Reviewer's report

Title: Explaining Inconsistencies Between Data on Condom Use and Condom Sales

Version: 1 **Date:** 31 August 2004

Reviewer: John Stover

Reviewer's report:

General
This paper addresses a key issue that has worried HIV/AIDS and family planning program managers for many years, that is, the apparent inconsistency between estimates of condom use based on sales and distribution data and estimates based on DHS and other survey reports. While there are many explanations for these discrepancies, this report describes one of the key problems, lack of good information on coital frequency and consistency of condom use. The paper systematically examines the data available for estimating condom consumption and shows how variations in questions used to collect information on coital frequency and condom use can lead to large variations in estimates of use depending on the approach used.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1. The population size data provided in the Appendix (Background data for calculations) shows the same total population for men and women and this figure is actually the total population of the country for both men and women. It would be better if the table showed the population of adult men and women or men and women 15-49, since the final column (% sexually active) refers to adult men and women covered in the DHS survey.

Discretionary Revisions (which the author can choose to ignore)
1. Data on coital frequency are available from most DHS I and some DHS II reports. Since coital frequency is unlikely to have changed a lot since the time of these surveys (1980s and early 1990s) this could be a useful source. These reports show annual coital frequency for female users of coitus dependent methods of 61 for Kenya, 40 for Nigeria, and 58 for Tanzania. These figures are much more consistent with other studies than the very low figures reported in Table 2 for married women in Kenya (9.2-16.5) and Nigeria (4.6-6.2).

2. The estimates of the annual number of condoms sold and distributed by country may be mis-leading. I believe these are annual shipments to the county or distributions to the central warehouse. The DELIVER project which provided these figures also makes estimates of annual consumption by taking into account fluctuations in inventory. These estimates of consumption would provide a smoother trend and be better for the comparison with survey-based estimates. For example, the downward dip in Kenya for 1996, 1997 and 1998 is not likely to be due to a reduction in consumption but to inventory fluctuations. Either using an estimate of consumptions or a five-year smoothed trend would be better.

3. Using the DHS II estimate of annual coital frequency for Kenya (61), the estimated condom use at last sex for all sexually active men (21.1%), the estimated proportion sexually active (82.7%) and the number of men 15-59 in 1998 (7.5 million) gives an estimated number of condoms used of 80

million, similar to the distribtion of around 90 million averaged over the last several years.

4. It seems very unlikely that the large fluctuations in condom distribution are due only to stock-ups as claimed in the second paragraph of the conclusions. In the case of Kenya, if the rapid increase in condom distribution up to 1995 were due to an expanding number of outlets stocking condoms, then why did condom distribution drop back to very low levels after the expansion of outlets. That expansion should have been in response to and in support of greater condom usage. The rebound ir condom distribution in 1999 and 2000 indicates that stocking up inflated the distribution figures somewhat in the 1993-1995 period, and that some over-stocking lead to lower distribution in the period 1996-1998 but the rebound in 1999 and 2000 indicates that overall condom usage had increased dramatically since 1990. It would be better to used a smoothed trend of distibution to compare with the 1998 consumption estimate from the survey data, rather than the actual distribution in 1998.

What next?: Accept after minor essential revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

None