SOCIAL DETERMINANTS OF HEALTH SECTORAL BRIEFING SERIES 2

EDUCATION: SHARED INTERESTS IN WELL-BEING AND DEVELOPMENT

World Health Organization

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PREFACE

Public health is built on effective interventions in two broad domains: the biomedical domain that addresses diseases; and the social, economic and political domain that addresses the structural determinants of health. Effective health policy needs to tackle both domains. However, less rigorous and systematic attention has typically been paid to health issues in the latter domains in recent decades.

Increasingly complex social, economic and political factors affect health and health policy-making. One area of complexity relates to health inequities. As emphasized by the WHO Commission on Social Determinants of Health, the social gradient in health is driven by policies in other sectors. Hence, looking at population well-being from the perspective of health and health equity rather than disease demands a new approach to intersectoral collaboration and an imperative for health to participate earlier in policy processes. Some of the new responsibilities for public health include:

- understanding the political agendas and administrative imperatives of other sectors;
- creating regular platforms for dialogue and problem solving with other sectors;
- working with other arms of government to achieve their goals and, in so doing, advancing health and well-being[1].

The Social Determinants of Health Sectoral Briefing Series aims to encourage more systematic dialogue and problem solving, and more collaboration with other areas of government, by providing information on other sectors' agendas and policy approaches, and their health impacts, and by illustrating areas for potential collaboration.

Examples of intersectoral action for health – current and historical – reveal that health practitioners are frequently perceived as ignoring other sectors' goals and challenges. This creates barriers to intersectoral work, limiting its sustainability and expansion. In order to avoid this perception, instead of starting from the goals of the health system (e.g. health, health equity, responsiveness, fairness in financial contributions), the *Social Determinants of Health Sectoral Briefing Series* uses the goals of other sectors to orient its analysis and explore areas of mutual interest, rather than concentrating on traditional public health interventions (e.g. treatment, prevention, protection).

The target audience for the series is public health officers, who are not experts on determinants of health but who have responsibilities for dealing with a broad range of development issues and partners. Each briefing focuses on a specific policy area, summarizing and synthesizing knowledge from key informants from health and other sectors, as well as from the literature. They present arguments and highlight evidence of impacts and interventions, with special emphasis on health equity. They make the case to health authorities for more proactive and systematic engagement with other sectors, to ensure more responsive and cohesive government that meets broader societal aspirations for health, equity and human development.

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1 WHO and Government of South Australia. Adelaide Statement on Health in All Policies. Adelaide, 2010.

THE EDUCATION SECTOR

Education and health: mutually reinforcing interests

Education is a human right. It enhances people's capacities to have decent jobs and fulfilling lives. Article 26 of the Universal Declaration of Human Rights stipulates that, "Everyone has the right to education" and that "education shall be free, at least in the elementary and fundamental stages."[2] Education is critical for human and economic development and cohesive societies.

For the education sector, the well-being of pupils, students and trainees/ apprentices ('learners'), as well as that of teachers, is key to high educational attainment. Unhealthy learners are unable to concentrate and learn, have increased levels of absenteeism and may eventually drop out of the education system. Estimates suggest ill health as the cause of 200 to 500 million lost school days per year (Porta et al., 2011). Trends in specific diseases are also important for the sector. The United Nations Educational, Scientific and Cultural Organization (UNESCO) is mandated to coordinate key partners around the United Nations (UN) - wide initiative, Education for All (EFA). Through the Dakar Framework for Action, EFA emphasizes the role HIV/AIDS has played in leaving many children orphaned, changing the social context within which educators work (UNESCO 2000). As education systems rely on the performance of a large skilled and healthy workforce, the well-being of that workforce is a critical factor in achieving its success. Low-resourced teaching environments place strains on teachers' health and lead to higher staff turnover. The negative impact of the high teacher turnover rates on education quality is well documented (Edley, 2002; Howey, 2008).

Education provides vital skills and knowledge that influences well-being directly and indirectly. Education systems that have strong curricula and that include information relevant to health literacy are important. More years of schooling are clearly associated with improved health outcomes at the individual and population levels (CSDH, 2008). Literacy and health literacy are also major conduits for changing inter-generationally transmitted patterns of disadvantage associated with health inequities. The importance of education in the early years of life is also critical to health later in life, as stressed by the WHO Commission on Social Determinants of Health's report (CSDH, 2008).

Global education trends

Progress in education has been substantial with almost all countries seeing declines in illiteracy since 1970 (UNDP, 2010). Education investments have also been increasing. Since 1999, the real growth rate of per capita education spending as a share of national income increased worldwide by an average of 1.7 per cent per year, and by 3.9 per cent in low-income countries.

(UNESCO, 2011). Yet progress does not mean all is well, or that the gains are equally distributed among and within countries. By 2010, basic literacy, the ability to read and write, eluded 800 million adults, of whom 550 million were women (UNESCO, 2011).

READER'S GUIDE

This education briefing describes challenges facing education policy-makers and authorities, how they address these challenges, and areas for potential collaboration between health and education. There are three key sections of the briefing.

- **The education sector overview.** This covers mutual public policy interests of education and health; main global trends in education; education policy challenges from the perspective of the education sector characterized as overarching 'goals' and situates these goals within a broad policy, economic and stakeholder context.
- **Goals 1 to 5.** The second part of the briefing allocates two to three pages to each goal, covering a more detailed description of policy approaches; health impacts and pathways; and examples of areas for joint work between health and education.
- **Summary messages.**
  The briefing has been structured to permit those with limited time to obtain a well-rounded perspective of the topic by reading only sections one and three.

Enrolment in primary education reached 89 per cent by 2008 in middle- and low-income countries, and nearly 100 per cent in high income ones (UN, 2010; UNESCO, 2011). Yet, Millennium Development Goal 2 to achieve universal primary education for girls and boys alike by 2015 is unlikely to be met, as this implies that all children should have been in school by 2009 (UN, 2010). Despite huge efforts, countries in sub-Saharan Africa still have a long way to go to ensure primary education for all: net enrolment rates for primary education rose from 58 to 76 per cent from 1999 to 2008 (UNESCO, 2011).

Out of the 783 million secondary school-age adolescents in the world, 73.6 million are identified as 'out-of-school' adolescents and of these, 99 per cent live in low- and middle-income countries. In fact, gross enrolment rates for secondary education are 67 per cent globally, but 100 per cent in North America and western Europe, 68 per cent in the Arab States, 56 per cent in Caribbean countries and 34 per cent in sub-Saharan Africa (UNESCO, 2011).

School life expectancy varies by region[3]. Young people can expect to have 15.9 years of education in Organisation for Economic Co-operation and Development (OECD) countries, 13.6 years in Europe and Central Asia, 13.5 years in Latin American and Caribbean countries, 11.5 years in East Asia and the Pacific, 10.8 years in Arab States, 10 years in South Asia and nine years in sub-Saharan Africa (UNDP, 2010).

2 See: http://www.un.org/en/documents/udhr/history.shtml

3 School life expectancy: number of years a child can expect to spend in formal schooling from primary to tertiary education (but excluding kindergarten) and including repetition.

Education goals: more than a school

A core principle of best practice in education policy-making is that education is more than access to a building. It is also about the quality of teachers, curricula and the community within which the school is situated. The broad goal of education is to empower all individuals and communities to equip young people with the skills they need to develop a secure livelihood and to participate in social, economic and political life, in the context in which they live. For specific communities, such as indigenous people's communities, knowledge of indigenous culture taught in local languages can boost educational attendance, retention and success. Another core principle in best education practice is the idea that education is lifelong, and starts before formal education begins, and extends beyond the completion of secondary schooling.

The goals presented in Table 1 reflect on the continuum of challenges from the perspective of education decision-makers. They are aligned with goals in several frameworks, but draw mostly on UNESCO's framework and the international right to education framework. The right to education framework requires states to meet their obligations in terms of 4 A's – affordability, accessibility, acceptability and adaptability – to which has recently been added, accountability, as well as progressive realization (Tomaševski, 2006a). The Education for All initiative being led by UNESCO emphasizes accessibility, availability and quality. Education for All urges countries to reach targets aimed at: scaling-up educational availability and equal access for young learners at primary and secondary levels, with the emphasis on girls; improving literacy rates; and extending comprehensive childhood care for vulnerable and disadvantaged children. The first challenge faced by education decision-makers in Goal 1 is to ensure that education opportunities are widely available. Legal mandates, institutions, infrastructures, governance, human and financial resources need to provide at least primary and secondary formal education for all. Recently, the international nongovernmental organization (NGO) Oxfam Canada launched an initiative to emphasize the importance and feasibility of universally available education services as part of a campaign to convince governments in developing countries to increase the proportion of their annual budgets allocated to providing essential services (alongside health). Oxfam international has called for greater support of the EFA's Fast Track Initiative (FTI) and for development of a Global Fund for Education (Oxfam, 2010). In order to ensure accessibility, Goal 2 calls on policy-makers to address the barriers - especially economic barriers - that hold individuals back from exercising the right to quality education. Given that quality is important in all aspects of education, Goal 3 focuses on advancing quality beyond the available and accessible minimum quality standards. Steps to improve the quality of education also need to pay specific attention to making curricula adaptable to specific peoples and needs (e.g. for indigenous peoples). The policy challenge addressed by Goal 4 is to ensure equal opportunity in individuals' level of educational attainment. Finally, there are a set of policies outside 'formal education' that are important for modern knowledge-based or 'learning' societies. Goal 5 describes the importance of providing innovative preschool, educational and development opportunities to young learners. In addition to formal tertiary education, continuous education approaches provide opportunities to scale-up literacy and responding to demands of changing societies and the global economy.

Policy perspectives

The historical perspective: from charity or trade to human right. Education historians point to the earliest and most effective of modern state systems of education in Prussia, Germany, in the 18th century. From the late 1870s, education progressed from a charity, frequently of religious institutions, or being funded by local communes, to a state system in a number of countries in Europe and within specific states in the United States, when the first laws on the public funding of primary education were passed (Beadie, 2010).

Education was enshrined as a human right in the Universal Declaration of Human Rights (adopted in 1948 by the UN General Assembly) and

Table 1. A set of policy goals commonly addressed in the education sector

	GOAL	DESCRIPTION
1	Universal availability. Sufficient educational facilities and opportunities are available to learners	Educational opportunities are made available to male and female children through gender-sensitive and resilient infrastructure, curricula and teaching materials, and governance.
2	Equity in access. All learners can access educational facilities and opportunities	Barriers preventing learners from accessing (enrolling and routine attendance) education facilities, in particular, geographical, economic, administrative and social barriers, and those caused by health conditions, are addressed.
3	Improving quality. System-wide quality improvements are implemented	Improvements are made to the quality of teachers, materials and methods, infrastructure, length of school days, and management of schools to enhance the learning experience for learners.
4	Equity in outcomes. Inequities in educational attainment and performance levels among learners are addressed	The necessary social, community, family and school-based measures are in place to retain male and female learners and improve their level of attainment beyond minimum levels, irrespective of the social conditions in which they live.
5	Critical periods and life-long learning. Education in critical periods and lifelong learning prepares citizens to deal with challenges and capitalize on opportunities	Education is provided during the early years and in other critical periods over the life course to address emerging opportunities and challenges that populations face at different stages of their lives and at different levels of education.

in subsequent international instruments. The Convention against Discrimination in Education was adopted by the General Conference of United Nations Educational, Scientific and Cultural Organization (eleventh session) in 1960. The Convention on the Rights of the Child (adopted by the UN General Assembly in 1989) calls for education to be directed to the "development of the child's personality, talents and mental and physical abilities to their fullest potential", and for children to be prepared for "responsible life in a free society, in the spirit of understanding, peace, tolerance, equality of sexes, and friendship among all peoples". In 2007, the UN General Assembly Special Session on Children issued a Declaration on Children, evaluating progress achieved and reaffirming commitment to the World Fit for Children compact, the Convention and its Optional Protocols (UNICEF 2007a, 2009a). In spite of these international legal instruments, unequal access to education opportunities remains a persistent challenge in policy and practice.

Education as a human right was asserted in the Millennium Declaration of 2000 and was linked to the attainment of the human rights to dignity, freedom, non-discrimination and a basic standard of living. The second Millennium Development Goal (MDG) is notable in this regard: to achieve universal primary education for girls and boys by 2015. The third Millennium Development Goal addresses gender equality specifically, to "promote gender equality and empower women", and has the target of eliminating gender disparity in primary and secondary education "... at all levels of education no later than 2015."

Education and health linkages in schools. The Millennium Development Goals emphasize the links between education and health for human development. Yet, intersectoral work in this area is not new. Hygiene, health promotion, oral health, and nutrition were introduced in school curricula in the early 1900s (WHO, 1999). Recognizing these linkages, various initiatives exist to promote education and health in schools. These initiatives include the following: Focus Resources on School Health ('FRESH'), created by UNESCO; Child Friendly Schools, created by UNICEF; School Health and Nutrition created by the World Bank; and the World Health Organization's Health Promoting Schools.

Health Promoting Schools. The World Health Organization's intersectoral efforts in the education sector have typically focused on the health of pupils and students in schools. The Ottawa Charter for Health Promotion (WHO, 1986) moved school health beyond curriculum interventions to address the determinants of health for school-goers. In the early 1990s, WHO, the European Network of Health Promoting Schools (currently Schools for Health in Europe) and other partners launched the Health Promoting Schools (HPS) movement. This movement embraced a view of health and well-being in which teachers, pupils/students, families and communities contributed to innovative efforts on health promotion, focusing on the areas indicated in Table 2.

The work by the HPS movement has helped establish solid evidence on the mutual benefits of joint action between the health and education sectors. Yet, an assessment of HPS in 2007 showed that education inequities have been a key challenge, slowing progress in improving pupils' health and educational outcomes, creating social and economic disadvantages, and preventing access to education or school completion (WHO-JSHC, 2007).

The economic perspective. Education's contribution to the economy has been well established. Various economists have developed models of human capital development's relationship with economic growth. The Organization for Economic Co-operation and Development reports that "a country able to attain literacy scores 1 per cent higher than the international average will achieve levels of labour productivity and GDP per capita that are 2.5 per cent and 1.5 per cent higher, respectively, than those of other countries." (OECD, 2006:155.) The World Bank's programme on the economics of education has suggested that each year of schooling attainment "boosts long-run growth by 0.58 percentage points", but that quality matters as well for economic growth. Finally, economic studies have shown how individuals gain. *The Case for Investment (2011-2014)*, launched by the Global Partnership for Education (2011) cites several examples of economic returns on educational investments. The report indicates that each additional year of schooling raises individual earnings by about 10 per cent. It also estimates that "171 million people could be lifted out of poverty if all students in low-income countries left school with basic reading skills – equivalent to a 12% cut in global poverty".

Stakeholders in the education sector. Governments play an important role in the provision of public sector education and in the regulation and supervision of privately run and funded educational services. Commonly, it is the central authorities that design and implement policies to ensure

Table 2. Health Promoting Schools: Key areas of work and interventions

AREA OF WORK	AREA OF INTERVENTION
School health policies	Healthy food, smoking, gender equity, first aid, health screening, safety plans and HIV/AIDS awareness.
Physical environment	Safety and physical conditions of facilities, water and sanitation services and healthy environments.
Social environment	School ethos to reinforce tolerance, caring, support to those in disadvantage and support to parents.
Community relations	Family and community involvement.
Personal health skills	Curriculum interventions, and teachers as health promoters.
School health services	Basic health services in place, links to community health services and teachers' health training.

Source: Adapted from WHO-WPRO (1996).

a minimum level of education availability and quality for all. They also provide strategic direction for curricula that may be connected to demands for different types of skills in the economy and society as a whole. Local authorities or independent local bodies often plan the provision of public education and supervise providers. The different actors in the teaching profession include superintendents, supervisors, principals, teachers, professors of education and school board members, who may be parents and members of community associations. Parents and community associations frequently have the role of identifying barriers to accessing education or to educational attainment. Pupils too have a key role to play in school governance. Health Promoting Schools note that democratic participation is a key factor in producing high levels of both performance and satisfaction in both teachers and pupils (WHO-EURO 2006a). Business and industry are also stakeholders - and have a formal role in some systems (for instance, they may manage or sponsor schools, or have a place on school boards/governing bodies). In some systems, religious bodies also play a major role in governing schools - and perhaps in funding and providing education. In settings with large indigenous populations, the role of community leaders should not be overlooked. Elders in particular represent an important source of knowledge regarding curriculum needs and may also provide information where knowledge is not written down.

SCOPE AND LIMITATIONS

The bulk of the global burden of disease and the major causes of health inequities, which are found in all countries, arise from the conditions in which people are born, grow, live, work and age.

These conditions are referred to as social determinants of health – encompassing the social, economic, political, cultural and environmental determinants of health. The most important determinants are those that produce stratification within a society – structural determinants – such as the distribution of income, discrimination (e.g. on the basis of gender, class, ethnicity, disability or sexual orientation), and political and governmental structures that reinforce economic inequalities. The resulting discrepancies in social position shape individual health status and outcomes by impacting on intermediary determinants, such as living conditions, psychosocial factors and the health system itself.

Recognizing this spectrum, and given the nature of public policy challenges in education, this brief takes a national perspective, but makes reference to sub-national levels of government. The scope of issues and actions described place more emphasis on ‘formal primary and secondary education’ (in goals 1 to 4) rather than on vocational training and tertiary education. These and other topics (e.g. indigenous people and education systems) may be the focus of future briefings.

GOAL 1. SUFFICIENT EDUCATIONAL FACILITIES AND OPPORTUNITIES ARE AVAILABLE TO LEARNERS

EDUCATIONAL OPPORTUNITIES ARE MADE AVAILABLE TO MALE AND FEMALE CHILDREN THROUGH GENDER-SENSITIVE AND RESILIENT INFRASTRUCTURE, CURRICULA AND TEACHING MATERIALS, AND GOVERNANCE

Educational challenges and responses

A commitment to the right to education requires a state to establish governance mechanisms and allocate resources to the education sector. Such mechanisms include legal mandates and the creation of relevant oversight institutions. The basic resources needed include facilities, teachers, curricula, associated educational materials and the financial resources to administer the institutions.

A 'social contract' regulates the resources and type of governance provided across different levels of government and the private sector. In relation to governance, the contract contributes to the enactment of legislation on enrolment ages, mandatory schooling years, rules on free education, and public and private roles in the provision of education. It also assigns norm-setting duties to institutions and specifies any public oversight functions related to financing. The social contract identifies the level of resources and may also prioritize resources for different types of education funded by the public sector. Education is typically classified as ranging from early education, basic or primary education, higher or secondary education, tertiary education (including vocational training), and different forms of continuous learning.

Once the basic frameworks exist, there are four key areas for action by the education sector

i) Distribution of educational facilities in accordance with the existing norms and legal frameworks. Schools should be set up based on demographic criteria (e.g. population distribution and projections, especially considering the number, distribution and density of school-age children) and other criteria (e.g. children with special education needs, or a resource needs analysis). Facilities must include basic services (e.g. sanitation and drinking water) as well as equipment such as desks, boards, stationary and visual aids.

ii) Curricula, teachers and adequate educational materials such as books, teaching manuals and guidelines. Qualification standards must ensure that different professionals hold the basic educational knowledge to meet minimum quality criteria in a country, including knowledge on school hygiene. Ensuring teachers are distributed in schools according to catchment area, class level and size is also key.

iii) Allocation of funds and resources. Policy-makers often put in place mechanisms to identify where resources are most needed and decide how to allocate resource for new schools or to support existing ones.

iv) Oversight. Oversight functions may be assigned to a central ministry, local governments or independent bodies (e.g. district boards). These bodies are responsible for authorizing new schools, assessing local needs or inspecting schools, among other tasks. School management is accountable for guaranteeing adequate resources (including teachers) and appropriate services (e.g. water and sanitation).

Progress related to this goal is usually monitored by gathering information on pupil/teacher ratios, enrolment rates by level of education or the potential number of years of schooling that the pupil is likely to complete (i.e. 'school life expectancy'). The United Nations Educational, Scientific and Cultural Organization (2009) prepares and updates indicators that monitor all of these domains. Other areas include the distribution of facilities according to age groups, geographical area (urban/rural), and average incomes in districts or neighbourhoods (NCES, 2011).

Examples of health impacts and pathways

Education and life expectancy. The education experience in general, and the specific curriculum people are taught equips them to engage in productive activities that enable them to support themselves economically and to organize socially. In modern knowledge societies, literacy – both general literacy and health literacy – is particularly pertinent. (While 'health literacy' is an evolving concept, it generally includes dimensions related to skills and knowledge that people need to protect and promote health in daily life (across the life course), to engage with health services, and to be empowered as citizens.)

Policies to increase education availability are therefore fundamental to health outcomes. Countries have demonstrated significant life expectancy gains after making this a priority policy goal. For example, in 1977, Botswana adopted a national education policy that devoted 25 per cent of the national budget to education, rapidly expanding school availability. This policy contributed to an increase in literacy rates from 25 per cent in 1966 to 90 per cent in 1990 (Sebudubudu, 2010). This, along with economic success, is linked to improvements in life expectancy. Between 1966 and 1996, Botswana added 18 years to its national life expectancy at birth (from 46 to 64 years). Although the HIV/AIDS epidemic has since reduced life expectancy, investments in education are considered critical to progress in other health indicators such as child and infant mortality, and in this respect Botswana ranks first in sub-Saharan Africa (WHO, 2011, UNDP, 2010).

Education for girls and women. The expansion of educational opportunities is also associated with reduced child mortality. In several African countries, children born to mothers who have not completed primary education are twice as likely to die before the age of five than those born to mothers with secondary education or higher (UNESCO, 2011). Moreover, a report covering four South and West Asian countries

and 25 sub-Saharan countries on progress in achieving the MDGs shows that mortality rates for children born to mothers who attended secondary school were 50 per cent lower than those for children born to mothers who did not attend secondary school (UNESCO, 2011). Sometimes, one of the reasons for not attending school is the lack of school facilities.

Sound, safe, adequately sized school facilities with basic services available. The design and safety features of school facilities impact on health. Potable water at schools is essential to avoid dehydration. In Kenya, evidence from a cluster-randomized trial suggests that a comprehensive intervention on school infrastructure (including separate toilets) reduces absenteeism among girls (see Box 1) (Sommer, 2010). Separate toilets for boys and girls, as well as safe, potable water and waste disposal, increase perceived personal security and confidence and the use of sanitary facilities (Birdthistle et al., 2011). This also impacts on security and safety issues, reducing the risk of child abuse (WHO-ISSCAN 2006). Protecting school-age children from exposure to health risks reduces not only absenteeism but also the cumulative impact of ill health over the life course.

The health of teachers. Different stress factors combine to make teaching one of the most stressful occupations. A study comparing a diverse range of professions for physical health, psychological well-being and job satisfaction found that the teaching profession scored worse than average in all three dimensions, and was only the third worst overall, relative to ambulance operators, and social services (Johnson et al. 2005). Stress originates from a diverse set of causes within the profession. These include: low remuneration, pupil's behaviour, the classroom environment and lack of resource for teaching, low understanding of the curriculum, and poor organizational and managerial support. Stressed teachers can suffer 'burn out'. Teachers in schools in more deprived areas suffer more frequently from burn out. Not only does burn out have consequences for the teacher's health, but it also has consequences for the community and the education system's ability to retain staff. Frequent staff turnover diminishes the quality of the education system and disproportionately impacts on pupils from lower income groups.

School infrastructure location and child abuse. Sometimes referred to as child abuse and neglect, child maltreatment (CM) includes all forms of physical and emotional ill-treatment, sexual abuse, neglect and exploitation that results in actual or potential harm to the child's health, development or dignity. Estimates suggest that globally approximately 20 per cent of women and 5–10 per cent of men have been sexually abused as children. The World Health Organization has recognized CM as a public health issue (WHO-ISSCAN 2006). Schools can help combat the five subtypes of CM: physical abuse; sexual abuse; neglect and negligent treatment; emotional abuse; and exploitation. One way of contributing is by locating schools in safe and secure areas. This reduces the risk of child abuse and the fears of parents –sometimes parents prevent their daughters from attending schools if they have to travel long distances or if they perceive the school facilities to be unsecure. (Interventions aimed at improving self-esteem are also important for reducing abuse in children. They are discussed in Goal 3 as part of quality improvements to the school environment and curriculum that enhance the overall well-being of young learners).

Box 1. SOCIAL DETERMINANTS AND EQUITY FOCUS

Gender Cameos from Tjon A Ten (2007)

"According to a study in Cuernavaca (Mexico), lower– middle–class girls are kept under constant control and may be withdrawn from school when they start to menstruate. The reason is that they are thought to face an immediate sexual threat from men (Levine, 1993)."

"Bista (2004) reports that menstruating women in Nepal have to remove themselves from public places. This also applies to female teachers."

"If sanitation facilities are at a remote distance girls and young children have a higher risk of becoming the victim of sexual violence and abuse. Harassment and molestation does not only occur between the different sexes; it also takes place among children of the same sex and of different age groups."

Source: Tjon A Ten (2007).

What can both sectors do together?

Assessment plans on school availability. Decisions on the creation, expansion, merging or closure of schools are an opportunity for the health sector to support education. It can do this by sharing data on the population demographics of school-age children, the needs of specific geographical areas or epidemiological data (e.g. on low-income neighbourhoods). In El Salvador, the EDUCO programme located schools in or close to underserved areas based on a classification system jointly developed by the ministries of education and health. The classification system looked into the prevalence of malnutrition and stunting among children, infectious diseases, proportion of over-aged students, and enrolment rates in each municipality (Jimenez & Sawada, 2003).

Improving facilities and environmental exposure. A common feature of the different approaches to promoting the well-being of pupils and students is the improvement of the school facilities. For instance, whilst taking stock of several country experiences, WHO and partners including UNESCO, UNICEF, and the United Nations Development Programme (UNDP), produced and compiled detailed guidelines and tools to support country work. These tools take into account minimum standards for the design of facilities (e.g. shelter, warmth, water, food, light, ventilation, sanitary facilities and emergency medical care), and the availability of sanitation and potable water, which are essential at schools. These tools also identify hazards common in schools including biological, physical and chemical threats (WHO, 2004). Equally important have been initiatives to make schools more girl-friendly. Infrastructure improvements include: addressing girls' hygiene needs during menstruation, more female teachers, and involving students in maintaining latrines/toilets (ensuring labour is divided equitably among male and female students). Several of these experiences have been undertaken, with the support of UNICEF, and have been documented for schools in South Asia (UNICEF, 2009a).

School health programmes. This is a basic and fundamental area for cooperation between health and education. District health teams support schools, administrators and teachers to manage the health of pupils and students through routine visits and check-ups, information brochures and ad hoc briefings (e.g. particularly in case of outbreaks).

Increasing the number of female teachers. The Bangladesh Female Secondary School Assistance Programme started in 1994 to increase secondary school enrolment and retention in rural areas. Currently, it is a government programme built on lessons learned from the different NGOs that launched the initiative. The programme increased the number of female teachers, worked with parents on the value of education and expanded school infrastructure. By 2002, the programme was supporting 5000 schools in 118 rural districts – one million girls were receiving scholarships and 40 per cent of the teachers were female. The increase in enrolment and attendance of girls helped to reduce the rates of marriage among girls aged 13–19, improve health and health equity benefits, and reduce fertility rates. In addition, education transfers health knowledge to future mothers, makes them receptive to medical treatment, and imparts literacy and numeracy skills that assist in medical diagnosis (UNESCO, 2011).

Promoting teachers' health. Teachers' health is very important for both education and health.

Stress is common in the teaching profession. Interventions aimed at reducing workplace stress are generally described as primary, secondary and tertiary interventions. Preventing work-related stress arising (primary prevention), involves addressing organisational and societal factors (e.g. remuneration of teachers). Primary strategies are considered to be very effective in reducing job-related stress. The *Teachers Support Network* 's report (see Useful links) highlights a range of research that recognises the importance of education reforms aimed to increase 'respect and rewards at work', as well as 'effective management and support'. Other literature reviews in Scotland, for example, have traced the cause of stress to genuine increases in workload, highlighting the case for increased public sector expenditure in education (Wilson 2003). The literature also describes several examples of secondary preventions where education could benefit from the support of public health experts. These include designing facilities with specific social and recreation spaces for teachers (Zadeh & Fakhri 2011), as well as improving working hours and sabbaticals, and better management for community and family engagement, as described in the health promoting schools literature.

Another important area for both education and health, is how the health sector deals with epidemics affecting the teaching workforce. In many sub-Saharan countries, for example, teachers rarely go for HIV testing and those living with HIV generally lack access to antiretroviral medications (Save the Children, 2003). The Education For All (EFA) targets and the MDGs cannot be met if teachers suffer from high morbidity and mortality due to AIDS. Providing highly active antiretroviral therapy (HAART) to teachers is an inexpensive way to protect the supply of teachers (Kombe et al., 2005). The ministries of health and education in Zambia, for example, carefully worked together with intergovernmental organizations to sustain the teaching workforce through innovative cooperative interventions, such as the provision of free HAART or low-interest loans to teachers to pay for treatment (Kombe et al., 2005). Zambia's experience in providing HAART to teachers shows that low-resource countries can provide such treatment in the education sector and protect the supply of teachers at a relatively low cost. Furthermore, teachers with a comprehensive knowledge of health and how to take care of themselves can teach children about HIV. This will contribute to an increase in the proportion of students with comprehensive and correct knowledge of HIV/AIDS, one of the MDG indicators.

Supporting teachers' health literacy. Teachers' health training pays off. During the Pupil Treatment Kit project in Malawi, for example, teachers were taught how to treat malaria in schools, including recognizing the symptoms and providing antimalarial drugs, which prevented malaria cases and reduced malaria-related mortality and absenteeism among the children. Teachers also learned how to refer cases to health facilities (Porta et al., 2011).

Building inspections. An evaluation of state-managed schools jointly carried out by the California Department of Health Services and the California Air Resources Board found that inadequate ventilation, noise, poor thermal comfort, indoor formaldehyde, moisture and toxic dust affected 80 0000 portable classrooms run by the state (one third of the total state-run classrooms). The evaluation led to the:

- implementation of district and school self-assessment plans;
- adoption of environmental quality management plans;
- establishment of a design review group;
- development of training programmes for education staff to monitor the standards.

The education, health and environmental sectors contributed to the planning and adoption of these measures. The heath sector also provided information on common health impacts of inadequate portable school facilities (Jenkins, Thomas & Waldman, 2004).

Recommended reading

1. UNESCO (2011). *Education for All Global monitoring report.* Paris, United Nations Educational, Scientific and Cultural Organization.
2. WHO (2004). *The Physical Environment. An essential component of a health promoting school.* Geneva, World Health Organization (Information Series on School Health, Document 2).
3. World Bank (2011). *Rethinking school health. A key component of Education for All.* Washington, DC.
4. UNESCO (2011). *The hidden crisis: armed conflict and education.* Paris, United Nations Educational, Scientific and Cultural Organization (EFA Global Monitoring Report).

Useful links

UNESCO Institute of Statistics provides an overview of key education data and trends: http://www.uis.unesco.org/Education/Pages/default.aspx

WHO's School Health and Youth Health Promotion website: http://www.who.int/school_youth_health/en/

Schools for Health in Europe: Acting for better schools, leading to better lives is a European network platform that aims to support organisations and professionals to further develop and sustain school health promotion: http://www.schoolsforhealth.eu

World Bank Group education information: http://www.worldbank.org/education/, including useful perspectives on the economics of education.

Teachers Support Network in the United Kingdom is an example of an e-based platform for information sharing to help teachers avoid burn out and to cope with the stress of the profession: http://teachersupport.info/news/well-being/teacher-stress.php

GOAL 2. ALL LEARNERS CAN ACCESS EDUCATIONAL FACILITIES AND OPPORTUNITIES

BARRIERS PREVENTING LEARNERS FROM ACCESSING (ENROLLING AND ROUTINE ATTENDANCE) EDUCATION FACILITIES, IN PARTICULAR, GEOGRAPHICAL, ECONOMIC, ADMINISTRATIVE AND SOCIAL BARRIERS, AND THOSE CAUSED BY HEALTH CONDITIONS, ARE ADDRESSED

Educational challenges and responses

Economic, geographical, administrative, and social factors, as well as health conditions, can act as barriers to accessing educational facilities.

Economic costs. Poverty, combined with direct costs - school fees, as well as seemingly small out-of-pocket or 'hidden' costs for uniforms, textbooks or other materials, are the greatest causes of non-attendance (see Figure 1). Travel distances and indirect costs related to children's contributions to household work also influence children's school enrolment and attendance (see Figures 2 and 3).

A report by UNICEF monitoring the MDG's indicated that "children from the poorest 20 per cent of households are less likely to attend primary school than children from the richest 20 per cent of households, according to data from 43 developing countries." (UNICEF, 2010.) Similarly, UNESCO's *Monitoring report for Education for All* indicates that "children from poor homes are far more likely to drop out than children from wealthier homes, underlining the interaction of poverty with education costs" (UNESCO 2011). Indirect economic costs also play an important role. Children may need to contribute to the household income (paid or unpaid) (Figure 3).

The Special Rapporteur on the right to education, identifies 'economic exclusion' as a global phenomenon. She indicates that the boundary between public and private education is "being obliterated by conditioning access to public schools on payment", even in industrialized countries, where this figure is eight per cent (Tomaševski, 2006b). The Special Rapporteur also criticizes the level of teachers' salaries, indicating they are often "below official poverty benchmarks, requiring various formal and informal charges for impoverished public education, and making education much too expensive for the poor." With regard to so-called 'hidden costs', the Rapporteur counted more than 20 different charges that may be imposed in primary school. The price of school textbooks and uniforms may be as high as 30 per cent of the family budget.

Geography and transport infrastructure may create financial or time barriers to access. Travel time may prohibit routine school attendance. For example, in Guatemala, a study found that each 10 additional minutes of travel time to school decreased the probability of a girl attending school by 2.4 per cent. In some cases, enrolment can also be affected by distance, for example, where social norms prevent girls from travelling long distances alone.

Administrative rules may not be sufficiently understood or accommodating to different social groups, preventing school enrolment or inhibiting routine attendance. Public sector school attendance is usually distributed on the basis of pre-defined catchment areas, which may not adequately take into account geographical constraints or transport options. Inadequate school hours that do not accommodate children's household work hours in some cultures and settings can also present a challenge to access.

Social stigmas related to certain health conditions (e.g. children with epilepsy or albinism) or related to girls' periods have been reported as being subject to discrimination, which acts as a barrier to school attendance or precipitates drop-out (see Goal 1) (Hong, Zeeb & Repacholi, 2006).

Chronic health conditions, including conditions such as chronic under-nutrition may impact on routine access to educational facilities, as may disabilities when children have to travel long distances to school. While each country faces a unique combination of challenges, the major policy approach is to address economic costs that act as barriers to children's enrolment in schools. Reducing user fees, accompanied by measures to increase supply-side investments in schools to maintain quality are critical elements of this approach. Substituting lost household income from children is also identified as a component of the necessary interventions for addressing economic barriers.

Specific approaches are required to address differential needs related to access that arise from geographically difficult terrains or other barriers. As barriers are linked to social and economic factors, interventions often require more detailed information on affected groups, targeted actions, and the engagement of other sectors. Vertical coordination across government stakeholders is also needed. For example, school-fee abolition is usually a function of central government. But it should be backed up by decisions at the local and school levels that match the provision of teachers to enrolments (School Fee Abolition Initiative, 2009). Other interventions include physical improvements to guarantee accessibility, free textbooks and uniforms, transport subsidies, cash or kind transfers, school meals, and coordination with other sectors.

Education's engagement of health services plays an important role in ensuring access and achievement for children with disabilities and health conditions. For these children, health services need to be provided in or near the school (or, occasionally, education needs to be provided in hospitals and health settings). Some health interventions simply enable children to attend school – for instance, if the appropriate physiotherapy services can be provided on site for physically disabled children. Other services contribute actively to educational achievement – for instance, speech and language therapy.

To monitor accessibility, policy-makers often assess the number of children attending educational institutions distributed by age or sex (e.g. 'net intake rate' or 'out-of-school children'). Other areas of monitoring cover sex parity in access (enrolment, intake, attendance), which is also an area monitored for MDG reporting. Although international standards do not suggest specific indicators related to financial barriers in accessing education, monitoring the presence of school fees in public education is becoming an increasingly common practice in many countries that aim to increase enrolment (UNESCO, 2011).

Examples of health impacts and pathways

People's inability to afford school fees, or other economic, geographical, administrative or social factors, act as barriers to their children's regular attendance at school. This affects school attainment and literacy levels, which have associated accumulated health impacts later on in life. Yet there are also several immediate health impacts associated with irregular or limited school attendance or with the barriers themselves.

Income inequality, education and health (see also Goal 4). The UNESCO analysis of survey data from across 31 countries showed a three fold difference on average between enrolment rates for children from households in the poorest income quintile compared with those in the richest quintile (UNESCO 2011). Statistics for sub-Saharan Africa show that high levels of income inequality have persisted since the 1970s (UN-DESA, 2005). The Basic Education Assistance Module (BEAM) is a programme in Zimbabwe targeting children who have never been to school, who have dropped out of school or who are likely to do so due to a lack of funds. It consists of a national school-fee assistance programme that provides tuition, and assistance for levies and examination fees. Evidence from an evaluation of BEAM suggests that at least 15 per cent of school drop-outs are related to health issues and 23.8 per cent to lack of funds. One of the related consequences of the increasing rate of drop-outs is a decrease in immunization rates and a growth in stunting among school-age children (Save the Children (UK) 2010).

Physical risks associated with longer travel time. Physical barriers such as rivers and forests, which are often not considered in basic catchment area criteria for determining school availability, could considerably increase the time it takes to reach school. Furthermore, long travel times expose children to the risk of sexual violence, and road and other injuries (see Box 2, Figure 2). Studies documenting the knock-on effects of such ordeals show an impact on the school attendance rates of siblings (WHO-UNICEF, 2008).

Stigmatization in schools as a health risk. Stigmatized populations or stigma associated with certain activities considered socially unacceptable may prevent children from attending schools. An example is the case of children with albinism, where parents cannot allow their children to leave their houses because they fear for their safety. Children may also face violence and isolation, which, coupled with lack of literacy, impacts on their poor health. Estimates suggest that around some 10 000 children in the United Republic of Tanzania cannot freely move due to life threatening reasons (IFRC, 2009).

Schools are sites for key health interventions, including de-worming and improved nutrition through school meals. In many countries, schools take part in vaccination campaigns and health promoting activities, providing children with protection from many diseases. In 2000, school fees were removed in Burundi, Ethiopia and Mozambique, which boosted enrolment rates (UNESCO, 2010). This helped to increase immunization coverage for measles and other diseases (WHO, 2011). Reduced population immunity can lead to outbreaks that are harder and more expensive to control.

Studies in low-income countries show that worm infections, currently affecting around 169 million children, can be directly linked to the loss of 3.75 IQ points per pupil. The same studies show that the equivalent of 200 to 500 million school days per year are lost to ill health (World Bank, 2011).

Where provided, school meals are sometimes the children's main meal during the day. If fees or other barriers prevent them from accessing school, they lose the health benefits derived from these meals. In India, the Mid-day Meal Scheme is the largest and most ambitious programme ever attempted by the Indian Government to achieve universal elementary education for 120 million pupils including Schedule Caste pupils, who are at greater risk. The programme seeks to: (i) improve the nutritional status of children; (ii) encourage poor children, belonging to disadvantaged groups, to attend school more regularly and help them concentrate on classroom activities; and (iii) provide nutritional support to primary school children in drought-affected areas during the summer holidays. Health and education professionals work together to make this programme a success (Sedwal & Kamat, 2008).

School health check-ups facilitate early check-up of disabilities. For 2010, the Global Burden of Disease (GBD) estimates the number of children aged 0–14 years experiencing 'moderate or severe disability' at 93 million (5.1 per cent), with 13 million (0.7 per cent) children experiencing severe difficulties (WHO-World Bank, 2011). The World report on disabilities emphasized the importance of early detection and referral (WHO-World Bank, 2011), but stigma or other barriers preventing children with disabilities from attending school may also prevent their early detection and treatment by health services.

What can both sectors do together?

Become involved in cash transfers programmes. Improving access to education through conditional and unconditional cash transfers can improve education and health and health equity (ILO, 2010, Forde, Rasanathan & Krech, forthcoming). The Brazilian model, *Bolsa Família* (launched initially as *Bolsa Escola* in 2001) uses conditional cash transfers to families, principally to mothers, with the express aim of removing financial barriers to education. In households benefited by the Bolsa Família, the percentage of children and youngsters (6 to 20 years old) who attend school is higher than in non-benefited households. Mexico's Oportunidades programme provides income support in the form of cash to vulnerable families on condition that parents send their children to school. In addition, children receive health check ups, nutrition support and health services. The health and education sectors work together to design components of the programme (vaccination, health education, awareness, nutrition supplementation, health literacy) and to provide the services in school. It is one of the most extensively evaluated programmes of its kind. Oportunidades has documented increased school enrolment by 24 per cent in some communities (especially among girls). It has contributed to a range of health impacts including reducing maternal and infant mortality, and anaemia; gains in children's height and weight; and increased access to health and education services (Cruz, de la Torre & Velazquez, 2006; Holmes & Slater, 2007). Similar health benefits are documented for other programmes in Colombia (e.g. decreases in diarrhoeal diseases) (Forde, Rasanathan & Krech, forthcoming).

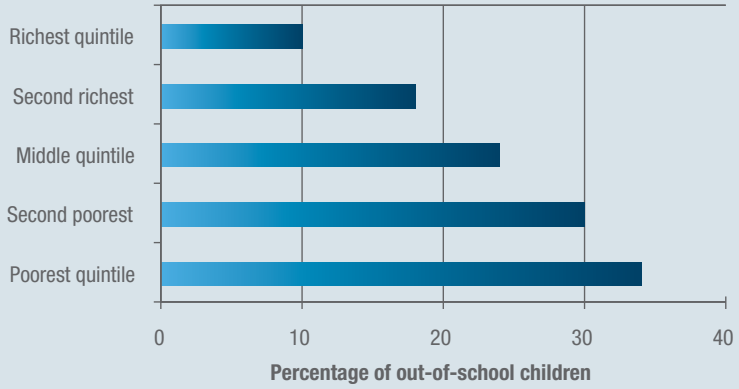
Box 2. SOCIAL DETERMINANTS AND EQUITY FOCUS

POVERTY

The UNESCO analysis of 31 countries showed that an average 25 per cent of children eligible for primary education were out-of-school. The social gradient in education revealed a three fold difference between households in the lowest and highest income quintiles.

Figure 1. Average out-of-school rate by household income within countries

Source: Analysis compiled by UNESCO from different household surveys (UNESCO, 2011).

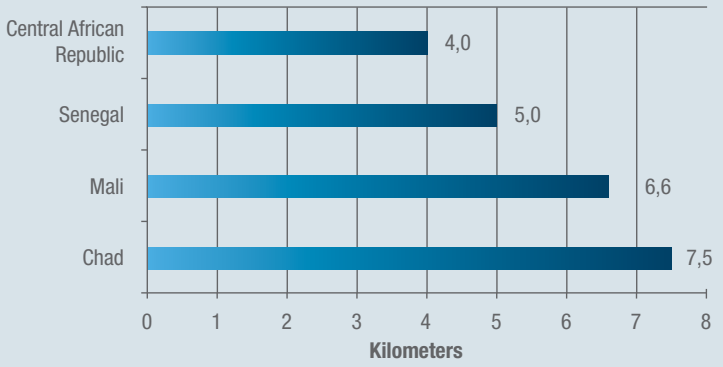


DISTANCE

A 2002–2003 survey of 179 villages across different countries in the western Sahelian region of Chad found that, for distances over 1 kilometre (km), enrolment declined steeply, with fewer than 10 per cent of children typically going to school.

Figure 2. Average walking distance (km) to nearest school facility across different West African countries

Sources: Filmer (2007); Lehman et al. (2007); UNESCO (2010).

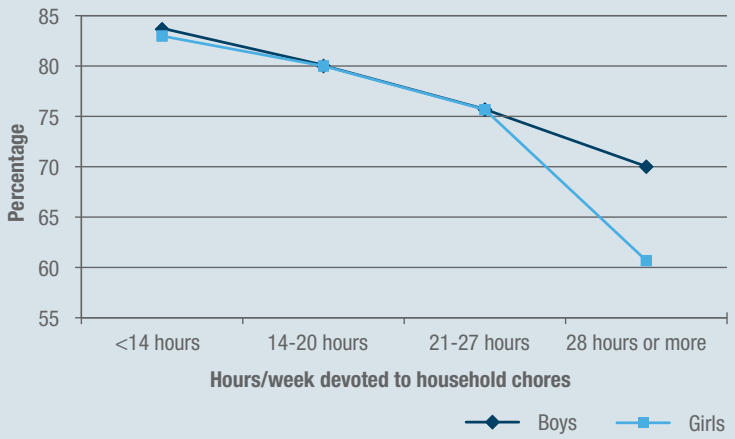


OTHER ECONOMIC BARRIERS - INDIRECT COSTS

Economic barriers may also present themselves in the form of indirect costs. For example, children may perform household chores valuable to the family that restrict their school attendance.

Figure 3. Economic barriers by sex: percentage of girls and boys aged 5–14 attending school, by hours devoted to household chores per week in 16 countries

Sources: ILO (2009); Blanco (2009).



Improve girls' access to schools. Bhutan succeeded in reducing its rate of out-of-school children and increasing gender equity in access to education opportunities by adopting an integrated strategy that addressed cultural and gender barriers mostly impacting on girls' education. The strategy increased the number of available classrooms, redeployed teachers to remote areas where inequalities in access between boys and girls were highest, and increased female teachers. Health authorities implemented primary care, school health and nutrition initiatives to support these actions. As a result, around 95 per cent of girls starting primary school were expected to reach the final grade by 2008. Investments in infrastructure have been backed by the expansion of non-formal education. The number of learners in non-formal centres tripled from 2000 to 2006, with 70 per cent of participants being young women (UNESCO, 2011).

Provide education to hard-to-reach children. In Bangladesh, a large-scale alternative education scheme is based on partnerships between the education and health sectors, and some 150 NGOs, to provide school opportunities to around 350 000 working children who are not attending schools. Led by the education sector, the initiative provides a non-formal education curriculum and a two-year bridging course. At the end of the course, children attain the equivalent of grade 3 in a formal education setting and can be admitted to mainstream education. The course runs for two hours a day, six days a week. Timing is flexible. Health professionals participate in the design and delivery of the course by contributing to the curriculum, which emphasizes reproductive and sexual health, health promotion and prevention, as well as by undertaking routine health check-ups (School Fee Abolition Initiative, 2009).

Address the needs of children with disabilities. In implementing the UN Convention on the Rights of Persons with Disabilities (UN, 2006) by adapting buildings and classrooms to the disabled special needs is critical. Yet, beyond physical access, earlier diagnosis of emerging medical conditions affecting children is also needed. The health and education sectors can, for instance, coordinate regular medical check-ups and psychological assessments, identify visual problems, hearing loss and other impairments, detect mental or intellectual conditions, and work together to coordinate and improve access to treatment (UNICEF, 2007b).

Children with HIV. HIV/AIDS has had a huge impact on school attendance in many low-income countries. Each day 1800 children become infected with HIV (UNAIDS-WHO, 2006). Children with HIV suffer from common childhood diseases more frequently than other children, with greater intensity and often with less responsiveness to drugs. Early diagnosis is essential to reduce the impact of HIV infection and children should receive good nutrition, appropriate immunization and drug therapy for common childhood infections (UNESCO, 2007). It is critical for the education sector to address the specific needs of children infected with HIV. Both sectors can work together to ensure an appropriate school environment with health care at school, and to facilitate access to treatment.

Recommended reading

1. UNESCO (2009). *Ensuring access to Education for All. Policy guidelines on inclusion in education.* Paris, United Nations Educational, Scientific and Cultural Organization.
2. UNICEF (2009). *The state of the world's children. Special Edition.* New York, NY, United Nations Children's Fund.
3. UNICEF (2007). *Promoting the rights of children with disabilities.* Florence, United Nations Children's Fund (Innocenti Digest No. 13).
4. WHO-UNICEF (2008). *World report on child injury prevention.* Geneva, World Health Organization-United Nations Educational, Scientific and Cultural Organization.

Useful links and resources

The Right to Education Project, a continuation of the web site of the former UN Special Rapporteur on the Right to Education, Katarina Tomaševski, provides guidelines and tools associated with implementing the right to education: http://www.right-to-education.org/node/113

As part of follow-up to the Dakar Framework for Action, UNESCO, has produced a useful guide to creating learning friendly environments that overcome barriers to enrolment and inclusion: *Embracing diversity: toolkit for creating inclusive, learning-friendly environments:* http://www2.unescobkk.org/elib/publications/032revised/index.htm

Education for All Fast Track Initiative (EFA-FTI) was relaunched in September 2011 and renamed 'The Global Partnership for Education' (originally launched in 2002 to improve international cooperation in education). It is the first ever global compact on education, to help low-income countries achieve the six Education For All goals: http://www.educationfasttrack.org/ and http://www.globalpartnership.org

UNICEF's interactive site, *Progress for children. Achieving the MDG's with equity,* for monitoring progress on the MDGs: http://www.devinfo.info/pfc/

The *Global School-based Student Health Survey* (GSHS) is the basis of a global surveillance system coordinated by WHO and the CDC, based on self-administered school-based survey for young people aged 13–15 years old: http://www.who.int/chp/gshs/en/

WHO's Violence and Injury Prevention and Disability (VIP) programme's web site contains information on children's injuries and violence against children in different settings: http://www.who.int/violence_injury_prevention/en/

GOAL 3. SYSTEM-WIDE QUALITY IMPROVEMENTS ARE IMPLEMENTED

IMPROVEMENTS ARE MADE TO THE QUALITY OF TEACHERS, MATERIALS AND METHODS, INFRASTRUCTURE, LENGTH OF SCHOOL DAYS, AND MANAGEMENT OF SCHOOLS TO ENHANCE THE LEARNING EXPERIENCE FOR LEARNERS

Education challenges and policy responses

Two key policy challenges in this area related to continuous improvement are: (i) improving how the learning experience enables learners to absorb knowledge and skills; and (ii) ensuring the school transmits knowledge and skills useful to learners in a context of changing societies and economies. Interventions to address these quality improvements cover four dimensions.

i) Quality assessment, monitoring and control systems. Quality may be assessed by examining students' school performance or by assessing factors related to better performance, for example, classroom size and teacher/pupil ratios. School enrolment is usually based on catchment areas. In some countries, parents' choice is supported as a means to improve quality in schools. The assumption is that they will seek to enrol their children in high-quality schools, thereby pushing schools to improve their performance as they are forced to compete with other schools.

ii) Quality of human resources, short-term curriculum adaptations and increasing learning time. Policies in this area often focus on training to ensure teachers' knowledge on subjects related to the broad goals of education (what to teach) and on their pedagogical capacities (how to teach). These are crucial, as evidence suggests that differences in teacher quality greatly affects students' educational attainment (Koedel, 2008). Similarly, training pre-service teachers is equally important through, for example, mentoring programmes with more experienced in-service teachers. Other policy interventions set standards for professional practice and promotion opportunities. Health literacy is seen as an important component of teacher education and human resources quality improvement. The extension of contact hours for learners is another very important policy action area to improve quality. Intensive training for teachers or specific incentives may also be needed to address the marginalization of some pupils with respect to parts of the curricula (e.g. girls in science and mathematics).

iii) School management and governance. Teachers need appropriate autonomy and managerial support to succeed in the classroom. Common interventions required to manage schools well include school-site policies to create an environment and school ethos that are conducive to learners' success. School-site policies promoting health include many interventions, for example, healthy food, ban on smoking, bullying prevention, physical activity, stress management (for teachers), emergency measures and outside traffic monitoring.

A crucial management issue is the relationship with parents and their involvement in the education process. Encouraging parents to keep track of what their children learn and do at school contributes to overall quality. Outreach to communities changed by epidemics, e.g. AIDS orphans living with more distant relatives, has specific challenges for the education system in this regard (UNAIDS 2011). Finally the involvement of pupils is participatory governance structures is fundamental for promoting good school ethos and articulating an appropriate 'hidden curriculum' that is conducive to children's development. The 'hidden curriculum' includes: "the ethos (culture) established by the atmosphere of the school; the school's code of discipline; the prevailing standards of behaviour; the attitudes adopted by staff towards pupils; and the values implicitly asserted by its mode of operation" (WHO-EURO 2006b).

A key strategy for developing good relationships within the school and promoting mental well-being in pupils is to combine specific self-esteem programmes with democratic participation of pupils in school management. Evaluations of interventions to promote mental health indicate they are more effective if developed and implemented over a long period using participatory governance approaches, which entail: involvement of the whole school, changes to the school psychosocial environment, personal skill development, and involvement of parents and the wider community. Moderate to large effects were reported in quantitative analyses (WHO-EURO 2006b).

iv) Curriculum development. Policies that periodically review curricula to ensure that they are responsive to advances in education science, and meaningful to changing societies. Policies ensure knowledge is organized in a cumulative manner so that knowledge acquisition progresses along the school years. Horizontal coherence ensures that what is learned in one subject is linked to other subjects and that all efforts encourage pupils' creativity. Curricula updates are important entry points for promoting health through schools. School-based physical education is an important consideration in the curriculum to improve health, both with respect to the amount of physical activity during and outside of physical education classes (WHO, 2008).

Indicators to monitor the quality of education are diverse. A key one is the rate of change in total per capita public expenditure on education as a percentage of total per capita government expenditure, since it shows the level of increasing or decreasing political commitment to education. Measuring the proportion of trained teachers for different levels (pre-primary, primary, secondary), as a whole and by sex, and pupil/teacher rations can also help monitor the capacity of a system to deliver quality education, along with average class size and yearly hours of teaching.

Examples of health impacts and pathways

Class size, health costs and life expectancy. A recent study estimated the health and economic effects of reducing class size from an average of 22 to 25 pupils to between 13 to 17 pupils in kindergarten through to grade 3 throughout the USA (Muenning & Woolf, 2007). Based on a model cohort of age 5 followed up to age 65, class-size reductions would generate net societal savings of around US$168 000 of public expenditure for every student who graduated from high school. In terms of life expectancy, it would generate a net gain of 1.7 quality-adjusted life years (QALYs) for each high-school graduate educated in smaller classes during the earlier years.

Healthy school environments and food. School interventions aimed at changing health behaviours by changing the school environment have been assessed in a comprehensive analysis of 15 rigorous systematic reviews carried out by WHO (2006). The review suggests that interventions on healthy eating and physical activity, the prevention of injuries and promotion of mental health are most likely to be effective in changing students' health behaviours. Likewise, another WHO-commissioned meta-analysis of 221 studies on the effects of school-based intervention programmes on aggressive behaviour suggests that they actually reduce this behaviour in high-risk youths (WHO, 2006).

Curriculum changes and vocational teacher training. School curricula and teachers providing information on conditions for good physical, emotional and mental health, on skills for managing stress – including psychosocial skills – and on broader awareness of health-related stigmas, are important conduits for improving education quality and for impacting on the health of pupils and teachers.

Medical services in emergencies. In the context of the growing pressures on populations in urban settings, on the natural environment and on climate change, disasters are having increasing impacts across societies. Many tragic incidents have involved schools. Improving schools' coordination with health services is essential to reduce the time taken to receive medical attention.

Box 3. SOCIAL DETERMINANTS AND EQUITY FOCUS

A recent study on the 'only healthy food' scheme as schools meals at primary level using detailed individual data from the English National Pupil Database (NPD) and the Pupil Level Annual Schools Census (PLASC) found a positive effect on test scores in English and Science subjects for pupils who followed the scheme in a local United Kingdom education area.
The study also found that the rate of absenteeism fell. Children with the most difficulties in adjusting to such a diet were from low-income families. The study suggests that these children were more likely to be used to eating unhealthy food on a regular basis. Families unable to afford the price of school meals were given these healthy meals at a lower price and, if needed, free of cost.

Source: Belot & James (2009).

What can both sectors do together?

Implement tools for quality improvement. In the last decade, WHO and its partners have produced guidelines to improve education quality, covering areas such as physical environments, healthy food and nutrition, healthy social environments for emotional and social well-being, family life, infectious diseases, oral health and engagement with local communities. Schools for Health in Europe (SHE), a network of schools from 43 countries, have implemented these approaches and have shown that health and education can mutually benefit from joint action in this area (Mannix McNamara & Moynihan 2010; WHO-EURO 2006a; 2006b). For example, programmes on preventing suicide were found to reduce suicide potential.

Monitor quality to help decision-makers introduce health promoting schools interventions. In the USA, the New Mexico Youth Risk and Resiliency Survey, prepared by education and health authorities, explored 2600 students between grades 6 to 12 (in 33 counties) and their risk behaviours contributing to unintentional injury, violence, poor mental health, suicide, alcohol and tobacco consumption, drug use, sexual activity, physical activity, nutrition and body weight. The study showed that students not involved in risky behaviours performed better academically, were more engaged in school life and had higher levels of protective factors. Based on these findings, in 2008, the New Mexico state government endorsed a set of interventions aimed at school managers, health authorities, communities and other sectors. This was implemented through a 'Healthy School Report Card' initiative to jointly decide on key reforms for improving education quality (NMYRRS, 2007, Green, 2010). Evidence reviews have found that peer-delivered health promotion may be more effective, compared with teacher-led interventions, and that it is an approach highly valued by the young people involved (EURO 2006b).

Be involved in mentoring to promote quality. In many deprived, urban communities in the USA, teachers' mentoring experiences have proved to be quality boosters for schools' and pupils' performance (Cadman 2005; DuBois et al., 2002; Levine 2005; The Wallace Foundation, 2007). More experienced head teachers and school principals mentor less experienced or junior teachers in introducing quality management and health promoting actions. Mentoring can also be carried out by professionals from the health sector and provide opportunities for supporting teachers to develop coping skills to better deal with stress.

Develop curricula to address stigma of HIV and gender violence. Health and education authorities can work to improve the adaptability and inclusiveness of schools, and reduce the prejudice, sexism, taboos and homophobia that often determine how the education experience equips learners in broader society.
'Stepping Stones' is an intervention first implemented in South Africa to prevent HIV and reduce gender violence, by emphasizing empowerment, skills development and reproductive health rights. Using participatory learning approaches in schools and other settings, it builds awareness of risks and encourages self-reflection on sexual behaviour. The intervention has been applied in 40 countries and has helped reduce sexually transmitted infections, risky behaviours and violence against women (Jewkes, Morell & Christofides, 2009).

Develop curricula to address self-esteem. Improving the self-esteem of learners has multiple benefits for well-being, including reducing the risk of abuse. Interventions that aim to improve self-esteem are most successful when combined with participatory governance approaches and broader community involvement. Health literature shows that knowledge-based programmes alone are not effective in promoting self-esteem (WHO-EURO 2006b). Health can work with education to design management and governance approaches that promote self-esteem and well-being through combining knowledge-based programmes with participatory governance reforms.

Supporting child participation to improve democratic governance and health. Many governments are encouraging child participation in school governance (UNICEF 2007). In Cameroon for example, in more than 300 schools, pupils have become involved in decision-making through a 'parliament of children', expanding networks of young people and the creation of municipal youth councils. These forums provide opportunities for pupils to raise health issues. Health can participate in school governance structures to support health literacy and school interventions that promote pupils' health and well-being.

Recommended reading

1. WPRO (1996). *Regional guidelines: development of health-promoting schools – a framework for action.* Manila, World Health Organization Regional Office for the Western Pacific (Health-Promoting Schools Series 5).
2. WHO-EUR (2006). *Food and nutrition policy for schools.* A tool for the development of school nutrition programmes in the European Region Programme for Nutrition and Food Security. Copenhagen, World Health Organization Regional Office for Europe.

Useful links

ASCD (formerly the Association for Supervision and Curriculum Development) is a non-profit educational leadership organization, based in the US, dedicated to advancing best practices and policies for the success of learners. Its members, cover 148 countries, are professional educators from all levels and subject areas. Healthy School Communities is an ASCD platform that promotes health in schools: http://groups.ascd.org/groups/detail/111288/healthy-school-communities/

Student Health and Academic Achievement. USA National Centers for Chronic Disease *Prevention and Health Promotion*: http://www.cdc.gov/HealthyYouth/health_and_academics/

GOAL 4. INEQUITIES IN EDUCATIONAL ATTAINMENT AND PERFORMANCE LEVELS AMONG LEARNERS ARE ADDRESSED

NECESSARY SOCIAL, COMMUNITY, FAMILY AND SCHOOL-BASED MEASURES ARE IN PLACE TO RETAIN MALE AND FEMALE LEARNERS AND IMPROVE THEIR LEVEL OF ATTAINMENT BEYOND MINIMUM LEVELS, IRRESPECTIVE OF THE SOCIAL CONDITIONS IN WHICH THEY LIVE

Education challenges and policy responses

Merely having an educational system in place does not ensure that all students will complete the education cycle or succeed scholastically according to their full capacities. Variance in student performance is not explained only by cognitive abilities but, in many instances, by barriers related to the family, community and social conditions in which they live. Specific social conditions can also influence school retention and attendance rates, for example, household chores or being a child worker can determine student retention. The educational level of parents might also influence the extent to which their children engage in the school system. In this policy area, a particular challenge is retaining pupils beyond primary level education. Rural areas in most developing countries have historically suffered from under-investment in secondary education. Interventions in this area have been identified and are receiving increasing attention. They can be described as covering the following four areas.

i) Some interventions address differential needs through focused educational activities such as extra teaching hours, changes in classrooms size, more teachers and support personnel, and peer-to-peer student mentoring. This requires the school and its management to recognize the contextual disparities and to address them.

ii) Other interventions focus specifically on strengthening school leadership through training for management and teachers and changes in school governance to develop the skills needed to identify and address disparities.

iii) More complex interventions, sometimes integrated into family incentive packages under conditional cash transfers, are needed to tackle the social contexts that surround pupils and students and associated educational attainment problems (e.g. drop outs). Particular initiatives are also necessary to address social contexts at the community or family level related to violence.

Tribal and remote areas with high percentages of indigenous populations need special policy interventions. These may include changing governance arrangements to allow for greater decentralization of responsibilities, new posts and zones, and improved quality monitoring and assistance, as well as specific funding interventions (see also (iv)).

iv) Other interventions provide non-educational support, usually in the form of income transfers (e.g. stipends, scholarships and the provision of other social services or social protection measures) (see also Goal 5 on cash transfers). Stipends or scholarships for girls in particular, but also ethnic minorities, are used to target financial assistance with the aim of improving school enrolment (see also Goal 2), retention to secondary levels and attainment (the Asian Development Bank and World Bank fund this approach as part of their support to the education sector, e.g. in Bangladesh) (ADB, 2008).

Usually, the education sector monitors the development of these types of interventions by the number and share of students that finish primary school, or by some other compulsory level or a standard grade, or percentage transitioning from primary to secondary by sex. They also monitor the share of repeaters, in all grades and by sex, drop-out rates and the educational attainment of the population aged 25 years and older. Moreover, to report progress on achieving MDG 6 (Combat HIV/AIDS, malaria and other diseases), policy-makers also examine the ratio of school attendance of HIV/AIDS orphans in relation to non-orphans aged 10–14 years.

Examples of health impacts and pathways

Educational attainment and chronic diseases. Educational attainment is a mediator in the personal care management of chronic diseases. Schillinger et al. (2006) assessed a sample of 395 patients with diabetes 2 using the Short Test of Functional Health Literacy in Adults (s-TOFHLA). The results suggested that educational attainment is associated with better glycemic control, particularly when comparing the two lower strata of education (less than high school graduate vs. high school graduate).

The Norwegian National Strategy to Reduce Social Inequalities in Health (2007) analysed mortality by cause of death according to educational attainment. The differences between those with only primary education (7–9 years of schooling) and those with secondary level (10–12 years) produced some salient results on cardiovascular diseases, cancers and other causes (respiratory tract diseases and violent deaths) (NMHCS 2007).

Furthering mothers' educational attainment and improving child health. Evidence suggests that a mothers' educational level is a powerful catalyst for progress in child health and nutrition. Children born to more educated

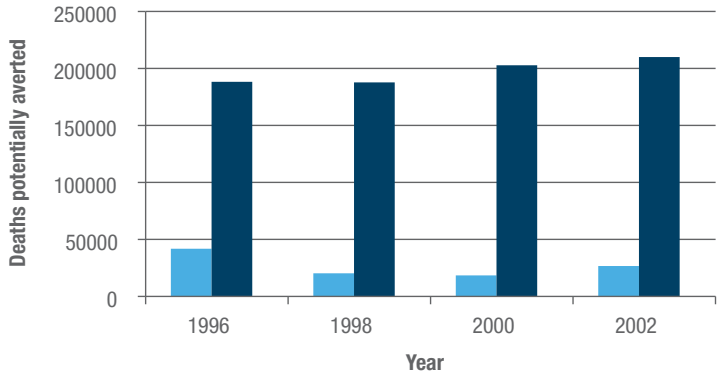
mothers are more likely to survive and less likely to experience malnutrition. The *Education For All* Monitoring Report (UNESCO 2011) suggests that universal secondary education for girls in sub-Saharan Africa could save as many as 1.8 million lives annually (UNESCO, 2011). For example in Mozambique and Rwanda in 2009, under-5 mortality (1/1000) rates for children born to mothers with no education were 210 and 140, respectively, whereas for children born to mothers with secondary education, the rates were 90 and 48, respectively (UNESCO, 2011).

Furthering educational attainment and reducing total mortality. A study carried out with vital statistics data for the USA for the period 1996–2002 of the role of inequities in educational attainment among all population groups found that eradicating education-associated excess mortality (up to secondary levels) would avert 1 369 335 deaths, whereas medical advances averted a maximum of 178 193 deaths during the period (Woolf et al., 2007; Figure 4).

What can both sectors do together?

Extended schools improving social and family conditions for schooling success. In recent years, countries promoting health in schools have achieved successful results from adopting 'extended' or 'full service' schooling models. The core idea is that school attainment and retention are linked to exclusion, poverty and social inequities, which schools cannot address alone (Wilkin et al., 2003; Cummings, Dyson & Todd, 2011). The concept for these models is that schools coordinate or offer different social and support services for students, families and communities to address the social conditions that impact on school attainment and outcomes. Schools work with health authorities and other social agencies and use the school environment as a platform to provide services including health, family counselling, and training for parents and others (Cummings, Dyson and Todd, 2011). These initiatives include the use of parental training as a way of improving the support that parents can give to their children to achieve academic success (e.g. 'What Parents Can Do'). They also include family visits or school-based

Figure 4. Deaths potentially averted per year in the USA by eliminating education-associated excess mortality, compared with excess mortality averted by medical advances

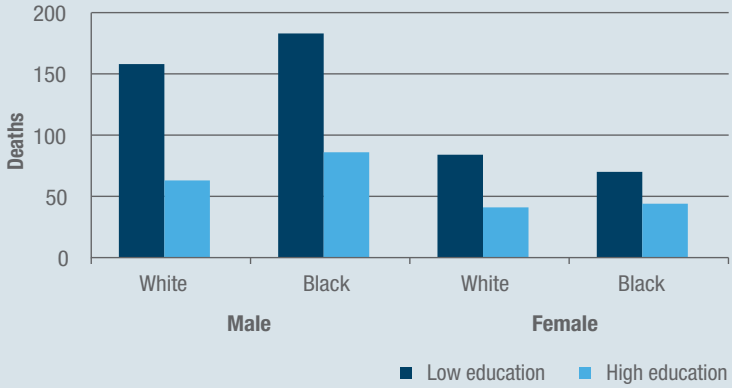


Source: Woolf et al. (2007).

Box 4. SOCIAL DETERMINANTS AND EQUITY FOCUS

As regards educational disparities in mortality and life expectancy in the USA, Meara, Richards & Cutler (2008) have found that all recent gains in life expectancy at age 25 occurred among better-educated groups, raising educational differentials in life expectancy by 30 per cent. Using matched census population estimates to death certificate data in the Multiple Cause of Death (MCD) files for 1990 and 2000, evidence suggests that in 2000, life expectancy for a 25-year-old with a high school diploma or less was 50 years whereas for a person with some college education, it was 57 years. According to the study, mortality and cause of mortality are unequally distributed by race (blacks/whites) and educational attainment (up to high school/at least one year of college). Figure 5 shows the case of lung cancer, where inequities related to educational attainment are salient.

Figure 5. USA Age-standardized lung cancer deaths per 100 000 persons aged 25–84, by sex, race and education, 2000



Source: Meara, Richards & Cutler (2008).

training to discuss health issues, such as sleeping problems, eating habits and behaviour, which make parents feel closer to the school management (Wilkin et al., 2003). These initiatives also include other areas for improving coordination between education and relevant social protection agencies, for example, for child abuse referrals, gender or domestic violence, and diseases and disability.

Conditional cash transfers targeting school attendance. Some cash transfer programmes, e.g. *Bolsa Família* in Brazil, covering 12 million families, target school attendance, providing both the material means and incentives to families to ensure children attend school regularly and to improve school attendance. These programmes frequently include adult literacy programmes (e.g. *Chile Solidario*). They also offer direct health actions such as vaccinations and health literacy (see also Goal 5).

Family health programmes. Countries with extensive family health programmes may have additional opportunities for greater collaboration between health and education. For example, as an education official in Brazil noted, the Programme for Family Health in Brazil in 2009, with a coverage of just over 50 per cent of the population and professional teams in close proximity to families, could provide an opportunity for the education sector to become involved in family and student interventions (e.g. the home study environment, better learning practices, adult literacy).

Addressing violence in the community environment. Children and adolescents living in one of the most violent slums in the Brazilian city of Belo Horizonte had very low educational attainment rates, and high levels of repetition and drop out. Violence affected school attainment and exposed children to intentional injuries, drugs and alcohol consumption. In collaboration with community groups, the police, and education, health and urban planning authorities launched the 'Staying Alive' programme to reduce violence and improve health, education and well-being. The initiative successfully reduced homicide rates by 69 per cent in the first six months and was conductive to better schooling outcomes among the young (Silveiral et al., 2010).

The contribution of distance education to improving the quality of secondary education. The New Partnership for Africa's Development (NEPAD) e-schools system is an example of an information and communication technology (ICT) based initiative to promote secondary education that aims to provide ICT skills to young Africans in primary and secondary schools. Its goal is to enable them to function effectively in the emerging information society and knowledge economy. It includes several opportunities for health sector collaboration in curriculum development and in the location of 'health points' in each school. These health points provide health information to students, parents, health-care workers and the broader community (Evoh, 2007).

Outreach to increase health literacy and parenting skills. An intervention in 38 communities in an impoverished district in Terai, Nepal, with 935 children aged 3–6 included nutritional and health components, and parenting activities through joint efforts from education and health authorities (Engle et al., 2007). More than 80 per cent of the participating children passed to grade 1 and 94 per cent passed to grade 2, compared to 61 per cent and 68 per cent of children not participating in the intervention (UNICEF-ROSA 2009). Notable improvements in poor health indicators were also achieved.

Catering to children with disabilities and special needs. Many learning disabilities have a medical or health origin. Often education for children with learning disabilities has to be supported by medical interventions (WHO, 2011). In Kazakhstan, Kyrgyzstan and Tajikistan, 12 projects run by specialized agencies of the United Nations and civil society organizations focus on supporting families through extended school services that provide education to them wherever they are (e.g. home, school, or health centre). Children have progressed in their learning levels, and both parents and physicians confirm better overall health status (UNICEF, 2011).

Catering to children in societies in crisis. Very often in post conflict situations millions of people must cope with several risks, including undernutrition, diarrhoea, poor sanitation, food insecurity and poverty. Children are acutely affected by these risks. In these situations, together with efforts to rebuild basic services such as water and sanitation, both the education and health sectors can contribute to the retention or return of children to the school system, while improving their health status. The 'Welcome to School' campaign in Kyrgyzstan was targeted at displaced children, using the school as a setting for different interventions. More than 6000 children were provided multiple micronutrient powders for home fortification, food rations and information on different diseases. Children also received daily access to psychosocial services (UNICEF, 2011).

Recommended reading

1. Cummings C, Dyson A, Todd L (2011). *Beyond the school gates: can full service and extended schools overcome disadvantage?* London, Routledge.
2. Silveiral A et al (2010). Impacto do Programa Fica Vivo na redução dos homicídios em comunidade de Belo Horizonte. *Revista de Saúde Pública,* 44:496–502.

Useful links

Health and Learning News and Updates: the newsletter from the Healthy School Communities serves as a bulletin, offers free educator resources, announcements for grants, conferences, and action steps for subscribers: http://www.wholechildeducation.org/resources/newsletter.jhtml?id=48210

Community-based rehabilitation (CBR) focuses on enhancing the quality of life for people with disabilities and their families, meeting basic needs and ensuring inclusion and participation. The Organization's *Community-based Rehabilitation Guidelines* has a specific component targeted to the education sector: http://www.who.int/disabilities/cbr/guidelines/en/index.html

The Impact Alliance is an international network that provides information on the social impacts of a range of initiatives being undertaken within communities, including for education: http://www.impactalliance.org/ev_en.php

GOAL 5. EDUCATION IN CRITICAL PERIODS AND LIFELONG LEARNING PREPARES CITIZENS TO CAPITALIZE ON OPPORTUNITIES

EDUCATION IS PROVIDED DURING THE EARLY YEARS AND AT OTHER CRITICAL PERIODS OVER THE LIFE COURSE TO ADDRESS EMERGING OPPORTUNITIES AND CHALLENGES THAT POPULATIONS FACE AT DIFFERENT STAGES OF THEIR LIVES AND AT DIFFERENT LEVELS OF EDUCATION

Education challenges and policy responses

There is increasing awareness and evidence of the impact of education, beyond compulsory norms, on economic and social (and health) development. The evidence has also accumulated in recent decades on increasing education opportunities at critical points during the life course. Related to this, there is the recognition that opportunities for learning should be extended beyond formal education as a means to promote social mobility. Particular cutting-edge policy areas for action include early child development (ECD) schemes to improve school readiness (CSDH, 2008); training in new job skills; and programmes to increase adult literacy.

i) Early child development. The early childhood years are the most important developmental phase of the lifespan. Healthy early childhood development includes physical, social, emotional, language and cognitive development, which influence well-being, mental health, nutrition, literacy and numeracy, and productivity in later life (Irwin et al., 2007). Early child development serves other goals such as allowing parents to work outside the home. It also improves nutrition, and stimulates children's reading and physical activities. This is a demanding area for policy interventions, as the efforts of different sectors must be combined.

ii) Adult literacy. As defined by UNESCO, "literacy is the ability to identify, understand, interpret, create, communicate, compute and use printed and written materials associated with varying contexts. Literacy involves a continuum of learning to enable an individual to achieve his or her goals, to develop his or her knowledge and potential, and to participate fully in the wider society." Policies to increase literacy beyond the formal schooling improvements mentioned previously include specific literacy instruction for adults. These frequently form part of poverty alleviation or cash transfer programmes and other social inclusion initiatives.

iii) Learning opportunities for improved job skills. Given the small proportion of populations that access higher education, lifelong learning offers a channel to access higher education in adulthood for those who aim to complete tertiary education. Particularly critical periods for young adults are between formal education and entering the job market. Educators and economists see vocational training as a way to improve economic performance. In 2002, recognizing its importance in the context of knowledge societies that need to adapt to more rapidly changing technologies, European Commission ministers issued a 'Declaration for Vocational Education and Training' aimed at enhancing European cooperation in vocational education and training.

iv) Tertiary education. Greater access to tertiary education from existing school cohorts can be achieved through funding and implementing interventions mentioned in Goals 3 and 4, but it also requires stewardship and an education sector strategy to assess countries' comparative advantages and development plans. A key policy consideration is how to manage both more formal tertiary education in contrast to vocational education and training.

In achieving this goal, policy-makers will need to monitor adult literacy rates (for the whole population, by sex and age groups). Other areas to monitor include enrolment in 'early childhood care and education' (which usually refers to pre-primary enrolment), and the number and share of new entrants to the first grade of primary education with pre-primary experience. For specific cash transfer schemes that are coupled with expansion of early child development centres, enrolment in these centres would need monitoring. For young adults, common indicators include the monitoring of the number of students in tertiary education.

Examples of health impacts and pathways

Critical periods. Early life conditions have health impacts throughout the life course. Malnourished children under the age of five are more likely to suffer the consequences of poor physical and mental development and have poorer school performance (Irwin et al., 2007). These children are more likely to have more severe diarrhoeal episodes; higher risk of pneumonia, lower functioning immune systems; and often low levels of iodine, iron, protein and thus energy, which eventually contribute to chronic illness (UNICEF, 2006). Recent studies of around 50 000 people who were displaced in the mid-1940s from Finland to foster homes in Sweden found that events occurring in the first five years of life were associated with their current mental and physical health and with a prevalence of conditions such as cardiovascular disease and obesity (Santavirta, 2010; Gould, Lavy & Paserman, 2011). These studies link the early child support they received and their personal, emotional, cognitive and social development while displaced with current differences in health status in adulthood (see Box 5).

Impact of infectious diseases on early life. Orphans and other vulnerable children are most at risk of negative health outcomes over the life course.

These risks include malnutrition, increased morbidity and mortality, low school attendance and primary school completion, and increased burden of work (both paid and unpaid child labour). Children affected by HIV/AIDS are the most vulnerable among such children. Often they are cared for by vulnerable families and live in vulnerable communities. They may suffer from loss of family and identity, psychosocial stress, homelessness and malnutrition, which increases their vulnerability.

Learning opportunities after formal education. Lifelong learning opportunities have a positive impact on adults' health literacy. A study of over 17 000 individuals born in 1958 in the United Kingdom found that adults who participated in learning programmes beyond their formal education reported improvements in self-rated health (Hammond and Feinstein, 2006). Similar analyses of more than 10 000 individuals from the British Household Panel Survey (BHPS) found an association between adult learning and the uptake of screening for cervical cancer (Sabates & Feinstein, 2006). Other studies have found an association between adult learning and the control of chronic diseases (Schillinger et al., 2002), or seeking medical treatment at early stages of a disease (Prasauskas & Spoo, 2006).

Box 5. SOCIAL DETERMINANTS AND EQUITY FOCUS

The Commission on Social Determinants of Health (CSDH) recommended investments in Early Child Development as a key way to address health inequities in society early on.

The CSDH points to Cuba's experience with Educa a Tu hijo (Raise Your Child). This programme is widely acknowledged as an important contributor to the country's success in reducing the gradient in health. Launched in 1985, the programme is a community-based early child development service led by the education ministry, which coordinates the work of the ministries of health, culture and sports, community groups, the association of small farmers, and student associations.

It provides early child development services, stimulation, nutrition and health campaigns, early education, and school readiness activities for children and parents. A network of 160 000 promoters (comprising teachers, physicians, nurses, students and volunteers) serves 800 000 families. The programme reaches 99.8 per cent of children aged 0–5 years and has the highest enrolment rate in the world. Evaluations show that the programme has positively influenced the developmental chances of children in their early years and in their later productive life.

Source: CSDH (2008).

What can both sectors do together?

This section focuses on examples from early child development, literacy and vocational training.

Extend early child development services. In recent years, there has been an acknowledgement of the importance of early child development interventions for improving health and health equity in the long term. A well-known programme that has targeted early child development for families living in disadvantaged communities is Sure Start in the United Kingdom. It was launched in 1998, with the mandate to contribute to the reduction of health inequities and social exclusion. The aim of the programme is described as "giving children the best possible start in life". The programme combines access to child care, early education, and health and family support services, and emphasizes community development (NESS, 2010). The health and education sectors work jointly in this initiative to deliver early childhood development services, support to families, counselling, and routine health check-ups and advice. They liaise with other social support agencies to ensure the protection and promotion of families' health. Several reports and evaluations of the programme have consistently found improvements in healthy environments, school readiness, reduced injuries and improved nutritional status (NESS, 2010). A comprehensive evaluation is planned at the conclusion of the programme in 2012.

Similar programmes in Brazil, Chile and Mexico – in some cases attached to innovative funding mechanisms such as conditional cash transfers – show how the coordinated efforts of different sectors such as education, health and social services around the needs and well-being of children in their early years have increased school readiness and retention rates, and improved health outcomes.

In the People's Republic of China, early childhood care and development (ECCD) covers children aged 1–6 years and includes health and social services. Nurseries are for children aged 0–3 years; kindergartens are for children aged 3–6 years, and the so-called 'pre-school classes' attached to primary schools are for children 5–6 years (Rao & Sun, 2010). The hygiene ministry is in charge of nurseries and the education ministry is in charge of kindergartens, although they coordinate their actions so as to have a continuum of care and common sectoral work (Rao & Sun, 2010). Several studies have confirmed the great impact on educational attainment and health outcomes the Chinese ECCD policy has achieved (Aunio et al., 2008).

Provide vocational learning opportunities for adults. Vocational and educational training initiatives of all forms provide an opportunity to improve the health of workers and their families. A common form of vocational training for manual workers relates to health and safety conditions. Health and education practitioners are involved in the content, design and implementation of these training programmes. A review of the economic and social effects of vocational education and training in European Union (EU) countries found that parents who followed such programmes tended to provide a more stimulating environment and were more dedicated to learning activities for their children than those who did not participate (CEDEFOP, 2011).

Promote literacy for healthier outcomes. Functional illiteracy (the lack of basic reading, writing, arithmetic and other fundamental skills despite having attended compulsory schools) is a problem that affects millions of people in the world. Adult problems with literacy may be related to problems that have been masked throughout a lifetime, generating very high levels of stress and related health problems. In the Netherlands, around one million native Dutch speakers are considered functionally illiterate, while in France more than three million adults are considered functionally illiterate despite having attended school (UNESCO, 2009). Both education and health sectors can explore ways to identify literacy problems and to address the literacy needs of the affected cohorts or population groups (including health literacy).

Recommended reading

1. Irwin L, Siddiqi A & Hertzman C (2007). *Early child development: a powerful equalizer. Final report to the WHO Commission on the Social Determinants of Health.* Geneva, World Health Organization.
2. UNESCO (2008). *The global literacy challenge. A profile of youth and adult literacy at the mid-point.* Paris, United Nations Educational, Scientific and Cultural Organization.
3. CEDEFOP (2011). *Vocational education and training is good for you. The social benefits of VET for individuals.* Luxembourg, European Centre for the Development of Vocational Training.

Useful links

WHO's Child and Adolescent Health and Development web site provides information on developmental needs and health challenges for early critical years and over the life course: http://www.who.int/child_adolescent_health/topics/development/en/index.html

A number of national web sites devoted to promoting literacy provide interesting perspectives for different types of countries. See:

- the Jamaican Foundation for Lifelong Learning (partnered with UNESCO): http://jfll.gov.jm/story-JFLL--UNESCO-partner-to-improve-adult-literacy.html;
- the Canadian Literacy and Learning Network: http://www.literacy.ca/?q=literacy/literacyinformation;
- the British Association for Literacy in Development global data for links to literacy organizations: http://www.balid.org.uk/literacy_links.htm

VOCEDplus is a free research database devoted to research on tertiary education, especially as it relates to workforce needs, skills development, and social inclusion. While including extensive information from Australia, it also covers practices and research from over 100 other countries: http://www.voced.edu.au/content/about-vocedplus

The Southern African NGO Network (SANGONeT), founded in 1987, is a civil society organization that provides interesting grassroots perspectives on sectoral policy areas, including education: http://www.ngopulse.org/group/education

SUMMARY MESSAGES

Universal access to education opportunities is one of the most powerful determinants of child well-being, health equity and development

- Ensuring that the education sector secures healthy environments for learning facilities is a powerful way to guarantee available and accessible education for all.
- Barriers to educational opportunities, in particular economic and cultural barriers, affect large proportions of children and families across the world. Removing school fees and reducing other out-of-pocket payments, while scaling up supply-side investments from primary to secondary levels, requires the full support of health actors.
- Schools that work with communities, families and pupils to improve pupils' attainment and well-being, especially for those facing barriers to success at school and difficult living conditions, are key allies in addressing the structural determinants of health inequities.
- The expansion of early child development initiatives, in particular for disadvantaged groups, are of fundamental mutual interest to both health and education sectors, and provide a means to sow the seeds for better school attainment and health, improve parental education, and diminish the inter-generational transmission of low education and poor health.

Health needs to continue strengthening its support for and work with education actors: some cross-cutting functions

The health equity imperative and the intersectoral actions described in this document provide specific examples of a new role for public health, which were outlined in the Adelaide Statement on Health in All Policies (WHO-Government of South Australia, 2010). By performing these functions, which call for better intersectoral collaboration – either more systematically or by developing them where they do not exist – public health and education authorities can expect to reap better returns from health and education policies. Some notable areas for action include the following:

- monitoring policy trends and outcomes in education and health for specific population groups through disaggregated data;
- joint needs-based assessment for disadvantaged populations and specific groups, to better design specific actions that increase quality education and improve health outcomes for hard-to-reach populations;
- developing guidelines, standards and recommendations on education-related risk factors, and disseminating technical guidance as a shared responsibility for both the health and education sectors;
- supporting the participation and empowerment of the different stakeholders and actors in the education community to address both the education and well-being challenges faced by learners and teachers.

There are many entry points for health stakeholders to work with education stakeholders

Table 3 shows several practical examples of how health stakeholders can collaborate with education stakeholders to support them in achieving their goals while improving health outcomes and health equity.

Table 3. Summary of areas for intersectoral collaboration between health and education

Universal availability	• Making education universally available requires establishing the appropriate legal frameworks for public education and planning for the appropriate number of publically available schools, with qualified teachers receiving acceptable remuneration that are equally available to boys and girls, taking into account their differential needs. Without minimal availability of education opportunities, the well-being and health of children will suffer, in particular for the less advantaged populations in society. • Areas of joint work include assessing and planning for school availability, supporting teachers' and pupils' health, health literacy and school health, contributing to curriculum development, and undertaking joint school inspections to ensure the physical environment meets basic quality standards and is responsive to girls' and boys' needs.
Equity in access	• Greater educational attainment allows people to increase their opportunities in life. Economic and other barriers to access, like travel time and distance, prevent access to educational opportunities for those who most need education. The pattern of enrolment and out-of-school children follows a social gradient, with greater out-of-school rates for lower income households in a country. • Both sectors can work together in assessing the barriers to accessing educational opportunities and in developing mechanisms to overcome them, such as increased public funding, cash transfers, enhancing transport options to schools, and implementing gender-based interventions.
Improving quality	• Improving the delivery of quality education is a continuous process, requiring improvements in the quality of teaching, learner/teacher ratios, learning hours, the curriculum and contents, and school management policies that are responsiveness to pupils, teachers and the community. Improvements in pupil/teacher ratios in the early years raises an individual's life expectancy. Better quality educational facilities and supportive environments promote teachers' health, and learners' attainment and well-being. • Common areas of action include jointly developing tools for quality monitoring and improvement, enhancing teachers' training and continuous professional development, peer-to-peer mentoring, developing common curriculum content, comprehensive leadership programmes for school managers and head teachers, and the democratic participation of pupils in school governance.
Equity in outcomes	• Disparities in educational attainment among learners are often based on living conditions outside the realm of schools. Ensuring that the causes of disparities are addressed requires providing extra support to these learners, improving social conditions in which they live, as well as building sensitive management and leadership in schools. • Health and education sectors can work together to improve the living conditions that lead to academic success (e.g. via addressing the home learning environment, and violence in and out of school), to improve pupils' health literacy and health self-care, and to supply children in emergency contexts with appropriate health interventions.
Critical periods and life-long learning	• Critical periods of life, especially early childhood, but also transitions for young people from school to working life, are important for economic opportunities, educational attainment, and literacy and health conditions later on in life. Policies to address life-long learning require structured provision of education for all age groups, as well as the development of synergies with employers and other public agencies. Synergies need to ensure that children with disabilities have access to services as they transition to post-secondary education. • There are several common areas of action for education and health. These include integrating health services and support into early child development schemes for both children and parents, ensuring synergies between health and education services throughout the education cycles, ensuring the transmission of skills to support children's development and well-being as part of parental education, and more generally promoting adult literacy.

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