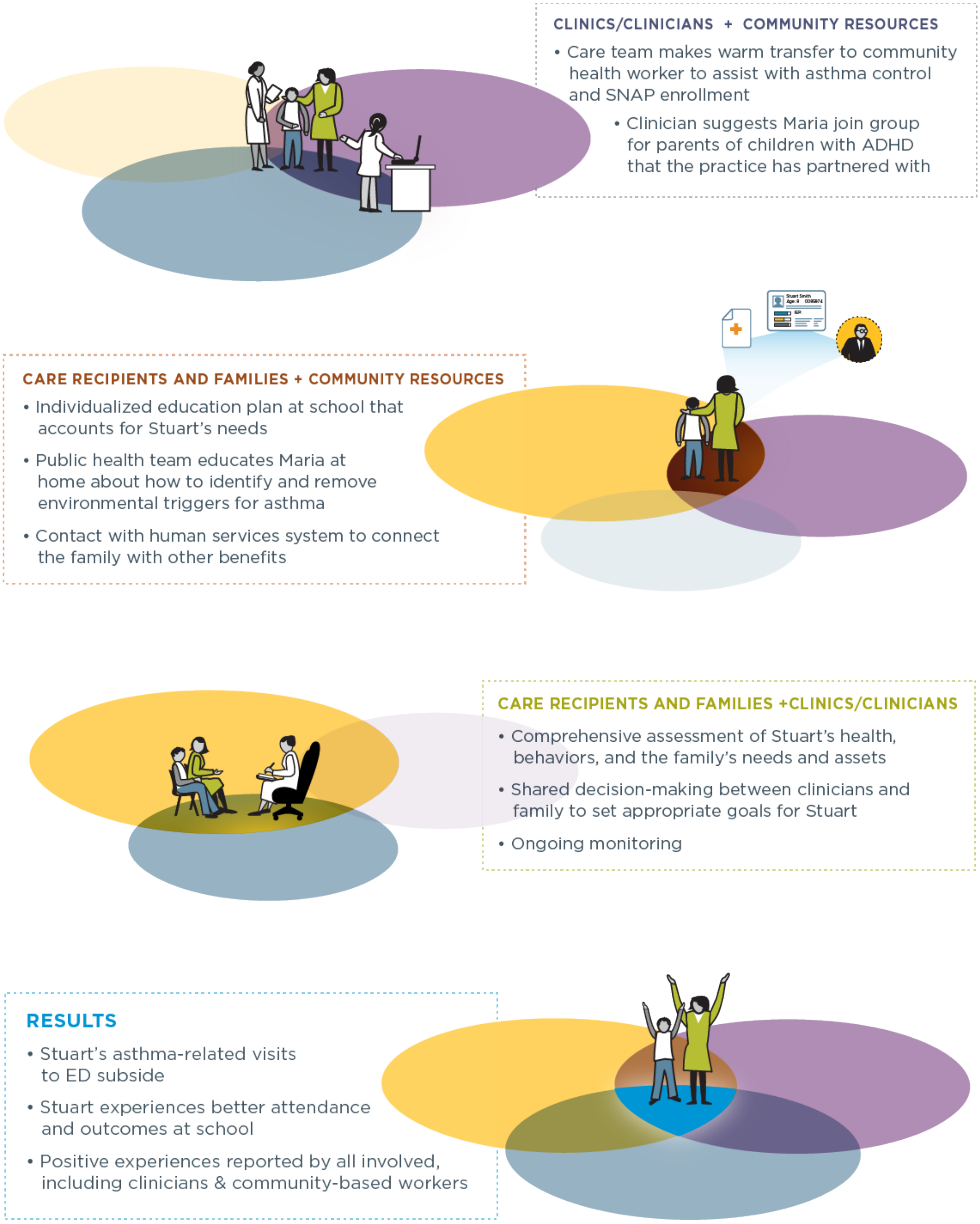
Given the project’s emphasis on coordination between primary care and community resources, the CCRM’s focus on the three-way relationship between patients, clinics/clinicians, and community resources was found to be particularly germane in guiding the Committee’s work. The project utilized the original CCRM framework and expanded it to incorporate additional elements and domains more closely related to social determinants of health. For example, the final conceptual framework for the project uses person-centered terminology when possible and has replaced the term “patients” in the framework with “care recipients and families.” The following figure depicts the elements and relationships of the CCRM as modified based on input from the Committee:

Figure 2: Modified Clinical-Community Relationships Measurement Framework



The modified CCRM forms the heart of the conceptual framework for prioritizing the use of performance measures. The most impactful area for measure development is at center of this diagram, where all three elements –the care recipient, the provider, and community services– interact and work together. The visuals below illustrate the application of the conceptual framework to a hypothetical case of an 8-year old boy named Stuart, his mother Maria, the pediatrician and behavioral health specialist working at the medical home clinic where he receives treatment, and community resources that include the public health agency, Stuart’s elementary school, and the Supplemental Nutrition Assistance Program (SNAP).

Figure 3: Application of Conceptual Framework



CLINICS/CLINICIANS + COMMUNITY RESOURCES

- Care team makes warm transfer to community health worker to assist with asthma control and SNAP enrollment
- Clinician suggests Maria join group for parents of children with ADHD that the practice has partnered with

CARE RECIPIENTS AND FAMILIES + COMMUNITY RESOURCES

- Individualized education plan at school that accounts for Stuart's needs
- Public health team educates Maria at home about how to identify and remove environmental triggers for asthma
- Contact with human services system to connect the family with other benefits

CARE RECIPIENTS AND FAMILIES +CLINICS/CLINICIANS

- Comprehensive assessment of Stuart's health, behaviors, and the family's needs and assets
- Shared decision-making between clinicians and family to set appropriate goals for Stuart
- Ongoing monitoring

RESULTS

- Stuart's asthma-related visits to ED subside
- Stuart experiences better attendance and outcomes at school
- Positive experiences reported by all involved, including clinicians & community-based workers

Committee Recommendations: Priority Measure Domains and Sub-Domains

Once the Committee refined its conceptual framework for the project, members identified opportunities to operationalize performance measurement within it. Additional granularity was achieved by defining domains and sub-domains for measurement. Table 1 presents potential domains for measurement and sub-domains to further describe the domains. To generate this list, the Committee ranked possible domains of measurement for care coordination between primary care and community-based services. Sources for domain options included the CCRM, the ANA Framework and Patient-Centered Medical Home standards. Committee members were invited to propose revised wording to domains as well as new domains. The domains and subdomains were categorized and further refined through Committee discussion.

The measurement domains and subdomains are organized under three broad care coordination concepts: joint creation of a person-centered plan of care, utilization of the health neighborhood to execute the plan of care, and achievement of outcomes. The table displays the measurement domains as italicized terms and the sub-domains as bullet points, with the domains and sub-domains generally organized to move through time from left to right.

Table 1: Recommended Measurement Domains and Subdomains

Joint Creation of Person-Centered Plan of Care	**Utilization of the Health Neighborhood to Execute the Plan of Care**	**Achievement of Outcomes**
Comprehensive Assessment	*Linkages / Synchronization*	*Experience*
• Document care recipient’s current supports and assets • Assess function • Assess social needs • Assess behavioral health needs • Assess medication management needs • Assess health literacy • Measure care recipient/family level of activation/engagement • Capture preferences and goals • Estimate health risk level and customize care coordination approach appropriately • Continuous holistic monitoring	• Shared documentation and understanding of care coordination goals by clinical providers, community providers and care recipient/family • Appropriate community services identified and contacted based on needs assessment • Care recipient/family successfully engages with and utilizes community services • Bi-directional communication to facilitate coordination • Frequent and accurate communication to solve problems	• Care team’s experience of care coordination o Care recipient o Family o Primary care providers o Community service providers
Goal-setting	*Quality of Services*	*Progression Toward Goals*
• Person-centered communication • Shared decisionmaking • Set goals to address needs identified in assessment • Prioritize appropriate, guideline-driven interventions to improve health outcomes • Update plan of care regularly	• Adequacy of community services to support self-management/wellness • Timeliness/reliability of services • Accessibility of services	• Resolution of unmet needs, as documented in ongoing assessment • Services congruent with person-centered goals and preferences • Maximized health outcomes and functional status • Reduce care recipient risk through interventions • Increased care recipient/family level of activation
Shared Accountability		*Efficiency*
• Plan of care documents all members of the care team, including community providers • Plan of care assigns responsibilities for meeting care recipients’ goals and care team members accept them		• Reduction of duplication in care coordination services • Avoidance of redundant intake/assessment processes • Avoidance of repeat testing/inappropriate use • Reduce total cost of care

Joint Creation of Person Centered Plan of Care

Domain: Comprehensive Assessment

The initial creation of a person-centered plan of care should be an inclusive process that involves a care recipient and anyone who plays a role in addressing that person's needs. Specifically, the multidisciplinary care team should involve the care recipient's family members and non-medical providers. As a comprehensive assessment is undertaken by the care team, medical and psychosocial risk factors need to be taken into consideration to be addressed and continuously monitored. The level of necessary care and care coordination will depend upon the nature and level of these risk factors, which should be consistently reevaluated as a person's condition and/or needs change. All members of the care team would be involved in maintaining the plan of care over time.

From a care coordination perspective, it is important that the plan captures the unique communication needs and preferences of care team members, especially the care recipient. For example, whether or not an individual has easy access to the internet could greatly influence how that person is able to communicate with the care team. It is similarly important for care team members to know if the care recipient is not fluent in written and/or spoken English or has other communication needs (e.g., TTY, large print) so that appropriate steps are taken to ensure accurate sharing of information.

The comprehensive assessment performed by the care team should capture all information relevant for supporting holistic wellness. Specifically, the care plan must go beyond immediate medical needs and incorporate behavioral health and social needs. The assessment should also include the ability and willingness of the care recipient to be an active participant in making decisions and self-advocating during his or her own care, and an evaluation of "patient activation" will allow the care team to better target interventions that match the care recipient's circumstances. Moreover, a higher level of activation itself is associated with better health outcomes and, in many instances, lower costs.[6]

All measurement sub-domains in the Comprehensive Assessment domain should be considered top priorities. Choosing some sub-domains over others would undermine the *comprehensive* nature of the care plan. Potential measures of comprehensive assessment could be composed as a composite, with all of the subdomains described in measure specifications.

Domain: Goal-setting

The process of setting goals should be a collaborative one driven by the care recipient in partnership with a primary care provider and other care team members. Goals and associated interventions and activities designed to meet those goals should not be limited to medical interventions. The plan of care should include one overarching goal "owned" by the care recipient, for example, "I would like to be able to get outside and work in my garden" and "I would like to live long enough to meet my grandchildren." The presence of this type of goal in the care plan would be a relatively easy measurement opportunity. More specific

> *The emerging practice of person-centered planning began in the disability community. It is intended to allow others to see an individual in a different way; to assist the focus person in gaining control over his or her own life; to increase opportunities for participation in the community; to recognize individual desires, and dreams; and to develop a plan to turn dreams into reality through team effort. (Source: PACER Center)*

goals related to functional outcomes and other needs would underpin the broad person-centered goal. The inclusion of both medical and social aspects in goal-setting will better allow for the many factors affecting one's health outcomes to be appropriately addressed.

The Committee emphasized the need to holistically consider motivation for transparent communication around goal-setting. An example was given of an older woman whose ultimate goal was to live at home independently and who did not disclose to her doctor problems she was having with urinary incontinence because she believed it would impede that goal. If the woman had more trust that she would be the ultimate decisionmaker about the services she needed and not her physician, she could have been more honest and received assistance with this condition. Instead, her withholding of information diminished her quality of life and placed her at increased risk for poor outcomes. The example illustrates how person-centered care should result in open and frequent communication that empowers the care recipient, family, and care team to engage in shared decisionmaking and care planning, and that builds individuals' capacity to manage their own health.

At times, the goals of a care recipient will differ from clinical practice guidelines and provider recommendations. Goals may also conflict with the preferences of a care recipient's family members. If the care recipient is to be truly empowered, however, personal choice and preferences should shape the nature of the care plan and goals, even if they are contradictory to others' preferences. Support and counseling from a care team is needed to develop and reach goals through an associated care plan that is agreeable to everyone. Goals will likely shift over time as they are met or re-evaluated in new context.

Domain: Shared Accountability

As noted above, the care team should include medical and non-medical providers, family, and the individual receiving care. For each team member, roles and contact information should be explicitly listed in the care plan. In addition, all care team members should understand their responsibilities for contributing to progress toward the individual's goals. The Committee discussed the need for care teams to specifically consider and evaluate the obligations that activities in the care plan might place on a care recipient and/or caregiver. If there is a specific role for the care recipient and/or caregiver, that person should be capable of performing the associated activities and accept responsibility for them. Finally, the composition of the care team should be monitored together with the entire care plan from creation through execution to ensure that it remains up-to-date and relevant to the person's current needs.

Since current payment structures rarely incentivize multiple providers to work with one another—let alone with others in the community—major challenges related to ultimate responsibility and attribution of results arise when discussing the concept of a shared care plan. Looking beyond these barriers, however, it is critical to stress the importance of multiple parties working in concert with the care recipient to achieve positive outcomes. Payment policy and measurement should support this configuration.

Utilization of the Health Neighborhood to Execute the Plan of Care

Domain: Linkages/Synchronization

This domain describes purposeful organization and orchestration of activities to achieve collaboration across members of the care team. Since the coordination of care reaches well beyond the act of communicating, the purposeful synchronization of care and services among numerous entities is needed. Some of these entities may be paid or unpaid workers providing home-based care or supports. Measures must move beyond examining a clinician's *awareness* of other services and instead focus on meaningful linkages between the health system and community-based resources. Multi-directional communication is required, and should be accurate, timely, and include information about each care team member's abilities and responsibilities. Synchronization includes continuous monitoring, as noted in the plan of care domain, and feedback to assure that the plan of care is being fully executed and regularly re-evaluated.

Domain: Quality of Services

The Committee underscored the need to move beyond measures of whether community-based services are available to measures of whether community-based services are effective and of high quality. While some structural indicators may offer a good starting point from a public health and community infrastructure planning perspective, coordinated care demands that services be available in a timely fashion, adequate, accessible to the people who need them, and culturally appropriate. Measures should focus on whether linkages across service providers are maintained and contribute to problem-solving on behalf of care recipients.

The concept of "open data" and initiatives like Purple Binder that electronically catalog and maintain databases of community resources are integral to better coordination. Accurate, real-time maps of community assets that are centrally maintained will free individual practices and community service providers from the heavy burden of maintaining their own systems.

Achievement of Outcomes

Domain: Experience

It is important to assess care team members' experiences of being part of a unit responsible for delivering or receiving coordinated care. Members of the care team, including care recipients and family members, may report more positive experiences when functioning in a coordinated environment rather than the fragmented status quo. Importantly, the concept of experience must be distinguished from that of subjective satisfaction; experience is more objective and amenable to appropriate quality improvement efforts.

Many surveys exist to gauge the experience of the care recipient and/or family members, but relatively few evaluate whether providers feel they are part of an effective care team. Experience measures should move beyond transactional questions toward outcomes such as, "Do you understand what you needed to do to care for yourself after your visit?" from the care recipient perspective or "Are other members of the care team responsive to your requests for information to support coordination?" from the perspective of providers.

Domain: Progression Toward Goals

Progression toward the goals articulated by the care recipient should be continuously discussed and monitored by the entire care team. These goals should be a combination of health outcomes such as medication adherence or diabetic control and social goals such as being able to attend religious services. The term “progression toward goals” does not imply that the care recipient’s goals must be improvement-oriented; it would be appropriate for individuals to identify goals related to maintenance or palliation. The central aspect of the measurement opportunity would be to evaluate whether the care recipient has a person-centered plan of care in place to address *their* goals and the supports required to make reasonable progress toward them. Measures could be constructed from the care recipient perspective to examine if he or she feels able to take on any assigned responsibilities in the care plan that relate to goals.

Domain: Efficiency

In addition to improving care recipients’ and family members’ experiences and outcomes, care coordination has the potential to reduce duplication in services and contribute to a more efficient health system. With increased emphasis on care coordination, a need to “coordinate the coordinators” has emerged. Care coordination activities should never, however inadvertently, lead the care recipient and his or her family to feel over-burdened. This reinforces the previously discussed concept of knowing the responsibilities of each of the members of the care team so that multiple individuals or entities are not duplicating the same function.

Prioritization of Measurement Domains

One of the main goals of this project is to communicate to HHS a clear sense of priorities for measurement of care coordination. The presence of multistakeholder consensus on the measures and measure concepts that are most important will guide decisionmaking related to measure development and measure use in federal programs. The broad and complex nature of care coordination activities makes the identification of clear priorities especially important.

In considering priorities for measurement, the Committee recognized a potential trade-off between the feasibility of measure development and the potential impact that a measure could have in producing more coordinated care. The relative difficulty of designing and testing performance measures depends on many factors, including whether the evidence base is well-established and stable, accessibility and availability of standardized data sources, and how readily key concepts are quantified. Taken one way, the measures that are most straightforward to develop may not be sufficiently powerful or different from current practice to effect change. Such a measure would have high feasibility but low impact. Taken another way, the ideal measures may be too difficult to construct in the current environment. Such a measure would have high impact but low feasibility. The Committee evaluated impact and feasibility of measure development within each domain.

All domains were evaluated as having high impact. This result affirms that the selected domains, in contrast to other measurement opportunities that did not merit inclusion in the list, are perceived as important. The Committee rated the domains at varying levels of feasibility. *Comprehensive Assessment* and *Goal-setting* domains were rated high on feasibility while *Experience*, *Availability of Services*, and *Goal Attainment* were rated relatively low on feasibility.

The Committee prioritized the measurement domains based on the impact/feasibility discussion, the state of current evidence to support measurement, and their expert judgment of how to make strategic progress in advancing care coordination. Four domains received support from 60 percent or more of Committee members, including: Linkages/Synchronization, Progression toward Goals, Comprehensive Assessment, and Shared Accountability. The Committee recognized the remaining four domains as important but recognized the need to offer a concrete and relatively small number of recommendations. The Committee's voting results are presented in Table 2, below.

Table 2: Results of Committee's Measurement Domain Prioritization Vote

Measurement Domain	**Number of Votes (n=15)**
Linkages / Synchronization	13
Progression Toward Goals	13
Comprehensive Assessment	12
Shared Accountability	9
Experience	6
Efficiency	6
Goal-setting	3
Quality of Services	0

The four prioritized measurement domains reinforce an emphasis on the importance of creating a coherent healthcare system that is accountable for long-term health outcomes. Measures should support the assessment of whether the delivery of healthcare and community-based supports are well-organized and support individuals in making progress toward their health-related goals.

Different types of measures will be needed within each of the priority domains. Structural measures, for example, can assess the presence of necessary capabilities and infrastructure to achieve the processes and outcomes described in the domains and sub-domains. Process measures can provide granularity for care team quality improvement, but there must be evidence to justify the process. Outcome measures are meaningful to consumers and are regarded as very powerful. They can allow care teams the flexibility to use a variety of processes because it is the ultimate result that is emphasized by the performance measurement framework. Each measure type is suited for a particular need, and relative fit-for-purpose should be considered during the development process.

Results of Final Environmental Scan

NQF conducted a targeted environmental scan of measures and measure concepts related to care coordination. The scan included a review of 5,919 measures imported from the multiple sources that included nationally-recognized databases. One new source of information and 38 new measures or measure concepts have been incorporated since the initial scan performed in late 2013. The new measures and measure concepts are intended for current or future use in the Financial Alignment Initiative to provide more seamless care for individuals dually eligible for Medicare and Medicaid.[7] States collaborated with CMS and health plans to define the performance measures they would use to monitor the quality of care being delivered to beneficiaries under their new models. Several states elected to define their own process measures related to assessments and care coordination. Their experience with creating and using their own measures will be informative to other developers. Another potential source of care coordination measures was identified but the measure developers declined to have them included in the environmental scan because they are still undergoing testing.

In sum, 409 measures were identified as potential care coordination measures based on their broad applicability to this content area. Of these measures, a subset of at least 180 are calculated at a broad population level and would need significant modification before being applied to clinics, clinicians, and/or community-based providers. The population-level measures are included among the scan results primarily because they offer promising concepts for further exploration and development.

Although the scan produced a significant number of measures relating to the general concept of care coordination, few evaluate ongoing interactions between primary care and community-based service providers to support improved health and quality of life. In general, currently available measures are either too narrowly or too broadly designed to be actionable by providers of primary care. Further, no available measures directly apply to providers of community services. The newly added measures did little to change the overall results of the scanning exercise. It is clear that measures that would reflect the level of care coordination desired by the Committee remain elusive.

The final environmental scan also assigned measures and measure concepts to the domains defined by the Committee. Because of the cross-cutting nature of care coordination, measures and measure concepts could fit multiple domains. The distribution across the domains is as follows:

Table 3: Current Measures and Measure Concepts that Apply to Domains

Measurement Domain	**Number of Measures (n=409)**
Comprehensive Assessment	42
Efficiency	1
Experience	44
Linkages / Synchronization	89
Progression Toward Goals	17
Quality of Services	4
Shared Accountability	19
Not applicable to any measurement domain	35

The relatively high number of measures and measure concepts that do not apply to any of the domains defined in this project further shows the disconnect between currently available measures and the desired state of coordinated care. 165 measures relate to high-priority domains, shaded in the table. Measure developers may find it useful to look to existing measures and measure concepts to accelerate any future efforts related to care coordination measurement. However, significant revisions or wholesale changes would likely be necessary to meet the Committee's recommendations.

Draft Measure Concepts to Address Priority Domains and Sub-Domains

Once the conceptual framework for measurement and its domains and sub-domains were well understood, Committee members participated in a high-level brainstorming exercise to identify potential measure concepts for development. These relatively unrefined ideas are intended as suggestions. Potential data sources for measurement include electronic health records containing the shared plan of care, claims data, and surveys of care recipients and community providers. A sample of draft numerator and denominator statements appears in Table 4; a complete list of draft measure concepts is available in Appendix D.

Table 4: Selected Draft Measure Concepts Generated by Committee

Measurement Domains	Draft Numerator	Draft Denominator
Creation of Person-Centered Plan of Care • Comprehensive Assessment • Goal-setting • Shared Accountability	# of care recipients for whom a comprehensive assessment containing all of the sub-domains is documented	total # of care recipients
	# of care recipients with an accurate checklist of their care team and a description of the roles within that team	total # of care recipients
Utilization of the Health Neighborhood to Execute the Plan of Care • Linkages/Synchronization • Quality of Services	# of care recipients reporting self-efficacy in managing chronic conditions	total # of individuals receiving care for chronic conditions
	# of care recipients receiving recommended community services within three months	total # of individuals whose plan of care indicates a need for a community service
Achievement of Outcomes • Experience • Progression Toward Goals • Efficiency	# of care recipients who feel their care team communicates with one another and works together to achieve goals	total # of care recipients
	# of care recipients or family members who experienced significant "hassle" during the process of navigating the system and/or receiving care	# of care recipients with multiple chronic illnesses

Health IT's Role in Supporting Paradigm Shift

The increasing use of health information technology (HIT) can support a paradigm shift in care coordination, ultimately yielding significant improvements in health care delivery. Significant HIT efforts are underway and must continue for the Committee's recommendations to become a reality. CMS looks to the work of the Prioritizing Measure Gaps projects to advance the measures within federal programs so that they better enable care coordination and smooth care transitions. AHRQ is currently gathering information from the field on what is needed to enable electronic quality measurement, particularly testing how criteria for Meaningful Use Stage 3 will play out in the field.

The Office of the National Coordinator for Health Information Technology (ONC) also participated in Committee discussions and communicated its current efforts to enhance care coordination through HIT and measurement. ONC's priorities include promoting more consistent use of data fields within care plans, matching data capture through electronic health records with actual clinical workflows, and the use of clinical decision support. For example, a clinical quality measure under development aims to "close the referral loop" between providers. This measure would require electronic transmission of health information for the initial referral in addition to receipt of results by the referring physician. Such a direct flow of information between providers would improve current levels of care coordination.

Substantial opportunities exist to integrate data for the purposes of care coordination. These information types and sources include, but are not limited to: federal and state agencies, insurers and payers, the criminal justice system, the education system, patient-generated data, personal care providers, family observations, and nutrition services. ONC shares the Committee's vision of using shared decision-making and an HIT infrastructure to develop longitudinal care plans. Features such as HIT-enabled data management and reconciliation, segmentation to protect privacy, automated push/pull of data, and definitions for data elements are required.

ONC's vision for the future state of care coordination combines quality measures and secure standards for data transfer both within and outside of the health system. ONC posits that care coordination should include a person-centered plan of care, shared goals and decisions, clinical decision support tailored to individuals' preferences, integration of all specialists and providers, and home and remote health opportunities.

The Committee appreciated the opportunity to learn more about HHS' interagency efforts to integrate HIT into the health system and voiced several potential challenges, particularly ONC's plans to effectively design and implement HIT workflows across provider types. This is important because the feasibility of implementing standardized electronic care plans for complex populations in the current environment is low. Furthermore, additional requirements of providers to change workflows and patterns must be minimally disruptive in order to be well-received. Challenges associated with resource allocation, training for new and current health care workforce, financial investments, developing care plan tools that extend into communities, and interoperability of data were also noted. One member suggested that ONC look to international work in order to see what other countries have been successful in creating simplified models that cross settings and maintain a population health focus.

Data Standards to Support Care Coordination and Plan of Care

Successful care coordination relies upon the execution of a dynamic blueprint –the care plan–as a structured arrangement of standardized data elements. Widespread use of standardized data elements is lacking in the current environment, and this has been a barrier to systematic measurement of care coordination activities.

In order for data standards to enable interoperability, specification of a minimum data set around the care team roster is needed. Currently, the HL7 Clinical Document Architecture (CDA) supports the representation of the care team and allows for relationships between all care team members to be captured. This specifically includes electronic contact information for each team member, the professional role of each provider, and the familial and legal relationship of family care team members to the care recipient. HL7 CDA also allows for relationships between those care team members and other data elements and activities in the care plan.

In the future, vocabularies will need to be developed that allow for different levels of accountability. This structure needs to be incorporated in current implementation guidelines. Looking ahead to enabling data exchange for care coordination and metrics, specific terminology needs to be identified or developed that allows accountability and effective care planning by specifying the role of professional, family, and community caregivers with respect to the care recipient. Consequently, there would be no confusion as to whether a specialist, for example, would act as a *de facto* primary care provider because of the nature and complexity of the care recipient's needs.

The 2013 update of the HL7 Consolidated CDA standard includes a care plan document type, which did not exist previously among the nine document types in this standard. This updated standard is included in the Notice of Proposed Rulemaking (NPRM) for the 2015 EHR certification criteria. Software has been developed that will allow viewing and editing of this care plan document independent of an EHR system. This type of independent software will allow organizations that do not have an EHR system involved in the care of an individual to be part of the care planning process and improve care coordination for that individual. The Committee supported the continued development of these relatively simple web-based tools because they would allow all types of community-based providers to have access to the same shared plan of care and markedly reduce the effort required to keep separate records.

Lastly, adoption of updated HL7 CDA standards will enable quality metrics using the HL7 Quality Reporting Document Architecture (QDRA) standard for reporting eMeasures informed by the NQF Quality Data Model and based on data that is captured in the course of care delivery by electronic systems. The Committee stressed that the updated HL7 CDA standards are fundamental to future care coordination efforts and will enable the development of new, cross-cutting measures.

As more EHR vendors implement emerging standards, more patient-reported outcome performance measures (PRO-PM) could be designed and used. Registry data is another source of electronic information that could be captured for the purposes of care planning and subsequent performance measurement. In summary, the needed data standards are not yet in place, but they are moving forward rapidly.

Front-Line Perspective on Interoperability

The power of technology to shape coordinated care is its ability to combine different sources of data: clinical, administrative, and information provided directly by the care recipient and family. This data, organized into a comprehensive and person-centered plan of care, can interact with systems to alert providers about opportunities to facilitate just-in-time coordination of services. Committee member Dr. Fred Rachman, Chief Executive Officer with the Alliance of Chicago, offered reflections on these capabilities from a front-line perspective. He urged the Committee to be aspirational in its expectations for designing measures that fit a more “wired” future state, noting the rapidity with which the system is changing. The aim of the Alliance is to promote use of technology to coordinate services in the way in which they are delivered at the front end in order to reduce the burden of coordinating them on the back end.

Dr. Rachman discussed his health center’s experience coordinating internally and of the value they find in using an EHR with longitudinal records and clinical decision support that includes prompts for non-clinical, community-based elements. In addition to providing prompts for information about a care recipient’s current visit, the EHR also reminds the provider to review previous entries to determine whether or not any necessary follow-up steps were taken. With linkages to human services systems, the system can also alert providers about interactions that the care recipient has had with other services, such as a nutrition program or homeless shelter. Similarly, a data linkage with the Centers for Disease Control and Prevention (CDC) alerts providers when there is a public health concern or disease outbreak in the community that may be relevant to the individual seeking care. Finally, the EMR is connected to a comprehensive and up-to-date list of community resources generated by University of Chicago students who walk the streets of the community and catalog community assets in meticulous detail. This atlas of resources is linked to the electronic medical record so that the provider can match a care recipient’s address to relevant assets that are nearby. The linkage of the EMR to community generated data greatly enhances the value of the information to the patient.

While clinical decision support tools hold great promise for care coordination, development burden is considerable, and likely not practical for many practices on an individual level. Web-based solutions that don’t rely on single-vendor proprietary software were suggested. Dr. Rachman reinforced the absolute necessity of structured data for computational capability and performance measurement. Social support systems operated independently of medical systems generally have information in the form of case notes or similarly unstructured data. This will severely pose significant challenges for interoperability until it is addressed. Web-based options that don’t rely on single-vendor proprietary software may offer solutions.

Committee Recommendations: Priorities for Care Coordination and Performance Measurement

The following recommendations on the most important topics and promising approaches for measuring care coordination range in scope, but are ultimately grounded in using measurement to create a more effective and efficient health system that better serves all stakeholders, particularly care recipients.

Priority measure domains reflect the need for person-centered, accountable care.

As previously described four measurement domains are highlighted as the highest priority for performance measure development. These include Linkages/Synchronization, Progression toward Goals, Comprehensive Assessment, and Shared Accountability, which will require a variety of measures across them. The recommendations are not limited to any single health condition or care setting, but rather promote broadly applicable measures of care coordination.

Measures derived from electronic systems are preferred in the long run, but progress in measure development must continue in the current environment. The need for strong measures of care coordination is pressing and some may need to be constructed using more traditional methodologies of claims analysis or survey collection for the short-term. Promising measures can be developed into e-measures at a later date. Similarly, some strong process measures may be reinvented and expanded as outcome measures as comfort with the processes increases. The fact that electronic capabilities will continue to emerge should not stifle the immediate development of meaningful measures.

Innovation is desired, but stronger evidence of effective care coordination practices is fundamental for measure development.

Many of the most promising and innovative measure concepts discussed by the committee lack a strong evidence base to underpin development as indicators of performance, particularly process measures. The Committee recognized the risk of investing in measure development grounded in topic areas where best practices are still emerging (e.g., team-based care, data interoperability) because uncertainty could undermine measures' potential for NQF endorsement. Several Committee members expressed a desire to develop a more flexible taxonomy for classifying evidence and potential impact to reflect this reality. Alternatively, development of outcome measures that capture critical changes such as decreased duplication of services would not depend on a particular process being followed.

To build the evidence in support of care coordination practices, the Committee recommended HHS facilitate more deliberate coordination with organizations such as the Person-Centered Outcomes Research Institute (PCORI) and others in a position to fund and synthesize evidence that will support the future evaluation of person-centered care coordination measures. The evidence base will be established and strengthened over time as innovative concepts prove successful, but the pace of these activities must be accelerated to produce new measures in a reasonable timeframe. The Committee noted that it will be necessary for developers and funders to take more risks in the pursuit of innovation, with the suggestion that development could happen iteratively to reflect change in the evidence over time.

HHS should measure its own progress in reducing fragmentation experienced by front-line providers.

The Committee praised HHS for the collaborative and future-focused nature of this work, noting the importance of a care system that is integrated and working seamlessly toward the same goal. Members posited that lack of coordination of health services experienced by health professionals, community workers, and care recipients is due in part to fragmentation in how those services are funded and regulated by the federal and state levels. The fragmentation is compounded when behavioral health, social services, and other supports are also considered.

HHS could offer its influence by working with other departments, and within its own structures, to align program priorities and create meaningful cross-cutting measures. For example, the Medicare and Medicaid programs could better coordinate their measurement priorities and align their communication efforts to stakeholders. The Committee recommends the Department to continue to adopt a more unified approach to "coordinating care coordination efforts" and suggested that HHS may want to use its own measures internally to track progress in eliminating redundant or conflicting requirements within its own programs.

Target care coordination efforts based on individuals' needs.

Individuals should receive support in managing their health that is appropriate to their individual needs. After assessing an individual through the care planning process, it is possible to evaluate that person's relative level of risk for poor health outcomes of various types. The care plan should be customized based on risks. Although all care recipients need some degree of care coordination, for low-risk individuals this process will focus on preventive care and upstream education targeting healthy lifestyles. For an individual with multiple chronic conditions complicated by social needs, the situation will be much more dynamic and complex; it will entail communication and purposeful synchronization of care and services between numerous providers and various community support services.

An opportunity exists to measure whether individuals receive care coordination supports that are indicated by their needs. Measures that are developed should have the flexibility to respond to individuals at varying levels of risk, and should not assume that all care recipients need extensive coordination. Such services should be reserved for individuals that will benefit from them the most, and appropriate identification and targeting will ensure that primary care providers and care coordinators are not overburdened expending time and resources on relatively healthy people.

The most vulnerable populations—those who often lack connections to health providers and community supports—are most in need of improved care coordination efforts that address social determinants of health. Moreover, vulnerable individuals have the most to gain from efforts to address needs related to nutrition, clothing, housing, basic education, and employment assistance. As sociodemographic elements are appropriately considered within the context of the plan of care, there will be an ongoing need to account for them in risk adjustment methodologies for outcome measures.

Accelerate the work of culture change to achieve person-centered, team-based care.

Adoption of a person-centered care culture will require new roles, behaviors, priorities, and incentives for everyone involved, particularly the workforce. Care plans that delineate shared responsibility across members of a multidisciplinary team are under-used in current practice. Additionally, roles may need to be redefined and/or responsibilities expanded in clinical care environments. Social workers, nutritionists, community health workers, and other professional groups offer important supports and diversity to care teams. Inclusion of these skill sets in care teams would allow the medical professionals to focus on clinical needs and health indicators while allowing others with specialized training to address social needs. The Committee noted that we want to move toward a culture of shared accountability while

The Primary Care Team: Learning from Effective Ambulatory Practices (LEAP) project is exploring how innovative workforce models can be replicated and adopted by primary care practices across the country. The LEAP project is fostering an online Learning Community for others to converse and share best practices, and developing a toolkit to distill their insights for others' use. This work is supported by the Robert Wood Johnson Foundation.

not mandating greatly expanded responsibilities for coordination for under-resourced and/or small providers.

Flexibility in the organization of care teams is important and care team members should determine what works for them in achieving good outcomes for their specific population, while allowing each professional to maximize their skills and scope of practice. Team leadership and facilitation is best determined according to the needs and preferences of the care recipient and family together with and the knowledge and skills of each team member. In all circumstances, members of the care team should be challenged to work together effectively and supported with professional education to help build necessary competencies.

Continue standardization of data elements to support care planning and measurement.

The Committee strongly advocated for the continuation of activities to standardize data elements for care planning and measurement purposes. The federal government should continue its leadership in pushing for greater interoperability. Data standards like HL7 CDA are essential in creating interoperability across health and human services systems will enable the exchange of more meaningful data. Additional efforts could be undertaken to standardize the availability of Medicaid data across varied state systems. Greater interoperability will also enable the development of new, cross-cutting measures.

Sharing a care plan with a broad swath of care team members also poses challenges. Care plan data should be segmented for privacy before being shared. Some types of data are legally protected from being exchanged without the explicit consent of the individual, even beyond HIPAA regulations. The Committee discussed the general principle that the care recipient should control which providers can access sensitive information. There is a need for further guidance as to how this would be operationalized as more providers adopt team-based care models. Beyond privacy concerns, the care recipient and family can be critical safeguards in ensuring that the plan of care is up-to-date and accurate, as errors can be inadvertently introduced by providers.

Balance payment incentives carefully to fulfill all three aims of the NQS.

Care coordination is intended to have multiple positive effects, one of which is decreased utilization of unnecessary health services due to lack of preventive care. Earlier interventions to solve problems and elimination of duplication of effort also contribute to efficiency, and the promise of cost savings is one reason care coordination efforts have multiplied in recent years. The Committee was careful to note that improving the value of healthcare is *one* goal of care coordination, but an equally important aim is to improve the experience of care for all involved. Inefficiencies and errors not only damage the health system financially, but also demonstrate that the system is uncoordinated and not working in the best interest of the care recipients and families it is endeavoring to serve. If the system could achieve widespread coordination of efforts, health professionals, community workers, and individuals and families would all experience markedly less frustration.

The three aims of the National Quality Strategy –to provide better, more affordable care for the individual and the community –must be carefully balanced. Incentives should be developed and implemented strategically in order to avoid driving behavior on one aim at the expense of others. The Committee was most concerned about efforts to improve affordability undermining approaches to connect individuals with high-quality care.

It has long been recognized that a fee-for-service payment system contributes to fragmentation and does not compensate providers for systemic coordination or promote shared accountability. While the proportion of individuals enrolled in managed care plans has increased and newer models of care such as Accountable Care Organizations (ACOs) provide opportunities for gainsharing, payment incentives are still too mixed to direct coordination efforts in a meaningful fashion. The Committee underscored the need to continue expanding models of care that incentivize long-term investments in population health and wellness outcomes. Only then will there be sufficient business need to coordinate the healthcare delivery system with community-based supports on a national scale.

Medicare's ACO programs have been widely discussed as a strategy to improve population health. Less recognized are parallel efforts to serve Medicaid beneficiaries, many of whom have complex medical and social challenges. A Health Affairs blog post highlighted the creation of Totally Accountable Care Organizations (TACOs) that are responsible for services beyond medical care, including mental health and social supports. TACOs will better serve Medicaid's complex enrollees and have potential to reduce avoidable emergency department utilization, hospital stays, and institutionalization. As TACOs evolve, they may also absorb responsibility for providing other services like housing and LTSS in partnership with public sector agencies.

Most notably, current business models of most community providers do not support participation in multidisciplinary care teams. High-risk individuals with the greatest burden of health, behavioral health, and social service needs require the most time and resources for care teams to serve. Incentives must be scaled appropriately to the level of effort required for effective care coordination; payment structures that do not account for care recipient complexity incentivize avoidance of higher-risk individuals. In parallel with efforts to build shared accountability for ultimate health outcomes, new measures will be needed that can incorporate the existence of multiple responsible entities while adequately supporting attribution across providers.

Conclusion

As one Committee member aptly noted, "coordinated care is the hallmark of a caring health system." Others shared the sentiment and urged more concerted effort to take the abstract concept of coordinated, person centered care and transform it into a measureable reality. While measurement is just one tool that can be used to achieve health system transformation, the Committee's recommendations show how it is intertwined with other strategies: building the care coordination evidence base, changes to state and federal policy, workforce culture change, data standardization, targeting of services, and payment incentives. Progress is needed on multiple fronts simultaneously, but many current activities show great promise for continuation and further expansion.

Appendix A: Project Approach and Methods

NQF used a common approach (Figure A1) across its 2013-2014 priority-setting projects to ensure consistency in methodology and final products, to the extent feasible.

Figure A1: Four Step Process for Care Coordination Priority Setting Project

Convene Multistakeholder Committee

NQF convened a 21-member multistakeholder Committee to provide expert guidance on the project objectives (Appendix B). The Committee includes a range of experts, including individuals with experience in primary care, quality measure development and endorsement, social determinants of health, HIT data integration and interoperability, community-based services, health disparities, and pharmacy. NQF ensured that the overall membership of the multistakeholder group is well-balanced and contained community-oriented perspectives. A small subset of the experts from the multistakeholder committee provided preliminary input on the scope of the project while the full committee was being seated.

Over the course of the project, NQF convened three web meetings and one in-person meeting to obtain expert input and provide opportunities for other interested stakeholders to engage with the work. NQF also has involved a large group of federal government partners designated by HHS in a consultative role. The HHS partners have provided valuable upstream guidance on the project's approach and ultimate goals in order to ensure that products will be valuable to the Department once complete.

Identify a Conceptual Measurement Framework

Care coordination is a field rich with existing conceptual frameworks, domains, and definitions. Following the start-up activities to identify and engage external stakeholders, the NQF team produced a draft conceptual framework for measurement based on current literature and expert input. The framework builds on the strong foundation of existing reports and measure scans related to care coordination, but has been refined to meet the needs of this project. Resources consulted for framework development and modification include:

- Agency for Healthcare Research & Quality (AHRQ). AHRQ Technical Review on Care Coordination. A Critical Analysis of Care Coordination Strategies for Children with Special Health Care Needs. Rockville, MD:AHRQ; 2007.
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- National Quality Forum (NQF). Input to the Secretary of Health and Human Services on Priorities for the National Quality Strategy. Washington, DC:NQF;2011.
- National Quality Forum (NQF). Preferred Practices and Performance Measures for Measuring and Reporting Care Coordination. Washington, DC:NQF;2010.
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- Schoen C, Radley D, Riley P, et al. Healthcare in the Two Americas. New York, NY:The Commonwealth Fund;2013.

The draft framework was initially described in a December 2013 report and a final version is presented within this document.

Environmental Scan of Measures and Measure Concepts and Analysis of Gaps

The third step of the approach, encompassing an environmental scan of measures and measure concepts that map to the conceptual framework, produced initial results for the December 2013 report. The first-round environmental scan for measures was subject to a review by the Committee during a January 2014 web meeting. The committee analyzed measure gaps by comparing the opportunities for measurement presented by the conceptual framework with the available measures identified by the scan. Similar to the conceptual framework, a final version of the environmental scan is presented in concert with this document. Resources consulted for the environmental scan include:

- Agency for Healthcare Research and Quality (AHRQ). National Quality Measures Clearinghouse web site. http://www.qualitymeasures.ahrq.gov/index.aspx. Last accessed December 2013.
- Agency for Healthcare Research and Quality (AHRQ). Department of Health and Human Services Measure Inventory web site. http://www.qualitymeasures.ahrq.gov/hhs/index.aspx. Last accessed December 2013.
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Committee Recommendations and Priorities for Performance Measure Development

The multistakeholder Committee convened for an in-person meeting on April 3-4, 2014 to develop its recommendations to HHS. Deliberations were dedicated to prioritizing gap areas for future measure development, endorsement, and implementation by considering potential measures’ importance, underlying level of evidence, feasibility, and intended application. This draft report for commenting provides an opportunity for interested NQF Members and public participants to weigh in on the Committee’s recommendations. NQF will hold a public webinar to communicate primary themes from the draft recommendations before finalizing them for delivery to HHS in August 2014.

Appendix B: Care Coordination Committee Roster

COMMITTEE MEMBERS	
David Ackman, MD, MPH	Amerigroup
Richard Birkel, PhD, MPA	National Council on Aging
Don Casey, MD, MPH, MBA	American College of Medical Quality
David Cusano	Georgetown University Health Policy Institute
Woody Eisenberg, MD, FACP	Pharmacy Quality Alliance
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Russell Leftwich, MD	State of Tennessee, Office of eHealth Initiatives
Linda Lindeke, PhD, RN, CNP	University of Minnesota, School of Nursing
Rita Mangione-Smith, MD, MPH	Seattle Children's Research Institute
Sharon McCauley, MS, MBA, RDN, LDN, FAND	Academy of Nutrition and Dietetics
Judy Ng, PhD, MPH	National Committee for Quality Assurance
Michael Parchman, MD, MPH	MacColl Center for Health Care Innovation
Fred Rachman, MD	Alliance of Chicago Community Health Services
Mark Redding, MD	Community Health Access Project
Susan Reinhard, PhD, RN, FAAN	AARP
Robert Roca, MD, MPH, MBA	American Psychiatric Institute for Research and Education
Vija Sehgal, MD, PhD, MPH	Waianae Coast Comprehensive Health Center
Daniel Stein, MBA	Stewards of Change
Ilene Stein, JD	Service Employees International Union

DEPARTMENT OF HEALTH AND HUMAN SERVICES REPRESENTATIVES	
Cille Kennedy	Office of the Assistant Secretary for Planning and Evaluation
Samantha Meklir	Health Resources and Services Administration
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Lauralei Dorian	Project Manager
Severa Chavez	Project Analyst
Laura Ibragimova, MPH	Project Analyst
Karen Adams, PhD	Vice President
Wendy Prins, MPH, MPT	Senior Director

Appendix C: Updated Preferred Practices for Care Coordination

In 2010, NQF published the *Preferred Practices and Performance Measures for Measuring and Reporting Care Coordination Consensus Report*.[8] Recognizing the need to establish a meaningful foundation for future development of a set of practices with demonstrated impact on patient outcomes, NQF endorsed 25 Preferred Practices through this project, each situated within one of the five care coordination domains. These practices were evaluated based on their effectiveness, generalizability, potential benefit, and readiness. They are intended to be applied across care settings. In many cases, Preferred Practices specifications were purposely futuristic and envisioned as "stretch goals" that would accelerate the evolution of the field. The Committee recognized that for Preferred Practices to achieve widespread adoption, current payment models need to incentivize these approaches to care.

The Preferred Practices were reviewed for their relevance to this project; namely, those that emphasized coordination through primary care and the inclusion of community services were prioritized. The subset of the Preferred Practices that fit most closely with the work is listed below, beneath the domains under which they were endorsed. The most important domains for the purposes of this project are Healthcare Home and Proactive Plan of Care and Follow-Up. In addition, a number of concepts not captured in the Preferred Practices were identified through early Committee input. The Preferred Practices and additional areas of focus informed the inclusion and exclusion criteria used to conduct the environmental scan for measures. As indicated below, the original language of some of the NQF-endorsed Preferred Practices has been altered to reflect stakeholder input and the specialized focus of this project.

Healthcare "Home" Domain

Preferred Practice 2 – Original Language: The healthcare home or sponsoring organizations shall be the central point for incorporating strategies for continuity of care.

> ***Preferred Practice 2 – Revised:*** The healthcare home or sponsoring organizations shall be the central point for incorporating strategies for continuity of care between medical treatment, behavioral health services, long-term support services, and the community.

Preferred Practice 3 – Original Language: The healthcare home shall develop infrastructure for managing plans of care that incorporate systems for registering, tracking, measuring, reporting, and improving essential coordinated services.

> ***Preferred Practice 3 – Revised:*** The healthcare home shall develop infrastructure for managing plans of care and ensuring that those plans of care are delivered and received by all relevant entities. The infrastructure should incorporate systems for registering, tracking, measuring, reporting, and improving essential coordinated services.

Proactive Plan of Care and Follow-up Domain

Preferred Practice 6 – Original Language: Healthcare providers and entities should have structured and effective systems, policies, procedures, and practices to create, document, execute, and update a plan of care with every patient.

> ***Preferred Practice 6 – Revised:*** Healthcare providers and other entities involved with providing care and supports to an individual should have structured and effective systems, policies, procedures, and practices to create, document, execute, and update that person's plan of care.

Preferred Practice 7 – Original Language: A systematic process of follow-up tests, treatments, or services should be established and be informed by the plan of care.

> ***Preferred Practice 7 – Revised:*** A systematic process of preventive and follow-up tests, treatments, assessments, or services should be established and informed by the plan of care.

Preferred Practice 8 – Original Language: The joint plan of care should be developed and include patient education and support for self-management and resources.

> ***Preferred Practice 8 – Revised*****:** The development of the comprehensive plan of care should include education of the care recipient and support for self-management as appropriate. The plan of care should also consider natural supports such as family caregivers and other resources.

Preferred Practice 9 – Original Language: The plan of care should include community and nonclinical services as well as healthcare services that respond to a patient's needs and preferences and contributes to achieving the patient's goals.

> ***Preferred Practice 9 – Revised:*** The plan of care should include the entire array of community, nonclinical, behavioral, and healthcare services that respond to a person's needs and preferences and contribute to achieving the person's goals.

Communication Domain

Preferred Practice 12 – Original Language: All healthcare home team members, including the person and his or her designees, should work within the same plan of care and share responsibility for their contributions to the plan of care and for achieving the patient's goals.

> ***Preferred Practice 12 - Revised:*** All members of the healthcare home team, including the care recipient and his or her designees, should work within the same plan of care and share responsibility for their contributions to achieving the care recipient's goals.

Information Systems Domain

Preferred Practice 15: Standardized, integrated, interoperable, electronic, information systems with functionalities that are essential to care coordination, decision support, and quality measurement and practice improvement should be used.

Appendix D: Draft Measure Concepts

Measurement Domains	**Draft Numerator**	**Draft Denominator**
Creation of Person-Centered Plan of Care • Comprehensive Assessment • Goal-setting • Shared Accountability • Shared Decisionmaking • Person-Centered Communication	# of care recipients for whom a comprehensive assessment containing all of the sub-domains is documented	total # of care recipients
	# of care recipients at risk of falling who received face-to-face counseling about the risks of falling to set related goals with their care team	total # of care recipients who screen positive for a risk of falling
	# of care recipients who participate in generating the list of care team members by responding to a question such as "who assists you with taking care of yourself?"	total # of care recipients
	# of care recipients with an accurate checklist of members of their care team that includes each person's role and current contact information	total # of care recipients
	# of care plans accessible to all care team members, including care recipient and designated family	total # of care plans active
	# of care plans regularly updated through a shared data system by any service provider named in the care plan	total # of care recipients with a care plan active
	# of care plans that identify a care team member with primary responsibility for meeting goals contained within	total # of care recipients with a care plan active
	# of individuals who have been given communication about participating in the development of their plan of care	total # of care recipients with a care plan active
	# of plans of care that document that individuals were offered to set goals and make decisions in their plan of care	total # of care recipients with a care plan active
	# of individuals with person-centered goals in the plan of care that ties back to appropriately identified needs	total # of care recipients with a care plan active
	# of plans of care with clinically specified interventions indicated	total # of care recipients with a care plan active
Utilization of the Health Neighborhood to Execute the Plan of Care • Linkages/Synchronization • Quality of Services	# of care recipients reporting self-efficacy in managing chronic conditions	total # of individuals receiving care for chronic conditions OR total # of individuals receiving care for chronic conditions that wish to self-manage

Measurement Domains	Draft Numerator	Draft Denominator
	# of care recipients reporting ability to access support for tobacco cessation	total # of individuals who screen positive for tobacco use and wish to quit
	# of care recipients reporting ability to access support for nutrition or weight management	total # of individuals who screen positive for obesity or poor nutritional habits and wish to take action
	# of care recipients receiving recommended community services within two months	total # of individuals whose plan of care indicates a need for a community service
	#of care recipients having contact with community-based behavioral health services within four weeks	total # of individuals who screen positive for unmet behavioral health needs
	# of community providers reporting ability to engage in direct messaging technology with primary care providers	total # of community providers in geographic area
	# of appointments with community providers or outside specialists that are successfully kept (per month)	total # of appointment referrals made by the practice/clinic
	# of community providers with a data use agreement in place to coordinate with care team (per 6 months)	total # of community providers in geographic area
	# of community providers participating in person-centered planning with care team (per month)	total # of community providers in contact with the primary care practice/clinic
Achievement of Outcomes • Experience • Progression Toward Goals • Efficiency	# of care recipients who feel their care team communicates with one another and works together to achieve the care recipient's goals	total # of care recipients
	# of care recipients who feel their care team communicates with one another and works together to achieve the care recipient's goals	# of care recipients with more than one provider or caregiver
	# of care recipients who feel they have the ability to solve problems and contribute to their care	total # of care recipients
	# of primary care providers who report being able to work effectively with community providers to meet care recipients' needs	total # of primary care providers in geographic area
	# of community service providers who report being able to work effectively with primary care providers to meet care recipients' needs	total # of community service providers in geographic area

Measurement Domains	Draft Numerator	Draft Denominator
	# of care recipients or family members who experienced significant "hassle" during the process of navigating the system and/or receiving care	total # of care recipients with multiple chronic conditions
	# of care plans that reflect a reduction in unmet needs over the look-back period (e.g., 3 months)	total # of active care plans

Endnotes

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