Chapter 1. Background
1. Background

As much as 24% of deaths are estimated to be attributable to environmental risks to health which are largely preventable (1). Acting on environmental conditions can be a key contribution to reduce many communicable and noncommunicable diseases (NCDs), and injuries. To cite a few statistics, as much as 29% of deaths from ischaemic heart disease, 28% of stroke, 21% of cancers, 55% of respiratory infections, 61% of diarrhoeal diseases, 53% of chronic obstructive pulmonary disease (COPD), 40% of road traffic injuries and 76% of unintentional poisonings could be prevented through environmental improvements globally (1). Preventive action through creating healthier environments should therefore be an important component of most disease control strategies.

Clean air, both indoors and outdoors, stable climate, adequate water, sanitation and hygiene (WASH), safe use of chemicals, protection from radiation, sound waste management, healthy and safe workplaces, health-supportive cities and built environments, sustainable diets, and preserved biodiversity and ecosystems are essential for ensuring good health. The coronavirus disease 2019 (COVID-19) pandemic has served as another reminder of the intrinsic linkage between human health and nature.

This compendium presents key guidance to those wishing to create healthier environments to address these statistics, minimize preventable deaths and disability and improve health now and in the future. It summarizes and aims to facilitate access to guidance from the World Health Organization (WHO) and other United Nations (UN) agencies, funds and programmes for creating healthier environments for healthier populations.

Environment in this compendium refers to the following environmental factors (2):

- air, water and soil pollution with chemical and biological agents including air pollution from second-hand tobacco smoke;
- ultraviolet (UV) and ionizing radiation;
- electromagnetic fields (EMFs);
- occupational risks;
- the built environment, including housing, workplaces, the provision of water for washing hands, land-use patterns and roads;
- climate and ecosystem change;
- behaviour related to environmental factors, for example, hand-washing hygiene and physical activity fostered through improved urban design.

For this compendium, the following factors are not considered environmental:

- alcohol and tobacco consumption;
- diet (unless linked to climate change, environmental degradation or contamination through chemical and biological agents);
- unemployment;
- person-to-person disease transmission that cannot reasonably be prevented through environmental interventions.
1.1 Target audience

This compendium aims to provide practitioners with a rapid overview of WHO and other UN-recommended actions and tools to address various health risks. Practitioners targeted in particular include key decision-makers at national, regional and municipal levels, government officials, higher-level policy-makers, key actors such as municipal staff, staff in relevant ministries (including those working with industry), community health workers, WHO and UN partner agencies,1 funds and programmes’ country representatives and country staff, and nongovernmental organizations planning or performing country work.

1.2 Methods used for the development of the compendium

This compendium was developed by systematically compiling existing published guidance on health and the environment from WHO and other UN organizations. Relevant WHO technical units were systematically consulted on structure, content and resources. The units’ inputs and subsequent reviews were incorporated. Relevant other UN organizations, responsible for content directly related to health and the environment, were also consulted for their inputs and review.

Guidance was included when referring to health protection and promotion by modifying the environment, safeguarding natural environments and climate, reducing pollution, introducing personal protective measures and promoting healthy behaviours linked to environmental exposures. Approaches included cover: i) primary prevention to act on determinants of health, ii) cross-sectoral action to ensure Health in All Policies (HiAP) effectively reach all environmental determinants of health, iii) strengthening of the health sector to build mechanisms for governance and political and social support, and iv) effective communication on risks and solutions to guide choices and investments, as put forward in the WHO global strategy on health, environment and climate change (3).

Collated guidance was grouped under the categories “policies and actions” and “awareness raising and capacity building”. Guidance was further attributed classifiers in order to provide useful information on the type of strategy or intervention to the implementer and the planner, as well as to serve as a search tool. These classifiers were informed by existing UN intervention guidance, including Disease control priorities, improving health and reducing poverty from the World Bank, Healthy environments for healthy children: key messages for action from WHO and the United Nations Environment Programme (UNEP) and Programme guidance for early life prevention of non-communicable diseases from the United Nations Children’s Fund (UNICEF) (4-6). Classifiers for each type of guidance include: i) the sectors principally involved in planning/implementation; ii) the level of implementation; and iii) the type of instrument (see section 1.3 How to use this compendium).

Another version of this compendium also contains classification of all interventions according to the International Classification of Health Interventions (ICHI) in view of reporting and analysing health interventions for early life prevention of non-communicable diseases from the United Nations Children’s Fund (UNICEF) (4-6). The codes were developed according to the ICHI classification system, and also use the International Classification of Diseases and Related Health Problems (ICD, 11th revision) (8) and International Standard Industrial Classification of All Economic Activities (ISIC) (9) where relevant, which provide additional specificity to define interventions.

The list of guidance is not comprehensive and will be updated as additional information becomes available.

1.3 How to use this compendium

There are many opportunities where interventions can be leveraged to create healthier environments. This compendium provides an overview of guidance by environmental area, and points to more detailed WHO and other UN guidance for the next implementation steps. It serves to outline actions to create healthier environments and to guide and support the user in view of engaging in strategic discussions with other sectors and partners where necessary, to effect these changes.

While the main part of each section covers guidance, each section also provides information on assessment of the current situation (local data, exposure modelling, databases) and pollution sources; targets to achieve (guideline values) and selected tools are also provided where relevant.

Not all the guidance in this compendium will apply and work equally well in every context. Therefore the local circumstances and priorities should be considered before implementing any interventions, strategies or actions. Local circumstances may include: i) distribution of exposures to the risk factor; ii) effectiveness of source or exposure reduction by the strategy or solution; iii) health impact of the measure; and iv) cost–effectiveness of the measure.

Guidance in this compendium can be searched by the following classifiers.

- Sector principally involved in planning/implementation:
  - health, environment, agriculture, transport, industry, food, water/sanitation, waste, energy, housing, construction, land use planning, education, labour, finance, social welfare and family, sports and leisure, civil defence or multiple sectors.
- Level of implementation:
  - national level, community, schools/child-care settings, health care, workplace.
- The additional classifier “universal health coverage” was attributed to guidance where the health sector directly contributes to achieving universal health coverage (often through prevention efforts by health workers in the community).
- Instruments:
  - governance; regulation; taxes and subsidies; infrastructure, technology and built environment; other management and control; assessment and surveillance; information, education and communication; or other action.

Although not systematically mentioned throughout each section of this compendium, most areas will require adequate monitoring and evaluation, capacity building and resource mobilization, which will therefore not be repeated in every section. In addition, all policies and plans should consider gender and equity components when being established or implemented.

Messages for promoting health in the general population have been developed based on the guidance contained in this compendium and can be used by the audience to more broadly promote health (see Annex). This compendium will be available in both print and online versions. References in the former will be located at the end of the document, while references in the latter will be included after each relevant chapter.

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1. An additional version of the Compendium with ICHI codes will be made available as a separate document.

2 This will usually focus on the main sector(s) responsible for planning/implementation. Early engagement of diverse sectors however needs to take place in most guidance to ensure active participation in the process, which will support implementation in the short–medium and long-term.
How to use the Compendium of WHO and other UN guidance on health and environment

Target audience
Practitioners and key decision-makers at national, regional and municipal levels

Environment
The environment in this compendium refers to the following environmental factors:

- Air pollution
- WASH
- Solid waste
- Chemicals
- Radiation
- Climate change
- Nature and health
- Safe environments and mobility
- Safe and healthy food

Categories
Guidance was grouped under two categories:

- Policies and actions
- Awareness raising and capacity building

Classifiers
Guidance can be searched by the following classifiers:

- Sector principally involved in planning/implementation:
  - Health
  - Environment
  - Agriculture
  - Transport
  - Industry
  - Food
  - Water/sanitation
  - Waste
  - Energy
  - Housing
  - Construction
  - Land use planning
  - Education
  - Labour
  - Finance
  - Social welfare and family
  - Sports and leisure
  - Civil defence
  - Multiple sectors

- Level of implementation:
  - National level,
  - community, schools/childcare,
  - healthcare, workplace,
  - “universal health coverage”

- Instruments:
  - Governance,
  - regulation,
  - taxes and subsidies,
  - infrastructure,
  - technology and built environment,
  - other management and control,
  - assessment and surveillance,
  - information,
  - education and communication,
  - other action.
1.4 Links between diseases and environmental determinants of health

To target specific diseases, the environmental determinants or risk factors of greatest relevance can be identified through the risk–disease links identified in Table 1.1. In this way, suitable preventive action can be selected and integrated into disease control programmes.

Table 1.1. Indicative linkages between environmental risk factor and current disease or injury

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COPD, chronic obstructive pulmonary disease; STDs, sexually transmitted diseases.

* Coloured dots represent attributable fractions; an attributable fraction is the proportional reduction in death or disease that would occur if exposure to a risk were removed or reduced to a minimum exposure distribution currently achieved in certain population groups. The ranges of the attributable fractions are:
  - influence likely but not yet quantifiable; < 5%; 5–25%; > 25%. The environmental attributable fractions are indicative values, based on comparative risk assessment or expert opinion. They are discussed in further detail in (2).
  - Limited to industrial and agricultural chemicals and chemicals involved in acute poisonings.
  - Global climate change will increasingly influence our lives. This table covers current risks to health. While hollow circles have been added to this table to highlight likely future impacts of climate change on health, most future health impacts are not currently quantifiable.
  - Malnutrition and consequences.

Source: Adapted from (2).
1.5 Links with social determinants of health

Many diseases and adverse health conditions such as malnutrition are strongly related to social determinants of health, which are the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. Some social determinants of health are closely linked with environmental factors such as housing and certain basic amenities and are therefore considered in this compendium. Other crucial social determinants of health are income or socioeconomic position, education, employment status, job security and social support and inclusion. These are important causes of disease and disability but are not within the scope of this compendium (10).

References


