Improving Nutrition

In Adolescent and School-Age Children

A toolkit to provide guidance and recommendations on school-based nutrition policies and interventions
CONTENTS

A. The purpose of this toolkit ......................................................................................................................... 1

B. Policies and interventions to prevent obesity in school-age children and adolescents .......................................... 5

B.1. Preventing obesity through direct school-based Interventions for nutrition and physical activity .......................................................... 6

B.1.1. Nutrition and physical education through school curriculum ............................................................................. 7

B.1.2. Direct provision of essential health and nutrition services .................................................................................. 12

B.2. Preventing obesity through Interventions to Modify the school environment ................................................................. 16

B.2.1. Setting food and nutrition standards For schools ......................................................................................... 17

B.2.2. Creating opportunities for physical activity through the school ........................................................................ 26

B.2.3. Regulating advertisements and promotions of foods in schools ...................................................................... 27

B.2.4. Increased parent knowledge of nutrition and physical activity ........................................................................ 29

B.2.5. Increased teacher knowledge and participation in nutrition and active lifestyles .................................................. 30

B.3. Preventing obesity through interventions to modify the community environment ......................................................... 32

B.3.1. Food-based standards in the community ....................................................................................................... 33

B.4. Nutritition and physical activity integrated into school policy ................................................................................ 38

C. Essential Standards programme model for obesity prevention through schools for school-age children and adolescents ........................................... 42

D. Essential Standards Checklist .................................................................................................................... 50

Works Cited .................................................................................................................................................. 53
A. THE PURPOSE OF THIS TOOLKIT

Eating and lifestyle habits are established early in childhood with learned behaviors often continuing into adulthood. The establishment of healthy eating behaviors and active lifestyle behaviors in school-age children is instrumental in addressing the prevalence of obesity which is increasing globally. These behaviors are the leading preventative measures to prevent childhood obesity and to prevent the development of non-communicable diseases throughout childhood and into adulthood. Interventions to establish healthy eating and active lifestyles are urgently required as the percentage of school-age children and adolescents who are either overweight or obese has been significantly increasing globally over the past 30 years; in the last 3 decades, there has been a 47% increase in overweight and obesity (E & al., 2014). As estimated in 2013, the rate of overweight or obesity of school-age children and adolescents was 23% in developed countries and 13% in developing countries. In the East Asia and Pacific Region, the prevalence of overweight and obesity for school-age children varies widely from a low of 4% in Cambodia to 50% in Samoa. Countries in the region with over 10% of school-age children overweight or obese include Malaysia, Thailand, Papua New Guinea, Singapore, Japan, Mongolia and all Pacific Islands. Even in countries with a relatively low prevalence of overweight, such as Cambodia, Vietnam, Laos and Myanmar, the prevalence in overweight and obesity has been consistently increasing since 1980. Most concerning, no country in the world has achieved a significant decrease in the prevalence of overweight and obesity since consistent monitoring was implemented in 1980. All countries since 1980 have experienced either growth or stagnation in obesity and overweight for school-age children and adolescents.

School-age children and adolescents have been traditionally considered a lower risk group for malnutrition with the majority of nutrition interventions focused on pregnant women and children under 5 years of age. However, there is global evidence that demonstrates the effectiveness of obesity prevention interventions targeted to adolescents with adolescents having been shown to be highly-amenable to nutrition education interventions and to behavior change communication (MA & PD., 2014). Healthy-eating messages, habits learned and practices during childhood and adolescence contribute to sustained nutrition impacts throughout childhood and into adulthood with lifelong impact for healthy eating and activity habits. Obesity has immediate implications for a child’s current and future health with increased risk of non-communicable diseases (NCDs) such as hypertension, colorectal cancer, heart disease, and diabetes, other health problems such as sleeping disorders and orthopedic conditions such as arthritis (DL, R, & M., 2008). Health risks all worsen with increased weight gain and are alleviated or eliminated with weight loss. In addition to the physical health costs of obesity, there are also high psychosocial costs with obese school-age children having lower self-esteem and at higher risk of being bullied or discriminated against by their peers. The psychosocial and physical health consequences of obesity in school-age children can affect the learning environment as well, with obese school-age children having increased absenteeism and often performing lower on tests than non-obese school-age children.

Weight loss achieved through healthy diet and active lifestyles is a highly-effective method to reduce obesity and the occurrence of NCDs and other health disorders associated with obesity. However, the best way to reduce the occurrence of NCDs is the prevention of obesity in school-age children in the first place. Once established, it is difficult to change the eating and activity habits learned in childhood with established habits likely to continue into adulthood. This association is also seen in prevalence of obesity in the adult population as obese school-age children have a high probability of continuing to be obese into adulthood. The prevention of obesity during childhood and adolescence continues to be the best way to prevent obesity in adults and to halt the cyclical nature of generational obesity.
There are a host of interventions to address and modify the poor eating and activity habits that lead to obesity in school-age children and adolescents. To be effective, interventions need to take into account the change in lifestyle globally in the past few decades with high-energy, low-nutrient foods readily available and inexpensive, processed, fast foods comprising an ever-growing percentage of overall food consumption. Throughout the world, easy access to high-energy, low-nutrient food consumption is coupled with increasingly sedentary behaviors. School-age children and adolescents are highly-susceptible to poor eating and physical activity habits due to increased independence with available pocket money and opportunity to access foods on their own. Poor eating habits common in school-age children and adolescents include high consumption of junk foods, skipping breakfast, low consumption of fruits and vegetables, drinking sugar-sweetened beverages, low consumption of water and eating low nutrient snacks throughout the day in replacement of meals. Poor activity habits are also prevalent with school-age children and adolescents increasingly sedentary due to increase time spent on screen time activities and easy and inexpensive transportation. The concurrent consumption of energy-dense foods and reduction in daily activity has created an environment in which school-age children and adolescents are more likely to become obese.

This toolkit provides an overview of the types of interventions implemented both in the East Asia and Pacific Region and globally to prevent the rising prevalence of obesity in school-age children and adolescents. To best utilize UNICEF’s core competencies, the focus of the toolkit is on interventions delivered through the school or utilizing the school as a resource. School-based interventions include those that directly provide essential nutrition and health services or modify the school environment. To increase the effectiveness of school-based obesity prevention interventions, key community-based interventions are reviewed where there is measurable impact on the prevention of obesity in school-age children and adolescents. While the toolkit is centered on the prevention of obesity, other nutrition concerns for school-age children and adolescents are addressed through the same interventions and are included in the toolkit. Interventions to address micronutrient deficiencies are addressed throughout the toolkit, as they are prevalent in situations where underweight or overweight are major concerns. Micronutrient deficiencies interventions are also well-placed for inclusion into the school platform as iron deficiency and iodine deficiency are significant contributors to cognitive development delays, which have direct impacts on school enrollment, participation, and achievement. Undernutrition is briefly discussed but it is not a focus of the toolkit. Undernutrition programmes are largely best addressed through interventions in school-age children under 5 years of age with short-term hunger interventions targeted to school-age children not providing significant impact on indicators of stunting or underweight.

The toolkit is framed around a holistic programme model presenting the three major platforms to address the prevention of obesity in school-age children and adolescents (Figure 1). The first platform is through direct nutrition and physical activity interventions which directly address malnutrition (such as through the provision of micronutrient supplements) or increase the knowledge of students towards nutrition and physical education. The second platform is through school environment interventions to create a healthy environment for school-age children supportive of healthy eating and activity lifestyles. This platform looks beyond the messaging provided in the curriculum to ensure that school-age children are provided an environment supportive of those messages and in which they can practice healthy behaviors on a routine basis. The third platform is community environment interventions which focuses on the influences of the community surrounding the child and adolescent. This platform is only discussed in the context of interventions which directly impact school-age children and adolescents however interventions at the community level have far-reaching impacts beyond these targeted groups. Policies and frameworks to address the prevention of obesity in school-age children and adolescents support the entire programme model and are often integrated as a component of broader school health policies or within comprehensive population-based obesity and NCD reduction policies. Key policies at the national and school-based level are presented in the programme model as the foundation on which holistic obesity prevention programmes for school-age children and adolescents should be built.
Section B of the toolkit presents a detailed overview of each intervention to prevent obesity in the programme model for school-age children and adolescents. Recommended holistic services are accompanied by real-life examples of best practices from the East Asia and Pacific Region and global practices are included wherever appropriate. In section C of the toolkit, an “Essential Standards” programme model is presented with recommended interventions to prevent obesity through school-based interventions at the national level. The Essential Standards Programme Model should be used along with the Essential Standards Checklist for Prevention of Overweight in School-Age children and Adolescents in Section D of the toolkit. The Essential Standards Checklist provides an initial assessment to measure the degree to which countries have implemented programmes or interventions to prevent obesity for school-age children and adolescents as measured against recommended standards. Where policies to address the implementation of the minimum standards through holistic programmes are not in place, their development should be considered a priority.

The holistic oversight prevention toolkit is intended for use by UNICEF focal points as a resource to review their country’s current policies and interventions for the prevention of obesity and overweight in school-age children and adolescents against the recommended Essential Standards in Section C. The toolkit should be used to determine existing gaps in current service provision with Section B used to determine which interventions may be necessary to fill the identified gaps, if any. The prevention of obesity and overweight in school-age children and adolescents requires an integrated strategy within and outside of the school. This toolkit presents the essential interventions necessary to address the rising prevalence of obesity through defined, feasible, actions.
Figure 1. Programme Model of School-Based Interventions to Prevent Obesity in School-Age Children and Adolescents

I. Direct School-based Nutrition and Physical Activity Interventions
   - Increased parent knowledge of nutrition and physical activity
   - Increased teacher knowledge and participation in healthy lifestyles
   - Provision of iron supplementation and deworming
   - Nutrition screening and counseling

II. School Environment Interventions
   - Create a supportive environment for physical activity
   - Physical activity in the classroom

III. Community Environment Interventions
   - Food and nutrition standards for other foods sold through the school
   - Food and nutrition standards for school meals
   - Food Taxes and Subsidies
   - “Whole School” Policies for Nutrition and Healthy Lifestyles

   Overcoming Nutrition and Physical Activity Policies
   Resisting Antagonistic Messages of Foods and Beverages to Children
   Outlining of Advertising of Foods and Beverages to Children
B. POLICIES AND INTERVENTIONS TO PREVENT OBESITY IN SCHOOL-AGE CHILDREN AND ADOLESCENTS

The programme model of school-based interventions to prevent obesity in school-age children and adolescents presents the 3 major components of interventions; (I.) Direct School-Based Nutrition and Physical Activity Interventions, (II.) School Environment Interventions and (III.) Community Environment Interventions. Overarching to these obesity prevention interventions in school-age children and adolescents are the major policies and strategies guiding their implementation which are included external to the circle of interventions. This section reviews the types of interventions and policies recommended to prevent obesity in school-age children and adolescents with a focus on the school. Schools are in a unique position to promote healthy eating and active lifestyles to school-age children and adolescents while ensuring that students are surrounded in a healthy and encouraging environment. Schools are in the business of increasing children’s knowledge and are a natural fit for the inclusion of nutrition and physical education through curriculum and skills practice. Schools are also effective platforms to reach school-age children and adolescents as primary and lower secondary school enrollment is nearly universal at 97% in the East Asia and Pacific Region. A school is unique in that it is an environment that can be controlled, presenting an opportunity to create a microcosm within which students are able to learn and practice healthy eating habits and active lifestyle behaviors with limited distractions.

The benefits of integrating nutrition throughout the school curriculum and environment are numerous. Proper nutrition directly promotes optimal growth and development of school-age children and adolescents, helps them stay focused and alert during the school day and improves attendance and performance. Well-nourished school-age children have improved memory, concentration, attentiveness and school attendance all of which contribute to improved school performance and achievement. Over the long-term, healthy eating habits and active lifestyle behaviors established during the school years can lower the risk of developing obesity and obesity-related diseases such as non-communicable diseases in adulthood. The WHO estimates that improved diet and physical inactivity along with prevention of tobacco use would prevent 80% of heart disease, 80% of strokes, 80% of type 2 diabetes and 40% of all cancers (WHO, 2008).

In a 2015 review of child obesity, the WHO developed several policy options to address obesity prevention in school-age children and adolescents (World Health Organization, 2015). The review focused on school-based platforms as an essential component of any obesity prevention strategy, but stressed the importance of including interventions aimed at the community as a whole. Therefore, this toolkit includes specific community-based interventions to prevent obesity with a focus on those which directly impact school-age children and adolescents. Together, interventions provided to the child at the school, surrounding the child in the school environment and reaching the child within the community are more likely to develop and cultivate healthy eating habits and active lifestyles to prevent obesity. Section B is structured on Programme Model for Prevention of Obesity in School-age Children and Adolescents (Figure 1) and presents a review the best practices of interventions and policies both in the East Asia and Pacific Region and globally. B1 starts at the center of the model with the direct school-based interventions to prevent obesity. B2 expands to include interventions which target the school environment and section B3 further expands to include the community environment and the interventions which prevent obesity in school-age children and adolescents. B4 provides an overview of the overarching policies and strategies that guide the implementation of obesity prevention interventions at the national level and at the school level.
B.1. PREVENTING OBESITY THROUGH DIRECT SCHOOL-BASED INTERVENTIONS FOR NUTRITION AND PHYSICAL ACTIVITY

Primary and secondary schools are an excellent platform to reach school-age children and adolescents with direct obesity prevention programmes with the objective of increasing student knowledge on healthy eating practices and active lifestyles and through the delivery of essential health and nutrition services. Schools are in the business of increasing the knowledge of school-age children and adolescents with nutrition and physical education integrated into the school curriculum either as separate stand-alone courses or via existing subjects such as science and mathematics. The focus on nutrition and physical education, however, should move beyond the provision of key messages to provide students with life skills and the ability to practice learned life skills in the classroom.

The school is well-positioned to act as a cost-effective delivery platform for essential health and nutrition interventions targeted to school-age children and adolescents to directly impact their health and nutrition status. In the East Asia and Pacific Region, primary school attendance is 96%, lower secondary school attendance is 97% and upper secondary school attendance is 73% (UNESCO, 2015). At these high attendance levels, the school provides a viable alternative to the health system for delivery of essential nutrition and health interventions such as catch-up immunization, deworming, micronutrient supplementation and screening of nutrition status with integrated counseling.

Direct school-based programmes work to prevent obesity through two major pathways; the inclusion of nutrition and physical activity into the school curriculum increases students’ personal knowledge and contributes to improving their attitudes towards healthy eating and active lifestyles. The provision of life skills practice for healthy eating further builds on core knowledge learning through the school curriculum and allows students to gain theoretical thinking skills around healthy eating and around making good nutrition choices. The direct provision of essential health and nutrition services prevents obesity by alleviating nutrition deficiencies that contribute to malnutrition and through nutrition screening to assess school-age children’s body mass index (BMI) with individual counseling of students. The provision of nutrition screening and counseling to overweight students builds on the supportive nutrition and physical education taught in the wider classroom with messages individualized to meet the students’ needs.

Figure 2. Direct school-based interventions for nutrition and physical activity
The inclusion of nutrition and physical education into core curricula for primary and secondary students is widely-implemented in the East Asia and Pacific Region. Physical education classes are most commonly provided as a stand-alone topic for students with nutrition education being integrated as a component of physical education or through other subjects for a short period of time within the school year. Ideally, the provision of education on nutrition and physical activity should be included into the core curriculum to increase knowledge of students with consistent provision of messages.

Rather than through didactic lessons, nutrition education is best received through the teaching of key lessons followed by the teaching of a life skill and supported by practice of problem solving and coping strategies. This strategy enables school-age children and adolescents to build the critical thinking skills necessary to make nutrition and activity decisions on their own. For school-age children, nutrition education should focus on key messages and practices - the building blocks of health eating and active lifestyles. For adolescents, nutrition education should focus on problem solving and coping strategies for students to employ based on real-life scenarios. Specific questions schools need to address include “what healthy options can I purchase from the local food cart/fast food restaurant/convenience store”, “how do I respond to food advertising” and “can I budget and shop wisely for food in the household”. Adolescents need to build knowledge and practice in consumer awareness to manage marketing and advertising of unhealthy foods and beverages and be able to plan, shop for and prepare healthy meals.

Physical education is often included as a separate stand-alone subject in schools but is not always implemented at the school level due to pressure on students and teachers to excel in examinable subjects such as science and math. Often, in the East Asia and Pacific Region, time allotted for physical education is spent on studying or tutoring on other subjects (UNESCO, World-wide Survey of School Physical Education). Physical education is important in order to provide students with exposure to a range of activities for them to engage in with support to continue favored activities throughout their lifespan. In addition to exposure and the ability to practice a range of sports and activities, students also receive direct physical activity which contributes to the WHO’s recommended daily allotment of at least 60 minutes of physical activity each day in order to improve cardiovascular, respiratory and muscular fitness and bone health (World Health Organization, 2010).

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Overview</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guidance for Nutrition and Physical Education Curriculum</td>
<td>Guidance on best practices of nutrition and physical activity curriculum has been developed by multiple international agencies to guide schools and teachers in the development of lesson plans and activities. Curriculum guidance is targeted to schools and teachers directly (rather than national-level guidance) with a focus on hands-on activities to implement with students. The first step in developing nutrition and physical education curriculum is to conduct an assessment to identify the strengths and weaknesses in knowledge and determine the primary concerns to be addressed. The FAO has developed guidance on the implementation of a situation assessment by teachers to determine priority areas for nutrition curriculum. The guidance is accompanied by sample lesson plans and activities to increase involvement of parents and other school staff in lessons. The materials provide the tools necessary for a teacher and school to review topics in nutrition and physical education that need to be included in class curriculum with examples and activity suggestions to increase involvement of parents and other school staff in lessons.</td>
<td>Guidance Resources</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• FAO Guidance for School Nutrition Curriculum</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• FAO Nutrition Education in Primary Schools Activities Guide</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• FAO Guidance for Developing Nutrition Indicator Chart</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CDC Tips for Teachers</td>
</tr>
</tbody>
</table>
provide lessons in a fun and informative way. Attached to each suggested course topic are learning objectives and standardized metrics to measure student progress. While FAO’s guidance is comprehensive, the CDC provides a streamlined document “Tips for Teachers” to provide essential recommendations on the promotion of healthy eating and physical activity throughout the school day with actionable tips.

There is an abundance of resources available to teachers on activities to implement in the classroom for nutrition and physical education. TED Ed is a series of lessons available online for use in classrooms with several lessons in the series focused in nutrition and physical activity. These lessons, such as: “you are what you eat,” “how sugar affects the brain”, “how vitamins work” and “how sitting is bad for you” are packaged with thinking points to generate discussion after the video within the classroom and references for further review and research. At the end of the video there are quizzes for examination and the opportunity to post responses on the webpage to generate further discussion with experts.

There are several websites provided by government agencies and non-profit organizations that provide fun and interactive activities to conduct with school-age children and adolescents to teach them about nutrition and physical activity within other subjects such as science and mathematics. For example, the Sugar Shocker Kit provides nutrition education through science-based experiments while the Portion Size Activities integrate mathematics lessons with nutrition. The majority of sample curriculum and lesson plans focus on primary and middle school students however the USDA produces nutrition lesson plans for high school students with integration of a mobile app and internet-based tool to chart and encourage dietary and physical activity assessments for students. The lesson plans developed use the SuperTracker to provide individualized assessment and application to the student’s lifestyle choices.

Dunk the Junk is an example of an innovative organization that provides fun and interactive activities that promote healthy eating and active lifestyle behaviors through provision of role models and positive messaging. Dunk the Junk is organized at the community level and focuses its efforts on educating school-age children and adolescents about the health dangers of drinking sugar-sweetened beverages with messaging delivered through graffiti art and hip-hop music and dance.

### Nutrition Curriculum in East Asia and Pacific Region

All countries in the East Asia and Pacific Region have some level of nutrition education included in national school curriculum or lesson plans. Specific nutrition education is mandated in Japan, Singapore, Vietnam and the Philippines with other countries incorporating nutrition into health and physical education curriculum.

In Japan, nutrition education is part of the 2005 Basic Law on Shokuiku to provide dietary education within a cultural context of healthy lifestyles. Diet and nutrition teachers are trained by the Ministry of Education and placed within schools to lead nutrition lessons, to provide oversight on preparation and serving of school meals and to provide counseling to overweight students. Nutrition lessons are practical with teachers instructing students on health eating habits while including discussion on food production and distribution systems and how to be a wary consumer. Lessons are complemented by student participation during meal times with students serving and cleaning up after school lunches. Additionally, schools initiate class trips for students to observe how food is grown, distributed and prepared.

### Resources for Nutrition Curriculum

- Philippines Health Curriculum
- Singapore Nutrition Curriculum for Secondary School
- Cambodia Policy for Curriculum Development
- Cook Islands Curriculum Policy

### TED Ed Series

- You are what you eat
- How sugar affects the brain
- How do vitamins work?
- Why sitting is bad for you

### Resources

- Sugar Shocker Kit
- Portion Size Activities
- Lesson Plans from the Surfing Scientist
- A Tasty Resource for Teachers
- USDA’s SuperTracker
- SuperTracker Lesson Plans for High School Students
- Dunk the Junk
Vietnam, Singapore and the Philippines provide nutrition education as part of the mandatory school curriculum at primary and secondary education levels. The Philippines and Singapore provide mandatory standardized curriculum for both health and physical education with nutrition integrated into health and learning competencies measured for each grade level for nutrition. In both countries, the primary school nutrition curriculum focuses on basic nutrition and healthy eating knowledge while adolescents focus on consumer health, concerns for nutrition labeling and advertising, making informed decisions on nutrition, and making healthy selections when eating out. The nutrition curriculum’s objective is to build critical thinking skills in students for the evaluation of health and nutrition information to make informed decisions about what they eat.

Other countries in the region integrate nutrition lessons into other courses or into physical education classes instead of providing a separate nutrition education subject. In Cambodia health, nutrition and physical education is compulsory coursework required for 2 hours per week for primary and secondary students. The Cook Islands has a mandatory holistic health and physical well-being curriculum focused on enabling students to make informed decisions on their health and well-being. Similar to the system of Shokuiku in Japan, the curriculum in Cook Island focuses on the cultural aspects of food and wellness with integration of life skill practice and application such as growing clubs. Thailand has mandatory health education with indicators for healthy eating knowledge included in core competencies.

Nutrition education can also be provided through peer education or counseling groups which have been found effective to address personal concerns for body image and lifestyle habits in adolescents and school-age children (Story, Lytie, & Perry, 2002). Peer education can be organized in small groups to provide support and can include discussions about overweight, snack choices, sports nutrition and vegetarian diets. In Malaysia and Indonesia, peer education is provided through “little doctor” programmes where students act as peer counselors and educators to fellow students for health and nutrition. In Malaysia the Doktor Muda programme trains student educators to provide health and nutrition advice to other students.

Best Practices for Nutrition Curriculum Globally

Best practice examples of curricula for nutrition and healthy living are found in Canada, Australia and the UK. These countries provide specific age-appropriate curricula with measurable indicators and integrated take-home lessons to involve parents and the community. In addition, the nutrition curriculum in these countries is focused on the application of nutrition and healthy eating life skills instead of didactic nutrition education. The nutrition curriculum focuses on integrating nutrition knowledge with problem solving to build the capacity of students to make informed decisions for nutrition and wellness.

Specific curricula are available from each country to provide guidance to other countries in developing nutrition-specific criteria and lesson plans. Canada provides a nutrition curriculum for each grade from kindergarten to grade 9 with attached resources kits for teachers and parents. The Australia curriculum is provided for kindergarten to grade 10. The UK provides curricula online only for school-age children from 5 to 16 years of age with additional resources for teachers to teach on consumer awareness, cooking and food safety.
Physical education classes are unique in that they are not classroom-based and provide a direct opportunity for students to learn new sports and activities and practice them in a safe environment. UNESCO conducted a global survey in 2013 to determine the scope and quality of physical education in schools for the East Asia and Pacific Region and found that all countries in the region have either a legal requirement for physical education or generally provide physical education as a component of compulsory schooling (UNESCO, World-wide Survey of School Physical Education). The WHO recommends 150 minutes of physical education every week for primary students and 225 minutes every week for middle and high school students (World Health Organization, 2008). The table below lists the mandated lengths of time for physical education for primary and secondary students in East Asia and the Pacific countries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Minutes of Physical Education Per Week</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Primary Students</td>
<td>Secondary Students</td>
</tr>
<tr>
<td>Singapore</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>Malaysia</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Indonesia</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Myanmar</td>
<td>100</td>
<td>25</td>
</tr>
<tr>
<td>Laos</td>
<td>80</td>
<td>90</td>
</tr>
<tr>
<td>Cambodia</td>
<td>85</td>
<td>115</td>
</tr>
<tr>
<td>China</td>
<td>105</td>
<td>135</td>
</tr>
<tr>
<td>Japan</td>
<td>125</td>
<td>130</td>
</tr>
<tr>
<td>South Korea</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>Vietnam</td>
<td>65</td>
<td>85</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>185</td>
<td>80</td>
</tr>
<tr>
<td>Cook Islands</td>
<td>135</td>
<td>120</td>
</tr>
<tr>
<td>Samoa</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>

In the East Asia and Pacific Region, specific physical education curricula is in place in 90% of countries, however the quality of implementation is often poor with lack of facilities and lack of teacher and school administrator motivation limiting the implementation of physical education. Lack of teacher and administrator motivation for physical education is attributed to that fact that it is not an examination subject. Even when physical education is included in the core curriculum, teachers often take the set time for other subjects, which are included in examinations and seen as more important and prioritized. In a 2008 UNESCO review, physical education was found to be a lower priority in the region, as it did not directly contribute to educational attainment and ability to obtain a job. For example, in Malaysia, while physical education is a mandatory and standardized subject, it is not an examination subject and there is a lack of trained teachers or staff development for physical education (UNESCO, Innovative Practices in Physical Education and Sports in Asia, 2008). The lack of trained physical education teachers exacerbates the poor implementation of the set curriculum with teachers not understanding its importance or worth to students.
These factors often contribute to physical education not being conducted during the school week and students instead using the time for study or tutorials on other subjects. A 2008 UNESCO review found that in Malaysia, 80 minutes a week of physical education was mandated however in reality primary students received only 50 minutes and secondary students received no physical education at all. To address the lack of prioritization of physical education in the school curriculum, Malaysia formed the One Student, One Sport programme to require all students to participate in at least one sporting activity throughout the school year. The programme is mandatory for students from year 4 and throughout secondary school with 42 recommended sport options including track and field, walking and taekwondo.

While physical education is not an examination subject in any country in East Asia and Pacific region, Malaysia and Singapore both conduct twice-annual evaluations of students’ physical fitness and include results on students’ report cards. Student progress and achievement in physical education is reviewed with parents during parent teacher conferences and students are encouraged to meet physical fitness minimum standards.

Integrating Physical Activity into the Classroom

Short in-class activity breaks can help school-age children and adolescents increase their overall physical activity while also improving focus and on-task behavior for students. Short breaks for under 10 minutes at a time have been shown to add significantly to overall physical activity in the course of a day for school-age children, with programmes in the United States adding an average of 90 minutes per week in physical activity. (Active Living Research, 2013). The breaks have also been shown to be an outlet for energy to help school-age children and adolescents concentrate and focus during class activities.

School districts in Japan are encouraged to integrate daily physical activity beyond physical education class in an effort to ensure that school-age children receive at least 60 minutes of physical activity per day to meet the national recommended level of activity. Classroom teachers lead short physical activity breaks between lessons and between classes and recess is incorporated throughout the day. The programme is modeled after the Take 10 programme in the United States. The Take 10 programme encourages 10-minute activity breaks during the school day and is implemented in the United States, the UK, Brazil, Thailand, Indonesia and China. In China the programme is called the Happy 10 Classroom Activity programme with primary students taking at least 10 minutes each school day for physical activity within the classroom. While the Take 10 programme is sub-national in most countries, it is implemented nationally in China. In addition to the Take 10 programme, the ABC for Fitness programme and the CDC’s Guidelines for In-School Breaks provide lists of 3-5 minute physical activities ideas for school-age children and adolescents for teachers to implement along with recommendations on how to calm students after the activity.

Best Practices
- Take 10 Programme
- ABC For Fitness Manual
- Guidelines for In-School Breaks
B.1.2. DIRECT PROVISION OF ESSENTIAL HEALTH AND NUTRITION SERVICES

In every country setting, the health center or doctor’s office is the primary provider for essential health and nutrition services such as nutrition screening and provision of nutrition counseling, catch-up vaccinations, provision of micronutrient supplements and deworming tablets. However, in countries where health access for school-age children and adolescents is not universal or where school-age children are rarely taken for medical check-ups, the school can be a cost-effective platform for delivery of essential health and nutrition services. In the East Asia and Pacific Region, primary school and lower secondary school attendance is nearly universal at 96% and 97% respectively (UNESCO, 2015). Schools therefore provide platforms with high access to reach school-age children and young adolescents with essential services for health and nutrition. The provision of essential services is divided into two types of service provision. The first is the provision of micronutrient supplementation and deworming treatment to school-age children to directly reduce the prevalence of micronutrient deficiencies and impact children’s health and nutrition status. The second intervention is the implementation of nutrition screening to determine the BMI of school-age children and adolescents and to refer or provide nutrition counseling to overweight or obese students. Nutrition screening provides an individualized assessment of a child’s nutrition status with an opportunity to provide individualized counseling for weight loss.

### Interventions

<table>
<thead>
<tr>
<th>Overview</th>
<th>Resources</th>
</tr>
</thead>
</table>
| The most common essential nutrition services provided to school-age children and adolescents are iron supplementation and deworming treatment. Provision of iodine to prevent iodine deficiency is frequently ensured through the use of iodized salt in school meals with iodine supplementation rarely implemented through schools. The provision of iron supplementation and deworming treatment reduces iron deficiency in school-age children and adolescents. Iron deficiency is caused both by low consumption of iron in the diet and by loss of blood through helminth (worm) infections. Due to increased iron loss through menstruation, girls are at a higher risk of iron deficiency than boys and often fail to regain iron status after the end of their growth spurt. Iron deficiency, either through lack of consumption or through worm infection, is strongly associated with impaired cognitive functioning, lower school achievement and lethargy all of which affect school performance and attendance. Worm infection affects school-age children’s health, nutrition and development and has been shown to negatively affect school participation and cognitive development with school-age children either too sick or too tired to attend school or too tired to concentrate and participate in school. Due to reduced attendance, participation and concentration, students infected with worms are at risk of losing 3.75 IQ points over their childhood with linked cognitive development delays and decreased educational achievement (M.C.H, L.J, & D.A.P., 2008). As iron deficiency negatively impacts cognitive development and school performance, the treatment of iron deficiency can be expected to have a positive effect on school outcomes. Iron supplementation of school-age children has been shown to improve student performance on memory and visual-motor coordination. For iron-deficient school-age children, 2-3 months of daily iron supplementation has been shown to improve cognitive development and function (M.C.H, L.J, & D.A.P., 2008). Deworming | • Indonesia School Health Policy  
• Manual for Teachers for the Essential Health Care Program in Filipino Schools  
• Philippines Fit for School Course  
• Singapore Health Promotion Board Act 2001  
• Malaysia School Health Programme |
of all school-age children through school-based programmes has a demonstrated impact on attendance as well as on memory and student participation. Deworming reduced school absenteeism by 25% in Kenya and by 7% in Jamaica.

Sub-national provision of essential health and nutrition services is frequently provided in the East Asia and Pacific Region but national implementation is conducted in 4 countries only. Singapore, the Philippines, Indonesia and Malaysia all have national programmes for the delivery of essential health and nutrition services to school-age children. Singapore provides health care services to school school-age children as mandated through the Health Promotion Board Act with medical, dental, immunization and health screening provided. The Philippines implements the Fit for School programme with a focus on provision of essential sanitation services and deworming to primary school students. Indonesia provides a minimum level of school services focused on sanitation but provides immunization, deworming and iron supplementation through health worker linkages and NGO support with the school health programme (UKS). In Malaysia, deworming, immunization and health examination is provided through schools through the Ministry of Health in coordination with the Ministry of Education and is tracked in the school health card.

<table>
<thead>
<tr>
<th>Provision of Nutrition Screening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth monitoring is a frequent activity conducted with young children to measure height and weight against global standards in an effort to address the prevention and treatment of malnutrition. The application of growth monitoring for school-age children and adolescents has less of an impact on undernutrition, but is widely used to identify school-age children and adolescents who are at risk of obesity. This process of identifying those at risk of obesity is called nutrition screening and uses the WHO’s 2007 growth reference for school-age children and adolescents to measure against global standards for Body Mass Index (BMI). The WHO growth reference is used in the WHO’s Global School Health Survey to routinely measure the prevalence of overweight, obesity and underweight amongst students 13-17 years of age (WHO, 2015). In the East Asia and Pacific Region, the prevalence of overweight as measured through the survey is highest in the Pacific countries with 59% of adolescents overweight in Samoa. Overweight is elevated throughout the region however with 16.4% of adolescents in Thailand, 19.1% in Malaysia, 10.2% in the Philippines and 10% in Indonesia overweight. Underweight is a significantly lesser concern with all countries under 20% for underweight but elevated prevalence in Vietnam, the Philippines and Cambodia. While overweight and obesity are major concerns for school-age children and adolescents, nutrition screening to identify those at risk of obesity is not commonly implemented in the East Asia and Pacific Region or globally. Many concerns surround school-based nutrition screening pertaining to student privacy and protection of students from bullying and discrimination based on their weight or height. To ensure student privacy and confidentiality, the CDC has produced a manual on how to properly conduct nutrition screening in schools.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO Growth Reference for School-age Children and Adolescents</td>
</tr>
<tr>
<td>Best Practices</td>
</tr>
<tr>
<td>CDC Manual for BMI Measurement in Schools</td>
</tr>
<tr>
<td>Malaysia Guideline for School Canteens and Weight Measurement</td>
</tr>
<tr>
<td>Singapore Guidance for the Use of BMI Charts</td>
</tr>
<tr>
<td>Massachusetts BMI Screening Guidelines</td>
</tr>
</tbody>
</table>
Three countries in the East Asia and Pacific Region have a national policy on nutrition screening in schools. Singapore, Malaysia, and Thailand all conduct twice-annual screening of students with BMI recorded in the student health record. Nutrition screening is linked to referral or counseling in Malaysia and Singapore. In Malaysia, students who are obese are referred to health clinics for treatment and students who are overweight or obese are scheduled to attend nutrition talks from a nutritionist or a nurse as well as enrolled in nutrition interventions where available. In Singapore school-age children 6-18 years of age are screened against the WHO BMI charts to determine underweight or overweight and referral to the student health center for medical assessment. Referred school-age children are encouraged to attend nutrition counseling sessions at the Student Health Center along with their parents. Thailand requires growth monitoring of primary school school-age children however the provision of counseling is not standardized in schools and there is no targeted treatment or referral for overweight school-age children.

Both Malaysia and Singapore provide standards for the measurement of school-age children and the provision of counseling to overweight school-age children. Malaysia’s standards are included in their nutrition guidelines for schools and Singapore provides guidelines through the Health Promotion Board. National guidelines should accompany the implementation of BMI measurement in schools to ensure quality of programme implementation and to ensure that nutrition screening is conducted in a private and confidential manner. Sample guidelines from Massachusetts provide an overview of measurement guidance as well as guidance on how to ensure student privacy and well-being.

| Counseling and Referral for Obesity Treatment | Screening BMI measurement within primary and secondary schools should always be combined with a referral system to ensure that school-age children and adolescents identified as overweight or obese receive counseling and treatment. For example, obese students in Singapore are referred to the student health center for counseling. Where the prevalence of overweight and obesity is a major national concern, school-based treatment programmes to provide counseling and targeted interventions to overweight students may be an effective way to help students reach a healthy weight. School-based interventions should be combined with family-based interventions or have family components to improve their effectiveness at reducing body weight in school-age children and adolescents and help maintain weight loss over the long-term. Multi-component school-based obesity treatment programmes that combine behavioral, environmental and education components are the most effective at encouraging weight loss and they are best implemented when preventative measures are already in place in the school. A healthy school environment ensures that overweight students are not singled out amongst their peers with healthy meals and increased activity applicable to all students (M., 2011) (Kothandan, 2014). All programmes to treat overweight or obesity in the school need to ensure that student privacy is maintained and that the programme is implemented in a respectful way. Appropriate counseling techniques for adolescents are provided in “Guidelines for Adolescent Nutrition Services” a 2005 book published by the US Department of Health and Human Services. (J & M., 2005) |
| Resources | • Guidelines for Adolescent Nutrition Services  
• Guidance in the Provision of Counseling to Adolescents  
• Malaysia Travel Happy Programme  
• Malaysia Fit and Fabulous Programme  
• Singapore Trim and Fit Programme |
Malaysia and Singapore have both implemented obesity treatment programmes within primary and secondary schools in an effort to reduce the increasing prevalence of overweight amongst school-age children and adolescents. In Malaysia, the Happy Traveler programme was launched in schools nationwide. The programme includes interactive games for healthy eating and active lifestyle for all students along with regular screening of obesity and overweight with BMI assessment and provision of counseling to overweight students. There are outreach programmes in which parents teach healthy meal preparation as a component. At the sub-national level in Malaysia, the “My Body is Fit and Fabulous at School” project is targeted to overweight and obese students with the objective of reducing BMI. School-age children who are overweight and obese participate in 30-45 minutes of nutrition or psychology classes once a week and participate in group exercise before and after school.

Singapore has implemented obesity treatment programmes through schools since 1992 when the Trim and Fit programme was first introduced. The programme ran until 2006 and was largely credited with the reduction in the prevalence of overweight amongst students from 11.7% in 1993 to 9.5% in 2006. The programme provided physical activity opportunities before and after school and offered individualized counseling to overweight students on diet and nutrition. While the programme was largely regarded as successful, there were concerns over the stigma faced by overweight students and a marked increase of eating disorders amongst students. In 2007 the Holistic Health Framework replaced the Trim and Fit programme in Singapore with students identified as overweight and obese referred to the student health center and provided with counseling in nutrition and physical activity along with their parents.
B.2. PREVENTING OBESITY THROUGH INTERVENTIONS TO MODIFY THE SCHOOL ENVIRONMENT

Healthy eating and active lifestyle practices learned through the school curriculum need to be supported through a health school environment that encourages the implementation and practice of behaviors. School-age children and adolescents spend a significant part of their day in school and the school provides an opportunity to directly influence the foods they consume and the amount of activity they receive. Schools, through teachers and school staff, provide indirect influence on students to learn and practice health lifestyles throughout the day. These direct and indirect pathways contribute to an environment that encourages and supports school-age children and adolescents to make healthy choices both while at school and outside of school.

While the majority of countries in the East Asia and Pacific Region provide nutrition and physical education through course curriculum or through the direct provision of essential nutrition services, few have implemented programmes to ensure that the school environment is supportive and conducive to nutrition and physical activity messages received in class. Activities recommended to create and to support a healthy environment for school-age children and adolescents require regulation and enforcement as well as buy-in from school administrators. Therefore extensive advocacy for school environment-based programmes to address obesity prevention needs to be conducted to ensure that all stakeholders are supportive of the strategy.

The major interventions to prevent obesity through the school environment are separated into direct interventions that influence the types of foods and physical activity students receive while at school and indirect interventions which encourage healthy behaviors through provision of role models or positive messaging. Direct interventions regulate and promote the types of foods consumed through school canteens and on the school grounds as well as the provision of opportunities for physical activity while at school. Indirect interventions limit the influence of external promotion and advertisement of unhealthy foods and beverages and provide supportive role models through teachers and school staff. These interventions work together to ensure the school is a safe space for school-age children to learn and practice healthy behaviors in support of school curriculum on nutrition and physical education.

Figure 3. Interventions targeted to the school environment to prevent obesity
B.2.1. SETTING FOOD AND NUTRITION STANDARDS FOR SCHOOLS

Schools commonly set standards for students with dress codes and codes of behavior universally found in schools. Similar to these codes, food and nutrition standards regulate the types of foods and beverages provided either through school-based canteens or through foods and beverages sold on the school grounds. Food sold through school-based canteens is most commonly a lunch or breakfast meal prepared at the school for discrete break hours. Other foods sold on the school grounds are often from snack shops and vending machines with students increasingly self-reliant for procurement of meals and snacks throughout the school day.

In the East Asia and Pacific Region and globally, the most common nutrition intervention implemented through schools is the provision of a school meal with the goal of addressing short-term hunger to improve learning ability, attendance and enrollment. While the provision of a meal during the school hours has impact on educational outcomes, it is in itself not a nutrition intervention unless food and nutrition standards are set. The inclusion of standards for meals prepared at the school are vitally important to ensure that meals address nutrition requirements of school-age children and adolescents including the provision of necessary micronutrients and that meals served through the school are in line with healthy eating habits taught in the school curriculum. The primary concern in many developing countries for school meals is the adequate provision of micronutrients and calories both of which contribute to increased concentration, cognitive ability and school participation. In particular, iodine deficiency and iron deficiency both reduce mental and psychomotor performance and reduce school-age children and adolescents' ability to concentrate. School meals should provide adequate sources of iron and always use iodized salt in food preparation to meet the psychological needs of school-age children and adolescents.

Increasingly in developing countries, middle-income countries and developed countries, setting food and nutrition standards for school meals is an important component of obesity prevention programmes. Easy access to nutrient-poor foods that are high in energy, fat, and salt is common throughout the East Asia and Pacific Region with student consumption inside and outside of school continually increasing. Schools should be regarded as a protected space for students to learn and practice healthy eating habits and behaviors in a controlled environment. Food and nutrition standards in schools that limit or restrict access to junk foods are therefore a core component of any obesity prevention programme for school-age children and adolescents.

Regardless of whether the goal of food and nutrition standards is to ensure access to healthy foods for school-age children at risk of undernutrition or to prevent obesity, nutrition standards need to be universally applied to all foods and beverages sold on the school grounds. This includes limiting the availability of defined unhealthy foods through school meals, food and beverages availability on the school grounds, and increasing access to healthy foods. Food and nutrition standards require clear definitions of what foods are unhealthy with regulation and enforcement to ensure that regulations are implemented.
Nutrition Standards for School Meals: Gold Standards

Nutrition standards for meals served to school-age children and adolescents during school hours ensure that children receive the energy, vitamins and minerals they need to perform well in class as well as set examples of healthy eating. The most effective interventions for the provision of school meals with nutrition standards is the provision of a healthy breakfast to students in the morning prior to school starting and the implementation of food-based standards, nutrition based standards and portion size guidelines for school lunches.

The provision of school breakfast addresses short-term hunger in students and can alleviate poor concentration, school participation and attendance. School breakfast programmes are useful education interventions but they also positively impact student behavior by setting good practices for breakfast eating and ensuring that breakfast provides adequate micronutrients. The provision of breakfast through the school can contribute to obesity prevention as school-age children and adolescents who consume breakfast are less likely to be overweight than those who skip breakfast due to reduced snacking throughout the day. As guidance, Northern Ireland has a “Healthier Breakfast Club” manual to provide ideas and sample menus for schools to hold breakfast clubs and encourage school-age children to consume breakfast. The rationale behind breakfast clubs is to provide a more informal preparation for breakfast to reduce the cost and effort involved. Suggestions include holding the breakfast club in the classroom or the hallway with students able to socialize.

The provision of school lunch is the oldest school-based nutrition intervention in the world. Northern Ireland, Canada, Australia, the United Kingdom and the United States all provide mandatory food and nutrition standards for school lunches for all foods sold in the school. Northern Ireland’s and the United Kingdom’s guidelines include mandatory number of servings for starchy foods, fruit and vegetables, milk and dairy foods and meat and fish and maximum servings for baked goods, fried foods and processed meats. In addition to serving size guidelines, Northern Ireland prohibits the sale of confectionery and chocolates in the school canteen. The guidelines include a poster developed to provide an outline of the regulations for canteen staff and students.

Since 2010, the United States has implemented food- and nutrition-based standards for all schools with minimum and maximum serving size proportions and a total restriction for calories and sodium per meal for school prepared breakfast and lunch. The Tools for Schools resources were developed by the USDA to provide policy and resource materials to schools in order to follow the new regulations for school meals. The guide provides sample posters and advocacy materials, and sample recipes for schools as well as procurement guidelines.

Canada passed a school food and beverage policy in 2010 requiring nutrition standards for all food and vegetables sold in the school through cafeterias, vending machines, snack shops, and through all events held in the school such as bake sales and sports events. The nutrition standards for schools in Canada are organized into three categories; (1) sell most with 80% of available foods, (2) sell less with 20% of available foods and (3) foods not permitted for sale. Food groupings are based on the nutrition content of selected foods with fat, sodium, fiber and protein taken into consideration as well as quality of
ingredients. Restricted foods that fall in category 3 include candy, chocolates, energy bards, soft drinks, coffee and tea, energy drinks and flavored waters. Caffeine is restricted for all schools although low calorie soft drinks and flavored waters are allowed for high school.

Similar to Canada, Australia’s Healthy School Canteen Strategy utilizes a stoplight system with three categories of foods: (1) red foods are not permitted for sale more than twice per term, (2) yellow foods are labeled as “select carefully” with the avoidance of large serving sizes and dominating the menu and (3) green foods are to be promoted widely and predominant on the menu. Several materials were developed to provide guidance to schools and food service operators to implement the strategy. The Health School Canteen Menu Planning Guide provides sample menus and ideas for canteen operators in planning, preparing and serving healthy meals. There is also an assessment tool to help schools to determine where they may not meet the regulations and how to develop a strategy to address barriers.

Dietary restrictions for schools are also implemented in Peru, Brazil, and Costa Rica with regulation on types of foods to be sold through the school and, in the case of Peru, limits on the amount of calories for lunches. Brazil and Costa Rica both place restrictions on junk foods such as sugar-sweetened soft drinks, confectionary, and processed snack foods from sale throughout the school.

### Nutrition Standards for School Meals in East Asia and Pacific Region

Nutrition standards for school meals are in place for several countries in the East Asia and Pacific Region. Unlike in the gold standard examples, the majority of countries in the region provide voluntary guidelines for food and nutrition standards. Mandatory food and nutrition standards, when enforced, are more effective at preventing obesity and reducing micronutrient deficiencies, however with a lack of enforcement, voluntary standards provide an initial step to improving the nutrition in school meals.

The implementation of nutrition standards for meals served in the school is divided into voluntary guidelines or recommendations provided from the national level for schools and mandatory procedures for schools to implement as part of protocol. In the East Asia and Pacific Region, mandatory dietary standards for school meals are implemented in Japan, Korea and the Philippines while Malaysia, Singapore, Thailand, and Fiji provide voluntary guidelines to schools for implementation. Free or subsidized meals to address short-term hunger are provided in several countries such as Thailand, Singapore, Malaysia, Japan, and Korea through government-sponsored programmes and are offered sub-nationally in Cambodia and Laos in WFP-supported schools.

Voluntary guidelines on food and nutrition standards provide recommendations to schools on the types of foods they should provide school-age children and adolescents and those that should be restricted or discouraged. While recommendations are beneficial in that they provide guidance to interested schools, ultimately without reinforcement it is unlikely that voluntary recommendations will have a significant effect on the types of foods and beverages offered in schools. Voluntary recommendations are most effective when criteria are provided and schools which comply receive a status or other recognition.

Japan and Korea both mandate nutrition requirements for school lunch programmes for both primary and secondary students. In addition to providing balanced healthy meals, the school lunch programmes focus on food culture and teaching school-age children table etiquette along with healthy eating habits. In Japan, the Shokuiku programme involves diet and nutrition teachers in the planning of school lunch menus. In Korea, 99% of students participate in the school lunch programme with 95% of meals prepared

<table>
<thead>
<tr>
<th>Mandatory Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan Lunch Programme</td>
</tr>
<tr>
<td>School Lunch Programme in Japan and Korea</td>
</tr>
<tr>
<td>Philippines Canteen Guidelines 2007</td>
</tr>
<tr>
<td>Philippines 2005 Regulation for Nutrition in Schools</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Voluntary Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore: Guidelines for School Meals</td>
</tr>
<tr>
<td>Singapore: Example Menus for School Canteens</td>
</tr>
<tr>
<td>Malaysia: Guideline for School Canteens and Weight Measurement</td>
</tr>
<tr>
<td>Malaysian Dietary Guidelines for School Age Children and Adolescents</td>
</tr>
</tbody>
</table>
within the school. In Japan, participation in school meals is highest in primary and middle school as high school students are allowed to purchase outside foods or bring foods with them. For primary students in both Japan and Korea, participation in the school meal programme is mandatory. The Philippines passed legislation to limit the types of foods sold in the school canteen for breakfast and lunch with the policy stating that only root crops, noodles, rice, corn products, fruits and vegetables, and fortified food products labeled rich in protein, energy, vitamins and minerals should be sold in the school canteen and that iodized salt in controlled quantities should be used for all food preparation. The policy also limits beverages sold through the school to water, milk, and juices from fresh fruit and vegetables. The 2005 legislation additionally requires all schools to have a canteen regardless of size and while students in secondary school are allowed to go off campus for lunch and break periods; they are discouraged from doing so.

In Singapore, the Healthy Meals in Schools programme is voluntary, however specific criteria is provided to schools on the types of foods restricted from sale, types of foods for promotion and preparation methods. For example, the criteria specify a specific amount of vegetables and fruit to be provided at each main meal, the use of whole grain products only, provision of drinking water, restriction on the provision of deep-fried foods and preserved foods, and use of lower-sugar, lower-fat and lower-salt alternatives. Schools partake in a national level programme of Healthier Choice Symbol to indicate healthy choices for prepared foods and for cooking oils and fats. The programme provides guidelines for schools to use in the preparation and planning of healthy meals as well as training for canteen vendors for menu planning, cooking healthy meals and creating environments that encourage healthy eating. Schools that comply with the criteria are awarded Healthy Meals in Schools status and are advertised on the Health Promotion Board website and school websites.

In Malaysia, voluntary guidelines are available for schools on the preparation of categories of specific foods for sale in the canteen during meal times, with (1) recommended foods and beverages, (2) non-recommended foods and beverages and (3) banned foods. Recommendations in the guidelines specify that the calorie content of all foods and beverages must be labeled and exhibited at the canteen for students to see to increase student awareness of healthy choices. The guidelines are a component of the Health Promoting School Framework in Malaysia in line with the Dietary Guidelines for School-Age Children and Adolescents developed in 2013. Compliance with the guidelines enables a school to receive status as a health-promoting school.

In Thailand, the school lunch policy covers only primary students. The national policy provides recommendations to schools on the provision of 1/3rd of daily intake through school lunch with specific amounts of rice, meal, vegetables, fruit and oil provided through the meal. While the policy does not restrict the provision or sale of any type of food, the use of iodized salt is strongly encouraged and the provision of liver through school meals is recommended every two weeks to provide adequate iron to school-age children’s diets.

Fiji provides voluntary guidelines to all school canteen operators on healthy recipes to prepare and specific recommendations on how frequently to offer certain foods. There are three food groups provided to school canteen operators: (1) a “recommended everyday” food group, (2) a “select carefully”
food group, and (3) a “restricted” food group. The restricted food group includes carbonated sodas, chips and candies. The guidelines are voluntary only and a 2013 survey of compliance in the canteen guidelines found that 84% of primary schools were not compliant (Varman, Bullen, Tayler-Smith, Van Den Bergh, & Kohgali, 2013).

The provision of a free or subsidized meal to address short-term hunger in targeted school-age children and adolescents is implemented in Japan, Korea, Malaysia, Singapore, the Philippines, Thailand and Cambodia. In Japan, Korea, Singapore and Thailand the daily school meal is available to all students. Malaysia and the Philippines provide a separate cooked meal to students who are classified as underweight and Cambodia and Laos provide a school breakfast programme through WFP in targeted areas of the country. The focus of these programmes is not on reduction of overweight but on the alleviation of short-term hunger in school-age children and adolescents to increase student attendance, participation and cognitive ability. For example, the WFP-led school breakfast programme in Cambodia resulted in a 13.2% increase in school enrollment (M & M.P., 2014).

### Standards for Other Foods and Beverages Sold Through Schools in East Asia and Pacific

Meals prepared by the school and served through the canteen represent only a portion of food options for school-age children and adolescents through the school. Increasingly, school snack bars, tuck shops, and vending machines provide full meals and snacks to students during meal times and throughout the day. The mandatory application of nutrition guidelines for school meals provided through the canteen will have little impact if guidelines do not also apply to all food and beverages available to students including those in snack shops and vending machines. (WHO, 2015)

The majority of foods sold in school snack shops and vending machines are sugar-sweetened beverages and energy-dense, nutrient-poor snack foods such as potato chips, fried snacks and sweets collectively termed “junk foods.” This increasing availability of junk foods coincides with an increasing consumption of carbonated soft drinks amongst adolescents in the East Asia and Pacific Region. As measured by the Global School Health Survey, approximately 40% of adolescents in the region consumed at least 1 soft drink per day during the past 30 days. Consumption was highest in Samoa (50%), Cambodia (44%) and the Philippines (42%) (WHO, 2015). These foods are directly correlated to poor nutrition in school-age children and adolescents and the prevalence of overweight. While primary school students are less likely to have access to the vending machines and snack bars where junk foods are sold, adolescents in middle and high schools often have high access to junk foods and are more likely to snack on junk foods and use them as meal replacements.

Policies than prohibit or restrict the sale of junk foods such as sugar-sweetened beverages and processed snack foods in schools are almost immediately associated with lower consumption of these foods and increased availability of healthier options (Health Eating Research: Bridging the Gap, 2012). When policies are comprehensive and applied to all food outlets in schools, the impact of junk food restriction policies is seen as quickly as a few months following implementation. It is important to note that effective policies for restriction of junk foods need to be not only comprehensive with application to all food outlets in schools, but also to all foods which do not meet nutrition standards. For example, banning all sugar-sweetened beverages that contain more than a certain amount of sugar per 100ml is necessary rather than a ban on soft drinks alone.

### Resources

- [Singapore: Catalogue of Beverages for Schools](#)
- [Vanuatu: Sweet Drink Policy 2014](#)
- [Malaysia: Guideline for School Canteens and Weight Measurement](#)
There are several examples of restrictions on the sale of junk foods in East Asia and Pacific Region. Mandatory restrictions are in place for schools in Singapore, Vanuatu and the Philippines and recommendations against the sale of junk foods are implemented in Thailand and Malaysia.

In Singapore, the same Healthy Meals in Schools programme for school meals applies to foods sold in snack cafes and vending machines throughout the school. In 2015, Singapore added tougher restrictions on the sale of beverages with the release of an allowable drinks list for sale through schools which includes non-sugar-sweetened variants of the following beverages: milk, juices, teas, flavored water and carbonated drinks. Schools are provided with a list of allowable beverages from which they can order.

The Philippines applies the same dietary restrictions placed on school meals to all beverages and snacks sold in schools with only milk, water, and juices from fresh fruits and vegetables allowed. Even with this policy in place, a 2014 review found that 79% of schools continued to sell sugar-sweetened beverages and that clean drinking water was not always available or not available for free. Additionally, school administrators interviewed in the review had little concern about the consumption of sugar amongst students (VO, MST, MAF, RAQ, & GS, 2014).

In Vanuatu, the Sweet Drink Policy 2014 banned the sale, consumption and advertising of sugar-sweetened beverages in schools with only unflavored water, fresh coconut water and unflavored milk being allowed. The ban applies to all schools from kindergarten to university and includes all drinks which contain sugar, sweetener, or flavoring such as carbonated drinks, cordials, sports drinks, energy drinks, fruit drinks, fruit juices, and flavored milks. The law applies to drinks provided free through the schools and sold at the schools as well as all drinks brought to the school by students, family members, staff and the community. The policy was first applied in 2015 with reviews of the impact on sugar beverage consumption outstanding.

Voluntary recommendations are provided in Thailand and Malaysia to school canteens, snack shops and vendors to discourage the sale of junk foods to school-age children and adolescents. In Thailand, recommendations for reduced sugar, salt and fat are provided to school cooks however standards are not provided for limits on types of foods. In Malaysia, the Management of Health School Canteen Guide provides a list of foods and beverages banned from sale in the school cafeteria and foods that are discouraged from sale. The list of foods and beverages that are prohibited include sweets and chocolate, preserved foods and foods and beverages which use artificial flavorings and colors with the exception of flavored milk. Carbonated drinks such as sugar-sweetened soft drinks are not to be encouraged for sale, but are not prohibited.
Standards for Other Foods and Beverages Sold Through Schools: Gold Standards

The United States, Canada, Australia and Northern Ireland have all developed blanket policies to apply nutrition standards to all foods sold at school. The United States passed the “Smart Snacks in School” regulation in 2014 requiring all foods sold at school during the school day to meet nutrition standards. The standards require any foods sold in schools to meet dietary requirements of “whole grain” or have fruit, vegetable, dairy or protein as the first ingredient. There are calorie, sodium, sugar and fat limits to each snack and meal item and restrictions against the sale of sugar-sweetened drinks. Beverages sold through schools are limited to water, low fat milk, 100% fruit and vegetable juice and low-calorie flavored water and carbonated beverages for high school students. The regulation includes foods sold through vending machines, snack shops on school campus and during fundraising on school property.

In Australia, New South Wales state issued a ban on sugar-sweetened drinks for all government schools in 2007. This ban includes any beverages with over 300Kj per serving or 100mg of sodium per serving from being sold in the school canteen or the vending machines. Milk, soy drinks, 99% fruit juices and water are the only beverages allowed to be promoted through the school with diet soft drinks, full fat milk and soy drinks and 300ml servings of 99% fruit juice sold but not promoted.

In Canada, a school food and beverage policy was passed in 2011 to apply nutrition standards to all food and beverages sold in all school venues, programmes and events. These include the school cafeterias, vending machines, snack shops, bake sales and sporting events. Northern Ireland provides guidelines to schools and canteen vendors to review nutrition standards for all foods and drinks sold through schools including the canteen, vending machines, breakfast clubs and snack shops. The guidelines prohibit the sale of confectionery, cakes, biscuits, savory snacks with added salt, sugar and fat, and sugar-sweetened beverages with over 5% added sugar. Accompanying the guidelines are monitoring lists for schools to utilize to ensure that regulations are applied.

Globally, the targeted banning of vending machines and the types of foods sold through vending machines in schools is a key component of nutrition policy in schools. Vending machines are often supplementary to snack shops or tuck shops and provide easy access to junk foods such as sugar-sweetened beverages, crisps and chocolates throughout the school day. Several countries have banned the sale of sugar-sweetened soft drinks and snacks from vending machines. In Bermuda, only plain water or 100% fruit juice is allowed for sale while Northern Ireland provides guidance on the proportion of healthier options through vending machines and snack shops with the sale of diet soft drinks, bottled water, fresh fruits and popcorn. France, Slovenia, Australia and several US states have completely banned the use of vending machines in schools. (World Cancer Research Fund International, 2015).

Best Practices

- USDA Smart Snacks in School
- Australia: Sugar Sweetened Drink Ban
- Northern Ireland: Nutrition Standards for Other Food and Drinks
- Northern Ireland: Healthier Vending
- Northern Ireland: Healthier Snack Shops
Increasing Access to Healthy Snacks and Beverages

Nutrition standards in schools ensure that meals and snacks provided to school-age children and adolescents are healthy and limit access to unhealthy foods such as sugar-sweetened soft drinks and other junk foods. However, additional programmes to encourage the consumption of fruits, vegetables, milk and drinking water may be needed to introduce school-age children and adolescents to a greater variety of foods as well as to directly provide health foods to school-age children to increase micronutrient intake. The most common programmes to increase access to healthy snacks and beverages are fruit and vegetable subscriptions and milk programmes.

Fruit and vegetable programmes are implemented in Australia, Canada, Europe and the United States with school-age children provided with a piece of fruit per day in participating schools. The programmes focus on primary schools. School milk programmes are one of the earliest interventions for nutrition in schools. Europe and the United States have provided free or subsidized milk to primary and secondary students for over 4 decades. The focus on the provision of school milk is providing additional calories, protein and micronutrients to the diets of school-age children while supporting the local milk industry. In the East Asia and Pacific region, milk programmes are frequently available at a sub-national level with Malaysia, Thailand, Japan and Vietnam having national programmes for primary school students.

Increasing access to clean drinking water is a key component to any nutrition programme in schools with water facets or water coolers globally recommended to be accessible throughout schools. The CDC’s “Increasing Access to Drinking Water in Schools” provides guidance on developing a water plan and promoting water drinking in schools with students and teachers. Northern Ireland provides a water provision guide for schools and the UK implements a “Water is Cool in School” campaign to provide advocacy messages for increasing water access in schools and addresses concerns on water in the classroom. Part of the recommendations for increasing water access and consumption amongst school-age children and adolescents are encouraging the provision of bottles as part of the uniform list or school supply list and encouragement of water coolers in the classroom itself or supporting access to water coolers throughout the day.

While water provision is included in school guidelines in all East Asia and Pacific countries, Singapore is one of the few countries in the region to implement a campaign to promote water consumption. The 2012 “Let’s Drink Water” campaign encouraged school-age children and adolescents to replace sugar-sweetened drinks with water and schools to provide water coolers throughout the school.

Food and Nutrition Restrictions Near Schools

Food and nutrition restrictions implemented on school grounds are effective interventions to increase consumption of healthy foods while limiting consumption of unhealthy “junk” foods. In several countries, it is common to find food vendors directly outside of the school grounds providing meals and snacks to students throughout the day. While primary school children are less likely to purchase food from vendors outside the school grounds, adolescents frequently purchase and consume foods from vendors during lunch hours, break periods and after school. Where food vendors are prevalent, extension of food and nutrition standards to those vendors may be a necessity to limit the exposure and availability of junk foods to school-age children, especially adolescents during and surrounding school hours.

Resources

- European Fruit Scheme 2012
- Netherlands School Fruit Programme
- CDC Increasing Access to Drinking Water in Schools
- Northern Ireland Water Provision Guide
- UK Water is Cool in School Campaign

Food and Nutrition Restrictions Near Schools

- South Korea: Special Act on School-age Children’s Dietary Life Safety Management
- Malaysia: Restriction of Food Vendors
In the East Asia and Pacific Region, there are two countries with restrictions on food vendors outside of the school grounds. In Korea, the Special Act of Safety Management of School-age Children’s Dietary Life mandates green food zones, which ban fast food and carbonated beverages from sale within 200 meters of the 10,839 participating schools. In Malaysia, national policy applies standards for food outlets within 40 meters of the school grounds. The regulation is a response to the high prevalence of junk food, carbonated beverages, ice cream and snacks by food vendors located directly outside of the school gates. The regulation prohibits itinerant hawkers from selling any foods within 40 meters of the school fences and places restrictions on the types of food and beverages sold by static hawker. The restrictions on static food hawkers are the same as those for school canteens with vendors prohibited from selling sweets, chocolate, pickled foods, snack or junk foods with artificial flavoring or coloring, alcohol, as well as all food that is in the form of a game or a toy. Foods that are discouraged from sale include ice cream and icy desserts and processed foods such as burgers, sausages and “nuggets”. All beverages except flavored milk that use coloring and flavoring are not recommended for sale but are not prohibited.

Enforcement of food and nutrient restrictions outside of school grounds is difficult to monitor and both Malaysia and Korea have had difficulty ensuring food vendors comply with the regulations. The restriction has high potential to limit the availability of junk foods to school-age children and adolescents, but a strong monitoring and enforcement system is required for implementation.
B.2.2. CREATING OPPORTUNITIES FOR PHYSICAL ACTIVITY THROUGH THE SCHOOL

Both healthy eating and physical activity are necessary to prevent obesity. A healthy school environment supportive of obesity prevention requires both regulation on the types of foods and beverages available through schools as well as opportunities for physical activity throughout the school and the school day. As previously reviewed, school-age children and adolescents in the East Asia and Pacific Region do not receive adequate time for physical activity through physical education classes. Physical education classes are often appropriated so that students can use the time to study or receive additional instructional time for exam subjects. Increasingly in the East Asia and Pacific Region, students do not participate in extracurricular activities as they spend after school hours on schoolwork and other sedentary activities.

The WHO’s Global School Health Survey measures the level of physical activity of adolescents 13-17 years of age in a given week (WHO, 2015). The survey indicates that the majority of adolescents in East Asia and Pacific Region do not receive the recommended 60 minutes of physical activity per day for 5 days a week. In the region, Mongolia had the highest prevalence of meeting recommended physical activity guidelines at 36% - with Vietnam, Thailand, the Philippines, Indonesia, Myanmar and Cambodia all having less than 20% of students meet physical activity recommendations. An increasing percentage of adolescents are sedentary more than 3 hours per day outside of the school day, with nearly 50% of school-age children in Vietnam, Malaysia, Mongolia and over 30% in Thailand, the Philippines, and Indonesia sedentary for over 3 hours a day outside of school. The rise in screen-time activities, such as computers, mobile phones, video games and televisions contribute to increases in sedentary lifestyle, as does the increased pressure of school-age children and adolescents to increase the number of hours outside of school spent studying. The rise in affordable transportation options has also reduced the amount of activity of school-age children and adolescents either in transit to school or throughout the day. Physical activity is vital in any obesity prevention programme; physical activity, for at least 60 minutes a day reduces the risk of obesity as well as diabetes and cardiovascular disease and reduces blood pressure and lipid levels.

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Overview</th>
<th>Resources</th>
</tr>
</thead>
</table>
| Creating a Supportive Environment for Physical Activity | The school should encourage physical activity through the provision of a safe and supportive environment for physical activity. Schools should encourage school-age children and adolescents to walk or bicycle to school and should provide recess during the school day with adequate space indoors and outdoors for organized activities. The practice of walking to school is common in Japan with primary and secondary students frequently walking to and from school. National law mandates schools be located not farther than 4-6 km from primary and secondary students and local school districts often require walking for students living within walking distance of the school (Mori, F, & D.C., 2012). The US organization Walk Bike to School provides a website with strategy and advocacy tools to encourage school districts, parents and the community to provide safe bike and walking routes to school. | - Japan: Walk to School Policy  
- United States: Walk Bike to School Organization |
B.2.3. REGULATING ADVERTISEMENTS AND PROMOTIONS OF FOODS IN SCHOOLS

School-age children and adolescents are surrounded by advertisements and promotion of unhealthy foods and beverages. From the material in their textbooks to the sponsorship of their sports teams and bulletin board that presents the name of their school, school-age children are exposed both directly and indirectly to promotional materials for unhealthy foods and beverages. Advertisements and promotions can be indirect through the use of logos for refrigerators and vending machines and direct such as free sample distribution, sponsorship of sporting events and activities within the school. Other ways of marketing include advertising of products on the school itself or school property, provision of fundraising programmes with the sale of candy or sweets to raise money for school events, and sponsorship of supplementary education materials.

Companies do not always appear to be egregious in their promotion of junk foods and schools and school administrators often encourage sponsorship and promotion in order to obtain funding for the school. Companies often provide colorful and engaging school materials for use in health and nutrition courses or provide funding to purchase supplies and materials for physical education classes. These materials may fill a gap in the existing curriculum and often come with approval from Ministries of Education and Ministry of Health. While messages and advertisements from food and beverage producers are savvy, they nearly always contain messages which reflect the sponsor’s views. Examples of messages integrated into school nutrition and physical education policy from food and beverage manufacturers include “all beverages count towards hydration” or a focus on physical activity to reduce overweight and not on the consumption of junk foods (J, A, F, MD., & KM., 2013). The use of marketing and promotion of junk foods within schools is so commonplace globally and within the East Asia and Pacific Region that it often is overlooked as a contributing factor in rising prevalence of obesity. However, the advertising and promotion of unhealthy foods and beverages in schools encourages the consumption of unhealthy foods and beverages by school-age children and adolescents and undermines the messages provided in class curricula and the environment provided through the school. In the United States for example, 90% of school-based marketing promotes the consumption of sugar-sweetened soft drinks and fast foods with US$150 million in annual spending (Grant, 2014).

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Overview</th>
<th>Resources</th>
</tr>
</thead>
</table>
| Restrictions on Advertising in Schools | While sub-national restrictions may be in place in East Asia and Pacific Region for the advertising and marketing of unhealthy foods to school-age children in schools, there are no such national restrictions. Thailand’s 2008 advertising pledge included a voluntary agreement of food and beverage producers to not advertise in kindergartens and primary schools unless the government specifically requested them to do so. Globally, several countries ban advertising of foods and beverages through schools. Chile and Uruguay both ban the promotion, marketing or advertising of food considered high in sugar, fat, calories and salt in primary and secondary schools (World Cancer Research Fund International, 2015). Belgium, Quebec, Portugal, and Germany prohibit all in-school marketing and Finland, France, Greece, and Luxembourg prohibit in-school marketing unless a school official approves it. These bans include any advertising, sponsorship, marketing and promotion through posters, billboards, school supplies, sponsorship, distribution of prices and free samples on school premises. | • Thailand Voluntary Pledge  
• NESTLE Healthy Thai Kids Programme 2010  
• Promoting Consumption at School Review |

Propaganda disguised as education is found in the East Asia and Pacific Region with advertising in schools embedded in educational programmes and materials. Nestlé Healthy Kids programme is a global...
partnership with Ministries of Education in countries around the world to encourage physical activity amongst secondary students and provide nutrition modules as part of the curriculum. Nestlé provides modules for classrooms and for the training of canteen workers and teachers. Additionally there are websites with interactive nutrition and physical activity tools with a focus on physical activity developed for China, Taiwan, Korea, Japan, Thailand, Singapore and Malaysia. The programme includes the Nutrition Society of Malaysia as a key stakeholder. Nestlé also separately partners with the International Association of Athletics Federation in Malaysia to support the building of athletics programmes in schools.

In the Philippines, Nestlé and the Department of Education launched a nation-wide school-based programme to encourage active and health lifestyles called Milo Champ Moves. The programme reaches 6 million children in 10,000 primary schools nation-wide. The programme includes 3-minute exercise modules implemented throughout the day and nutrition modules are provided to teachers to teach school-age children the importance of a healthy breakfast with the promotion of Nestlé’s Milo drink as a breakfast food.

In Thailand, Nestlé supports the Healthy Thai Kids programme through the Ministry of Public Health and the Ministry of Education. In Korea they support the Korean Association of Athletics Federation, and in Singapore they support the Health Promotion Board to develop nutrition and physical activity curriculum. The Coca-Cola Foundation provides funding in Malaysia to support the “Move Malaysia” programme to increase exercise amongst students, teachers and community leaders through schools. PepsiCo supports the Asian Football Development Project to encourage school-age children to play football in schools in 40 Asian countries.

Schools often appreciate the funding which allows them to implement physical activity programmes and activities they would not otherwise be able to afford. Food and beverage companies on the surface are supporting schools through philanthropy; however the programmes have a clear conflict of interest with specific nutrition messages provided by companies who sell junk food. Nestlé, for example, focuses on exercise instead of diet for weight control and, while advocating consumption of a healthy breakfast, Nestlé features its processed beverage products like Milo and its sugar-sweetened breakfast cereals. Further review of the types of advertisements and promotions targeted to schools are provided in the National Education Policy Center’s Promoting Consumption at School Review.
B.2.4. INCREASED PARENT KNOWLEDGE OF NUTRITION AND PHYSICAL ACTIVITY

Parent education and involvement in behavior change for healthy eating and physical activity is important to support and enforce the lessons children and adolescents learn in school. While intervention strategies to create a healthy environment for students at the school provide an important introduction to healthy eating and activity for school-age children and adolescents, ultimately the environment provided at home dictates their food choices and level of activity. There are few examples in East Asia and the Pacific Region and globally of components focused on engaging parents to participate in making changes to their children’s nutrition behavior. Ideally, school-based interventions are complemented by population-based nutrition and active lifestyle interventions which target parents. Parents therefore receive communication through multiple channels for behavior change both through their children’s schools and more broadly in the community.

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Overview</th>
<th>Resources</th>
</tr>
</thead>
</table>
| Increased Parent knowledge of nutrition and physical activity | The CDC produced a manual on “Parent Engagement: Strategies for Involving Parents in School Health.” The manual provides guidance to schools on why it is important to involve parents and how and when to reach out to parents. Suggested activities include encouraging parents to volunteer at the school, to assist in health and physical education classes, to lead lunchtime walks and special classes such as karate, aerobics, yoga or other activities and to serve as mentors, coaches and provide assistance for health classes and sports. In the East Asia and Pacific Region, parent engagement is minimal with sharing of guides and handouts serving as the most frequent contact. Both Singapore and Malaysia produce cookbooks and healthy-eating guidelines for parents to encourage parents to cook with their school-age children and to increase parent awareness of nutrition and active lifestyles. The most frequent contact with parents through schools is during parent teacher conferences often held yearly or twice a year. Thailand, Singapore and Malaysia all include a review of student health cards during parent teacher conferences and schedule separate sessions with parents and students to address student specific concerns for weight and health. Malaysia provides a booklet on nutrition to help inform parents on how to approach nutrition and physical activity with their children with reviews of the Malaysian dietary pyramid and an activity pyramid. The UK, Northern Ireland and Australia provide handouts and guidelines to parents on both the nutrition guidelines for school meals and how to prepare healthy packed lunches and snacks for school-age children. While none of the countries regulate the types of foods brought to school through packed lunches, strong recommendations are provided to parents not to include junk foods in school-age children’s lunches. The UK additionally provides a pull-out reminder for the refrigerator with lunchbox ideas and a weekly planner. Singapore is the only country in the East Asia and Pacific Region to provide counseling outside of school for students and their parents to address concerns over overweight and overall child health. Students identified as overweight through school screening are encouraged to attend health promotion centers to receive nutrition counseling with their parents. | - CDC Parent Engagement Strategies
- Singapore: Healthy Food Recipe Book
- Malaysia: Guide for Child Nutrition and Activity
- Malaysia: Diabetes Prevention Toolkit for Parents
- Malaysia: Diabetes Prevention Booklet
- UK: Healthier Lunchboxes Guidance for Schools
- UK: Parents Guide for Healthy Breaks
- Northern Ireland: Parent Education on School Lunch
- Australia: Guidelines for Parents on School Meals |
B.2.5. INCREASED TEACHER KNOWLEDGE AND PARTICIPATION IN NUTRITION AND ACTIVE LIFESTYLES

Not only do teachers instruct students on the school curriculum, they also act as role models for school-age children and adolescents to demonstrate and reinforce healthy behavior and lifestyles. Teachers are well-positioned to improve the school environment for nutrition and active lifestyles but in order to do so they need be provided with the requisite knowledge and the encouragement to lead healthy lifestyles themselves. Health, wellness and nutrition programmes targeted to teachers and school staff have been shown to improve staff morale, attendance and performance while also increasing their motivation to ensure the school is a healthy environment for students and that nutrition and wellness are integrated into activities throughout the school day. Types of activities to provide through wellness programmes include health screenings, healthy-eating programmes, physical activities (such as organized walks during break periods), and provision of healthy-eating options in the school staff break room. Wellness programmes can also contribute to ensuring the school is a healthy environment for teachers and students by encouraging healthy eating, active lifestyles, tobacco-free environment and teaching ways to manage stress and health conditions such as diabetes and depression. Informed and encouraged teachers can then support a culture of wellness at the school and are empowered to serve as role models for students.

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Overview</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing Teacher Awareness of Healthy Lifestyles</td>
<td>Programmes focused on teachers and school staff should ensure that staff are provided with adequate knowledge on nutrition and physical activity and provide a work environment conducive to healthy lifestyles. Initial activities for teachers and school staff may focus on health promotion workshops to promote and instruct teachers on healthy lifestyles and the benefits of nutrition and physical activity to increase awareness of the dangers of obesity and a sedentary lifestyle. Programmes should be coupled with the provision of healthy meals and snacks in school break rooms and cafeterias for teachers to ensure that there is ample opportunity for staff to eat healthy. The same food and nutrition standards enforced for students can be applied to teachers through teacher lounges and break rooms with limited access to junk foods and readily-available healthy options. Teachers and school staff should be encouraged to support a culture of wellness amongst their fellow teachers and students by organizing activity breaks during staff meetings and events, during recess periods and in short intervals during class time. Additionally, where possible, incentives to walk or bike to work or to participate in activities while at school could be provided as part of a teacher and school staff wellness programme. There are few examples of national teacher and school staff wellness programmes globally with most examples being led by the school district or school itself. School-specific programmes for teacher wellness are plentiful. The Philippines provides a wellness-training course for teachers to teach relaxation techniques and how to use meditation to relax. In the United States, schools themselves often implement teacher wellness programmes with a range of encouraged activities organized and led by teachers. Examples of activities implemented through these teacher wellness programmes include the establishment of a school wellness team to organize yoga classes, walking clubs and aerobics classes for teachers taught by teachers. During recess or other breaks, teachers in various schools take the opportunity to play music over the loud speakers and complete a walking circuit through and around the school property inviting students and community members to participate.</td>
<td>• US Guide for School Employee Wellness</td>
</tr>
</tbody>
</table>
A non-profit organization in the United States, The Directors of Health Promotion and Education, supports health education staff in schools throughout the United States. The organization developed a guidebook to encourage school districts and school staff to develop school employee health and wellness programmes. The guidebook provides an overview of the types of activities and programmes that can be included in employee health programmes along with tools to measure the implementation and impact of the activities.

<table>
<thead>
<tr>
<th>Professional Standards and Accreditation for Nutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>The provision of professional standards for nutrition globally is mostly focused on canteen staff and school health and nutrition personnel. There are few professional standards for nutrition knowledge within general teacher training and no country in the East Asia and Pacific region requires nutrition knowledge for all teachers. Teachers generally, and non-health-specific teachers specifically, have an important role to play in obesity reduction through acting as role models for students and providing accurate information to students on nutrition, when possible, through other subjects.</td>
</tr>
<tr>
<td>The United States, Canada, Australia and the UK provide online resources for teachers to build professional training on school nutrition programmes with ideas for curriculum and activities for nutrition. The majority of the resources available to teachers focus on sample lesson plans and activities for teachers to implement in the classroom and not on introducing standards or accreditation metrics to teacher knowledge. While not focused on nutrition curriculum, The United States provides annual training and training standards as part of the larger Healthy, Hunger Free Kids Act of 2010 (which also includes nutrition regulations for school meals and for snacks served through schools). The focus of the training is on food safety and on administration practices, nutrition and health comprising only a small fraction of the 15 hours total annual training. Nutrition curriculum, while not a focus, is included with sessions on planning nutritionally balanced meals and snacks. Training is provided online, in webinar form and in classroom settings and can be utilized to develop country-specific curricula for teachers in the East Asia and Pacific Region.</td>
</tr>
<tr>
<td>Canada, Australia and the UK also provide website resources for teachers to develop lesson plans and activities to teach school-age children and adolescents about nutrition. These websites provide training for teachers from ECD to 12th grade as well as teacher workshops with the majority of materials provided free to teachers. Of note, some of these resources are sponsored by industry with the potential to influence messages provided through the training. For example, Canada’s teacher training website is sponsored by the Dairy Farmers Association of Canada and throughout there is focus on milk and dairy products consumption. Teacher standards should be independent of private industry interests for nutrition and healthy lifestyles.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>• United States: Professional Standards for Healthy, Hunger Free Kids Act 2010</td>
</tr>
<tr>
<td>• Canada: Teach Nutrition Teacher Training Guides</td>
</tr>
<tr>
<td>• United Kingdom: e-Seminars for Teachers</td>
</tr>
<tr>
<td>• Australia: Training and Courses for Nutrition</td>
</tr>
</tbody>
</table>
B.3. PREVENTING OBESITY THROUGH INTERVENTIONS TO MODIFY THE COMMUNITY ENVIRONMENT

School-based interventions and policies can have demonstrable impact on eating behaviors and healthy lifestyle choices of school-age children and adolescents, however wider application of nutrition interventions into the community and at home is necessary to change social norms for diet and physical activity. Gains made in healthy eating behaviors and practices within the school environment can become quickly eroded due to unhealthy practices and behaviors implemented at home and through the impact of advertising, promotion and marketing within the wider community. While obesity prevention programmes in the broader community have many facets of implementation, such as through workplace interventions, building of community parks and recreation facilities and community exercise classes, only interventions that strongly impact school-age children and adolescents are included in this toolkit. These interventions include the implementation of food-based standards in the community through taxes, incentives and import tariffs, and restrictions on advertising and marketing to school-age children through the mass communication media.

These interventions are beyond the scope of the school, but they greatly impact the effectiveness of a school-based programme to prevent obesity. Community-based interventions are necessary to ensure that the positive gains made in school to increase knowledge and to improve the practice of healthy behaviors is not eroded when school-age children leave the school grounds. Together, community and school-based interventions work to change social norms on unhealthy eating and activity behaviors. Figure 4 presents the programme model for programmes to prevent obesity in the community.

Figure 4. Interventions targeted to the community environment to prevent obesity in school-age children and adolescents
B.3.1. FOOD-BASED STANDARDS IN THE COMMUNITY

Food-based standards can be mandated at the national level to discourage consumption or reduce exposure to advertising for unhealthy foods and beverages. Taxes and subsidies can be used to modify the prices of unhealthy foods and beverages or to reduce the price of healthy fruits and beverages to make them more appealing or affordable. More frequently implemented than economic regulations on foods and beverages are regulations on the advertising of unhealthy foods and beverages to school-age children and adolescents. The World Health Assembly endorsed the WHO recommendations on the marketing of foods and non-alcoholic beverages to school-age children in May 2010 and urged member states to take the necessary measures to develop policy and actions for regulation (WHO, 2010). The resolution urged governments to ensure that school-age children were free from marketing of foods high in saturated fat, trans fatty acids, sugar and salt with the elimination of all forms of marketing for foods high in saturated fats, trans fatty acids, sugar and salt in schools, nurseries, playgrounds, health clinics, and sporting and cultural activities held on school or playgrounds. The resolution also strongly supported monitoring the implementation of regulations to ensure that food and beverage companies adhered to the advertising guidelines, whether mandatory or voluntary.

The WHO recommendations on the marketing of foods and beverages to school-age children is necessary because advertisements are shown to influence school-age children’s food preferences and consumption patterns. There is an exceedingly high volume of advertisements for food and beverages with an estimated 95% of food and beverage advertising in the US promoting high-calorie, high-sugar, low-nutrient foods. School-age children and adolescents are frequently targeted with these advertisements as they spend large amounts of their time engaged in screen-time activities. An American adolescent from 8 to 18 years of age spends on average 44.5 hours per week in front of a computer, television, or mobile screen, which constitutes more time than any other activity in their lives other than sleeping (Kaiser Family Foundation, 2005). Media is now consumed throughout the day, often through multiple sources at the same time, by school-age children and adolescents with exposure starting from a young age. By the age of 5 years, school-age children see approximately 4,000 fast food commercials in the United States and, over the course of a year, children aged 6-18 in the United States are exposed to between 4,500 and 7,600 advertisements for food and beverages or about 29 to 50 hours of advertisements each year (LM., 2011).

Several industry watchdogs have developed recommendations to complement the WHO recommendations and to guide countries in developing their own regulations on marketing and advertising to school-age children. Consumer International and the World Obesity Organization have developed recommendations for international standards on the marketing of energy-dense, nutrient-poor foods to school-age children and adolescents (International, 2011).

The recommendations from industry watchdogs include:

- A ban on radio and TV advertising promoting unhealthy foods between 6am and 9pm
- No marketing of unhealthy food to school-age children using social media
- No promotion of unhealthy food in schools
- No inclusion of free gifts, toys or collectables with unhealthy foods
- No use of celebrities, cartoon characters, competitions or free gifts to market unhealthy food
These guidelines are implemented to various degrees globally and in the East Asia and Pacific Region. Economic restriction, promotion of food and beverages and regulations on advertising to school-age children all require strong monitoring and enforcement of set policies in order to impact on obesity prevention. The active involvement of civil society and consumer groups can help monitor the implementation of regulations and ensure compliance by industry.

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Overview</th>
<th>Resources</th>
</tr>
</thead>
</table>
| Food Taxes, Import Duties and Subsidies | There are several approaches for the promotion and discouragement for the types of food purchased and consumed both globally and in the East Asia and Pacific Region. Food taxes, or the placement of a higher tax on specific foods, are implemented in Barbados, Chile, Finland, France, French Polynesia, Hungary, Mauritius, Samoa, and Tonga. The majority of these countries implement food taxes for sugar-sweetened beverages such as carbonated soft drinks, sports drinks and energy drinks which have high calorie and sugar content with low nutrition content. Other foods singled out for higher taxation include confectionery, chocolates and ice cream with Finland and French Polynesia both having higher taxes on these foods while Mexico places an 8% tax on all foods with more than 275 calories per 100 grams and a 10% tax on beverages with more than 5g of added sugars per 100mL. Finland, Norway and Hungary have additional taxes on sugar itself. Several Pacific Island countries have placed import duties on sugar-sweetened carbonated beverages and high sugar foods with Cook Islands, Fiji, French Polynesia, Nauru, and Samoa all implementing import duties for certain junk foods. Fiji additionally has an import duty on palm oil and MSG. (World Cancer Research Fund International, 2015). The junk food tax in Mexico (which increases by 10% the cost to consumers of sugar-sweetened carbonated beverages) has been credited with a 12% reduction in the consumption of sugar-sweetened carbonated beverages within the population. There are fewer examples of the lowering of import duties or providing subsidies for healthy foods. Tonga lowered the import duties for fish to promote consumption while Fiji has removed all import duties on fruits and vegetables to encourage importation and consumption. The Canadian Federal School-age children’s Fitness Tax credit is unique in that it provides a tax credit for each child up to $500 per year for parents who register their school-age children in activity programmes. Specific taxation or bans within the community affect the availability of unhealthy foods or promote the consumption of health foods. In 2015 France banned the provision of free unlimited refills for carbonated beverages in restaurants and fast food chains. This act is in addition to a 2012 tax on sweetened non-alcoholic drinks including energy drinks and carbonated beverages in France. The use of food taxes to reduce consumption of sugar-sweetened beverages is reviewed in the 2012 Rudd Report, “Sugar-sweetened beverage taxes: An updated policy brief.” Model legislation on the taxation of sugar-sweetened beverages has been developed by ChangeLab Solutions, a policy NGO. The model policy provides key position statements and research to support the placement of a tax on sugar beverages. | • Rudd Report: Sugar Sweetened Beverage Taxes: An Updated Policy Brief  
• Model Tax for Sugar Sweetened Beverages |
Government regulation of the advertising and promotion of unhealthy foods and beverages to school-age children is in place in several countries as a component of obesity prevention. The extent of regulations varies by country, as does the quality of monitoring and enforcement. In the East Asia and Pacific Region, China and Korea both have mandatory advertising restrictions on the promotion of junk foods to children. China modified their advertising law in 2015 to strengthen the regulation through prohibition of all advertising to children in schools and to prohibit the use of children under the age of 10 years to endorse products or services. Although not specifically defined, the modified advertising law states that no advertising content used to persuade parents to purchase goods for children is allowed. In Korea, the Special Act of Safety Management of Children’s Dietary Life was established in 2009 to prohibit the advertisement of free non-food items through TV, radio and internet and to limit the advertisement of high-calorie low-nutrient foods during the day. This is an increased restriction from the previous regulation where advertisements were banned from 5pm to 7pm.

Other countries with mandatory regulation on advertising and marketing to children include Chile, Mexico, Uruguay, the UK, Iran, Ireland, Norway, Quebec in Canada and Sweden. Each country has variations of the restrictions with Chile restricting advertising when over 20% of the audience is under 14 years of age and Ireland restricting advertising when 50% or more of the audience is under 18 years of age. Mexico has time restrictions in place with sugar-sweetened drinks, potato chips, chocolates and confectionary restricted for all TV programmes with audiences over 35% under 13 years of age during the afternoon during the week and from 7am to 7:30pm on weekends. Other restrictions found in advertising include the amount of total advertising allotted to junk foods throughout the day and evening and the prohibition of celebrities or trademarked characters from use in children’s advertising. In France, while television advertising of junk foods is allowed, these advertisements must be accompanied by a message in support of healthy eating such as “for your health, eat at least 5 fruits and vegetables a day” and “for your health, avoid snacking between meals.”

Mandatory bans can have a significant effect on reducing exposure to advertisements, promotions and marketing of junk foods but they need to be regulated and enforced. In the UK, where a ban was introduced in 2006 on advertisement of junk foods to children, an evaluation in 2009 found that children were exposed to 37% less junk food advertising after the ban with younger children 4-9 years of age seeing up to 52% fewer adverts versus before the mandatory ban.

It is important to include all sources of foods that do not meet the dietary standards in any advertising regulations and to hold both food companies and fast food outlets responsible (Healthy Eating Research, 2012). Currently, all mandatory regulations on advertising junk foods to school-age children include limitations on the percentage of viewership comprised of school-age children. This continues to allow for promotion of junk foods during family shows and other communication media, exposing young children to such ads and negating the impact of the mandatory ban.

**Resources**

- [South Korea: The Special Act on School-age Children’s Dietary Life Safety Management](#)
- [Quebec Consumer Protection Act](#)
- [UK Advertising Restrictions Review 2010](#)
Advertising to school-age children: Voluntary Regulations

A common method to regulate the types of advertising and promotion of junk foods targeted to children is for manufacturers themselves to develop voluntary codes of conduct. Codes of conduct are often industry-led with each manufacturer setting their own standards to determine which types of messages should be regulated and to which age group of child. Pledges are voluntary and as such they are not regulated by government and they are not subject to fines for failure to follow the pledges. The only accountability possible for voluntary actions such as pledges is regular monitoring by consumer groups and governments in an effort to “name and shame” code violators.

Globally, there are a series of pledges made by leading multinational companies to support efforts to reduce advertising to children. The International Food and Beverage Alliance (IFBA) issued a “Policy on Advertising and Marketing Communications to School-age Children” with a promise to not advertise products that do not meet certain dietary standards during communication the audience of which is more than 35% school-age children under 12 years of age. The nutrition standards within the pledge are determined by the companies themselves with the majority of producers including communication channels such as TV, print, internet, primary schools, SMS marketing, games, cinema and outdoor marketing. Signatories to the pledge include Coca-Cola, Ferrero, General Mills, Kellogg’s, Kraft Foods, Mars, McDonald’s, Nestlé, PepsiCo, and Unilever.

A full list of international and national pledges is maintained through the Rudd Center at the University of Connecticut. Pledges in the East Asia and Pacific Region are in place for Malaysia, the Philippines, Singapore, and Thailand. In Thailand leading multinational companies supported a pledge in 2008 to not advertise food and beverage products to children under 12 years of age that do not meet specific nutritional criteria. The criteria included communication through TV, radio, print media, internet, and in schools where 50% or more of the audience is school-age children under 12 years of age. The Thailand pledge includes a statement by food companies that they will not advertise foods and beverages in kindergartens and primary schools unless specifically requested. There is little information on the monitoring of the pledge with all companies failing to define the nutrition criteria for advertising of foods and beverages. Another gap in the design of the Thailand pledge is the lack of inclusion of fast food companies.

Similar pledges are in the Philippines, Malaysia and Singapore. Both the Singapore and the Malaysia pledges prohibit targeting to children under 12 years of age where they make up 35% or more of the audience through radio, movies, cell phones, schools, internet advertising and television. In the Philippines, the pledge has a target of 50% of children under 12 years of age. Of these countries, only Singapore has defined criteria for nutrition standards and exempted foods and beverages. Across all countries with pledges, there has been little monitoring of the implementation of the pledge or impact on the amount of advertising children are exposed to. A 2010 study in Malaysia found that adolescents in secondary school spend an average of 4.7 hours per day on media during the week days and 5.7 hours during the weekend which indicates that adolescents in Malaysia are subject to high exposure to advertising messages.

Resources

- IFBA Global Policy on Marketing and Advertising to School-age Children
- Rudd Center: List of Pledges
- Rudd Center: Evaluating snack food nutrition and marketing to youth
- Consumer International: Manual for monitoring food marketing to school-age children
There is little evidence to show that self-regulation by food and beverage companies are effective. Very few governments or consumer groups monitor the implementation of voluntary pledges and even when monitored the only action taken against violators is public shaming. However, manufacture-led pledges are more effective than no guidelines when signatories follow the guidance. A 2015 study released by the Rudd Center for Food Policy and Obesity at the University of Connecticut found that after the voluntary manufacturer pledge in the United States, advertising for healthier foods including yogurt, fruit and nuts accounted for 40% of snack ads that children viewed on TV in 2014. However the study found that children 6-11 years of age still saw a total of 1.5 unhealthy snack foods ads per day on TV from companies signed to the pledge. Additionally there were racial disparities in the impact of advertising with 89% of snack food advertisements seen by Hispanic children representing unhealthy snacks and black teens exposed to 2.3 times as many unhealthy snack ads as white teens. The brands with the highest disparities in exposure were Doritos, Oreo cookies and Pop Tarts.

Few agencies or governments monitor the exposure of school-age children and adolescents to junk food advertisements or promotion. Regular monitoring is necessary for both mandatory regulations and voluntary pledges on advertising in order to keep companies accountable. Consumer International produces a manual for the monitoring of food marketing to children, which countries should use as a basis to monitor in their countries. The manual includes guidelines for monitoring television, print media, websites, billboard, food packaging and in-school marketing. Even with voluntary pledges, regular monitoring of the implementation of advertising restrictions is necessary to determine the types of messages school-age children and adolescents are exposed to for unhealthy foods and beverages and the extent of exposure. This information is vital in order to advocate for mandatory regulations and for stronger consumer awareness.
B.4. NUTRITION AND PHYSICAL ACTIVITY INTEGRATED INTO SCHOOL POLICY

In the East Asia and Pacific Region, there are few national-level policies to guide the implementation of nutrition and physical activity interventions within schools. Policies in the region focus on the design and requirement of set curriculum for health and physical education with recommendations or guidance provided to schools on the provision of healthy foods on school grounds with a focus on meeting good sanitation and hygiene standards. However, countries in the region recognize the need to integrate school-based policies into national obesity prevention strategies with the utilization of schools as a place to change behaviors on healthy eating and physical activity to curb the rising prevalence of obesity and NCDs.

Countries are expanding policies that were originally intended to guide health and wellness programmes within the school to incorporate obesity prevention. Overarching school health policies need to be extended beyond school feeding and the provision of direct interventions such as deworming, iron supplementation and immunization. While these interventions continue to be important, schools in the East Asia and Pacific Region require a more holistic approach with policies to meet the demands of rising overweight, decreased physical activity, and increasing NCD occurrence. The development of holistic school health and wellness policies to build the capacity of school-age children and adolescents to make healthy eating and physical activity decisions directly improves school performance and education for all indicators but it also has a longer impact on behaviors and practices for healthy eating and physical activity.

This section reviews the national-level policies implemented globally and within the East Asia and Pacific Region that address prevention of obesity through schools. These policies may be integrated into overarching health, NCD or obesity reduction policies or they may be stand-alone policies focused on school-age children and adolescents. As the majority of countries in the East Asia and Pacific Region do not have stand-alone policies to address the prevention of obesity holistically through schools, this section also presents materials on how to develop a school-based policy and how to prioritize interventions.

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Overview</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overarching Nutrition and Physical Activity Policy</td>
<td>Separate school health and nutrition policies may not be available at the national level as countries frequently delegate the development of these policies to the school districts themselves. School-based health and nutrition policy can be integrated into broader national-level policies for education and health and also into specific plans and policies to address the rising prevalence of non-communicable diseases, and Education for All strategies. Cambodia, Mongolia, Laos and Vietnam all lack national school-based policies for health, food or nutrition but incorporate school health and nutrition into broader policies and plans. Inclusion in education sector plans frequently link the impact of health and nutrition interventions to improved school enrollment, performance and achievement. In Cambodia’s Education Strategic Plan 2014-2018, health education, provision of health and nutrition services and the provision of physical education and sport for all students are included as key action points. In Laos, school-based nutrition is included in the National Strategy and Plan of Action on Inclusive Education with a focus on the provision of meals through home-grown nutrition expansion and nutrition education for teachers and students. Mongolia addresses the role of schools in preventing rising overweight prevalence through the National Programme on Integrated Prevention and Control of Non-Communicable Diseases. Holistic school-based programmes to address nutrition and active lifestyles through curriculum and the school</td>
<td>• <a href="#">Cambodia Education Strategic Plan</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <a href="#">Lao Education Sector Development Plan (2011-2015)</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <a href="#">Mongolia National Programme on Integrated Prevention and Control of Non Communicable Diseases</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <a href="#">Vietnam National Nutrition Strategy 2011-2020</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <a href="#">11th Malaysia Plan</a></td>
</tr>
</tbody>
</table>
environment are proposed as key interventions. In Vietnam, the National Nutrition Strategy for 2011-2020 addresses school-based nutrition programmes for adolescents and school-age children. Even when a specific school-based health and nutrition policy is in place, incorporation of the plan and corresponding activities into broader education and health plans increases awareness and cohesiveness at the national level. Malaysia has integrated components of its school health and nutrition programme throughout national-level strategic plans. The 11th Malaysia Plan for 2016-2020 includes the promotion of sports for healthy living as a core focus for the country. In addition to the overarching national plan, Malaysia incorporates school-based health and nutrition into overall education policy and health and NCD-focused plans. The Malaysia Blueprint for Education includes health education as a compulsory subject for all students and the Malaysia national plan for NCDs utilizes the school-based platform to provide assessment of health status of school-age children and to provide health and physical education as a preventative and treatment intervention.

Malaysia has taken a holistic approach to reviewing and analyzing data to determine which interventions are best-placed to address overweight and obesity. To prioritize food policy options to address obesity in the country for all population groups, Malaysia conducted an analysis in 2013 of interventions to address obesity in the country. While follow-up to the policy analysis is outstanding, several of the recommendations, including limitations on the sale of unhealthy foods and beverages in schools and banning the advertising of unhealthy foods and beverages are currently in place as voluntary recommendations.

The growing prevalence of obesity is a priority concern for countries in the East Asia and Pacific Region and overarching policies need to reflect actions for prevention and treatment not only for school-age children but also within the general population. Malaysia includes interventions to prevent obesity in school-age children and adolescents in national-level policies and has drafted a Malaysia action plan to address overweight in the country, but there is no single overarching document to define all obesity prevention policies and interventions. Northern Ireland developed the Fit Futures Framework in 2012 to address the increasing prevalence of overweight in the entire population and incorporating specific, targeted actions for different population groups. The framework includes the Food in School Policy as well as policies and interventions to address parent education for nutrition; youth sector settings and the regulation of advertisements to school-age children. The Fit Futures Framework pulls together disparate legislation and interventions to ensure that they work cohesively to reduce obesity.

International organizations have developed guidance for the development, implementation and monitoring of school health policies and interventions with nutrition and physical activity as an essential component. The FRESH Framework is collaboration between UNESCO, UNICEF, the World Bank and the WHO to advise on the development of an advocacy platform to increase awareness of the value of school health programmes as a component of Education for All. FRESH provides advocacy messages to national governments and stakeholders on the rationale for implementing school health programmes and is linked to the WHO’s Health Promoting School initiative, UNICEF’s Child Friendly Schools and WFP’s Global School Feeding Campaign.

---

**Guidelines for Development of Whole School Policy for Nutrition and Healthy Lifestyles**

**Resources**

- [Malaysia Blueprint for Education](#)
- [Malaysia National Plan for NCDs](#)
- [Malaysia: Prioritizing Food Policy Options to Reduce Obesity](#)
- [Malaysia Action Plan for Overweight](#)
- [Northern Ireland A Fitter Future for All](#)
These whole-school policies provide the basis by which governments review and design health and nutrition policies and interventions but they are not focused on obesity prevention. Traditionally, the FRESH framework and the various policies and frameworks developed by the WHO, UNESCO and UNICEF have focused on environment where undernutrition, poor access to health services and poor hygiene and sanitation were primary concerns. These frameworks are useful in guiding stakeholders through the process of developing a national comprehensive policy for school health and nutrition, but need to be expanded to include obesity prevention in a holistic manner.

When stakeholders are planning for a school obesity prevention policy, the full environment surrounding the child and adolescent needs to be taken into consideration. There are multiple resources available to help guide stakeholders through the process of conducting a situation analysis to determine key priorities for their country and the types of interventions best suited for their situation. WHO has developed a policy framework with recommendations on how to conduct a situation analysis and determine key priorities for the country for student health and nutrition. This document, the “WHO’s Diet, Physical Activity and Health School Policy Framework”, should be used along with the “WHO’s Priority Areas for Action” to provide advocacy and guidance to governmental stakeholders and to develop national and sub-national school policies to promote healthy eating and physical activity.

Guidelines and tools are also available for use at the school level to assist schools in reviewing recommendations for health and nutrition policy as they apply within their own school. In the US, the CDC produces school health guidelines to summarize the best practices to promote healthy eating and physical activity in school. The guidelines are to be used after a school has conducted an assessment using the CDC School Health Index to review and prioritize strengths and weaknesses of the school’s health and wellness program. The school then uses the guidelines and results from the assessment to prioritize actions to address weaknesses based on the perceived importance, cost, time, commitment and feasibility of interventions.

Country-specific guidance is available in Northern Ireland and in the US state of Michigan to provide advice and support to schools in the interpretation and implementation of national guidelines. In Northern Ireland the “Food in Schools Policy” was drafted in 2009 with mandatory and voluntary elements for nutrition guidelines. To assist schools in implementing the policy, the “Guideline on Establishing a Whole School Policy” was developed and provided to all schools. The guideline includes a baseline assessment for schools to determine their existing status against the policy and a series of checklists and assessment guidelines to assist schools in determining priorities for meeting the national policy. The guideline additionally includes guidance on developing advocacy for implementation of the policies and interventions and builds support for the programmes. The state of Michigan provides a guide to schools to help implement the state food and beverage policy. The guide provides the background research and rationale for each of the recommendations for schools and provides step guidance on putting a health team into place and developing an action plan.
The FRESH framework and the WHO’s Health Promoting School Initiative form the basis for national-level school health programmes in Malaysia, Indonesia, Thailand, Singapore and the Philippines. These programmes are optional for schools with mandatory elements mostly focused on hygiene and sanitation criteria. The programmes in all five countries focus on the delivery of health and nutrition services with the inclusion of a nutrition and physical education curriculum often mandated separately in education policies.

In Malaysia the 3K programme (Hygiene, Health and Safety) provides guidance for schools to develop a hygienic, healthy and safe environment. The programme is optional for schools; however, components of the programme for food policies in school canteens and the regulation on the sale of junk foods on school premises and surrounding the school are mandatory.

In Indonesia, the Usaha Kesehatan Sekolah (UKS) is the school health programme, which includes health education with physical education, health services directly provided at schools and the development of a health school environment. The UKS programme has been implemented for over 20 years, however, little data is available about the quality of implementation or the impact of the programme. At the national level, the UKS only mandates the provision of a clean water supply and adequate sanitation facilities at the school. All other interventions recommended for implementation through the UKS are implemented at a sub-national level with wide variation between service delivery and quality of implementation. For example, some districts in Indonesia receive support from WFP to provide school feeding, deworming, iron supplementation and immunization through schools as part of the UKS.

In Singapore, the Holistic Health Framework was implemented in 2007 to encourage and support healthy lifestyles through promoting healthy environments in schools and providing preventative health services for students at risk of overweight. The CHERISH (Championing Efforts Resulting in Improved School Health) award is a component of this framework as an incentive to schools that have done well in promoting health and in implementing interventions from the Holistic Health Framework.

The Philippines has a School Health and Nutrition Programme focused on the provision of direct nutrition and health interventions. The School Health and Nutrition Manual was produced in 1997 with all schools required to implement interventions for hand washing, tooth brushing, and deworming. Nutrition and physical education curricula are mandated separately under Education Policy.

Thailand established a health-promoting school policy to address the rising overweight and obesity prevalence amongst school-age children in primary and secondary schools. The policy recommends 10 elements for schools to implement in order to create a healthy environment. The recommended components include the direct provision of school health services, inclusion of nutrition and physical activity in the curriculum, establishment of dietary standards for foods served at school, the promotion of physical activity and the provision of health promotion to school staff. An indicator to measure progress against the implementation accompanies each component of the policy. The health-promoting school policy in Thailand is voluntary with an award system tied to implementation. The highest-level award, the diamond level, is provided to schools that qualify in 3 criteria with a total of 19 indicators met. While the programme is well-designed, implementation at the school level is lagging with the majority of schools not implementing the policy as intended (Phaitrakoon, 2014).
C. ESSENTIAL STANDARDS PROGRAMME MODEL FOR OBESITY PREVENTION THROUGH SCHOOLS FOR SCHOOL-AGE CHILDREN AND ADOLESCENTS

There are many interventions that can be included and provided through obesity prevention strategies at the national and school level to address child and adolescent obesity and the more interventions implemented, the more likely it is that the school environment promotes health lifestyles. However, interventions must be implemented well and consistently in order to have any effect. Therefore, while the implementation of several cohesive interventions through the school as part of an obesity prevention strategy is ideal, national strategies should only promote and require interventions that schools will be able to implement well and consistently.

A set of Essential Standards for interventions that are necessary to prevent obesity in school-age children and adolescents are recommended in this section. These interventions have been selected based on their feasibility of implementation and their potential impact when implemented well. The Essential Standards for interventions are recommended for all countries in the East Asia and Pacific Region. The East Asia and Pacific Region has several countries where resources to devote to obesity prevention may be low or deprioritized. Recommendations are therefore provided for low resource settings within the Essential Standards programme model. As seen in Figure 5. The Essential Standards programme model has the same structure as the overall programme model for obesity preventing in school-age children and adolescents. Detailed description of the recommended interventions in the programme model is described below.

Figure 5. Programme Model of School-Based Interventions to Prevent Obesity in School-Age Children and Adolescents
I. Direct School-based Nutrition and Physical Activity Interventions

Many countries already have the policies and strategies in place to provide essential school-based direct nutrition and physical activity intervention. The essential interventions recommended as part of a school-based obesity prevention strategy focus not only on the scope of delivery of services, but the quality of service delivery. In all interventions recommended below, routine monitoring is necessary to ensure that school-age children and adolescent receive the services they require and that the required curriculum is both delivered and meets quality standards. Of note, nutrition screening and obesity treatment has not been included as an essential intervention. When implemented well, nutrition screening tied to obesity treatment programmes can be used to provide one-on-one and parent- and student-based counseling on healthy eating, activity, and psychosocial influencing factors on eating habits. However, nutrition screening is often not implemented with a well-designed counseling framework and there is risk of stigmatizing overweight and obese students and creating negative atmospheres around weight. Unless appropriate resources are in place to assure the delivery of a comprehensive and discreet obesity treatment programme, nutrition screening is not recommended.

Provision of Iron Supplementation and Deworming

In East Asia and Pacific Region, anemia and iron deficiency anemia are prevalent with adolescent girls at high risk for developing anemia due to menstruation. In all countries where anemia is a concern, both deworming and iron supplementation should be implemented with a focus on primary school-age children for deworming and on adolescent girls for iron supplementation. The provision of iodine can be assured through the use of iodized salt with mandatory use of iodized salt in all foods prepared in the canteen. Guidelines can incorporate recommendations for salt restriction and use of iodized salt through the recommendation to “use less salt, but only iodized salt.”

Nutrition and Physical Education Curriculum with a Focus on Provision of Life Skills

Physical education curriculum is in place in all countries in East Asia and Pacific Region with, at a minimum, cursory nutrition messages integrated into health classes. The Essential Standards build from the provision of nutrition messages and the allocation of physical education courses in primary and secondary schools. Nutrition education needs to focus on the provision of life skills with real-life application of nutrition problems, solutions and actions. Nutrition sessions do not have to be stand-alone as time allocation in schools is already maximized with little availability of additional time for courses. In the existing time allocation for courses, nutrition sessions can be integrated appropriately. For example, serving size and portion sizes can be integrated into mathematics when learning about fractions. The nutrition curricula should be structured to involve students in hands on activities with modification to meet real life examples. For example, secondary students can be asked to determine healthy menu options from common types of food vendors or from convenience stores.

Physical education classes are already in place within national curricula and course schedules in the region however quality of implementation varies widely between countries. The benefits of physical activity as a core component of curriculum are numerous with beneficial impacts on school-age children’s physical growth and development and their educational achievement through increased focus and attentiveness. Elimination of physical activity as a core component of primary and secondary school reduces students’ exposure to new activities and sports and a direct opportunity for them to be physically active. The
prioritization of quality physical education requires advocacy with school administrators and teachers to ensure that physical education teachers are hired instead of using teachers without training and that time allotted to physical education is actually spent on physical education and not on other subject matter.

**Integrated Physical Activity in the Classroom**

Time allocation of school hours is at a premium and the majority of schools will find it difficult to provide the recommended 180 minutes a week of PE to primary students and 225 minutes a week to secondary students through separate physical education classes. Physical education classes provide the bulk of time allocated to physical activity, however 5-10 minute in classroom breaks for activity can greatly contribute to the overall amount of activity students receive in a given week. The benefits of short activity breaks go beyond the additional activity provided to school-age children. Short breaks have been shown to increase student’s focus and concentration in the classroom, mainly by serving as an outlet for restlessness.

**Summary of recommended direct school-based nutrition and physical activity interventions**

- In regions where anemia is a concern, provide deworming tablets annually to all primary school-age children and iron supplementation to all adolescent girls. Prioritization should be on the provision of deworming tablets in low resource settings.
- Conduct advocacy with school officials and teachers to promote integration of nutrition and physical education into the existing school structure with physical education classes held and teachers for physical education receiving the skills they need to implement the curriculum.
- Nutrition messages and life skills should be integrated into science and mathematics curriculum where appropriate with a nutrition-specific curriculum focused on country-specific life skills education. Guidelines for nutrition curriculum should include school-age children able to use critical thinking skills to develop a healthy meal under various situations and understand the impact of a high-fat, high-sugar diet.
- National guidelines for the integration of short activity breaks into the classroom should be developed with schools and teachers encouraged to provide a 5-10 minute activity break in the morning and again in the afternoon. Two 5 minute activity breaks would contribute 50 minutes of activity a week and allow several countries to meet the recommended 180 minutes a week of physical activity recommended by the WHO.
II. Interventions for the school environment

Interventions to create a healthy environment within the school grounds are implemented much less regularly than direct interventions like delivery of nutrition curriculum and the provision of iron supplementation and deworming. These interventions are indirectly focused on the child and adolescent and promote healthy behavior change through the provision of a healthy environment as well as exposure to direct opportunities to eat healthy foods and increase activity, and reduced opportunities to eat junk foods. In the East Asia and Pacific Region, several countries have food and nutrition standards in place, however very few countries address the other recommended interventions as part of their strategy to prevent obesity. These interventions are important as they ensure that the child or adolescent is in a healthy environment, free from the influence of marketing and inexpensive, and without easy access to junk food. All recommended interventions require monitoring to ensure compliance and to advocate and build capacity of school administrators and teachers to ensure nutrition and physical activity are prioritized at the school level.

Food and Nutrition Standards for School Meals

Regardless of whether school meals are provided for free or at a subsidized rate to student to reduce short-term hunger, food and nutrition standards should be applied to all meals and snacks prepared at the school in the school canteen. For the use of school meals alone as nutrition interventions, the focus should be shifted away from school lunch to the provision of school breakfast, either as a cooked breakfast provided for all students or on an economic basis or as a breakfast club where informal breakfasts can be prepared and eaten by all students in the classroom prior to the school day. The provision of a breakfast for students increases education indicators through increased attentiveness, attendance and performance as may be associated with reduced prevalence of obesity due to decreased snacking throughout the morning.

Whenever school meals are provided, it is recommended that specific food and nutrition standards be applied to all food outlets and meals. Essential Standards for types of foods should include the restriction of sugar-sweetened beverages with over 5g of added sugar per 100mL, which is the equivalent of a Coca-Cola. Limitations on carbonated beverages alone do not address high-sugar iced teas and soymilk drinks which are popular in Asia. The top priority for schools is the restriction of all sugar-sweetened beverages commonly sold in the school canteen. While restrictions are in place on beverages, access to clean, free drinking water needs to be ensured and encouraged with students allowed to carry water bottles with them during the school day. Nutrition standards for school meals are more complicated than restrictions of all types of a specific food or beverages, but are important to ensure that school meals are nutritious and do not contribute to consumption of a high-calorie, high-fat, and low-nutrient diet. An Essential Standard is the minimum serving requirement for fruits and vegetables, whole grains and low fat dairy with maximum restrictions on high-fat, high-sugar and high-salt foods. Calorie guidelines for meals are a useful resource to provide examples to school canteen staff in the types of meals they should prepare and the appropriate serving size for all foods. Unless food and nutrient standards will be tightly monitored, it is recommended to make restrictions on food and nutrition standards specific and simplified. The essential standard to implement in all countries in East Asia and Pacific Region is the restriction of all sugar-sweetened beverages with over 5g of added sugar per 100mL, the provision of clean, free drinking water throughout the day, minimum serving required for fruits, vegetables, whole grains and dairy, and maximum serving for high fat, calorie, salt and sugar foods.
Food and Nutrition Standards for Other Foods Sold Through the School

The same standards applied to school meals need to be applied to all foods and beverages sold through the school with no exceptions. This includes foods and beverages sold through snack shops, vending machines and through external vendors who sell on school grounds. Vending machines and snack shops in particular will require strong monitoring and enforcement as nearly all foods and beverages sold through these outlets do not meet the standards recommended for school canteens. Vending machines can be modified to sell bottled water and low-calorie or no-calorie iced teas and carbonated drinks. Snack shops will require guidelines for the types of foods to sell and recipes for healthy foods.

Create a Supportive Environment for Physical Activity

All countries in East Asia and Pacific Region have guidelines or curriculum for physical education of primary and secondary students. As reviewed in the direct interventions section of the essential recommendations, appropriate time for physical education is difficult to achieve with increasing stress placed on schools and students to perform well for examination subjects. To encourage school-age children and adolescents to increase the amount of physical activity they receive in a day and throughout the week, schools can create an environment at the school supportive of physical activity. Walking clubs can be organized with school-age children walking together to school, or walking incentive programmed with adolescents receiving incentives through the school for walking or bicycling to schools. Likewise, organized activities can be structured during break periods or recess when available with students and teachers leading power walks around the school grounds or quick games of intramural sports. For countries with low available resources, encouragement of short in-class activity breaks and activity during school breaks and after school is recommended as a means to increase the amount of physical activity for school-age children and adolescents during the school day.

Regulation of Advertisements and Promotions in Schools

Advertisements and promotions are increasingly integrated within the school system with highly-visible promotion in the form of sponsorship of school sports teams, school billboards and materials or less-visible forms such as incentive programmes, advertisements on vending machines and school equipment. Advertisements and promotion of unhealthy foods and beverages is prevalent in the East Asia and Pacific Region with Nestlé and Coca-Cola visible supporters of physical education programmes, school nutrition and physical education curriculum, and obesity prevention programmes in the region. The conflict of interest is clear, with food and beverage manufactures influencing the curriculum and structure of nutrition and physical education. It is recommended to restrict the promotion or advertisement of any product that does not meet the food and nutrition standards set by the country. Most importantly, it is recommended that companies that produce foods and beverages which do not meet the food and nutrition standards set for schools not be allowed to influence the development of any curricula used in a school. The full prohibition of all sponsorship from these companies is preferred, but the attribution of additional funding to the schools for extracurricular activities and to support sports teams is recognized as beneficial. Sponsorship should not allow any logos, promotional materials, development of key messages or any curriculum for schools.

Increased Parent Knowledge of Nutrition and Physical Activity

In the East Asia and Pacific Region, parents are often only reached through specific parent teacher meetings held annually or twice a year. These meetings are not sufficient to increase the awareness of the parent in their child’s education or to change behaviors towards health lifestyles. National-level recommendations for schools on the involvement of parents can encourage schools to support parent involvement and active participation in the school.
Examples of involvement include parents with specialized skills in sports or cooking invited to lead a special class with students. Parents can also volunteer to lead activities within the school such as assisting in extracurricular sports or in demonstrations for health and nutrition classes. Take-home handouts should be provided to parents with key messages accompanying lessons school-age children and adolescents have learned at school with suggested activities to follow up with and continue the lessons at home.

**Increased Teacher Knowledge and Participation in Healthy Lifestyles**

Teachers and school staff need to be aware and support healthy nutrition and active lifestyle messages in order to be able to deliver curriculum and act as role models for students. It is recommended that the nutrition and physical education curriculum be integrated into teacher training and accreditation standards. Additionally, guidelines for schools to initiate teacher and school staff wellness programmes should be provided with teachers encouraged and incentivized to walk or bicycle to work, to be active during break periods and to follow food and nutrient standards implemented for students. In particular, the restriction of sugar-sweetened beverages from school grounds would limit the consumption of these nutrient-poor drinks as well as the social norm example for students. Healthy alternatives such as clean free drinking water and the encouragement of teachers to bring refillable bottles with them to the classroom should be promoted.

**Summary of Recommended School Environment Interventions:**

- Where school meals are provided as an academic and nutrition intervention, focus resources on the provision of a school-prepared breakfast instead of lunch.
- Restrict the sale and provision of all sugar-sweetened beverages with over 5g of added sugars per 100mL from school-prepared meals, snack shops, vending machines and any other vendor on the school grounds.
- Implement mandatory standards for school meals with maximum calorie content, minimum servings and fruits, vegetables, whole grains and dairy and maximum serving of high-fat, high-sugar foods. For snacks and foods available from vendors within the school grounds, implement mandatory maximum standards for calories, sugar and fat content. For resource-poor settings, provide guidelines with sample meal plans to schools representing appropriate calorie content for meals and a minimum serving of fruits, vegetables, whole grains and dairy and a maximum serving of high-fat, high-sugar foods.
- Encourage the frequent consumption of clean, free water throughout the day for students, teachers and school staff.
- Encourage activity throughout the day with national recommendations for integrating activity into the school day through walking clubs, short break activities and sports.
- Prohibit the advertisement or promotion of foods and beverages that do not meet national food and nutrition standards and prohibit the influence of food and beverage producers on any nutrition, physical education or wellness curricula development.
- Develop recommendations and guidelines for schools to support a healthy environment for teachers and school staff.
- Include core messages on nutrition and physical activity into teacher training and accreditation.
- Encourage parents to volunteer and participate in school activities with development of a guideline to schools with suggested activities and ways for parents to be involved.
III. Interventions to Address the Community Environment

There are a plethora of obesity prevention interventions to address the wider environment surrounding school-age children and adolescents. These interventions may target adults or the general population with mass communication messaging or community-wide interventions to increase the availability of public spaces and parks, playgrounds and sporting venues. While each of these interventions contributes to the reduction in child and adolescent obesity, mostly through the modification of social norms and increasing access to healthy lifestyles, they are not targeted to school-age children and adolescents. There is a growing consensus that inexpensive and ubiquitous “junk foods” are a major contributing factor to the growing prevalence of obesity in school-age children and adolescents. The Essential Standards address the availability of unhealthy foods and beverages through two major interventions.

Legislation of Food Taxes and Subsidies

The taxation of foods and beverages is increasingly used as a method to reduce consumption of foods high in calories, fat, sugar and salt and low in nutrients. The application of additional taxes for sugar-sweetened beverages is the most common globally with beverages containing either over a specific amount of sugar or calories per 100mL carrying an additional tax. The tax is an effort to increase the price of sugar-sweetened beverage making them less appealing to consumers, especially low-income consumers who are at increasing risk of obesity in middle income and developed countries. Beverage manufacturers may choose either to reduce the use of sugar in their drinks or to switch to sugar substitutes as in the case of several Mexican producers after the implementation of a 10% tax on sugar-sweetened beverages. In Pacific countries where importation of food and beverages is high, the application of import duties on foods and beverages that do not meet nutrition standards can be applied in the same way as food taxes. The application of taxes and duties to “junk foods” is not without controversy and is not an easy intervention but it has had demonstrable success in reducing consumption of these beverages. The implications are reduced prevalence of obesity, reduced prevalence of NCDs, and greatly-reduced health care costs.

Subsidies for healthy foods and beverages are rarer than taxes and duties with only a few examples in the East Asia and Pacific Region. While the application of subsidies to increase the affordability of fruits and vegetables are a potentially effective method to increase consumption of those foods, it is recommended to prioritize reduction in the consumption of sugar-sweetened beverages.

Restrictions on Advertising of Foods and Beverages to School-Age Children

Restrictions on advertising of foods and beverages to school-age children are in place globally and in the East Asia and Pacific Region, however only a few countries have mandatory restrictions and serious gaps in monitoring exist. To be effective, restrictions implemented on the advertising of foods that do not meet specific nutrition standards should be mandatory. The decision to apply mandatory standards to all advertising to children under 18 years of age, to certain age groups only, at certain peak viewing periods, and through markets with a certain percentage of children as the targeted audience must all be made at the national level. Important components to keep in mind are the need to apply restrictions to all foods and beverages including snack foods, convenience foods, fast foods and restaurants advertised on TV, radio, SMS, games and online games, third party internet, billboards and posters and other major communication media. Restrictions, whether mandatory or voluntary, must be monitored with fines applied to those who disobey the regulation and public shaming of those
who disobey mandatory or voluntary regulations. A strong civil society and consumer groups can be useful to monitor the regulations and hold manufacturers accountable for adhering to the regulations.

Recommended actions for restriction on advertising of foods and beverages to children include stronger restrictions for younger children with children under 14 offered stronger protection from advertisement and promotion of unhealthy foods and beverages. Total limits on the number of unhealthy food and beverage advertisements within a specific period of day may be a useful strategy to reduce the overall number of advertisements adolescents and adults are exposed to.

**Summary of Recommended Community Environment Interventions:**

- Conduct a cost-benefit analysis of implementing a tax or import duty on sugar-sweetened beverages in-country with determination of the repercussions on both obesity prevention and health care costs nationally.
- Conduct an assessment of child and adolescent exposure to marketing of unhealthy foods and beverages with determination of the scope of exposure with relative intensity of exposure through each media outlet. The assessment should be utilized to advocate for restrictions on advertising to school-age children and adolescents and to develop guidelines for restrictions.
- Advocate with consumer interest groups and non-profit organizations involved with obesity prevention to act as “watchdogs” to monitor child and adolescent exposure to marketing of unhealthy foods and to monitor adherence to existing restrictions.

**Nutrition and Physical Activity Integrated Into School Policy**

National- and school-level policies to prevent obesity in school-age children and adolescents should support the design and implementation of a holistic strategy directly to the student, within the school environment and within the community at large. A stand-alone “Whole School” policy for nutrition and healthy lifestyles should be developed with inclusion of all interventions implemented to prevent obesity and the metrics utilized to monitor them. Holistic policies are necessary to achieve success against obesity as no single intervention is successful alone. “Whole School” policies should be multi-sectorial with the Ministry of Education and Ministry of Health both stakeholders and other relevant ministries included as appropriate and applicable.

Overarching policies and strategies should incorporate elements of the school-based obesity prevention policy both to raise the awareness of actions focused on school-age children and adolescents and to ensure that all components of obesity prevention are reviewed together and implemented in a cohesive manner. National policies for NCD Prevention, Obesity Prevention, Education for All, and sports should all include references to, and components of, the School-Based Obesity Prevention (POASAC) Policy.

**Summary of Recommended Policies for Obesity Prevention in School Children and Adolescents:**

- Advocate for the development of a stand-alone “Whole School” policy for nutrition, physical activity and health lifestyles developed with prioritized interventions, metrics to monitor the implementation and progress of interventions, and identified stakeholders and responsibilities of stakeholders.
- Incorporate identified prioritized interventions for obesity prevention in school-age children and adolescents into national plans and strategies to address obesity prevention, NCD prevention, Education for All and the development of sports programmes. Interventions targeted at school-age children and adolescents should be included in all strategies to address obesity in other population groups.
D. ESSENTIAL STANDARDS CHECKLIST

The Essential Standards Checklist presents the recommended interventions necessary for a successful school-based obesity prevention strategy focused on school-age children and adolescents. The checklist assesses the application of the recommended interventions in section C and is useful for countries to use at a national level to determine their programmatic strengths and weaknesses and to develop a prioritized action plan to revise their obesity strategy for school-age children and adolescents. UNICEF Focal Points for nutrition and education should review the Essential Standards Checklist together to determine which interventions are in place and where gaps exist in their obesity prevention strategies.

<table>
<thead>
<tr>
<th>I. Direct School-Based Nutrition and Physical Activity Interventions</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provision of iron supplementation and deworming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Is anemia a public health concern at the national or sub-national level? If yes, specify which anemia prevention interventions are provided through schools, if any.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. In regions where anemia is a concern, are deworming tablets provided annually to all primary school children?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. In regions where anemia is a concern, is iron supplementation provided to all adolescent girls?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Nutrition and physical education curriculum with a focus on provision of life skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Is nutrition and physical education mandatory in the primary and secondary school curricula?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5. Are there specially-trained teachers for nutrition and physical education? To answer yes, teachers must either be accredited in nutrition or physical education or have received specialized training in nutrition or physical education during pre- or in-service training.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6. Is delivery of nutrition or physical education monitored regularly at the school level through performance standards?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7. Has a gap analysis been conducted to determine the strengths and weakness of the current nutrition and physical education curriculum in design and in implementation?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>A) If yes, have the results of the gap analysis been used to inform advocacy with school officials and teachers to promote the integration of nutrition and physical education in the existing school structure?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>8. Are national guidelines available to schools on the integration of nutrition messages into science and mathematics curriculum and the provision of life skills education for nutrition?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>9. Are key performance standards for student achievement available and measured on students’ ability to use critical thinking skills to develop a healthy meal in various situations and to understand the impact of a high-fat, high-sugar diet?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Integrated physical activity in the classroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Are national guidelines available for the integration of short activity breaks into the classroom available?</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
### II. Interventions to Prevent Obesity Through the School Environment

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food and Nutrition Standards for School Meals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Are prepared meals available through both primary and secondary schools?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A) If yes, are subsidized or free meals provided to students?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B) Are subsidized or free meals provided during breakfast hours?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. For school-prepared meals, are there mandatory standards for school meals with a maximum calorie content, minimum serving of fruits and vegetables, whole grains and dairy and maximum servings of high-fat, high-sugar foods?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C) If no mandatory standards are available are there guidelines to schools and canteen operators on the provision of healthy meals and snacks to school-age children with explicit guidance on the types of meals and snacks to provide with calorie, fat and sugar levels provided as examples? Guidance should include sample menus and examples of portion sizes for students.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Are there restrictions on the sale or provision of all sugar-sweetened beverages with over 5g of added sugars per 100mL from the school grounds including school-prepared meals, snack shops, vending machines and outside vendors on school grounds?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Are there sources of foods and beverages other than the school canteen on the school grounds?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A) If yes, are there mandatory maximum standards for calories, sugar and fat for all snacks sold by these vendors?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B) If there are no mandatory maximum standards, are there guidelines to snack shop or vending machine operators on the provision of healthy meals and snacks to school-age children with explicit guidance on the types of meals and snacks to provide with calorie, fat and sugar levels provided as examples?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Is access to clean, free drinking water mandated through school policy?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Are there guidelines provided to schools on ways to encourage water drinking amongst students, teachers and school staff?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Are guidance and national recommendations provided to schools on how to integrate activity into the school day?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A) Is inclusion of physical activity into everyday activities included in the Health Promoting School Framework or indicators?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Are national-level restrictions in place on the advertisement or promotion of any foods and beverages that do not meet national food and nutrition standards?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A) Is there a monitoring system in place for restrictions on in school advertisements? If yes, note whether penalties are applied.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Question</td>
<td>Yes</td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>20.</td>
<td>Are there national-level restrictions against schools receiving funding from food and beverage manufacturers? If no, are there safety measures in place to ensure that food and beverage producers do not have any influence on curricula development for nutrition, physical education or wellness?</td>
<td>☐</td>
</tr>
<tr>
<td>21.</td>
<td>Are recommendations available for schools to support a healthy environment for teachers and school staff?</td>
<td>☐</td>
</tr>
<tr>
<td>22.</td>
<td>Are core messages on nutrition and physical activity included into teacher training and accreditation?</td>
<td>☐</td>
</tr>
<tr>
<td>23.</td>
<td>Are there national guidelines or recommendations provided to schools to encourage parents to volunteer and participate in school activities with development of a guideline to schools with suggested activities and ways for parents to be involved?</td>
<td>☐</td>
</tr>
<tr>
<td>24.</td>
<td>Are taxes, subsidies or import duties in place on specific foods to either discourage or encourage their consumption?</td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>A) If no, has a cost-benefit analysis been conducted on the implementation of a tax or import duty on sugar-sweetened beverages to determine the repercussions on both obesity prevention and health care costs nationally?</td>
<td>☐</td>
</tr>
<tr>
<td>25.</td>
<td>Are consumption surveys available to determine the consumption of healthy and unhealthy foods sold and marketed in your country? Have generalized trends on consumption been analyzed to determine how economic measures may be used to discourage or encourage consumption?</td>
<td>☐</td>
</tr>
<tr>
<td>26.</td>
<td>Are restrictions in place on the advertising of foods and beverages to school-age children and or adolescents?</td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>A) If yes, are these restrictions monitored regularly and what enforcement measures are used for violators of the restrictions?</td>
<td>☐</td>
</tr>
<tr>
<td>27.</td>
<td>Has an assessment of child and adolescent exposure to marketing of unhealthy foods and beverages been conducted?</td>
<td>☐</td>
</tr>
<tr>
<td>28.</td>
<td>Has advocacy with consumer interest groups or other organizations been conducted to measure child and adolescent exposure to marketing of unhealthy foods and monitor adherence to restrictions?</td>
<td>☐</td>
</tr>
<tr>
<td>29.</td>
<td>Is advocacy currently in place for the implementation of restrictions on the advertising of foods and beverages to school-age children and adolescents?</td>
<td>☐</td>
</tr>
<tr>
<td>30.</td>
<td>Is a holistic “Whole School” policy or strategy for nutrition and healthy lifestyles in place to prevent obesity in school-age children and adolescents?</td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>A) If yes, does the “Whole School” policy include the Essential Standards recommended in section C of the toolkit?</td>
<td>☐</td>
</tr>
<tr>
<td>31.</td>
<td>Are components of school-based obesity prevention for school-age children and adolescents included in overarching policies and strategies?</td>
<td>☐</td>
</tr>
</tbody>
</table>
WORKS CITED


