



School feeding in low-income settings:

A snapshot of the evidence on education

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Feed and Read: Improving Access to School Meals and Quality Education Around the World”
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Simple idea...but...

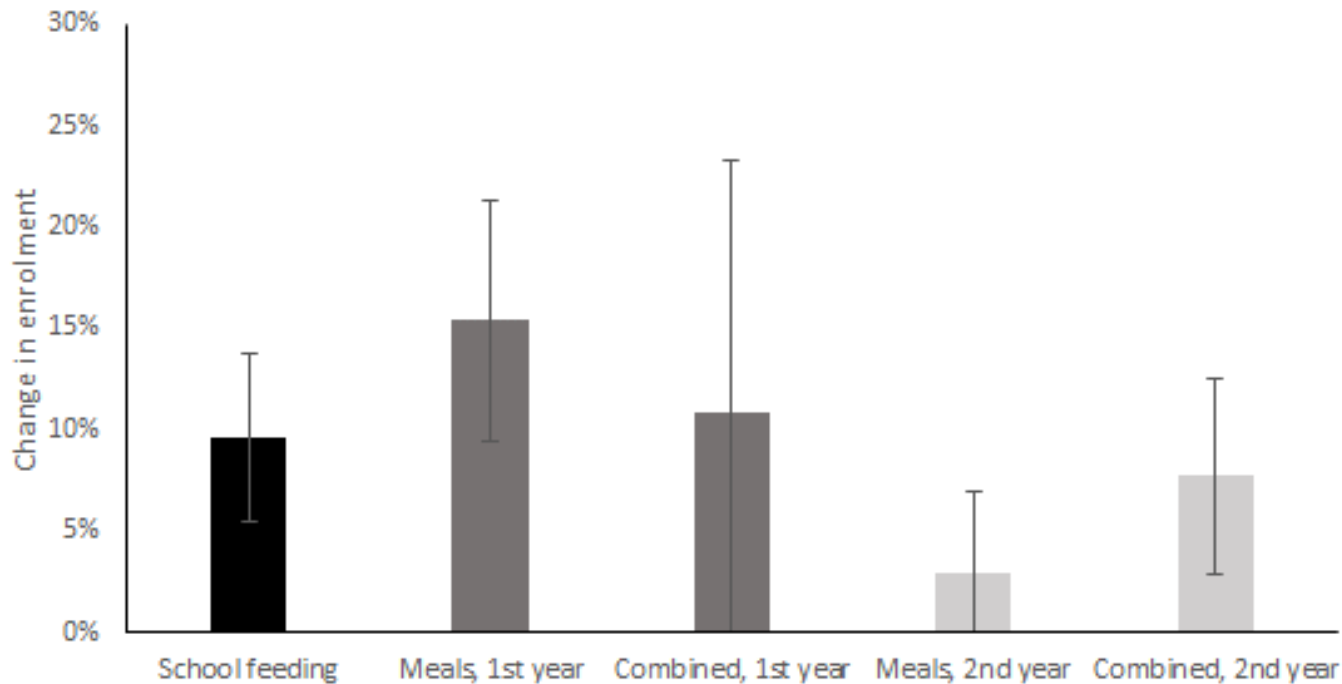
- School feeding programmes can be very complex
 - No one size fits all, very context specific
 - Impacts and costs also heterogeneous
- Can be seen as a strategy with multiple goals in different but interrelated domains
 - Social protection, *education*, nutrition & health ...even agriculture...
- Opportunity to assist governments in improving scale-up of national programmes
 - What works where?
 - How much does it cost?
- Next slides focus on education domain...

Getting children into school?

- Effects on school participation
 - Enrolment, new evidence from 2 RCTs
 - Uganda, 9% increase in the share of children aged 6–13 who started school (Alderman, Gilligan, & Lehrer 2010).
 - Burkina Faso, enrollment increased by about 3 to 5 points (Kazianga, de Walque and Alderman 2012).
 - Attendance, from systematic review
 - 4-7 extra days of schooling per year (~4%) (Kristjansson et al, forthcoming)

More on effects on enrolment

- Observational study, meta-analysis across 32 countries in Sub-Saharan Africa
 - Effect size of about 10% (Gelli, 2015)



Learning in school?

- Effects on achievement depend on age and skills most affected
 - Effects can result from spending more time in school, enhanced learning in school, or both
 - Impact on learning also depends on classroom organization, and on timing and quality of meals
 - Systematic review found effects on math scores (0.31 SD on WRAT)
 - Systematic review found effects on cognition (0.17 SD on WISC)
 - Health-nutrition pathway...

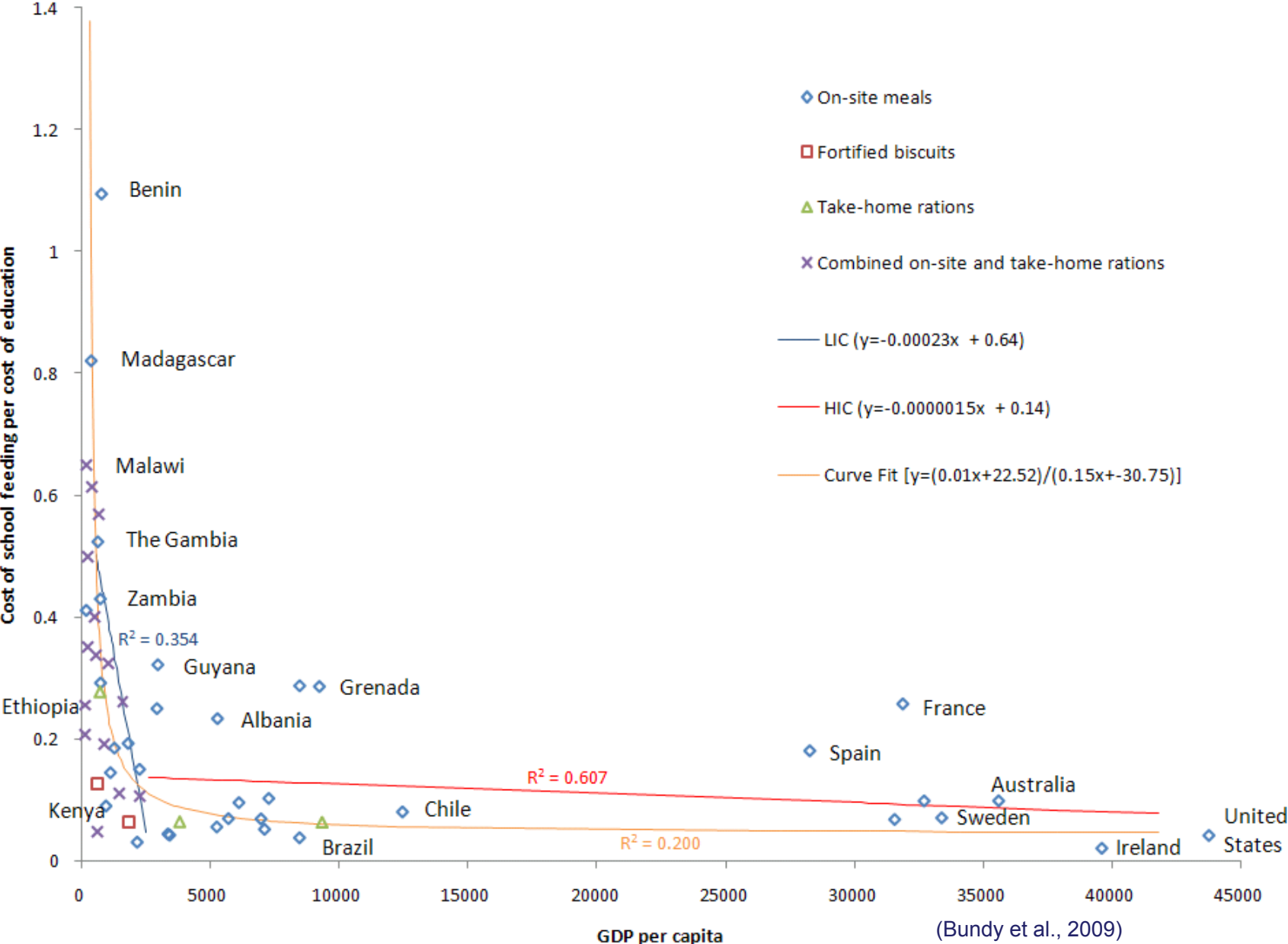
Large variations in costs

Modality	School feeding project cost/child	Standardized school feeding cost/child	Standardized cost/child — range	Standardized cost/100 kcal	Standardized cost/g protein	Standardized cost/mg iron	Standardized cost/100 µg vitamin A	Standardized cost/100 µg iodine
On-site meals (<i>n</i> = 43)	27	44	17–122	6.2	2.4	7.2	23	1,742
Biscuits (<i>n</i> = 6)	11	23	15–25	7.5	2.9	2.9	9.4	34
THR _s (<i>n</i> = 6)	43	75	29–213					
On-site meals and THR _s (<i>n</i> = 22)	36	61	23–140					
Total (<i>n</i> = 77)	29	48	15–213					

THR_s, take-home rations

(Gelli et al, 2011)

Ratio of per child cost of school feeding in relation to per child cost of basic education, versus GDP per capita.



(Bundy et al., 2009)

Thank you!



Photo: WFP

www.a4nh.cgiar.org

368 million children receive school meals with up to \$75 billion invested each year



Number of children receiving school meals



Source: WFP data and calculations. Country-level school feeding beneficiaries were obtained from the WFP Global School Feeding Survey, case studies, publications and correspondence with government focal points. Information for 159 countries is presented in this map. Where information was not available, estimates were made for 49 countries using data on school feeding programme coverage and school age population.

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The designations employed and the presentation of material in this map do not imply the acceptance of any opinion whatsoever on the part of WFP concerning the legal or constitutional status of any country, territory or sea area or concerning the delimitation of frontiers.

** The Use of Capital in Section numbers is agreed on by UN and therefore is represented approximately by a dotted line. The final details of borders will not be agreed on by the parties.

*** Dispute exists between the governments of Argentina and the Republics of Chile and Bolivia and between Chile and Argentina concerning the maritime zone. See National Geographic magazine.

**** Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined.



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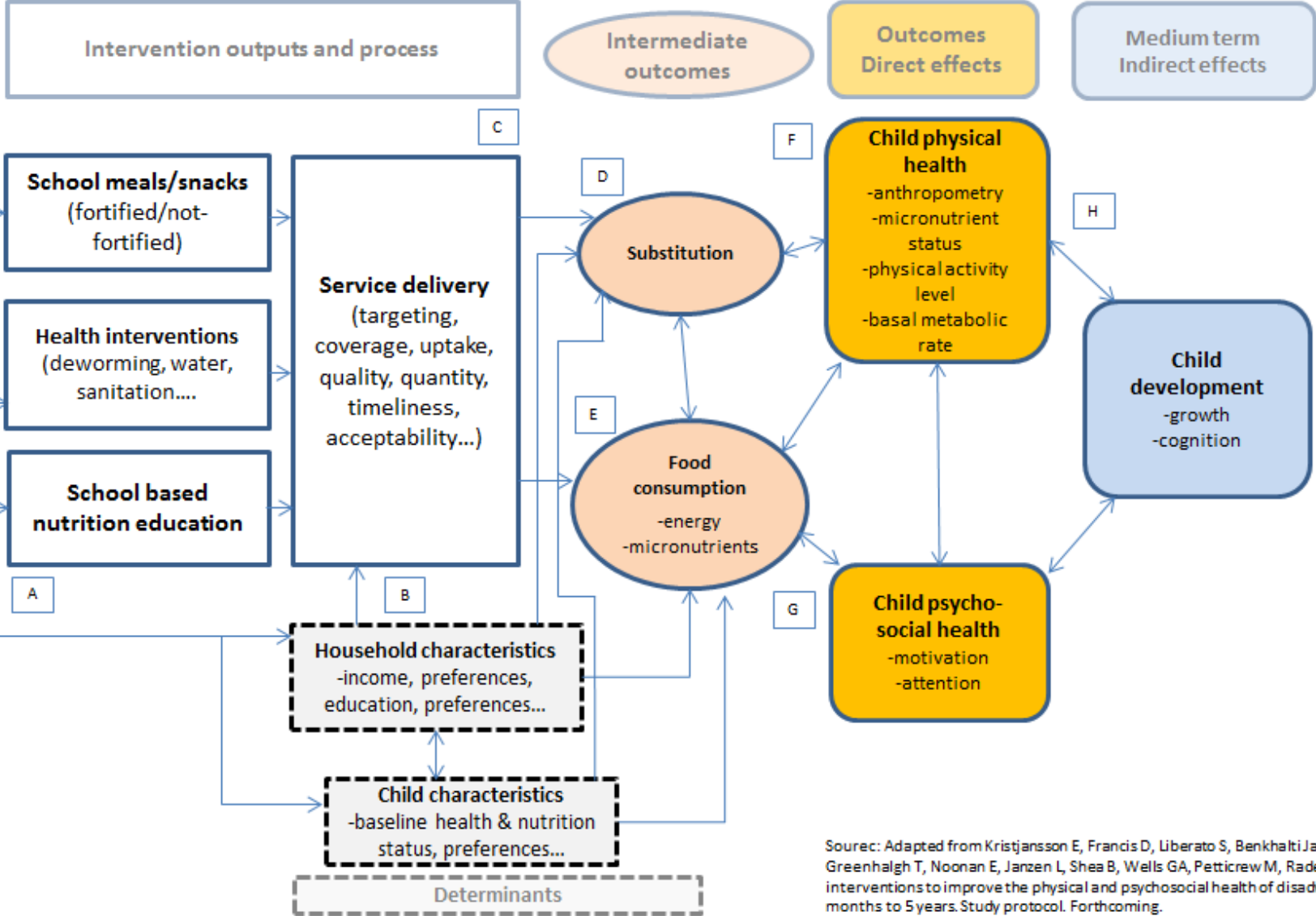
Some trade-offs : Back of the envelope figures relative to cooked meals

Dimension \ Modality	Biscuits	Cooked meals	Take-home rations
Outcomes (education)	~1	1	1+
Food quantity per child per year	0.3	1 (25 kg)	3
Cost per child per year	0.5 (\$25)	1 (\$50)	1.5 (\$75)
(School level cost per child per year)	~0.4 (\$2.4)	1 (\$6)	~0.4 (\$2.4)
Cost/protein or energy output	~1	1	NA
Cost/micronutrient output	0.3	1	NA

Nutrition pathways

Context (SF standards)

- policy
- financing
- institutional capacity & coordination
- community involvement



Sourec: Adapted from Kristjansson E, Francis D, Liberato S, Benkhalti Jandu M, Welch V, Batel M, Greenhalgh T, Noonan E, Jarzen L, Shea B, Wells GA, Petticrew M, Rader T, Krasevec J. Feeding interventions to improve the physical and psychosocial health of disadvantaged children aged 4 months to 5 years. Study protocol. Forthcoming.

Some reflections...

- Multisectoral intervention
 - Working across traditional disciplines...
- Data collection timings and seasonality
 - e.g. agriculture, schooling, health...
- Evaluation around scale-up of national programme
 - Buy-in from policymakers...
- Changing political context
 - Coup d'état + invasion in Mali, elections in Ghana...

Cost	Cost per extra day of attendance	Cost per additional centimeter of height	Cost per additional kilogram of weight
Range of costs for RCTs	4.7–15.8	112.0–252.0	112.0–252.0
Average cost per average for RCTs	8.0	160	160
Range of costs for CBAs	1.7–3.8	10.4–23.3 (5–6 yr of age) 21.7–48.8 (6–8 yr of age) 19.0–42.9 (overall)	38.4–86.3
Average cost per average for CBAs	2.4	14.8 (5– 6 yr of age) 31.0 (6–8 yr of age) 27.2 (average)	54.8

Cost	Cost per point on Raven's Progressive Matrices	Cost per IQ point	Cost per point on math achievement or aptitude
Range of costs for RCTs	82.4–185.3	Not in the analysis	31.5–70.8 (WRAT) 155.6–350.0 (Math subtest of WISC)
Average cost per average for RCTs	117.6	Not in the analysis	44.9 (WRAT) 222.2 (Math subtest of WISC)
Range of costs for CBAs	Not in the analysis	12.7–28.6	23.3–52.5
Average cost per average for CBAs	Not in the analysis	18.2	33.3

CBA, controlled before-and-after study; RCT, randomized, controlled trial; WISC, Weschler Intelligence Scale for Children; WRAT, Wide Range Achievement Test

	Full costs (USD)	Energy (kcal)	Iron (mg)	Protein (g)	std. cost per 100 kcals delivered	std. cost per (g) protein delivered	std. cost per (mg) iron delivered	std. cost per 100 (mcg) vitamin A delivered
School meals (n=44)	48	735	9	20	7	3	8	25
Fortified biscuits (n=8)	23	262	7	7	8	3	3	9

- Take home rations, targeted to households, cost US\$ 75 per child per year
- Share of food costs: school meals (56%), biscuits (74%), take-home rations (68%)