Watch Report

Report No. 3 Research and Evaluation Division, BRAC March 1994

Report on EPI Surveillance
January 1994 Data

Introduction

In Bangladesh, nearly a third of the newborn are at risk of losing their lives each year from common childhood diseases most of which are vaccine preventable (Huq, 1991). It has also been found that immunization as a public health intervention is cost-effective, convenient, and has a tremendous potential for morbidity and mortality reductions, particularly in the rural areas of the country (Koenig et al., 1991; Foster, 1984).

The immunization program of the Bangladesh government originally began in 1979. In July 1985, the program was intensified to the Expanded Program of Immunization (EPI) in collaboration with UNICEF and WHO and began implementing throughout the country. The primary objective of EPI has been to immunize children under 1 year of age against such six major childhood diseases as tetanus, poliomyelitis, diphtheria, whooping cough, measles and tuberculosis. The target was fixed to immunize 85% of children by 1990. This report presents the EPI coverage among children in two rural areas of the country.

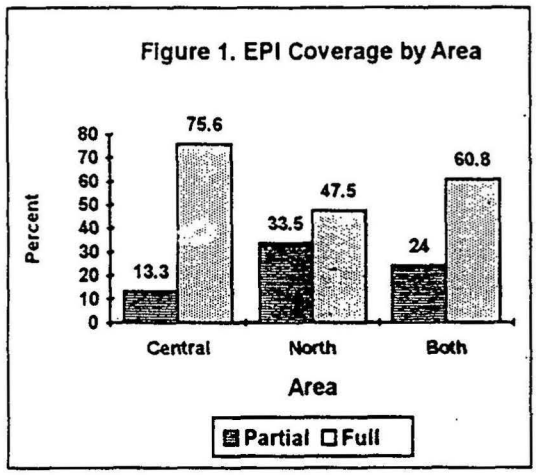
Methodology

In 1986, BRAC launched a vital registration system, known as *Watch*, in three rural unions in its project area in Manikganj district, which consisted of 87 villages with a total population of 51,739. The program was introduced to document the demographic changes that was induced as a result of a development project with health, income generation, education, women's program in the area. The health component included oral rehydration therapy, immunization for both the mother and children, growth monitoring, nightblindness prevention, and health education. The registration system was expanded in 1987 to three more rural unions in Joypurhat district covering 63 villages with 35,708 population where no such development intervention was underway. BRAC has been collecting information on immunization coverage of children twice a year since January 1989 through its vital registration system covering six rural unions in Manikganj (central area) and Joypurhat (northern area). The study samples consisted of 100 percent of the children aged between 12 and 23 months in January 1994 living in the registration area.

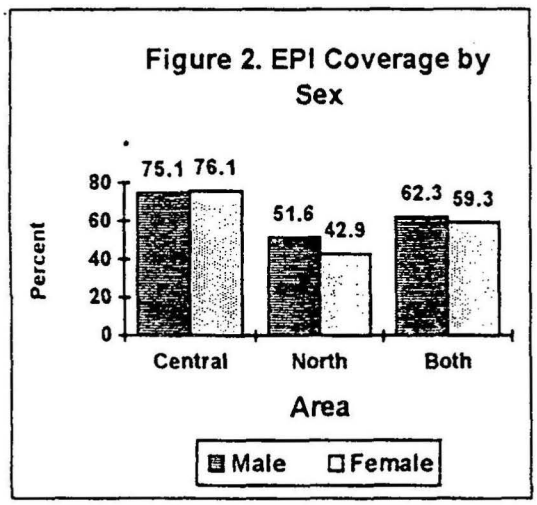
Findings and Discussion

The complete immunization coverage rate (ie, having all required antigens and doses of vaccines) is reported as 60.8 % in January 1994 (Figure 1). The EPI coverage is found much higher in the central (75.6%) than northern (47.5%) area ($p<.001$). The national coverage at the same time has been 84% (EPI, 1994).

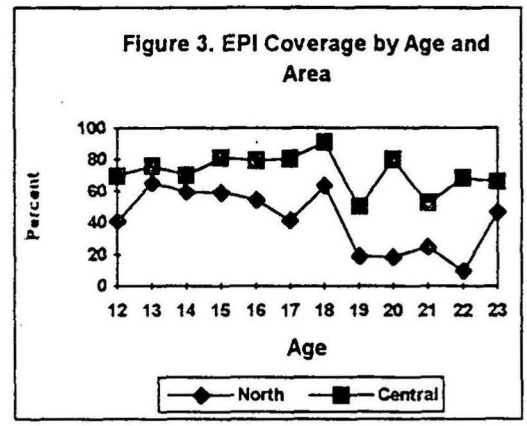
Nearly a quarter of children, although received vaccines, have not completed all doses. The coverage among male (62.3%) is slightly higher than female (59.3%) children (Figure 2).



The gender variation in complete coverage is much higher in the north ($p<.01$). In the central area, no significant difference in EPI coverage is reported.



The EPI coverage by antigen and area shows that the BCG, being the first dose of vaccines, is highest in both areas (Figure 4) although lower than the national coverage of 96% at that time (EPI, 1994). Figure 3 shows that EPI coverage rate varies by age of children in both areas ($p<.001$). The coverage rate is generally higher at younger age, particularly in the northern area.



Such high rate, however, has not been maintained in the other antigens of vaccines. Thus, coverage rate is reported lower for measles vaccine compared to BCG particularly in the northern area. The extremely low coverage in measles vaccine has reduced the complete EPI coverage to a great extent.

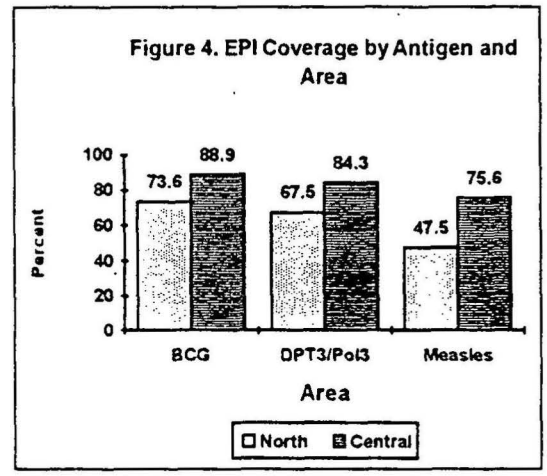
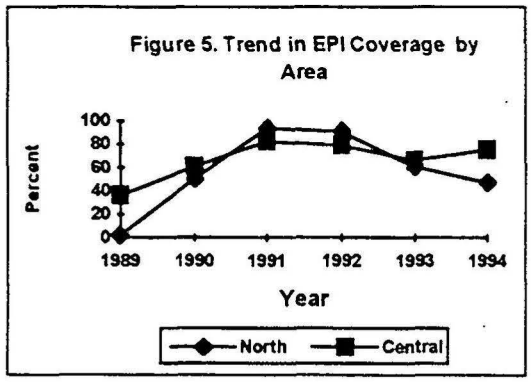


Figure 5 shows the trend of complete EPI coverage since January 1989. The coverage rate was nearly 40% in the central area in 1989 which rose

gradually to about 80% in 1991, sustained in 1992 with a tendency to decline in the following year, which accelerated again in 1994. In the north, the trend has been much more impressive, beginning at 3% in 1989 and nearly 90% in 1991. Since then, the EPI coverage in the north has been declining till date.



The findings suggest that although the EPI program was successful to achieve its declared coverage rate in 1991, it was not sustained in the subsequent years. Such a declining trend points out the weak management of the EPI program. The relatively higher coverage rates for BCG in both areas suggest that children could be reached for immunization if intended. In areas where the coverage is poor, as found for measles vaccine in the northern area, the health service providers should take special attention to the non-immunized children till they are at risk.

References

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This report has been prepared by Abdullahel Hadi of the Research and Evaluation Division of BRAC in March 1994.