

# SCHOOL HEALTH & NUTRITION: REACH AND RELEVANCE FOR ADOLESCENTS



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# INTRODUCTION



## Promoting healthy behaviors during adolescence—defined here as ages 10-19 years—can lay the foundation for adult health and wellbeing.

As individuals move from childhood to adolescence, they enter a dynamic period of biological development and social change. It is during this critical life stage that health behaviors are formed, gender norms are solidified, and risk-taking behaviors are initiated.<sup>1-3</sup> Health behaviors and conditions that arise during adolescence have an impact throughout the lifecourse,<sup>4</sup> including into the next generation (Figure 1). For instance, the World Health Organization estimates that nearly 35 percent of the global burden of disease starts or is reinforced during the second decade of life.<sup>5</sup> These patterns signal the strong need by adolescents for health promotion, prevention, and health care services.

## This brief summarizes the benefits to adolescent health and human capital formation that accrue from investments in health and nutrition interventions delivered through schools, with a focus on low- and middle-income countries.

Ten interventions are covered across two intervention areas:

- 1 Physical health and nutrition services
- 2 Schools as health-promoting environments, including infrastructure investments.

Ramallah

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**Figure 1.**

Health and health-related behaviors during adolescence have an impact throughout the lifecourse and into the next generation

SELECTED HEALTH PROBLEMS DURING ADOLESCENCE	AGE WHEN HEALTH PROBLEM HAS ITS MAJOR IMPACT		
	ADOLESCENCE →	ADULTHOOD →	CHILDHOOD (NEXT GENERATION)
Accidents and Violence	+++	+	+
Adolescent Pregnancy	++	++	++
Depression	++	++	+
Human Papilloma Virus	+	+++	
Water-Based Helminths	+	++	
Tabacco Use	+	+++	+
Alcohol Use	++	++	+
HIV	++	+++	++

Source: WHO 2014<sup>4</sup>

Note: The number of symbols indicates the intensity of disease burden at each stage of the lifecourse

**This is the first brief in a series focused on adolescent school health and nutrition developed by the Global Financing Facility for Woman, Children and Adolescents (GFF).**

The other briefs in this series introduce:

- (i) Monitoring mechanisms for school health and nutrition service delivery;
- (ii) Delivering school health and nutrition services in periods of prolonged school closure; and
- (iii) A decision tree to guide the policy, design, implementation, and monitoring of school-based adolescent health and nutrition programming.



Burundi

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# ADOLESCENCE: A WINDOW OF OPPORTUNITY



**This brief explores the potential to improve human capital outcomes of adolescents through school-based delivery of health and nutrition services.**

Investments targeted to adolescents build upon interventions in earlier ages and support better health, nutrition, and education outcomes as children transition to adolescence and adulthood. Health and nutrition interventions targeted to adolescents should align with the critical periods of development, address the most important social determinants of health for this age group,<sup>6</sup> and ensure the promotion of their sexual and reproductive health and rights (SRHR). Younger adolescents, ages 10-14 years, experience their second most rapid period of linear and brain growth, allowing for interventions to support optimal physical growth and development of lifelong health and nutrition habits. It is during adolescence that 15-25 percent of adult height,<sup>7</sup> and 50 percent of adult weight is gained,<sup>8</sup> with the potential of overcoming growth deficits from early childhood.<sup>9</sup> Older adolescents, ages 15-19 years, develop sensorimotor brain functioning, offering opportunities to mitigate risk-taking behaviors and socioemotional behaviors.<sup>10</sup>

School health and nutrition services<sup>9</sup> are among the most ubiquitous social programs, with more than 100 countries offering school-based or school-linked routine health and nutrition services.<sup>11</sup> These programs are widely accepted among students, parents, and communities because they are often free at the point of use, reduce health disparities, and reduce reliance on health facilities for preventive services.<sup>12</sup> These services also reduce implementation costs and maximize efficiency by building on existing infrastructure and curricula and can be sustained through integration within national education sector plans.<sup>13,14</sup>

Schools are also the only setting that reach a majority of target beneficiaries on a near daily basis, thereby obviating the need to draw adolescents to another point of service at regular intervals.<sup>12</sup> Despite the limitation of reaching out-of-school adolescents and girls in particular, the global gross enrollment ratio in lower secondary school has reached nearly 85 percent<sup>15</sup> and an increasing number of adolescent girls are enrolling in secondary schools. Vocational programs that reach out-of-school adolescents may similarly serve as a delivery mechanism for routine health services.

India

Photo: Paula Bronstein  
Getty Images

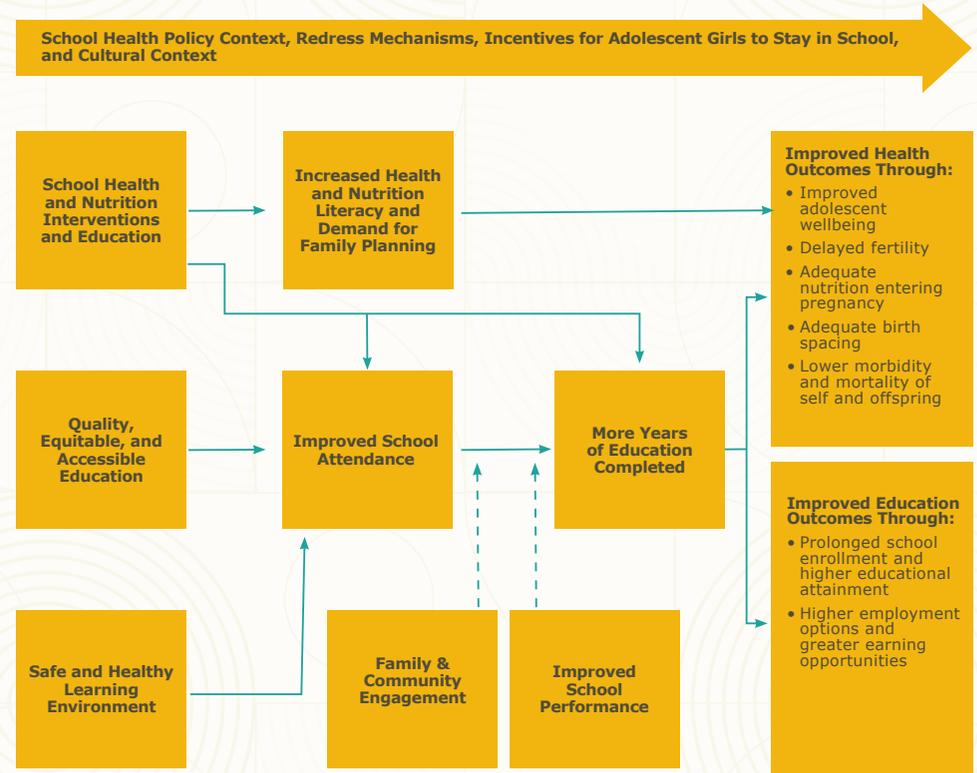
<sup>9</sup> School health and nutrition refers to services, education, and behavior change communication provided to students enrolled in primary or secondary education within school premises or in specially designated school health clinics that serve several schools. Generally, school health and nutrition services are led by the schools with communities and ministries as partners and do not encompass other aspects of health-promoting schools (e.g. water and sanitation infrastructure; school-community projects and outreach).

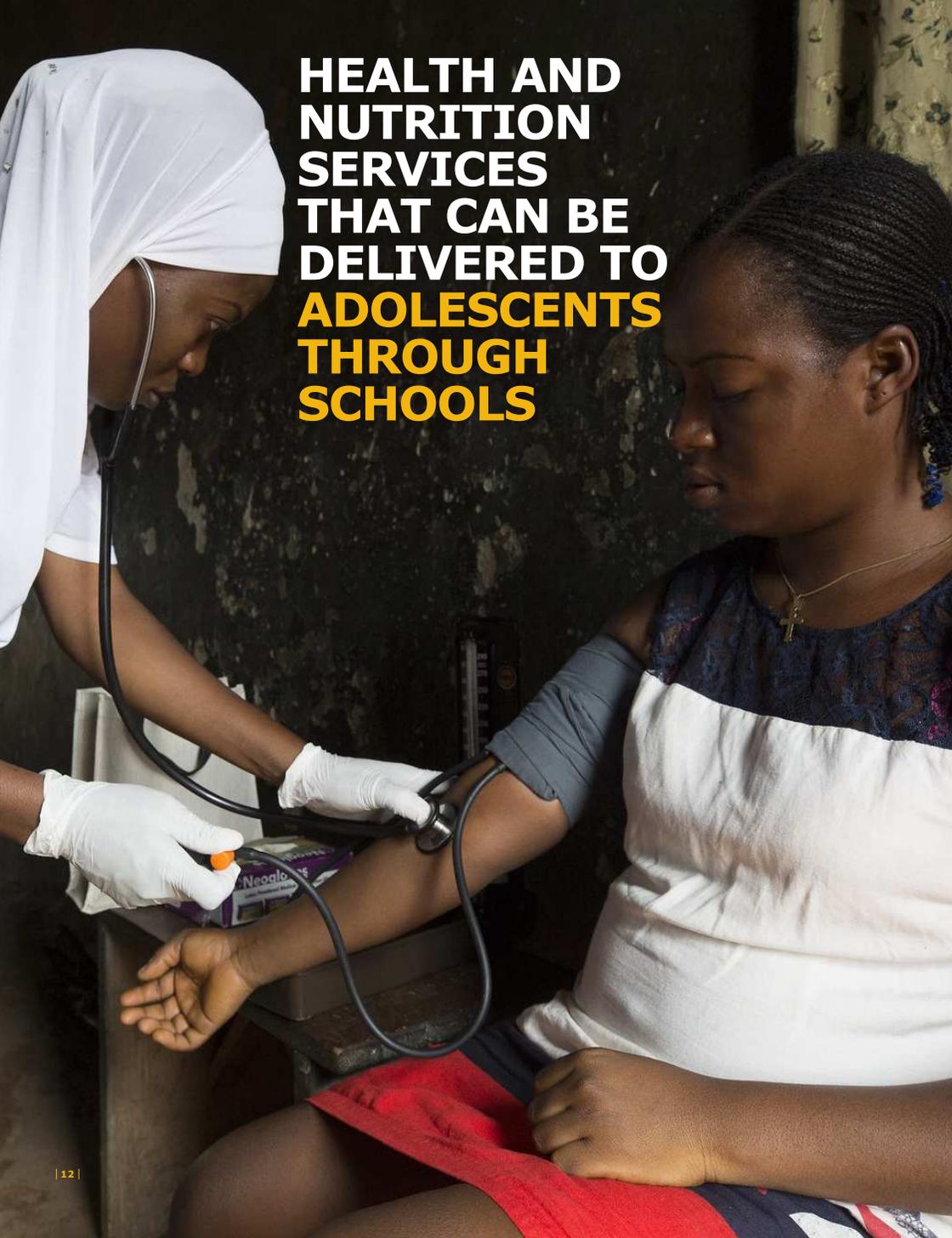
**Investments in health and nutrition during the adolescent years improves the ability of adolescent students to benefit from the education investments currently provided through schools, reduces morbidity, and can positively influence social and gender norms.**

The education system, through schools, can deliver interventions that target many of the causes of morbidity that arise during adolescence. Healthy students achieve better educational outcomes, which are in turn associated with improved health literacy, acquisition of life skills, and health outcomes,<sup>16</sup> and can affect a number of downstream and intergenerational outcomes, like life-time fertility preferences and childhood stunting.<sup>17,18</sup> These effects are robust even in the absence of learning outcomes, and the effects are stronger with improved levels of education quality.<sup>18</sup> The beneficial impact of health and nutrition interventions on education outcomes and perceived education quality may also be an enabling factor for adolescent girls to remain in school (Figure 2).

**FIGURE 2**

**SCHOOL HEALTH AND NUTRITION THEORY OF CHANGE: HEALTH, EDUCATION, AND HUMAN CAPITAL BENEFITS THAT CAN ACCRUE TO ADOLESCENT GIRLS**





# HEALTH AND NUTRITION SERVICES THAT CAN BE DELIVERED TO ADOLESCENTS THROUGH SCHOOLS

## INTERVENTION SELECTION METHODOLOGY

The interventions discussed in this brief were identified through a review of the WHO guidance on adolescent health,<sup>19</sup> the Disease Control Priorities, Third Edition essential health packages targeted to school-age children and adolescents,<sup>13,20</sup> and through global and regional reviews of literature on school health and nutrition interventions.<sup>11,12,21,22</sup>

The interventions were then narrowed to capture services that can be targeted to adolescents, can reasonably be delivered in a school setting, have sufficient implementation evidence, and offer benefits to both the health and education sectors. Following the desk review, ten interventions were selected spanning physical health and health promotion and education.

It is important to note that this brief does not include a focus on mental health, chronic conditions, and injuries. Existing literature suggests that interventions to address these contributors to adolescent mortality and morbidity are often excluded from school-based services,<sup>11</sup> and as a result, there is limited evidence on their effectiveness. These areas warrant further attention in the school setting to guide decision makers on investment priorities. In addition, this brief does not discuss school-based efforts to reduce drug and alcohol use as evidence shows that effective interventions go beyond health education to address broader health determinants.<sup>23</sup>

This brief also does not include contextual factors that are determined at the national level, such as the existence of national policies related to essential school health services, service consent laws, or rules around pregnancy and school attendance. These contextual factors, which can either facilitate or complicate the introduction of health and nutrition services into the school system, are explored within a decision tree, developed as part of this series, that presents actions to consider for various contexts to influence national policies in support of adolescent school health and nutrition.

Nigeria

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# PROPOSED SCHOOL HEALTH AND NUTRITION INTERVENTIONS

The ten interventions presented in this brief are categorized into two intervention areas that cover:

1. Physical health and nutrition; and
2. Health promotion and education, including infrastructure investments.

The ten interventions, by these categories, include:

## 1 PHYSICAL HEALTH AND NUTRITION SERVICES

Nutrient needs during adolescence are increased to compensate for this period of rapid growth, and especially so for adolescent girls who have begun menses and consequently have increased iron requirements. Timely interventions can sustain gains from prior developmental periods, and behavioral interventions can provide a trajectory of better health and wellbeing going forward. Schools can usefully improve current physical health of adolescents through **vision screening** and future health outcomes through **HPV vaccination**. The promotion of and support for optimal nutrition during adolescence contributes to healthier sexual development and linear growth,<sup>24</sup> which is especially critical for adolescent girls due to the potential for pregnancy-related morbidity and mortality, and poor birth outcomes.<sup>25</sup> Schools can deliver nutrition-specific and -sensitive programming, such as **school feeding, iron and folic acid (IFA) supplementation**, and **deworming**, thereby generating human capital benefits.<sup>26</sup>

## 2 HEALTH PROMOTION AND EDUCATION

Equitable access to quality **comprehensive sexuality education (CSE)**<sup>b</sup> can provide adolescents with the knowledge and skills that empower them to exercise their bodily autonomy, choices and rights. Providing age-appropriate and accurate information on the different aspects of their sexuality can help delay pregnancy and reduce the risk of acquiring sexually-transmitted infections. Pregnancy and childbirth complications are the leading cause of death among adolescent girls globally<sup>27</sup> and increase the risk

of negative birth and nutrition outcomes for the offspring.<sup>28</sup> In addition, early pregnancy and marriage is estimated to prompt 5 to 33 percent of adolescent girls to leave school.<sup>29</sup> Moreover, adolescent girls ages 15-19 years account for 65 percent of new HIV/AIDS infections among this age group and only 34 percent of adolescents have accurate knowledge about how to prevent infection.<sup>30</sup> **Food and nutrition education** are important to promote healthy diet and, when coupled with physical activity and policies around the quality of food and beverages sold in the school setting, can positively impact the risk of overweight and obesity.

Health-promoting policies, infrastructure, and capacity building measures at school can foster healthy behaviors. Schools can play a key role in reducing **water, sanitation and hygiene (WASH)**-related illnesses and improve attendance through construction of latrines, improved water access, sufficient facilities for proper **menstrual health and hygiene**,<sup>c</sup> and hygiene education. Hygiene behaviors practiced in schools, such as handwashing, are skills that are likely to be sustained in adulthood.

Schools are accountable for ensuring safe and protective environments. Actions in schools to **prevent school violence**, including school-related gender-based violence, may mitigate structural inequalities and harmful socio-cultural norms and practices towards children and adolescents. Adolescent girls are particularly vulnerable to sexual violence stemming from gender inequality due to their relative lack of decision-making power, limited personal freedom, and harmful traditional practices, and these vulnerabilities are intensified by puberty-related changes and sexual exploration.<sup>31</sup> Boys, on the other hand, are more often victims of physical violence in school settings.<sup>32</sup> Bullying and other forms of victimization in schools are of particular concern for gender non-conforming students as well as for sexual minorities.<sup>33</sup>

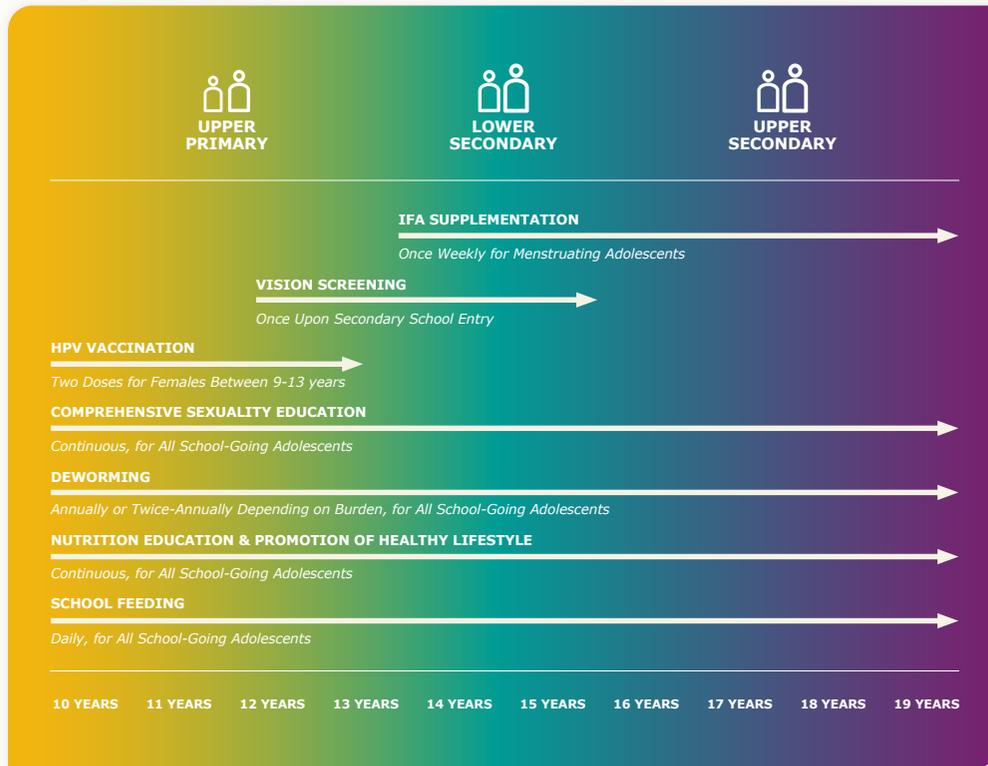
<sup>b</sup>Comprehensive sexuality education refers to age-appropriate, culturally relevant and gender transformative approach to teaching about sex and relationships that provides scientifically accurate, realistic, non-judgmental information and provides opportunities to explore values and attitudes and to build decision-making, communication and risk-reduction skills.

<sup>c</sup>Menstrual health and hygiene encompasses both menstrual hygiene management and the broader systemic factors that link menstruation with health, well-being, gender equality, education, equity, empowerment, and rights. These systematic factors have been summarized by UNESCO as accurate and timely knowledge, available, safe, and affordable materials, informed and comfortable professionals, referral and access to health services, sanitation and washing facilities, positive social norms, safe and hygienic disposal and advocacy and policy.

While adolescents are traditionally thought of as being in a secondary school setting, many of the interventions covered by this brief are age- or grade-based and thus include both the primary as well as secondary school setting. This is especially true in countries where late enrollment is common – ranging from 27.6% in Malawi to one-third in Rwanda, to over half (56.6%) in Liberia for example<sup>34</sup> – and therefore children transition into adolescence during their enrollment in primary school. Figure 3 aims to illustrate that the grades in which these services are provided can be quite fluid, with the blended colors reflecting where they may be overlap between service provision occurring in primary versus secondary schools.

**FIGURE 3**

**ILLUSTRATIVE TIMELINE FOR DELIVERING SCHOOL HEALTH AND NUTRITION SERVICES TO ADOLESCENTS**



# PHYSICAL HEALTH AND NUTRITION INTERVENTIONS



## VISION SCREENING

**Myopia—commonly referred to as nearsightedness—is the most common eye condition worldwide.**

Screening young adolescents for visual acuity is timely as myopia often presents during late primary school age and because most refractive errors can be corrected with properly fitted eyeglasses. Students who have uncorrected vision impairment are at a significant disadvantage in benefiting from classroom instruction,<sup>35</sup> and are at risk of dropping out, repeating a grade, and performing less well on academic assessments compared to peers with normal or corrected vision.<sup>36,37</sup>

Schools, with support from teachers, have successfully delivered eye care services in settings where skilled eye care professionals and infrastructure are lacking.<sup>38-40</sup> A recent Cochrane Review concludes that vision screening programs which are paired with the provision of free spectacles results in more children wearing spectacles post screening, but impact studies are needed to quantify the effect of vision correction on school performance.<sup>40</sup>

## HPV VACCINATION

**HPV vaccination is part of a comprehensive approach to prevent cervical cancer,<sup>41</sup> which is the fourth most common cancer in women worldwide.<sup>42</sup>**

The WHO recommends HPV vaccination for girls between the age of 9 and 13 years, ahead of sexual debut, to reduce their risk of developing cervical cancer as adults.<sup>19</sup> Older children and adolescents have limited contact with health facilities, making schools an attractive setting to deliver the HPV vaccine. Evaluation from pilot projects identified that administering all doses within one school year facilitates tracking and minimized dropout from school, and that parents and teachers are a useful resource in monitoring vaccination uptake.<sup>43-45</sup>

Perhaps for these reasons, the vast majority of HPV vaccine demonstration projects in low-income country have used schools as the delivery platform, either alone or in combination with health facility-based provision.<sup>43</sup> Pilots across 12 countries, spanning West Africa, East Africa, Southeast Asia, and the Western Pacific, found that school-based HPV vaccination were resource intensive but achieved the highest coverage (85%) compared to community outreach (62%) and health facilities (50%) as well as the lowest drop-out rates.<sup>46</sup> Pilot projects have focused on messaging related to cervical cancer prevention, rather than on sexual transmission of HPV, as this framing is well received by parents.<sup>47</sup>

Guinea  
**Photo:** Dominic Chavez  
World Bank

It is relevant to note that both the organization and delivery of HPV vaccination are led by the health sector. As such, evaluations from school-based demonstration projects provide useful insight into successful delivery strategies, including, for example, the use of grade-based, rather than age-based, targeting when it comes to vaccine administration.<sup>43</sup>

## INTERMITTENT IRON AND FOLIC ACID SUPPLEMENTATION

**Oral iron and folic acid (IFA) supplementation has been found to increase attention, concentration, and intelligence in children, adolescents, and women.<sup>48</sup>**

The World Health Organization recommends weekly iron IFA supplementation to reduce anaemia among menstruating adolescents in areas where the prevalence of anaemia is 20 percent or higher.<sup>19</sup> The timing for when to introduce IFA supplementation is dependent on the average age of menarche among adolescent girls in the local context. The school system provides a platform under which weekly supplementation activities can be easily delivered and closely monitored. Oral supplementation programs have been effective in reducing anemia among adolescents after intervention periods as short as 6 months.<sup>49</sup>

## SCHOOL FEEDING

**School feeding comprises the most widespread school-based programming for nutrition globally.**

One in two school children worldwide were receiving school meals in early 2020,<sup>50</sup> and nearly a quarter of all countries provide school meals to secondary schools.<sup>51</sup> Countries make this investment because school feeding programs have demonstrated evidence of impact on key contributing elements of human capital formation, such as energy intake, attention in class, and school enrollment.<sup>51-53</sup> In periods of food insecurity, the provision of school meals may be a strong determinant of school attendance.<sup>54</sup> A study covering 32 countries in Sub-Saharan Africa found that school feeding increases enrollment by about 10 percent.<sup>55</sup> The brief on sustaining adolescent health service delivery during periods of prolonged school closures, developed as part of this series, includes examples of measures countries have employed to deliver school meals to students during periods of prolonged school closures.<sup>56</sup>

Although improving nutrition is typically not the primary aim of school feeding programs, school meals can also serve as a delivery platform for nutrition-specific interventions targeted to high risk groups, such as adolescent girls. Micronutrient-rich or iron-rich foods or meals with supplementation (including the addition of micronutrient powders) can reduce anemia.<sup>52,57</sup> In addition, middle-income countries have identified school meals as an opportunity to combat obesity, for example through the use of double duty actions that address multiple forms of malnutrition.<sup>58,59</sup> In educational settings, double duty actions focus on the redesign of school feeding programs and establishment of nutritional guidelines that meet student energy and nutrient needs while restricting foods and beverages that are high in energy, salt, and fat.<sup>59</sup>

## DEWORMING

**School-age children and women of reproductive age (including adolescent girls) are among the risk groups most vulnerable to intestinal helminths and schools serve as one government-supported platform to reach adolescents.<sup>60</sup>**

Annual or twice annual deworming across the life of the child in areas where intestinal helminths, such as hookworm, are common is recommended to reduce micronutrient deficiencies, including helminth-associated anaemia.<sup>61</sup> High infection intensity has negative consequences on student performance in school and on grade repetition and drop-out<sup>22,62</sup> and can also result in adverse pregnancy outcomes.<sup>63</sup> Deworming rapidly alleviates associated morbidities and has human capital benefits, including increasing the percentage of girls who pass primary school exams and attend secondary school<sup>64</sup> and decreasing the chances of others becoming infected, thereby putting peers on a better trajectory for development.<sup>62</sup> Schistosomiasis is endemic in fewer geographic areas than intestinal helminths but are similarly important to control in at-risk populations. Infection with schistosomiasis can cause pathological changes that can increase the risk of pelvic infections, HIV transmission, and reproductive organ damage.<sup>65,66</sup> WHO encourages combined treatment for schistosomiasis and intestinal helminths in areas where the two diseases occur concurrently.<sup>67</sup> Research demonstrates that mass drug delivery of anthelmintic treatment by school teachers is widely accepted by both parents and guardians, and by school children, and that teachers view this additional role positively.<sup>68</sup>

# HEALTH PROMOTION AND EDUCATION



## COMPREHENSIVE SEXUALITY EDUCATION

**Comprehensive sexuality education (CSE) is a curriculum-based approach that helps young people gain the knowledge, skills and attitudes to make informed and healthy choices about relationships and sexuality.**

CSE can have different names in different national contexts, e.g. life-skills,<sup>4</sup> 'family life' programmes, reproductive health education, or similar. CSE has a positive impact on a wide range of aspects related to adolescent sexual and reproductive health and rights and gender equality outcomes. Evidence suggests that school-based CSE programs increase HIV knowledge, increase condom use and build self-efficacy to refuse sex, increase contraception, delay initiation of sexual debut,<sup>69,70</sup> and reduce unintended pregnancies.<sup>71</sup> CSE is particularly critical during younger adolescence, ideally before young people undergo puberty, transition into adulthood, and initiate sexual exploration.

The tenets of effective CSE are like any other subject in the curriculum: instruction starts early and progresses through adolescence, building knowledge, skills and attitudes to appropriately align with each developmental stage.<sup>72,73</sup> The curriculum is most effective when it addresses gender or power relations<sup>74</sup> and when it is culturally relevant and context appropriate, looking into how the norms of the specific setting affects relationships.<sup>30</sup> It is important to note that while some influential community leaders may oppose the provision of comprehensive sexuality education, population surveys can indicate preference for topics discussed within the curriculum.<sup>30</sup>

The WHO recommends introducing accurate information and education about contraceptives as part of curriculum-based CSE to increase understanding of contraceptive methods and demand for contraception among adolescents.<sup>19</sup> A recent UNESCO report shows that most countries have policies or strategies that support CSE, including LSE and HIV curriculum at secondary level, including teacher training on this topic and methods for monitoring the delivery of CSE (Annex 3).<sup>75</sup> Although school-based provision of contraception seems likely to improve access for adolescents,<sup>76</sup> only a few countries—including Burkina Faso, Mozambique, New Zealand, the United Kingdom, and the United States—have policies allowing contraceptives to be dispensed in schools.<sup>12,77</sup>

Mozambique

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The Global Financing Facility

<sup>4</sup> Life skills education refers to a needs- and outcomes-based participatory learning program that aims to increase positive and adaptive behavior by assisting individuals to develop and practice psychosocial skills that minimize risk factors and maximize protective factors.

School-based CSE can be offered as a standalone subject or as a co-curricular activity. In the context of HIV and AIDS-related education, CSE builds communication and negotiation skills for safe and consensual sex, provides information and knowledge about protective measures (e.g. condoms), and access to services (e.g. HIV testing; needle exchange programs).<sup>78</sup> A review of such education programs concluded that they can have positive impacts on knowledge, attitudes and intentions to change behavior when the curriculum emphasizes negotiation, decision-making, self-management, and/or risk-reduction.<sup>73</sup>

## FOOD AND NUTRITION EDUCATION AND PROMOTION OF HEALTHY LIFESTYLES

### **School curricula on food and nutrition education is a suitable venue to complement direct nutrition and health services.**

The effectiveness of school nutrition education curricula in developing countries on nutrition knowledge and goals needs to be further tested;<sup>79</sup> however, there is emerging evidence that combining nutrition education and physical activities at schools can positively impact adolescents' diet, physical activity, and nutrition-related non-communicable disease risk profile in low- and lower-middle income countries.<sup>80,81</sup>

Nutrition policies can range from a specific policy or guideline on the energy and nutrient content of school feeding packages, to broader, national-level policies on the marketing, promotion, and sale of energy-dense, nutrient poor snacks and foods in or around school settings.<sup>59</sup> One model that has been used in low-income settings is the WHO Nutrition-Friendly School Initiative, which provides a framework and accreditation mechanism for schools to address malnutrition. The five criteria for schools to be accredited as nutrition friendly include: (i) having a written school policy on nutrition; (ii) awareness or capacity strengthening of the school community; (iii) teaching a nutrition and health-promoting curriculum; (iv) fostering a supportive school environment, and (v) providing school health and nutrition services.<sup>82</sup> A recent review of existing publications summarizes the evidence for the effectiveness of many components of the NFSI framework, which

identified a strong evidence-base for many of the NFSI criteria.<sup>83</sup> Most of the publications reviewed were from high-income countries, however, pilots conducted in Benin and Burkina Faso suggest that this framework is a promising approach to mobilize schools and communities for improved nutrition and health.<sup>54</sup> Interventions targeting adolescent nutrition and lifestyles may be particularly impactful for adolescents, as fewer than one-in-four adolescents meets the WHO recommendation of moderate-to-vigorous daily exercise and, in some countries, one-in-three adolescents are obese.<sup>19</sup>

## MENSTRUAL HEALTH AND HYGIENE & WASH

### **There is great potential to improve the quantity and quality of water, sanitation and hygiene (WASH) facilities in schools.**

A multi-national WASH study of schools found fewer than 23 percent of rural schools in six countries assessed in Africa met the WHO-recommended student-to-latrines ratios for boys and for girls.<sup>84</sup> Adding or improving WASH investments in schools, including handwashing stations, can protect against WASH-related illness—such as diarrhea, intestinal helminths, and acute respiratory infections<sup>85,86</sup>—which collectively result in hundreds of millions of days of school absence worldwide.<sup>87</sup>

Evidence suggests that poor management of menstruation can have a negative but relatively small impact on school attendance.<sup>88</sup> Investments in WASH, particularly investments that improve the ability to manage menstruation in school, may increase female attendance. Menstruating adolescents in Malawi cited insufficient and inadequate facilities at school as among the primary reasons for school absence.<sup>89</sup> There is mixed evidence, however, as to whether the provision of menstrual supplies improves school attendance. The provision of reusable sanitary napkins and health education increased attendance among adolescent girls in Uganda by 17 percent,<sup>90</sup> while evidence from Nepal suggests that the provision of menstrual supplies does not meaningfully impact school attendance.<sup>88</sup> Despite mixed evidence on its impact on attendance, menstrual health and hygiene interventions can be an entry point for sexual and reproductive health education and life skills development.<sup>91</sup>

## PREVENTION OF SCHOOL VIOLENCE

**School violence, including school-related gender-based violence encompasses acts or threats of bullying, corporal punishment, sexual violence that are perpetrated and/or enforced due to gender norms or stereotypes.**

Both male and female students are subject to gender-based violence within and surrounding school settings, however, their experiences with violence is largely gendered. Adolescent girls are particularly vulnerable to sexual violence stemming from gender inequality due to their relative lack of decision-making power, limited personal freedom, and harmful traditional practices.<sup>31</sup> In some contexts, however, male teachers and older male students have been identified as the main perpetrators of violence against boys in school.<sup>93</sup> Adolescent boys experience disproportionately higher rates of physical abuse perpetrated by teachers as a mechanism to maintain discipline.<sup>32</sup> Both males and females experience similar rates of bullying, however, the root causes differ by sex.<sup>92</sup> Experience with violence can be pervasive; approximately 50 percent of children experience violence in and around school. Students with disabilities are estimated to be three times more likely to experience physical violence in schools.<sup>94</sup>

Schools can strengthen their own policies to design violence prevention programs as well as to prevent and respond to violence in school environments. Measures to protect students include prohibiting corporal punishment, establishing redress mechanisms for violence perpetrated by teachers or peers, and establishing referral mechanisms with the health sector for psychological and medical treatment.<sup>94</sup> In support of these school-based actions, schools can also train teachers to identify and confidentially report harassment and abuse, engage students to identify physical spaces where students feel unsafe, hire more female staff in schools with a high percentages of male teachers, among other approaches.<sup>92,95,96</sup> Evidence shows that female teachers and guidance counselors who are trained to teach conflict management skills and to offer socio-emotional support to students experiencing or witnessing violence can positively impact girls' retention and school completion rate.<sup>97</sup> The Good School Toolkit<sup>®</sup> offers a promising approach to reduce emotional, physical, and sexual forms of violence in the school environment. The Toolkit, which introduces six sequential interventions to influence a school's operational culture, was found to reduce all forms of violence perpetrated by school staff and between young adolescent peers (aged about 11-14 years) in Uganda.<sup>98</sup>

Guinea  
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SCHOOL HEALTH & NUTRITION:  
REACH AND RELEVANCE FOR ADOLESCENTS



# FIVE TIPS FOR DELIVERING SCHOOL-BASED HEALTH AND NUTRITION INTERVENTIONS TO ADOLESCENTS



1

CLEARLY DEFINE ROLES AND RESPONSIBILITIES OF MINISTRIES OF HEALTH, EDUCATION, WATER, AND OTHER RELEVANT MINISTRIES,<sup>f</sup> AND BETWEEN TEACHERS AND HEALTH WORKERS, AND BETWEEN BENEFICIARIES AND THEIR GUARDIANS

Although health goals have important links to learning capacity and school participation, it is critical to emphasize the relevance of these interventions on education targets in order for ministries of education to justify integrating health and nutrition actions and instruction.<sup>99</sup> Table 1 summarizes actions stakeholders can take at the national and sub-national levels to facilitate successful integration of school health and nutrition programs for adolescents. Note that as per Figure 4, these roles may shift depending on the implementation model used in the specific context. Table 1 draws from the first and second delivery models health services provided by on-site personnel and health services provided by visiting personnel illustrated within Figure 4.

India  
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Getty Images

<sup>f</sup>These could include, for example, local government, agriculture, and social protection, among others

**TABLE 1**

**ROLES PLAYED BY GOVERNMENT AGENCIES, PARTNERS, AND STAKEHOLDERS TO FACILITATE SCHOOL-BASED HEALTH AND NUTRITION ACTIONS FOR ADOLESCENTS**

STAKEHOLDER	ROLES	EXAMPLE OF NATIONAL LEVEL ACTIONS	EXAMPLE OF SUB-NATIONAL LEVEL ACTIONS
Ministry of Education	<ol style="list-style-type: none"> <li>1. Lead implementing agency</li> <li>2. Lead financial resource</li> <li>3. Education sector policy</li> </ol>	<ol style="list-style-type: none"> <li>1. Integrate school health programming into Education Sector Plans or Policies in alignment with the Focusing Resources for Effective School Health (FRESH) Framework</li> <li>2. Design pre-service and in-service training to equip educators and administrators with skills related to school health, including teaching sensitive and build knowledge of referral mechanisms</li> <li>3. Agree on indicators to assess the impact of health actions on education outcomes and integrate indicators within the education information system</li> </ol>	<ol style="list-style-type: none"> <li>1. Coordinate management and reporting of school health and nutrition actions</li> <li>2. Establish mechanisms for synthesized data to be reported back to the sub-national health and education district officers to strengthen program monitoring</li> </ol>
Ministry of Health	<ol style="list-style-type: none"> <li>1. Lead technical agency</li> <li>2. Health sector policy</li> </ol>	<ol style="list-style-type: none"> <li>1. Sign a memorandum of understanding with the Ministry of Education to agree on roles and responsibilities for delivering and/ or overseeing school health and nutrition activities</li> <li>2. Establish referral and treatment opportunities that extend beyond schools, depending on the nature of treatment required</li> </ol>	<ol style="list-style-type: none"> <li>1. Assess whether prioritized investments would be most effectively delivered and monitored as part of a cross-sector integrated package or through co-located programming</li> <li>2. Define the delivery modality through memorandums of understandings between school health leads in both Ministries of Health and Education and relevant actors at the national, district, and local levels</li> </ol>
Civil Society	<ol style="list-style-type: none"> <li>1. Training and supervision</li> <li>2. Local resource provision</li> </ol>	<ol style="list-style-type: none"> <li>1. Advocate for strong national school health policies and policies targeted to adolescent populations in line with global guidance and the pillars of the FRESH Framework</li> </ol>	<ol style="list-style-type: none"> <li>1. Conduct a baseline school health needs assessment to identify priority interventions relevant for the local setting</li> <li>2. Establish health promotion steering groups to oversee planning and implementation at the school level</li> </ol>
Teachers Associations and Local Community	<ol style="list-style-type: none"> <li>1. Define teachers' and parents' roles</li> <li>2. Partners in implementation</li> <li>3. Define acceptability of curriculum</li> <li>4. Supplement resources</li> </ol>		<ol style="list-style-type: none"> <li>1. Adopt national school health policies and frameworks for school-level application</li> <li>2. Consult beneficiaries around the selection and implementation of services; ideally, this includes representatives for health, schools, communities, parents, and adolescents</li> <li>3. Co-plan the delivery of interventions that build on the existing platforms and co-locating programs</li> </ol>

*Adapted from: Strickland 2011; Jukes, Drake and Bundy, 2008." (99, 100)*

# 2

## DETERMINE THE APPROPRIATE MODEL TO DELIVER AND MONITOR HEALTH AND NUTRITION INTERVENTIONS

Based on Baltag and colleagues' global overview of school health services, this brief categorizes five models to deliver and monitor health and nutrition interventions through the school system (Figure 4).<sup>11</sup> The differences between models relate to the site of service provision and the role of personnel involved, and each model brings unique opportunities and challenges to service delivery.

**FIGURE 4** FIVE MODELS FOR DELIVERING AND MONITORING HEALTH AND NUTRITION SERVICES IN SCHOOLS

DELIVERY MODEL	HOW IT WORKS	MONITORING RESPONSIBILITY	COUNTRY EXAMPLE	OPPORTUNITIES AND CHALLENGES
 <b>HEALTH SERVICES PROVIDED BY ON-SITE PERSONEL</b>	Permanent or part-time staff deliver health services in the school setting		 <b>Malawi:</b> Teachers are trained to provide intermittent weekly iron folate supplementation to adolescent girls, and are responsible for tracking which of their students receive supplements over time. A monthly report is generated and provided to the Health Surveillance Assistant, who reports to the health center, where the data is entered into the health information system.	Cost savings but narrower range of services that can be provided
 <b>HEALTH SERVICES PROVIDED BY VISITING PERSONEL</b>	Health providers visit schools according to a defined schedule to provide health services		 <b>Mozambique:</b> Health sector mobile brigades visit schools in health facility catchment area four times per year to provide sexual and reproductive health services (including contraceptives) to adolescents. Delivery of services and monitoring responsibilities fall to staff of the mobile brigades (nurses) in collaboration with school health focal points (teachers).	More expensive than integrated services but broader range of services that can be provided
 <b>SCHOOL-BASED HEALTH CENTER</b>	On-site health clinics with multi-disciplinary teams of professionals who provide health services to students		 <b>State of Maryland, United States:</b> School nurses implement routine and emergency diabetes care and education during the school day and school-sponsored activities. School nurses provide aggregate data to the school administrator. The School Health Coordinator monitors the implementation of diabetes care services, with oversight support from the local school systems and local health departments.	Privacy challenges with sharing student information
 <b>FACILITY-BASED SCHOOL HEALTH SERVICES</b>	Students receive health screenings at local healthcare sites beyond the school premises		 <b>Netherlands:</b> Public health service physicians ("school doctors") provide preventive care in school to all students at ages 5, 10, 13, and 15 and offers no-cost vaccinations through municipal health centers. The public health system provides all services, thereby streamlining data capture. Municipal public health services support schools to implement health policy and to teach health education. Schools evaluate their own health activities every year.	Demand-oriented approach with high coverage; services provided by skilled staff; additional service delivery dependent on degree of integrated school health policies and available funding
 <b>COMBINATION OF SERVICE PROVISION MODELS</b>	Schools offer a combination of school- and health facility-based services		 <b>Tajikistan:</b> Health and education authorities have joint ownership of school health services, with the local health authorities overseeing its operations. Schools have on-site nurses for routine services and are visited by family physicians or assigned pediatricians for no-cost preventive check-ups. School nurses maintain and submit reports to the municipal or district policlinics.	Low nurse-to-pupil ratio, however, since service provision is offered by both dedicated and visiting personnel, there is great potential for effective, equitable, and efficient care

 Education Sector  Health Sector

Most countries that offer school health and nutrition ultimately deliver their services to adolescents directly through schools.<sup>12</sup> Regardless of the delivery model, program planners can look to the Focusing Resources on Effective School Health (FRESH) framework for the four pillars of effective school health and nutrition programs. FRESH was launched as a multi-agency effort in 2000 to facilitate cross-sector planning, financing, and implementation for school health programming. The four reinforcing pillars of the FRESH framework include:

- (1) health-related school policies;
- (2) health promoting school environments;
- (3) skills-based health promotion; and
- (4) access to and use of health and nutrition services at schools.<sup>101</sup>

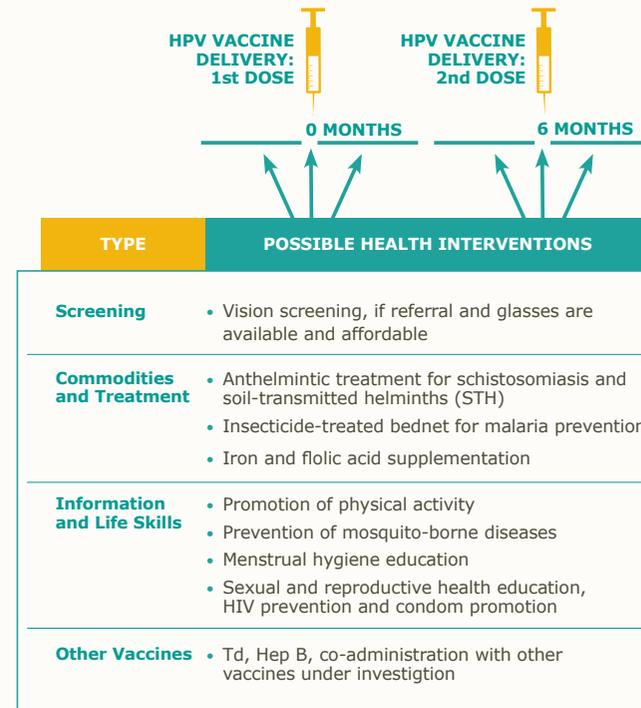
Equally important to providing these services is ensuring that they are delivered as intended, through carefully defined monitoring arrangements, as there are two (sometimes more, as is often the case for school feeding) sectors and stakeholders (such as parents and adolescents themselves) to engage.

There is no internationally accepted standardized framework for the monitoring of school health and nutrition service delivery, and as such, each monitoring system will be unique to the programs, interventions, and context. We invite readers to cross reference the Monitoring Adolescent School Health and Nutrition Programs and Interventions: Answering the Why, What, Who, and How brief, developed as part of this series for considerations related to the selection of indicators along a results framework to incentive the delivery of interventions. This brief also includes concrete examples of how countries transmit data between levels and sectors to encourage a feedback loop and facilitate adaptive programming.

### 3 PACKAGE OR PIGGY-BACK INTERVENTIONS: HPV VACCINATION IS AN EXAMPLE

Although this brief individually presents ten school-based interventions for adolescents, it is strongly recommended that school health and nutrition services are delivered as a package to achieve implementation synergies and efficiencies, as well as reducing costs. Furthermore, providing an integrated package of services through schools can be especially effective when delivered within a supportive policy environment and when education messages are paired with related services. Evidence from high income countries has demonstrated that various whole-school health and nutrition interventions have been effective in improving health outcomes, such as preventing adolescent pregnancy, increasing physical activity, reducing bullying, and uptake of smoking.<sup>23</sup>

**FIGURE 5** SCHOOL HEALTH INTERVENTIONS THAT CAN BE COMPLEMENTED BY THE HPV VACCINATION SCHEDULE



Source: WHO 2014<sup>103</sup>

The delivery of routine school-based health activities can serve as an entry point to deliver interventions that target a subset of the student population, such as the HPV vaccine for young adolescents. The HPV vaccination delivery schedules can be aligned to complementary activities, such as CSE and health education about risk behaviors for HPV infection or with delivery schedules for other vaccine boosters delivered to pre-adolescent and adolescent populations. Furthermore, HPV vaccination programs have demonstrated the potential to integrate delivery with other school-based interventions, such as deworming (Uganda) and the delivery of other vaccinations (Rwanda).<sup>103</sup> Figure 5 illustrates the range of school-based interventions that HPV vaccination can build upon and complement prior to, during, and between vaccination schedules.

4

## INTEGRATE SCHOOL HEALTH AND NUTRITION INTO PRE-SERVICE AND IN-SERVICE TRAINING: CSE AND SCHOOL-RELATED GENDER-BASED VIOLENCE PREVENTION PROGRAMS ARE EXAMPLES

Teachers can be trained to deliver simple health services through pre-service or in-service training or through cascading training sessions, starting from the national to regional levels, then to the local school level. Cascading training sessions can be combined to cover multiple health topics for efficiency. In settings with low capacity or density of teachers, or in which policies dictate the delivery of health services by trained health personnel, visiting personnel, such as community health workers, can be used. Technology is an additional pathway to train and deliver internet-based lessons to teachers and students.

Integrating CSE within the school curriculum necessitates that teachers are trained to effectively deliver the lessons (Annex 3). Zambia introduced a new CSE curriculum for grades 5 through 12 in all schools in 2014 and has successfully integrated CSE within pre-service training and also offers in-service training for capacity building.<sup>30</sup> CSE is increasingly included within school exams, including in the Philippines, Swaziland, Tanzania, Uganda, and Zambia, necessitating that the curriculum is adequately relayed.<sup>30</sup> Schools in Tanzania identified and trained one teacher to counsel girls who experienced sexual violence or harassment, and more than half of female students consulted these teachers within the first year of implementation.<sup>104</sup>

5

## HAVE A CONTINGENCY PLAN FOR INTERVENTION DELIVERY DURING SCHOOL CLOSURES: IFA IS AN EXAMPLE

Considerations related to school attendance and holidays need to be weighed as they have the potential to significantly drive down program impacts. In Indonesia, teachers monitor compliance with weekly IFA when school is in session. Students are taking leadership roles to share social media messages with peers to encourage adherence to weekly supplementation during school breaks, and, in turn, students are documenting their intake to enable teachers to continue monitoring compliance throughout the academic year.<sup>105</sup> Students who rely on school-based distribution for timely contraceptive access also need to have continued access during periods of school closure. Supporting ministries can be prepared to do so by developing and agreeing upon a contingency plan in advance.

Schools may be closed for prolonged periods due to climatic events, humanitarian concerns, and health emergencies. In the context of a pandemic such as the one facing the world in 2020, an unprecedented number of countries closed schools in an effort to prevent community spread of an infectious disease. In this period of uncertainty, decision makers demonstrated the potential for health, education, and social protection sectors to continue the provision of health services that were previously school-based to reach vulnerable populations. Countries the world over delivered food to students through approaches such as through piloted digital food vouchers, contactless cash transfers, and delivery of take-home rations to families, among other approaches.<sup>106</sup> Decision makers are encouraged to have up-to-date contingency plans for delivering services in periods of instability. The Sustaining Adolescent Health Service Delivery During Prolonged School Closures: Considerations in Light of COVID-19 brief developed as part of this series provides a detailed overview of approaches to sustain the delivery of health services targeted to adolescents in periods of school closure and considerations to resume school-based service delivery upon reopening.<sup>56</sup>



# CONCLUDING MESSAGES

**The school platform provides an opportune mechanism to deliver targeted and developmentally appropriate health and nutrition interventions to adolescents to lay the foundation for adult health and wellbeing.**

It is during adolescence that health behaviors are formed, underscoring the importance of delivering targeted health and nutrition services and education during this developmental period. Schools are an attractive platform for delivering simple and safe interventions as this demographic has limited contact with the health system while schools reach a majority of the target beneficiaries on a near daily basis.

This brief proposes ten services that can be delivered through schools in low-resource settings to improve adolescent health, nutrition, and long-term wellbeing. The delivery of some interventions is recommended for all adolescents in a particular setting (deworming), while for other interventions are recommended for a subset of the student body (vision screening and IFA supplementation). Some of these interventions seek to change behaviors (CSE) while others offer benefits in the future (HPV vaccination).

**Donors and implementing partners can consider these five guiding principles when developing and operationalizing a school health and nutrition program:**

1. Clearly define the roles and responsibilities of all stakeholders, from the ministerial level to the beneficiaries for program implementation and monitoring;
2. Design a school health and nutrition delivery model that is appropriate for the local context;
3. Use natural entry points to bundle interventions, improve programmatic synergy, and cost efficiency;
4. Prepare the education workforce to deliver school health and nutrition services and education through pre-service and in-service training; and
5. Have an up-to-date contingency plan to ensure interventions continue to be delivered on schedule even when schools are out of session or closed for prolonged periods during times of crisis.

The annexes included in this brief provide further detail on the full range of WHO-recommended adolescent health and nutrition services (Annex 1); the target age groups for a selected set of recommended interventions (Annex 2); information on the breadth and status of CSE in GFF countries (Annex 3); and additional resources such as global guidelines and operational tools that are publicly available and should be consulted in the design and preparation of interventions targeting adolescent populations (Annex 4).

Tanzania

Photo: © Sarah Farhat  
World Bank

The range of health services and interventions included within the WHO Guidelines on Adolescent Health are collated within the figure below. The interventions presented in this brief (indicated by red font) were chosen based on the available evidence of impact on education outcomes and feasibility for implementation in school settings.

Note that school feeding and deworming are not captured within this table. School feeding, which is largely viewed as a social protection mechanism, is included within the brief due to its potential to keep vulnerable children enrolled in school. Deworming, which is a nutrition-specific intervention, is also included as it improves nutritional status and educational attainment among individuals who have a high intensity infection.

- HIV testing and counseling
- Voluntary medical male circumcision in countries with HIV generalized epidemic
- PMTCT
- ART treatment
- **Contraceptive information and services**

## HIV

- Assessment and management of unintentional injuries, including alcohol-related unintentional injuries
- **First-time support when an adolescent girl discloses violence**
- **Health education on intimate partner violence**
- **Identification of intimate partner violence**
- Care for survivors of intimate partner violence

## VIOLENCE AND INJURY PREVENTION

- Care in pregnancy, childbirth and postpartum period for adolescent mother and newborn infant
- Contraception
- Prevention and management of sexually transmitted infections
- Safe abortion care

## SRH/MATERNAL CARE

- Management of conditions specifically related to stress
- Management of emotional disorders
- Management of behavioral disorders
- Management of adolescents with development disorders
- Management of other significant emotional or medically complaints
- Management of self-harm suicide

## MENTAL HEALTH

- Assessment and management of alcohol use and alcohol use disorders
- Assessment and management of drug use and drug use disorders
- Screening and brief interventions for hazardous and harmful substance use during pregnancy services

## SUBSTANCE ABUSE

- **Intermittent iron and folic acid supplementation**
- **Health education of adolescents, parents and caregivers regarding healthy diet**
- BMI-for-age assessment

## NUTRITION

- **Health education of adolescents, parents, and caregivers regarding physical activity**

## PHYSICAL ACTIVITY

- Cessation support and treatment

## TOBACCO CONTROL

- Management of common complaints and conditions
- Home, Education/Activity, Drugs, Sexuality, Safety, Suicide/Depression (HEADS) Assessment

## INTEGRATED MANAGEMENT

- Tetanus
- **Human papillomavirus**
- Measles
- Rubella
- Meningococcal infections
- Japanese encephalitis
- Hepatitis B
- Influenza

## IMMUNIZATION

Adapted from: WHO 2014<sup>4</sup>

## OVERVIEW OF THE TARGET POPULATION FOR ADOLESCENT SCHOOL HEALTH AND NUTRITION INTERVENTIONS AND THEIR DELIVERY FREQUENCY

HEALTH AREA	INTERVENTIONS IN SCHOOL	TARGETED AGE GROUP	FREQUENCY AND SCOPE
Physical Health & Nutrition Services	Vision Screening	Secondary school (approximately 11-18 years)	Screen children at school entry for reduced visual acuity, red eyes, white pupils, and external eye abnormalities; re-examine students who were deemed to need spectacles the prior year and pupils where teachers have concerns. <sup>107</sup>
	HPV Vaccination	Girls aged 9-13 years	A 2-dose schedule with a 6-month interval between doses is recommended for females younger than 15 years. A 3-dose schedule is recommended for females aged 15 and older, and for those known to be immunocompromised and/or HIV/infected. <sup>19</sup>
	Intermittent IFA Supplementation	Menstruating adolescents and women	One supplement per week for three months followed by 3 months of no supplementation after which supplementation should resume; to be delivered where anaemia is highly prevalent. <sup>19</sup>
	School Feeding	Primary and secondary schools, starting with food insecure regions and poorest areas	Daily snacks or meals with micronutrient fortification. <sup>20</sup>
	Deworming	Individuals living in endemic areas	Annual administration of a single-dose albendazole (400 mg) or mebendazole (500 mg) to individuals living in areas where the baseline prevalence of any soil-transmitted helminth infection is 20% or more; biannual administration is recommended where the baseline prevalence is more than 50%. <sup>61</sup> For schistosomiasis, annual administration of praziquantel (40 mg/kg body weight) is recommended for all school-age children in high-risk communities and once every two years in moderate-risk communities. <sup>67</sup>
Education Interventions that Promote Health	Comprehensive Sexuality Education	5 to 18+ years	Age-appropriate, medically accurate learning objectives that is relevant to the learner's situation, clearly articulates behavior goals, and includes learning around: communication and listening skills; negotiation and refusal skills; decision-making and problem-solving skills; the ability to obtain preventive measures from service providers and the ability to negotiate their correct use with sexual partners. <sup>30,72</sup>
	Physical Education and Activity	5-17 years	60 minutes of moderate-to-vigorous physical activity daily. <sup>19</sup>

## ANNEX 3

## TABLE ON DATA ON ADOLESCENT HEALTH AND PROVISION OF CSE IN SELECT GFF-ELIGIBLE AND -SUPPORTED COUNTRIES

COUNTRY	PROVISION OF CSE			COUNTRY	PROVISION OF CSE		
	COVERAGE IN SECONDARY SCHOOLS	TRAINING POLICY	M&E		COVERAGE IN SECONDARY SCHOOLS	TRAINING POLICY	M&E
<b>COUNTRIES WITH EDUCATION POLICIES ON LIFE SKILLS-BASED HIV AND SEXUALITY EDUCATION IN BOTH PRIMARY AND SECONDARY</b>							
Angola	High	Yes	Included in EMIS	Mali	-	Yes	EMIS tracks
Benin	High	Yes	-	Morocco	Low	Yes	-
Bolivia	Medium	Yes	-	Mozambique	High	Yes	No
Burundi	High	Yes	-	Nepal	Low	Yes	-
Cambodia	High	Yes	No	Nicaragua	High	Yes	-
Cameroon	High	Yes	Included in EMIS	Niger	High	Yes	-
Central African Republic	Low	Yes	-	Nigeria	-	Yes	Included in EMIS
Comoros	Medium	Yes	-	Papua New Guinea	High	Yes	-
Cote d'Ivoire	Medium	Yes	High	Philippines	High	Yes	No
Ethiopia	Medium	Yes	High	Rwanda	High	Yes	-
Ghana	High	Yes	Medium	Sao Tome and Principe	Medium	No	-
Guatemala	Medium	Yes	High	Senegal	High	Yes	No
Guinea	Medium	Yes	Low	Sierra Leone	Low	Yes	-
Guinea-Bissau	Low	Yes	Low	South Sudan	Low	Yes	EMIS tracks
Honduras	Low	Yes	High	Swaziland	High	Yes	No
India	Medium	Yes	Medium	Tajikistan	Medium	Yes	No
Kenya	Medium	Yes	Medium	Tanzania	Medium	Yes	EMIS tracks
Kyrgyzstan	High	Yes	Medium	Timor-Leste	Medium	Yes	No
Laos	Low	Yes	Medium	Togo	Medium	Yes	-
Lesotho	High	Yes	Medium	Uganda	Medium	Yes	EMIS tracks
Liberia	High	Yes	High	Uzbekistan	High	Yes	-
Madagascar	High	Yes	High	Viet Nam	High	Yes	Included in EMIS
Malawi	High	Yes	High	Zambia	High	Yes	Included in EMIS
Mauritania	Low	No	High	Zimbabwe	High	Yes	EMIS tracks
<b>COUNTRIES WITH RELEVANT LEGAL FRAMEWORKS, LAWS, DECREE, ACTS, AND POLICIES</b>				<b>COUNTRIES WITH NO KNOWN LAWS AND POLICIES</b>			
Bangladesh	High	Yes	-	Afghanistan	Low	No	-
Democratic Republic of Eritrea	High	Yes	Included in EMIS	Bhutan	High	Yes	EMIS tracks
Pakistan	High	Yes	No	Haiti		No	No
Solomon Islands	Medium	Yes	EMIS tracks	Indonesia		Yes	No
				Myanmar	High	Yes	No

**Note:** The following GFF-eligible and supported countries are not included in this list due to limited data: Chad, Djibouti, Egypt, Gambia, Somalia, Sudan, and Yemen. *Adapted from UNESCO 2021<sup>25</sup>*

The consolidated global guidelines and operational tools are intended to inform priority setting during the project development and offer insight into potential implementation approaches at the school level.

#### ADOLESCENT PROFILES, SURVEYS, AND FRAMEWORKS

1. WHO Adolescent Country Profiles
2. Global School Health Survey
3. School Health Policies and Practices Survey
4. Systems Approach for Better Education Results (SABER) Resources and Tools
5. Focusing Resources for Effective School Health (FRESH) Framework

#### NORMS, STANDARDS, AND GUIDELINES FOR SCHOOL HEALTH AND ADOLESCENT HEALTH

1. WHO School Health Services Guidelines
2. WHO Recommendations on Adolescent Health
3. WHO Guidelines for Implementing Effective Actions for Improving Adolescent Nutrition
4. WHO Global Accelerated Action for the Health of Adolescents (AA-HA!)
5. WHO/UNESCO Global Standards for Health Promoting Schools

#### RESOURCES FOR SCHOOL HEALTH PROGRAMMING BY TOPIC AREA

Deworming	<ol style="list-style-type: none"> <li>1. GPE Guidelines for School-Based Deworming Programs</li> <li>2. WHO Recommendations for Deworming Non-Pregnant Adolescent Girls and Women of Reproductive Age</li> </ol>
Menstrual Health and Hygiene	<ol style="list-style-type: none"> <li>1. UNESCO Puberty Education and Menstrual Hygiene Management: Good Policy and Practice in Health Education</li> <li>2. UNICEF Guidance on Menstrual Health &amp; Hygiene</li> <li>3. Save the Children Menstrual Hygiene Management Operational Guidelines</li> </ol>
Nutrition	<ol style="list-style-type: none"> <li>1. WHO Guideline on Intermittent Iron and Folic Acid Supplementation in Menstruating Women</li> <li>2. FAO Nutrition Challenge Badge</li> </ol>
Safe & Respectful Learning Environments	<ol style="list-style-type: none"> <li>1. WHO School-Based Violence Prevention Handbook</li> <li>2. Raising Voices Good School Tool Kit</li> <li>3. Violence Against Women and Girls Resource Guide: Education Sector</li> <li>4. Violence Against Women and Girls Resource Guide: Health Sector</li> <li>5. UNESCO Global Guidance on Addressing School-Related Gender-Based Violence</li> <li>6. UNGEI Whole School Approach to Prevent School-Related Gender-Based Violence</li> </ol>
School Feeding	<ol style="list-style-type: none"> <li>1. WFP State of School Feeding Worldwide 2020</li> <li>2. WFP Home-Grown School Feeding Resource Framework</li> <li>3. GCNF Global Survey of School Meal Programs</li> </ol>
Comprehensive Sexuality Education	<ol style="list-style-type: none"> <li>1. UNESCO International Technical Guidance on Sexuality Education</li> <li>2. UNESCO Early and Unintended Pregnancy and the Education Sector: Evidence Review and Recommendations</li> <li>3. UNESCO Journey Towards Comprehensive Sexuality Education: Global Status Report</li> </ol>
Vaccination	<ol style="list-style-type: none"> <li>1. WHO Options for Linking Health Interventions for Adolescents with HPV Vaccination</li> <li>2. DCP3 School Based Delivery of Vaccinations to 5-19 Year Olds</li> <li>3. WHO School Vaccination Readiness Assessment Tool</li> </ol>
Vision Screening	<ol style="list-style-type: none"> <li>1. GPE Guidelines for School-Based Eye Health Problems</li> </ol>

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