Emergency Department Transitions of Care: A Quality Measurement Framework

FINAL REPORT

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NATIONAL QUALITY FORUM

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CONTENTS

EXECUTIVE SUMMARY

Emergency department (ED) visits are often critical inflection points in a patient's health trajectory, making management and information transfers a vital component of quality and outcomes. Consequently, bidirectional information flows require attention as patients transfer from outpatient providers to EDs; EDs to outpatient providers; within EDs and hospitals; and between EDs and other settings such as nursing homes, home health, rehabilitation, and prehospital services. Improving the management of transitions of care into, out of, and within the ED has the potential to improve person-centered care, increase value, and reduce costs.

Return visits to the ED within three days of a discharge are estimated at 8.2 percent nationally. Of those patients who had a revisit, 32 percent revisited a different institution, making sharing of information between settings vital to quality patient care.[1] One in five Medicare beneficiaries discharged from the hospital is readmitted within 30 days, with half of the patients having not yet seen an outpatient doctor for follow-up, and most of these readmissions occur through the ED.[2] Unclear, incomplete, or missing information during ED transitions in care between providers and settings may lead to patient anxiety and uncertainty, avoidable resource use, or a worsening in the patient's condition and potential harm. In addition, variability in communication during transitions from one care setting to another may contribute to confusion among clinicians about the patient's severity of condition and near-term care needs, duplicative tests, inconsistent patient monitoring, medication errors, delays in diagnosis, and lack of follow through on referrals. These system failures may contribute to poor outcomes in patient safety, quality of care, and overall health outcomes.[3]

Currently there are few measures that address the content and quality of transitions of care for a medical condition into and out of the ED. To address this gap, the National Quality Forum (NQF) convened the multistakeholder Emergency Department Quality of Transitions of Care Expert Panel to develop a quality performance measurement framework including priority measures and measure concepts and a set of guiding recommendations to help promote improvement in the management of transitions of care. This report summarizes the findings and offers recommendations for measure development and implementation to address this important void.

The Panel identified a set of priority measures and concepts that improve transitions for both patients and providers; promote structures and processes to link clinical and non-clinical settings more effectively; and measure outcomes to help monitor the development and implementation of systems to optimize transitions. In parallel, the Panel deliberated over ways to promote positive near- and long-term changes, which were distilled into four high-impact area recommendations:

1. **Infrastructure and linkages:** The development of new infrastructure and linkages is needed to support ED transitions that are patient-centered. For example, hospitals will need to make further investments in ED-based care managers, navigators, and social workers, and facilitate referrals to community health workers and healthcare coaches.

2. **Health information technology (Health IT):** Enhancements to health IT are needed to support high-quality ED transitions in care. For example, interoperable health IT should be developed to help support shared decision making between providers and patients during ED transitions in care.
3. **Payment models:** New payment models may facilitate quality improvement in ED transitions. For example, EDs and hospitals that move to global budgets rewarding hospitals for coordinated care may promote investment in ED transitions to reduce inefficient ED downstream use (e.g., unscheduled ED revisits).
4. **Research agenda:** Further research is needed to understand which patients are at highest risk for encountering problems with poor quality or poor outcomes related to ED transitions, and which interventions work best to reduce transition-related problems and improve outcomes. For example, stakeholders in ED transitions in care (i.e., providers, policymakers, researchers, and health IT vendors) should identify, develop, evaluate, and promulgate promising models for ED and community engagement.

These recommendations reinforce the well-recognized need to reduce care fragmentation and improve care coordination through enhancing ED transitions in care. Recommendations are not limited to any single health condition, organization type, or type of measure. They are intentionally broadly applicable to all entities that participate in transitions of care into and out of the ED.

INTRODUCTION

Care fragmentation across the healthcare system is increasingly becoming a major quality issue, particularly as patients transition between care settings.[4] Transitions of care are defined as the movement of patients between healthcare locations, providers, or different levels of care as their conditions and care needs change. During this transition process, healthcare providers may miscommunicate, causing patients to experience conflicting care plans, duplicative services, and potential medical errors or delays in care.[5] Fragmentation and its negative effects on the quality of patient care can be magnified in hospital-based ED care. Furthermore, ED care is commonly delivered at a critical juncture in a patient's health trajectory—an acute illness or injury—and the physicians and facility caring for the patient often have no prior relationship with the patient.[6]

EDs play a key role in healthcare delivery in the United States with more than 137 million visits in 2014, according to the Healthcare Cost and Utilization Project.[7] Over the past decade, visits to hospital-based EDs have consistently outpaced population growth. Under the Emergency Medical Treatment and Labor Act (EMTALA), EDs must provide medical screening examinations for all patients who present for care regardless of their ability to pay.[8] EDs care for a wide variety of patients from neonates to the elderly as well as patients with a wide variety of conditions—including high-risk conditions where gaps in transitions in care can lead to poor outcomes. In addition, because of EMTALA requirements, EDs are a central location for care for patients with low socioeconomic status.

Care transitions are challenged by the lack of interoperability in electronic health records (EHRs) and the lack of standardization in information that is transferred to and from EDs before the patient arrives, while the patient is in the ED, or after the patient departs the ED for further outpatient or inpatient care.[9] These issues make transitions between providers regarding ED care prone to error and communication issues, thus putting patients at particularly high risk for adverse or poor health outcomes. Risks related to transitions are even higher when patient factors (e.g., older age and comorbid conditions) or condition-related factors (e.g., severity of illness or immediate treatment needs) increase the need for good communication between providers and with patients. There are, however, many potential ways to optimize ED transitions in care, such as improving provider education around how to execute effective transitions; assessing provider performance on transitions in care; ensuring that EHR vendors produce useful transition tools; and identifying specific data elements necessary for a high-quality ED transition. Prehospital emergency medical services (EMS) providers, advanced care nurses, as well as other providers in and out of the hospital can also play key roles in enhancing ED transitions. However, to date, few interventions or approaches that optimize the use of the wide variety of providers that contact ED patients have been broadly implemented. Finally, it is important to consider that different EDs have different resources when it comes to facilitating transitions in care. Larger EDs with more resources may have more support services (i.e., care managers and social workers) while smaller EDs may have fewer resources to focus on ED transitions in care. The wide heterogeneity in EDs must therefore be considered when developing ways to optimize ED transitions in care.

The purposes of this project were to identify existing measures and measure concepts for transitions in care into and out of the ED, to identify gaps to fill in measure development, and to create a framework for measuring the quality of ED transitions. The overall goal of this effort is

to use measurement to drive quality improvement and accountability for optimizing ED transitions for patients as well as reward providers and health systems that are able to consistently conduct high-quality transitions.

This project builds on prior work by NQF and others. For example, NQF has been working to improve performance measures for care coordination for the last 10 years, which has validated the importance of multiple parties working together as a unified system to achieve positive outcomes for the patient. In addition, NQF's Measure Applications Partnership (MAP) has identified an initial Care Coordination Family of Measures related to the National Quality Strategy (NQS) priorities and high-impact conditions.[10] This Family of Measures addresses avoidable admissions and readmissions, system infrastructure support, care transitions, communication, care planning, and patient surveys related to care coordination.

Prior work in ED transitions outside of NQF includes the American College of Emergency Physicians' (ACEP) 2012 report, *Transitions of Care Task Force.*[11] The report issued recommendations to improve transitions of care to advance population health, patient experiences, and reduce costs to the system. One central recommendation, "to identify the components of a minimum data set for all transitions," was a desire shared by this project's Expert Panel.

PROJECT OVERVIEW

Under contract with the Department of Health and Human Services (HHS), NQF was tasked with developing a measurement framework and identifying measure concepts that focus on the quality of transitions of care into and out of the ED. There is great need for measures that address the quality of transitions in care for patients with a wide range of medical conditions as well as ongoing social service needs. This framework is intended to serve as a foundation to address the current measure gaps, identify promising measure concepts, and guide future measurement development. As a nonprofit, membership organization and a consensus-based entity, NQF brings together multistakeholder groups to reach consensus on critical issues, including improving health and healthcare through quality measurement. A list of the members of the ED Quality of Transitions of Care Expert Panel can be found in **Appendix B**.

This project aims to identify ways to measure and improve patient transitions of care, and ultimately make the process more patient-centered, while enhancing value and reducing cost. There are other types of important transitions of care that occur within an ED, such as ED physician to ED physician or ED physician to hospital handoffs for patients who are admitted. There are also transitions that occur when emergency medical services (EMS), the police, or the fire department respond to individuals who may or may not be transported to the ED. EMS in particular has a critical role in ED transitions because they often care for and transport the highest risk patients, specifically those who are most critically ill and have lower socioeconomic status, who lack other means of transport to the hospital. This project, however, focuses on the transitions of care into and out of the ED, with a particular emphasis on the role of follow-up care for the patient. After an ED visit, follow-up is a high-risk time where patients may experience important gaps in care that may result in missed diagnoses, and potentially avoidable healthcare use, such as return ED visits.[12,13,14] This report was developed through a process with steps including:

1. Synthesizing evidence through an environmental scan for existing measures and measure concepts;
2. Conducting key informant interviews to provide additional expert insight on gaps in measures as well as ways that technology related to ED transitions is changing;
3. Developing a measurement framework to identify measure gaps and prioritize a list of existing measures and measure concepts for immediate use or further development;
4. Convening a Panel through a series of webinars, in-person meetings, and conference calls; and
5. Identifying gaps in quality measurement based on the framework and environmental scan.

SYNTHESIS OF FINDINGS AND DEFINITIONS

NQF staff conducted a comprehensive environmental scan and review of evidence to inform the development of the ED Quality of Transitions of Care measurement framework. The environmental scan included a review of relevant measures and measure concepts, a literature review, and a series of key informant interviews. The methods used to conduct the scan and identify relevant articles are included in Appendix A. These findings were synthesized and presented to the Panel in a series of webinars to help inform the development of a measurement framework, by defining the most important components of a high-quality transition.

The primary purpose of the scan was to assist in the development of the measurement framework, and to identify an initial set of measures and measure concepts to consider for inclusion in the framework. The scan focused on care transitions in settings outside of the ED (e.g., hospital to primary care or home), care processes relevant to all care transitions (e.g., medication reconciliation), and target populations and/or conditions that are relevant to acute, unscheduled care.

The scan identified measures and measure concepts by searching trusted sources such as NQF's Quality Positioning System (QPS), Centers for Medicare & Medicaid Services' (CMS) Quality Measures Inventory, Agency for Healthcare Research and Quality's (AHRQ) National Quality Measures Clearinghouse, AHRQ's National Guidelines Clearinghouse, Health Indicators Warehouse, The Joint Commission, and previous NQF endorsement and measurement framework projects. The scan identified a total of 136 measures and 42 measure concepts. NQF staff then sorted the measures by relevance: 29 measures were directly relevant to the ED, 30 measures were potentially relevant, 36 measures were indirectly relevant, and 41 measures were not relevant. For a full list of measures and measure concepts that were recommended by the Panel, refer to Appendix C.

The comprehensive literature review referenced authoritative sources such as PubMed, JSTOR, and Academic Search Primer. Grey literature and web searches through Google identified additional presentations, programs, tools, and other documentation related to transitions of care. Over 250 academic journal abstracts were reviewed for relevance, as well as more than 200 grey literature sources. In addition, NQF staff conducted a series of key informant interviews to provide supplemental information specific to ED communications with EMS, technology considerations to support interoperable transitions of care systems, and considerations for long-term and post-acute care transitions into and out of the ED.

NQF staff categorized the findings from the entire environmental scan—the measure review, the literature review, and the key informant interviews—into a series of categories that proved to be foundational in the development of the measurement framework. (See Table 1.)

The following definitions supported the synthesis of the findings:

- **Care coordination** is the deliberate organization of patient care activities between two or more participants (including patient) involved in a patient's care to facilitate the appropriate delivery of healthcare services.
- **Patient- and family-centered care** is the extent to which care is provided to the patient, caregiver, and/or family, which is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.
- **Community services setting** refers to an array of services and supports delivered to a patient either at home or in another integrated community setting that promotes the independence, health and well-being, self-determination, and community inclusion of a person of any age with any health need.

TABLE 1. FINDINGS FROM THE ENVIRONMENTAL SCAN*

Category	Examples
Notable care transition interventions	Coleman's Care Transitions,[15] Naylor's Transitional Care Model,[16] Project RED,[17] Project BOOST,[18] the GRACE Model,[19] and the STAAR Initiative[20]
Care transition conceptual models and frameworks	Ideal Transition in Care (ITC Framework),[21] National Transitions of Care Coalition (NTOCC) Conceptual Model,[22] NQF's Care Coordination Conceptual Framework,[23] Conceptual Model for Episodes of Acute, Unscheduled Care,[24] and Care Coordination Across Transitions in Care Settings[25]
Transition quality metrics	Whether the transition of care was safe, effective, patient-centered, efficient, and equitable.
Provider information exchange	Sending and receiving of information to support the transition. Examples of best practices to support the timely, salient, effective transfer of information.
Community alignment	Community efforts and resources that may potentially support transitions of care.

*Additional notable and innovative programs and leading practices in transitions of care can be found in Appendix D.

MEASUREMENT FRAMEWORK, MEASURES, CONCEPTS, AND GAPS

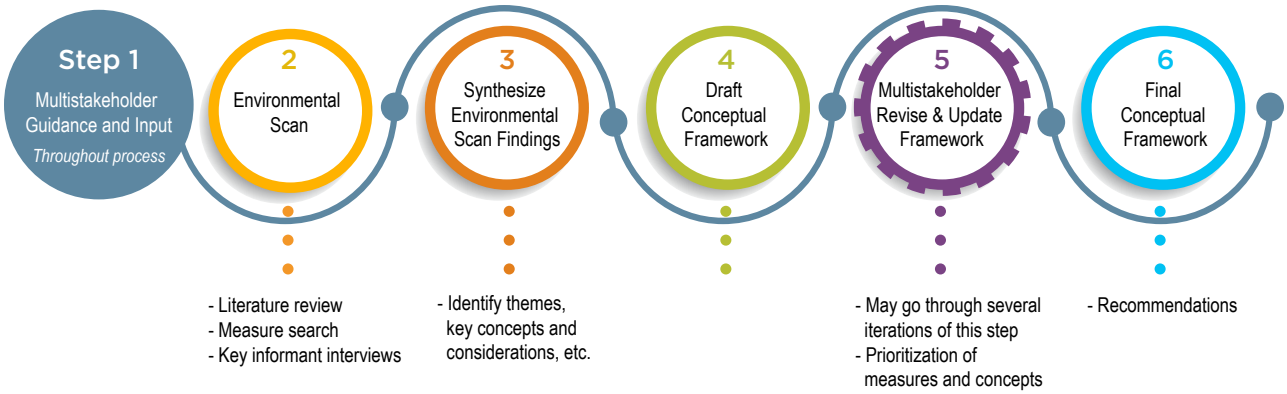
Finalizing the Framework, Domains, Subdomains, and Measures/Concepts

Performance measurement is a mechanism for assessing healthcare quality, including whether care is safe, effective, patient-centered, timely, efficient, and equitable.[26] The primary purpose of the framework is to define a structure for measuring and evaluating the quality of transitions into and out of the ED. As such, the framework intentionally encompasses all of the different types of providers, patients, families and their caregivers, and community supports that interact with the ED and have the ability to influence quality in an ED transition of care. The framework also takes into account how these interactions change and are influenced by the patient's condition as well as the how the patient comes into the ED. The measurement framework is informed by the synthesis of the results of the environmental scan of measures and literature, key informant interviews, and feedback from the Panel. The framework is composed of domains that articulate high-level ideas, and each domains includes subdomains that provide meaning to the domain by translating the high-level ideas into more measurable actions, outcomes, and events. The Panel identified and refined the framework's priority domains and provided additional granularity on which elements of the domain are essential to performance measurement. The Panel then translated those elements into subdomain topics.

During the development and refinement of the framework, the Panel drew from the following definitions:

1. An "episode of acute unscheduled care" refers to the sequence of events from acute illness or injury to recovery, chronic condition, or death. This definition can apply to two types of acute episodes: acute exacerbations of chronic

FIGURE 1. NQF FRAMEWORK DEVELOPMENT PROCESS



conditions and presentations of new acute illness or injuries.[27] During an episode of care that involves the ED, transitions in care occur as patients enter the ED (e.g., as a referral from an outpatient provider) and also occur as patients are discharged from the ED and their care transitions to non-ED providers (e.g., primary care physicians or specialists), or to community organizations (e.g., social services).

2. A "system of care" refers to the spectrum of settings in which services are delivered that are relevant to an episode of care (e.g., EDs, hospitals, skilled nursing facilities, home health agencies, and community organizations).

3. "High-risk transitions" into and out of the ED are characterized by three factors, alone or in combination:

   (1) The clinical condition/potential condition involved in the ED transition, which may include:

   a. A diagnosis that requires immediate treatment (e.g., sepsis, acute myocardial infarction, emergency surgery) or a potential diagnosis that requires immediate treatment (e.g., chest pain, potential ectopic pregnancy)

   b. A diagnosis that requires defined follow-up/additional care (e.g., a new diagnosis of cancer, diabetes, or heart failure) or a potential diagnosis that requires defined follow-up/additional care (e.g., symptoms of unintentional weight loss that could represent cancer)

   c. The initiation of a high-risk medication (e.g., anticoagulation medication for the treatment of pulmonary embolus)

   (2) Underlying comorbid conditions, disabilities, and age of the patient involved in the ED transition, which may include:

   a. Extremes of age (e.g., neonates, elderly)

   b. The presence of chronic medical conditions (e.g., heart failure, diabetes, chronic obstructive pulmonary disease, cancer)

   c. The presence of underlying mental illness (e.g., schizophrenia)

   d. The presence of cognitive or physical disabilities (e.g. dementia, spinal cord injuries)

   (3) The psycho-social-environmental circumstances of the patient involved in the ED transition in care, which may include:

   a. Compromised economic circumstances/ lack of resources (e.g., poverty, lack of healthcare coverage)

b. Lack of, or poor access to, care (e.g., no primary care physician, required specialist does not take patients' health insurance)

c. Substance use disorders (e.g., alcoholism, opioid dependency)

d. An unsafe home or work environment (e.g., domestic violence)

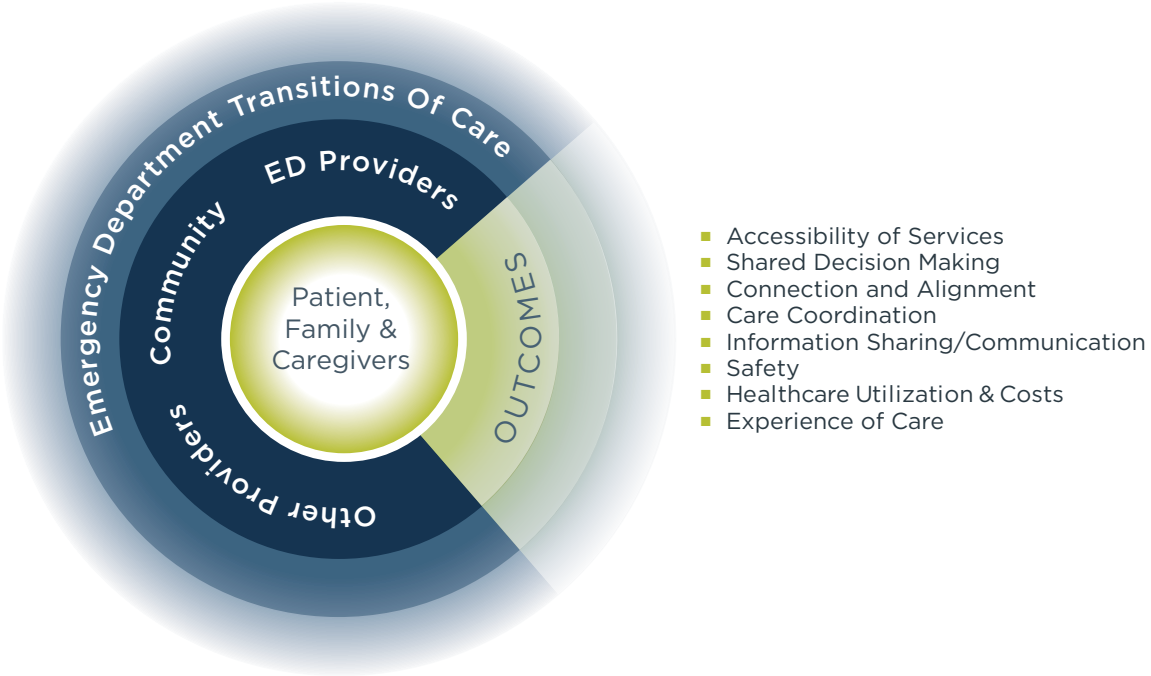
Domains/Subdomains

The framework's domains are organized into four interrelated components that are essential to a quality transition of care: provider information exchange; patient, family, and caregiver information exchange; engagement of broader community; and achievement of outcomes. Each of the domains includes a definition and a series of subdomains. The domains are to be viewed as dynamic topic areas, not silos, and the goal of the framework is to establish a common fabric in which the domains are threaded and cross-referenced throughout. An additional goal of the framework is to address relevant themes that may not be specified in the domains. For instance, the Panel identified care fragmentation as a contributing factor to poor quality transitions of care; consequently, the framework was developed in such a way to consider communication across all of the domains. The following table provides definitions for the four domains and ten subdomains.

Provider Information Exchange

Provider information exchange is an essential component of an effective ED transition in care. When patients are referred to the ED for specific care and treatment or transition back to their outpatient providers, providers communicate information with one another in various ways. For transitions into the ED, the referring provider often calls the ED with a brief verbal description of the patient, reason for referral along with clinical details, and contact information for communication after ED care is delivered. However, this communication does not occur consistently. When there's a void in communication, this can confuse the treating ED provider about the reason for referral, diagnostic concerns, and whether additional involvement in

FIGURE 2. EMERGENCY DEPARTMENT TRANSITIONS OF CARE FRAMEWORK



the patient's care is desired or expected. This can also confuse the patient as to what care should be delivered in the ED and what to expect.

After ED care, many EDs provide verbal or written reports of information back to primary care or specialty providers; however, this does not occur consistently. There is frequently a request by the ED provider for follow-up within a specific time period (e.g., two to three days). However, it is sometimes not clear whether the primary care physician has the capacity to re-evaluate the patient within that period, or whether there are sufficient resources for ongoing management of the patient's condition. A major measurement gap is that provider information exchange is not standardized (specifically what information is transmitted), and information, in whole or in part, is sometimes not transmitted in a timely manner to the next provider.

Finally, it is sometimes unclear what providers need to do and in what period of time during an ED transition. Specifically, while there is often an implicit expectation for shared accountability and for care coordination, providers may not be fully aware of their responsibilities for transitioning care. Additionally, there are limited standards for the transmission of information from other providers who may be involved in ED transitions in care, such as EMS personnel, advanced care nurses, case managers, and social workers. Ultimately, the Panel identified two subdomains for provider information exchange that are relevant to quality measurement: (1) key information elements and properties of transmission and (2) care coordination and feedback.

Key Information Elements and Properties of Transmission

To optimize transitions, it is important that providers communicate specific information to each other. Information communicated during a transition to the ED may differ from information communicated during a transition from the ED back to the outpatient environment. The Panel identified several key information elements that may be transmitted during ED transitions including:

- **Expected plan of care and anticipated contingencies** – When patients transfer into and out of the ED, it is important that expectations for specific care from the sending and receiving provider be communicated. This improves the quality of care as the sending provider may have more detailed or current information about the patient's condition. It is also important to describe anticipated contingencies; specifically, how the receiving provider may react to test results and what actions may occur as the patient's condition evolves.
- **Chief complaint, history of present illness, reason for transfer, and working diagnosis** – It is important to appropriately frame the precise reason for the transfer, which includes the chief complaint—or chief concern—for the transition between settings as well as a brief narrative history of the clinical context of the transfer, working diagnosis, and relevant comorbid conditions.
- **Patient acuity** – Communicating patient acuity is vital because there may be time-sensitive actions required when the patient arrives in the ED (e.g., early administration of antibiotics) or similarly, time-sensitive actions in an outpatient setting (e.g., stress testing to rule out acute coronary syndrome).
- **Test results and procedures performed** – Communicating objective data about test results and procedures performed is relevant to transitions both into and out of the ED.
- **Advanced directives** – Information on patient wishes is important and can often guide specific treatment pathways (i.e., POLST documents).
- **Point of contact for family/caregiver status** – Specific points of contact including contact information for caregivers and how they may be relevant for an ED transition in care are important.
- **Follow-up plan of care** – As a patient transitions out of the ED, EDs should communicate explicit

follow-up plans with the patient and receiving provider with clear contingencies as the patient's condition evolves.

- **Capacities and capabilities of the ED and outpatient setting** – Providers may share information about specific capabilities of an ED and hospital (i.e., available specialists, test or treatment availability), or capabilities of outpatient settings to implement a plan of care.

During transitions, information may be transmitted in various ways across settings. Depending on the nature of the transition, the modes of the transition are important and may include electronic, telephone, or in-person communication. The clinical context of the transition should guide the mode of transmission. Oftentimes, information is not available in a timely way, yet it is important for transition communication to occur so that information is available prior to the next visit. It is also important to consider the efficiency of how the information is transferred and how systems can facilitate transitions, particularly electronic systems. Today, few systems efficiently manage transitions across settings where providers can easily transmit, receive, and share in the care of patients as they transition into and out of the ED. Systems should be built to structure transition information in a way that easily identifies key information that the receiving provider should focus on (i.e., salient information) related to the transition. This should also be communicated in a way that minimizes provider burden in reviewing information; however, information needs to be complete and comprehensive. The accuracy of the information is vital as well as the ability of the receiving provider to access it.

Care Coordination and Feedback

Providers need to coordinate care across settings, and there should be shared accountability for specific actions across transitions in care. Currently, few systems facilitate care coordination into and out of the ED where it is clear what needs to be done, by whom, and when. The Panel discussed shared accountability not as a way to identify problems in transitions but rather as a way to frame transitions such that each party—the sending and receiving provider—has clear expectations for key information elements and properties of its transmission. That information transfer can be facilitated through design of technology and other ways to standardize ED transitions across settings. The Panel also agreed that it is important that systems be implemented to capture feedback for care transitions on individual patients. For example, when a patient transfers to the ED, and specific care that was expected is not delivered (e.g., a lumbar puncture is not done to rule out meningitis) or when a patient is referred for a specific procedure as an outpatient (e.g., surgery) that is not delivered, it is important for the providers in each setting to receive feedback on patient outcomes so that they can learn about the capacity of different settings and receive feedback on their medical decisions. This feedback is not only important to physicians but also to other providers that interact with patients as they transition in and out of the ED, such as EMS providers, social workers, and care managers. This feedback is vital for continuous quality improvement, especially because different types of providers with different training can be involved in ED transitions.

Environmental Scan

In the environmental scan, the NQF team identified 24 existing quality measures specific to provider information exchange that varied with respect to type (process, structure, and outcome) and whether they were directly, potentially, or indirectly related to provider communication. This included measures related to specific information being sent from the ED to longitudinal settings and vice versa, and from EDs to other facilities. Several metrics were indirectly related to ED transitions and were identified with the goal of modifying them to align more closely with ED transitions.

Existing measures that were thought to be relevant included seven emergency transfer communication measures (percentage of patients

transferred to another healthcare facility where several information elements were transmitted within 60 minutes of transfer). Specific information elements included:

- Required information is communicated to the receiving facility prior to departure
- Entire vital signs record is communicated
- Medication information is communicated
- Patient information is communicated
- Physicians information is communicated
- Nursing information is communicated
- Procedures and test information is communicated

A full list of the seven relevant measures is in Appendix C.

Measure Concepts and Gaps in Measurement

During the meeting, the Panel identified several measure concepts from existing measures as well as novel concepts. The measure concepts focused on how providers exchanged information with one another during ED care transitions, and focused in particular on high-risk populations, specifically those with a high-risk condition, high-risk comorbid conditions, or other factors such as socioeconomic status that reduced their access to care or was associated with poor health literacy. Specific concepts that were identified include:

- ED medication reconciliation performed with relevant providers for high-risk prescribing
- Transfer of specific information to relevant providers the next clinic day for high-risk ED discharges (two similar concepts were identified)
- Transfer of a transition of care document by emergency medical services at ED arrival. This is known colloquially as the "run sheet."
- Collaborative ED care plans for frequent ED users
- ED visit information available to other providers via health information exchange
- A feedback system for referring providers for specific cases potentially useful for quality improvement

The detailed list of measure concepts identified by the Panel is in Appendix C.

Along with the measure concepts, the Panel identified several measurement gaps where potential concepts have yet to be explicitly identified. Specifically, the Panel determined a particularly important property of transitions in care is the transmission of advanced directive information, which affects whether patients are transferred (in the case of Physician Orders for Life-Sustaining Treatment [POLST], which define advanced directives) and whether patients receive care in the ED in line with their and their family's wishes. The Panel also identified measure gaps around the accuracy of the information that is sent and received during ED transitions in care. There were no specific quality metrics proposed for accuracy; however, the Panel suggested this could potentially be measured through structural measures that assess whether quality improvement processes are in place or through provider experience surveys.

Patient, Family, and Caregiver Information Exchange

Effective patient communication is core to a quality transition of care, and has been linked to improved patient outcomes and reduced readmissions.[28] Furthermore, the need for good communication is so widely accepted that a patient's experience with healthcare is now linked to Medicare incentive payments.[29] However, despite these new priorities, ED transitions of care pose significant challenges to effective patient-centered communication. Specifically, the ED's role of providing acute unscheduled care typically includes an interaction with a patient whom the ED provider has not seen before. These communication complexities are compounded by frequent interruptions to patient-provider communications inside of the ED.[30] As such, the Panel defined quality patient information

exchange to include key information relevant to the ED visit, communicated in an understandable way by the ED provider to the patient and/or caregiver, as well as communication of relevant information to other providers involved in continued care for the patient. NQF's current guidance states that "patient" is a term of art that includes caregivers, family members, parents, and other nonprofessional care providers involved in the team of care. All of these roles supporting patients and their care are critical in providing information and participating in the care process.

When transitioning out of the ED into other settings, patients (or their families or caregivers) need to understand: the working diagnosis of their chief complaint; the expected clinical course of their condition in the short term; and what to do, where to go, and who to call if specific symptoms occur. Unfortunately, this information is not always consistently communicated. While information is often provided in discharge instructions to patients, many patients are confused about the specific care they received in the ED and the plan of care afterwards.[31] Due to these differences, individualized approaches to information exchange are needed to ensure patients fully comprehend their transition plan.

Within this domain, the Panel proposed two subdomains that are critical to measuring quality in information exchange and communication with patients (or their families or caregivers):

1. **Key Information Elements and Properties of Transmission:** Defined by either information shared by the healthcare team to a patient, or by information shared by the patient to the healthcare team. This subdomain focuses on information that specifically supports the patient in a transition of care.
2. **Effective Communication and Shared Decision Making**: During patients' transitions in care, the extent to which the communication they receive is effective and the opportunity for shared decision making is made available.

The environmental scan identified 15 measures and six concepts related to the domain of patient, family, and caregiver information exchange. In reviewing the relevant measures and concepts, the Panel discussed limitations of existing measures and articulated areas for advancement in measure development.

Current Measure Limitations and Gaps

The measures identified in the scan as potentially supporting patient information exchange were limited to specific settings or patient conditions. For instance, actionable discharge instructions have been identified as a critical component in supporting quality transitions from the ED to home (or nonhospital facility); yet existing measures are narrowly focused on specific conditions, such as asthma or dementia. Furthermore, the Panel recognized that existing measures that focus on patients receiving transition information lack incentives to improve the quality of transition information, as current measures focus on the mere occurrence of information sharing. Finally, existing measures in general did not address shared decision making or provider communication with the patient. The Panel agreed that providers should be incentivized to improve the quality of transition information, specifically measuring quality by how well the information corresponds to the nature of the conditions patients have, their immediate care needs, and resources needed to support their transition. In addition, while several measures that had been developed to support the CMS Meaningful Use program emphasis on electronic access to health information (personal and general) were found to be relevant, the Panel stressed the need to consider new and innovative ways to incentivize communication of information in a manner that is understandable, relevant, and accessible to the patient.

Moving Beyond Accepted Process

The Panel identified several existing measures relevant to the domain that are now covered through The Joint Commission's hospital accreditation guidance, or are generally accepted as common practice. For instance, review of the

transition record with the patient at discharge and documentation of advanced care directives in the medical record are both widely implemented as standard practice. The Panel reiterated guidance for future quality measurement to focus on the assessment of information and how it is communicated to the patient. Specifically, quality should be measured by how well the transition record includes the necessary information to support patient needs. The Panel proposed several criteria on how to assess the quality of information communicated to the patient, including:

- Inclusion of clear instructions for next steps in care;
- Anticipated contingencies and specific steps to follow should changes occur; and
- Phone number for the patient to call post-discharge.

Other measure gaps identified by the Panel included an assessment of patients' potential barriers to a quality transition. For instance, an assessment may include availability of insurance (e.g., access to follow-up care or medications), availability of needed social supports, or the patients' health literacy status. One priority identified by the Panel is the need to measure whether conversations between providers and patients meaningfully incorporate the patients' goals, values, and preferences into a care plan through respectful and compassionate conversations. These discussions should elicit patients' goals and values as well as encourage patients to be partners in shared decision making.

Concepts That Could Fill Gaps

The Panel identified measure gaps regarding the specific information provided to patients at the time of discharge, noting that not all patients require the same types and amount of information. Potential concepts to address gaps in the area of key information and its transmission and effective communication and shared decision making include:

- ED-based telephone number for post-discharge questions provided to the patient, if needed
- Documentation of specific information provided to the patient
- Follow-up appointment scheduled for patients who lack a designated primary care provider
- Discharge instructions provided in the patient's preferred language and appropriate literacy level while taking into account the patient's socioeconomic status
- Documentation of a designated healthcare point of contact for treatment planning that has been shared with available family or caregivers for nonverbal patients
- Shared decision making process

The detailed list of measure concepts identified by the Panel is in Appendix C.

Engagement of the Broader Community

Engaging the broader community, defined as both clinical and nonclinical supports, in transitions of care efforts can have a promising effect on a patient's health trajectory. Historically, however, supports for the patient have existed in silos rather than as a unified system of care. With less than 1 percent of any given person's life spent inside the healthcare system, a vast majority of time is spent outside of the clinical care environment.[32] Having a better understanding of a patient's social needs and putting mechanisms in place to address those needs may reduce unnecessary healthcare use and cost. Unfortunately, determining which patients require community supports and that ensuring those community supports are available when needed remains a challenge. This is particularly an issue in ED care, which serves as a safety net where complex circumstances arise for patients that intersect with law enforcement, social service agencies, housing, and other community resources.

The engagement of the broader community is defined as the extent to which the broader community's organizations, services, and information technology infrastructures are available and engaged to support a quality transition of care. The community setting refers

to an array of clinical and nonclinical services that support care delivered to a patient and promote the independence, health and well-being, self-determination, and inclusion of a person of any age with any health need. The Panel recognized the importance of both clinical and nonclinical aspects to transitions in care that may need to involve not only clinical care providers but also other nonclinical resources in the community. Within this domain, the Panel proposed two subdomains that are critical when engaging the broader community:

1. **Connection and Alignment** is defined as the identification, availability, and engagement of appropriate clinical and nonclinical community services that support a transition of care. This should include multidirectional communication to facilitate care coordination with the ability to leverage existing communication pathways and should include the sharing of a patient-centered care plan to better promote linkages within the broader community.
2. **Accessibility of Services** is defined as the assessment of the availability of community supports and services that support transitions of care.

The Panel deemed the subdomains as important because identifying and engaging available community services and supports (e.g., housing, food, and transportation) creates a system that works collaboratively for the greater good of the patient. Ensuring that these services are accessible to patients in need is essential to improving health outcomes. Knowing what is available within each community will lead to a better understanding of potential community needs and gaps in care. The environmental scan identified 16 measures and seven measure concepts related to the domain of Engagement of the Broader Community. In reviewing the measures and concepts, the Panel determined that some of the measures did not specifically focus on the greater community's system of care and thus concluded that these measures did fit within this domain. Accordingly, the Panel focused considerable attention on key themes in measure concepts given the lack of focus on the broader community in the current measurement landscape:

1. **Importance of care coordination services.** The use of care managers, social workers, coordinators and navigators within the ED is an important aspect of transitions of care. The availability of these services provides patients with the human resources to help with various needs including scheduling follow-up appointments, connecting them with community resources, and facilitating communication with payers, family members, or other members from the patient care team. The Panel did note that, while care coordination services are intended to reduce fragmentation, they may inadvertently contribute to it. One example was provided of a woman who had fallen for the third time in six months and when offered a care manager, she refused stating that she already had five—two from her health plan, one from the hospital, one from the ED, and one from her primary care physician's office. Knowing who is on a patient's care team—whether it be a family member, caregiver, primary care physician, or care manager—can reduce fragmentation and ensure a more integrated health system focused on working together seamlessly. The Panel recognized that a measure concept focused on the idea of care coordination would not be practical if it applied to every person who came to the ED and instead proposed that such a measure would focus only on patients who were identified as high-risk or otherwise in need of such services.
2. **Knowing about and using available community resources.** The Panel discussed assessing health and social needs (e.g., transportation, income, food) of patients who may be considered high-risk and connecting them with available community services. Having knowledge about needed services and meaningful linkages between the ED and the community were prioritized for both clinical and nonclinical organizations. A large part of the Panel's

discussion also focused on accountability and who should be responsible for collecting and maintaining a list of available resources as well as making any necessary referrals. Two resources were discussed that could serve as examples for EDs as well as primary care physicians, specialists, etc.—Aunt Bertha and 2-1-1 San Diego. Aunt Bertha is a customizable platform for healthcare systems and social services that allows these entities to find and refer clients to myriad services based on a specific zip code.[33] Putting such systems in place within the ED could be a starting point to ensure that a provider is connecting a patient with appropriate, nearby services. Related to this idea, the Panel discussed the concept of assessing patients at high risk for a transition failure due to unmet needs. Developing a validated tool to track patients' "high-risk score" over time and referring them to necessary community supports based on that score was something that the Panel agreed was aspirational, but something that could be considered for future measurement development.

3. **Bidirectional communication.** Many health systems lack the infrastructure and incentives to develop systems that support bidirectional communication between clinical and nonclinical services, which makes closing the referral loop difficult and jeopardizes successful transitions of care. The Panel discussion focused on the need for a system that allows a sending facility (e.g., the ED) to see that its referral to a community service (e.g., Meals on Wheels) was received to support better communication among clinical and nonclinical services. Subsequently, the Panel recommended one concept related to bidirectional communication. The Panel noted an initiative, the San Diego Community Information Exchange (CIE), which links the databases of organizations including housing and elder service agencies, paramedics, Meals on Wheels, and other similar organization who serve vulnerable populations.[34] This initiative is enhancing bidirectional communication across providers who serve the same clients and allows real time information to be shared, leading to better service delivery and positive community health and social outcomes.

Given the lack of measures within this domain, the Panel focused on measure concepts that could fill noted gaps. The Panel also recognized that several of its identified concepts were aspirational and agreed that the gaps listed below are important but will require additional research to build the relevant evidence base, measure development and testing, and additional data sources and sharing capabilities:

- Best practices around how to best close the referral loop between providers
- How to leverage payers in care coordination activities
- Challenges related to shared accountability between the ED and community organizations
- Determining whether repeat ED visits are the result of a failed system
- Privacy concerns when engaging community supports and services
- The importance of collecting information on the patient's care team at the time of transition

The detailed list of measure concepts identified by the Panel is in Appendix C.

Achievement of Outcomes

Key questions within healthcare include: What is the outcome of care provided, and did the health status of the patient change positively or adversely? Process measures highlight whether services have been provided or documented, but outcome measures assess the results. Measuring outcomes in transitions of care is particularly problematic given that transitions occur across multiple settings. Early in its discussion, the Panel discussed the challenge of measurement as the patient moves from one setting (point A) to the ED (point B) and then back to the original setting or a different setting (point C). While these three

settings may be completely separate (i.e., have no relationship with one another), there is an implied 'system of care' as the patient moves from one setting to another, and the goal is to measure outcomes in each setting. The achievement of outcomes is the extent to which quality patient-centered ED transition of care outcomes occur across patient episodes of acute care within systems of care.

Outcomes of transitions in care need to be considered from different perspectives—the patient, the provider, the organization, and the payer. The Panel proposed four subdomains that incorporate these different perspectives:

1. **Healthcare Use and Costs:** Healthcare use may include ED visits, hospital admissions/readmissions, medications, procedures, testing, and transportation. Increased utilization and costs may occur due to poor transitions leading to duplicative care and additional investment of provider resources. Better patient transitions have the potential to reduce cost and unnecessary use. Utilization and cost measures should be paired with quality measures.
2. **Provider Experience:** Assess the transition team members' experiences working within systems of care responsible for delivering coordinated care. Provider experience may also relate to resources within the broader community, and how specific resources may facilitate ED transitions or the lack of resources may make transitions more difficult.
3. **Patient/Family/Caregiver Experience:** The ways in which the patient, family, and caregiver experience care in a transition may be affected by the level of respect and responsiveness to individual patient preferences, needs, and values—and ensuring that patient preferences and values guide all clinical decisions.
4. **Follow-Up and Safety Outcomes:** During a transition in care, the extent to which there are institutional processes to ensure appropriate care during the ED visit and appropriate follow-up after the ED visit.

The environmental scan identified 16 measures and five measure concepts related to the Achievement of Outcomes domain. In reviewing the measures and concepts, the Panel discussed the limitations of existing measures, considerations related to diverse patient conditions transitioning through the ED, and the challenges of measuring follow-up. The Panel focused considerable attention on measure concepts given the lack of outcome measures for transitions in care. During the Panel's discussions, the following key themes were identified:

- **Overcoming the limitations of current measures:** Most of the suggested measures for the achievement of outcomes were developed for use in a single setting. The Panel discussed pairing measures that would allow EDs to capture activities in multiple settings, (e.g., documentation of needed follow-up by the ED and verification of any follow-up provided in the next setting). Paired measures would also encourage shared accountability, (i.e., all the providers in the patient's system of care would have specific responsibilities within their setting). The Panel also determined that some of the suggested measures were too narrow and should be re-purposed (e.g., re-specified) for broader application. For example, most medication reconciliation measures were specified for a single setting or a subpopulation of patients. The Panel suggested that a more effective medication reconciliation measure would be one driven by a change in the patient's medications (e.g., when a medication is added, deleted, or has a change in dosage). Such a measure could be specified for a broad denominator of patients across a variety of settings. Of note, the Provider Information Exchange domain also addressed medication reconciliation measures since these are typically process and not outcome measures.
- **Developing measures for high-risk patients:** EDs care for a wide variety of patients, with complex medical and social needs, all of which complicate transitions in care. The Panel agreed

that measures or concepts should be able to assess a diverse set of patients with varying needs. In particular, the Panel identified patients at high risk of having a poor transition in care and patients who use the ED frequently as two groups requiring special attention. The Panel recognized that high-risk patients and patients who use the ED frequently typically require additional time and resources, which may not always be available. Even while recognizing the challenges in ensuring an effective transition of care for these patients, the Panel agreed it was important for the ED to take initial steps in measurement that would enable the ED to become an even more effective partner within the system of care.

- **Patient follow-up including return visits to the ED:** In transitions of care, one of the important assessments is whether the patient received any necessary follow-up after discharge. The Panel recommended two concepts for patient follow-up, recognizing that there are multiple decision makers in follow-up. In sharing information with the next setting of care, the ED provider may include recommendations for follow-up. The provider seeing the patient in the next setting of care determines what specific follow-up care is needed and how continuing care should be delivered (e.g., visit, phone call, email). The patient also plays a role in follow-up based on the patient's understanding of what follow-up needs to occur and the patient's ability to access needed follow-up. The Panel also discussed the importance of distinguishing between scheduled and unscheduled return visits to the ED. Patients may be scheduled for return visits to the ED for several reasons, including wound checks as well as follow-up due to lack of outpatient access to primary care or other specialty services (e.g., sickle cell clinic). Unlike these scheduled return visits, unscheduled return visits to the ED may signal a poor transition for the patient. Determining the reason for the unscheduled return visit is critical, but will mean additional data collection from the patient to determine the reason for the return visit, (e.g., the patient was uncertain about what to do or expectations after leaving the ED previously, or the patient was unable to access needed medications or services following the previous ED visit). With this additional information, it is possible to develop interventions or strategies to improve transitions in care that can lead to better outcomes and reduced costs.

Concepts That Could Fill Gaps

Given the lack of outcome measures for transitions in care, the Panel focused on measure concepts that could fill identified measure gaps. The Panel also recognized that several of its identified concepts were quite aspirational and would potentially require research to build the evidence base, measure development and testing, and additional data sources and data sharing capabilities. Whenever possible, the Panel tried to identify either initial or intermediate measures that would help build a pathway to the more aspirational concepts. For example, better provider access to patient information may reduce duplicate testing. Potential concepts to support gaps in this area include:

- Reduction in duplicate testing
- Improved transitions for patients who are frequent users of the ED
- Provider experience with selected aspects of transitions
- Patient experience during transitions of care
- Follow-up with patients after discharge from the ED
- Reduction in adverse drug events
- Return visits to the ED

The detailed list of measure concepts identified by the Panel is in **Appendix C**.

TABLE 2. ED TRANSITIONS IN CARE MEASUREMENT FRAMEWORK: DOMAINS AND SUBDOMAINS

Domains and Definitions	Subdomains and Definitions
Provider Information Exchange: Communication and transfer of information between providers that occurs during transitions of care into and out of the emergency department.	• **Key Information Elements and Properties of Transmission**: Key information includes the following: – Expected plan of care and anticipated contingencies – Chief complaint, history of present illness, working diagnosis, and reason for transfer – Patient acuity – Test results and procedures performed – Advanced directives (i.e., POLST documents) – Point of contact for family/caregiver status – Follow-up plan of care – Capacities and capabilities of the ED and outpatient setting to handle care – Contact information and specific requests about communication (e.g., return phone call) Depending on the nature of the transition, different variations of information transfer modes may be important. These may include modality (electronic, telephone, in-person), timeliness, efficiency, salience/parsimony, accuracy, feasibility, specific providers involved, and accessibility of the information. • **Care Coordination and Feedback:** This includes sharing accountability for collaborative care during the transition of care to transmit and receive key information in a manner appropriate to the nature of the transition. In addition, feedback needs to be provided to providers across settings to improve care and care transitions.

Domains and Definitions	Subdomains and Definitions
Patient, Family, And Caregiver Information Exchange: Interactive bidirectional communication between patients (and their families, caregivers, or health proxies) and multidisciplinary healthcare team (e.g., case manager, nurse, primary care physician)	• **Key Information Elements and Properties of Transmission**: There are two communication pathways for key information: 1. Healthcare team to patient – Diagnosis and cause(s) or potential cause(s) of condition – Expected short- and long-term course and treatment plan – Anticipated contingencies for possible symptom/condition evolution – Short-term and potentially long-term logistics of care – Diagnosis-specific and community-specific resources 2. Patient to healthcare team – Contact information for preferred and secondary point of contact – Contact information for care team (may include primary care physician, care manager, specialist, etc.) – Informed consent – Desires for follow-up care – Desires for sharing information – Advanced directives (i.e., POLST documents) – Living will – Information about managing symptoms – Medication information – Any logistic barriers or facilitators of care that are relevant Modes of communication exchange may include verbal (e.g., in-person or telephone), digital (e.g., email, text, or video), written, fax, health IT (e.g., patient portal or EHR). Modality may be informed by an assessment of patient preferences. • **Effective Communication and Shared Decision Making:** Effective communication and shared decision making encompass the assessment of patients' needs and verification that the patients' needs and preferences have been met. Effective communication will establish what (if any) potential barriers exist for patients to effectively receive communication about their health status and care. Potential barriers may include lack of insurance to access follow-up care or medications, lack of social supports, or lack of health literacy. Meaningfully incorporating individuals' goals, values, and preferences into care planning requires respectful and compassionate conversations between providers and patients. These discussions should elicit patients' goals and values as well as encourage patients and caregivers to be partners in decision making.

Domains and Definitions	Subdomains and Definitions
Engagement of the Broader Community: The extent to which the broader community's organizations, services, and information technology infrastructures are available and engaged to support a quality transition of care into and out of the ED. The community setting refers to an array of clinical and nonclinical services and supports the care delivered to a patient that promotes the independence, health and well-being, self-determination, and community inclusion of a person of any age with any health need.	• **Connection and Alignment:** The identification, availability, and engagement of appropriate clinical and nonclinical community services that support a transition of care. This should include multidirectional communication to facilitate care coordination with the ability to leverage existing communication pathways and should include the sharing of a patient-centered care plan to better promote linkages within the broader community. • **Accessibility of Services:** Assessment of the availability of community supports and services that support transitions of care.
Achievement of Outcomes: The extent to which quality patient-centered ED transition of care outcomes occur across patient episodes of acute care within systems of care.	• **Healthcare Utilization and Costs:** Healthcare utilization may include ED visits, hospital admissions/readmissions, medications, procedures, testing, and transportation. Increased utilization and costs may occur due to poor transitions leading to duplicative care and additional investment of provider resources. Better patient transitions into and out of the ED have the potential to reduce cost and unnecessary utilization. Utilization and cost measures should be reported with quality measures. • **Provider Experience:** Assess the transition team members' experiences working within systems of care responsible for delivering coordinated care. Provider experience may also relate to resources within the broader community, and how specific resources may facilitate ED transitions or the lack of resources may make transitions more difficult. • **Patient/Family/Caregiver Experience:** The ways in which the patient, family, and caregiver experience care in a transition—may take into consideration level of respect and responsiveness to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions. • **Follow-Up and Safety Outcomes:** During a transition in care, the extent to which there are institutional processes to ensure appropriate care during the ED visit and appropriate follow-up after the ED visit.

Common Themes

The Expert Panel identified a series of common themes across the four domains:

1. The importance of timely and effective communication across and between stakeholders;
2. The need to increase linkages between providers and other community resources to optimize transitions; and
3. The importance of finding outcomes that are proximally or directly related to ED transitions to monitor quality improvement efforts.

Two common themes emerged within the domains of Provider Information Exchange and Patient, Family, and Caregiver Information Exchange. First, it is vital that specific information elements are communicated during ED transitions in care. Second, all stakeholders should be accountable for healthcare decisions involved in a transition.

Specific and complete information is important for both providers and patients to cultivate a shared understanding of the patient's current condition and plans for care, the prior history and context of the condition, expectations for care, and communication. For this process to run smoothly, a health information technology infrastructure would ideally enable providers and patients to share information and serve as the platform for shared accountability and decision making. The timing of information transfer between providers, patients, and the community was identified as a vital part of this communication. For the most effective care to be delivered, the entity caring for the patient should optimally have complete access to the patient's information. Therefore, providers need to transmit information so that the next provider (i.e., the ED, primary care provider, specialist, or community stakeholder) has a clear understanding of what is needed to best deliver continued care for the patient at the time of the visit.

To optimize sharing of information outside of the ED, engagement of the community is vital. Because the ED is often a source of care within the community, the ED and community stakeholders must collaborate to ensure that transitions are optimized. Improving this process involves increasing the connectivity of the healthcare community and ensuring that EDs have complete and updated information about community resources and that the resources are available to the patient as needed.

Finally, the Panel recognized that ED transitions have the potential to enhance or reduce the quality of care and that focusing on both providers and patients on improving this process will lead to measurable *outcomes*. Measuring outcomes is a vital component to ED transitions and while it may be, for example, difficult to link a specific safety outcome to transitions, several measurable outcomes are important, including healthcare utilization and costs, accessibility of follow-up, and clinical outcomes.

PRIORITY MEASURES AND MEASURE CONCEPTS

The Panel identified and subsequently prioritized measures and measure concepts during an in-person meeting, a series of conference calls, and an online survey. The Panel initially assessed all of the measures, potential measure concepts, and existing measure gaps identified in the environmental scan. Panel members were then assigned to one domain to further evaluate the measures for elimination or to determine if additional measure concepts were needed.

A total of six measures and 24 measure concepts were submitted by the assigned domain Panel members to be considered for the prioritization exercise. The entire Panel was asked to rank each of the final measures and measure concepts on their importance and feasibility via an online survey. Importance was rated on a scale of one through five (1 as low, 3 as moderate, and 5 as high), with consideration of the following:

1. The relevance to ED transitions of care;
2. Whether it is a high-priority area and to what extent it focuses on important or aspirational outcomes, is meaningful to the patient, or supports a systemic/integrated view of care;
3. The impact of the measure as to whether it affects large/small numbers of patients, addresses a leading cause of morbidity/mortality, or contributes to inappropriate resource use; and
4. The likelihood that what is being measured will improve the quality of care during the transition.

Similarly, feasibility was rated on a scale of one through five (1 as not feasible, 3 as aspirational/potentially feasible in the future, and 5 as very feasible today), with consideration of the following:

1. Availability and ease of capturing data;
2. Resource requirements including consideration for total cost of implementing the measure or education/training of the workforce; and
3. Organizational readiness to tackle the issue related to the measure or measure concept, including consideration for variability across organizations and how that affects readiness, capacity, adoption of quality improvement, and implementation of the measure or measure concept.

These criteria were selected because of their relevance to both prioritization of existing measures and measure concepts for future development. NQF staff collected and analyzed the survey results.

Results

The prioritization results are based on a total of 15 responses representing two-thirds of the Panel. All of the measures and measure concepts received moderate (3) to high (5) scores for importance. Feasibility scores ranged from not feasible or aspirational (2) to very feasible today (5). The measures and measure concepts were given an overall rank by calculating the product of the average importance and feasibility scores. The distribution of the rank scores align with three implementation readiness areas: aspirational or long-term, mid-term, or feasible today.

Prioritization Findings

Five measures and measure concepts ranked high in importance and feasibility and are recommended as ready for implementation today. These measures and concepts focus on:

- Provider communication (e.g., EMS, ED, other facilities);
- Patient-centered communication and discharge activities; and
- Community resource information to support transitions.

Nineteen measures and measure concepts ranked moderate to high importance and moderate feasibility and are recommended as ready for implementation in the mid-term. The focus of these measures and concepts include:

- Care managers, coordinators, and navigator services in the ED;
- Improved discharge instructions with considerations for patient language, socioeconomic status, and contact information;
- Timeliness of information transfer to support high-risk transitions; and
- Provider and patient experience with ED transitions in care.

Six measures and measure concepts ranked moderate to high importance and low feasibility and are recommended as aspirational measures for future development and implementation. These measures and concepts include:

- Reduction in duplicate testing based on payer-level data;
- Improved transitions for frequent users of ED;
- Bidirectional communication between clinical and community resources; and
- Shared care plan between the patient, primary care provider, and ED for frequent ED users.

Prioritization Themes

As part of the measure ranking and prioritization exercise, the Panel also provided feedback on the importance and feasibility of each of the measures and measure concepts (see Appendix D for the prioritization results and feedback). This feedback mirrors the overall recommendations made by the Panel.

RECOMMENDATIONS: PRIORITIES FOR ED QUALITY OF TRANSITIONS OF CARE AND PERFORMANCE MEASUREMENT

Through a multistakeholder review process, the Panel assessed the state of quality measurement for ED transitions of care. The Panel identified measures and concepts that, today and in the future, may improve ED transitions and make information more understandable to patients. The Panel also identified measures and concepts to promote new linkages between clinical and nonclinical settings and to make existing linkages more effective. Finally, the Panel recognized the importance of developing outcome measures to help monitor the implementation of systems to optimize ED transitions.

The Panel also developed recommendations to promote positive policy change in support of the measure recommendations. Similar to the prioritization process, the Panel identified steps that could be implemented today to improve ED transitions, as well as longer-term aspirational goals.

1. **EDs should expand infrastructure and increase linkages to support patient-centered ED transitions.**

    a. Hospitals should invest in ED-based care managers, navigators, and social workers, and facilitate linkages and referrals to community health workers and healthcare coaches. EDs are open 24-7; similarly, these services need to be available 24-7 when patients need them.

    b. ED-based systems should be available (e.g., a phone number or other communication system) to answer discharged patients' questions, such as how to take new medications, or questions about the evolution of symptoms.

    c. EDs should have up-to-date, accurate information on available clinical providers for follow-up and for community resources. This information should be available to patients. Ideally, there should be a systematic collection of community resources by communities (e.g., the 2-1-1 system in San Diego).[35] ED-focused processes should also facilitate linkages and referrals to available clinical providers and community resources.

2. **Enhancements to health information technology (health IT) are required to support high-quality ED transitions in care.**

    a. Health information exchanges are a public good and should be supported by public funding or by payers. An aspirational goal is a unified medical record stored in the cloud that clinical and nonclinical providers and patients can access. Health IT should be developed to allow sharing of key information elements important to ED transitions between hospitals or health systems as well as between clinical and nonclinical providers. Data sharing includes adding standardized data fields to capture social determinants of health (e.g., homelessness, health literacy, and patient's preferred language).

    b. Specifically, data elements related to ED transitions in care should conform to EHR standards and should be sharable across IT systems. These data elements should also be standardized for use in eMeasures that can be automatically extracted from the EHR to reduce the burden on systems to conduct manual extraction for quality measures. In addition, EMS information should be standardized through the EHR. It should also be recognized that HIPAA is a perceived

barrier to data sharing, and systems should allow for secure data transfer and sharing across systems that enhance data accessibility while ensuring data privacy and security. Enhanced interoperability is supported by provisions in the 21st Century Cures Act of 2016 which seeks to break down barriers to information sharing. Good examples of successful data sharing are the regional data exchanges such as the HealthShare Exchange of Southeastern Pennsylvania and Chesapeake Regional Information System for our Patients (CRISP) which serves the metropolitan DC area.

c. Health IT should facilitate feedback about patients across systems of care—particularly when cases are useful for quality improvement—to promote a learning system.

d. Health IT should integrate information from multiple sources (e.g., pharmacy data, prescription drug monitoring programs, local clinics, and other health systems).

e. Similar to an admission/discharge/transfer alert system, health IT should allow care team members or the medical home to be alerted, when appropriate, when patients arrive or depart the ED. This notification system could also be controlled directly by patients.

f. Health IT should be developed to support shared decision making between providers and patients during ED transitions. A good example is the Chest Pain Choice Trial, where a shared decision making tool lowered admission rates for ED patients with chest pain without compromising safety.[36]

g. Health IT should be developed to overcome privacy concerns that can be barriers to information sharing between providers and community-based organizations. One facilitator would be a common consent form. Alternatively, health information exchanges or a unified medical record could allow patients to control their personal information.

h. Tools should be developed by ED providers and others to enhance a patients' understanding of their conditions. For example, information in the form of videos could help explain the evolution of common symptoms and how to handle specific issues as the condition evolves after ED discharge.

3. **New payment models and other levers may facilitate quality improvement in ED transitions.**

   a. EDs, hospitals, and other entities (e.g., health plans and managed care) that move to global budgets/capitation to reward entities for coordinated care may promote investment in ED transitions. This has worked in integrated delivery systems.[37] These investments may improve the quality of ED transitions by reducing inefficient ED downstream use (e.g., unscheduled ED revisits) and increasing necessary follow-up.

   b. New payment models should be considered to reimburse providers using existing or new fee-for-service codes or for activities related to ED transitions.[38] For example, new reimbursement codes could be developed for ED-based observation units to provide more intensive care coordination services.[39] Consideration should also be given to reimbursing primary care providers and specialists for coordination efforts or for follow-up not involving an in-person visit. These additional payments may support the resources needed to deliver high-quality ED transitions and promote shared accountability among providers.

   c. New payment models should also be considered with measurement at the community-level to promote linkages with EDs and information sharing.

   d. Other levers that may facilitate the improvement of ED transitions in care include building in recommended standards for ED transitions into accreditation programs or requiring EHR vendors to include functionality.

4. **Research agenda**

   a. Taxonomies are needed to support improved ED transitions in care for: (1) care-team to care-team communication, and (2) care-team to patient communication. Specifically, these taxonomies would create the information elements that should be shared with parameters describing recommended modalities and timing for information sharing.

   b. Research is needed to understand which patients are at highest risk for encountering problems with poor quality or poor outcomes related to ED transitions, and which interventions work best to reduce transition-related problems as well as improve outcomes. Specifically, research is needed to identify ways that specific patients could be screened to identify unmet social service needs that may increase the risk of poor ED transitions.

   c. Stakeholders in ED transitions in care (e.g., providers, payers, policymakers, researchers, and health IT vendors) should identify, develop, evaluate, and promulgate promising models for ED and community engagement including:

      » Linkages between EDs and law enforcement, social services, legal support, housing, and other resources;

      » Linkages to payer resources;

      » Linkages between EDs and local clinical providers; and

      » Linkages between EDs and mental health/substance use facilities.

   d. Research should assess the cost-effectiveness as well as the health return on investment from the patient, provider, payer, and society perspectives for interventions to improve ED transitions.

CONCLUSION

Care fragmentation across the healthcare system leads to patient anxiety, ambiguity, avoidable resource use, and the potential worsening of a patient's condition. Fragmentation and its ill effects are often magnified in ED transitions in care because ED providers have no prior patient relationships, and they treat acute, high-risk conditions as well as patients who are socioeconomically disadvantaged. Through an environmental scan and a multidisciplinary Expert Panel, NQF has developed a framework to measure the quality of ED transitions in care; describe the current science of ED transitions measurement; provide recommendations for developing new measures; and disseminate successful programs to ensure that information transfer is seamless and complete, while minimizing the burden on providers. Promoting measures of accountability as well as new payment models and other levers (i.e., accreditation and EHR standards) may lead to more consistent, clearer communication among providers, patients, and the broader community during ED transitions, enhancing person-centered care, value, and cost efficiency—all of which are positive and measureable health outcomes. Focusing efforts on enhanced collaboration and care coordination will drive quality improvement and enhance the quality of transitions of care into and out of the ED.

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APPENDIX A:
Methodology

NQF conducted a three-step approach to the synthesis of evidence and environmental scan that included: (1) a collection of information sources; (2) the review of information sources (e.g., extraction of measures and measure concepts); and (3) key informant interviews. For this project, NQF defined measures and measure concepts as follows:

- A measure is a fully developed metric that includes detailed specifications and may have undergone scientific testing.
- A measure concept is an idea for a measure that includes a description of the measure, including planned target and population, but has not undergone testing.

Collection of Information Sources

NQF conducted a search for information sources such as measure repositories, literature, and programs used in ED transitions of care. NQF identified existing measures and searched through measure repositories such as the NQF Quality Positioning System, AHRQ's National Quality Measures Clearinghouse, AHRQ's Care Coordination Measures Database, National Guidelines Clearinghouse, American College of Emergency Physicians, Health Indicators Warehouse, CMS' measure inventory (e.g., Hospital Compare), The Joint Commission, and other previous NQF endorsement and framework projects. NQF staff also conducted the literature review portion of the environmental scan that included peer-reviewed research publications and grey literature. Databases for the literature review included PubMed, Google Scholar, and the Cochrane Collaboration. NQF staff conducted a targeted search within the literature databases using various combinations of keywords that derived from the domains and subdomains of the measurement framework (see Keywords subsection below).

Review of Information Sources

NQF staff conducted a literature review that met the inclusion and exclusion criteria outlined in Table 3.

TABLE A1. INCLUSION/EXCLUSION CRITERIA FOR LITERATURE REVIEW

Included	Excluded
• Literature published after 2009 • Pertains to the quality of transitions of care into and out of the emergency department	• Published before 2009 and not current • Not available in English

Sources were sorted by relevance using the following criteria in Table A2.

TABLE A2. RELEVANCE CRITERIA FOR EVIDENCE, MEASURES, MEASURE CONCEPTS, AND INSTRUMENTS

Relevance Criteria	Definition
Directly Relevant	• The evidence, measures, measure concepts, and/or instruments that directly impact providers and patients by providing guidance on essential communication practices to support a quality transition.
Potentially Relevant	• The evidence, measures, measure concepts, and/or instruments that are directly relevant to the ED transitions but do not directly, specifically support ED transitions.
Indirectly Relevant	• The evidence, measures, measure concepts, and/or instruments that are related to a transition in care without a clear, specific link to the ED.

The complete list of measures and measure concepts are displayed in Appendix C. NQF staff searched literature databases using combinations of keywords as shown below.

Keywords

- Acute care
- Care coordination
- Caregiver
- Communication
- Community
- Chief complaint
- Critical care
- Discharge
- Discharge plan
- Electronic health record
- Emergency care
- Emergency department
- Emergency medical services
- Geriatric
- Elderly
- Hand off(s)
- Health information technology
- High risk populations
- Home health
- Hospital emergency service
- Interoperability
- Long term care
- Patient centered
- Patient-reported outcomes
- Pediatric
- Point of care
- Provider
- Primary care
- Referral
- Skilled nursing facility
- Specialty care
- Transfer(s)
- Transition(s)
- Transition of care
- Unscheduled care

NQF staff identified 47 relevant articles from the literature review, which are listed below:

1. Agrawal S, Conway PH. Aligning emergency care with the triple aim: Opportunities and future directions after healthcare reform. *Healthcare.* 2014;2(3):2184-2189.
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18. Kripalani S, Jackson AT, Schnipper JL, et al. Promoting effective transitions of care at hospital discharge: a review of key issues for hospitalists. *J Hosp Med*. 2007;2(5):2314-2323.
19. Lee JI, Cutugno C, Pickering SP, et al. The patient care circle: a descriptive framework for understanding care transitions. *J Hosp Med*. 2013;8(11):8619-8626.
20. Limpahan LP, Baier RR, Gravenstein S, et al. Closing the loop: best practices for cross-setting communication at ED discharge. *Am J Emerg Med*. 2013;31(9):311297-311301.
21. Marcotte L, Kirtane J, Lynn J, et al. Integrating Health Information Technology to Achieve Seamless Care Transitions. *J Patient Saf*. 2015;11(4):11185-11190.
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33. NQF. *Regionalized Emergency Medical Care Services: Emergency Department Crowding and Boarding, Healthcare System Preparedness and Surge Capacity - Performance Measurement Gap Analysis and Topic Prioritization.* Washington, DC: NQF; 2012. Available at http://www.qualityforum.org/Publications/2012/12/REMCS__Emergency_Department_Crowding_and_Boarding,_Healthcare_System_Preparedness_and_Surge_Capacity.aspx. Last accessed March 2017.

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Key Informant Interviews

The environmental scan also included interviewing key informants. NQF staff conducted the interviews to supplement the information and data provided by the Panel, the literature review, and the measure review. Information from the interviews provided additional expert insight on measure gaps as well as emerging measures. The interviews were conducted by using an interview guide with a standard set of questions related to ED quality of transitions of care. Key informants had familiarity with and experience in transitions of care, transition practices that improve provider knowledge of patients, and the improvement of patient outcomes due to higher quality transition. The list of key informants and the interview guide are in Table A3.

TABLE A3. LIST OF KEY INFORMANTS

Informant	Relevant Experience	Organization
Maria Brenny-Fitzpatrick, MSN, CNS, FNP-C, GNP-BC, APNP	Director of transitional care with experience in transition practices and care coordination through the use of standardized transition forms	University of Wisconsin Health System
Daniel Ebbett	Familiarity with emergency medical services technology and key elements needed for a quality transition of care into and out of the ED	MedStar
Carmen Gonzalez, MD	Experience with the use of a standardized handoff protocol into and out of the ED	The University of Texas MD Anderson Cancer Center
Terrence O'Malley, MD	Expertise and knowledge on care coordination and transitions particularly from long-term, post-acute care to the ED as well as interoperability	Massachusetts General Hospital
Marjory Palladino, MSN, CRRN	Nursing director with experience in the transfer of health information from Skilled Nursing Facilities to the ED	Hartford Healthcare Senior Services-Southington Care Center

Key Informant Interview Guide: General Questions

1. What is your experience with measurement of transitions in care?
    a. If not formal measurement, are there standards or internal guidelines you use to support quality transitions?
    b. Best practices?
2. What do you see as the most important transitions in care that apply to the ED?
    a. From interviewee's perspective, and other?
3. How are ED transitions different from other types of transitions in care?
    a. If you don't have experience with other types of transitions, how do you think they might be different?
4. What are the highest risk ED transitions/ patients?
    a. Can you think where care could be improved?
    b. Are there other transitions (high-risk or otherwise) that you can think of that warrant improvement?
5. What do you think are the best ways to measure the quality of ED transitions in care?
    a. What are the best outcomes of a transition?
    b. What do you think is the top priority when it comes to measuring ED transitions in care?
6. What are the best data sources for those measures?
    a. Or, how might you measure?
7. Are you aware of any best practices for ED transitions in care?
    a. In your organization, or elsewhere?
8. What are the most relevant pieces of information you need during a transition?
    a. Most relevant for the provider(s)?
    b. For the patient or caregiver?
9. How should transition information be shared with the patient?
    a. Are there considerations depending on the type of patient?

APPENDIX B:
Expert Panel Roster and NQF Staff

Expert Panel Co-Chairs

Stephen Cantrill, MD, FACEP
Physician, Denver Health Medical Center,
University of Colorado School of Medicine
Denver, Colorado

Janet Niles, RN, MS, CCM
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Expert Panel

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Vice President of Operations,
Medina Healthcare System
Hondo, Texas

Donna Carden, MD
Professor-Emergency Medicine, University of Florida
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Lisa Deal, PharmD, BCPS, BSN, RN
Clinical Emergency Medicine Pharmacy Specialist,
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Project Analyst

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Marcia Wilson, PhD, MBA
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APPENDIX C:
Measure Compendium

The measure compendium is a list of measures and measure concepts, which the Panel has deemed relevant. They address the quality of transitions of care into and out of the emergency department.

Domain: Provider Information Exchange

SUBDOMAIN: KEY INFORMATION ELEMENTS AND PROPERTIES OF TRANSMISSION

#	Existing Measure or Concept	Title/Description
1	Concept	Medication reconciliation collaboratively performed in the ED and/or with the primary care physician (or relevant specialist) for high-risk prescribing in the ED
2	Concept	The percentage of high-risk discharges from the ED where specific information elements are transferred to the primary care physician (and/or responsible specialist) by the next clinic day
3	Concept	The percentage of high-risk transitions to the ED where specific information elements are transferred to the ED in a timely fashion from the referring facility or provider
4	Concept	The proportion of EMS transports where a transition of care document and verbal report are provided to the ED at ED arrival

Domain: Provider Information Exchange

SUBDOMAIN: CARE COORDINATION AND FEEDBACK

#	Existing Measure or Concept	Title/Description
5	Existing Measure	Emergency Transfer Communication Measure: Percentage of patients transferred to another healthcare facility whose medical record documentation indicated that required information was communicated to the receiving facility prior to departure or within 60 minutes of transfer (NQF #0291): 1. Required information is communicated to the receiving facility prior to departure 2. Entire vital signs record is communicated 3. Medication information is communicated 4. Patient information is communicated 5. Physicians information is communicated 6. Nursing information is communicated 7. Procedures and test information is communicated
6	Concept	*The proportion of patients managed by primary care physicians (or responsible specialist) who are frequent users of EDs (>=4 visits in a 12-month period) who have, (jointly when possible) created a care plan in collaboration with their primary care physician and ED (physician, nurse, PA, navigator, etc.)
7	Concept	A structural measure as to whether hospitals provide data to and facilitate a portal for providers to be able to view ED visits and other care delivered in outside hospitals and health systems
8	Concept	The proportion of EDs that have a system in place to provide feedback within referring providers for specific cases that may be useful for quality improvement

Domain: Patient, Family, and Caregiver Information Exchange

SUBDOMAIN: KEY INFORMATION ELEMENTS AND PROPERTIES OF TRANSMISSION

#	Existing Measure or Concept	Title/Description
9	Existing Measure	Transition Record with Specified Elements Received by Discharged Patients (Emergency Department Discharges to Ambulatory Care [Home/Self Care] or Home Health Care): Patients or their caregiver(s) who received a transition record at the time of emergency department (ED) discharge including, at a minimum, all of the following elements (NQF Measure #0649): 1. Summary of major procedures and tests performed during ED visit, AND 2. Principal clinical diagnosis at discharge which may include the presenting chief complaint, AND 3. Patient instructions, AND 4. Plan for follow-up care (OR statement that none required), including primary physician, other health care professional, or site designated for follow-up care, AND 5. List of new medications and changes to continued medications that patient should take after ED discharge, with quantity prescribed and/or dispensed (OR intended duration) and instructions for each
10	Existing Measure	Patient Specific Education Resources from Certified Electronic Health Record Technology (CEHRT) provided to Patient
11	Existing Measure	Patient Electronic Access to Their Health Information (view, download, and transmit)
12	Concept	Documentation of the percentage of all patients/family/caregivers who are provided an ED-based telephone number (staffed 24/7) that they may use to clarify discharge instructions, medication questions, or follow up post-discharge from the ED

Domain: Patient, Family, and Caregiver Information Exchange

SUBDOMAIN: EFFECTIVE COMMUNICATION AND SHARED DECISION MAKING

#	Existing Measure or Concept	Title/Description
13	Concept	ED documentation of provider (physician, nurse, pharmacist, care manager) and patient/family/caregiver discussion, that takes into account patient-reported preferences, that includes condition, medications, other treatments, post-discharge plans, and follow-up
14	Concept	Percentage of patients of any age who report they do not have a designated primary care physician, who have received a primary care appointment or community-based clinic appointment for follow-up post-ED discharge
15	Concept	Percentage of patient/family/caregiver who received appropriate discharge instructions that are in patients' preferred language, at their literacy level, and take into account patients' social economic status
16	Concept	Percentage of patients of any age who are nonverbal and have been seen in the emergency room, who have documentation by a provider or other care team member of a designated healthcare point of contact for treatment planning that has been shared with available family or caregivers
17	Concept	*Shared decision making process: The proportion of patients managed by a primary care physicians (or responsible specialist) who are frequent users of EDs (>=4 visits in a 12-month period) who have, (jointly when possible) created a care plan in collaboration with their primary care physician and ED (physician, nurse, PA, navigator, etc.)

Domain: Engagement of the Broader Community

SUBDOMAIN: CONNECTION AND ALIGNMENT

#	Existing Measure or Concept	Title/Description
18	Concept	Availability of care managers/coordinators/navigators in the ED
19	Concept	Assessing high-risk patients who are at risk for a transition failure due to unmet social needs
20	Concept	System that allows for bidirectional communication between clinical and nonclinical facilities

Domain: Engagement of the Broader Community

SUBDOMAIN: ACCESSIBILITY OF SERVICES

#	Existing Measure or Concept	Title/Description
21	Concept	Collect and maintain information on available resources (to include social, community, and any other available resource that may support a transition of care)

Domain: Achievement of Outcomes

SUBDOMAIN: HEALTHCARE UTILIZATION & COSTS

#	Existing Measure or Concept	Title/Description
22	Concept	Reduction in duplicate testing based on payer-level data or facility-level data, depending on where testing is provided
23	Concept	Improved transitions for patients who are frequent users of the ED

Domain: Achievement of Outcomes

SUBDOMAIN: PROVIDER EXPERIENCE

#	Existing Measure or Concept	Title/Description
24	Concept	Provider experience with select aspects of transitions (e.g., information received)

Domain: Achievement of Outcomes

PATIENT/FAMILY/CAREGIVER EXPERIENCE

#	Existing Measure or Concept	Title/Description
25	Existing Measure	3-Item Care Transition Measure (Coleman)
26	Concept	Patient-reported experience with care specific to culturally competent care delivery that takes into consideration patients' preferences, needs, and values. Concept is based on CAHPS 3.0 and CAHPS American Indian Survey composite assessment: Getting Care Quickly; Getting Needed Care; Provider Communication; Clerks and Receptionists at Clinic; Health Education; Perceived Discrimination; Global Ratings

Domain: Achievement of Outcomes

SUBDOMAIN: FOLLOW-UP AND SAFETY OUTCOMES

#	Existing Measure or Concept	Title/Description
27	Existing Measure	Patients with a transient ischemic event ER visit that had a follow-up office visit (NQF #0644)
28	Concept	Follow-up occurred after patient leaves the ED (e.g., visit or phone call)
29	Concept	The percentage of high-risk ED discharges (as designated by the ED provider) where there is contact (in-person follow-up or other) within a specified period of time by the primary care physician or responsible specialist
30	Concept	Reduction in adverse drug events through a combination of medication review, medication reconciliation, and the patient's understanding of medications
31	Concept	Unscheduled return visits to the ED within 9 days or 30 days

* Denotes same measure concept but crosscutting to other domains. For instance, the measure concept could be categorized in both Provider Information Exchange and Patient, Family, And Caregiver Information Exchange.

APPENDIX D:
Transitions of Care—Innovative and Leading Practices and Programs

The list of innovative and leading practices and programs in this appendix is not, in any way, an exhaustive or comprehensive list. The programs cited on this list were identified, collected, and referenced over the course of this project through the literature review, expert panel discussions, and key informant interviews. Some of the programs have widespread adoption across the nation, and others are examples of early innovations that include novel methods for improving the quality of transitions of care.

Care Coordination

- Admission, Discharge, and Transfer (ADT) Alerting System
- Coleman Model (Eric Coleman)
- Coordinated Access to Care from the Hospital Emergency Departments CATCH-ED (University of Toronto)
- Chronic Care Coordination Program (Kaiser Permanente)
- Extended Care and the Coordination Network (Summa Health)
- Rapid Evaluation and Treatment Unit (Mount Sinai Health System)
- STate Action on Avoidable Rehospitalizations (STAAR) (Institute for Healthcare Improvement)
- Ticket to Ride Program (University of Pittsburgh Medical Center)
- WellTransitions Program (Walgreens)
- Blue Transfer Envelope Process (University of Wisconsin Hospital and Clinics)

Community Resources and Engagement

- 2-1-1 San Diego (California)
- Aunt Bertha – Connecting People and Programs
- Bridges to Care (Colorado)
- Kentucky Care Coordination for Community Transitions (KC(3)T)
- Community Information Exchange (CIE) San Diego (California)

EMS Care

- Mobile Health Paramedic Program (Geisinger Health System)
- Mobile Integrated Healthcare- Community Paramedicine (MIH-CP) model

Geriatric Care

- GERI-VET Home Visits (Cleveland Department of Veterans Affairs)
- Hospital at Home (Johns Hopkins Schools of Medicine and Public Health)
- Transitional Care Model (University of Pennsylvania)
- Geriatric Emergency Department Innovations in Care through Workforce, Informatics, and Structural Enhancements (GEDI WISE) Program (Mount Sinai Medical Center)

High-Risk Individuals

- Coordinated-Transitional Care (C-TraC) Program (William S. Middleton Memorial Veterans Hospital; University of Wisconsin-Madison School of Medicine and Public Health)

- Community-based Care Transitions Program (CCTP) (Centers for Medicare & Medicaid Services)
- Individualized Management for Patient-Centered Target (IMPaCT) Program (University of Pennsylvania Health System)
- Interventions to Reduce Acute Care Transfers (INTERACT) (Centers for Medicare & Medicaid Services)
- ED Patient Aligned Care Team (ED-PACT) Communications Tool (Department of Veterans Affairs of Greater Los Angeles Healthcare System)

Post-Discharge Care

- Hospital Patient Safe-D(ischarge) (Agency for Healthcare Research and Quality)
- Project Better Outcomes by Optimizing Safe Transitions (BOOST) (Society of Hospital Medicine)
- Project Re-Engineered Hospital Discharge (RED) (Boston University Medical Center)
- Bridge Model (Illinois Transitional Care Consortium)
- Pharmacist Advancement of Transitions of Care to Home (PATCH) Service

Telemedicine

- Command Center and Provider-in-Triage (Aurora Health Care)
- LiveHealth Online (Health Management Corporation)

APPENDIX E:
Measure Prioritization

The measure prioritization is a list of measures and measure concepts that were submitted to the Panel to be ranked based on importance and feasibility. Importance was rated on a scale of one through five (1 as low, 3 as moderate, and 5 as high). Feasibility was rated on a scale of one through five (1 as not feasible, 3 as aspirational/potentially feasible in the future, and 5 as very feasible today).

Domain: Provider Information Exchange

SUBDOMAIN: KEY INFORMATION ELEMENTS AND PROPERTIES OF TRANSMISSION

ID	Proposed Measures & Concepts	Importance Score	Feasibility Score	Timing	Comments from the Panel
1	[concept] Medication reconciliation collaboratively performed in the ED and/or with the primary care physician (or relevant specialist) for high-risk prescribing in the ED	4.36	3.27	Mid-Term	This is an important measure concept to ensure medication management is clarified with multiple providers prescribing medications. This measure may potentially reduce error and improve patient safety in ED care transitions. Challenges: • Time constraints and communication barriers may present implementation challenges in ED settings. • Medication reconciliation is typically harder to do in the ED setting. • Feasibility for this measure suffers when patients do not have a primary care provider and/or their provider is not engaged with regional health information exchanges. Opportunities: • Easier to measure when the medication list is shared in a single EHR.
2	[concept] The percentage of high-risk discharges from the ED where specific information elements are transferred to the primary care physician (and/or responsible specialist) by the next clinic day	4.36	3.55	Mid-Term	This measure contributes to effective care coordination and is proactive with communication between the ED and primary care providers. Engaging the primary care providers in helping to manage ED transitions is critical, and to be effective they need to have this information. It is also important to have the necessary information by the follow-up, or by the next day. Challenges: • Often a wide range of information systems used by different PCPs. This measure depends on the patient having an established PCP and HIE/EHR capability. • Timing may not be possible in all situations—this may not be correct timeframe. • Correctly identifying PCP may be a challenge. Opportunities: • Critical for patient safety and appropriate care and follow-up (reduce readmissions and overall cost of care). • Include additional resources to ensure that this is occurring consistently.

ID	Proposed Measures & Concepts	Importance Score	Feasibility Score	Timing	Comments from the Panel
3	[concept] The percentage of high risk transitions to the ED where specific information elements are transferred to the ED in a timely fashion from the referring facility or provider	4.36	3.55	Mid-Term	This measure concept is critical to the high-risk patient emergent care, and requires care facilities and EDs to work together to establish a standardized process in their community for transmitting important patient information. Challenges: • Many communities have struggled with reaching consensus on standard information elements. • Primary care providers use a wide range of systems, which may present interoperability challenges. • Ease of information capture may be a challenge and relies on availability of information in the EHR. Opportunities • In cases where this is a common EHR, or in facility to facility transitions, the information is more likely to be available at the time of transition. • This is possible today and accomplished in many settings even if it is a phone call. It can be documented easily in the record and measured, assuming there is a PCP to whom to transfer information.
4	[concept] The proportion of EMS transports where a transition of care document and verbal report is provided to the ED at ED arrival	4.64	4.36	Today	This concept is critical for care coordination and bridges the communication gap between EMS personnel and ED staff. The concept addresses a wide range of problems in the EMS/ED information exchange, such as EMS written reports arriving days after a transition of care with clinically significant information that was not verbally conveyed. Challenges: • Part of current practice, but not done in a consistent manner. • Many EMS systems are too busy to allocate the time needed to both clear the ambulance, document the last call, and prepare for the next transport. Opportunities: • Next Gen EMS EHR may stream data to receiving ED in real time and provide means to capture PCR permanently—so-called Send-Alert-File-Reconcile (SAFR) technology. States like California already require that all EMSPCR be electronically filed using the National EMS Information System (NEMSIS) v3.4 or greater. • EMS can provide valuable information to the ED about what they observed in the home. • This is being done in most settings verbally. These documents can be scanned into the patient's medical record, or a template form can be generated in the ED that allows for a joint sign-off of the patient between EMS and ED provider.

Domain: Provider Information Exchange

SUBDOMAIN: CARE COORDINATION AND FEEDBACK

ID	Proposed Measures & Concepts	Importance Score	Feasibility Score	Timing	Comments from the Panel
5	*[concept] The proportion of patients managed by primary care physicians (or responsible specialist) who are frequent users of EDs (>=4 visits in a 12-month period) who have (jointly when possible) created a care plan in collaboration with their primary care physician and the ED (physician, nurse, PA, navigator, etc.)	3.55	2.36	Future/ Aspirational	A jointly created care plan is important to ensure understanding of what needs to be done after or at each visit. Challenges: • It is currently an aspirational measure concept that relies on HIE and care coordination reimbursable services. • Not clear where the care plan would be captured and stored. • In cases where EDs are used as urgent care clinics, multiple ED visits may not reflect poor care coordination. Opportunities: • Important in the quality and functionality of the patient, reduction in cost of care, and potentially readmission rates. • There are existing health IT platforms that support this type of coordination such as Emergency Department Information Exchange (EDIE).
6	[concept] A structural measure as to whether hospitals provide data to and facilitate a portal for providers to be able to view ED visits and other care delivered in outside hospitals and health systems	4.18	3.45	Mid-Term	This measure concept promotes information exchange and facilitates convenient and streamlined care. Challenges: • Lack of uptake and availability of HIE resources may be a barrier to developing and implementing such a measure. • Many hospital infrastructures that lack resources will have a difficult time adhering to this measure. • Available in some systems, but we have a ways to go. Opportunities: • This measure can build on meaningful use requirements of electronic portal access and transfer of information. • As an interim measure, it could encourage organizations to further adopt these supportive technologies. • This is available and working today in some health systems and is easy to measure.

ID	Proposed Measures & Concepts	Importance Score	Feasibility Score	Timing	Comments from the Panel
7	[concept] The proportion of EDs that have a system in place to provide feedback within referring providers for specific cases that may be useful for quality improvement	3.45	3.36	Mid-Term	Providers benefit from constructive feedback. It is important to learn from specific cases for quality improvement. Challenges: • May be difficult to measure when providers are not in the same location. • Incentives may be necessary to promote the use of such a system; otherwise it is likely to be rarely used. Opportunities: • Can improve care coordination between providers and provides a forum to improve through a review of quality issues and/or concerns. • Similar to existing hospital morbidity and mortality (M&M) conferences. • California is introducing EMS-HIE bidirectional exchange that will allow paramedics to confidentially learn patient outcome for clinical quality improvement purposes.
8	[measure] Emergency Transfer Communication Measure: Percentage of patients transferred to another healthcare facility whose medical record documentation indicated that required information was communicated to the receiving facility prior to departure or within 60 minutes of transfer (NQF #0291): 1. Required information is communicated to the receiving facility prior to departure 2. Entire vital signs record is communicated 3. Medication information is communicated 4. Patient information is communicated 5. Physicians information is communicated 6. Nursing information is communicated 7. Procedures and test information is communicated	4.50	3.57	Mid-Term	Direct lines of communication between providers is critical in acute hospital to acute hospital transfers. This measure supports continuity of care and avoidance of duplicate testing. Challenges: • The information elements required in this measure can be difficult to pull together in emergent situations and therefore may not be available 60 minutes prior to transfer. • A lot can happen in an hour, and information should be presented with the patient regardless of where the patient came from. Opportunities: • Highly feasible measure to implement as this information is currently retrievable via EHR.

Domain: Patient, Family, and Caregiver Information Exchange

SUBDOMAIN: KEY INFORMATION ELEMENTS AND PROPERTIES OF TRANSMISSION

ID	Proposed Measures & Concepts	Importance Score	Feasibility Score	Timing	Comments from the Panel
9	[measure] Transition Record with Specified Elements Received by Discharged Patients (Emergency Department Discharges to Ambulatory Care [Home/Self Care] or Home Health Care): Patients or their caregiver(s) who received a transition record at the time of emergency department (ED) discharge including, at a minimum, all of the following elements (NQF #0649): 1. Summary of major procedures and tests performed during ED visit, AND 2. Principal clinical diagnosis at discharge which may include the presenting chief complaint, AND 3. Patient instructions, AND 4. Plan for follow-up care (OR statement that none required), including primary physician, other healthcare professional, or site designated for follow-up care, AND 5. List of new medications and changes to continued medications that patient should take after ED discharge, with quantity prescribed and/or dispensed (OR intended duration) and instructions for each	4.50	4.14	Today	Clear, concise culturally appropriate discharge instructions are foundational to quality care transitions. A primary reason for readmission can be attributed to a patient's lack of understanding of post-discharge instructions. This measure is important, highly feasible, and resources should be available in EDs to support a successful implementation. Challenges: • Many EDs do this today, as the summary of care document is a meaningful use requirement. However, for some EDs it may be hard to collect all of the required elements. Opportunities: • Feasible – all of the information is available in the EHR. • This measure could be enhanced to include a provider discussion with patients to ensure that they comprehend the instructions, AND a completeness of information check at time of delivery, AND the transition record should also be sent to the patient's primary care provider.

ID	Proposed Measures & Concepts	Importance Score	Feasibility Score	Timing	Comments from the Panel
10	[measure] Patient Specific Education Resources from Certified Electronic Health Record Technology (CEHRT) provided to Patient	3.64	4.07	Today	Providing high-quality educational materials to patients and caregivers can expand their ability to manage their conditions. However, it is important to consider that healthcare literacy varies, particularly among those who are most vulnerable. Challenges: • EHR educational resource templates are not always relevant to the patients' medical condition, and may need to be augmented with additional information from internet-based resources (e.g., WebMD). • Discharge paperwork provided to a patient transitioning home can be overwhelming and as a result, be ignored. Opportunities: • The measure is highly feasible to implement, as there are many electronic and paper-based educational resources available. • Consider customizing educational resources to the patient with a focus on materials that are easy to understand and instructions that are easy to follow (laid out step by step) in a language and educational level that is appropriate to the patient.
11	[measure] Patient Electronic Access to Their Health Information (view, download, and transmit)	4.14	3.79	Mid-Term	A requirement of Meaningful Use supports patients' electronic access to their own healthcare record. Patient access to information is a critical step in engaging patients in the management of their care. Challenges: • While this measure is feasible for single ED visits, it becomes challenging to measure when patients visit multiple facilities that are not connected with interoperable EHRs. • Patient access to online information is variable, not all patients will have the ability to access their health information online. Opportunity: • This measure has been widely adopted through the meaningful use program; however, the next step for this measure is to engage and support patients in logging in to an online portal to see their information or to provide it to the next healthcare provider.
12	[concept] Documentation of the percentage of all patients/family/ caregivers who are provided an ED based telephone number that is staffed 24/7, which they may use to clarify discharge instructions, medication questions, or follow up post-discharge from the ED	4.36	3.91	Today	EDs typically do not manage patient care outside of actual visits. This type of resource would be useful for patients who have transitioned out of the ED to ask questions post-visit. Challenges: • Feasibility may be limited by hospital resources and policies (e.g., willingness to have ED provide informational support post-discharge). • Requires additional funding and resources to put in place. Opportunities: • Could be easily implemented in discharge instructions. • This model has been tested in some health systems with very favorable outcomes.

Domain: Patient, Family, and Caregiver Information Exchange

SUBDOMAIN: EFFECTIVE COMMUNICATION AND SHARED DECISION MAKING

ID	Proposed Measures & Concepts	Importance Score	Feasibility Score	Timing	Comments from the Panel
13	[concept] ED documentation of provider (physician, nurse, pharmacist, care manager) and patient/family/caregiver discussion, that takes into account patient-reported preferences, that includes condition, medications, other treatments, post-discharge plans, and follow-up	4.18	3.45	Mid-Term	Patients tend to experience better outcomes after engaging in shared decision making. Including patients in discussions about their care and follow-up improves the potential for adherence to treatment plans and reduction in errors. This measure can be measured via EHR data today through auditing documentation in the medical record. Challenges: • For many simple cases, "patient preferences" may be a moot or potentially burdensome requirement for data gathering. • Low feasibility to collect patient preferences. • Clinicians will shrink from more documentation attesting to the fact that they "talked" to their patients. They will consider this to be check-box CQI compliance and not meaningful. Opportunity: • General agreement to the advantages of patient engagement and shared decision making in care. This has been done successfully in a number of health systems.
14	[concept] Percentage of patients of any age who report they do not have a designated primary care physician, who have received a primary care appointment or community-based clinic appointment for follow-up post-ED discharge	4.36	3.36	Mid-Term	PCP or community-based clinic follow-up appointments are an important component of a quality ED transition of care. Challenges: • Some organizations or locations do not have the resources to make this possible. • Locating a PCP that will accept unfunded or Medicaid patients is difficult. There are often long waiting lists for community clinic appointments. • Delivery of ED discharge information to PCP or clinic depends on fidelity of regional HIE. Opportunity: • Could be done with health IT resources and agreements between EDs and primary care providers and/or community clinics.
15	[concept] Percentage of patient/family/caregiver who received appropriate discharge instructions that are in patients' preferred language, at their literacy level, and take into account patients' social economic status	4.55	3.73	Mid-Term	It is difficult to activate patients to manage their health when they do not understand what they are supposed to do. Challenges: • In some diverse communities, providing information in a patient's preferred language may be difficult to support. Opportunity: • EHRs include a series of patient demographic fields that typically include a "preferred language" field which may be used to determine if "appropriate" instructions are provided. There are however additional social determinants data that have been used to effectively identify literacy levels and social economic status that could also be used in this metric.

ID	Proposed Measures & Concepts	Importance Score	Feasibility Score	Timing	Comments from the Panel
16	[concept] Percentage of patients of any age who are nonverbal and have been seen in the emergency room, who have documentation by a provider or other care team member of a designated healthcare point of contact for treatment planning that has been shared with available family or caregivers	3.91	3.91	Mid-Term	This metric supports the transitions for patients who are unable to advocate for themselves. Challenges: • This is very important but perhaps less feasible, particularly with care transitions from long-term care facilities where many patients do not have family or a healthcare proxy. Opportunity: • This metric could also be stratified to include the percentage of ED patients who have a designated healthcare point of contact documented, with a subset of that population who is identified as "nonverbal" in the EHR.
17	*[concept] Shared decision making process: The proportion of patients managed by a primary care physician (or responsible specialist) who are frequent users of EDs (>=4 visits in a 12-month period) who have (jointly when possible) created a care plan in collaboration with their primary care physician and ED (physician, nurse, PA, navigator, etc.)	3.55	2.36	Future/ Aspirational	A jointly created care plan is important to ensure understanding of what needs to be done after or at each visit. Challenges: • It is currently an aspirational measure concept that relies on HIE and reimbursable care coordination services. • Not clear where the care plan would be captured and stored. • In cases where EDs are used as urgent care clinics, multiple ED visits may not reflect poor care coordination. Opportunities: • Important in the quality and functionality of the patient, reduction in cost of care, and potentially readmission rates. • There are existing health IT platforms that support this type of coordination such as Emergency Department Information Exchange (EDIE).

Domain: Engagement of the Broader Community

SUBDOMAIN: CONNECTION AND ALIGNMENT

ID	Proposed Measures & Concepts	Importance Score	Feasibility Score	Timing	Comments from the Panel
18	[concept] Availability of care managers/ coordinators/ navigators in the ED	4.55	3.64	Mid-Term	The navigator role may support the patients at highest risk of a failure in transition. Facilities may not always have the resources necessary to invest; however, there are creative examples of organizations who have brought this expertise to the ED through various resource channels. Challenges: • Based on availability of resources, including the budget and size of the ED. • Many EDs may not be able to invest in these positions if they are not billable. Opportunities: • Measuring this concept could be a simple yes/no question or a documentation of the percentage of time. • There is evidence that the role of care manager/ coordinator/navigator positively affects the quality of care and coordination of care. • If a standard measure was developed for this concept, organizations might be more likely to build a case for the added resource, and the metric could be a game changer.
19	[concept] Assessing high-risk patients who are at risk for a transition failure due to unmet social needs	4.27	3.18	Mid-Term	Unmet social needs are a major driver of ED revisits. There are many simple screening tools that can be used on intake to assess needs. Once assessed, patients can be linked to available community resources that will reduce their risk for another ED visit. Challenges: • Low feasibility due to unavailability and difficulty of capturing data. This is a growing area of research, but it may still be difficult to measure "unmet social needs." • It is unclear what the return on investment would be if this were implemented. • The lack of social services available in rural communities poses significant challenges for movement of this measure. Opportunities: • In this growing area of research, there is a genuine need for a standardized social determinants of health screening tool. • These types of assessments may also help in managing population needs for a community, but only if it is evaluated through standard measurement.

ID	Proposed Measures & Concepts	Importance Score	Feasibility Score	Timing	Comments from the Panel
20	[concept] System that allows for bidirectional communication between clinical and nonclinical facilities	4.00	2.00	Future/ Aspirational	It is essential that social factors impeding care plans be shared across all clinical and community-based providers so that the care plan and services are modified to respond to changes in the patient's risk. Challenges: • Health IT infrastructure is essential for effective bidirectional communication. In communities without these resources, it is difficult, if not nearly impossible, to put a system in place that supports this type of communication. Opportunities: • There is growing interest in connecting community and clinical supports, and this model has been successfully implemented.

Domain: Engagement of the Broader Community

SUBDOMAIN: ACCESSIBILITY OF SERVICES

ID	Proposed Measures & Concepts	Importance Score	Feasibility Score	Timing	Comments from the Panel
21	[concept] Collect and maintain information on available resources (to include social, community and any other available resource that may support a transition of care)	4.45	4.09	Today	Most communities have a service directory for community resources that is either published or accessible online. Effectively referring patients to community resources may improve their healthcare outcomes and decrease revisits to the ED. Challenges: • Maintaining an up-to-date community resource list may be difficult for some organizations. Opportunity: • Both the Office of the National Coordinator for Health IT and the National Academies have recommended the approach measured by this concept.

Domain: Achievement of Outcomes

SUBDOMAIN: HEALTHCARE UTILIZATION AND COSTS

ID	Proposed Measures & Concepts	Importance Score	Feasibility Score	Timing	Comments from the Panel
22	[concept] Reduction in duplicate testing on payer-level data or facility-level data, depending on where testing is provided	4.27	3.00	Future/ Aspirational	Reduction in testing may be achieved by increased communication. However, there are cases where duplicate testing is necessary; in these cases clinical judgement is required, suggesting that this may not be a fully automated process. Challenges: • Low feasibility due to challenges in gathering testing information from disparate systems. • Dependent on health information exchange resources. Opportunities: • Payers collect and maintain data about their clients, which until now have not been easily accessible to frontline providers and support personnel. This type of metric may encourage EDs to use payers as resources to avoid duplicate testing. • Providing providers with access to data/diagnostics may be likely to reduce resource utilization and improve timeliness of care.
23	[concept] Improved transitions for patients who are frequent users of the ED	4.18	2.91	Future/ Aspirational	It is important to focus efforts and resources on patients with the highest resource use and to design care plans that support transitions. There are many examples of successful ED frequent user programs. Challenges: • In cases where patients require alternative, nonhealthcare-related resources, this may limit the feasibility of this metric. • State-by-state legislative reform needs data to prove the return on investment is achievable through better care coordination. Opportunities: • Lessons can be learned from inpatient care transition programs that have significantly reduced readmissions. • This type of metric provides an opportunity to develop the evidence base and track outcomes of various interventions.

Domain: Achievement of Outcomes

SUBDOMAIN: PROVIDER EXPERIENCE

ID	Proposed Measures & Concepts	Importance Score	Feasibility Score	Timing	Comments from the Panel
24	[concept] Provider experience with select aspects of transitions. (e.g., information received)	3.82	3.45	Mid-Term	This concept of providing feedback to the sending provider is necessary to improve the quality of the information provided in a transition. Important and fairly easy to survey. Challenges: • Return on investment may be an issue. There is no evidence that shows implementing surveys on provider experience would improve care or reduce errors. Opportunities: • This would assist with improvement of information that needs to be sent and/or received. Surveying physicians as to what they need versus what they receive could improve communication tools and systems. • Provider experience data may be captured in a survey.

Domain: Achievement of Outcomes

SUBDOMAIN: PATIENT/FAMILY/CAREGIVER EXPERIENCE

ID	Proposed Measures & Concepts	Importance Score	Feasibility Score	Timing	Comments from the Panel
25	[measure] 3-Item Care Transition Measure	3.86	3.43	Mid-Term	Discharge planning is an important metric in improving the overall quality of care for the patient, and reducing readmission rates. This measure has widespread adoption in the inpatient setting and is measured consistently at hospital discharge. Challenges: • This measure may be difficult to track in ED transitions of care and require customization for implementation. • A core component of this measure is patient activation, which may be challenging to assess in the ED. Opportunity: • EDs may adopt many validated transition measures. EDs can adopt measures that best reflect their patient population and resources.
26	[concept] Patient-reported experience with care specific to culturally competent care delivery that takes into consideration patients' preferences, needs, and values. Concept is based on CAHPS 3.0 and CAHPS American Indian Survey composite assessment: Getting Care Quickly; Getting Needed Care; Provider Communication; Clerks and Receptionists at Clinic; Health Education; Perceived Discrimination; Global Ratings	4.27	3.82	Mid-Term	Providing culturally competent care is very important, but can be challenging in some communities. Feedback from patients to providers is necessary to improve the quality of the information provided in a transition. Challenges: • May be challenging to connect patient-reported experience with a specific transition. Opportunity: • CAHPS is a well-accepted means of assessing patient experience in a variety of clinical settings; however, patient participation rates in post-care surveys is usually very low.

Domain: Achievement of Outcomes

SUBDOMAIN: FOLLOW-UP AND SAFETY OUTCOMES

ID	Proposed Measures & Concepts	Importance Score	Feasibility Score	Timing	Comments from the Panel
27	[measure] Patients with a transient ischemic event ER visit that had a follow-up office visit (NQF #0644)	3.64	3.29	Future/ Aspirational	This is a good example of a high-risk diagnosis that requires immediate follow-up after an ED visit. This measure could be expanded to apply to all serious ED visits in terms of evaluating frequency of successful follow-up, not just a single diagnostic entity. Challenges: • Obtaining a follow-up appointment depends in large part on the patient's insurance. • Potential limitations based on the extent to which primary care providers are engaged in their health information exchange. • In some cases, this measure may create alternative processes, which in turn can add workflow and reporting burden. Opportunity: • An enhancement to this measure could include real-time monitoring and measurement based on clinical data rather than claims.
28	[concept] Follow-up occurred after patient leaves the ED (e.g., visit or phone call)	4.36	3.64	Mid-Term	Follow-up after the patient leaves the ED is important. Lessons learned from hospital readmission programs support that follow-up can reduce readmissions and lead to improved patient satisfaction; however, there might be a lack of evidence to support this concept. Challenges: • Patients may give incorrect phone number or not have one. • Implementation of this type of a measure needs more infrastructure in place and a change in ED culture. May be difficult to measure. Opportunities: • Not necessary for every visit (e.g., medication refills); consider basing on the severity of the problem. • This measure concept could be tied to a specific patient population to follow up with. Certainly worthwhile to contact a percentage of patients.

ID	Proposed Measures & Concepts	Importance Score	Feasibility Score	Timing	Comments from the Panel
29	[concept] The percentage of high-risk ED discharges (as designated by the ED provider) where there is contact (in-person follow-up or other) within a specified period of time by the primary care physician or responsible specialist	4.09	3.27	Mid-Term	EDs are always interested in gaining more information on what happens to patients whom they refer to other providers. When high-risk patients are discharged from the ED, it is important for the ED to know if its referral visits happened. Challenges: • Impossible to accomplish in many systems today due to lack of resources. • While important, depending upon the patient's insurance, this follow-up many not be possible in some communities. Opportunity: • EHRs could capture this data.
30	[concept] Reduction in adverse drug events through a combination of medication review, medication reconciliation, and the patient's understanding of medications	4.18	3.18	Mid-Term	Medication issues are a primary driver of ED transition failures. Challenges: • This will be very hard to track in most systems and relies on health IT. • May be challenging if the ED does not have a pharmacist available. Opportunity: • There has been a fair amount of research resulting in technology solutions that effectively reconcile medication across multiple sources.
31	[concept] Unscheduled return visits to the ED within 9 days or 30 days	4.55	4.55	Today	Important outcome measure that can be captured easily today. Opportunities: • Data would be readily available, and could assist with quality improvement (i.e., determine who is returning to the ED and why). • Easy to do in many systems, but must exclude scheduled returns.

APPENDIX F:
Public Comments Received on Draft Report and Panel Responses

Executive Summary Section

Emergency Nurses Association

Josie Howard-Ruben

Does a great job of providing all the necessary info for those who can't dive deeper into the issue.

Add figure/diagram model to delineate discussion

Transitions include the sharing of vital information both verbally and in writing. The standardization of forms, identification of key elements of information sharing, and the electronic storage of information should not only be a recommendation, but a requirement. The "barriers" mentioned can be overcome and monitored so that confidentiality is maintained during the sharing of information and coordination of the care is accomplished.

Very lengthy and needs to be condensed. No mention of patients that may be low income, mental illness, the fact that language may be a barrier, and that there has been an increase in ER Discharge Planners or Care Coordinators.

>Panel Response:

Thank you for your review of the draft report and for your comment. NQF is not in a position to make standardization requirements that support transitions of care. However, we acknowledge and strongly recommend information exchange standardization as a means to support successful transitions of care.

The report considers broad and varied populations including high-risk conditions, and other factors such as socioeconomic status, but fully acknowledges that more research is needed to identify ways that specific patients could be screened to identify unmet social service needs that may increase the risk of poor ED transitions.

Introduction Section

Emergency Nurses Association

Josie Howard-Ruben

Clearly identifies the problem, but doesn't address the EMS "gateway" into the system. In some areas, patients might be seen and treated in the field without subsequent transport and this information might be lost. The emerging concept of mobile healthcare is absent

No mention of EMTALA regulations. Unrealistic to have a standardized EMR due to overall cost and conversion. HCAHPS scores can assist in viewing hospitals patient satisfaction.

>Panel Response:

Thank you for your comments. This project aims to identify ways to measure and improve patient transitions of care into and out of the ED, and ultimately make the process more patient-centered. We recognize that there are transitions that occur when emergency medical services (EMS), the police, or the fire department respond to individuals who may or may not be transported to the ED. As part of the environmental scan for this project, we did engage EMS stakeholders and agree that EMS is an important component of transition metrics. The report includes priority proposed concepts that include EMS information exchange with the ED.

In the introduction we recognize the impact EMTALA has on the ED specific to visit volume and their obligation to provide medical screening examinations for all patients regardless of their willingness to pay.

In measure concept #26 we recommend the incorporation of the CAHPS 3.0 and American Indian Survey composite assessment capture: Getting Care Quickly; Getting Needed Care; Provider Communication; Clerks and Receptionists at Clinic; Health Education; Perceived Discrimination; Global Ratings.

Project Overview Section

Department of Health and Human Services

Jessica Oidtman

Page 7 states: "This project, however, focuses on the transitions of care into and out of the ED, with a particular emphasis on the role of follow-up care for the patient." It is unclear from this statement if entry into the ED through EMS is considered in scope for this project. Please clarify which entry methods are considered in scope for this project.

>Panel Response:

Thank you for your comment. Entry into the ED through EMS is considered in scope for this project. As part of the environmental scan for this project, we engaged EMS stakeholders and agree that EMS plays a critical role in transitions of care. The report includes priority proposed concepts that include EMS information exchange with the ED.

Emergency Nurses Association

Josie Howard-Ruben

Explains why EMS was omitted from project and narrows the scope exclusively to the ED. There is utility in the framework of care coordination to identify EMS and ED "super" users who use excess resources in the setting of patient transitions. EMS may interface with a recently discharged ED patient before follow-up care can be obtained, and the number of times that interface results in non-transports, so this exclusion may be short-sighted. EMS plays a key role in assessing and reassuring patients and the number of time this scenario ends in non-transport for a repeat ED visit should be quantified. No mention of EMS personnel and various educational needs of hospital personnel/EMS

>Panel Response:

Thank you for your review of the draft report. We agree with your comment. The Panel identified patients at high-risk of having a poor transition in care and patients who use the ED frequently as being two groups requiring special attention. The Panel recognized that high-risk patients and patients who use the ED frequently typically require additional time and resources, which may not always be available. Even while recognizing the challenges in ensuring an effective transition of care for these patients, the Panel agreed it was important for the ED to take initial steps in measurement that would enable the ED to become an even more effective partner within the system of care.

As part of the environmental scan for this project, we did engage EMS stakeholders and agree that EMS is an important component of transition metrics. The report includes priority proposed concepts that include EMS information exchange with the ED.

Rachel Abbey

p. 11 Table 2 under key information elements and properties of its transmission under provider information exchange. Is the term "Advanced directives" here being used to include POLST documents or not? This should be clarified because they are different.

>Panel Response:

Yes, the term "advanced directives" does include POLST documents. We have updated the report to clarify.

Synthesis of Findings and Definitions Section

Emergency Nurses Association

Josie Howard-Ruben

Very broad and needs to be condensed. Seems to have cast a wide net.

>Panel Response:

Thank you for your comment. This report was intentionally written to cover a broad topic in which not much work has been done on to date. It was our hope that this report would encompass the many aspects of transitions of care into and out of the ED and serve as a starting point for the field.

Measurement Framework, Measures, Concepts and Gaps Section

Denver Health Medical Center

Stephen Cantrill

Page 10, item 3 (1) iii: replace "Rivaroxaban" with "anticoagulation medication" to make it more general.

Page 10, item 3 (2) i: (e.g., neonates, elderly)

Page 16, under "Care Coordination…": should be "setting's"

>Panel Response:

Thank you for your comment. We have updated the report based on your suggestions.

Emergency Nurses Association

Josie Howard-Ruben

Comprehensive identification of all salient issues for implementation of the quality goals; did not identify any barriers such as HIPAA, patient reluctance to share information across system, information security, etc.

Several references are made regarding transfers "into the ED" with some mentions of EMS and fire departments, but on Page 10, an episode of care as patients enter the ED and only list on "e.g." as being from an outpatient provider, so do not call out the role of EMS. Page 14 discusses provider information exchange and doesn't specifically address EMS arrivals

This information is not new to medicine and nursing and seems to be ongoing.

Repetition noted and no mention of hospitals with ER Discharge Planners. No mention of patient education and follow-up care.

>Panel Response:

Thank you for your review of the draft report and for your comment. The Panel considered barriers to information sharing and recognized HIPAA as a perceived barrier which needs to be addressed through our recommendations of creating HIT systems that facilitate secure data transfer.

This project aims to identify ways to measure and improve patient transitions of care into and out of the ED, and ultimately make the process more patient-centered. We recognize that there are transitions that occur when emergency medical services (EMS), the police, or the fire department respond to individuals who may or may not be transported to the ED. As part of the environmental scan for this project, we engaged EMS stakeholders and agree that EMS plays a critical role in transitions of care. The report includes priority proposed concepts that include EMS information exchange with ED.

We agree with you on the importance of effective ED discharge planning and patient education. The report includes a section on Patient, Family and Caregiver Information Exchange which we believe captures the need for not only discharge planning, but post-discharge educational resources and follow-up care.

Rachel Abbey

P.17: The third bullet that discusses a "Transfer of a transition of care document", is this the patient care record from EMS? The transition of care document sounds as if it is a specific document and I am not clear that EMS uses this term. Also this is used in this context throughout the document.

>Panel Response:

Thank you for your comment and request for further clarification for this measure concept. We agree that this could be better described in the report with EMS specific nomenclature and have updated the report accordingly.

Tahroma Alligood

1. The intro paragragh might be condensed based on prior content.

2. In high-risk transitions, it might be important to include disabilities in (2) or (3) on pg. 11

3. Standardize subheadings and descriptions among Domains narratives to assist reader in navigation. Perhaps put the bottom line up front (BLUF) of what the panel identified to be the main quality measures prior to explaining the background of each domain/subdomain, for context.

>Panel Response:

Thank you for your comment. We agree that the

inclusion of disabilities is important when discussing high-risk transitions and we will update the report accordingly.

We also agree that standard subheadings and better navigation is important and we will address these concerns in the final report.

Priority Measures and Measure Concepts Section

Department of Health and Human Services

Jessica Oidtman

Why did only 2/3 of the panel provide responses to your prioritization exercise?

>Panel Response:

Thank you for your comment. While it is always NQF's hope to receive 100 percent participation from our Panel, we recognize that our Panel is generously volunteering their time to this project and have competing priorities, which sometimes makes it difficult to participate in every aspect of the project. The prioritization exercise was sent to the full Panel and two-thirds responded which NQF considers to be a large enough subset of the Panel.

Department of Health and Human Services

Jessica Oidtman

In the detailed discussion of domains, it is sometimes unclear whether findings were drawn from the environmental scan, from the expert panel, or from the measure scan (or a combination of all). Clarifying where results were drawn from may be useful.

>Panel Response:

Thank you for your comment. The domains were drawn from a combination of the environmental scan, the Expert Panel, and the measure scan. We will update the report to better clarify.

Department of Health and Human Services

Jessica Oidtman

The "engagement of the broader community" domain begins to address the social determinants that influence a patient's health. However, these social determinants of health are not always well measured or assessed during care transitions.

How might the measurement of social determinants of health be important to high-quality ED transitions in care?

>Panel Response:

Thank you for your comment. We agree that high-risk includes specific conditions as well as social determinants of health. This report has included high-risk as a general term, but we agree that there is more work to be done to develop tools around assessing social determinants of health. As a start, the Panel has recommended a measure concept that assesses social determinants and what type of impact they may have on the outcome of a transition of care.

Emergency Nurses Association

Josie Howard-Ruben

Agree with the priority measures.

Good content.

>Panel Response:

Thank you for your comment.

Expert Panel Recommendations Section

Department of Health and Human Services

Jessica Oidtman

In the recommendations section, it might be useful to provide suggestions for what levers/incentives/mechanisms, where appropriate, can be used to implement the recommendations.

Did the Panel only prioritize the measures, or did they also prioritize the recommendations? It might be helpful to know which recommendations should be tackled first, and which can be saved for later.

>Panel Response:

Thank you for your comment. A number of the recommendations do include potential levers and mechanisms that can be used to implement the recommendations. For example, the use of a common consent form, the creation of new reimbursement codes to provide more intensive care coordination services, etc. We also recommend quality incentive programs that promote shared accountability.

The Panel did not prioritize the recommendations but did draft the recommendations with unanimous agreement.

Emergency Nurses Association

Josie Howard-Ruben

Manageable priority list with clear directions and where to proceed for future implementation and the inclusion of some examples of "best" practices. Minimal inclusion of EMS within the framework.

Advanced practice nurses are poised to assume the role of care coordinator for the ED patient population. We would like to see this identified as a viable option. Broad categories of "care coordinators/ managers" are identified and nursing is not mentioned.

Health information technology (HIT) is vital to the transfer of information to all parties involved in care coordination programs. The use of biotechnology in the collection of patient vitals is not addressed here. Why is biotechnology not being recommended here as a means of transmitting current and past bio- responses to care and state of health? Biotechnological monitoring of patients in the home care setting is the future of medicine if we expect to manage care outside of hospitals.

It is clear that positive clinical outcomes should be the drivers for payer incentives. What are the incentives to reporting or will you strongly recommend that regulatory agencies be involved?

Care Coordination is not a new concept and research will assess the outcomes of these recommendations.

Many hospital systems in the same county are not able to have standardized EMRs. Financial burden on the hospital system is the main factor or hurdle in a EMR conversion or utilization.

The sharing of information would be applicable in printed out patient report in compliance with EMTALA.

New payment models may need legislative assistance to change the current 3rd party reimbursement and not an easy task to collaborate due the uninsured, Medicare and other private insurance regulations.

>Panel Response:

Thank you for your review of the draft report and for your comments.

This project aims to identify ways to measure and improve patient transitions of care into and out of the ED, and ultimately make the process more patient-centered. We agree that advanced practice nurses are poised to assume the role of care coordinator for the ED population however, the report was meant to focus on functions, not specific roles. We recognize that supporting quality transitions of care is a team sport and involves many key players.

There have been significant advancements and innovations in biotechnology monitoring; however, it is not widespread or standard of care. The aim of this report is to recommend a measurement framework with additional considerations to support the advancement of the framework.

Rachel Abbey

p. 29 2.a. This sounds more of an opinion vs. a recommendation. What is the recommendation?

>Panel Response:

Thank you for your comment. Our recommendation in 2.a. is for health information exchanges to be supported by public funding or by payers. We recognize this recommendation is aspirational; however, current HIT infrastructure must be enhanced to achieve quality transitions of care. There are many different funding models, so our recommendation was intentionally broad. We will update the recommendation with some current examples of how payers and providers can work together to fuel data exchange (i.e., the HealthShare Exchange of Southeastern Pennsylvania).

Citations

Mount Sinai Medical Center

Ula Hwang

See above comment to also cite the following chapter specifically focused on transitions of care from the ED (for older patients):

Morano B, Morano C, Biese K, Coleman EA, Hwang U. Geriatric dispositions and transitions of care. In: Mattu A, Grossman S, Rosen P, eds. Geriatric Emergencies: A Discussion-based Review. Oxford, UK: Wiley Blackwell; 2016.

>Panel Response:

Thank you for your comment. We agree that this is an important resource and will ensure that itis included in the final report.

Methodology (Appendix A)

Department of Health and Human Services

Jessica Oidtman

It might be helpful to include a graphic that depicts how you collected your data (environmental scan, measures scan, interviews, expert panel), how this data feeds into your framework, and finally, how the domains and subdomains are related to each other.

>Panel Response:

Thank you for your comment. We agree with your suggestion and have included a graphic to depict how our data was collected and used.

Measure Compendium (Appendix C)

Denver Health Medical Center

Stephen Cantrill

Measure 3: Add "in a timely fashion"

Measure 4: Change ".. care document OR verbal report.." to "...care document AND verbal report". (the timely written report is the most important"

Measures 6 and 17: Reconcile the wording so they are the same

Measure 31: Please change to "Unscheduled return visits..."

>Panel Response:

Thank you for your comment. We have updated the report based on your suggestions.

Department of Health and Human Services

Jessica Oidtman

Did NQF consider any patient reported outcomes measures as part of the environmental scan?

How might patient reported outcomes be included in quality measurement approaches for ED transitions?

>Panel Response:

Thank you for your comment. Yes, NQF included the search for patient-reported outcome measures in the environmental scan. There are several hospital-based measures in the HCAPS survey that could help to identify a patients experience with a transition of care. These measures have been included in the recommended measures. The Panel also identified concepts based on patient-reports that could support identification of a PCP, or shared decision making for discharge planning. Patient-reported shared decision making will be included in the final report.

Emergency Nurses Association

Josie Howard-Ruben

Lengthy.

>Panel Response:

Thank you for comment. NQF and the Panel agreed that including the domain/subdomain, whether it is an existing measure or measure concept, the title, and a brief description were important to display and would be helpful for those looking for measures/ concepts to implement.

Tahroma Alligood

#1, 2 and throughout: use consistent terminology for PCP (primary care provider vs. physician to account for PAs, NPs).

1, 2 and throughout: Should PCPs AND relevant specialists be included in information exchanges, medication reconciliation, care plans, etc. rather than OR?

It might be helpful to insert a separate column or footnote containing the source of existing measures and concepts, when available.

>Panel Response:

Thank you for your comment and recommendations. We have updated Appendix C to ensure we are using consistent terminology for PCP.

Regarding your second comment on should PCPs OR relevant specialists be included in information exchanges, we agree that it could be AND/OR. In some cases, for example cancer patients, the PCP and specialist would be the same. We also want to

clarify that these are recommended concepts and have not yet been developed. Thus, the language has been left intentionally broad to not restrict innovation.

For existing measures, we have updated Appendix C to include a link to additional information on that measure.

Measure Prioritization (Appendix D)

Emergency Nurses Association

Josie Howard-Ruben

May need to condense.

>Panel Response:

Thank you for your comment. Appendix D highlights the measures and measure concepts that were identified by the Panel and shows rankings for each measure/concept based on importance and feasibility. NQF and the Panel believes that prioritizing each measure/concept will assist the field in future development and believe that including the importance and feasibility score is important to include.

Rachel Abbey

p. 51 under Provider Information Exchange #4. It might be useful to clarify that the transition of care document is the patient care report (PCR) somewhere in this document. You might also want to clarify the method of how the ED is receiving and EMS is sending the PCR data from EMS--electronic, paper or verbal? If electronic, what standards (NEMSIS 3.4 CDA) are being used? What about measuring if the ED incorporates the ePCR data into the ED's EHR system (manual entry or HL7 format)?

>Panel Response:

Thank you for your comment. We agree that standards are fundamental to interoperability and data sharing and recommend the use of data elements that conform to EHR standards in the development of eMeasures. We have included standard format examples such as PCR and NEMSIS to the final report.

Rachel Abbey

p. 52. Provider Information Exchange #7: You may want to clarify what type of system (electronic or manual) and if electronic that the information provided back to providers uses data standards (e.g., for EMS NEMSIS 3.4 CDA standards).

>Panel Response:

Thank you for your comment and request for further clarification for this measure concept. We agree that standards are fundamental to interoperability and data sharing and recommend the use of data elements that conform to EHR standards in the development of eMeasures. We have included this recommendation in the final report.

General Comments

Consortium for Citizens with Disabilities

E. Clarke Ross

Patient, Family, & Caregiver Information Exchange. The American Association on Health and Disability and Lakeshore Foundation fully support and reinforce the significance of measures addressing patient, family, and care giver information. Pages 17-20, 23, and 28. One of the 4 important subdomains is patient-family-care giver experience. One of the prioritization findings is patient-centered communication. Clarke Ross, AAHD & Lakeshore.

>Panel Response:

Thank you for your comment.

Consortium for Citizens with Disabilities

E. Clarke Ross

Importance of Utilizing & Knowing About Available Community Resources. The American Association on Health and Disability and Lakeshore Foundation are delighted to see & fully support these recommendations. The NQF workgroup on persons dually eligible, the NQF committee on HCBS, the NQF committee on health disparities, and other NQF entities have recognized the importance of community resources-non-health, social services, and natural supports to promoting health. Pages 20-22, 25, 28-29. One of the 3 common themes, one of the priorization findings, and one of the

priority performance measures. Clarke Ross, AAHD & Lakeshore

>Panel Response:

Thank you for your comment.

Department of Health and Human Services

Jessica Oidtman on behalf of Brendan Carr

Thanks for this wonderful framework which will allow the acute care community to develop quality measures that fully capture the experience of the patient as they transition from their usual state of health, into the acute care system, and then back into their usual source of outpatient care.

The bi-directional flow of information described in this document captures an essential approach to efficiently using resources while ensuring high quality and patient centered care.

There is no mention of the role of payers in owning the key domains described. I'm concerned that payers are not involved in discussion about how to ensure that the broader community is engaged. Specifically, I would like the framework to include some discussion of how payers are encouraged to engage the broader community. A concrete example here includes the use of emergency departments as a safety net and the reality that some patients can't be discharged into a low cost setting as a result of their sociodemographic challenges. It is easy for payers to deny the admission on clinical grounds and they have no incentive to engage the community supports necessary to find a lower cost option.

The recommendations should more concretely articulate how to use novel payment structures to create shared incentives and penalties across different settings of care.

>Panel Response:

Thank you for your comment. We agree that payers can play a key role in successful transitions. In our recommendations, we identified that stakeholders, to include payers, should work together to identify, develop, evaluate, and promulgate promising models for ED and community engagement. In addition, the report mentions the importance and use of care managers, social workers, coordinators, or navigators within the ED to better facilitate communication with payers.

Department of Health and Human Services

Jessica Oidtman

How might we leverage the Medicare Access and CHIP Reauthorization Act (MACRA) to improve ED transitions in care? For example, how can we leverage quality measures or the clinical practice improvement activities outlined under the merit-based incentive payment system (MIPS) to improve ED transitions in care?

The 21st Century Cures Act drives toward better interoperability by, for example, setting up a provider directory to facilitate data exchange. It also helps to minimize information blocking among providers and facilities. How might we leverage the 21st Century Cures Act's provisions to enhance HIT to support high quality ED transitions in care?

It might be helpful to provide a definition for "acute, unscheduled care" at the beginning of the report since it is used throughout.

>Panel Response:

Thank you for your comment. The Panel recommends quality incentive models that promote shared accountability, which in turn supports quality transitions of care. Models that incentivize individual providers (versus shared accountability) do not improve quality transitions of care. We agree that the development of quality measures for the MIPS incentive program is a promising approach to improving ED transitions. We also agree that interoperability is the lynchpin to ED high quality transitions of care and that programs such as the 21st Century Cures Care Act will only have positive results.

A definition for "acute, unscheduled care" will be included in the final report.

Emergency Nurses Association

Josie Howard-Ruben

This topic is critical to population health. At a high level, this document addresses existing structures to tackle the problem of transitions of care, but does not seem innovative, so the result would be getting the same outcomes we do now. The paper does not to address the most current cutting edge care models that are being deployed to better serve patients in need of urgent/acute care and the concomitant follow-up. Communication, readmissions, and

medication reconciliation are necessary, but what is the new charge for researchers, providers and even the business managers to make change? A conceptual model is needed to guide the future research and measurement.

EMS and nursing/ancillary services, nursing leadership and business managers seem to be missing from this document. A charge to change should include all system stakeholders that make the ED run. The challenges affecting smaller EDs with resource poverty (social workers, etc.) should also be addressed.

Recommend sections 1) on emerging technologies (i.e. telemedicine both for follow up as well as to generally avoid ED visits); 2) policy and funding changes needing to be made by government and payers to more comprehensively address the root causes for ED utilization; 3) redeploying/reconfiguring the entire delivery system to meet the patient where they're at (home, homeless, SNF, etc.); and 4) education of the community on correct ED utilization.

It would be helpful to add a focus on ways that EMS can be involved in care transitions. If EMS is to be represented in the changes made in the ED, it is necessary that this document discuss the ways to utilize EMS as part of the solution to care transitions. EMS is moving toward becoming an integrated portion of our healthcare delivery model and is an important player in the care transition into the ED. Mobile integrated healthcare-community paramedicine is also missing from this document, and this document can be an opportunity to help EDs understand the benefit of MIH-CP in improving transitions of care. Post-discharge follow-up with MIH-CP for high risk patients is already a documented practice that has reduced certain readmissions and an extension of this practice to involve MIH-CP in care transition out of the ED and back into the community. EMS can play a vital role in avoiding ED utilization, if the proper protocols are put in place at dispatch and for the field crews.

>Panel Response:

Thank you for reviewing the draft report and for your comments. We agree that a conceptual model is needed to guide future research in measuring and promoting quality transitions of care. We believe our report is a starting point providing a measurement framework and research agenda. It is our hope that the measurement framework set forth in the report may be used as a foundation in identifying innovative, feasible, and reliable ways to incentivize meaningful, person-centered transitions of care.

This project aims to identify ways to measure and improve patient transitions of care into and out of the ED, and ultimately make the process more patient-centered. We recognize that there are transitions that occur when emergency medical services (EMS), the police, or the fire department respond to individuals who may or may not be transported to the ED. The aim of the report is to address the challenges affecting all types of EDs including ones with varied resources. The final draft will address this.

We agree that the identification and dissemination of integrated healthcare community models in which ED transitions are supported by multiple stakeholders is essential and have included examples in the report.

Federation of American Hospitals

Jayne Chambers

The Federation of American Hospitals ("FAH") appreciates the opportunity to comment on this draft report. FAH supports the report's focus of driving improvements in emergency department (ED) transitions to positively impact the patients we serve. The comments that FAH provides are intended to further strengthen the proposed domains, subdomains and measure concepts.

The domains and subdomains identified in this framework are well outlined and FAH supports the inclusion of a domain specifically focusing on the role of the community at large. Recognizing and highlighting a community's contribution to improving the quality of life for patients and minimizing those factors that influence a patient's need to revisit the ED is critical. These factors such as lack of a primary care physician, access to food or pharmacies, and transportation should also be assessed at the individual patient level and not just at the broader community level. FAH recommends that the panel incorporate the data capture of social risk factors into the "provider information exchange" and the "patient, family, and caregiver information exchange" domains.

Expansion of the subdomains to address the needs of the family and caregivers in the "patient, family, and caregiver information exchange" domain would

also be helpful. Currently, the subdomains appear to be primarily patient-focused; yet, the family and/or caregiver play a critical role in providing information and participating in the care process.

>Panel Response:

Thank you for your review of the draft report and for your comments. We identified in our recommendations a research agenda that includes further research to understand which patients are at highest risk for encountering problems with poor quality or poor outcomes related to ED transitions. This recommendation includes the development of a tool to measure modifiable social determinants of health for incorporation into a community integrated electronic health record based on the National Academies recommendations on Capturing Social and Behavioral domains and measures in Electronic Health Records.

The Panel identified a number of leading programs specific to community supports and social determinants, such as San Diego 211, that are included in the engagement of the broader community section of the report.

NQF's current guidance states that "patient" is a term of art that includes caregivers, family members, parents, and others involved in the team of care. We see all of these roles as critical in providing information and participating in the care process.

Federation of American Hospitals

Jayne Chambers

The report mentions, but does not address, many of the challenges that are encountered when developing and implementing measures around ED transitions. Several of the measure concepts included in Appendix C are aspirational as noted. Additional information on how to tackle measure development and implementation barriers associated with these concepts and in general would be beneficial.

FAH requests that the report also address where the evidence is the strongest to support the measure concepts. Given the goal of using this report to assist developers in identifying potential measures for development, the FAH recommends that only those concepts for which there is demonstrated evidence that the structure or process will improve patient outcomes should be included. Particularly, given the potential requirements and costs for infrastructure, staffing and other resources required to implement some of the structural measure concepts, it may be more beneficial to focus on processes and outcomes. The structural components for which there is evidence to demonstrate that others have been able to improve outcomes may be better suited to best practices or examples on how improvements in processes and outcomes were driven through its use. The FAH also notes that the measure concepts outlined on page 48 in Appendix C under the "effective communication and shared decision making" subdomain would be further strengthened if the information was derived from the patient's voice rather than requiring documentation from the provider's perspective.

FAH thanks the panel for their thoughtful report on such a critical topic and looks forward to viewing the final report

>Panel Response:

Thank you for your comment. We agree that additional information on how to tackle measure development and implementation barriers associated with the proposed measure concepts in Appendix C is important.

We recognize that there are infrastructure challenges, however while this is a critical quality issue, we anticipate they will be resolved in the future. The report proposes one structural measure for future development and implementation. This concept is based on HIT infrastructure to provide patients access to health information via an online portal. The concept corresponds to the Panel's recommendations for HIT enhancements to support quality transitions for which there is an evidence base. We agree that the shared decision making concept is further strengthened by including patient-report and have updated to the concept to reflect this.

Mount Sinai Medical Center

Ula Hwang

Well written report with important review, synthesis of domains, and recommendations/opportunities and directions for improving ED transitions of care. An additional citation and resource that should be considered in the Environmental Scan to inform

ED Quality of Transitions of care measurement framework is the chapter "Geriatric dispositions and transitions in care" in the 2016 Rosen Geriatric Emergencies: A discussion-based review. The chapter provides a consensus-based check list of activities in quality care transitions for patients discharged from the ED that are as follows:

Assessment of care needs

Understanding the patient's/family's care preferences

Linkage to appropriate care setting

Identification of single care coordinator

Delivering effective patient/family/caregiver education

Facilitating a timely disposition from the ED setting

These elements are aligned with and support the 4 proposed domains in the draft report (provider information exchange; patient, family, caregiver information exchange, engagement of community, and achievement of outcomes).

>Panel Response:

Thank you for your comment. We agree that this is an important resource and will ensure that it is included in the final report.

National Association of ACOs

Jennifer Gasperini

NAACOS appreciates the opportunity to provide feedback on the National Quality Forum (NQF) Emergency Department Quality of Transitions of Care Measurement Framework, Draft Report. As the largest association of ACOs, representing more than 3.5 million beneficiary lives through over 240 Medicare Shared Savings Program (MSSP) ACOs, Next Generation, and commercial ACOs we care deeply about this issue. NAACOS is an ACO member-led and member-owned non-profit organization that works on behalf of ACOs across the nation to improve the quality of Medicare delivery, population health and outcomes, and health care cost efficiency.

ACOs are committed to enhancing care coordination, particularly around transitions into and out of the Emergency Department (ED) and therefore we appreciate the Expert Panel's work in developing a priority set of measures and concepts to improve quality measurement and work in this area. NAACOS agrees with the panel's assessment of infrastructure improvements needed to better support ED transitions that are patient-centered. We also support the panel's recognition of the need to better engage the broader community in transitions of care efforts including non-clinical, social supports. ACOs are increasingly engaging their communities to support the social needs of their patients and connect them, when possible, with community services. We support the panel's focus and attention to furthering the availability of community supports information to better coordinate care provided following ED care.

We agree with the limitations detailed by the panel for the current measure set around ED transitions of care. NAACOS supports the panel's focus on enhancements to Health Information Technology (HIT) to support ED transitions of care, including making HIT that easily identifies key information for a receiving provider related to the transition and to allow sharing of information among hospitals, clinicians and other non-clinical providers when appropriate. We appreciate the panel's commitment to minimizing provider burden in reviewing such information. We agree that further research is needed to understand which interventions work best to reduce transition related problems in order to develop further measures in this area. ACOs should be included in this assessment going forward to learn from the best practices they have identified around this issue to date. Lastly, we agree that any measurement in this area should be tailored for use in multiple settings to better facilitate care coordination.

In closing, we thank the NQF for their focus and work in this area. We support the ongoing evaluation of how to best measure work related to ED transitions of care. ACOs remain highly invested in this area of research and welcome the ability to share input in the panel's future work in this area.

>Panel Response:

Thank you for your comment. We agree that ACO's play a key role in this area and will ensure that they are included moving forward to learn from the best practices they have identified to date.

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