



Attribution Principles and Approaches

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Current Landscape

- Recent legislation such as IMPACT and MACRA demonstrate the continued focus on value-based purchasing to drive improvements in quality and cost by re-aligning incentives.
- Implementing pay for performance models requires knowing who can be held responsible for the results of the quality and efficiency measures used to judge performance.
 - *Increasingly challenging as quality is assessed on outcome measures rather than process or structural measures.*
- Attribution can be defined as the methodology used to assign patients, and their quality outcomes, to providers or clinicians.
 - *Attribution models help to identify a patient relationship that can be used to establish accountability for quality and cost.*
- Moving the system away from fee-for-service payment to alternative payment models has highlighted the need to better understand how patient outcomes and costs can be accurately attributed in a system increasingly built on shared accountability.

Project Purpose

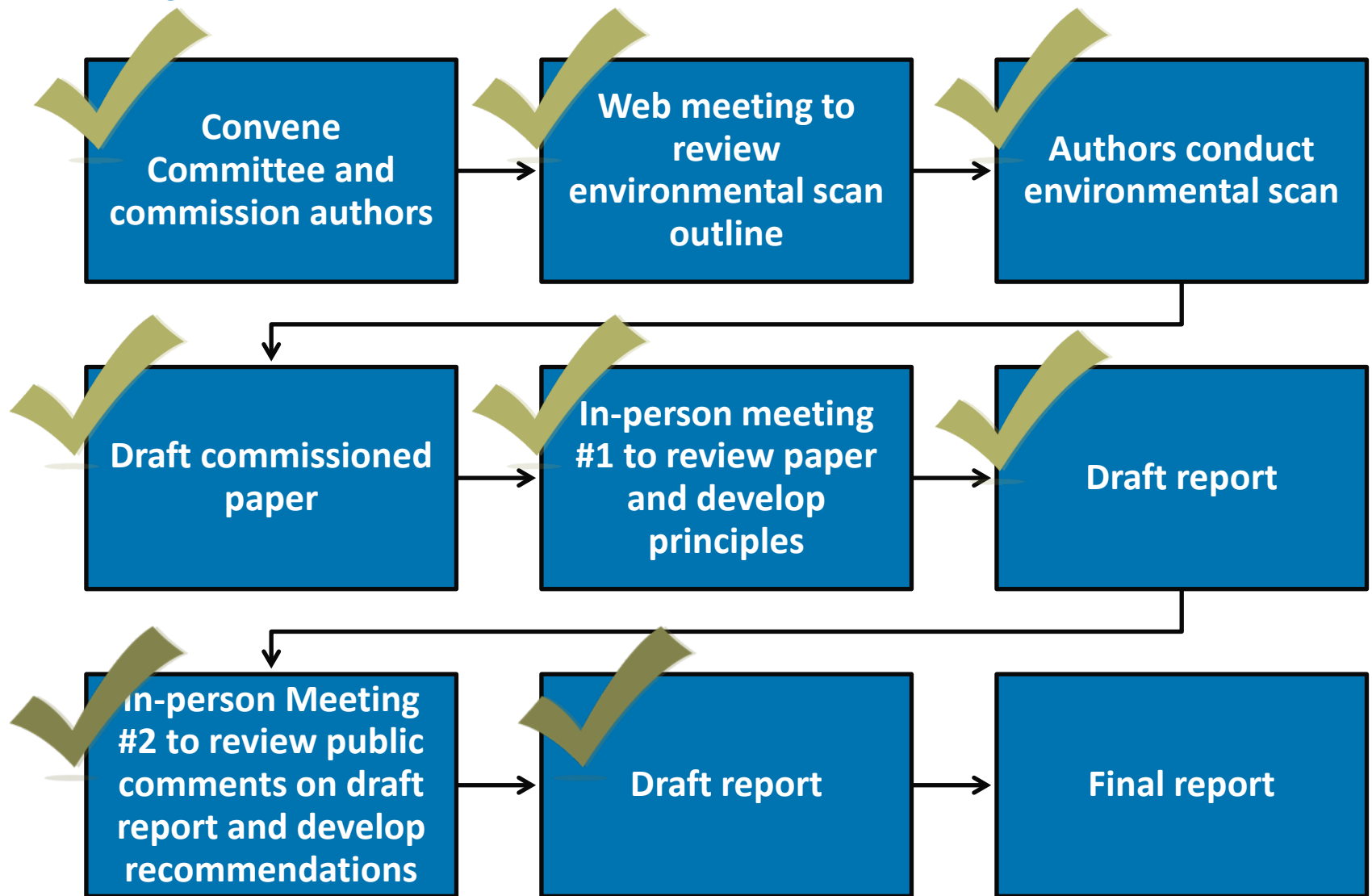
- Taking in account trends toward providing care in shared accountability structures, provide multistakeholder guidance on the field on approaches to issues of attribution:
 - Identify key challenges in attribution
 - Develop a set of guiding principles
 - Identify elements of an attribution model
 - » Explore strengths and weaknesses
 - Identify recommendations for developing, selecting, and implementing an attribution model



Committee Members

- **Ateev Mehrotra, MD, MPH (co-chair)**
- **Carol Raphael (co-chair)**
- Michael Barr, MD, MBA, MACP
- Jenny Beam, MS
- Jill Berger, MAS
- Anne Deutsch, PhD, RN, CRRN
- Elizabeth Drye, MD, SM
- Troy Fiesinger, MD
- Charles Hawley, MA
- Ari Houser
- Keith Kocher, MD, MPH, MPhil
- Robert Kropp, MD, MBA, MACP
- Danielle Lloyd, MPH
- Edison Machado, MD, MBA
- Ira Moscovice, PhD
- Jennifer Nowak, RN, MSN
- Jennifer Perloff, PhD
- Brandon Pope, PhD
- Laurel Radwin, PhD, RN
- Jack Resneck, MD
- Michael Samuhel, PhD
- Robert Schmitt, FACHE, FHFMA, MBA, CPA
- Nathan Spell, MD
- Srinivas Sridhara, PhD, MS
- Bharat Sutariya, MD, FACEP
- L. Daniel Muldoon (**Federal Liaison**)

Project Activities and Timeline



Environmental Scan Highlights

- Models categorized by:
 - Program stage
 - Type of provider attributed
 - Timing
 - Clinical circumstances
 - Payer/programmatic circumstances
 - Exclusivity of attribution
 - Measure used to make attribution
 - Minimum requirement to make attribution
 - Period of time for which provider is responsible
- 163 models in use or proposed for use
 - 17% currently in use
 - 89% use retrospective attribution
 - 77% attribute to a single provider, mainly a physician

Commissioned Paper Findings

- Best practices have not yet been determined
 - *Existing models are largely built off of previously used approaches*
 - *Trade-offs in the development of attribution models should be explored and transparent*
- No standard definition for an attribution model
- Lack of standardization across models limits ability to evaluate

Challenges

- Greater standardization among attribution models is needed to allow:
 - *Comparisons between models;*
 - *Best practices to emerge.*
- Little consistency across models but there is evidence that changing the attribution rules can alter results.
- Lack of transparency on how results are attributed and no way to appeal the results of an attribution model that may wrongly assign responsibility.

Addressing the Challenges

- To address these challenges the Committee:
 - *Developed guiding principles*
 - *Made recommendations*
 - *Created the Attribution Model Selection Guide*
- These products allow for greater standardizations, transparency, and stakeholder buy-in:
 - *Allow for evaluation of models in the future*
 - *Lay the groundwork to develop a more robust evidence base*



Guiding Principles Preamble

- Acknowledge the complex, multidimensional challenges to implementing attribution models as the models can change depending on their purpose and the data available.
- Grounded in the National Quality Strategy (NQS) as attribution can play a critical role in advancing these goals.
- Recognize attribution can refer to both the attribution of patients for accountability purposes as well as the attribution of results of a performance measure.
- Highlighted the absence of a gold standard for designing or selecting an attribution model; must understand the goals of each use case.
- Key criteria for selecting an attribution model are: actionability, accuracy, fairness, and transparency.



Guiding Principles

1. Attribution models should fairly and accurately assign accountability.
2. Attribution models are an essential part of measure development, implementation, and policy and program design.
3. Considered choices among available data are fundamental in the design of an attribution model.
4. Attribution models should be regularly reviewed and updated.
5. Attribution models should be transparent and consistently applied.
6. Attribution models should align with the stated goals and purpose of the program.



Attribution Model Selection Guide

■ Current state:

- *Tension between the desire for clarity about an attribution model's fit for purpose and the state of the science related to attribution*
- *Desire for rules to clarify which attribution model should be used in a given circumstance, but not enough evidence to support the development of such rules at this time.*

■ Goals of the Attribution Model Selection Guide:

- Aid measure developers, measure evaluation committees, and program implementers on the necessary elements of an attribution that should be specified.
- Represent the minimum elements that should be shared with the accountable entities

The Attribution Model Selection Guide

What is the context and goal of the accountability program?	<ul style="list-style-type: none">• What are the desired outcomes and results of the program?• Is the program aspirational?• Is the program evidence-based?• What is the accountability mechanism of the program?• Which entities will participate and act under the accountability program?
How do the measures relate to the context in which they are being used?	<ul style="list-style-type: none">• What are the patient inclusion/exclusion criteria?• Does the model attribute enough individuals to draw fair conclusions?
Who are the entities receiving attribution?	<ul style="list-style-type: none">• Which units are eligible for the attribution model?• Can the accountable unit meaningfully influence the outcomes?• Do the entities have sufficient sample size to meaningfully aggregate measure results?• Are there multiples units to which the attribution model will be applied?
How is the attribution performed?	<ul style="list-style-type: none">• What data are used? Do all parties have access to the data?• What are the services that drive assignment? Does the use of those services assign responsibility to the correct accountable unit?• What are the details of the algorithm used to assign responsibility?• Has the reliability of the model been tested using multiple methodologies?• What is the timing of the attribution computation?

Recommendations for Attribution Models

- Build on the principles and Attribution Model Selection Guide.
- Intended to apply broadly to developing, selecting, and implementing attribution models in the context of public and private sector accountability programs.
- Recognized the current state of the science, considered what is achievable now, and what is the ideal future state for attribution models.
- Stressed the importance of aspirational and actionable recommendations in order to drive the field forward.

Use the Attribution Model Selection Guide to evaluate the factors to consider in the choice of an attribution model

- No gold standard; different approaches may be more appropriate than others in a given situation.
- Model choice should be dictated by the context in which it will be used and supported by evidence.
- Measure developers and program implementers should be transparent about the potential trade-offs between the accountability mechanism, the gap for improvement, the sphere of influence of the accountable entity over the outcome, and the scientific properties of the measure considered for use.



Attribution models should be tested

- Attribution models of quality initiative programs must be subject to some degree of testing for goodness of fit, scientific rigor, and unintended consequences.
 - *Degree of testing may vary based on the stakes of the accountability program, attribution models would be improved by rigorous scientific testing and making the results of such testing public.*
- When used in mandatory accountability programs, attribution models should be subject to testing that demonstrates adequate sample sizes, appropriate outlier exclusion and/or risk adjustment to fairly compare the performance of attributed entities, and sufficiently accurate data sources to support the model in fairly attributing patients/cases to entities.



Attribution models should be subject to multistakeholder review

- Given the current lack of evidence on the gold standard for attribution models, perspectives on which approach is best could vary based on the interests of the stakeholders involved.
- Attribution model selection and implementation in public and private sectors, such as organizations implementing payment programs or health plans implementing incentive programs should use multistakeholder review to determine the best attribution model to use for their purposes.

Attribution models should attribute care to entities who can influence care and outcomes

- Attribution models can unfairly assign results to entities who have little control or influence over patient outcomes.
- For an attribution model to be fair and meaningful, an accountable entity must be able to influence the outcomes for which it is being held accountable either directly or through collaboration with others.
- As care is increasingly delivered by teams and facilities become more integrated, attribution models should reflect what the accountable entities are able to influence rather than directly control.

Attribution models used in mandatory public reporting or payment programs should meet minimum criteria

- In order to be applied to mandatory reporting or payment program attribution models should:
 - *Use transparent, clearly articulated, reproducible methods of attribution;*
 - *Identify accountable entities that are able to meaningfully influence measured outcomes;*
 - *Utilize adequate sample sizes, outlier exclusion, and/or risk adjustment to fairly compare the performance of attributed entities;*
 - *Undergo sufficient testing with scientific rigor at the level of accountability being measured;*
 - *Demonstrate accurate enough data sources to support the model in fairly attributing patients/cases to entities;*
 - *Be implemented with adjudication processes, open to the public, that allow for timely and meaningful appeals by measured entities.*



Next Steps

Milestone	Date/Time
Public Comment Period #2	October 7-November 7, 2016
Web Meeting #5	November 15, 2016, 12-2pm ET
Final Report	December 21, 2016

Questions for CSAC

- Does the CSAC have any input on the draft report?
- How could we begin to incorporate the Committee's recommendations into the endorsement process?
- What guidance does the CSAC have for Standing Committees that may encounter attribution issues when reviewing measures?