Transitioning from Distribution of Iron-Folic Acid Supplements to Multiple Micronutrient Supplements for Pregnant Women (OR25-02-19)

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Objectives: We aimed to estimate the potential effects, costs, and cost-effectiveness of a programmatic transition from distribution of iron-folic acid (IFA) tablets to distribution of multiple micronutrient supplements (MMS) to pregnant woman, using Bangladesh and Burkina Faso as case studies.

Methods: For each country, we developed an 11-year predictive model using baseline demographic information from the Lives Saved Tool and effect sizes from a recent meta-analysis of trials of MMS compared to IFA supplementation during pregnancy. We predicted the number of cases of stillbirth, infant mortality, and adverse birth outcomes (low birth weight, small-for-gestational age, and preterm birth) and DALYs averted by replacing IFA with MMS at current levels of IFA coverage (~50% nationally in Bangladesh; ~10% in Burkina Faso). We estimated initial program transition costs and the annual marginal cost of MMS compared to IFA supplements, and calculated cost-effectiveness measures for scenarios with varied numbers of tablets received and consumed by pregnant women.

Results: In Bangladesh, immediate replacement of IFA with MMS at current coverage (assuming all covered pregnancies receive 180 tablets) was predicted to avert >73,800 deaths and >178,500 cases of preterm birth over 11 years at a cost of $5.0 to $14.2 per DALY averted; costs would increase by ~9% with the addition of programmatic transition costs. In Burkina Faso, the same scenario would avert >5700 deaths and >6600 cases of preterm birth over 11 years at a cost of $3.6 to $15.5 per DALY averted. Assuming that benefits of supplementation accrue only above a given threshold (e.g., 180 tablets per pregnancy), accounting for supplement consumption above or below this threshold (e.g., consumption of 30 tablets or 270 tablets) could substantially reduce the cost-effectiveness of the IFA-MMS switch in comparison with a scenario in which all covered pregnancies consume exactly 180 tablets, although cost per DALY averted remained below $105 in all scenarios.

Conclusions: This modeling analysis suggests that the cost per DALY averted by transitioning from IFA to MMS is low relative to other prenatal interventions designed to save lives. Improvements in program delivery and supplement adherence would improve the cost-effectiveness of replacing IFA with MMS.

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