

High Performers Special Study

Algorithm Update: October 2004

PRINCIPLES OF HIGH PERFORMANCE

- P1. Hospitals that provide the same service should be held to the same standard, regardless of size or geographic location.
- P2. Performing well on an indicator on which others perform poorly (a rarely achieved indicator), while performing as well as any on an indicator on which others do well (a frequently achieved indicator), is basic to the definition of high performance.
- P3. High performance must incorporate sustained excellence over time.
- P4. Calculations used to identify high performing institutions should be easily comprehensible.

CRITERIA OF HIGH PERFORMANCE

- C1. Achieves a performance score of at least 90 percent on at least two indicators, where there are three or more indicators.
- C2. Achieves a 95th percentile score on the rarely achieved indicator(s).
- C3. Achieves a 95th percentile score on the frequently achieved indicator(s) or achieves ≥ 95 percent when the median is ≥ 90 percent on a frequently achieved indicator.
- C4. Achieves a 90th percentile score on all “medium” indicators, those between the rarely achieved and frequently achieved indicators.
- C5. Sustains these standards for two consecutive six-month periods.

ALGORITHM FORMULA

$$HP = (t_1ami_{a,b,c,d} + t_1chf_{a,b,c,d} + t_1pne_{a,b,c,d}) + (t_2ami_{a,b,c,d} + t_2chf_{a,b,c,d} + t_2pne_{a,b,c,d}) + (t_1*2ami_{a,b,c,d} + t_1*2chf_{a,b,c,d} + t_1*2pne_{a,b,c,d}) = 36$$

Where:

HP = Score of 36 for the maximum a High Performing Hospital can achieve

t_1 = time period 1, first six-month study period

t_2 = time period 2, second six-month study period

$ami_{a,b,c,d}$ = four HP criteria applied to set of AMI indicators

$chf_{a,b,c,d}$ = four HP criteria applied to set of CHF indicators

$pne_{a,b,c,d}$ = four HP criteria applied to set of PNE indicators

HP criteria are:

a = Hospital receives one point for achieving 90 percent on at least two of the topic-specific indicators

b = Hospital receives one point for achieving 95th percentile on the rarely achieved topic-specific indicators

c = Hospital receives one point for achieving 95th percentile (or ≥ 95 percent when the median is ≥ 90 percent) on the frequently achieved topic-specific indicators

d = Hospital receives one point for achieving 90th percentile on the medium topic-specific indicators

t_1*2 = Hospital receives one point if the same HP criteria (a,b,c,d) was achieved in each time period (t_1 and t_2) for the same topic (ami , chf , pne)

IDENTIFIED ALGORITHM LIMITATIONS

1. Impact of sampling error on high performance determination: the potential exists for mistakenly excluding high performers due to unaccounted for sampling/measurement error.
2. Providers that do not care for patients with one or more of the identified clinical conditions (e.g., heart specialty hospitals, or smaller hospitals that only stabilize and transport AMI patients) will be unable to earn the total 36 points and, therefore, may not qualify as High Performers even if they achieve a perfect score on the services they provide.
3. Small numbers for an indicator (i.e., < 20 eligible denominator cases per time period): the formula does not adjust for small numbers or missing indicators and/or topics.
4. The formula presents a fixed absolute standard for a High Performer, thus minimizing the possibility of any hospital achieving High Performer status.
5. The current approach does not provide for identifying low performers: there is no relative value given to the scores of the non-high performers to evaluate their performance in relation to one another.

These limitations exist as the result of employing a simplified approach (greater face validity, less scientific rigor) in order to make the algorithm easily comprehensible. Future work will address these limitations and present known statistical methods (which are not as easily comprehensible) that have been used successfully to overcome these limitations in other studies and settings.

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Note: This draft algorithm is data-driven and future changes in methodology may be dictated by further data analysis.