

Improving Mid-day Meal Delivery and Encouraging Micronutrient Fortification to Reduce Anemia and Malnutrition among Children in India

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Schoolchildren in Orissa, India pose with their mid-day meals.

Location: Keonjhar, Orissa, India

Sample: Primary school children in 375 government schools

Timeline: 2011

Partners:

International Initiative for Impact Evaluation (3ie)
Naandi Foundation

In 2001, India launched a national "mid-day meal scheme" in an attempt to reduce child malnutrition. However, inefficiencies and leakages in the delivery system have severely limited the program's impact. Researchers are testing the effect of various adjustments to the school meal delivery system on the reliability of delivery, as well as on child nutrition, school attendance, and student learning.

Policy Issue: Malnutrition in early childhood has serious, long-term consequences. It impedes motor, sensory, cognitive, social, and emotional development. Malnourished children are less likely to perform well in school and more likely to grow into malnourished adults, with a greater risk of disease and early death. While the prevalence of malnutrition has decreased in the past decade, 143 million children in developing countries are still underweight for their age 1. The problem is particularly acute in India, which

is home to one in every three malnourished children in the world 2. In an effort to improve nutritional levels among children, and to encourage school attendance, in 2001, the Indian Supreme Court mandated a school feeding program, known as the "mid-day meal scheme." However, inefficiencies and leakages in the delivery system have severely limited the impact of the program. Can a different delivery model improve the efficiency of the program, increasing its impact on students' nutritional levels?

Context of the Evaluation: The Indian state of Orissa has lower rates of malnutrition than the national average. Forty-five percent of children in Orissa under the age of five are too small for their age and 41 percent are underweight, which is close to the national average of 43 percent underweight.³ However, Keonjhar, where the mid-day meal feeding program is being evaluated, is one of the poorer districts in the state. A 2008 survey showed that 56 percent

of the population in Keonjhar were classified as having a "low-standard of living" (determined by the presence an electricity connection in the household, access to a toilet facility or an improved source of drinking water, home ownership, agricultural land ownership, etc.). Despite such poverty, school enrollment rates are high in the district 98 percent of both boys and girls (ages 6-11) are attending school But many of these children are not receiving full meals at school. In Keonjhar, as in most districts, the government provides the rice or wheat, while a local contractor is given an allowance to purchase lentils and vegetables. This provision mechanism creates a system in which the quality of meals varies widely.

Details of the Intervention: Researchers are evaluating whether different delivery models can improve the impact of the government's mid-day meal program on the health and learning of lower primary school children. Three hundred seventy-five schools will be randomly assigned to one the following groups:

1. *Centralized* provision of *fortified* lentils for school meals
2. *Centralized* provision of *unfortified* school meals
3. *Semi-decentralized* - schools will receive discount vouchers to purchase fortified lentils at the local store, and headmaster will be given information on anemia
4. *Award scheme* - regular reports will be sent to the District Inspector and District Collector on the midday meal performance of each school to encourage top-down monitoring. In addition, to incentivize the school administration, the top five performing schools will be awarded a certificate at the end of the year.
5. *Comparison*: standard government meals program

In addition, 500 households from Treatment 2 (unfortified meals) and 500 households from the comparison group will be randomly selected to receive information on anemia and vouchers to buy fortified ingredients at their local store.

Researchers will measure the impact of all of these interventions on child nutritional levels, school attendance, and learning outcomes.

Results and Policy Lessons:

Results forthcoming.

¹ UNICEF. "Nutrition: Introduction."

http://www.unicef.org/nutrition/index_4050.html

² UNICEF India. "Nutrition."

http://www.unicef.org/india/children_2356.htm

³ India Ministry of Health and Family Welfare. "District Level Household and Facility Survey (DLHS-3)."

Related Papers Citations: *Berry, James, Saurabh Mehta, Priya Mukherjee, Hannah Ruebeck, Gauri Kartini Shastry* Inputs, Monitoring, And Crowd-out In School-based Health Interventions: Evidence From India's Midday Meals Program." Working Paper, August 2018.

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