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An evaluation of the 1993–94 Bangladesh Demographic and Health Survey within the Matlab area

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In the absence of reliable vital registration data, surveys are the main source of demographic measures for most developing countries. The Demographic and Health Survey (DHS) program, begun in the 1980s, has been conducted in many countries by Macro International with financial support from the U.S. government. The evaluation of DHS data quality has been confined to reliability and consistency checking.

The 1993–94 Bangladesh DHS reported substantial declines in vital rates, with fertility reaching levels that some demographers thought implausible. Validating these results would be useful not only to demographers and population policymakers concerned with Bangladesh, but also to analysts interested in the reliability of data from DHS surveys around the world.

The demographic data base of the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), from the rural district of Matlab, provided a unique opportunity to validate the Bangladesh DHS. ICDDR,B's Demographic Surveillance System has recorded data on births and deaths for 200,000 people whose households have been visited every two weeks since 1966. In addition, in half of the surveillance area, known as the treatment area, ICDDR,B's Record-keeping System has recorded the pregnancy and contraceptive-use status of women of childbearing age during fortnightly visits since 1977. The validation study reported here consisted of comparing fertility and infant mortality rates from a special DHS survey conducted in Matlab in 1994 with rates obtained by the Demographic Surveillance System over the five years preceding the survey, and also comparing current contraceptive use from the Matlab DHS with that from the Record-keeping System in both the treatment and comparison areas of Matlab. For these comparisons the investigators examined the reports of 2,628 women whose identification numbers between the two ICDDR,B data bases and the Matlab DHS were matched.

The results suggest that the Matlab DHS accurately estimated fertility in both the treatment and comparison areas. The misreporting of children's birth dates appears to be negligible in the Matlab DHS data, although some respondents misreported their own ages. This result lends confidence to the fertility estimates obtained from the national DHS. The findings also indicate that Matlab DHS infant mortality rates for the five years prior to the survey are reasonably consistent with estimates derived from the Demographic Surveil-

lance System. For periods more than five years before the survey, however, the Matlab DHS shows evidence of unreported infant deaths.

The Matlab DHS also appears to have underestimated contraceptive prevalence. This underestimate was negligible for permanent methods but substantial for temporary methods, especially pills and injectables. If contraceptive use at the national level is also higher than reported in the national DHS; a total fertility rate for Bangladesh of 3.4 children per woman may be quite plausible.

Although the findings increase confidence in the Matlab DHS estimates of vital rates, they do not necessarily validate the national-level DHS estimates. Women in Matlab may have reported their children's births and deaths more accurately than did women elsewhere in Bangladesh. Caution is therefore still advised in drawing inferences about national-level data quality in Bangladesh based on the encouraging results of the Matlab validation study.

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