EDUCATION AND MALARIA

INTRODUCTION

Education holds the key to a sustainable response to malaria. The probability of dying from malaria is inversely related to income and education.[1] A clustering of risk factors, including low education[2], increases people's vulnerability to malaria and may be as important as the exposure itself. This makes quality schooling and socioeconomic development critical components of the global effort to defeat the disease.[3]

Sustainable Development Goal 4 seeks to ensure education for all. If there is less malaria, then children can attend school regularly and learn more effectively.[4] This significantly improves their school performance and subsequent wage-earning capacity.[5]

The 2012 **Investment Case Report** by the World Bank features an article entitled *Education in Sub-Saharan Africa: A comparative analysis*. It confirms that as a mother or caregiver's level of education increases, so do the chances that their children will access malaria prevention and treatment services, and survive childhood.

The benefits are two way: Education has a positive impact on the uptake of malaria services. Children in schools are also a good vehicle for encouraging malaria-safe behaviour in communities. Conversely, malaria can prevent children from taking better advantage of their schooling. In 2013, Malaria No More UK highlighted how up to 50% of preventable school absenteeism in Africa is caused by malaria. In addition to falling sick themselves, older girls often have to stay at home to help care for their younger siblings when they get malaria. This means it is important to target school enrolment in poor and disadvantaged areas – which are most likely to be affected by high malaria transmission – and to ensure that children learn about malaria-safe practices, and that schools are involved in LLIN distribution. This will not only reduce malaria, it will also contribute to education section outcomes by improving equity and enrolment rates as well as school performance levels.

UNICEF's *Investment case for education and equity*[6] underscores how malaria prevention has a positive impact on education. It identifies a wide array of interventions that facilitate improved learning. These include support to early childhood development, pedagogic interventions, health- and nutrition-related interventions (e.g. school feeding, malaria prevention and eyeglasses); and financial or material input such scholarships, textbooks and school proximity.

Action and Investment to Defeat Malaria, 2016–2030[7] showcases how an investment in malaria is an investment in the future. It helps children to avoid missing school, enhances their cognitive ability to learn, and increases the chances that they will go on to live healthy and productive lives. It makes the point that there is a role for the education sector to include systematically health promotion and malaria awareness in school curricula and other educational opportunities.

1 Tusting, L. S. et al. Socioeconomic development as an intervention against malaria: a systematic review and meta-analysis. Lancet. 2013; 382: 963–972.

2 WHO information series on School Health, 2007: http://www.schoolsandhealth.org/Documents/Malaria%20control%20in%20schools%20in%20Mali%20(English).pdf

3 Bleakley, H. Disease and development: evidence from the American South. J. Eur. Econ. Assoc. 1, 376-386 (2003).

4 Kuecken, M., Thuilliez, J. & Valfort, M. Does malaria control impact education? A study of the Global Fund in Africa. Doc. Trav. Cent. Econ. Sorbonne 75 (2013).

5 Bleakley, H. Malaria eradication in the Americas: a retrospective analysis of childhood exposure. Am. Econ. J. Appl. Econ. 2, 1-45 (2010).

6 Investment case for education and equity. United Nations Children's Fund. (http://www.unicef.org/publications/files/Investment_Case_for_Education_and_Equity_FINAL.pdf)

7 Action and Investment to defeat Malaria 2016–2030. Geneva: Roll Back Malaria Partnership; 2015. (http://www.rollbackmalaria.org/about/about-rbm/aim-2016-2030)

CASE STUDIES

The economic case for combating malaria[8]

This study examined the effects of malaria on female educational attainment in **Paraguay** and **Sri Lanka** found that every 10% decrease in malaria incidence leads to 0.1 years of additional schooling, and increases the chance of being literate by 1–2 percentage points.

School-based first aid kit for malaria[9]

A programme that trains teachers to manage uncomplicated malaria in school children in **Malawi** has been recognised by the WHO's Social Innovation in Health Initiative.

Malaria and primary education[10]

This study assesses the role of malaria and certain social determinants on primary education, especially on educational achievement in Donéguébougou, a small village in a malaria-endemic area in **Mali**. Field data was collected between November 2007 and June 2008 on 227 schoolchildren living in Donéguébougou. Analysis showed that malaria is the primary cause of school absences. Fixed-effects estimates showed that asymptomatic malaria and the presence of *Plasmodium falciparum* malaria parasites had a direct causal correlation with educational achievement and cognitive performance.

School-based participatory health education[11]

School children are increasingly being recognized as messengers for malaria control. The objective of this study was to determine the impact of school-based malaria education intervention on school children and community adults in **Ghana**. The study method trained schoolteachers and designed participatory health education activities and led school children to disseminate messages related to malaria control to their communities. After the intervention, the misperception that malaria has multiple causes was significantly improved, both among children and adults, ultimately suggesting that participatory health education intervention contributes to decreased malaria prevalence among children. This strategy can be applied as a complementary approach to existing malaria control strategies in West African countries where school health management systems have been strengthened.

8 The economic case for combating malaria in Paraguay and Sri Lanka. American Journal of Tropical Medicine & Hygiene. 2013; 89:819–823. (http://www.ajtmh.org/content/89/5/819.full)

9 School-based first aid kit for malaria named among 25 innovative solutions to global health. London School of Tropical Hygiene and Medicine. http://blogs.lshtm.ac.uk/news/2015/06/18/school-based-first-aid-kit-for-malaria-named-among-25-innovative-solutions-to-global-health-problems/#sthash.bHFmip1s.qG2ymCx0.dpuf

10 Malaria and primary education in Mali: a longitudinal study in the village of Donéguébougo, Mali. (http://www.ncbi.nlm.nih.gov/pubmed/20413198)

11 School-based participatory health education for malaria control in Ghana: engaging children as health messengers. Malaria Journal, 2010, 9, 98. http://www.malariajournal.com/content/9/1/98

ROLL BACK MALARIA PARTNERSHIP

SUSTAINABLE DEVELOPMENT GOALS