

The School as a Platform for Education and Child Development

Disease Control Priorities 3: Volume 3, Chapter 14

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**RESULTS FOR
DEVELOPMENT**

Key Points

- I. Background
- II. Framework and Methodology
- III. Preliminary Results and Observations

I. Background

Understanding the Impact of Health Interventions on Education

“The traditional perception of these programs as seeking to improve the health of schoolchildren cannot be justified on the basis of mortality or public health statistics alone. Instead, it is increasingly recognized that a major—perhaps the major—impact of ill health and malnutrition on this age group is that on cognitive development, learning, and educational achievement.”



Chapter **58**

School-Based Health and Nutrition Programs

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II. Framework and Methodology

Research Question

- What impact do school-based health interventions have on improving education outcomes?
 - What's the place of health interventions in improving education outcomes?
 - How does their impact compare to education interventions?
- Importantly: Our survey of interventions is not exhaustive. We do not attempt to look at all interventions, but some according largely to data availability.

II. Framework and Methodology

Interventions			Access to Schooling	Cognitive Ability	Learning
Incentive Based Treatments	Cost Reduction Interventions	CCTs	✓		
		Vouchers	✓		
		School Fees	✓		
	Information Based Interventions		✓		✓
	Infrastructure		✓		✓
Health Treatments	School Feeding		✓	✓	✓
	Nutrition			✓	✓
	Malaria Prevention		✓	✓	✓
	Deworming		✓	✓	✓
Instructional Treatments	Teacher Resources				✓
	Materials		✓		✓
	Technology Assisted Education		✓		✓
	School Based Management				✓
	Early Childhood Development		✓	✓	✓

II. Framework and Methodology

- Research Methodology
 - Literature Review: examined existing literature to define interventions, their theories of change and potential outcomes
 - Impact Analysis: supplemented existing study by *Krishnaratne et al. (2013)* which conducts meta-analysis on RCT's investigating impact on education outcomes (access and learning).
 - Emulated their method, extending it to studies of cognitive ability, while disaggregating and expanding data on health interventions.

III. Preliminary Results and Observations

Intervention Types			Access to Schooling				Cognitive Ability		Learning Outcomes		
			Enrolment	Attendance	Drop Out	Progression	Reasoning	Memory Attention	Math	Language	Global
Incentive Based Interventions	Cost Reduction Interventions	CCTs	0.217*** (16)	0.198*** (8)	0.111*** (4)	0.165** (4)			- 0.018 (2)	-0.029 (1)	0.054 (3)
		Vouchers	0.028 (1)						-0.121 (2)	-0.351 (2)	
		School Fees	0.019 (2)	0.63*** (1)					0.133** *(1)		
	Information Based Interventions		0.031 (2)	-0.103 (3)	-0.007 (2)				0.402 (2)	0.048** (2)	0.031 (2)
	Infrastructure		0.403** (4)	0.377** (3)	0.419 (2)	0.201 (1)			0.505** (2)	0.383** (2)	
Health Interventions	School Feeding		0.236*** (4)	0.263*** (4)		0.69*** (1)		0.124 (3)	0.147 (3)	0.19* (2)	0.02 (1)
	Nutrition		0.04** (1)	0.267** (2)	0.33 (1)		0.210 (7)	1.089*** (6)	0.65*** (2)	0.66** (2)	
	Malaria Prevention			0.59*** (1)	0.24** (1)	0.38*** (1)	0.028 (2)	0.455 (5)**	0.62**	0.56**	
	Deworming		0.29 (1)	0.09 (1)			0.128 (3)	-0.019 (9)	0.04 (1)	0.02 (1)	-0.03 (1)
Instructional Interventions	Teacher Resources		0.233** (2)	0.090*** (4)	0.090** (3)				0.292** (5)	0.284** (5)	-0.016 (3)
	Materials			0.047 (8)	0.216 (2)	0.000 (1)			0.160*** (10)	0.204 (9)	0.112 (2)
	School Based Management		0.082 (3)	-0.024 (3)	0.0237 (3)	0.058** (3)			0.227*** (3)	0.118 (2)	0.195*** (1)
	Early Childhood Development		0.0198*** (3)					2.1*** (1)	0.420*** (2)	0.514*** (2)	0.020 (1)

*90% significant
 ** 95% significant
 ***99% significant



III. Preliminary Results and Observations

- **What's the place of health interventions?**
 - **Impact:** School based health interventions *can* have as much of an impact on access, cognitive ability, and learning outcomes, as education interventions.
 - **Cognitive Ability Measurement:** It is evident a child's cognitive development plays a significant role on their learning outcomes. However, attributing the impact of interventions on cognitive ability is difficult and could be further developed. Often times results are not visible for years.
 - **Timing of health interventions:** There is some indication that the optimal time for health based interventions to contribute to cognition and learning is before children are school-aged.
 - **Health-Education intervention synergy:** Some studies suggest health and education interventions can be highly impactful when done together. Nutrition+ECD example.

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