

**The Mismeasure of Health Disparities in Massachusetts
and Less Affluent Places**

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There are four standard measures by which observer commonly appraise demographic differences in rates at which advantaged and disadvantaged experience favorable or adverse outcomes: (1) relative (percentage) differences between rates of experiencing the outcome; (2) relative differences between rates of avoiding the outcome (i.e., experiencing the opposite outcome); (3) absolute (percentage point) differences between the outcome rates; and (4) odds ratios. None of these measures provides a sound basis for quantifying the differences in the circumstances of advantaged and disadvantaged groups reflected by their outcome rates because, for reasons inherent in the underlying risk distributions, each measure tends to be systematically affected by the prevalence of an outcome.

The rarer an outcome the greater tends to be the relative difference between rates at which advantaged and disadvantaged experiencing the outcome and the smaller tends to be the relative difference between rates at which such groups avoid the outcome. Thus, for example, as mortality decline relative differences in mortality tend to increase while relative differences in survival tend to decrease; as rates of appropriate healthcare increase, relative differences in failure to receive such care tend to increase while relative differences in receipt of such tend to decrease. Similarly, within populations where adverse outcomes are comparatively rare (e.g., persons with high education or high income, Norway and Sweden, Massachusetts and Minnesota) relative racial other demographic differences in adverse outcomes tend to be larger, while relative differences in the corresponding favorable outcomes tend to be smaller, than within populations where adverse outcomes are comparatively common.

Absolute differences and odds ratios also tend to be affected by the prevalence of an outcome changes, though in a more complicated way than the two relative differences. Roughly, as uncommon outcomes become more common absolute differences tend to increase; as common outcomes become even more common absolute differences tend to decrease. Further, as the prevalence of an outcome changes, the absolute difference tends to change in the same direction as the smaller relative difference. Difference measured by odds ratios tend to change in the opposite direction of absolute differences.

This workshop will illustrate these patterns with hypothetical and actual data and explain how efforts to appraise demographic differences in the law and the social and medical sciences have been undermined by a failure to recognize the patterns or their implications. It will give particular attention to Massachusetts with respect both to the bearing of the above-described pattern regarding relative differences on general interpretations of data on demographic differences in outcome rates in a comparatively healthy and wealthy state and to the bearing of

the above-described pattern regarding absolute difference on the healthcare disparities element of the Massachusetts Medicaid pay-for-performance program.

References:

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