

How best to reflect uncertainty and a range of alternatives?

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Define the issue or assumption being discussed

The Medicare Trustees Report is intended to inform the public and policy makers on the long term financial position of the Medicare programs requiring extremely long financial horizons (50 years). By its nature, there are high degrees of uncertainty in any projections beyond fairly short time frames.

While actuaries and economists are often tasked with making reasonable “best estimate” forecasts, there may be a professional responsibility to communicate the level of uncertainty in those projections and the sensitivity of those projections to the underlying assumptions. Healthcare is particularly challenging to deal with due to the wide range of variables (many of which are not easily predicted) that could impact results.

Why is it potentially relevant and material to the Medicare Trustees Report?

The public, press and policymakers rely significantly on the Medicare Trustees Report to describe and inform the financial position of the Medicare programs. To the extent that those financial projections are seen as subject to significant variation, they may be taken with less credibility and potentially not acted on. To the extent that variations could suggest a wide range of policy requirements and urgency, it could influence support for efforts to bolster future sustainability and economic affordability of current programs. In addition, alternate high and low projections could potentially be used by others to defend their points of view on policy and urgency. To the extent that the current financial situation is desperate, there may be a political tendency to give undue weight to the best potential scenario.

How is it currently reflected in the Medicare Trustees Report? To your knowledge, has this issue been considered by prior Medicare Technical Panels?

Currently, the Medicare Trustees report reflects high-cost and low-cost alternative projections to supplement the intermediate assumptions which represent the Trustees’ best estimates of likely future economic and demographic conditions. The assumptions for each type of service are varied for the alternative projections for the first 10 years and then the year 10 projections are blended into the long range assumptions. There is significant variation in the variation assumed by type of medical service. No variation is illustrated or assumed in the long range assumptions. There is also confusion caused by the “Illustrative Alternative Projections” which were intended to account for the unlikelihood of the “current law” physician payments to not be amended based on the past history of continually updating those payments.

What are the potential alternatives to be considered and potential advantages and disadvantages of each

High/Low Alternatives—Develop two alternatives—one optimistic and one pessimistic in addition to the best estimate model. This is what is currently done in the Trustees Report.

Pros

- 1) Easily understood—gives a clear sense of what happens under a give set of alternative assumptions
- 2) Defines a range of potential outcomes that is within range of reasonability

Cons

- 1) Potential for the three outcomes to be given an equal weight—policymakers can selectively use alternatives to defend [given the current Medicare financial position, may be some bias to overly weight the probability of the optimistic alternative]
- 2) May not adequately consider the independence and/or interplay between various assumptions

Stochastic Model—Develop a statistical model of the range of outcomes that could occur for each assumption. Consider correlation/interdependency between factors and then shown a range of probability weighted outcomes. [Committee may need to be involved in greater specificity if we are to move in this direction].

Pros

- 1) Gives sense of range of outcomes while mitigating the perception of the likelihood of the tails
- 2) Considers the interplay between the variables

Cons

- 1) Difficult to accurately assess statistical range of prospective assumptions—highly dependent on history which may not be predictive in all instances
- 2) Complex to communicate and understand—may give false sense of accuracy

Sensitivity Analysis—Rather than outline alternative projections, communicate the impact in the result if there were relatively small changes in the assumptions, by assumption or in the aggregate.

Pros

- 1) Easily understood and communicated—helps to explain uncertainty without taking a stand on what is likelihood of alternative assumptions occurring
- 2) Keeps the focus on the Best Estimate projection—does not show a wide range of outcomes without ignoring the

Cons

- 1) Does not give a sense of likelihood of alternative assumptions occurring
- 2) Can be used to extrapolate well beyond small variations

Point Estimate Only—Do not show alternatives or a sensitivities

Pros

- 1) Keeps the focus on the Best Estimate projections
- 2) Eliminates opportunity for optimistic bias to be introduced

Cons

- 1) Does not recognize the major levels of uncertainty in a long term healthcare projection
- 2) Does not educate the public and policymakers on the impact of assumptions on projected outcomes

What studies or research exists that could be used to support one or more of these alternatives (cite, link or attach source)

There have been a number of articles written about the difficulty in dealing with uncertainty in long term projections.

Trustee Stresses Uncertainty of Medicare Projections
(*Modern Healthcare*)

<http://www.modernhealthcare.com/article/20120423/NEWS/304239941/trustee-stresses-uncertainty-of-medicare-projections>

Dueling Long-Term Projections Highlight Uncertain Trajectory for Health Care Costs
(*Brookings Institute*)

<https://www.brookings.edu/blog/up-front/2014/07/29/dueling-long-term-projections-highlight-uncertain-trajectory-for-health-care-costs/>

Discussing the Uncertainty of Long Term Budget Projections
(*Committee for a Responsible Federal Budget—2014*)

http://crfb.org/blogs/discussing-uncertainty-long-term-budget-projections#.WA_tJ7UCHuE.email

Uncertainty?

(*The Actuary—Published by Institute and Faculty of Actuaries*)

<http://www.theactuary.com/archive/old-articles/part-3/uncertainty-3F/>

Economics—A Pool of Uncertainty

(*The Actuary—Published but Institute and Faculty of Actuaries*)

<http://www.theactuary.com/archive/old-articles/part-5/economics-3A-a-pool-of-uncertainty/>

Are there speakers we should entertain to inform our consideration of this issue/assumption?

We need to understand how the projections are used and what would be most effective in educating the public and policymakers. Discussion with MedPAC is helpful. Potentially talk with someone with public relations background. Discuss with others how to graphically present uncertainty for impact.