From:	Scanlan, James <jps@jpscanlan.com>
To:	Keppel, Kenneth G. (CDC/CCHIS/NCHS) <kgk1@CDC.GOV>
Cc:	
Date:	Thursday, May 22, 2008 01:15 pm
Subject:	Re: Measuring disparities

Dear Ken,

Thanks for the note. It was good to meet you too. I've been meaning to get in touch with you. And while I am thinking of it, could you send me Elsie Pamuk's e-mail address I can't locate it on the web.

With regard to your examples and your point that disparities will decline when the disadvantaged group experiences a greater proportionate decline than the advantaged group agree completely (at least with respect to circumstances where absolute minimums are not implicated). My disagreement is merely in regarding there to be a meaningful increases in disparity in the common situation where the advantaged group experiences a greater proportionate decline in some declining adverse outcome – or meaningful declines in disparity in the common situation where the advantaged group experiences a greater proportionate increase in an increasing adverse outcome.

It is important to recognize the tendencies in describe in Race and Mortality and elsewhere are merely tendencies – presumably almost always having some role in every situa but not necessarily outweighing other factors. In fact, in Race and Mortality (http://www.jpscanlan.com/images/Race_and_Mortality.pdf) I repeatedly emphasize the role of other factors and cite some instances where the tendencies are in fact outweighed by other factors (immunization and illegitimacy).

Until recently most of what I have written on these issues has been pessimistic about possibilities for identifying meaningful changes over time (other in those circumstances where we observe departures from the usual patterns of changes). While still being uncertain that we can measure changes over time with great reliability, I have lately given lot more attention to developing an approach to measuring differences between rates that is unaffected by the overall prevalence of an outcome (something I only touched on the ICPHS. Examples are illustrated after the signature and I'll be giving presentations on this approach as a conference in Finland in June and at the JSM in August.

The approach involves deriving from the rates at which two groups experience an outcome the difference between means of two hypothesized, continuously-scaled distributio of factors associated with the likelihood of experiencing an outcome. For example, if in one setting the advantaged groups' rate of experiencing some adverse outcome is 20.0 and the disadvantaged group's rate of experiencing such outcome is 36.7%, that would suggest a difference between hypothesized means of .5 standard deviations. If in anoth setting the advantaged group's rate is 14.9% and the disadvantage group's rate is 23.0%, that would suggest a difference of .3 standard deviations.

The approach of course is speculative given that it assumes the normality of the underlying distributions. And as discussed in Section B of item 1 (and as will be discussed w regard to another issue in a follow-up comment to be posted shortly), there are circumstances where the approach does not work even in theory. Nevertheless, it at least provi a framework for appraising the size of disparities in different settings.

I am glad to hear that you are giving further attention to this matter. I'll be continuing to raise issues with current approach to measurement that ignore the role of overall prevalence and I think the points I raise will ultimately be generally recognized – again, that the tendencies exist and must be taken into account, not that they will always control. So I think it important that NCHS give continuing attention to the matter. And in doing so, I hope you will attention to the approach described in the references belo Despite its weakness (and there may even be issues as to the technical precision in the way I have applied it), I think that contains what I'll call the germ of the solution to this difficult problem (if there is a solution).

Incidentally, while I can only estimate the underlying figures from your Figures 1 and 2, the following table illustrates an application of the described to the actual changes fo birthweight below 2500.

8922 a 1 add EES to low birthweight			
Year	White	Black	ES
1996	6.50%	13.00%	.41
2004	7.00%	13.50%	.38

This will give you a further idea of what I am talking about. But I need add that birthweight is one of those situations where hypothesizing distributions is somewhat problematic. Fact is we can actually observe the distributions. And if I recall correctly from the last time I looked, the difference between means (and I'm not sure who has t higher mean) bears little relationship to low birthweight disparities. If it did, we could simply address the matter of change over time by examining the yearly differences between means. So apart from the fact that the very small change noted may be entirely a function of my misestimation of the rates underlying your figures, there may be oth problems as well. But the table may nevertheless give you a notion of what I am getting at.

Happy to continue the discussion.

Regards,

Jim

1. Comparing the size of inequalities in dichotomous measures in light of the standard correlations between such measures and the prevalence of an outcome. *Journal Review* Jan. 14, 2008, responding to Boström G, Rosén M. Measuring social inequalities in health – politics or science? *Scan J Public Health* 2003;31:211-215: http://www.journalreview.org/view_pubmed_article.php?pmid=12850975&specialty_id=
(version with properly formatted tables: http://www.jpscanlan.com/images/Bostrom_and_Rosen_Comment.pdf)
2. Comparing health inequalities across time and place with an understanding of the usual correlations between various measures of difference and overall prevalences. *Jour Review* Jan. 30, 2008, responding to Moser K, Frost C, Leon D. Comparing health inequalities across time and place—rate ratios and rate differences lead to different conclusions: analysis of cross-sectional data from 22 countries 1991–200. *Int J Epidemiol* 2007;36:1285-1291: http://www.journalreview.org/view_pubmed_article.php? pmid=17898027&specialty_id=0 3. Pay-for-performance implications of the failure to recognize the way changes in prevalence of an outcome affect measures of racial disparities in experiencing the outcome. *Journal Review* Feb. 8, 2008 (responding to Werner, RM, Asch DA, Polsky D. Racial profiling: The unintended consequences of coronary artery bypass graft report cards. *Circulation* 2005;111:1257–63): http://www.journalreview.org/view_pubmed_article.php?pmid=15769766&specialty_id=
4. Perceptions of changes in healthcare disparities among the elderly dependant on choice of measure. *Journal Review* Feb. 12, 2008 (responding to Escarce JJ, McGuire TG Changes in racial differences in use of medical procedures and diagnostic tests among elderly persons: 1986-1997. *Am J Public Health* 2004;94:1795-1799): http://www.journalreview.org/view_pubmed_article.php?pmid=15451752&specialty_id=0

5. Study illustrates ways in which the direction of a change in disparity turns on the measure chosen. *Pediatrics* Mar. 27, 2008 (responding to Morita JY, Ramirez E, Trick W. Effect of school-entry vaccination requirements on racial and ethnic disparities in Hepatitis B immunization coverage among public high school students. Pediatrics 2008;121:e547-e552: http://pediatrics.aappublications.org/cgi/reprint/121/3/e547? maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=morita&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&sortspec=relevance&resourcetype=HWC http://pediatrics.aappublications.org/cgi/eletters/121/3/e547

6. Comparisons of the sizes of differences between black and white rates for different procedures are not informative without consideration of the overall levels for each procedure. *Journal Review* Mar. 28, 2008 (responding to Baicker K, Chandra A, Skinner JS, Wennberg JE. Who you are and where you live: how race and geography affect treatment of Medicare beneficiaries. *Health Affairs* 2004:Var-33-Var-44): http://www.journalreview.org/view_pubmed_article.php?pmid=15471775&specialty_id=

7. Understanding patterns of absolute differences in vaccination rates in different settings. *Journal Review* Apr. 22, 2008 (responding to Schneider EC, Cleary PD, Zaslavsky AM, Epstein AM. Racial disparity in influenza vaccination: Does managed care narrow the gap between blacks and whites? *JAMA* 2001;286:1455-1460):http://www.journalreview.org/view_pubmed_article.php?pmid=11572737&specialty_id=22&sdesc=&emsg= 8. Implications of the focus on racial/ethnic disparities in control rather than processes in the context of pay-for-performance . *Journal Review* Feb. 10, 2008 (additional response to Werner, RM, Asch DA, Polsky D. Racial profiling The unintended consequences of coronary artery bypass graft report cards. *Circulation 2005;*111:1257–63) : http://www.journalreview.org/view_pubmed_article.php?pmid=15769766&specialty_id=0

9. Measuring Health Disparities, presented at the Kansas Department of Health and Environment, Center for Health Disparities, 2008 Health Disparities Conference, Topeka, Kansas, Apr. 1, 2008,   PowerPoint Presentation: http://jpscanlan.com/images/KDHE_Presentation.ppt

Attachments: ✉ Measuring disparities (224KB)