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Driving measurable health improvements together

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Measure Developer Workshop

NQF Measure Maintenance Team

June 7, 2021

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

Welcome

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Agenda

- Welcome and Introductions
- Introduction to Measure Information Management System
- Attribution for Critical Illness and Injury
- Submitting Electronic Clinical Quality Measures (eCQMs) to NQF
- Break
- Social Risk Trial
- Scientific Methods Panel – What Good Looks Like
- Developing and Testing Risk Adjustment Models for Social and Functional Status-Related Risk within Healthcare Performance Measurement

NQF Measure Maintenance Team

- Sheri Winsper, RN, MSN, MHA, NQF Senior Vice President
- Michael Katherine Haynie, NQF Senior Managing Director
- Kathryn Goodwin, MS, NQF Director
- Hannah Bui, MPH, NQF Manager

Introduction to the Measure Information Management System (MIMS)

Hannah Bui, NQF
Kathryn Goodwin, NQF

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Enhancements to the System

- "Dashboard" under "NQF Work" public page
- Measure Creation and Form Features
- Measure Scheduling and Status
  - View maintenance and annual update schedules
  - Request to defer, withdraw, or remove endorsement
- Measure Tracking
  - Track submissions and their status as they move through the Consensus Development Process (CDP)
  - View measure and submission history
- Requests for Assistance
- User Access
  - Collaboration capabilities

Screenshare

- NQF Staff will screenshare to provide a preview of MIMS

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What Will Not Change

- Login information
  - Individuals with existing NQF accounts will use their username/password to log in. Those who are new to the NQF measure submission process will be asked to create an account.
- Measure access for existing measures that migrated to MIMS
  - If you have issues with this, please reach out to Measure Maintenance team.
- Consensus Development Process flow

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Fall 2021 Review Cycle – What to Expect

- The Evidence and Testing sections are no longer submitted as attachments.
  - Questions are embedded into the online submission form
- All measures, including those under review in the spring 2021 cycle will be migrated to MIMS.
- For measures that are migrated, the most recent submission will have data populated into the online form fields, with the exception of the Evidence and Testing sections.
  - We encourage measure developers to review each question for their correct response.
  - Evidence and Testing sections will need to be manually input by the developer into the form for the first submission in MIMS.
  - NQF will provide developers with previously submitted Evidence and Testing forms to assist developers.
- All submissions to the fall 2021 cycle will occur in MIMS.

Brief Walkthrough of Submitting a New Measure

- NQF Staff will screenshare to provide a brief walkthrough of the Measure Submission Form (MSF)

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Thank you!

Questions?

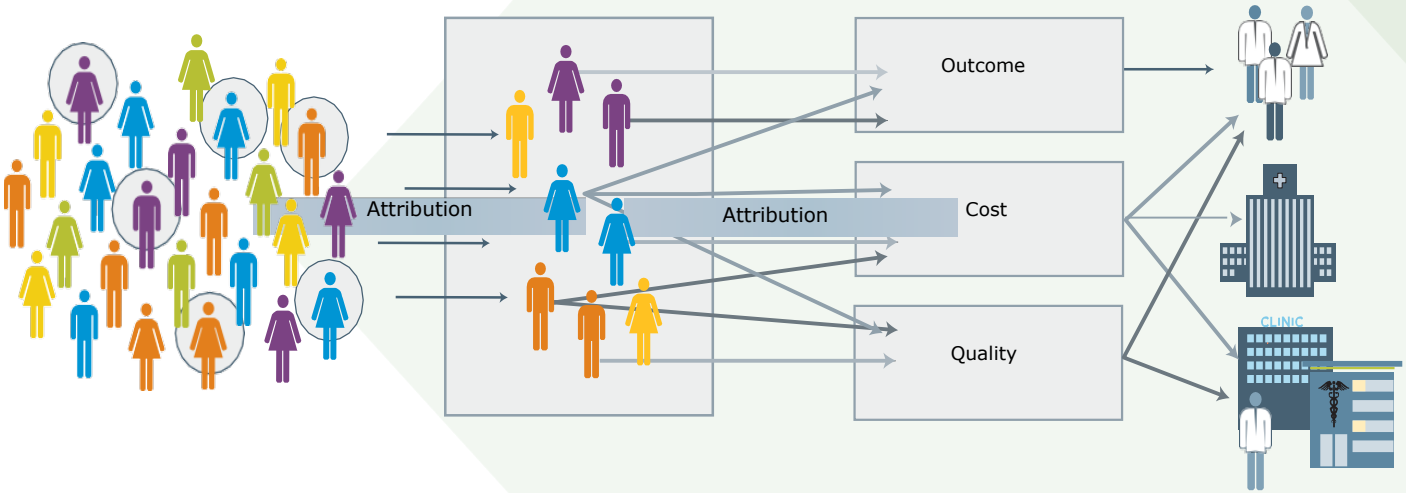
Attribution for Critical Illness and Injury

Carol Raphael, Co-Chair
Brendan Carr, Co-Chair
Nicolette Mehas, NQF

This project is funded by the Centers for Medicare & Medicaid Services under Task Order 75FCMC20F0005

Background

- Attribution is the method to assign patients and their quality and cost outcomes to providers or entities



Measure Level Attribution Figure from Attribution: Principles and Approaches (2016) report

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Background

- Traditional attribution approaches are less applicable to mass casualty incidents (MCIs) and public health emergencies (PHEs)
- Challenge to attribute a single outcome (e.g., mortality) to a team or multiple entities with different level or nature of involvement in providing care, largely due to siloed data
- Attribution, done fairly and accurately, can help promote more active collaboration among otherwise competing organizations or those belonging to disparate systems to effectively respond to large-scale emergencies

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Project Purpose

Establish recommendations for developing geographical or population-based quality measurement attribution models for MCIs and PHEs

Identify relevant quality measures and concepts to encourage care coordination and strengthen shared accountability at the system level during large-scale emergencies

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Key Milestones

- Recruited and Selected Committee
- Stakeholder Input – 6 Committee Web Meetings and 9 Key Informant Interviews
- Environmental Scan *(final scan posted May 17, 2021)*
- Final Report *(draft final report will be out for public comment June 2-July 1, 2021; final report to be posted by August 27, 2021)*

Expertise for the Multistakeholder Committee

- 25 Committee members represent a variety of stakeholders:
  - National experts in attribution approaches for quality measurement;
  - National experts in high-acuity, Emergency Care Sensitive Conditions (ECSCs);
  - Patients/consumers/caregivers;
  - Practicing clinicians specializing in high-acuity ECSCs;
  - First responders;
  - State/local agencies staff;
  - Representatives of health plans;
  - Representatives of healthcare facilities; and
  - Representatives of specialty societies.

Completed Work: Environmental Scan and Key Informant Interviews

- With input from the Committee, NQF conducted an environmental scan that reviews, analyzes, and synthesizes information regarding existing attribution approaches for quality measurement of health outcomes related to high-acuity ECSCs

- NQF conducted Key Informant Interviews to supplement the environmental scan by filling specific content gaps and expanding upon findings

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Current Work

Use Cases

- Develop use cases to illustrate what to consider in developing an attribution approach for measuring quality of care related to health outcomes during high-acuity ECSCs
- Use cases represent various emergency scenarios that require team-based approaches to care

Final Report

- Developed from content from Key Informant Interviews, Committee discussion, and use cases
- Includes the necessary elements, theoretical and empirical approaches, and recommendations for the development of population/geographic-based attribution approaches for measurement of health outcomes for high-acuity ECSCs resulting from MCIs and PHEs

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Final Report Themes

- The final report includes the following content:
  - Goal of the Attribution Methodology
  - Defining Geographic Region and Populations
  - Attribution to Multiple Entities
  - Attribution Timing
  - Data Availability and Capture
  - Patient Role in Care Selection
  - Unintended Consequences
  - Quality Measures, Concepts, and Gaps
- Preliminary findings for several of these topics are included in the following slides.

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Attribution Methodology Goal

- Foster and promote shared accountability and best possible outcomes for patients
- Determining measurement attribution purpose
  - Encourage proactive coordination and communication between healthcare providers, public health entities, and EMS
  - Determine which population-level outcomes are desired based on previous gaps
- Determining entities and responsibilities
  - Account for roles of all entities involved
- Limitation of undue burden

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Defining Geographic Region and Populations

- Population-based approaches
  - Granularity of geographic boundaries
  - Realistic radius developed by the probability of an emergency event
  - Use data on existing patterns of healthcare receipt (e.g., Dartmouth Atlas' hospital service areas or hospital referral regions, Assistant Secretary for Preparedness and Response's (ASPR's) Hospital Preparedness Program (HPP) Health Care Coalitions (HCCs), Federal Emergency Management Agency's (FEMA's) flood maps)
- Patient inclusion considerations
  - All patients in a region, patients at risk of exposure to an MCI, or limit to only those that interact with the healthcare system

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Attribution Timing

- Prospective, Hybrid, and Retrospective Methods
  - Prospective or hybrid model is recommended to incentivize a multidisciplinary, coordinated response to emergencies
  - Retrospective models have the benefit of tracking patients and outcomes, can be best utilized for reviews of gaps and opportunities for improvement
- Measurement Duration
  - Varies depending on type of MCI
  - Additional layers of accountability may develop over time

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Data Availability and Capture

- Major challenges include interoperability, data sharing, and ability to notify all impacted entities in real-time
- Most incident data systems do not include clinical data, but rather focus on risks and events
  - Need to account for emergency medical services (EMS) and spontaneous patient load
- Need to standardize what gets communicated and how
- Receiving capability, not just open hospital beds, is a critical data point
- Data infrastructure is mainly non-existent
  - Needs to be an incentive to create a better data sharing system because of the cost and need for resources and encouragement

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Quality Measures, Concepts, and Gaps

- Limited quality measures for PHEs and MCIs
- Traditional measures for ECSCs
- Types of measures
  - Population- and team-based measures
  - Structure and process measures and measure concepts
  - Facility-level operational activities and metric concepts
- Established preparedness and EMS measures and measure concepts
  - HPP measures
  - EMS measure concepts
  - National EMS Quality Alliance (NEMSQA) measures

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Entities Involved in Emergency Response, Goals, and Measures Examples - Draft

Entity	Goals of Response	Process Measures	Outcome Measures
EMS Agencies	First response - timing, safety, access to patients, and deploying correct equipment at scene	Triage to appropriate centers (burn, trauma hyperbaric oxygen [HBO]), timely transfer	Mortality (risk-adjusted), patient experience, and functional outcomes
Municipal Police & Fire	First response - timing, safety, access to patients, and deploying correct equipment at scene	Triage to appropriate centers (burn, trauma, HBO), and timely transfer	Mortality (risk-adjusted), patient experience, and functional outcomes
Local Hospitals	Initial resuscitation, scaling up to treat lower-acuity, long-term management (lower acuity), and appropriate triage to specialized center	Quality of resuscitation, process metrics of ED / hospital flow, quality of long-term management, and smooth transitions to local clinics	Mortality (risk-adjusted), patient experience, and functional outcomes
Specialized Facilities	Initial resuscitation, scaling up to treat lower-acuity, long-term management of critically ill, and less critically ill referrals	Quality of resuscitation, process metrics of ED / hospital flow, quality of long-term management, and smooth transitions to local clinics	Mortality (risk-adjusted), patient experience, and functional outcomes
Local Clinics	Deliver longitudinal sub-acute / chronic care long-term	Quality of long-term management and transitions in care	Patient experience, outcomes proximal to clinic care
Government Response	Coordinated response and outside of response (preparedness, mitigation, recovery)	Information sharing, quality of communication, quality metrics aimed at preparedness, mitigation, and recovery	Mortality (risk-adjusted), patient experience, and functional outcomes

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Discussion Questions

- As developers, how do you approach testing and selecting an attribution methodology?
- What are some population-health and team-based approaches to quality measurement attribution that you would recommend?
- What data collection and infrastructure challenges need to be addressed in order to have the desired data for building population-based attribution methods?
- What measures would be appropriate to use in measurement models to encourage regional collaboration for MCIs and PHEs?

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Project Contact Information

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NQF phone: (202) 783-1300

Project page: Attribution for Critical Illness and Injury

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Thank you!

Questions?

Submitting Electronic Clinical Quality Measures (eCQMs)

Chris Millet, NQF Consultant

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NQF's Definition of eCQM

- A measure that is specified using the industry accepted eCQM technical specifications: health quality measure format (HQMF), the Quality Data Model (QDM), Clinical Quality Language (CQL), and value sets vetted through the National Library of Medicine's Value Set Authority Center (VSAC).
- Alternate forms of electronic measure specifications that do not use the accepted industry specifications are not considered eCQMs.

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Measure Specifications Requirements (criterion 2a1)

- Follows technical specifications for HQMF, QDM, and CQL
- Terminology are captured via value sets and direct referenced codes
- Value sets are available
- There's no limitations in technical specifications that prevents the measure from being fully represented
- If not, any portion of the measure specifications not represented using HQMF + QDM + CQL + Value Sets are documented

Scientific Acceptability Testing Requirements

- The minimum requirement is testing in EHR systems from more than one EHR vendor. Developers should test on the number of EHR systems they feel appropriate.
- Reliability (criterion 2a2)
  - Data element level testing is required for unstructured fields
- Validity (criterion 2b2)
  - Data element level testing is required
  - Measure score level testing can be used in addition to data element level testing

Feasibility (criterion 3)

- Simulated data set results
  - Used to unit test measure logic
  - Automated calculation works as expected
  - Demonstrates 100% coverage of the measure logic

Feasibility (criterion 3)

- Scorecard
  - Data element should be at either the QDM Datatype level or QDM Attribute level
  - Assesses each data element on four domains
    - Accuracy - is correct
    - Availability – is readily available in a structured format
    - Standards - is coded using a nationally accepted coding system and mapped to the QDM
    - Workflow - is routinely collected

Feasibility (criterion 3)

- Measure Developers have an opportunity to provide context and a plan for data elements with identified issues
- Data elements with issues in the accuracy domain
  - Consider the issue, context and plan when reviewing the data element level validity testing

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Thank you!

Questions?

Social Risk Trial

Sharon Hibay, NQF Senior Consultant

This project is funded by the Centers for Medicare & Medicaid Services under contract HHSM-500-2017-00060I Task Order 75FCMC18F0001

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Background and Context

- In 2014, NQF empaneled the Disparities Standing Committee with the core belief that inequities in health and healthcare should be identified and reduced, and that performance measurement should neither lead to increased disparities nor should it penalize providers who care for large proportions of marginalized patients.
- Under the guidance of the Disparities Standing Committee, NQF continued a multi-year journey to test the inclusion of social risk factors in measure endorsement and implementation processes to answer this key question:

Should quality measures adjust for social risk factors?

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Background and Context

- 2014: NQF and the Disparities Standing Committee NQF convened the Risk Adjustment Technical Expert Panel (TEP)
- 2015: NQF began the initial two-year Social Risk Trial and requested developers evaluate social risk factors in the risk adjustment models
- 2017: NQF's Disparities Standing Committee published *A Roadmap for Promoting Health Equity and Eliminating Disparities: The Four I's for Health Equity*
- 2017: NQF initiated the second (multi-year) Social Risk Trial period
- 2021: NQF summarizes the Social Risk Trial and transitions the adjustment for social risk activities to NQF's Risk Adjustment TEP

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Second Social Risk Trial

- The root causes of social inequities are multifactorial and intertwined both **originating and reinforced by social, cultural, structural, economic, and other diverse individual and community factors and forces** often steeped in racial or social discrimination.
- The "causes" of social inequities in health and healthcare are complex and **warrant recognizing and appropriately considering all risk factors (i.e., demographic, clinical, and social)** when evaluating, reporting, and recommending performance measures for high-stakes incentive and accountability purposes.
- Goals of the second social risk trial include:
  - Requesting measure developers submit measures with social risk factors considered in risk adjustment models
  - Exploring the challenges and opportunities related to including social risk factors in risk adjustment models

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Demographics versus Social Risk Factors

- Combined with other national tensions related to bias and discrimination, the COVID-19 pandemic demonstrated and intensified the stark inequities and effects that social risk factors have on healthcare access and health outcomes. The social concepts of *race*, *ethnicity*, and *gender* are widely available and used to differentiate population characteristics and performance in healthcare delivery, research, and measurement.
- Many disparities experts state that these social factors do not and should not speak to inherent and measurable social risks. Having the characteristics of a certain race, ethnicity, or gender does not present a risk to health outcomes. Rather, the implicit and explicit discrimination or bias of these factors is a social phenomenon that acts as a risk to health outcomes.
- The influence of social risk factors underscores the importance of recognizing and appropriately analyzing all applicable sociodemographic risk factors in performance measurement to ensure that providers are fairly compared and that the comparisons reflect providers' populations.

Social Risk Factors

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Social Risk Trial: Methods

- NQF staff collected, aggregated, and analyzed data from measure submissions relating to adjustment for social risk during fall 2017 through spring 2020 measure evaluation cycles,
- These data included general measure information (e.g., NQF #, title, and measure type), responses for submission questions related to the consideration and inclusion of risk adjustment models and social risk data elements, as well as process, recommendation, and decisions throughout the steps of measure evaluations.
- Information was collected during Intent to Submit, Scientific Methods Panel (SMP) reviews, measure evaluation or post comment (i.e., for consensus not reached only), and after final Consensus Standards Approval Committee (CSAC) endorsement recommendations.

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Common Social Risk Factors Considered

- **Race and Ethnicity**
  - Race
  - Ethnicity
  - White versus non-White
  - African Americans
- **Insurance**
  - Insurance product
  - Payment source
  - Insurance status
  - Dual eligibility
  - Payer
  - Medicare/Medicaid
- **Relationship Status**
  - Percentage of single females with child
  - Relationship of veteran next of kin
  - Marital status
  - Lives alone
- **Income and Socioeconomic Status (SES)**
  - Percentage on public assistance
  - AHRQ SES Index
- **Other**
  - Hospital safety-net status
  - Home ownership
  - Regional healthcare provider shortage
  - Disability/disability status
  - Undocumented immigrant
  - History of social risks (e.g., substance abuse)
  - Gender
  - Health literacy
- **Social risk concept not required**
  - Education
  - Language
  - Rural/Urban
  - Employment status

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Overview of Measures Submitted

- Measures Reviewed in second Social Risk Trial (n=317)
  - Outcome or intermediate outcome (n = 135)
  - Process (n = 142)
  - Resources Use (n = 17)
  - Composite (n = 13)
  - Structural (n = 6)
  - Efficiency (n = 4)
- Risk Adjusted Measures*
  - Included some form of risk adjustment in the measure (n = 125)
  - Conceptual rationale supported inclusion of social risk factors (n = 74)
  - Included social risk factors in the final risk adjustment approach (n = 38)

*Adjustment models included clinical, demographic, or social risk factors.

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Social Risk Adjustment Rationale and Inclusion

Type of Rationale for Social Risk Adjustment	Number of Measures*	Percent of Measures*
Total Risk-Adjusted Measures	125	100%
Measures that used "Published Literature" to develop rationale for social risk factors	92	73%
Measures that used "Expert Group Consensus" to develop rationale for social risk factors	14	11%
Measures that used "Internal Data Analysis" to develop rationale for social risk factors	68	54%
Measures with conceptual rationale that supported inclusion of social risk factors	74	59%
Measures that included social risk factor(s) in final risk adjustment approach	38	30%

*Column numbers and percentages are more than 125 measures and 100% as more than one social risk factor was considered for many measures.

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Social Risk Factors Considered and Included

Social Risk Factor	Percent of risk-adjusted measures that considered the social risk factor*	Percent of risk-adjusted measures that included the social risk factor+
Insurance	59%	14%
Race and Ethnicity	51%	8%
Socioeconomic Status (SES)	32%	2%
Education	19%	6%
Employment	17%	1%
Other	12%	7%
Income	11%	0%
Relationship Status	9%	2%
Rural/Urban	9%	0%
Language	7%	3%
Disadvantaged areas	5%	0%

*Some measures considered more than one social risk factor for risk adjustment; therefore, percentages are more than 100.

+Most measures did not include social risk factors in the final specification; therefore, percentages are less than 100.

Findings and Recommendations

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Second Social Risk Trial Findings

- The **entire measurement community has an obligation** to rectify long-standing societal, health and health inequities; and therefore, bears the responsibility for its part of the remedy.
- In discussions of **race and ethnicity,** independent of SES, it is important to **recognize the unquantifiable effects, are cumulative in nature,** including:
  - Differences in genetics and biology
  - Long-term exposure to social-, economic-, structural-, and environmental-induced stress
  - Direct, negative physical effects of decreased immunity for marginalized individuals and communities exposed to racism and discrimination
  - Neurohormonal responses to stress pathways that induce chronic psychological and behavioral responses
- Demographic **proxies for social risk (i.e., race, ethnicity, and sex) are temporary** until more suitable alternatives are identified.

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Second Social Risk Trial Findings (continued)

- The **inclusion of social risk factors in risk adjustment models** throughout performance measurement **will require additional clarity**, guidance, and guardrails to fully grasp the effects and unintended consequences in measure programs, payment models, and other incentivization and high-stakes uses.
- **Additional research and guidance is needed** to determine when to include social risk factors when model performance is not improved in testing (e.g., C-statistic is not improved) or small effect size is noted.
- Measures often include **a conceptual rationale that supports the inclusion** of social risk in adjustment models, **yet social risk factors are not included** in final models.

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Key Overall Recommendations in Draft Final Report

- **Declare the elimination of health and healthcare inequities a top national and performance measurement priority.**
- Demographic and **stable social risk factors**, such as race and ethnicity, education, and language, **should be consistently collected** by government agencies, including, but not limited to, HHS, payers, and providers.
- **Each submitted measure should be individually assessed** to determine the appropriateness of adjustment for social risk factors.
- The measurement community should **assess the effects and unintended consequences of social risk for marginalized populations and providers** to ensure measure alignment with program and policy goals.
- **Prioritize the identification of demographic risk alternatives to current social risk proxies** (i.e., race, ethnicity, and sex) for consideration and inclusion in risk adjustment.

Key Recommendations for NQF in Draft Final Report

- NQF should make the consideration and analysis of **social risk factors a permanent component of the requirement for endorsement and maintenance measure evaluation**.
- NQF should work with the SMP, Standing Committee members, and the Risk Adjustment TEP to **update the evaluation guidance and set clear expectations for the inclusion of social risk factors in risk adjustment,** the use of stratification, and the reporting of inequities in care settings and populations.
- NQF should i**ncrease the technical assistance capacity and available resources to developers** and the measurement community to support measure development and submission that consider and include measures that adjust for social risk, particularly for emerging measure developers.

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Key Recommendations for Developers in Draft Final Report

- Developers should **consider the impact of social risks on healthcare delivery and outcomes** to ensure accurate reporting of care quality that reduces harm and unintended consequences to marginalized patients and their providers.
- Developers are encouraged to **stratify performance data in measure submissions by adjustment variables** (i.e., clinical, demographic, and social risk) when data is available.
- Developers should **clearly define how social risk factors associated with outcomes and the reasoning for not using social risk factors** in adjustment models when the conceptual rationale supports inclusion.

Public Comments

Updates and Current Activities

- **Public Commenting Period for Final Report**
  - April 19 – May 18, 2021 (closed)
  - Comments received and recommendations will be discussed during the final Social Risk Trial Web Meeting on: June 11, 2021; 11am – 1pm ET
- **Final report release**
  - July 14, 2021

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Project Contact Info

- Email: socialrisk@qualityforum.org
- NQF phone: 202-783-1300
- Project page:
  - https://www.qualityforum.org/Social_Risk_Trial.aspx

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Thank You!

Questions?

Scientific Methods Panel

David Nerenz, SMP Co-Chair
Christie Teigland, SMP Co-Chair
Sharon Hibay, NQF Senior Consultant
Hannah Ingber, NQF Senior Analyst

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

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Scientific Methods Panel Background

- **Scientific Methods Panel (SMP) was formed in 2017 as part of the Consensus Development Process (CDP)**
  - Promote more consistent evaluations of Scientific Acceptability criterion
  - Reduce standing committee burden
  - Promote greater participation of consumers, patients, and purchasers on NQF standing committees
  - Feedback indicates implementation of the SMP has achieved these goals
- **The SMP charge includes two responsibilities**
  - Conduct evaluation of complex measures for the criterion of Scientific Acceptability, with a focus on reliability and validity analyses and results
  - Serve in an advisory capacity to NQF on methodologic issues, including those related to measure testing, risk-adjustment, and measurement approaches

What Good Looks Like

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What Good Looks Like – Intent to Submit (ITS)

- **Specifications** - The measure specifications are precise, unambiguous, and complete so it can be consistently implemented within and across organizations and allows for comparability.
- **Reliability** - Extent to which the measure, as specified, produces consistent (reliable) results. A way of quantifying the chance error (or “noise”) in a measure.
- **Validity** - Extent to which the measure, as specified, produces credible (valid) results about the quality of care when implemented. A way of quantifying whether differences in measurement represent differences in quality.

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What Does the SMP Look For?

- The SMP will ask the following questions about measure submissions at Intent to Submit (ITS)
  - Are the specifications clear so that everyone will calculate the measure in the same way?
  - Is the variation between providers primarily due to real differences? Or is it because there is a lot of "noise" in the measurement?
  - Is the measure truly measuring what it is intended to measure (e.g., quality of care)?
  - Do the results of the measurement allow for correct conclusions about quality of care?

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Common Pitfalls

- **Validity Correlations**
  - Hypothesized relationships must be clear and evidence-based
  - Endogeneity issues
- **What leads to Consensus Not Reached (CNR)**
  - Lack of clarity in the submission
    - » For hypothesized relationships
    - » For testing methods
    - » For analysis of results
    - » For analysis of risk adjustment or lack of risk adjustment
  - Unexpected or unusually high results without proper explanation
  - Incomplete information
    - » Missing theory of quality
    - » Limited citations for evidence presented

0425 Functional Status Change for Patients with Low Back Impairments (Submission)

- **Measure Steward:** Focus on Therapeutic Outcomes, Inc
- **Brief Description of Measure:** This is a patient-reported outcome performance measure (PRO-PM) consisting of an item response theory-based patient-reported outcome measure (PROM) of risk-adjusted change in functional status (FS) for patients aged 14 years and older with low back impairments.
- **Strong Points of Submission Materials:**
  - Use of published studies as well as new developer analyses to support reliability and validity.
  - Detailed presentation of reliability analysis using multiple data sets and data sources, with very strong empirical evidence of reliability both at patient and entity levels.
  - Careful analysis of changing reliability levels at the patient levels at different parts of the possible score range.
  - Careful and thorough analysis of validity, using multiple analytic approaches and multiple independent measures with which to establish relationships in support of validity.

3543 Patient-Centered Contraceptive Counseling (PCCC) (Submission)

- **Measure Steward:** University of California, San Francisco
- **Brief Description of Measure:** The PCCC is a four-item patient-reported outcome performance measure (PRO-PM) designed to assess the patient-centeredness of contraceptive counseling at the individual clinician/provider and facility levels of analysis.
- **Strong Points of Submission Materials:**
  - Clear and informative description of site-level and provider-level testing samples.
  - Clear and thorough explanations of hypotheses, reliability and validity testing methods, and testing results.
  - Testing results for reliability at both patient ("data element") and measured entity level (either individual provider or facility) were high, and a table showing the relationship between sample size at each level of analysis and reliability was included.
  - Reasonable and well-defended choices of other measures to use in analyses of convergent validity. Strong methodology for establishing face validity.

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Recommendations for Reliability and Validity Testing

1. When denominators vary broadly across assessed entities/groups, it is important to show reliability results stratified by group size. For example, by decile, to assure the measure is reliable for groups of all sizes, or that the measure only applies to groups of at least "XX" patients in denominator.

2. A detailed description of the reliability analysis conducted is important. It is useful to see reliability results stratified by characteristics highlighted/examined in the risk adjustment section. For example, if there is a conceptual basis in the risk model, provide stratified results by social risk factors such as dual status, income, or factors representing SDOH. Here it may be helpful to provide reliability testing results for duals vs non-duals of the measure.

3. If possible, apply different approaches to evaluate reliability, such as signal/noise and split-sample, which can strengthen the results if both approaches show good reliability.

4. For validity testing, if using empirical testing to correlate the measure with other outcomes, clearly state the hypothesized relationship and provide evidence-based rationale if possible.

5. In describing the results of both reliability and validity testing, don't just say "the results support the reliability/validity of the measure." Clearly explain why or why not.

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Recommendations for Risk Adjustment

1. Clearly describe all risk factors included in testing, a rationale for each, the approach to developing the model, and descriptive data showing the distribution of factor scores across the test population.

2. Clearly describe the results of the risk adjustment model and why they show the model has acceptable discrimination/calibration (e.g., plot observed to expected rates; calculate discrimination for different size denominators and/or stratified by low performers to high performers).

3. Many developers conduct 2-stage modeling where demographic and/or clinical factors are first entered and then any social risk factors are entered. The SMP has criticized treating social risk factors differently and holding them to a higher standard than demographic and clinical risk factors. For example, strong statistical significance (when some clinical factors included in the model are not significant but left in for face validity or importance reasons) or change in c-statistic or model performance (which is rarely possible with many factors are already in the model). For this approach, a clear justification for treating social risk factors differently should be provided.

4. When social risk factors are significant to the model, yet a decision is made to exclude them, provide quantitative evidence for excluding the social risk factors. For example, analyze the differences in observed to expected rates with and without the social risk factors in the model and/or examine correlations between measure scores calculated with and without social risk factors. Hypothesizing that including them may cause an adverse or unintended result is too subjective.

Scientific Acceptability Testing

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Reliability Thresholds Guidance

- 1977 Landis and Koch article presents arbitrary adjectives for reliability thresholds
- 0.4 may be too low to demonstrate adequate reliability for NQF endorsement
- Currently drafting two tables separated by testing level
  - Person/Encounter level (e.g., data element)
  - Accountable/Reporting entity level (e.g., performance or measure score)
- Tables provide guidance to developers on appropriate testing methods and results to demonstrate reliability of a measure
  - Test & Use (e.g., Cronbach's Alpha for survey items)
  - The purpose of the test (e.g., Cronbach's Alpha tests the internal consistency of items in a multi-item scale)
  - Threshold values

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Questions for Measure Developers

- What challenges do developers encounter during testing?
  - Reliability testing
  - Validity testing
- What challenges do developers encounter in risk adjustment consideration and inclusion?
  - Conceptual rationale
  - Risk factors (i.e., clinical, demographic, and social risk)
  - Feasibility of data elements
  - Data selection
  - Model updates between submissions
- How is intended and implemented measure use incorporated in initial and maintenance endorsement testing?

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Upcoming SMP Meetings

- SMP Web Meetings
  - July 29, 2021, from 12:00-2:00 PM ET
  - December 14, 2021, from 12:00-2:00 PM ET
- SMP Fall 2021 Measure Evaluation Meeting
  - October 26-27, 2021

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Learn More About the SMP

- Project Webpage contains information about the SMP's purpose, composition, upcoming meetings, and resources.
- SMP Charge
  - Describes the purpose for establishing the SMP and its goals
- SMP FAQ
  - Includes answers to frequently asked questions
- Scientific Acceptability Evaluation Guidance
  - Guidance for evaluating reliability and validity
- Contact the NQF SMP team: MethodsPanel@qualityforum.org

Thank you!

Questions?

Developing and Testing Risk Adjustment Models for Social and Functional Status-Related Risk within Healthcare Performance Measurement

Matthew Pickering, NQF
Philip Alberti, Technical Expert Panel Co-Chair
Rachel Harrington, National Committee for Quality Assurance
Christie Teigland, SMP Co-Chair

This project is funded by the Centers for Medicare & Medicaid Services under contract HHSM-500-2017-00060I –75FCMC20F0001

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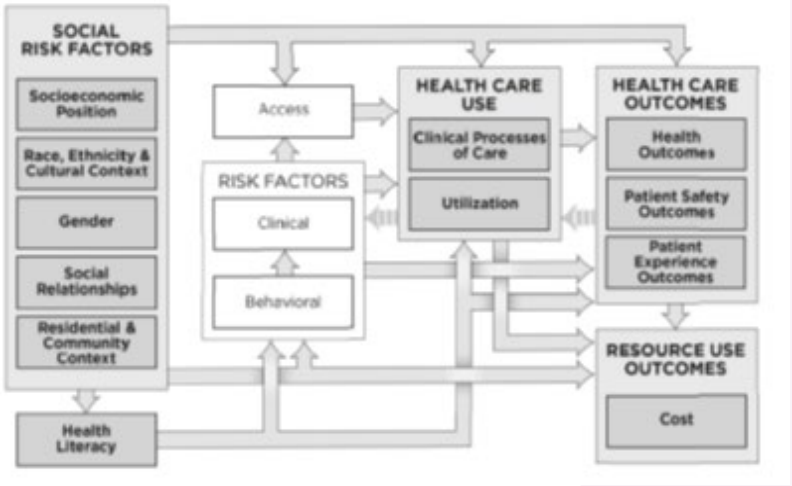
The importance and challenges of adjusting for social and functional risk factors

Figure 1. Health Care Access Conceptual Model



National Academies of Sciences, Engineering and Medicine 2016 report

- Fair and meaningful quality and resource measures are foundation for value-based care
- Social and functional risk factors can directly affect outcomes and/or indirectly do so through behavioral or clinical factors
- However, *when and how* to adjust for social and functional factors remains inconsistent with limited consensus

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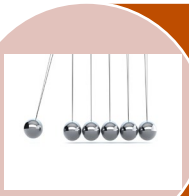
Project Objectives *(Base Year)*

- Conduct an environmental scan of data sources used for risk adjustment, functional or social risk factors available for testing, and approaches to conceptual and statistical methods for risk adjustment.
- Develop Technical Guidance for measure developers that includes emerging best practices on when and how to adjust for functional and social risk factor in measure development.
- Convene a multistakeholder TEP over the next 24-months to provide expertise and guidance towards major project components.

Environmental Scan: Three-pronged Approach *(Base Year)*

Literature review

Consensus Development ocess (CDP) submission scan



Programs review

Focuses of the scan:

- Conceptual model
- Datasets used
- Social risk and functional risk factors available for testing
- Statistical methods
- Existing guidance
- How federal and non-federal programs currently adjust for social and functional risk factors: measure vs. payment or program level

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Technical Guidance *(Base Year)*

1. Datasets used for risk adjustment and measure specifications
2. Functional or social risk factors available for testing and measure development
3. Approaches to conceptual and statistical methods
4. Approaches for inclusion of functional and social risk factors
5. Fit for purpose in a measurement system

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TG Report Sections for Discussion

- Introduction
  - Core Principles
- Technical Guidance
  - Conceptualizing the Model
  - Describing the Rationale for Risk Adjustment
  - Identifying and Selecting Potential Data Sources and Variables
  - Empirically Testing Risk Factors
  - Empirically Testing the Adequacy of the Risk Model
  - Considerations for Determining the Final Risk Adjustment Model

- Public comment opens June 17, 2021.
  - http://www.qualityforum.org/Risk_Adjustment_Guidance.aspx

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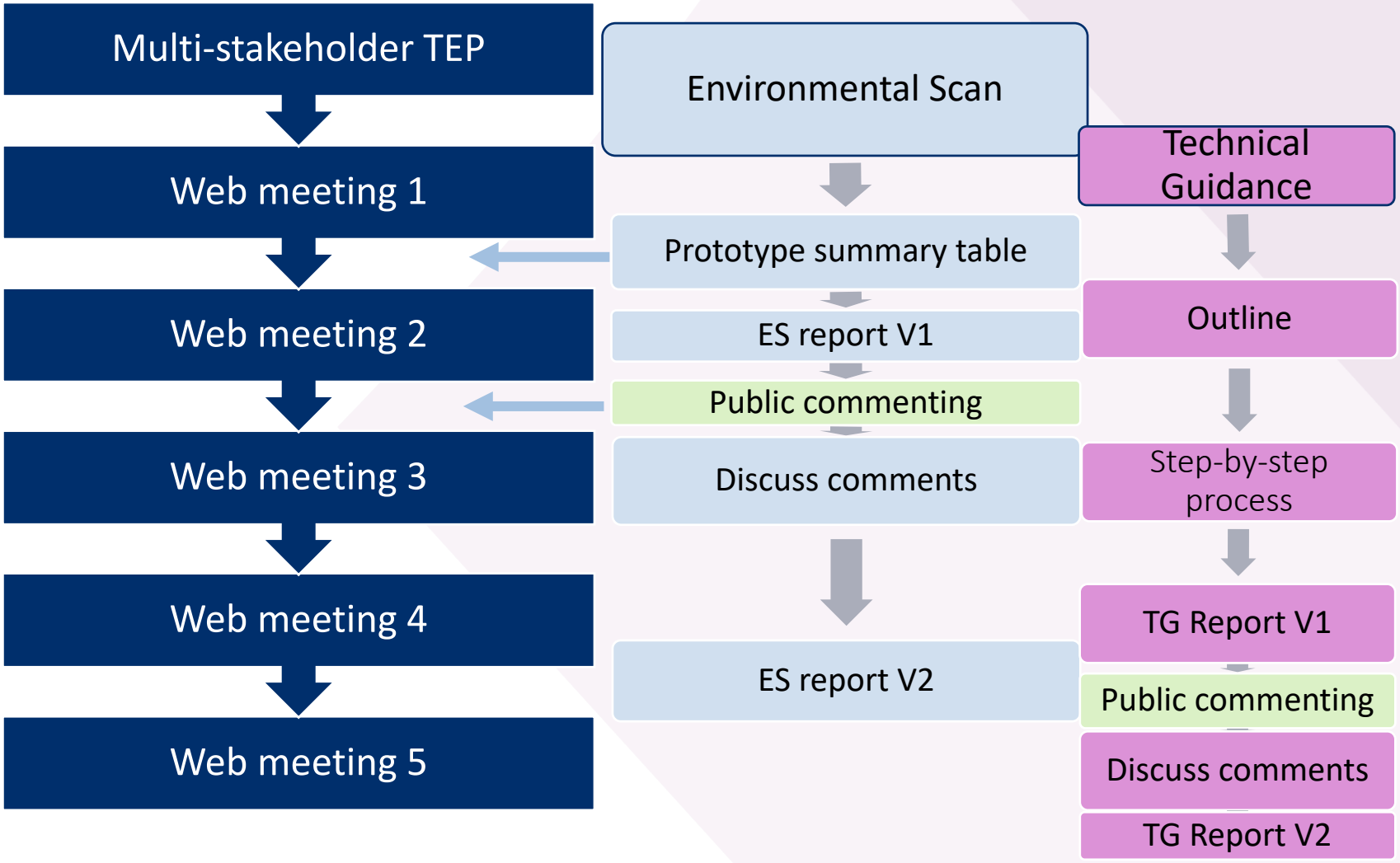
Key Milestones *(Base Year)*



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Thank you!

Questions?

Measure Developer Resources and Webinars

Kathryn Goodwin, NQF

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Upcoming Events

- NQF 2021 Annual Conference July 20 – 22
- Measure Developer Webinars
  - Thursday, June 17 from 1:00 – 2:00 pm ET
  - Thursday, August 19 from 1:00 – 2:00 pm ET
  - Thursday, October 21 from 1:00 – 2:00 pm ET
- Visit the NQF Calendar for details!

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Submitting Standards Web Page

- Measure Evaluation Criteria and Guidance Document
  - Includes evaluation algorithms for evidence, reliability, and validity
    - » Lays out the logic that committees will use for rating Evidence, Reliability, and Validity subcriteria
- Measure Developer Guidebook
  - Explains the NQF process and expectations for developers

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Tips for Measure Developers

- General reminders:
  - Refer to the NQF Submitting Standards web page
  - Attend the bi-monthly measure developer webinars to ensure you are up to date with NQF timelines and process changes
  - Contact measuremaintenance@qualityforum.org for general inquiries or questions related to the Consensus Development Process (CDP), measure evaluation criteria, or technical assistance
  - Check your Dashboard regularly and verify the correct measure developer/steward contacts are listed. If this changes, please notify NQF immediately via the appropriate project mailbox. NQF uses the contacts listed in the Dashboard to send updates and reminders about deadlines related to your measure.
- Measure Submission:
  - Seek technical assistance from NQF staff early and often. Measure submission deadlines are firm and extensions will not be granted. If you would like NQF staff to provide input on your draft submission, please contact the appropriate NQF project team and request technical assistance well in advance of the deadline

THANK YOU.

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https://www.qualityforum.org