Acknowledgements

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## Contents

Purpose and How to Use This Guidance ................................................................. 1

Background ........................................................................................................... 1

Chapter 1: WASH ................................................................................................. 6

Chapter 2: Food and Nutrition ........................................................................ 11

Chapter 3: Physical Activity .............................................................................. 16

Chapter 4: Teeth ................................................................................................. 20

Chapter 5: Common Illnesses .......................................................................... 24

Chapter 6: Injuries ............................................................................................. 29

Chapter 7: Deworming and Vaccines .............................................................. 32

Chapter 8: Eyes and Ears ................................................................................. 37

Chapter 9: Malaria and Dengue ....................................................................... 43
### Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECD</td>
<td>Early Child Development</td>
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<tr>
<td>ECCD</td>
<td>Early Child Care and Development</td>
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<tr>
<td>FRESH</td>
<td>Focusing Resources on Effective School Health</td>
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<tr>
<td>HIV/AIDS</td>
<td>Human Immunodeficiency Virus Infection/Acquired Immune Deficiency Syndrome</td>
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<td>HGSF</td>
<td>Home Grown School Feeding</td>
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<tr>
<td>H&amp;N</td>
<td>Health and Nutrition</td>
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<tr>
<td>IMCI</td>
<td>Integrated Management of Common Illnesses</td>
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<tr>
<td>ITN</td>
<td>Insecticide Treated Nets</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
</tr>
<tr>
<td>MEAL</td>
<td>Monitoring, Evaluation, Accountability and Learning</td>
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<tr>
<td>SHN</td>
<td>School Health and Nutrition</td>
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<tr>
<td>STH</td>
<td>Soil Transmitted Helminthes</td>
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<tr>
<td>SMC</td>
<td>Seasonal Malaria Chemotherapy</td>
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<td>WHO</td>
<td>World Health Organization</td>
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Definitions

Preschools: “Preschools” is used throughout this document for any type of location where children stay during the day at the care of a facilitator. Preschools usually offer structured and purposeful set of learning activities for the equivalent of at least two hours a day for at least one hundred days a year. This term can be interchanged by “ECD center”, “ECCD center”, “Kindergarten”, “Day Care Center”, “Nursery” or any other term used in your country. The term preschool does not imply any particular form of administration or financing, which may be public, religious, community, private or NGO. Some preschools are under the administration of different ministries, such as the Ministry of Community Development and the Ministry of Education. Preschools may be attached to a primary school, to a particular household or a workplace.

Preschool Age: In this document, we use the term ‘preschool children’ referring to children between the ages of approximately 3 to 5. This could vary from country to country depending on the preschool system and the age of school entry.

Early Childhood: As documented in the 2007 UNESCO report on Early Childhood Care and Education, the term “early childhood” refers to children from birth to the age of eight years old.

Early Childhood Care and Development: Entails everything to support the needs of a small child to survive and succeed in life, including the support that the family and community need to promote the child’s healthy growth and development.

Facilitator: “Facilitator” is used throughout this document for any type of adult who is in charge of the children at the preschool. In some settings, they have university training, in others they may have only short training courses, and still in others they may be illiterate.

Health Education: The term “health education” is used throughout this document to refer to improving children’s and parents’ knowledge, interests and attitudes related to health, hygiene and nutrition. This may occur through instruction in school, dialogue at home, mass media and other channels.
Purpose and How to Use This Guidance

The purpose of this guidance is to help program managers supporting preschools around the world to identify the most appropriate preschool health and nutrition interventions within their context. The guidance is primarily a reference from which program managers can draw from when designing their program. The guide starts with a background on ECCD and preschool education, health and nutrition problems of preschoolers, a recommended approach to preschool H&N, and the information that should be collected prior to program implementation.

The guide is then organized by health topic. Each chapter has a first section called “what you need to know about ….” This contains technical concepts about the health problem and why it is important. Then there is a text box about “interventions”, which means everything that should be done about the problem for 3-5 year old children. There is a box of specific national policies or regulations which you should be familiar with before implementing. The following section is called “what can preschools do?” which includes a list of things that children, parents and facilitators should learn, know or do. Depending on the problem, there are other actions related to the link with health services or the preschool infrastructure. The next box has information about resources that are needed at the preschool to implement these interventions. The last section is a list of indicators on how to measure progress, at impact, outcome and output level. Finally, each chapter has some references to online resources.

Please note carefully there are some interventions that require the provision of medication to children, these interventions must be conducted in full consultation with the health services/MOH to ensure that proper protocols are followed with safe medications and follow-up procedures for any adverse reactions.

Background

The early years of life constitute a critical period during which foundational skills become established. Children learn and develop in predictable sequences, with later abilities, skills, and knowledge building on those already acquired. For example, as they get older, children understand and use more words, use pencils with more skill, and become beginning readers and writers. They become better at cooperating with other children. They become better at making plans and following through on those plans. They understand that they belong to their family, community, and culture.1 Offering quality care and development allows young children to develop initial linguistic, cognitive, social-emotional and motor skills. Investments in the early years of life produce higher returns, particularly among children at risk, because these programs are more effective and less expensive than remediation programs later in life.

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1 See SC US 2016: The Quality Preschool Package, forthcoming
Children need to be healthy and well-nourished in order to concentrate and learn, leading to better attendance and lower drop out, as well as long-term health. Early child care and development (ECCD) programs for children can be center or home based, formal or non-formal and include parent education. The following trends in the landscape of ECCD are worth mentioning:

- Increased funds and attention from donors to preschool education, as the sustainable development goal target 4.2 on education relates to quality early education for all children by 2030.
- Persistent inequality: While those children most exposed to malnutrition and preventable diseases are most likely to benefit from pre-primary schooling, almost without exception, children from poorer and rural households and those socially excluded (e.g. lacking birth certificates), have significantly less access than those from richer and urban households.
- Urbanization is increasing the need for institution-based programs because women are entering more paid labor and there are less extended family members available as care-givers.
- Global health crises (especially HIV/AIDS and Ebola) and other emergencies (famine, natural disasters and war) affect the types and coverage of pre-schools.

Health and Nutrition Problems of Preschoolers

Children aged 3-5 years have a lower risk of dying compared to the younger children, but a higher risk than school age children (5-14 years). The main killer diseases for 3-5 year olds are injuries and communicable or infectious diseases such as pneumonia, diarrhea, measles and malaria. Measles is a disease which is entirely preventable by immunization. Mortality due to all these diseases is increased by HIV infection1.

Estimates suggest that more than 200 million children under five fail to reach their developmental potential because of poor nutrition and poverty2. Four key risk factors that prevent children from reaching their developmental potential include stunting (small height for age), iodine deficiency, iron deficiency anemia and inadequate cognitive stimulation in early childhood3. These affect children’s school readiness, future school performance and threatens their long-term physical and mental health. Additionally, Vitamin A deficiency affects 250 million preschool children, being the leading cause of preventable blindness in children and increasing the risk of disease and death from severe infections. Some diseases are

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2 Grantham-McGregor et al, 2007 Developmental potential in the first 5 years for children in developing countries Lancet 2007; 369: 60–70
“invisible”, because the child may not present pain, fever or other external physical signs and parents may not notice them, such as anemia, malaria, intestinal parasites or schistosomiasis. Children 3-5 years old are more likely to be infected with worms than infants because they are more active, play outdoors, in open water, and walk further barefoot.

Preschool age is an important time to detect hearing and vision problems so that children can go on to primary schooling with the appropriate devices or treatment to enable them to learn.

WHO reports that every day more than 2000 children die from preventable injuries such as road traffic injuries, drowning, poisoning, burns and falls. Laws requiring child restraints are much less common in low- and middle-income countries. Boys tend to have both more frequent and more severe injuries than girls.

Health and Nutrition in Preschools

There is a relatively large amount of evidence and guidance on the most cost effective health and nutrition strategies for schools and school age children, but very little evidence on preschool health and nutrition. This document is focused on center-based education, and the opportunity it provides to address children’s health and nutrition early on in their lives.

Preschools offer the opportunity to address health, hygiene, nutrition and safety among young children, not only enhancing their immediate health and learning ability, but also preparing them for primary school and life-long learning.

The FRESH framework (Focusing Resources on Effective School Health) is an internationally agreed-upon framework for school health and nutrition launched at the World Education Forum in Dakar in 2000. International partners agreed that school health and nutrition was an essential element of quality education and education for all goals: Children must be healthy to learn and learn to be healthy – and recommended four programming pillars to address health and nutrition problems in schools:

1) Equitable school health policies
2) Safe learning environment
3) Skills-based health education
4) School-based health and nutrition services

FRESH also builds on three cross-cutting strategies: a) effective partnership between health and education sectors, b) community participation and ownership, c) child participation. We believe that this framework can also be used to guide preschool health and nutrition programs. This guidance draws on the FRESH framework and recent guidance developed by FRESH partners. However, due to the younger age, some adaptations are necessary in the preschool context, for example:

- Nutritional needs of 3-5 year olds are different
- Parents need to be more involved in health education
- Child participation relies more on activities rather than expressing views and opinions
- Safety from physical harm is an essential aspect of the safe learning environment
- Gender segregated toilets for preschool children are not as essential as in older ages

Before You Start, Understand the Context

Every context is different and the preschool health and nutrition priorities will be very different in an urban slum in Africa compared to a rural mountain community in Nepal. A rigorous situational analysis must be done to identify the main health

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1 http://apps.who.int/iris/bitstream/10665/43851/1/9789241563574_eng.pdf
2 http://www.unicef.org/eu/files/101322_000_Unicef_Brief_EducationNutrition_A4_v1r14.pdf
3 www.unesco.org/new/health-education
and nutrition problems in the area, existing programs to build on and the capacity of the preschool, community and
government systems.

**Situational Analysis for Preschool Health and Nutrition**

<table>
<thead>
<tr>
<th>Questions</th>
<th>Sources of Information</th>
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| **1 Access to preschools:** Which proportion of children are enrolled in preschool, and what are their characteristics? (Socio-economic, ethnic, gender)? What are the main causes of absenteeism, drop out, non-enrollment and lack of participation in preschools? | **Secondary data:** Information may be found in government/education departments.  
**Primary data:** School spot check and classroom attendance records. |
| **2 What are the main health and nutrition problems of preschool children?** | **Secondary data:** Prevalence of health problems from Demographic Health Survey (DHS), Multiple Indicator Cluster Study (MICS) and other national or district surveys and statistics  
**Interviews:** health authorities (national & local) and communities |
| **3 Are there any supporting policies for health and nutrition of preschool children?** What roles can be played by pre-schools? Is there a structured supervision for preschool, and does it include hygiene, safety, health and nutrition aspects? | **Secondary data:** We recommend reviewing national policies and regulations that promote health and nutrition of preschool age children, which you should be aware of, disseminate, keep up to date and train staff in. Be aware that there may be national and or subnational regulations. If you find certain policies don’t exist in your country, consider this as an opportunity for child-rights based advocacy in a child-rights governance or advocacy program. |
| **4 Who are the key stakeholders involved in ECD, preschools, and health or nutrition services?** | **Secondary data:** Government departments for ECD  
**Interviews:** education and health authorities (national & local), communities |
| **5 Which health and nutrition services are available to preschoolers and are they accessing them?** | **Secondary data:** Government/education departments, other NGO reports, or local initiatives  
**Interviews:** health authorities (national & local), education authorities, communities |
| **6 Do preschools provide a safe and healthy environment?** | **Secondary data:** Quality Learning Environment (QLE) data if available or pre-school inspection |
|   | 7 Do preschools promote healthy behaviors amongst preschoolers, parents and staff? Are hygiene, oral health, nutrition, physical activity and other health topics included in the pre-school curriculum? Is the total number of nutrition/hygiene/health education sessions defined per year? Which health topics are parts of the pre-service curriculum and qualification requirements for facilitators? Is hygiene, physical activity and common illnesses included? Is a “First Aid” certification part of the pre-service teacher training? | Save the Children internal documents: country-specific SHN operational manuals
Interviews: health authorities (national & local), education authorities, communities |
|---|---|---|
|   | 8 What are potential capacities, challenges and opportunities for a preschool health and nutrition program? | Secondary data: other NGO reports
Interviews: staff and communities |

The results should be used to discuss the problems, explore solutions with all stakeholders and design the program together. Community mobilization to sustain interventions and changes all start at this early stage.

**Evaluating Preschool H&N Programs**

A preschool H&N program should be able to measure progress from start (baseline evaluations) over time (mid-line and end-line evaluations). Preschool indicators can usually be measured more easily by an observational checklist. Facilitator and parent or caregiver data can be obtained by survey or knowledge tests. Children’s data should always be differentiated by sex (girls and boys). Be aware that 3-5 year old children cannot be surveyed in the same way about their knowledge, interest and attitudes as older school-age children, adolescents or adults. You may want to work with more qualitative observations to find out what has really changed in the preschool that you supported. Measuring some health indicators in children requires professional data collectors and ethical approval. Oftentimes, impact indicators will not be measured by a particular project. Remember, accountability means involving all stakeholders: children, parents, facilitators, professionals and authorities. For more detail, see Save the Children’s site on OneNet about monitoring, evaluation, accountability and learning.

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[1]https://onenet.savethechildren.net/whatwedo/me/Pages/default.aspx
Chapter 1: WASH

What you need to know about WASH

WASH stands for water, sanitation and hygiene. These facilities and practices could prevent 88% of diarrhea cases in the world\(^1\),\(^2\). Most diarrheal germs are spread from the stool of one person to the mouth of another, through contaminated water, food or objects. Diarrhea kills more than 2000 children every day – more than AIDS, malaria, and measles combined. Diarrheal diseases account for 1 in 9 child deaths worldwide, making diarrhea the second leading cause of death among children under the age of 5\(^3\). Frequent bouts of diarrhea, even if not fatal, have a detrimental impact on childhood growth and cognitive development\(^4\) and it prevents children from attending preschool and learning to their full potential. Other water and sanitation related diseases include trachoma, schistosomiasis and parasites or intestinal worms, which are also associated with malnutrition and poor child development.

Schools and preschools have the potential of doing both great harm and great good, depending on whether WASH facilities are available and functional and whether children and staff practice key hygiene behaviors. A preschool without safe WASH facilities will contribute to spreading diseases, whereas a preschool with safe WASH facilities with strict hygiene rules will prevent the spread of diseases and encourage the adoption of healthy practices from a young age. Poorly maintained WASH facilities also can contribute to spreading diseases. Preschools are also an ideal platform for introducing new WASH technologies and promoting hygiene within the community more generally.

Also see chapter 5 for diarrhea treatment and chapter 7 for worms.

**Recommended WASH Strategies**

- Hand washing with soap at critical moments (e.g. before eating, feeding a child or preparing food, after defecation or touching feces from a child). Fresh wood ash can be used instead of soap if soap is not available or affordable. The type of soap is not important, so-called “antibacterial” soap has not proven to be better than other soap and it is significantly more expensive.

- Safe drinking water which is free from microbial, chemical and physical contamination at levels which are dangerous to people’s health. Point of use methods to improve drinking water quality include chlorination, solar disinfection, filters or boiling.

- Sanitation facilities to safely dispose of feces and urine, such as latrines or toilets, and to maintain hygienic conditions, such as garbage collection and wastewater disposal.

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What Can Preschools Do?

I. Water and Sanitation Facilities

Hand Washing Facilities

- Child Friendly: Ensure that hand washing stations with soap are available and low enough for the smallest child in the preschool. Hand washing facilities can be simple and low cost, like tippy taps. It is important that water is poured over children’s hands and they do not wash hands in a common bowl using the same water.

- Water and soap or ash must be available for children at all times to wash their hands. Water for hand-washing does not need to be potable and water treatment should be saved for drinking where resources are scarce.

- Nudges: Signs near latrines leading to the hand-washing stations should be placed to remind children to wash their hands. Other incentives like a mirror above the hand washing facility also incite children to wash their hands.

- Hand towels are unnecessary and can spread diseases if shared; air drying should be taught.

Safe Sanitation

- Child friendly: Latrines should be child-friendly, and sized appropriately for small children. Children may be afraid of large holes or dark spaces, and the need for privacy may be less of an issue at this young age. Ask children about their preferences and adapt the latrine to children’s needs e.g. well lit, smaller hole, handle to hold onto, pictures on the wall etc. Latrines should also be constructed recognizing that young children often need assistance toileting, and so super-structures can be built with extra space to allow for entry by caregivers. For child protection issues, caregivers cannot be alone in the toilet with a child.

- Low cost: Latrines do not need to be expensive. There are many low cost models which communities can build themselves and are suitable for preschools. The preschool can even provide a platform for introducing new solutions into the community, such as ecological sanitation.

- Anal cleansing: Think about anal cleansing and what the child should learn to use in a particular context, and what material available and how it should be disposed.

- Other waste: Add waste bins around the preschool to encourage children to dispose of waste in a set place rather than around the preschool.

Before You Start!

Look up national water, sanitation and hygiene policies and regulations

- Minimum standards for water, sanitation and hygiene in preschools
- Provision and financing of soap and cleaning materials in preschools
Safe Drinking Water

- Treat: Make sure that safe potable water is available in sufficient quantity for drinking and cooking at the preschool. The most effective way is to treat it at the point of use i.e. at the preschool itself. There are different options for treating water, these include boiling, filtering, chlorination or sunlight (SODIS).

- Store: To prevent contamination, drinking water should be stored in a covered container with a tap, or that the water can be poured into individual cups or bottles for children to drink from. Avoid open buckets and dipping cups into the water.

- Test: Drinking water should be tested annually to ensure that it is safe to drink, ie has no fecal bacteria in it. Water testing kits are available in some countries, which the preschool staff can use to test their water themselves. The water source should also be tested at least once, especially if it is newly installed, in a laboratory to check for heavy metals such as arsenic or lead, and other chemicals.

Maintenance of Water and Sanitation Facilities

A system must be put in place to ensure the water and sanitation facilities are appropriately maintained: the drinking water is treated, the latrines are clean and water, soap or ash are available at the hand washing facility at all times. Consider the availability of replacement parts and skilled people to do maintenance. This system should be decided by the community and preschool staff.
2. Educate

The most important hygiene behaviors children must learn during preschool are:

- **Use the toilet or latrine (not the bush)** to defecate. Children need to learn how to use the facility.

- **Wash hands with water and soap (or ash)** at key times, after going to the toilet and before eating. Children should learn how to wash hands (rigorously and air dry).

Additional hygiene behaviors to learn:

- Wash face and eyes with water every morning (prevents eye infections like trachoma).

- Throw trash into bins.

- Sneeze or cough in their elbow, not into their hands or in the air.

With preschool children, you should practice daily group hand washing with soap or ash at the preschool at least before meals. Consider additional times for hand washing when arriving at school or after playing outdoors. Group hand-washing with singing and dancing is a good way teach children how to wash hands and get them in the habit.

   Each child also needs to remember to wash hands after defecation, after playing with animals and after sneezing or coughing.

   Children should know that dirt on our hands can cause disease, which is why we have to wash them away from our hands. If ash is used instead of soap, children need to know that ash looks dirty, but it is not really dirty, because all the diseases have been burnt. Facilitators must also teach children how to use sanitary facilities independently, how to wipe themselves (from front to back for girls) and wash their hands afterwards.

With parents, communicate that these practices should be reinforced in the home and that parents need to provide enough water and soap at home too. Encourage parents to build these behaviors into their daily routine (when they wake up, wash face with water and hands with soap etc). Additionally, parents need to teach their boys and girls to keep their external genital parts clean, boys pulling back the foreskin if they are not circumcised, and girls cleaning from the front to the back so that they do not contaminate the urinary area with feces.

With preschool staff, train staff to also practice these behaviors at the preschool. They must wash their hands with soap at key times too: after using the latrine, handling food (preparing, distributing and helping to feed), treating a sick child, etc.

With the community, set a system up for maintaining the WASH facilities. This includes turns for daily cleaning of the facilities, resources to replace the soap and repair the facilities.

*In Matagine Mozambique children wash their hands upon arrival at school with the help of preschool classroom teacher, Palmira Joo Manhique. Photo credit: Save the Children*
List of Resources at the Preschool for WASH

- Water for hand washing (not necessarily drinking water quality)
- Water points and draining for hand washing
- Soap (powdered, liquid or bar, considering costs) or ash. In some circumstances consider alcohol disinfectant.
- Safe potable water for drinking (including supplies for making water safe).
- Sanitary stalls: low enough for the smallest child at the preschool.
- Toilet paper or water for anal washing as culturally appropriate
- Education material (pictures, songs, model fly, model feces)
- Cleaning material (brooms, wipes, water for washing sanitation facilities)

WASH Indicators

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<th>Impact</th>
<th>Outcome</th>
<th>Output</th>
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<tr>
<td></td>
<td>% of preschool children whose caregivers report diarrheal disease in the past 2 weeks</td>
<td>% of children who washed their hands after using the toilet during spot observations.</td>
<td>% of preschools with hand washing facilities (soap/ash and water)</td>
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<td></td>
<td></td>
<td>% of facilitators who practice group hand washing with soap every day</td>
<td>% of preschools with safe drinking water</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>% of preschools with functional latrines</td>
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Other Information

http://www.unicef.org/wash/schools/
http://www.unwater.org/downloads/TP_48_WASH_schools_07.pdf
Chapter 2: Food and Nutrition

What You Need to Know About Food and Nutrition

Good nutrition in the 1,000 days between a woman's pregnancy and her child's second birthday sets the foundation for all the days that follow. However, if children 3 to 5 years old receive good nutrition and stimulation, this can help offset any developmental delays caused by earlier malnutrition. What is more, good nutrition and the alleviation of hunger encourages children to attend pre-school and enjoy being there.

Malnutrition is caused by a poor diet and disease. Many young children are anemic due to iron or other micronutrient deficiencies, or parasitic diseases (such as malaria, schistosomiasis, or hookworm). Many are thin, stunted or obese. Children who are malnourished become tired more easily, they get sick more often, and they have difficulties concentrating and learning.

All types of malnutrition are prevented by eating a healthy diet, by preventing or treating infections, and by exercising regularly. Pre-schools are a potential access point for engaging parents and community members in the prevention of malnutrition. Pre-schools can also directly help improve children's health and nutrition. Moreover, by providing young girls with educational opportunities and better health, the risk of malnutrition for future generations is reduced.

Preschools must either provide a meal or snack or ensure that children bring these from home every day because hungry children cannot concentrate and learn. Preschools must ensure that the foods eaten are hygienic and nutritious. Teachers can also be trained to give supplements and to refer children to nutrition services when necessary.

Recommended Food and Nutrition Strategies

- Micronutrient supplementation and deworming: Vitamin A, iron, and multiple micronutrient supplementation can be provided and combined with deworming.
- School feeding: Pre-schools can provide meals and snacks that include a variety of hygienic and healthy foods and non-sugary drinks. The food can be sourced locally.
- Health and nutrition education: Children can learn about healthy food and hygiene through games, classroom activities, and by maintaining a school garden.
- Training facilitators to diagnose, treat and refer: Facilitator can monitor children’s nutrition, and provide supplements or refer parents to health services.
- School-wide policies and capacity building: School infrastructure and policies help ensure good hygiene is maintained, including in food preparation areas.

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Preschools provide a great opportunity for nutrition education. School gardens, including farms, fish ponds, livestock, or poultry, tree nurseries for fruits or firewood, may generate food to complement school feeding but have not shown sustainability at a large scale. However they can be used to teach children about healthy good and nutrition.

See chapter 5 for diarrhea treatment, chapter 7 for worms and chapter 3 for physical activity.

**What Can Preschools Do?**

1. **Micronutrient Supplementation**

   Preschools can offer micronutrient supplementation (in combination with other interventions, particularly deworming — see chapter 7), as well as refer children to the appropriate health services. Micronutrient supplementation programs in preschools should be operated in accordance with national guidelines, based on WHO recommendations:

   **Iron supplements** (25 mg elemental iron) in drops or syrup weekly for 3 months, where prevalence of anemia in preschool children is 20% or higher.

   - Note: in malaria endemic areas, iron supplementation must be implemented in conjunction with malaria control.
   - Iron sulfate is recommended. Iron fumarate or gluconate have a better absorption than iron sulfate, but are MUCH more expensive.
   - Adding Vitamin C supplement increases the absorption of iron, but is also an additional cost.
   - If there is a known nutritional high risk time of the year, supplementation should be applied during those months.
   - Children, parents and teachers must be informed that iron supplement can produce black color of feces and that this

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is not dangerous.

- Especially in anemic children, the tablets sometimes cause nausea, vomiting or abdominal pain. Children who experience this should NOT STOP receiving the supplements, but should be able to lie down for 20 minutes, drink a glass of water and take their next weekly doses after a meal, not on an empty stomach. These potential reaction must be explained to the facilitators, parents and children before they occur to avoid misunderstanding that can lead to parents refusing iron supplementation for their children.

Vitamin A supplements in capsules of 200,000 IU every 4-6 months.
Multiple micronutrient supplements offer the potential to address micronutrient deficiencies in addition to iron and vitamin A, including iodine. They may be available as pills or syrups, but also as sprinkles or powders to be added to plate of food every day.
Zinc supplements for stunted children are not yet a WHO recommended intervention but many countries apply it due to the apparent positive effect on linear growth.

2. School Feeding

Children aged 3 to 6 should eat 5 times per day (3 meals and 2 snacks). These meals and snacks can either be prepared at the preschool or be brought by the children from home. In some places, children get an additional “take-home” ration to encourage attendance.

Pre-schools should, if possible, use micronutrient rich food produced in the community or school garden. ‘Home grown’, ‘locally grown’ food also supports local farmers by creating a stable demand for their products. If meals are prepared in school, parents can be involved and receive tips on healthy diets and recipes.

Further considerations include:

- Ensure inclusion of all or most food groups in the school meal, particularly food groups that are lacking in local diets i.e. foods from animals, fruits, and vegetables. Include fortified foods and non-sugary drinks (e.g. safe water or milk).
- Fortified food: in almost all countries, salt is fortified with iodine. In many countries, oil or sugar are fortified with Vitamin A, flour or rice with iron or folic acid. For school feeding, fortified foods should be used when available.
- Micronutrient powders or sprinkles may be added.
It is important to be aware of possible pitfalls of feeding programs, such as their relatively high cost compared to other interventions. Also, pre-schools may lack the structure to cope with a sudden increase in attendance due to food distribution, with negative effects on learning.

Cooks have to be trained and supervised on the Five Keys to Safer Food\textsuperscript{1}: 1. Wash hands before and during food preparation, 2. Keep raw and cooked food separate, 3. Boil cooked food thoroughly, 4. Serve prepared food within two hours or keep it at safe (cold) temperatures and 5. Use safe water.

### 3. Nutrition Education

Young children should learn about

- Healthy food which we should eat every day
- Unhealthy food that should only be eaten sometimes

They should learn where food comes from (e.g. milk comes from cows, orange juice comes from oranges etc.). Children can learn about certain foods being important to eat as in the table at right. The food items should use the local names of available and accessible foods. Nutrients (Vitamin A, Iron, protein) are abstract concepts and should not be taught at this age.

Moreover, mealtimes are a great opportunity to talk about good food, good hygiene and how to eat nicely together. Children learn how to wash hands before eating, clean up and brush their teeth after meals.

It is the facilitator’s role to talk to parents about their children’s needs for food and nutrition (e.g. Vitamin A supplements, deworming medicine, growth monitoring), and to promote play and outdoor exercise. Facilitators can also be trained to recognize the signs of malnutrition and hunger, and to know what to do, and when to talk to parents and refer them to health services. They can also give deworming and micronutrient supplements.

With parents, consider training sessions on basic nutrition, food preparation and recipe sharing.

### 4. School Infrastructure and Policy

The preschool itself can become a site for nutrition service provision, reaching the students, their siblings and even non-enrolled children. Pre-schools should to be built and managed in a way that promotes good nutrition, by:

- Eliminating sweet and junk food (i.e. carbonated soft drinks, candy and industrially produced/ fried food).
- Ensuring that preschool kitchens are safe and hygienic, with special attention to:
  - sufficient water for cleaning and hand-washing
  - prevention of burns and fires
  - safe food storage and waste disposal

<table>
<thead>
<tr>
<th>Benefits of the Food</th>
<th>Food Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>For my eyes</td>
<td>I eat mango</td>
</tr>
<tr>
<td>For my blood</td>
<td>I eat goat liver</td>
</tr>
<tr>
<td>To grow</td>
<td>I eat black beans</td>
</tr>
</tbody>
</table>

**List of Resources at the Preschool for Food and Nutrition**

- Micronutrient supplements (Vitamin A, Iron, Zinc or multi-vitamin products)
- Sufficient safe water (see WASH)
- Food for preparation or snacks brought from home
- Education material on nutrition

\textsuperscript{1} http://www.who.int/foodsafety/publications/5keysmanual/en/
Food and Nutrition Indicators

<table>
<thead>
<tr>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>All compared to the WHO Child Growth Standards median. Please note: this indicator can only be measured by trained and standardized anthropometrists with weight scales and height boards according to WHO standards.</td>
</tr>
<tr>
<td>Outcome</td>
</tr>
<tr>
<td>Outcome</td>
</tr>
<tr>
<td>Outcome</td>
</tr>
<tr>
<td>Outcome</td>
</tr>
<tr>
<td>Outcome</td>
</tr>
<tr>
<td>Output</td>
</tr>
<tr>
<td>Output</td>
</tr>
<tr>
<td>Output</td>
</tr>
<tr>
<td>Output</td>
</tr>
</tbody>
</table>

Other Information

http://www.schoolsandhealth.org/Pages/SchoolNutrition.aspx

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1 http://www.who.int/childgrowth
Chapter 3: Physical Activity

What you need to know about physical activity

Physical activity is very important for children’s motor skills, growth and brain development. During preschool years, children acquire basic movement skills, such as running, jumping and skipping. They also learn to control objects such as balls by throwing, kicking, catching and hitting. Finally, children learn to combine different movement patterns into sequences to accomplish a specific goal. This is called “executive function” and is a very important part of school readiness.

Learning is frequently based on play and the physical activity associated with it. When children move around, there is an increased flow of blood and oxygen to the brain. Therefore motor skills and physical activity are important for brain development, particularly math skills. Physical activity throughout the day may even improve students’ attention and behavior while in school.

Sedentary life-style is becoming increasingly prevalent in middle-income countries, due to rapid economic development, urbanization and industrialization. Thus, childhood obesity is steadily increasing in developing countries, especially in urban areas. Physical inactivity or sedentary life-style is a leading risk factor for non-communicable diseases such as diabetes, heart disease and cancer, which are leading causes of death in the world. Overweight children are more likely to remain obese into adulthood and to develop chronic diseases.

Preschools provide an excellent setting to increase activity levels among children by enabling them to acquire knowledge and skills, by providing them with opportunities to be physically active through an activity-friendly environment.

See also chapter 2 about healthy nutrition.

Recommended Physical Activity for Preschoolers

- Preschool children should be active all day. At least 60 minutes of physical activity should be part of the daily routine.
- This should include vigorous activity, which means that children need to breathe faster than they do while sitting.
- Physical activity includes both indoors, such as short activity breaks or integrated dance and movement, and outdoors for physical exercise, sport and play.

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What can preschools do?

1. Create an “activity-friendly” Preschool

The preschool ground needs to create a supportive environment\(^1\) for children to be able to move and play. This refers to both the space, equipment, as well as established rules regarding safe play, especially between older and younger children. All children, boys and girls, need to be active during most parts of the day.

Dance, games and movement can be integrated into daily classroom activities, along with regular short burst of physical exercise for a few minutes. Physical education sessions encourage children to participate in activities and sports. Sports days or other events can encourage parents to get involved and enjoy physical activity with their children.

2. Educate

The most important behaviors children must learn during preschool are:

- Run around, climb and jump without hurting yourself and others
- Do not eat sweets or drink sugary drinks
- Eat fresh fruits and vegetables and drink pure water

For parents, explain that physical activity will help their children learn, and advise them on limiting the amount of time spent inactive in front of screens (TV, computers, game boards, smartphones or other devices). Parents can set a positive example by leading an active lifestyle and by learning to play outdoor games with their children, which will also improve their own health.

Preschool facilitators need to be trained on making physical activity fun and to integrate physical activity into other learning such as early literacy, early math and music. Facilitators should also be able to incorporate learning the rules of fair play into physical activity.

Facilitators can integrate physical activity into the days by:

- Encourage children to play actively and go outside during breaks
- Incorporate movement into learning activities or add short bursts (5-20 minutes) of physical activity such as doing jumping jacks or running in place into planned breaks
- Read a story aloud while students walk at a moderate pace around the room, and then ask students to identify the verbs or action words in the story by acting them out through physical activity

Facilitators must not use physical activity as punishment, by either withholding opportunities for children to play or making them do something active as a punishment. This can cause children to develop a negative attitude towards physical activity.

Before You Start!

Look up national policies and regulations about physical activity

- Standards for physical activity equipment in preschools
- Physical activity restrictions due to gender norms or safety concerns


http://www.who.int/dietphysicalactivity/pa/en/
List of Resources for Physical Activity at a Preschool

- A safe space outdoors
- Physical education materials (balls, hoops, jump rope, mats) to help structure physical activity
- Musical and rhythmical instruments to encourage dancing or moving with music

In West Showa Program Area, Ethiopia, Abebe Dejene, 6, gets physical activity playing a game similar to “Duck Duck Goose” in the school yard. Photo credit: Save the Children.
## Physical Activity Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Impact</th>
<th>Outcome</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Impact</strong></td>
<td>% of children 3-5 years old who are overweight or obese according to WHO growth curves (&gt; + 2 SD Weight/Height) Please note: this indicator can only be established by trained and standardized anthropometrists with weight scales and height boards according to WHO standards.</td>
<td>Average time per day during preschool time with vigorous-intensity physical activity. % of facilitators who teach basic motor skills and movement patterns, applying physical activity in learning activities. % of parents who report less than one hour screen time or sitting activities of their preschool children in the last 24 hours</td>
<td>% of preschools with a safe and clean outdoor playing field that can be used for recess, sports, physical education or other physical activity. % of facilitators with specific training in physical education, gross motor skills or related topics.</td>
</tr>
</tbody>
</table>

### Other Information


Chapter 4: Teeth

What you need to know about teeth

Across the world, 60% to 90% of school age children are affected by dental caries which causes pain, affecting children’s ability to eat, chew, speak, pay attention and learn in class. At age 5, children go through the crucial second dentition: losing temporary teeth, sometimes called “milk” or “baby” teeth and erupting permanent or adult teeth. Dental caries can lead to premature loss of milk teeth which in turn may lead to wrong alignment of the permanent teeth. Loss of a tooth impacts the child’s appearance, their nutritional intake and, consequently, their growth, speech development and self-esteem. Bacterial infection in the mouth may cause heart or kidney disease when children reach adolescence. Gum disease or “gingivitis” is another very common problem, with bleeding of the gum tissue that may lead to teeth falling out.

The three main causes of dental caries and gum disease are:

1. Eating or drinking sugar. Bacteria in the mouth produce acid when a person eats sugary foods. This acid eats away minerals from the tooth’s surface, making the tooth weaker and increasing the chance of developing cavities.

2. Not getting enough fluoride. The mineral fluoride helps to rebuild and strengthen the tooth’s surface, or enamel, thus preventing dental cavities. Fluoride can be obtained from fluoridated drinking water, salt, milk, toothpaste or mouth rinse, as well as from professionally-applied fluoride varnish. Too much fluoride, however, is toxic and damages teeth.

3. Not brushing teeth. Poor oral hygiene by late introduction or inconsistent tooth brushing makes sugar and other food stay in the mouth, producing acid, especially overnight when we do not talk or move the tongue.

For caries, under-nutrition is a risk factor, whereas for gum disease, overweight or obese children and those with developmental delays or neurologic disease are at a higher risk. Additional to caries and gum disease, many children get tooth injuries through accidents. Finally, children infected with HIV may have oral disease which makes it painful for them to eat or speak.

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See also chapter 2 on nutrition and chapter 6 on preventing injuries.

**Recommended Oral Health Strategies**
- Effective use of fluorides. Fluoride varnish is effective also on temporary teeth.
- Low sugar diet
- No smoking
- Oral hygiene by brushing teeth at least twice a day
- Protection from accidents in sports, vehicles, playgrounds and preschool buildings


**What Can Preschools Do?**

1. Reduce Sugar in Preschool Food and Drink
   Ban foods and drinks that are high in sugar served in and around the preschool. Work with the community and parents to find alternative healthy snacks and drinks to sell or provide in the preschool. Make sure that if food or drinks are served, that tooth brushing or at least mouth rinsing is practiced after the meal.

2. Educate
   The most important behaviors children must learn during preschool are:
   - Brush your teeth at least twice a day (AFTER breakfast and BEFORE sleeping)
   - Do not eat sweets or drink sugary drinks between meals
   - Visit a dentist once a year and if you have a toothache

Oral health messages will vary by context and depend on the resources available. For example in some parts of the world, plastic toothbrushes and fluoride toothpaste may not be affordable or available and regular tooth brushing with sticks may be more appropriate even if less effective. Check nationally approved messages and use those if they exist.

With preschool children, practice tooth brushing in the preschool, supervised by the facilitator, once per day after a meal. Ideally, use fluoride containing toothpaste. Rinsing after tooth brushing is not necessary and is in fact discouraged, since the teeth benefit from longer exposure to fluoride. Tooth brushing can be incorporated into emergent numeracy (counting the number of brush strokes), literacy and concept learning (up and down, circles, left and right, before and after, etc). Health staff can be invited to teach correct tooth brushing. Children should know that food remnants in our mouth “eat up” the teeth, which is why we have to brush them away.

With parents, promote daily tooth brushing at home (for at least two minutes each time), especially at night before going to sleep, with fluoride-containing toothpaste if possible. Children may enjoy controlling the time with a device such as a sand clock. Raise awareness on the dangers of consuming sweet, sugary drinks and foods.
3. Link to Dental Services

Organize an annual visit by dentists to the preschool to check children’s teeth, apply fluoride varnish simple treatment.

Encourage parents to take their child to the dentist once a year. Ensure that pain relief medication is available in the first aid kit for children at the preschool who experience toothache.

Refer a child to the health center or dental services if the child has dental pain.

Resources for Preschool Oral Health

- Safe water for tooth brushing
- Education material (pictures, songs, big toothbrush, model mouth)
- Toothbrushes (one for each child, if possible change every 4 months) or sticks
- Toothpaste (if this is too expensive, use only water)
- Pain killers for 3-5 year olds (paracetamol/acetaminophene in drops or syrup) with easy pictorial dosage instruction for the facilitator
## Oral Health Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact</td>
<td>Average number of caries (decayed, missing or filled teeth) at 6 years. % of children aged 6 years with dental caries. Please note: This indicator can only be established by a dentist specifically trained for this assessment, usually a public health unit of the dentistry school, trained by WHO.</td>
</tr>
<tr>
<td>Outcome</td>
<td>% of parents who report that their children brushed teeth twice in the last 24 hours prior to survey % of children which had a dental screening visit in the last 12 months</td>
</tr>
<tr>
<td>Output</td>
<td>% of preschools with a daily tooth brushing routine for children % of preschools where the provision of foods and drinks high in sugars is banned.</td>
</tr>
</tbody>
</table>

*Photo credit Caroline Hilari.*

## Other Information


Chapter 5: Common Illnesses

What you need to know about common illnesses

Children at preschool age get sick more often than older children or adults, because their defense system is still building up and because they are more exposed to germs due to improper personal hygiene. About two-thirds of child deaths could be prevented by interventions that are available, inexpensive and feasible. Parents need to be aware of measures they can take to prevent and treat common illnesses; and preschools can play a role in educating parents as well as in providing facilities and services that ensure children stay healthy. Many ministries of health have a protocol called “Community based - integrated management of childhood illnesses” (CB-IMCI) which helps classify if the child needs to be seen immediately by a health worker or if it can be managed at home, for the most common illnesses such as fever, cough, colds, diarrhea, skin infections and malaria.

Cough, Colds and Ear Infections
Coughs and common colds are due to an acute viral or bacterial infections of the upper respiratory tract and are sometimes accompanied by a fever. A cough can be a simple self-limited disease or it may be a life threatening infection of the lungs; pneumonia, which is the most important killer of children under five years. Exposure to smoke from solid fuel puts children at risk of acute respiratory illness. Smoke from tobacco is also very harmful to children, because it increases their risk of pneumonia, ear infection, asthma, sudden infant death syndrome and even cancer in adult life.

Colds can sometimes lead to an ear infection, which causes pain and pus coming from the ear. When this goes on for 2 weeks or more, it is called chronic middle ear infection or “chronic otitis media”. This is a common cause of hearing loss in children, see chapter 8.

Diarrhea
Diarrhea (frequent runny stools) is the second cause of death in children under 5 years of age. For diarrhea prevention see chapter 1 on WASH of this book. Once a child has diarrhea, it must be treated promptly with Oral Rehydration Therapy (ORT) to replace the loss of fluids and salts and prevent dehydration. If there is no ORT at the preschool, the child should be given lots of drinking water and parents should be contacted. It is also important to prevent the spread of diarrhea from one child to another in the preschool, see chapter 1.

Rashes and Skin Infections
Hand Foot and Mouth Disease is a common viral illness among preschoolers accompanied by fever, sore throat, sores in the mouth and rashes in the hands and feet which last for a week. It is transmitted through contact and secretions.

   http://apps.who.int/iris/handle/10665/104772
4 http://www.who.int/pbd/deafness/en/chronic_otitis_media.pdf?ua=1
Impetigo is a bacterial skin infection which causes honey-crusted sores around the mouth, nose, arms and legs, and is also spread through contact. Ringworms are fungal infections which cause small, reddish circles on the body and scalp and it is spread by contact. They have nothing to do with intestinal parasites. External parasites such as fleas, lice, ticks, mite, scabies and jiggers are also quite common among children between 3 to 5 years. In these cases, the child should be referred to a health service. If no health service is available, the preschool facilitator can apply a skin disinfectant, see chapter 6 of this book.

Other infectious diseases which cause fever and skin rashes are chickenpox, measles and rubella. These infections can be prevented by immunizations; see chapter 7 of this book for more details. Epidemic diseases like flu or Ebola and mosquito transmitted diseases such as Dengue, Chikungunya, Zika, Leishmania or Chagas can all affect preschool children. For malaria or Dengue, see chapter 9 of this book.
### Recommended Strategies for Common Illnesses

- **Detect**: The parent or preschool facilitator is usually the first to identify if the child is sick. They must notify each other and agree if the child needs to rest at home for the period of the illness. The parent must also approach a community health worker or health profession, in order to identify the illness and seek treatment.

- **Treat**: Children have a right to receive care when they are ill, whether that is at home, at school or if needed, in a hospital. All cases of diarrhea should be treated immediately with oral rehydration therapy.

- **Prevent spread**: Preschools should apply hygiene and cleanliness measures to prevent diseases from spreading. If a child has an infectious illness, s/he should remain at home till completely well. In some cases, it may be necessary to close the preschool for disinfection or during epidemics.

### Before You Start!

**Look up national policies and regulations for childhood health care**

- A comprehensive national child health strategy
- Subsidized care for children 3-5 years, including consultation, medication, hospitalization

### What can preschools do?

1. **Apply a policy on prevention and treatment for sick children**

   Preschool facilitators are responsible for keeping track of children’s health.

   Observe children as they arrive to see if any children appear to be ill and perhaps need to be kept away from the other children so that they do not spread illness. In some settings, the facilitator can do a temperature check using a digital thermometer to assess if there is an underlying infection.

   Develop and disseminate guidelines and flow-charts for parents on identifying danger signs, and what to do with sick children, when should the child stay home.

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and in which case the child should be brought to a health center. Include an emergency list of phone numbers for parents to call.

Keep up to date emergency phone lists of parents or guardians in the preschool.

Provide preschools with up to date referral system to the nearest health care available. If a child seems to have a continuing health problem, facilitators can help the family get connected with a health worker.

Children who are taking treatment need to continue to do so during their stay at the preschool. Facilitators may be responsible for administrating oral medicines and need clear instructions from the health worker.

A First Aid Kit should contain a thermometer, basic anti-fever medication (paracetamol/acetaminophene), cold pack, wound dressing (scissors, tweezers, gauze or “band-aids” and skin disinfectants) and Oral Rehydration Therapy (ORT) sachets. The First Aid Kit should never be out-of-stock, which means that replenishment needs to take place when a minimum of stock is still available.

Provide a smoke-free environment, avoiding that children are exposed to smoke from kitchen, ovens and incinerators/burning of trash. Forbid tobacco smoke on preschool premises at any time.

If a child has diarrhea at the preschool, safe disposal of the feces and washing hands with soap (child and facilitator) is especially important to avoid transmitting the diarrhea to other children.

Apply rigorous cleaning to the preschool room floors, surfaces and toys with disinfectants such as chorine if an infectious disease has been detected.

2. Educate

Children should learn very simple ways of dealing with fever, diarrhea and cough by themselves or for their siblings, such as resting and drinking more safe water when ill.

Parents or caregivers must know effective ways of treating children at home, learn to recognize danger signs in their children and use health care services in those cases. Parents should also enforce hygiene behaviors at home (handwashing with soap after toilet usage and before eating, and washing the face, hair, body and feet regularly) to avoid diarrhea and skin infections.

Preschool facilitators need basic training on how to take care of a sick child. The training should include the following elements:

- Identifying the sick child and assessing the symptoms e.g. fever, cough, diarrhea, respiratory problem, injury.

- Facilitators should be able to recognize few but frequent life threatening illnesses that could lead to death if not treated promptly. These conditions include very severe febrile disease, pneumonia, dehydration, dysentery and malaria. Health care staff can train the preschool facilitators using IMCI protocols and flow charts.

1 The two words are generic names of the same drug
• Refresh training for new epidemics such as Ebola, Flu and other illnesses as appropriate.
• Facilitators should be able to recognize the most common skin conditions and disinfect the skin of affected children.
• Caring for the sick child at the preschool e.g. lie the child down, give him a drink, put a wet cloth on the forehead to bring the fever down, give a dose of paracetamol.

List of Resources for Common Illness Treatment at a Preschool
• First aid kit with fever medication, skin disinfectant and ORT sachets.
• Thermometers (if this is too expensive, facilitators can be taught to detect high fever with their hands).
• Referral slips to health care center.
• Education material for facilitators and parents, IMCI flowcharts for recognizing danger signs and pictures of skin diseases.

Common Illness Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of days children are absent from preschool due to any illness in a given period (month, trimester)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of facilitators who pass skills test on recognizing danger signs for immediate referral</td>
<td></td>
</tr>
<tr>
<td>% of parents or guardians who know danger signs for cough and diarrhea.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of preschools that follow a written policy/guideline/rule about what to do with sick children.</td>
<td></td>
</tr>
<tr>
<td>% of preschools with a smoke-free environment for children.</td>
<td></td>
</tr>
<tr>
<td>% of preschools with First Aid Kit including fever medication and skin disinfectant.</td>
<td></td>
</tr>
</tbody>
</table>

Other Information
Chapter 6: Injuries

What you need to know about injuries
Child injuries are a growing global problem. Each day, close to 2,000 children die from unintentional injuries, such as traffic crashes, drowning, poisonings, burns and falls. Unintentional injuries are the leading cause of death for children in many countries. In addition, millions of others suffer from non-fatal injuries which often lead to disability and other lifelong consequences. The young age of children, the stage of their development and the manner with which they interact with the world make children especially susceptible to injuries. As outlined in the Convention of the Rights of the Child\(^1\), ratified by almost all governments, countries have the responsibility and obligation to protect and ensure safety in the care and protection of children. Standardization of safety education curricula increases the likelihood that all children will receive similar information. Child injury prevention should be shared between many sectors and integrated into a comprehensive approach to child health and development.

If a child presents injuries frequently, preschool staff must investigate to determine if these injuries were a case of child abuse.

See also chapter 5 for common illnesses and the use of a first aid kit.

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Recommended Strategies for Injury Prevention

- Prevent the creation of the hazard in the first place, i.e. do not store any unsafe products at the preschool. If medicines (iron supplements, paracetamol) are kept at the preschool, they should be kept in child-resistant medicine containers.
- Separate children in time or space from the hazard, i.e. create bicycle and pedestrian pathways to the preschool.
- Reduce the severity of the hazard, i.e. speed reduction for vehicles around the preschool and use of seat-belts and child restraints.
- Create softer playground surfaces.
- Provide first aid treatment for scalds (“cool the burn”), stabilize, repair and rehabilitate the injured child.


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http://www.ohchr.org/EN/ProfessionalInterest/Pages/CRC.aspx
What can preschools do?

1. Help Children to Arrive Safely at preschool

Children should be protected from the most common accidents on their way to the preschool, which may require improving the surrounding of the facility to prevent accidents, including the roads around the preschool (e.g. zebra crossing, fencing).

2. Stay Safe at the Preschool

The entire preschool environment needs to be monitored regularly for safety, for example:

- The playground surface material should be the least harmful, i.e. sand is softer than concrete.
- Ensure that the cooking and waste areas are safe distance from children’s play area
- Ensure that there are no outdoor landscape hazards such as overgrown landscaping, garbage, broken windows, water leaks, open wells or water reservoirs.
- Locate schools away from roads or from high trafficked roads.

3. Educate

The most important behaviors children must learn during preschool are:

- To cross roads safely. Children need to learn where to cross and how to watch out for vehicles.
- To stay away from open fires, electric cables, poison and other dangers at home.
- To clean small injuries with water and soap.

Children can learn very simple first aid measures such as cleaning a superficial wound with water and soap. Engage child care personnel and parents to adopt practices such as:

- The use of safety devices (e.g. helmets and seat-belts) for children and adults
- Swimming lessons
- Improved accident prevention at home
4. Treat Minor Injuries

Implement a first aid kit (see chapter 5 for contents).

- Make sure that refill funding and purchasing plans are in place so that the kit is does not stockout/run out of supplies.
- Train facilitators in first aid; consider Red Cross/Crescent certification.
- For more serious accidents and diseases, teachers should know which health facility to refer to (address, opening hours, costs, transport, if possible telephone contact)

**List of Resources at the Preschool for Injuries**

- First aid kit
- Easy to read, pictorial guidelines on how to deal with wounds and other injuries for facilitators
- Teaching material for children (pictures, play-“first aid kit”)
- Promotion material for parents on road safety
- Checklist for preschool safety inspection, including outdoor and near roads.

**Injury indicators**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Impact</th>
<th>Outcome</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% of parents reporting their children had fall-related, motor vehicle-related and/or fire-related injuries in the past 12 months.</td>
<td>% of parents reporting that their children wear a helmet when riding a motorcycle or bicycle. % or children trained about injury and prevention such as fires, drowning or poisoning. % of children trained about road safety, how to prevent motor vehicle accidents.</td>
<td>% of preschools with systematic routine monitoring and appropriate maintenance for injury prevention, safety issues and hazards, including playground, structure and buildings % of preschools with a first aid kit equipped to treat small wounds and fever upon spot check</td>
</tr>
</tbody>
</table>

**Further Information**

Chapter 7: Deworming and Vaccines

What you need to know about deworming and vaccines

There are three types of soil-transmitted helminthes (STH), commonly known as intestinal worms: roundworm or *Ascaris*, whipworm or *Trichuris* and hookworm or *Necator and Ancylostoma*. Additionally, there is schistosomiasis (known as bilharzia in many communities). These neglected tropical diseases affect millions of children worldwide. Although relatively few deaths are directly attributable to these worms, they do have chronic effects on growth, nutritional status, particularly iron and vitamin A deficiency, physical activity, cognitive development, mental concentration and learning. Children with STH infection may experience abdominal pain and distension, intestinal obstruction and increased susceptibility to other serious infections. School-based deworming, sometimes called “mass or periodic drug administration” or “preventive chemotherapy”, means giving deworming and/or schistosomiasis pills without previous diagnostic test, to all children. Preschools also provide an ideal setting for deworming.

Helminthes get transmitted by open air defecation and urinary schistosomiasis by urinating in open waters, both due to a lack of sanitation. To eliminate all worms, total sanitation is required, meaning that all human feces is safely disposed without contact to food or drinking water. For sanitation, please see chapter 1 of this book.

Vaccination, also called immunization, is one of the most cost-effective health investments. Vaccines prevent over 2 to 3 million deaths each year\(^1\) and reduce long-term disability due to a variety of “vaccine preventable” diseases, such as measles, hepatitis, tetanus, whooping cough, some forms of diarrhea among others. Some diseases have even been eliminated from earth thanks to vaccination.

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Preschool enrolment rates have been increasing, making pre-school immunization a promising opportunity to reach a large number of children. While most vaccines should be given before the child reaches one year of age\(^1\), some vaccines such as DPT (diphtheria, pertussis and tetanus) need booster dosages at pre-school age. Most vaccines must be given by injections and require a “cold chain” or refrigeration\(^2,3\).

### Before You Start!

Look up national policies and regulations regarding immunization and deworming
- Policy recommending deworming for preschool children, this may differ from place to place within a country
- Vaccination types and schedule by Ministry of Health
- Mandatory preschool entry screening for vaccination status

### Recommended Strategies for Vaccine-preventable Diseases and STH Infections

- All preschool age children should be dewormed for soil transmitted helminthes or schistosomiasis if these are a problem in the area. Depending on the prevalence, this may be once every two years, yearly, twice or up to three times per year.
- All children who enter a preschool should have all vaccinations that are recommended by the Ministry of Health for their age.
- Children who lack one or several vaccines should follow a catch-up plan of vaccines.

### What can we do in preschools?

1. Deworm children at the Preschool

Deworm children according to national guidelines and in accordance with local health practices. If no national guidelines exist for the preschool age group, but STH prevalence is known to be ≥ 20%, consider mass deworming in your project preschool in coordination with health services and authorities. Similarly, if schistosomiasis is known to be ≥ 1% by parasitological methods or parents reporting blood in the urine of their children, consider mass deworming for schistosomiasis too.

If STH prevalence is unknown, contact the Ministry of Health bureau for deworming. WHO recommends albendazole and mebendazole for use in large scale campaigns because there is no need to weigh the children. Both drugs are safe for administration to children aged 12 months and older. For deworming of all children under 5 years of age, syrups or chewable

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tablets must be used or else tablets should be crushed to prevent choking. Children under 12 months of age should not be treated (unless indicated by a physician in a clinical setting).

**Treatment for Soil Transmitted Helminths**

<table>
<thead>
<tr>
<th>Drug for soil transmitted helminths</th>
<th>Dose by AGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 Year Olds</td>
</tr>
<tr>
<td>Albendazole 400 mg</td>
<td>½ Tablet (200 mg)</td>
</tr>
<tr>
<td>Mebendazole 500 mg</td>
<td>1 Tablet</td>
</tr>
</tbody>
</table>

For schistosomiasis, dosage can be calculated by weight or height, by height is easier. Most preschool children would receive 1 tablet. Children smaller than 94 cm or 37 inches should not be treated.

**Treatment for Schistosomiasis**

<table>
<thead>
<tr>
<th>Number of tablets of Praziquantel 600 mg for schistosomiasis</th>
<th>Dose by HEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>cm</td>
</tr>
<tr>
<td>1 and ½ tablets</td>
<td>110-124 cm</td>
</tr>
<tr>
<td>1 tablet</td>
<td>94-109 cm</td>
</tr>
</tbody>
</table>

2. Vaccinate at the preschool or refer children to a vaccination service

Screen children’s health card when entering the preschool, to see if they have all the vaccines recommended for their age and request that parents get any missing vaccines. Refer children who are missing vaccines to the health center or liaise with the health worker to deliver vaccines at the preschool.

Ensure that fever relief medication is available for children at the preschool, because some vaccines produce fever (see chapter 5 and 6 about first aid kit). Report any suspicious case of vaccine-preventable disease such as diphtheria or measles immediately to the nearest health authority.

If vaccines are provided at the preschool, prepare and implement safe handling of sharp and infectious waste, as used needles and used cotton swabs that may have blood on them must go into a sealable container.

3. Educate

The most important behaviors children must learn during preschool are:

- Use the toilet or latrine (not the bush) to defecate. Children need to learn how to use the facility.
- Wash hands with water and soap (or ash) at key times, after going to the toilet and before eating. Children should learn how to wash hands (rigorously and air dry).
In areas of schistosomiasis, do not urinate into ponds, rivers or lakes.

Additional behaviors to learn:

- During deworming, you must swallow the pill. Do not spit it out.
- If you get a vaccine injection, relax. Do not wiggle around.

With preschool children, teach about good sanitation for STH prevention, incorporate it into literacy, numeracy, plays and physical activity. Children should know that they must wash hands so that they don’t get sick and must use the toilet to avoid spreading disease to other children. They should also learn that worms spread from one person to another through feces. Preschool staff who give out deworming pills MUST be trained in how to deal with choking. They must observe every child while it is swallowing the pill. If the child is choking or his face is turning very red or blue, they must apply a maneuver, called the “Heimlich maneuver” as first aid, as to make the child spit out the pill which is making him or her choke. Otherwise the child may die!
With parents, promote full vaccination to achieve full coverage, give correct information on all available vaccines and correct any myths related to vaccines. Parents should know how often their child should receive deworming and how to improve sanitation and hygiene in the home to prevent reinfection with parasites.

List of Resources for Deworming and Vaccines in Preschools

- Albendazole 400 mg or Mebendazole 500 mg for mass deworming
- Praziquantel 600 mg and height pole, in countries affected by schistosomiasis
- Registers or copies of children’s health card with immunization and deworming information
- Education material for children about worm infection prevention
- Up to date referral to health provider with vaccines

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of children infected with STH</td>
<td>% of children infected with schistosomiasis</td>
</tr>
<tr>
<td>% of children infected with schistosomiasial cases of immune preventable</td>
<td>Childhood diseases</td>
</tr>
<tr>
<td>% of children who received correct deworming drug</td>
<td>% of preschool children with full vaccination status.</td>
</tr>
<tr>
<td>% of parents and facilitators who know the main ways to prevent soil-</td>
<td>% of parents and facilitators who know the main ways to prevent</td>
</tr>
<tr>
<td>transmitted helminth infection: by using latrines and washing hands with</td>
<td>schistosomiasis infection: by not urinating or defecating in water</td>
</tr>
<tr>
<td>soap at key times.</td>
<td>or using infected water for swimming or bathing</td>
</tr>
<tr>
<td>% of parents and facilitators who know the main ways to prevent</td>
<td>% of preschools participating in a deworming program</td>
</tr>
<tr>
<td>schistosomiasis infection: by not urinating or defecating in water or</td>
<td>% of preschools implementing screening of vaccination status and</td>
</tr>
<tr>
<td>using infected water for swimming or bathing</td>
<td>requiring children to be in compliance with the national immunization</td>
</tr>
<tr>
<td>% of preschools providing immunizations</td>
<td>schedule for enrolment.</td>
</tr>
<tr>
<td>% of preschools with health education on prevention of parasitic infections</td>
<td>% of preschools with health education on prevention of parasitic</td>
</tr>
<tr>
<td></td>
<td>infections</td>
</tr>
</tbody>
</table>

Further Information

Chapter 8: Eyes and Ears

What you need to know about eyes and ears

Vision or hearing impairments are the most common forms of disability for preschool children. Around the world, an estimated 19 million children are visually impaired and are officially classified as either blind or with low vision. More than 60% of these children have refractive errors, which is a condition that could be easily diagnosed with a vision screening test and corrected with a pair of spectacles. In addition to refractive errors, children may be affected by eye injuries or infectious eye disease. Some children may have more serious conditions which require surgery, such as cataract. Preschools can play a role in prevention, detection and/or referral for treatment for these conditions, and supporting children with poor vision.

Eye injuries are the most common cause of preventable blindness in children. While minor irritations, such as exposure to sand or debris, can be treated in the preschool by flushing the eye with water (do not rub the eye), more severe injuries require medical treatment. Preschool teachers should recognize eye injuries they can’t treat themselves as well as those that require referral. Preschool teachers can also play an important role in helping to prevent injuries by monitoring children’s play so that children avoid throwing rocks or running with sharp objects, see chapter 6 Injuries.

Trachoma is a disease of the eye related to the lack of personal hygiene, particularly face washing. The majority of trachoma infections occur in children from ages 1-9 years. Trachoma is caused by the bacterium *Chlamydia trachomatis*, which spreads by contact with an infected person’s hands, clothing or flies. Repeated infections over childhood lead to scars of the upper eyelid, causing the eyelashes to turn inward and scratch the cornea. This may lead slowly and painfully to complete blindness. An estimated 6 million people are blind as a result of untreated trachoma infections. Because trachoma is transmitted through close personal contact, it tends to occur in clusters—often infecting entire families and communities. Trachoma control requires improved hygiene, such as using clean washcloths and not sharing washcloths, see chapter 1 WASH.

Night blindness, the inability to see well at night, can be a sign of Vitamin A deficiency or of untreated nearsightedness. Vitamin A deficiency can also cause “Bitot spots” (dry spots on the eyeball). However, because most children have so-called “subclinical”

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Causes of Hearing Loss in Children

<table>
<thead>
<tr>
<th>31%</th>
<th>Birth-related causes 17%</th>
</tr>
</thead>
<tbody>
<tr>
<td>60%</td>
<td>Preventable</td>
</tr>
<tr>
<td>40%</td>
<td>Non Preventable</td>
</tr>
</tbody>
</table>

* Other causes include: congenital, non-genetic malformations and other maternal prenatal causes.


deficiency, which means they do not show any sign, Bitot spots are rare in preschool-aged children. However, if a child with Vitamin A deficiency contracts measles, he or she may lose eyesight all together, see chapter 8 Vaccines and Deworming. Vitamin A deficiency is especially common in areas with diets low in carotenoids, which means meat, liver, eggs and green leafy or dark yellow vegetables, see chapter 2 Nutrition.

One of the main impacts of hearing loss is on a child’s ability to communicate with others and there is delay in the development of spoken language. This can have significantly adverse effects on children’s learning. 5 of every 1000 babies are born with or develop a disabling hearing loss in early childhood. More than half of all cases of hearing loss and deafness are avoidable through primary prevention and many can be treated through early diagnosis and suitable management. Hearing loss is often caused by repetitive middle ear infection (see chapter 6 Common illnesses).

There are hearing tests for newborn babies available, but in resource poor settings, these are hardly ever performed. Therefore, it is good practice to test children when they enter preschool. Bear in mind: children with a low hearing capacity can catch up with speech if they are provided with hearing aids - the sooner the better. Children with no hearing capacity (“deafness”) will need to learn sign language in order to communicate. Preschools can play a role in prevention, detection,


referral for treatment and support for children with vision or hearing problems. Preschools can also play an important role in connecting preschool-aged children and their parents to health campaigns for Vitamin A supplements or specialized care. Furthermore, preschools can support eye and ear health by teaching improved behaviors such as hygiene, nutrition, preventing injuries and immunizations.

What Can Preschools Do?

1. Screen

Screen children annually for their vision and hearing, especially when entering preschool and before entering first grade of primary school. Vision screening should best be done with a chart of tumbling “E’s” at 6 meters distance, where children only need to indicate the direction of the “E” with their hands. Screening should start with the threshold of 20/60 feet or 6/20 meters. Children who do not identify four out of five tumbling E’s of this size on either eye should be referred.

For hearing screening, a “performance test” is used. Teach children to raise their hand or to throw a ball into a basket if they hear a noise. The examiner should start sitting in front of the child and make the following sounds with a normal loudness: ahh – eee – ouuu – mmm – shh – sss. The children raise their hands or toss the ball when they hear the noises. Once the child understands the playful testing, the examiner repeats the sounds, but sitting at one meter distance behind the child (so that the child can’t see the examiner). If a child does NOT identify two or more of the six sounds, he or she should be referred. Deaf children develop a heightened perception of vibration and air movement. To avoid that they report a sound which they only felt, but did not hear, it is recommended that the examiner uses a piece of cloth in an embroidery hoop as a screen, as shown in the image. The exam can be repeated using words with the same sequence of sounds and asking the child to repeat the words. Children with a light hearing loss are able to repeat words, but change the consonants “shh” or “sss” (for example you say “washing” and the child repeats “wassing”). These children should be referred for hearing aids. Get advice from a phonoaudiologist on the best list of words in the local languages.

Where there is a school clinic and nurse, examination may be done on a case by case basis, e.g. when a child complains or a teacher notices a problem.

Before You Start!

Look up national policies and regulations regarding eye health and hearing

- Policy or strategies to address eye/vision and ear/hearing problems of young children
- Subsidized screening services that are available for young children
- Optometry services (measuring and making glasses), where they are and what they cost.
- Audiometry services (fitting hearing aids), where they are and what they cost.
- Institutions that help blind or deaf children.
- If trachoma exists in your country, try to find the prevalence among children 1-9 years old. If prevalence is equal to or more than 10%, preschool based treatment is recommended. If prevalence is between 5% and 10% only facial cleanliness needs to be improved, if prevalence is less than 5% no intervention is needed. Determine what trachoma initiatives exist.
2. Refer

Refer children who were identified with low vision to the most inexpensive and reliable provider of glasses. Refer children who were identified with ear problems or low hearing ability to a health service, if possible to a specialist in ear-nose-throat or an audiologist.

Counsel parents of children who have to be referred for vision or hearing problems. If the child has low vision, you may show them a blurred picture to let them know how little their child is able to see. Speak with the child’s parents to identify and build on communication techniques used at home.

Refer children who are identified as blind or deaf to more specialized support to realize their rights to education, preferably within an inclusive local environment.

Training

Train facilitators to identify children who maybe having vision or hearing problems (e.g. child squints when trying to see an image). Facilitators may be trained to perform the vision and hearing screening.

Adapt

Adapt teaching and playing to the needs of those children with vision problems:

- Ensure that the preschool room has good lighting.
- Seat the child in the front of the room during formal teaching.
- If using images, explain the image to the child in words. Try to use large print materials.
- Assign the child a learning buddy.

For children with hearing problems, these adaptations can help:

- Seat the child in the front of the room during formal teaching.
- When speaking directly to the child, get their attention first, speak loudly and slowly, separating words clearly, but do not shout.
- Let the child see your face so s/he can read the lips. Point to your lips to encourage lip reading.
• Use informal signs and gestures when speaking, but avoid exaggerated movements. Use charts, pictures and icons whenever possible.

• Encourage other children to speak clearly and let the child see their faces.

• Ensure that alarms or bells are accompanied with visual alerts (flashing lights, pictures, etc.)

• Assign the child a learning buddy.

Check
Check the preschool and surroundings regularly and remove anything which could provoke accidents.

Educate
The most important behaviors children must learn during preschool are:

• Keep eyes and ears clean.

• Do not put anything into your ears (seeds, beads, stones, sticks, cotton swabs).

• Do not play with scissors, knives or explosives.

• Respect children who use glasses or a hearing aid.

In areas affected by trachoma, children should wash their face regularly at the preschool as a group activity, to promote the habit. It is preferred for children to wash using their hands, soap and water. If washcloths are used, they should be clean, and they should not be shared. Children should also not share towels to dry their faces.
With parents, promote eye and ear health. Parents should know how to keep children’s eyes/ears healthy, ensure that their children receive vitamin A supplementation, vaccinations, seek treatment for ear or eye infections and use the health care facility for other eye or ear problems.

### List of Resources for Eye Health and Hearing in Preschool

- Education material (pictures, songs, model eye, model ear)
- Tumbling “E” charts for screening preschool children
- Small bells or other instruments to make a soft noise for hearing screening
- How-to-do guides for facilitators on vision and hearing screening
- Up to date referral slips

### Eyes and Ears Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Impact</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of children treated with vision and hearing problems (N. treated x 100 / N. detected)</td>
<td>% of children 3-5 years who received full doses of Vitamin A supplements as per national protocol</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of facilitators who provide special arrangements (e.g. big print pictures, sitting near the facilitator or suitable lighting, etc.) for children with hearing or vision problems in their preschool class</td>
</tr>
<tr>
<td>% of preschools with annual vision screening</td>
<td>% of preschools with annual hearing screening</td>
<td>% of preschools that teach children about eye and ear health</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of preschools that practice daily face washing (in trachoma affected areas)</td>
</tr>
</tbody>
</table>

### Other Information


Chapter 9: Malaria and Dengue

What you need to know about malaria

Malaria is a life threatening parasitic disease transmitted by mosquitoes. Children under five are particularly susceptible to malaria illness, infection and death. In 2015, malaria killed an estimated 306,000 under-fives globally, including 292,000 children in the African Region. Although the number of malaria cases and deaths have fallen by over 50% in the past decade, malaria still kills one child almost every minute. Typically, malaria produces fever, headache, and other flu like symptoms. If treatment is not given promptly, the infection can progress rapidly to become life threatening. Other consequences of malaria include anemia, epilepsy and neurological problems which affect children’s cognitive function and learning later in life. Malaria is caused by Plasmodium parasites. The parasites are spread to people through the bites of infected Anopheles mosquitoes, called "malaria vectors", which bite mainly between dusk and dawn. The two most common species of malaria-carrying parasites in humans are: Plasmodium falciparum, responsible for most African cases, and Plasmodium vivax, responsible for most Asian cases. Plasmodium falciparum is the deadlier of the two parasites and can cause fatal illness if not treated within 24 hours. But Plasmodium vivax may cause clinical relapses weeks to months after the first infection.

Malaria, anemia and under-nutrition frequently co-exist. This means that, depending on the context, strategies to control malaria among pre-school children are often linked to nutritional interventions. Strategies to control malaria are likely to lead to improvements in anemia status among children. It is important to bear in mind that routine iron supplementation in malaria endemic settings MUST be accompanied by malaria control strategies. See chapter 2 on Nutrition.

There is a growing appreciation for the role of the education sector in responding to the problem of malaria among pre-school and school-age children. A toolkit is available to provide professionals with practical up-to-date information to aid the effective implementation of country-led plans for school malaria programs. Whilst the focus is on primary schools, many strategies can be adapted to preschools.

What you need to know about Dengue

In contrast to the Anopheles, the Aedes mosquito bites typically during the day and transmits viruses such as Dengue, Chikungunya, Zika and Yellow Fever. With more than one-third of the world’s population living in areas at risk for infection, virus infection transmitted by the Aedes mosquito are a leading cause of illness in the tropics and subtropics. As many as 400 million people are infected yearly. While vaccines are still being tested, the most effective protective measures are those that avoid mosquito bites.

Before You Start!

- Look up national policies and regulations regarding insect transmitted diseases
- Malaria control policy or strategy, including malaria services for children 3-5 years
- SMC protocols, if they exist

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What can preschools do?

1. Educate

In all countries where malaria is endemic, there usually are nationally approved malaria control messages, which preschools can promote amongst the children themselves, the parents and the community at large. Typically, the two key behaviors to promote are:

- Sleep under an insecticide treated mosquito net every night
- Seek appropriate treatment within 24 hours when ill (with fever)

With preschool children, use games, stories, songs, and drawings to teach them about malaria. They need to know that malaria (use the local term) is dangerous, that it is transmitted by mosquitoes, that they must sleep under an insecticide treated mosquito net every night to avoid getting bitten and if they think they have malaria (have fever), they must see a health agent within 24 hours to get tested and treated. Children can also learn how to check for holes in the net and tuck it up to avoid mosquitoes entering the net.

With parents, preschool staff can remind parents to make their children sleep under a net every night, check for holes, use a net impregnated with insecticide (which kills the mosquito when it sits on the net) and to seek treatment appropriate within 24 hours if their child (any child) has malaria symptoms (fever).

With the community, the preschool staff and management committee should use any opportunity (parents meetings, community gatherings) to remind people of these two essential messages. The preschool (with the school) can also organize activities around community level campaigns such as child health days or bed net distribution campaigns; e.g. preschoolers sing a song about malaria, demonstrate how to use a net, make pictures and posters to post on walls around the community.

Recommended Malaria Control Strategies

- Early diagnosis and treatment to reduce disease, prevent deaths and to reduce malaria transmission. All suspected malaria cases must be confirmed using a parasitological test, either microscopy examination or a rapid diagnostic test, (a finger prick blood sample and test which confirms infection within 15 minutes). Treatment must begin immediately for all positive cases and lasts 3 days.

- Vector (mosquito) control is the main way to reduce malaria transmission at community level. The two most effective vector control methods are: a) Sleep under a long-lasting insecticide treated net (LLIN) by everyone every night; b) Indoor residual spraying (IRS) of homes every few months.

- Seasonal Malaria Chemoprevention (SMC), is a “mass” treatment strategy, without prior diagnosis, to prevent malaria in the Sahel sub-Region of Africa, where Malaria follows a seasonal pattern. Since 2012, WHO recommends SMC targeting all children under five years in these areas. This strategy involves the administration of monthly courses of amodiaquine plus sulfadoxine-pyrimethaine to all children 3 – 59 months of age during the high transmission season (3-5 months per year).
2. Link to Health Services

- If there are malaria symptoms, the child must be tested and receive treatment without delay. The preschool facilitator should contact the health agent to either come to the preschool or take the child directly to the health center.

- Contact the caregiver to inform them that their child possibly has malaria, of the response taken and ask that the child be taken to the health service or home.

- Where SMC is provided (Sahel), the preschool can support the activity by mobilizing parents to take their children to receive it, explaining the importance of SMC: it treats and prevents malaria. The preschool can even be used as a site for the treatment provision.

See chapter 5 for preparing the preschool to take care of a sick child.

3. Control the breeding of mosquito larvae on the preschool ground

- Preschools should ensure that there is no standing water in or around premises to reduce breeding of the *Aedes* mosquito. Water storage containers should be covered, and they should be cleaned regularly. Roof gutters and plant water holders, and other spaces that collect water should be kept clean and dry.

- Solid waste and wastewater should be disposed quickly and safely.

### Malaria Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Impact</strong></td>
</tr>
<tr>
<td># of malaria deaths</td>
</tr>
<tr>
<td># of severe anemia case</td>
</tr>
<tr>
<td>All per month, quarter or year and stratified by age (less than 5 years old or 5 years or more of age).</td>
</tr>
<tr>
<td><strong>Outcome</strong></td>
</tr>
<tr>
<td>% of children under 5 reported to be sleeping under an insecticide treated mosquito net (the night before)</td>
</tr>
<tr>
<td># of fever cases referred, tested and if positive treated for malaria</td>
</tr>
<tr>
<td><strong>Output</strong></td>
</tr>
<tr>
<td>% of preschools which provide or refer to SMC if appropriate</td>
</tr>
<tr>
<td>% of preschools that conducted malaria education activities for children, parents or community in past school year</td>
</tr>
</tbody>
</table>

### Other Information

Children for Health website for links to malaria activities in schools (and preschools) [http://www.childrenforhealth.org/the-collection/malaria/malaria-activities/](http://www.childrenforhealth.org/the-collection/malaria/malaria-activities/)
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