

## Measuring disparities in health care

*The gap between high and low quality care within groups matters more than gaps between groups*

Disparities in the quality of health care and in the occurrence of medical errors are hot issues in contemporary medicine and health policy. This debate stems mainly from reports on disparities in the quality of health care by the US Institute of Medicine and recommendations for health systems to reduce "medical errors."<sup>1 2</sup> Given evidence of stratification in healthcare quality by racial, ethnic, geographic, gender, and socioeconomic factors, we still have not settled on the right methods for quantifying inequalities. Policy responses will depend on appropriate methods.

Asch and colleagues<sup>3</sup> recently studied the variation in rates at which people in different sociodemographic subgroups in the United States received necessary health care. In each subgroup they found a large gap between the observed and desired quality of health care. The gap between different groups was small, however, and the authors concluded that current programmes for quality improvement that focus solely on reducing disparities among sociodemographic subgroups may be missing important opportunities to improve health care.

This is not to dismiss the disturbing and compelling evidence on disparities between such groups. Studies have found that women, members of racial and ethnic minorities, uninsured people, and those who are older, poorer, or less educated than others are less likely to receive needed care than are their counterparts. But the extent of measured inequalities depends on the groupings across which differentials in quality are evaluated, and differences between groups depend on the groups chosen for comparison. As Asch and colleagues show, when a technical process quality measure was used, the overall score for quality of care was higher for black and Hispanic people than for white people (3.5 and 3.4 percentage points, respectively). These findings are at odds with other studies.

Comparing subgroups disregards the optimal quality of care and standards of good practice—factors which may be clinically important—and limits society's obligation to consider potential achievement. Another method for measuring disparities in health care is to examine an individual or group's shortfall in the quality of health care from the highest attainable standard. This method, called shortfall inequality, has promise for studying disparities. The shortfall notion has been used in studies on welfare economics<sup>4-6</sup> for many years,<sup>7</sup> but has only recently been introduced to the health field.<sup>8-10</sup>

Shortfall can be measured in absolute or proportional terms, allowing proportional weighting for those groups with significant deficits in quality. The choice of standards of good practice as a reference group places a stringent test for the healthcare system: performance is inequitable when any experience falls below the threshold.<sup>11</sup>

Moreover, shortfall inequality shows how much society has realised its potential for healthcare quality or health potential and how much remains unrealised.<sup>12</sup> It estimates what is possible and how to reduce

the gap between observed achievements and optimal potential. For example, analysis of shortfall inequality in life expectancy among countries can lead to ways to reduce the gap between the possible maximum and actual achievement. Comparing inequalities between groups can help to reduce the gap in actual achievement regardless of how much a group's health potential remains to be realised.<sup>13</sup>

Proportional reduction in shortfall can measure healthcare inequality across whole societies as well. The UN used this approach to compare life expectancies in different countries.<sup>14</sup> When the target average life expectancy is 82 years, the shortfall is reduced by a larger proportion when a population's average life expectancy changes from 60 to 70 years (10 year reduction in 22 year shortfall) than from 30 to 40 (10 year reduction in 52 year shortfall)—proportional reductions of 0.46 (10/22) and 0.19 (10/52). Sierra Leone has a shortfall of 41 years, whereas the Philippines's is 11 years. When the proportion of shortfall reduced is used as an indicator of improvement in life expectancy, it provides a measure of progress towards boosting health to certain minimally adequate levels. In the developing world, the shortfall must diminish considerably to reach the target of 82 years.

These examples illustrate how shortfalls in healthcare quality can be more meaningful than the differences between sociodemographic groups. And they remind us that deficits in quality require reforms that are system-wide.

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