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THE TRANSFER PROJECT

Child Malnutrition, Consumption Growth, Maternal Care and Price Shocks: New Evidence from Northern Ghana

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&

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ICID–SITES–IFAD

Conference on International Development

Rome, 3 - 4 October 2018

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LEAP 1000 Evaluation Team

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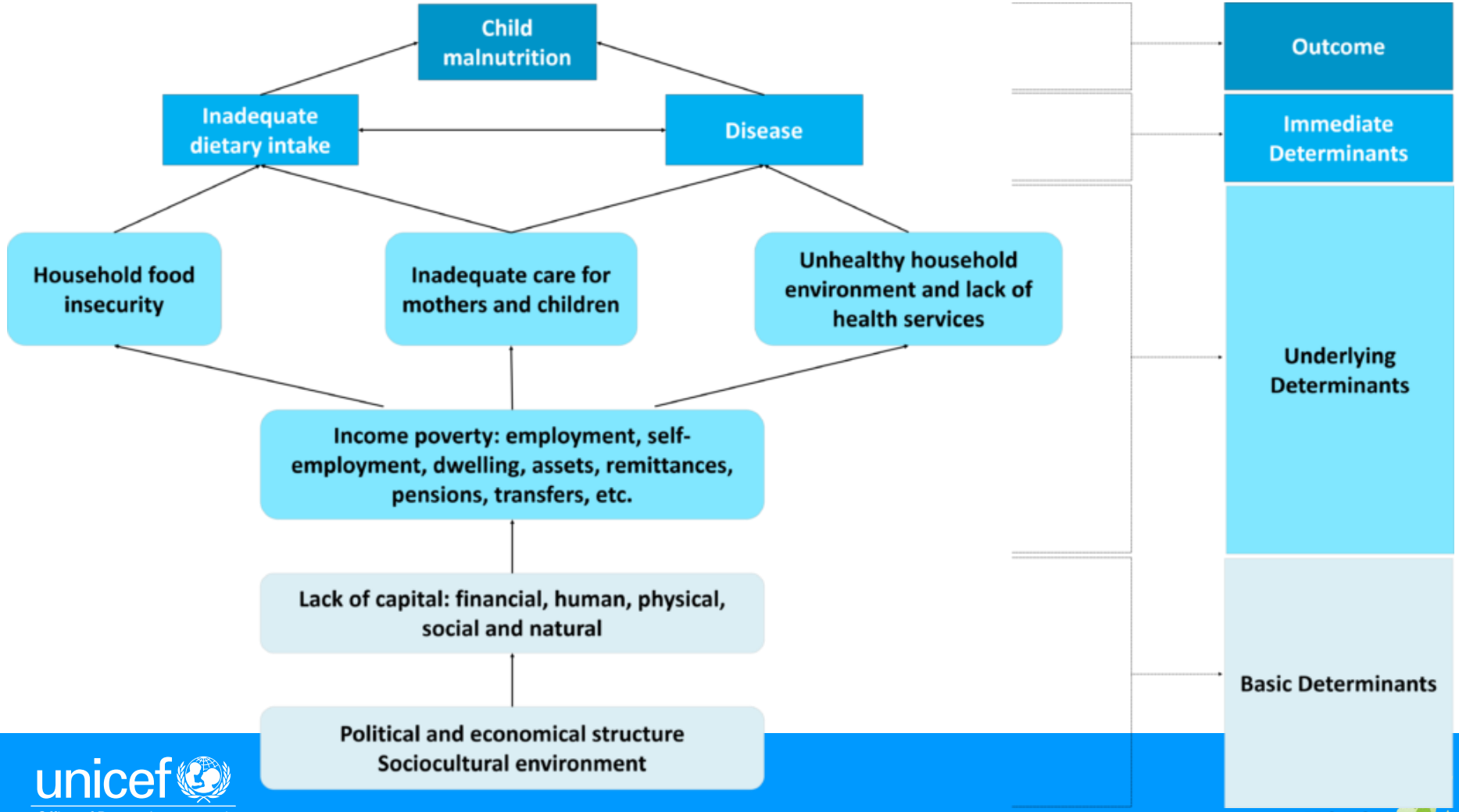
Background

- Over **155 million children under 5 are stunted** around the world, negatively affecting their development
- In Ghana, **19% of children under 5 are stunted** and levels of stunting are higher for children in rural areas, from poorly educated mothers, and living in poor households.
- The Northern region, one of the regions under study in this paper, shows the highest prevalence of stunting with a rate of 33%.

What do we know about reducing stunting?



Source: Adapted from Black et al. (2008)

What do we know about reducing stunting?

- LANCET Commission Maternal and Child Nutrition 2013:
  - Salt iodisation
  - Multiple micronutrient supplementation in pregnancy (includes iron-folate)
  - Calcium supplementation in pregnancy
  - Energy-protein supplementation in pregnancy
  - Vitamin A supplementation in childhood
  - Zinc supplementation in childhood
  - Breastfeeding promotion
  - Complementary feeding education
  - Complementary food supplementation
  - SAM management

What do we know so far?

- Interventions aimed at immediate determinants can result in 20 – 35% reduction in stunting globally (Bhutta et al., 2008, 2013)
- What about the other 65 – 80%??
- How much can the **underlying determinants** of malnutrition contribute to reduction in stunting?
- So-called **nutrition sensitive** interventions
- Use Ghana LEAP 1000 baseline data to find out!
  - Focus on the entire framework, not just one component
  - Unique source of data (poor households with infants/pregnant women)
  - Simulate interventions

Data & Methods

- Baseline data of ongoing impact evaluation
- Estimate a health production function (Behrman & Deolalikar, 1988)
  - Input demand (8 inputs)
  - Conditional nutrition demand (HAZ)

$$h_i = h(x_i, x_p, x_h, x_c, \mu)$$

- the outcome (demand for health inputs or nutrition, h_i) is a function of child characteristics (x_i), parental characteristics (x_p), household indicators (x_h) and community features (x_c)

Outcomes

- Nutritional status: HAZ (-1.28 SD), stunting (31%)
- Health:
  - (No) Diarrheal disease (58%)
  - (No) Non-diarrheal disease (70%)
- Food intake
  - Consumption of iron-rich foods (68%)
  - Consumption of grains, roots and tubers (80%)
  - Consumption of dairy products (21%)
  - Consumption of vitamin a-rich fruits and vegetables (70%)
  - Consumption of other fruits and vegetables (11%)
  - Three or more meals (45%)

Results from the input demand estimation (selected results)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	No diarrhea in last 2 weeks	No other illness in last 2 weeks	Iron-rich food	Grains, roots and tubers	Dairy products	Vitamin-A rich fruits and vegetables	Other fruits and vegetables	Meal frequency (at least 3 per day)
Mother's agency (ref = Low)								
Medium	0.119***	-0.006	-0.020	0.022	-0.040**	0.028	-0.024	-0.056**
High	0.147***	-0.001	-0.038	0.016	-0.046***	-0.010	-0.031	-0.094***
Self-reported health	0.156***	0.147***	0.034	-0.005	-0.013	0.019	0.004	-0.009
Log of AE household consump-tion	-0.068***	-0.075***	0.035*	0.020	0.016	0.033*	0.042***	0.078***

Notes: Marginal effects from probit models on health and nutrition inputs in children aged between 6 and 59 months.

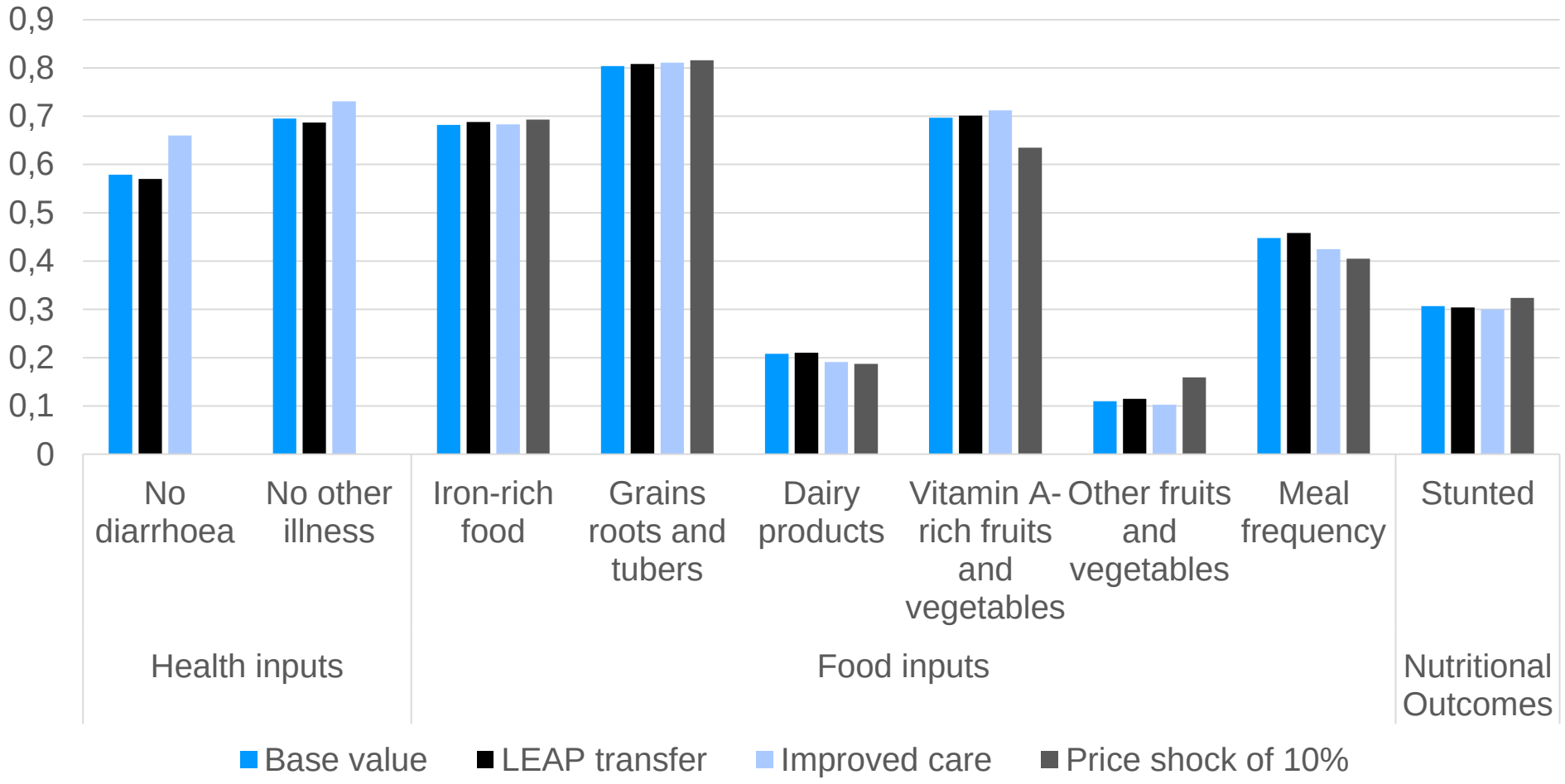
Results from nutrition demand estimation (selected results)

	Height-for-age
Mother's agency (ref = Low)	
Medium	0.132
High	0.022
Self-reported health	-0.088
Log of AE household consumption	0.148**
Notes: OLS regression of child, paternal, household and community characteristics on height-for age (children 6-59 months)	

Simulations

- Use estimated models to simulate effects of:
  - Cash transfer intervention (LEAP)
  - Improvements in care environment (agency and health)
  - Price shock (10% increase)

Simulation results



Discussion

- Income growth has a **modest effect on height-for-age** and will not eliminate malnutrition in Northern Ghana (similar to findings in Pakistan, Ethiopia)
- **Improvements in the care environment** can improve health among children
- There is a need to **address multiple underlying determinants** at the same time
- Effects are somewhat **larger for younger children (<24 months)**, stressing the need for interventions during the first 1,000 days.

Sneak peak (impact evaluation results)

	Prediction	Impact estimate
Height-for-age	0.020	0.039
Stunting	-0.003	-0.001

Acknowledgements

We are grateful for the support of the Government of Ghana for the implementation of this evaluation, in particular William Niyuni, Mawutor Ablo and Richard Adjetey from the Ministry of Gender, Children and Social Protection. In addition, the UNICEF Ghana team was instrumental to the success of this study: Sara Abdoulayi, Luigi Peter Ragno, Jennifer Yablonski, Sarah Hague, Maxwell Yiryele Kuunyem, Tayllor Spadafora, Christiana Gbedemah and Jonathan Nasonaa Zakaria.

We would also like to acknowledge the hard-working field teams of ISSER and NHRC, who conducted the data collection for this study to the highest standards.

Funding for the evaluation was generously provided by the United States Agency for International Development (USAID) and the Canadian International Development Agency (CIDA).

Meda ase
Asante
Zikomo
Thank you
Grazie!

Ghana LEAP 1000
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