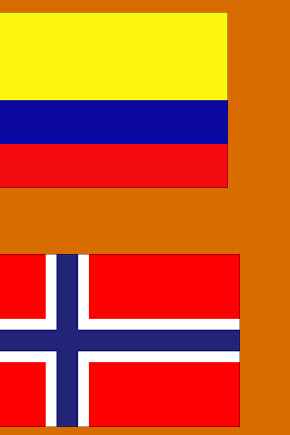


# Healthy Schools – a mediator to improve community health

## Reducing dengue and diarrheal diseases in Colombia



Hans J. Overgaard<sup>1</sup>, Audrey Lenhart<sup>2</sup>, Maria Ines Matiz<sup>3</sup>, Juan Felipe Jaramillo<sup>3</sup>, Sandra Vargas<sup>3</sup>, Victor Alberto Olano<sup>3</sup>, Razak Seidu<sup>1</sup>, Arve Heistad<sup>1</sup>, Thor Axel Stenström<sup>1,4, 5</sup>

E-mail: [hans.overgaard@umb.no](mailto:hans.overgaard@umb.no) or [thor-axel.stenstrom@smi.se](mailto:thor-axel.stenstrom@smi.se)

<sup>1</sup>Department of Mathematical and Technological Sciences (IMT), Norwegian University of Life Sciences (UMB), Ås, Norway; <sup>2</sup>Liverpool School of Tropical Medicine, Liverpool, UK; <sup>3</sup>Universidad El Bosque, Bogota, Colombia; <sup>4</sup>Department of Parasitology, Mycology, Water and Environmental Microbiology, Swedish Institute for Infectious Disease Control, Sweden; <sup>5</sup>Stockholm Environment Institute.

### Introduction

Diarrheal disease and dengue fever are major global health problems resulting in millions of deaths every year and billions of people are at risk. Both diseases are prevalent in Latin America with high infection rates.

Storing water is essential where provision of clean water is inadequate. Fecal contamination of stored water is a common source of diarrheal illness. Stored water is also a breeding site for dengue vector mosquitoes. Management of stored water can thus be considered as a determinant of both diarrheal diseases and dengue.

School children are particularly vulnerable to these diseases. But they can also serve as mediators of health messages and for dengue and diarrheal control in households and communities.

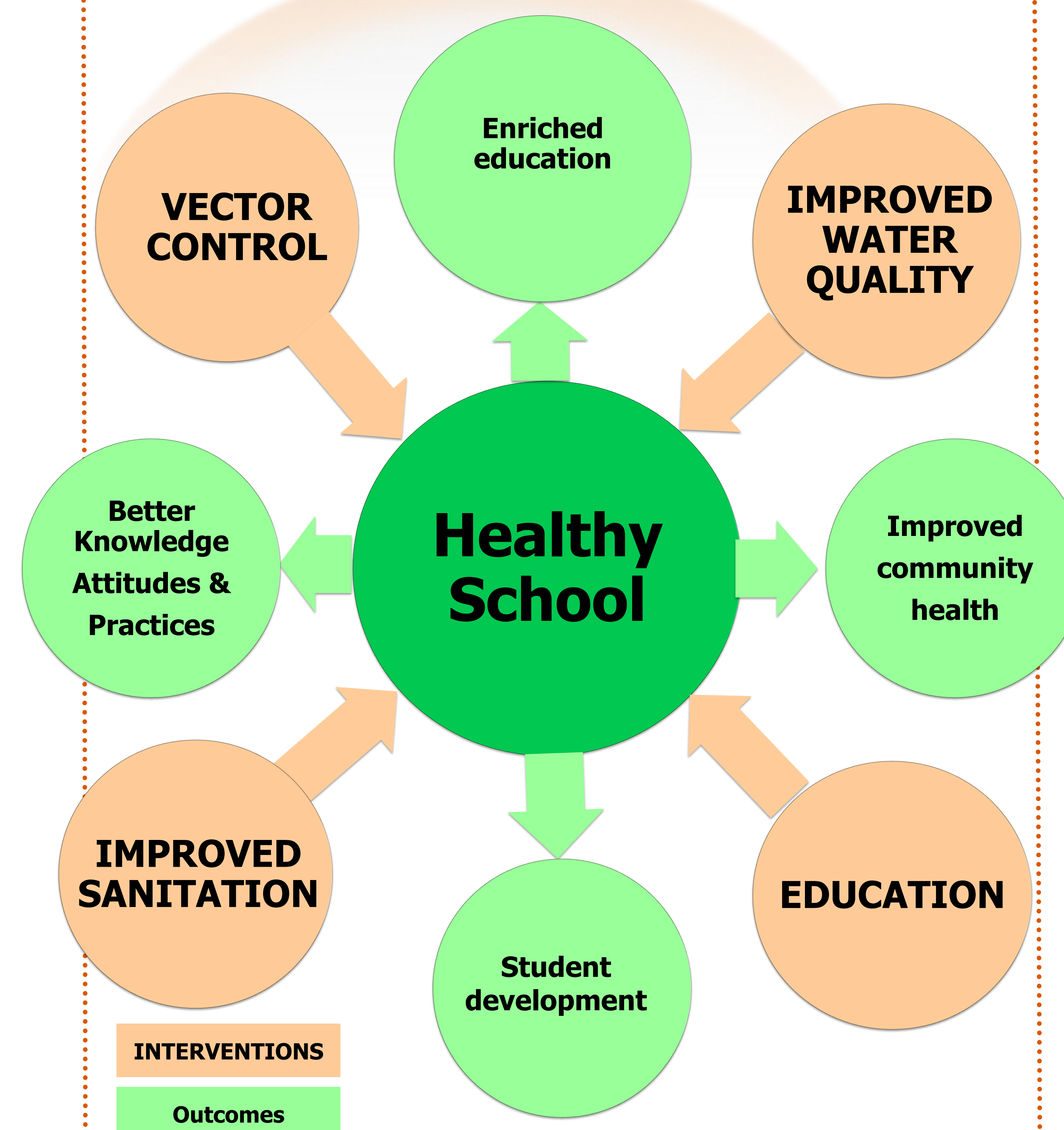
### HEALTHPLATFORM

This 3-year initiative (2010-2013), funded by the Research Council of Norway, aims to develop a scientific and educational collaborative platform (HEALTHPLATFORM) between Norway and South America to promote innovative scientific research, capacity building, and student exchange on water, environment, sanitation, disease epidemiology, and health.

### Diarrhea



### Dengue



### Expected outcomes

Sustained improvement of health and welfare of Colombian school children and their households and communities.

### Project Objectives

Investigate the impact of school-based control interventions on dengue mosquito vector populations, drinking water quality, and prevalence of dengue and diarrheal diseases in school children and their communities.

### Interventions

Integrated water management and dengue vector control interventions in rural primary schools in Colombia:

- Filters for clean drinking water,
- Improved sanitary and hygiene facilities
- Insecticide-treated curtains
- Container and rubbish cleanup campaigns
- Education on hand washing and mosquito breeding prevention.



Pupils showing their school vegetable garden



Insecticide treated curtains



Water storage management



Solid waste management



Improved sanitary facilities



Vector breeding control Water filters