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Understanding why reductions in injury rates will tend to increase relative differences in injury rates

In discussing differences between injury rates among socioeconomic classes in the United Kingdom, Sethi et al.¹ note that inequalities increased because lower classes experienced smaller reductions in injury rates than higher social classes. But within a society it is generally to be expected that declines in the frequency of experiencing adverse outcomes will be accompanied by increases in relative differences in rates of experiencing the outcomes. Generally, when two groups differ in their susceptibility to an outcome, the rarer the outcome, the greater the relative difference in experiencing it (though the smaller the relative difference in avoiding it).²⁻⁶ This occurs because progress in eliminating adverse outcomes is almost invariably a matter of restricting those outcomes to the point where only the most susceptible segments of the overall population continue to experience them, and disadvantaged groups make up higher proportions of each increasingly more susceptible segment of the overall population than they do of the preceding one. A lower rate of decline among more susceptible groups than among less susceptible groups is merely a corollary to this pattern.

Thus, it is understandable that reductions in injuries will increase relative socioeconomic differences in injuries in a society. And this may well occur even when efforts seem particularly aimed at the disadvantaged. A study published in 2005 in the American Journal of Public Health is illustrative.⁷ The authors examined changes in socioeconomic differences in rates of Sudden Infant Death Syndrome (SIDS) in the United States as a result of a program of educating the public about the advantages of having infants sleep on their backs. The program was deemed by the authors as one expected to reduce health inequalities since there would be few barriers to universal implementation of the recommendations. Yet the study found that, while SIDS decreased substantially for all groups, socioeconomic differences in SIDS rates increased. In fact, however, the increase in those differences was just what one should expect as the result of a program like this that serially restricted avoidable SIDS mortality to the very most disadvantaged segments of the population – on the way, one would hope, to the complete elimination of SIDS.

This does not mean that by promoting healthy living a society is doomed to increase health inequalities. Rather, it means that some rethinking is warranted concerning the utility of measuring inequalities in terms of ratios of rates of experiencing adverse outcomes.

References:

1. Sethi D, Racioppi F, Baumgarten I, Bertollini R. Reducing inequalities from injuries in Europe. *Lancet* 2006;368:2243-50.
2. Scanlan JP. Can we actually measure health disparities? *Chance* 2006;19(2):47-51:
http://www.jpscanlan.com/images/Can_We_Actually_Measure_Health_Disparities.pdf
3. Scanlan JP. The misinterpretation of health inequalities in the United Kingdom. Paper presented at: British Society for Population Studies Annual Conference 2006, Southampton, England, Sept. 18-20, 2006:
http://www.jpscanlan.com/images/BSPS_2006_Complete_Paper.pdf
4. Carr-Hill R, Chalmers-Dixon P. The Public Health Observatory Handbook of Health Inequalities Measurement. Oxford: SEPHO; 2005;
http://www.sepho.org.uk/extras/rch_handbook.aspx
5. Scanlan JP. Race and Mortality. *Society*. 2000;37(2):19-35:
http://www.jpscanlan.com/images/Race_and_Mortality.pdf
6. Scanlan JP. Divining difference. *Chance*. 1994;7(4):38-9,48:
http://jpscanlan.com/images/Divining_Difference.pdf
7. Pickett KE, Luo Y, Lauderdale DS. Widening social inequalities in risk for sudden infant death syndrome. *Am J Public Health* 2005;95:97-81.