**Abstract Submission**

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**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.