The Settings Approach: A Guiding Framework for HECA

Introduction
Children are often exposed not just to one risk factor at a time but to several simultaneously. Poverty is often the underlying common determinant of several risks. Children at risk frequently live in unsafe and crowded settlements, in underserved rural areas or in slums on the edges of cities which lack access to basic services such as water and sanitation, electricity, or health care. They are likely to be exposed to industrial and vehicle pollution as well as to indoor air pollution and to unsafe chemicals. They are more likely to be undernourished and stressed, causing them to be more vulnerable to environmental threats.

Addressing multiple risks
Tackling the risks to children’s health in the places where they spend their time provides a focus for local action across the diversity of environmental risk factors. This necessitates taking a holistic approach, with a view to improving the settings where children spend their lives. Key settings for children, include places where they live, learn, play, and sometimes work—the home, the school and the community. Health risks in these settings are complex, and often interconnected. A settings approach provides a framework to highlight the links between issues, and to facilitate action, in an integrated fashion, on the range of health risks in a given setting.

Settings may present both hazards to health, as well as possibilities of protecting and promoting health. The concept has been applied to cities, islands, villages/communities, schools, workplaces, hospitals and market-places. It aims fundamentally to establish more effective working relationships between the health sector and other sectors to solve health problems closer to their source. It is based on an approach which addresses risks in the physical and social environment, promoting also healthy lifestyles and safe behaviours in specific settings.

Settings provide channels and mechanisms of influence for reaching defined populations, and involve frequent and sustained interaction and communication between groups. This creates efficiencies in time and resources and offers more access and greater potential for social influence. Settings thus provide effective channels for delivering environmental and health promotion programmes, for diffusion of information, and for provision of access and entry points to specific populations. In the case of communities, the healthy settings approach allows the mobilization of community leaders to champion the necessary actions, and the creation of mechanisms for participatory action by various community groups.

The home setting
The home environment should provide protection against exposure to agents and vectors of diseases. However, human health is often negatively impacted by such factors as exposure to a variety of physical and biological agents and risk factors, which may be affected by both housing location, and a variety of housing characteristics. For example, children may live in unhealthy settlements on the periphery of major cities, on floodplains or steep hillsides, near sources of traffic, industrial activity, solid waste
dumps or close to vector breeding sites. Housing sites without access to a safe water source, or lacking basic sanitation or hand-washing facilities place inhabitants at risk of ill-health conditions like diarrhoea. In the household, children’s health may also be influenced depending on whether a number of activities are carried out safely. These include the storage and preparation of food, the collection and disposal of wastes, and the use of household chemicals.

Unhealthy housing conditions include the use of building materials such as lead-based paint or asbestos, which can increase exposure to these toxic substances, or the use of inflammable materials or unsafe electrical wiring, which increases the risks of injuries. A "leaky" house can lead to dampness and mould which may result in various forms of respiratory illness and allergic reactions. Poor heating or lighting influences physical or mental health. Inadequate ventilation or overcrowding increases exposure to different pollutants and pathogens, including indoor air pollution, which can result from cooking and heating with dirty household fuels like biomass and coal, exacerbating respiratory illnesses - as does exposure to second hand tobacco smoke. Some household pests, such as cockroaches- and pet dander can trigger asthma attacks and allergies. Building design may also impact health. For example, houses that are not adequately screened permit exposure to disease vectors such as mosquitoes.

The school setting
The school environment includes the school building and all its contents, the site on which a school is located, and the surrounding environment including air, water, nearby land uses, roadways and other hazards, as well as materials that children may come into contact with. Provision of safe water and food, sanitation and shelter are basic necessities for a healthy physical learning environment. Equally important is protection from biological, physical and chemical risks that can threaten children’s health. At school, children may encounter inadequate sanitation facilities or contaminated food and water that can result in diarrhoeal disease. Other hazards they face include the physical risks associated with poor construction and maintenance practices, inadequate light and exposure to excess levels of noise.

The community setting
(to come)

Settings-based interventions
Interventions based on the settings approach, cut across issues and sectors, facilitating the incorporation of maximum benefits for the people living there. Intersectoral interventions, such as household energy improvements, or interventions focused on hygiene education or on promoting the safe use of chemicals, serve as key “entry points” for effective action.

Air pollution in the home, for example, contributes to a number of disease outcomes for children, yet interventions to promote cleaner indoor air, such as improved stove programmes, or shifting to cleaner fuels, provide health benefits that extend beyond the expected benefits of reducing acute and chronic respiratory infections. For example, an improved stove programme can reduce indoor air pollution, but it may well also reduce the incidence of burns and injuries associated with open fires; it may reduce the physical
toll on women and children from gathering wood, freeing time for education and development. Reduced reliance on wood and biomass, may allow for environmental gains in terms of combating deforestation and desertification, and associated conditions such as soil quality, groundwater aquifer levels, protection from floods and other factors which have direct and indirect consequences for human health. Interventions may be particularly successful if they are multi-faceted - in this case, emphasis should also be placed on improving ventilation, especially in cooking areas, and using cleaner fuels, together with protecting children from exposure to second hand tobacco smoke.

Interventions to protect children from risks from water include extending access to the “unserved”. Ensuring safe water storage, and treatment, if necessary, can reduce water contamination. Effective action for improved hygiene and sanitation include interventions to promote hand-washing, and the proper management of household wastes, and education on the storing and handling of food. In schools, adequate and separate latrines for boys and girls can encourage latrine use and thus reduce disease transmission.

Relatively modest interventions also exist to reduce the risk of vector-borne disease. Malaria, for example, can be reduced through the use of insecticide-treated mosquito nets and the screening of windows, doors and eaves, particularly if action is also taken to reduce breeding sites in the community. To protect children against chemical hazards actions should be taken to ensure safe storage, packaging, and clear labelling of cleaners, fuels, solvents, pesticides and other chemicals used in homes and in schools. Effective interventions also may result from legislation to promote the safe use and disposal of chemicals, including use of “child-proof” containers. Public awareness campaigns on injury prevention may serve as catalysts for effective action on these and related challenges.

**Intersectoral collaboration**

Intersectoral approaches can only be effective if the many ‘actors’ involved – different government departments such as health, housing, energy, water and planning, members of the community such as parents, teachers, health and social workers, community leaders - work together in a truly integrated, multisectoral partnership. The concept has been applied to cities, islands, villages/communities, schools, and workplaces in pilot projects. Key to success is the establishment of more effective working relationships between the health sector and other sectors.

Identifying key risk factors in the local environment can be made most effectively with wide participation from community members (for example parents, teachers, health and social workers) and a variety of different sectors such as housing, environment, education, energy, water, or planning. Priority actions plans can be planned and implemented with the help of partners. Interventions such as improving access to clean water, controlling insect vectors, the promotion of the safe use of chemicals or the creation of smoke-free public spaces and schools, can be initiated.

**Settings: A useful approach for HECA**

Advantages include that the settings approach allows for flexibility, providing a framework that:
- Tackles environmental health risks in the context of the setting in which they occur;
May be adapted to different locations and conditions;
Promotes an integrated, intersectoral and multidisciplinary approach;
Provides multiple entry points into communities and channels (via children, teachers, school administrators, health professionals etc.)
Allows for key priorities that are relevant to the setting in question to be addressed;
Serves as a means for policy makers to address evidence-based health priorities. For example, the home may serve as a crucial entry point to reduce indoor air pollution in communities.
Encourages links and learning between settings. A case study demonstrated that children learning about pesticides in school transferred their education to their parents, encouraging them to store and use pesticides more safely in and around the home.

Challenges include that this innovative approach is harder to conceptualize than an individual priority risk factor, and thus may be more difficult to address and promote. Conversely, on a local level, environmental health risks, along with the solutions/interventions to them, may become more apparent when they are addressed within the context of the settings themselves. Because the settings approach cuts across issues and sectors, it requires multiple players to be brought together. While a settings-type intervention would add value by encouraging and facilitating joint cooperation, it would necessarily take more time to initiate, with the added complications of involving and coordinating the input of many stakeholders.

However, with wide participation and involvement across sectors, settings-based strategies stand a good chance of being sustainable in the longer-term. HECA must also work to ensure that settings-based interventions have as much impact as possible, for example, on other settings (see final bullet point above) and on other issues with health implications, for example, global environmental issues, such as climate change.

Next Steps

Build on existing initiatives
Healthy cities type initiatives have much experience seeking to create healthy settings, (including markets, schools, workplaces, hospitals and other settings) and have many lessons to offer HECA. These and other integrated environment and health initiatives relevant to HECA should be carefully assessed for lessons learned and potential for replicability.

Establish priorities in each setting
There is a need to set priorities based on the links already established between settings-related environmental health risks and specific disease or ill-health outcomes that are most relevant for children. Risk assessment will permit identification of the magnitude and relative importance of significant threats within the settings in question, at the relevant level.

Develop coordination mechanisms and capacity for implementation
One of main challenges for the settings approach is to establish a coordination mechanism to promote and support local action for various healthy settings, since there
is normally no institutional structure to promote and support the healthy settings approach.

However, certain settings at the local level, like municipalities, schools, workplaces, hospitals, villages/communities and markets, may have existing institutional structures which would facilitate the administration and management of projects and activities, while others, such as the home setting, would not.

Successful implementation of the settings approach will also require capacity strengthening at all levels. The provisions of capacity building workshops and guidance materials, such as “how-to” toolkits, and case studies of successful initiatives are a first step in providing the practical information required by those coordinating efforts at country level, or those involved directly in implementing healthy environments for children in settings.

**Assemble key players**
In each setting, key stakeholders at all levels need to be identified, along with a strategy for coordinating the activities of different sectors.

**Monitor results**
A strategy for monitoring the effectiveness of such an approach is critical, permitting the feedback necessary for continual improvement. In order to measure progress, a limited limited number of indicators must be established, together with sufficient guidance given to countries on collecting the relevant information. With ineffective monitoring and evaluation, HECA cannot credibly describe global trends, and this will limit its ability to conduct a global campaign for additional resources.