German Advisory Council on Global Change

# Factsheet 9

## Harnessing the transformative potential of health systems

Health systems have the potential to promote healthy and sustainable lifestyles and living conditions. At the same time, they must meet new challenges posed by environmental changes such as climate change, biodiversity loss and pollution. This is shown by the WBGU in the report 'Healthy living on a healthy planet'. It is crucial to fully acknowledge the importance of healthy ecosystems for human health. Environmentally sensitive prevention and health promotion can be transformative levers for sustainability. Environmental resilience requires continuous adaptation as well as preparation for environmental health crises. Therefore, strong public health departments are necessary. In addition, sustainability can be improved in health systems themselves – without compromising healthcare provision but offering additional benefits for health.

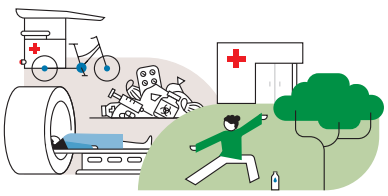
The growing health risks from climate change, biodiversity loss and pollution, as well as the global increase in unhealthy lifestyles, are affecting all areas of healthcare. Furthermore, global environmental changes are reinforcing social and health inequities. Shocks and crises (e.g. pandemics, heat waves, conflicts) will occur even more frequently in the future, which can push health systems to the limits of their capacity – and even to the point of collapse. And the time available for recovery between shocks is becoming shorter. Furthermore, as a result of their resource consumption and emissions, health systems themselves also contribute to environmental changes that are harmful to health.

Health systems are thus challenged by environmental changes in three ways: they are structurally affected (e.g. by the destruction of infrastructure as a result of extreme weather events); they are experiencing a growing workload caused by an increased environmental burden of disease; and they are themselves in need of systemic transformations towards sustainability, without compromising healthcare provision. Many health systems around the world are as yet unable to meet the new challenges because they focus too much only on treating diseases and are insufficiently prepared for environmental changes.

Efficient and stable health systems are needed in order to safeguard health as a human right and to enable people to live in dignity and prosperity. The further development of health systems is therefore essential; it also has the potential to generate transformative leverage effects in other fields of action. Key guiding principles for the further development of health systems are environmentally sensitive prevention and health promotion, strengthening adaptation and environmental resilience, and transformations towards sustainability.

**Environmentally sensitive prevention and health promotion**

**Strengthening adaptation and environmental resilience**



**Transformations towards sustainability**

# Environmentally sensitive prevention and health promotion: Transformative levers with multiple benefits

Reducing vulnerability, promoting sustainable lifestyles and initiating the creation of healthy living conditions

For realizing the WBGU's vision of 'healthy living on a healthy planet', the reactive approach to diseases and environmental damage must be complemented by more prevention and the comprehensive promotion of people's and nature's resilience and development potential. For health systems, this means stronger implementation of health promotion and disease prevention, in addition to treating disease. In *environmentally sensitive prevention and health promotion*, healthy ecosystems are recognized as an important prerequisite and resource for human health, while environmental changes are taken into account as major determinants of disease. Multiple benefits can be generated in this way.

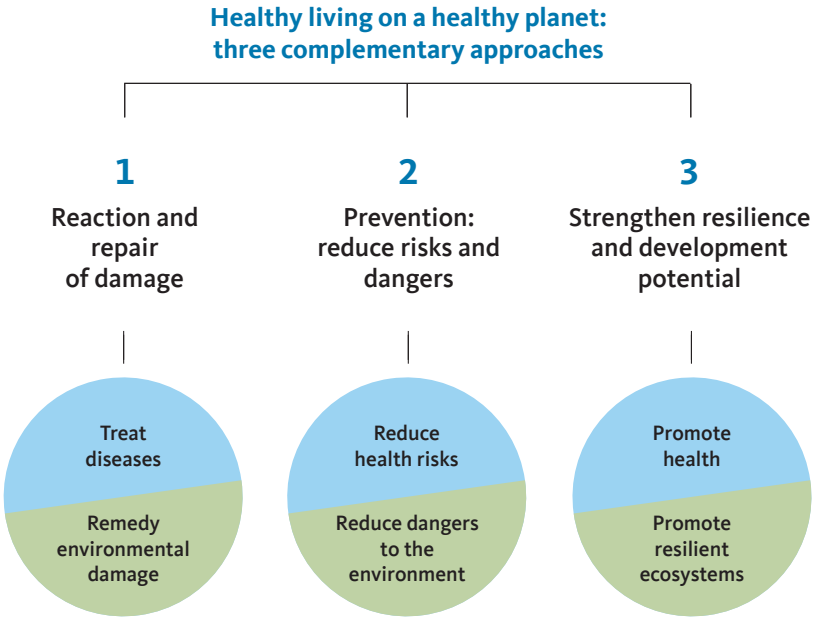



**Figure 1**
(1) Repair as a reaction to damage that has already occurred is supplemented by (2) more prevention to minimize risks and hazards, and by (3) promoting resilience and development potential. Blue: focus on human health, green: focus on ecosystems. Source: WBGU

### Promote healthy and sustainable lifestyles

In counselling sessions, health professionals can enable people to make healthy and sustainable choices in different areas of life. Topics can include active, low-emission mobility behaviour, a more plant-based diet in line with the Planetary Health Diet, as well as physical exercise and social activities in green spaces. It is important to tailor the counselling to the individual life situation. A close linkage with curative health services as well as interdisciplinary cooperation can be helpful. One example of such an approach is the concept of 'climate-sensitive health counselling'. Such education can also be offered in groups, e.g. in community centres with a focus on local living environments. Existing health-promotion and disease-prevention measures can be adapted accordingly, as well as expanded and interlinked.

It is crucial to enable health professionals to promote healthy and sustainable lifestyles by creating the right framework conditions. This includes, on the one hand, providing them with the necessary knowledge and, on the other, removing obstacles to health promotion and disease prevention, such as staff shortages, time pressure and misdirected financial incentives. For example, there could be a separate fee-for-service remuneration for counselling sessions that requires a specific qualification.

### Reduce vulnerability in the population

Environmentally sensitive health counselling also involves providing individually tailored information on relevant environmental health risks and communicating ways of adapting behaviour, e.g. for people with pulmonary or cardiovascular diseases who are particularly at risk from heat stress and air pollution. In combination with the positive effects of promoting healthy and sustainable lifestyles, this can reduce people's vulnerability. The reach of these measures can be increased by easily accessible and low-threshold care structures, outreach services and fixed contact points (e.g. health kiosks, community health nurses).

### Initiate measures for structural prevention

In order to promote the creation of healthy and sustainable living conditions, people can be informed in counselling sessions about how they can engage in designing their own living environments (e.g. planning and community maintenance of urban green spaces) – and what benefits this can bring for health and the environment. Furthermore, public health departments can initiate cross-sectoral measures and guide specific projects, e.g. on urban design, traffic calming or nature conservation (Box 1).

# Environmental resilience and adaptation: Being prepared for environmental changes and health crises

Safeguarding health by continuous adaptation and preparing health systems for crises and shocks

Healthcare provision must take account of the changing epidemiology of diseases (e.g. infectious diseases), as well as vulnerability factors and an increased workload caused by a rising burden of disease. In addition, buildings, technical structures and processes need to be adapted, e.g. to ensure a healthy indoor climate or cold chains for laboratory analyses. For such adaptation measures to succeed, systematic studies on the effects of environmental changes on diseases, diagnostics and therapies are needed – both specific to medical disciplines and across disciplines. The findings should be considered in medical guidelines and integrated into the education, training and further training of health professionals.

Continuous adaptation also contributes to improving resilience, which aims to anticipate shocks and crises, maintain the efficiency of health systems, and learn how to cope with future crises. Supplementing existing recommendations on strengthening climate resilience (resilience to the impacts of climate change), the WBGU proposes a more comprehensive guiding principle of environmental resilience, which addresses the effects of all environmental changes – including biodiversity loss and pollution. Examples of shocks and health crises related to environmental changes include extreme weather events such as storms and heat waves, famines, long-term episodes of massive air pollution, e.g. from forest fires, or pandemics of zoonotic infectious diseases such as COVID-19.

Targeted adaptation and resilience strategies take into account all components of health systems (e.g. securing supplies of energy and pharmaceuticals, or using integrated environment- and health-information systems; Box 1). They are developed in a transdisciplinary manner, are tailored to specific framework conditions (e.g. limited resources) and consider the needs of different population groups (e.g. with regard to information channels for risk warning). Measures such as implementing heat-protection plans should be legally binding. Beyond crises, capacity created as a precaution, e.g. additional personnel, could be deployed for environmentally sensitive prevention and health promotion.

In low- and middle-income countries, on the one hand improving basic healthcare is crucial. On the other hand, specific adaptation measures are particularly urgent. Therefore, measures should be researched and implemented that simultaneously generate benefits in both areas, offer quick and effective protection against health risks, and can be implemented sustainably. In this way, using available funding for climate adaptation could also help reduce global health inequalities. Furthermore, particular synergies can result from multi-sectoral projects at the interface of health systems and nature conservation.

**Box 1**

## The future key role of public health departments

Public health departments (e.g. municipal health authorities) focus on the population's health and can make a decisive contribution to implementing the guiding principles explained here. For this, their financial, material and personnel resources need to be significantly improved, and corresponding goals, tasks and measures must be defined. These include:

### A greater contribution to structural prevention

Public health departments are established as an interface between health systems and politics, the administration and other sectors. They initiate interdepartmental and cross-sectoral measures to create healthy and sustainable living conditions in line with the Health-in-All-Policies approach.

### Integrated environment- and health-information systems

Public health departments operate nationally and internationally networked digital systems that are linked to existing projects and continuously record, merge and publish environmental and health data and stressors in a spatially and temporally differentiated way.

### Conducting regular exposure, vulnerability and adaptation assessments

Public health departments analyse environmental health risks and epidemiological developments on a regular basis and with foresight, in cross-system cooperation with all relevant disciplines and institutions. In the future, artificial intelligence could be used for the analyses.

### Setting up targeted early-warning and risk-information systems

Public health departments use automated early-warning and information systems to inform both health professionals and people at risk about imminent and existing health risks. They also coordinate the establishment of disaster- and pandemic-preparedness plans.

### Evaluation of the ecological footprint of health systems

Public health departments continuously monitor the ecological footprint of their respective health systems and identify any need for action and ways to reduce resource use and emissions. They also contribute to scaling up successful measures to increase sustainability.

# Transformations towards sustainability: Reducing emissions means protecting health

Promoting sustainability initiatives, making use of existing opportunities and developing more environment-friendly options

Health systems themselves contribute to environmental changes that are harmful to health; yet high-quality healthcare can also be achieved with lower emissions. A more efficient use of resources would also result in significant potential for cost savings. Transformations towards sustainability are therefore urgently needed and are increasingly gaining political attention. Binding emission-reduction targets could be enshrined in law, and public health departments can provide support with their implementation (Box 1). Existing best practices and successful instruments of climate and environmental protection should be scaled up – and initiatives by health professionals should be given institutional support.

Extensive catalogues of measures for reducing resource consumption and emissions already exist. An orientation towards principles of the circular economy addresses both fields of action, whereby medically expedient hygiene requirements must be observed. In general, the fundamental principle that must always apply is that action to cut emissions must never threaten the well-being or health of patients and staff. Unavoidable emissions should be compensated as far as possible. It is important to minimize emissions not only of greenhouse gases, but also of other pollutants, for example by reducing waste and limiting chemical pollution from pharmaceutical residues. Possible actions include using fewer disposable products and choosing environment-friendly pharmaceuticals where available and medically suitable (e.g. dry powder inhalers instead of metered dose inhalers). Increased demand could also contribute to the development of more environment-friendly pharmaceuticals, medical products and technologies, including safely reusable alternatives, e.g. surgical materials and instruments, as well as methods for environmentally friendly sterilization. There is an urgent need for research in these areas.

The comprehensive introduction of healthy and sustainable catering in health facilities, e.g. in the sense of the Planetary Health Diet, would generate ecological as well as direct health benefits. The same applies to avoiding inappropriate care including underuse and overuse, i.e. unnecessary diagnostics and therapies, for example by optimizing treatment plans in line with medical guidelines. In this way, avoidable side effects and stress for patients can be reduced, as can emissions. Economic savings could be invested in health-promoting, preventive and transformative measures.

## Epilogue: Expand evidence and shape framework conditions in a targeted manner

There are many possible ways of harnessing the transformative potential of health systems. The important thing now is to promote their implementation by shaping the framework conditions accordingly and underpinning it with further research.

A decisive factor for implementing the recommendations in practice is to design remuneration systems in such a way that they encourage – rather than inhibit – health promotion, disease prevention, sustainability and resilience. Giving more consideration to possibilities for environmentally sensitive prevention and health promotion, sustainability criteria and the impacts of environmental changes in medical guidelines could have a leverage effect. This urgently requires the expansion of scientific evidence.

Integrating the relevant content into education, training and further training is also of central importance. As health professionals enjoy a high level of trust, they can also play a key role in initiating transformations in other sectors. Health facilities can also fulfil a role-model function, for example by communicating sustainability as a guiding principle, and by themselves being designed in a health-promoting way.

This Factsheet summarizes statements by the WBGU report 'Healthy living on a healthy planet' (2023). The report is available free of charge at www.wbgu.de/healthyliving.

**The WBGU**
The German Advisory Council on Global Change (WBGU) is an independent scientific advisory body to the German Federal Government that was established in 1992 in the run-up to the Earth Summit in Rio de Janeiro. The interdisciplinary WBGU develops recommendations for action and research for policy-makers on the basis of scientific analyses.

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