

PACDEV Meetings 2017

Abstract Submission

Authors: Stephen A. Vosti, Justin Kagin, Reina Engle-Stone, Martin Nankap, Hanqi Luo, Kenneth H. Brown

Full Title: Cost-effectiveness of Alternative Strategies for Meeting Children's Vitamin A Needs in Cameroon

Objective: Identify a more cost-effective program portfolio for addressing inadequate vitamin A (VA) intake among young children in Cameroon.

Methods: A bio-economic optimization model (EOM) was developed to predict the effectiveness and cost-effectiveness of alternative VA intervention programs. The EOM uses effective coverage (the number of additional children that achieve sufficient VA intake thanks to given interventions) as the measure of success.

Results: The current strategy (nation-wide VA supplementation via Child Health Days (CHDs) and VA-fortified edible oil) costs \$37.7m (over 10 years) and effectively covers 78% of children with inadequate intake. Eliminating CHDs reduces costs to \$2.7m, but effective coverage falls to 31%. Introducing bio-fortified maize and VA-fortified bouillon cubes increases effective coverage to 52%, and costs to \$5.5m. Safely increasing fortification levels for oil and cubes effectively covers 69%; total program cost is \$9.2m. To regain the effective coverage rate of the current strategy, the EOM chooses to re-introduce CHD in the North for 3 years and drops the national maize bio-fortification program; effective coverage increases to 80% and program cost are \$10.4m.

Conclusions: VA supplementation via CHD delivers large amounts of VA to children, but is relatively expensive. With guidance from data on dietary intake and program M&E, fortification programs should be instituted and strengthened. Starting or upgrading these programs will take time; CHDs should not be discontinued until the new benefits accrue. Subnational M&E should begin now and continue until new interventions are demonstrated to be effective. EOM can help develop new strategies for cost-effectively addressing VA deficiencies among children.