

Expert Panel’s Guiding Principles on the Development of Leapfrog’s Composite Patient Safety Score for U.S. Hospitals

The expert panel guiding The Leapfrog Group on the development of the Hospital Safety Score has reached consensus that the following principles will guide their recommendations to Leapfrog for calculating the score.

Purpose of Composite Score

The purpose of the composite score is to create a simple metric that will improve consumer and purchaser engagement around patient safety in U.S. hospitals. Ideally, this increased engagement will create additional market forces for hospitals to improve the safety of care delivery. In the dissemination of the scores, hospitals will be engaged to help them understand, prepare, and communicate about this score in a manner that promotes both respect and improvement.

Construct

The focus of this composite score is patient safety, which is being defined as “freedom from harm.” We recognize that patient safety is a different, and a narrower, construct than hospital quality. The composite score should recognize both a hospital’s efforts toward patient safety and the hospital’s patient safety outcomes.

Inclusion of Measures

The performance measures that are used in creating the composite score should have the following characteristics:

- Ideally can be obtained from a data source that publicly releases hospital-level data at the national level.
 - If no such data source exists, preference will be given to data sources with the following characteristics: provide consistent data across geographic locations, are transparent with their data, do not represent a financial burden for hospitals to report data or for Leapfrog to access the data, and have a mechanism in place to ensure the integrity of the data reported (e.g., attestation, audit, verification process).
- The measure is clearly related to patient safety.
- Measures that focus on outcomes are generally preferred to measures that focus on processes of care or structural factors. When outcome measures are unavailable, or are insufficiently robust (i.e., case-mix adjustment methods have not been fully worked out), proven process or structural measures will be utilized.
- If the measure focuses on processes of care or structural factors, it should have strong evidence of being correlated with safer patient outcomes.

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- Measures should not be limited to those that are collected and publicly reported through the Leapfrog Hospital Survey.

Scientific Soundness of Measures

Measures that have been shown to be scientifically sound (e.g., valid, reliable) are preferred, however, lack of existing research on the scientific soundness of a measure does not preclude the inclusion of the measure in the composite. The scientific soundness of a measure is one consideration, amongst many, in deciding whether to include the measure in the composite. In addition, techniques such as reliability-adjustment should be used, when possible, to compensate for differences in the reliability of a measure.

Weighting Measures

The composite score should recognize both a hospital’s efforts toward patient safety and their achievements in patient safety. The composite score shall have two domains – one made up of process/structural measures and the other of outcome measure. Each of the two measure domains should receive approximately 50% of the total weight of the composite, though this balance may need to evolve over time as the science matures.

The assignment of weights to individual measure within a domain should reflect criteria used by other national measurement entities to determine importance, such as NQF. These criteria include:

- The strength of evidence behind the measure
- The opportunity for improvement in hospital performance on the measure
- The impact of hospitals improving their performance, both on the severity of harm averted, as well as the number of patients who will avoid harm. That is, the weights should reflect both the severity of the problem and how often the problem occurs.

Imputing missing data

When a hospital is missing data for a particular performance measure, we recommend ignoring the measure and re-calibrating the weights within the domain so that hospitals are scored only on the measures for which their performance data are available.

In situations where a hospital does not have data available from the primary data source for a particular performance measure, but an alternative data source is available, data from the alternative or secondary data source can be used in the composite. If data are used from a secondary data source, attempts should be made to provide a score that is equitable to what the hospital would have earned had the data been available from the primary data source.

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If a hospital is missing data for a large number of performance measures, then a score cannot be reliably calculated. In this situation, no score should be issued for the hospital.

Evolution of the Composite Score

The composite score will evolve as the science of performance measurement improves. On a regular basis, the methods used to calculate the composite score will be revisited; possible methodology modifications will be generated from analyses, expert panel input, and stakeholder comments. In addition, the individual performance measures that make-up the composite score will be revisited on a regular basis, with structured processes to reassess the current measures and to identify new measures that could be added to and/or replace the current measures. The composite score will also ideally serve as a 'living laboratory' to help push forward the science of patient safety performance measurement.

Transparency

The process of developing this composite score will be transparent to all parties that are interested. The weighting and calculation process will be transparent to hospitals, consumers, and others. Hospitals will have the opportunity to review their composite scores prior to public release.