This policy brief aims to provide information on the availability of guidance documents and tools to support teams conducting health impact assessments (HIAs) and incorporating health into environmental assessments (EAs). It also provides basic information on the key elements of the most relevant tools.

**Key messages and implementation tips**

- Countries should aim to develop national guidance documents to support teams conducting HIAs and assessing health impacts in EAs.
- Screening and scoping tools are likely to smooth the process of conducting the assessment; to some extent, standardized tools help to save time, and can increase the quality of the assessment process.
- Databases, software, digital and artificial intelligence tools can contribute substantially to the quality of the impact assessment processes.
- The risks of use of artificial intelligence, large language model tools and generative modelling tools to improve access to health information, or as decision-support tools, need to be assessed with care.
Introduction

One of the key factors influencing implementation of an HIA or enhanced assessment of significant health impacts in an EA is availability of supportive guidance documents and standardized tools to simplify conducting the assessment. To ensure well-organized and high-quality HIAs/health assessments in EAs, national guidance documents and standardized tools can be employed.

Impact assessment is a fast-developing discipline. Advances in health sciences, information technology and artificial intelligence can all support better standardization of procedures included in the assessment.

Considering the potential health impacts of a proposal across subpopulations and areas, and during different stages of the project, contributes to enhanced implementation of the health-in-all-policies, whole-of-government and whole-of-society approaches.

Developing national guidance documents on HIAs and assessing health impacts in EAs

Countries should aim to develop national guidance documents to support teams conducting HIAs/health assessments in EAs. These can summarize all relevant elements, including the political, societal and environmental context; existing governance and administration systems; existing relevant institutions that may be nominated as leaders of the process; capacity-building systems; and available personal capacities, data resources and shared responsibilities.

General information on HIAs, tools and further resources can be found online from publicly available sources, including the following.

- The Environment and Health Impacts Hub website of the University of Liverpool contains case studies shared by users (1).
- The HIA section of the European Public Health Association (EUPHA) website provides information about European HIA events and networking opportunities (2).
- The International Association for Impact Assessment (IAIA) website provides practical guidance and online training, as well as a list of key citations of impact assessments (3).
- The Institute of Public Health of Ireland has published a fourth edition of HIA guidance, incorporating the most recent developments and best practices in the field, as well as a digital learning module (4).
- The Society of Health Impact Assessment Practitioners (SOPHIA) is one of the largest HIA professional communities, whose website contains an archive of publications and provides practical guides for practitioners (5).
- The Wales Health Impact Assessment Support Unit (WHIASU) website provides information on HIA; its process as practised in Wales, United Kingdom; guidance; reports; news; and information on recent developments in HIA (6).
- The WHO Regional Office for Europe webpage on HIA contains a general description of HIA, reports and experiences of using HIA; the global WHO webpage provides further guidance and other useful links (7,8).
Developing screening and scoping tools

Screening and scoping tools are important for an effective assessment. They can help to save time and increase the quality of the assessment process.

Screening tools facilitate quick and standardized conducting of the first step of assessment screening. They should seek information related to the proposal at stake, including the key determinants of health and population groups influenced, the expected extent of potential impact, the importance of the proposal (economic, societal, political), and the availability of data and of resources to conduct the assessment.

Scoping tools provide information about the larger geographical, societal and political context of the proposal. They identify key stakeholders and assign tasks to them; define the most important impacts in terms of both exposures and health outcomes; reviews the roles and responsibilities of participants in the assessment; and set a timeline for the assessment.

Examples of publicly available HIA screening and scoping tools can be found at the following sources.

• Screening and scoping guidance is available within the Institute of Public Health of Ireland’s HIA guidance (9).
• A screening checklist and a section on scoping health as a topic in environmental impact assessments (EIAs) in line with the Directive on EIA of the European Union are available from the IAIA (10).
• A screening tool, screening record sheet and scoping checklist are included within WHIASU’s practical guide to HIA (11).
• The National Collaborating Centre for Healthy Public Policy of Canada has created an HIA screening grid and scoping tool (12).
• The United Kingdom’s National Mental Health Development Unit has produced a mental well-being impact assessment toolkit (13).
• McCallum, Ollson & Stefanovic (14) have compiled a systematic approach to scoping determinants.
• The background paper for WHO’s HIA toolkit for cities outlines various aspects of screening and scoping (15).

The need to access further digital databases and tools

Databases, software and digital and artificial intelligence tools can contribute substantially to the quality of impact assessment processes (16).

*It is imperative that the risks be examined carefully when using large language model tools (LLMs) to improve access to health information, as a decision-support tool, or even to enhance diagnostic capacity in under-resourced settings to protect people’s health and reduce inequity.*

While WHO is enthusiastic about the appropriate use of technologies, including LLMs, to support health-care professionals, patients, researchers and scientists, there is concern that caution which would normally be exercised for any new technology is not being exercised consistently with LLMs. This includes widespread adherence to key values of transparency, inclusion, public engagement, expert supervision, and rigorous evaluation (17).
Examples of data sources that are openly available include:

- International Agency for Research on Cancer (IARC) monographs on the identification of carcinogenic hazards to humans (18);
- PubChem, an open chemistry database at the National Institutes of Health of the United States of America (19);
- the Institute of Health Metrics and Evaluation’s Global Burden of Disease (GBD) compare visualization hub (20);
- the ToxTutor website, a self-paced tutorial covering key principals of toxicology adopted from the chemical and toxicology databases of the National Library of Medicine of the United States (21); and
- the WHO data hub, which provides the data underlying WHO’s annual world health statistics report; powering WHO’s Sustainable Development Goal monitoring; and highlighting life expectancy, leading causes of death, and civil registration and vital statistics data by country (22).

National and international databases can substantially support the team conducting an assessment, and digital and artificial intelligence solutions may increase the quality of work (16). Several software tools are publicly available to support the assessment process. Examples include:

- the AirQ+ software tool for health risk assessment of air pollution, available in English, French, German and Russian (23);
- the climate change mitigation, air quality and health (CLIMAQ-H) tool to estimate the health and related economic gains achieved by implementing actions and measures aimed at mitigating climate change by reducing domestic carbon emissions (24);
- the contaminated land exposure assessment (CLEA) tool of the United Kingdom’s Environment Agency (25);
- Dynamo-HIA, a generic software to quantify the health impact of policies addressing behavioural risk factors (26,27);
- the health economic assessment tool (HEAT) for walking and cycling (28);
- the health equity assessment toolkit (HEAT), a data repository on health inequalities, drawing from a wide range of different databases, which includes software for exploring and comparing health inequalities in countries (29);
- QGIS, a free and open-source geographical information system (30), and its plugins:
  - GeoHealth, a simplified interface for public health users to import data, create incidence or density maps, spatially blur GPS location, run statistics and export results (31);
  - H-RISK with noisemodelling, which calculates sound levels from ambient noise, calculates sound levels and assesses health risks (32); and
- the WHO human health risk assessment toolkit on chemical hazards developed by WHO and the International Programme on chemical Safety (IPCS) (33).

Further overviews of methods and tools to support actions and interventions on environment and health can be found in:

- the compendium of WHO and other United Nations guidance on health and environment, serving as a global repository of interventions for creating healthier environments and improving health (34); and
- the compendium of concepts, approaches and tools for delivering effective environment and health actions in the WHO European Region (35).
Quality assurance of HIAs/health assessments in EAs

A health authority will not often undertake the impact assessment itself. It will receive a report and will have to assess the quality of the work undertaken. For this task a checklist should be developed, and the relevant staff members who will assess the quality of the HIA/health assessment in EA from the resulting report need to be trained (36).

Model HIA reports are available, among others, at:

- the Environment and Health Impacts Hub website (1);
- the SOPHIA website (5);
- the WHIASU website (6).

For quality assurance of an HIA report and/or the HIA process, WHIASU has established a quality assurance review framework for HIA (37); Fredsgaard, Cave & Bond have developed a review package for assessing the quality of HIA reports on development projects (38); and Fischer et al. have created a review table for HIAs of spatial plans (39,40).

Importantly, guidance documents and quality assurance frameworks need to be kept up to date. Outdated guidance can get in the way of best practice (41).

References


1 All references accessed between 23 August and 25 September 2023.
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