



Towards climate-resilient Health and Social Protection Systems

Climate change has a significant impact on public health and on healthcare systems. It hits the most vulnerable harder. It increases the burden on our social protection systems. A reflection is thus needed on how to redesign our health and social protection systems in order to respond, mitigate and adapt to these new realities and needs.

Healthcare systems also have their share of responsibility in climate change, causing carbon emissions that reach up to 10% of a country's national emissions. Hospitals and pharmaceutical products are the biggest sources, representing between 22 and 44% of the emissions.¹ In addition, the sector is the source of other environmental pollutants such as ammonia, carbon monoxide, methanol, etc.² In low and middle income countries, 4,4% of the net greenhouse gas emissions are caused by the sector's transport system, energy consumption and cold chain.³ In addition, food products, energy consumption and waste in healthcare settings contribute to the ecological footprint of systems.

Contributing to climate change, the sector is a key player in climate mitigation and will definitely need to adapt to changing needs and operating conditions. Social protection systems need to adapt to constitute an essential tool in ensuring that societies become more resilient to the effects of climate change.

This paper gathers some recommendations based on latest studies and reports on the topic.⁴ It aims at contributing to the debate and at inspiring decision-makers and other stakeholders to take action at their level.



The International Association of Mutual Benefit Societies (AIM) is an international umbrella organisation of federations of health mutuels and other not-for-profit healthcare funds. It has 49 members from 26 countries in Europe, Latin America and Africa and the Middle East. AIM members provide compulsory and/or supplementary health coverage to around 230 million people around the world, including close to 200 million people in Europe, on a not-for-profit basis. Some AIM members also manage health and social services. Collectively, they have a turnover of almost €300 billion. AIM strives for the achievement of universal healthcare coverage and for social protection systems based on solidarity.

¹ IRDES, p. 16.

² Seppänen, p. 2.

³ World Bank, p. 9.

⁴ See sources at the end of this paper.

Recommendations:

Climate-resilient Healthcare Systems ...

1. Guarantee the ambitious implementation of **the EU Strategy on Adaptation to Climate Change**, notably by **closing the financing gap** for climate resilient investments in Europe through the mobilisation the EU Budget and Funds.
2. Ensure that all Member States adopt **National Adaptation Strategies and Plans** which more systematically include **measures aiming at the healthcare sector**.
3. Strengthen **prevention and community-based primary care** for a better preparedness for future shocks and prevention of climate-sensitive health risks.
4. Strive for **climate-neutral healthcare facilities by 2050** and cut the emissions of the sector caused by **transport**.
5. Ensure the collection of harmonised and comprehensive data on climate and health across the EU through the development of **EU climate-health indicators** and the creation of a **network of National Climate-Health Knowledge Centres**.
6. Curbs **pharmaceutical products'** impact on climate along their lifecycle.
7. Implement sustainable healthcare **waste management** practices, including "waste reduction, segregation, safe recycling, and the phase out of incineration in favour of steam-based disinfection".
8. Adapt the **skills of healthcare professionals** to changing healthcare needs related to emerging climate-related risks and ensure their **sufficiency** in the face of a growing and changing demand.
9. Improve public health **risk communication**.
10. Tackle the drivers of climate-change outside the health system.

... and Social Security.

11. Prevent the exacerbation of inequities by guaranteeing the **fair transition** to climate-resilient societies through a more systematic integration of social justice into EU Climate policies.
12. Develop new cross-sectoral approaches and policies to reduce climate risk and vulnerability and achieve **equity**, as a basis for better preparedness.
13. **Link social protection and climate change** responses and integrate risk management.

Climate-resilient Healthcare Systems ...

1. Guarantee the ambitious implementation of the EU Strategy on Adaptation to Climate Change, notably by closing the financing gap for climate resilient investments in Europe through the mobilisation the EU Budget and Funds.

In 2021, the EU climate Law⁵ and the new EU Strategy on Adaptation to Climate Change⁶ were published. They aim at ensuring that all EU policies contribute to the EU Green Deal objective of climate-neutrality by 2050. Amongst others, the Strategy intends to contribute to ensure a more coordinated and effective preparedness and response to climate-related health threats.

The Climate Adaptation Strategy also led to the creation of the EU Climate and Health Observatory, designed to develop and collate knowledge on the topic but also to support Member States to integrate adaptation more systematically and consistently in their health policies and systems. In collaboration with the Health Emergency Preparedness and Response Authority (HERA), the Observatory will contribute to anticipate and prevent climate-related health threats. It is supported by the European Health Union, which is funding a project to develop a stress-test methodology for national health systems, which includes climate among the stressors.

AIM encourages the European Commission to guarantee the ambitious implementation of the Climate Adaptation Strategy by mobilising more funding to close the financing gap for climate resilient investments in Europe. The EC should do so via its Multiannual Financial Framework and through other sources of funding (Modernisation Fund, Innovation Fund, LIFE financial instruments, etc.).

2. Ensure that all Member States adopt National Adaptation Strategies and Plans which more systematically include measures aiming the healthcare sector.

The EU Strategy on Adaptation to Climate Change aims at supporting the development and implementation of National Adaptation Plans. Data from the European Environment Agency (EEA) shows that countries are at different stages of preparing, developing and implementing national adaptation strategies (NASs) and plans (NAPs).⁷ If those plans and strategies look at the impact of climate change on the healthcare sector, they do not systematically look at the potential of the latter for climate mitigation nor include measures targeting the sector. NASs and NAPs should aim at climate-resilient healthcare systems, allowing all players and initiatives to be effectively coordinated. Governments should ensure that relevant actors in those systems are on board, establish milestones, assess development, and offer guidance and gather data to track development and the results of the actions taken.⁸ National Strategies and Plans should provide evidence on the costs and benefits of the environmental interventions, create a solid legal and policy framework that covers all levels of the health system and works to bring all players together to lead responses to shocks.⁹ In doing so, attention should be particularly paid to engaging with communities as they are essential actors in responses to shocks. To that endeavour, the formation of community-based surveillance teams can be

⁵ https://climate.ec.europa.eu/eu-action/european-climate-law_en

⁶ https://climate.ec.europa.eu/eu-action/adaptation-climate-change/eu-adaptation-strategy_en

⁷ <https://climate-adapt.eea.europa.eu/en/countries-regions/countries>

⁸ Seppänen, pp.5-6.

⁹ Newton-Lewis, p. 3.

an added value as well as the inclusion of community-based organisations in the governance systems of the implemented strategies and plans.¹⁰

In addition, the below listed recommendations should be taken into consideration.

3. Strengthen prevention and community-based primary care for a greater preparedness for future shocks and better prevention of climate-sensitive health risks.

In order to improve population health overall - - essential for preparedness for future shocks - and to prevent climate-sensitive health risks like vector- and water-borne diseases, heat-related illnesses, etc. - public health programmes, including those for climate-sensitive diseases, should be strengthened and all health interventions seen through a climate lens.¹¹ The design and implementation of health initiatives should progressively take into account both “the current climate variability and the predicted future climate change”.¹²

The most resilient and energy-efficient type of care is the one that does not happen. Primary care may ease the strain on healthcare systems by focusing on early intervention and prevention. Primary prevention allows to lower the demand and need for healthcare services, since it steers individual and social attitudes to encourage more sustainable healthcare use and healthier lifestyles - which result in lower need for care.

Raising awareness and improving the health and climate risk literacy is essential to that endeavour. Healthcare professionals should be trained, informed on the impact of the sector, and included in co-creating all actions which directly or indirectly impact them. They can also play a key role in informing the public on climate-friendly behaviour and adaptation to the new realities brought by climate change. Climate change must be understood, dangers recognised, and climate protection measures developed and implemented, including at individual level.¹³

Beyond prevention, it is important to rethink care provision: promoting care management through risk stratification, providing more targeted and personalised care, improving care pathways, boosting local care provision, and training healthcare professionals in new technologies and remote consultations, among other things and as already mentioned.¹⁴

Communities that have a strong foundation in primary care and preventive practices can better manage and respond to health crises. It is therefore important to enhance and fortify regional primary care networks.¹⁵ To maintain the continuation of services during climate-related disasters, it is vital to enhance referral networks and emergency plans based on a network of healthcare facilities, health centres, and community-serving organisations. Promoting organisational innovation as well as the adoption of green care protocols in primary care settings would also help building resilience.¹⁶

¹⁰ Newton-Lewis, p.5.

¹¹ World Bank, p. 40.

¹² WHO, p.29.

¹³ Seppänen, p.7.

¹⁴ IRDES, p. 12.

¹⁵ WHO, p. 10.

¹⁶ World Bank, p. 36.

4. Strive for climate-neutral healthcare facilities by 2050 and reduce the emissions of the sector caused by transport.

The healthcare sector is a huge energy consumer. In Belgium for example, it is responsible for approximately 5.5% of the national CO₂ emissions.¹⁷ Improvements in energy consumption can be achieved by adopting energy protocols in hospitals, using energy-efficient structures for healthcare services and providers, and adopting sustainable low-carbon alternatives for transportation (for production, storage, and commodity delivery but also the transport of patients).¹⁸

Transport-related emissions can also be reduced through sustainable food procurement in healthcare institutions, promoting the consumption of organic and locally sourced meals as well as mainly plant-based diets.

Telehealth has the potential of reducing emissions related to patient and staff transfers, where used to replace trips to medical institutions at least 7 km distant and when teleconsultations do not result in double consultations.¹⁹ In addition, telemedicine can ensure the continuation of primary care delivery, fill delivery gaps, increase the productivity of healthcare workers, and lessen facility-related air pollution and the carbon footprint associated with power consumption.²⁰ Low-carbon and energy-efficient telemedicine services should thus be developed.

5. Ensure the collection of harmonised and comprehensive data on climate and health across the EU through the development of EU climate-health indicators and the creation of an EU network of National Climate-Health Knowledge Centres.

Digital and telehealth services can be especially helpful in preserving healthcare access while minimising unwanted personal interaction during emergencies, such as pandemics or natural disasters.²¹ In addition, data gathering can steer services towards more efficiency and sustainability. Access to trustworthy data may indeed be used to determine the resource consumption related with a disease's onset, progression, and treatment. Moreover, there is a real added value in linking the health data with environmental (including weather) and animal health data to prevent, better prepare and respond to future crises (following the above-mentioned One-Health approach). As highlighted by WHO, information management technologies enable to analyse connections between environmental and health data. Those technologies should be integrated into disease surveillance systems so as to “support vulnerability and adaptation assessment, as well as surveillance and early warning”.²²

The European Climate and Health Observatory notably aims at better monitoring climate-related health risks, impacts and responses through a set of EU climate-health indicators. Those indicators are key in assessing the evolution of hazards but also exposure, vulnerability, and the impact and effectiveness of adaptation measures. AIM encourages the European Commission and Member States to agree on a common and comprehensive set of indicators and ensure that data from all Member States is collected, made available and compared. To that end, AIM encourages Member States to set up National Climate and Health Knowledge centres, in charge of the collection and management of

¹⁷ VITO, p.18.

¹⁸ Seppänen, pp. 4-5.

¹⁹ IRDES, p. 10

²⁰ World Bank, pp. 33, 36.

²¹ World Bank, pp. 40-41.

²² WHO, p. 25

that data. Those Centres, the Observatory, and the EU Climate-Adapt Platform should create an integrated network.

When discussing and boosting the potential of eHealth for more sustainable healthcare systems, the challenges should not be neglected. First, resources and energy should be used wisely while designing and implementing hardware and software structures.²³ Second, particular attention should be given to bridging the digital divide and ensuring that inequities are not reinforced by improving levels of digital health literacy (of the public but also of all actors of the system) and by guaranteeing the involvement of end users and relevant stakeholders in the design of eSolutions and structures. Third, patients should always remain in control of their data and privacy as well as data protection concerns taken into consideration.²⁴

6. Curbs pharmaceutical products' impact on climate along their lifecycle.

It is important that the future pharmaceutical legislation curbs pharmaceutical products' impact on climate along their lifecycle. Future rules need to address risks to the environment posed by the impact of manufacturing methods on the environment, as well as addresses the disposal of medicinal products.

Great gains can be achieved by boosting local supply and production to better control production processes and cut down emissions due to transport and by packaging medical goods using "recyclable or reprocessable sustainable materials"²⁵.

Huge environmental gains can also be achieved by making the cold chain's infrastructure, technology, storage, and distribution. In addition, environmentally friendly and energy-efficient and investments should be made to fund accessible, energy-efficient, and resilient pharmaceutical distribution systems by adhering to a clear set of climate-smart principles.²⁶ Furthermore, greater gains can be achieved by boosting local supply and production to cut down emissions due to transport, and by making packaging and medical equipment using "recyclable or reprocessable sustainable materials"²⁷.

Long-term sustainability and climate resilience can also be improved by choosing medical products, pharmaceuticals and destruction methods with reduced environmental impacts. To that end, measures should include waste minimization guidelines for equipment and medication purchases²⁸ and appropriate collection and destruction systems shall be in place for medicinal products that are unused or have expired. Such collection systems shall be under the responsibility of Member States and managed by suppliers and healthcare professionals. They shall ensure that pharmaceuticals are collected and destroyed following the methods that have the least impact on the environment.²⁹

The sales of any product with a high carbon footprint, a high potential for global warming, or a high energy requirement should be restricted when a more sustainable and equally cost-efficient alternative exists. In addition, prescribing healthcare professionals and pharmacists can also play their

²³ vdek, p.3.

²⁴ More information: <https://www.aim-mutual.org/mediaroom/aim-position-on-the-ehds/>

²⁵ *World Bank*, p. 50.

²⁶ *Idem*, p. 46.

²⁸ *Idem*, p38.

²⁹ WHO, p.25

role in reducing the environmental impact of medicines use by choosing the most sustainable treatments for their patient and by implementing social prescribing.

7. Secure the implementation of sustainable healthcare waste management practices including “waste reduction, segregation, safe recycling, and the phase out of incineration in favour of steam-based disinfection”.³⁰

Millions of tonnes of waste are produced by the healthcare sector each year, an amount that considerably increased during the COVID-19 outbreak, due to increased use of single-use personal protective equipment (PPE), and poor waste management practises.³¹ Working on improving waste prevention, reduction, treatment and recycling – including during healthcare crises - is therefore essential in ensuring the environmental sustainability of the sector.

To reduce waste, a first step resides in establishing realistic targets for both its measurement and reduction. Then, it is important to engage with industry and work together to reduce waste generation, as well as to promote the reusability and sustainability of pharmaceuticals and medical devices by design. In addition, when evaluating the purchase of products and services, circularity principles should be considered early in the procurement process.³²

Promoting green waste management techniques and phasing out all incineration techniques is vital to improve waste treatment. Progress should be made towards alternate waste treatment technologies, to increase the reuse and recycling of healthcare products and materials, and minimise the necessity for incineration, given its negative effects on human health and the environment.³³

Food waste is also a growing issue for hospitals across Europe, contributing to global warming through its unsustainable food chain, from food production to food waste disposal. Promoting sustainable procurement practices and including the prevention of food waste as an objective in hospital protocols would thus also be beneficial.

8. Adapt the skills of healthcare professionals to changing healthcare needs linked to emerging climate-related risks and ensure staff sufficiency in the face of a growing and changing demand.

National plans for human resources in the health sector should be reviewed to attract, protect, support, recognise, and motivate healthcare staff. In addition, those plans should ensure a sustained response to healthcare shocks as well as the readiness for climate-related risks, including by foreseeing coordinated actions with volunteers and workers from other sectors.³⁴

The local demand for services may grow because of climate change, which might influence the number and skills of the needed healthcare staff.³⁵ Other measures should therefore include expanding training capacity, revising the curriculum to include skills and competences to address health challenges related to climate change, and ensuring the equitable distribution of the health workforce. In addition, the

³⁰WHO, p. 36.

³¹ Healthcare without Harm, p. 1.

³² Healthcare without Harm, p. 5.

³³ Idem, p.6.

³⁴ World Bank, p. 33.

³⁵ WHO, p. 16

health workforce's capacity to administer vaccinations against infectious diseases that are vulnerable to climate change should be increased.³⁶

9. Improve public health risk communication.

Effective public health communication is essential in climate threat preparedness and response. That effectiveness depends on a wide range of factors, starting with the timely and effective communication of evidence-based information using an appropriate and accessible channel, as well as targeted language and design. Tackling misinformation, disinformation and mistrust, and meaningfully engaging target groups are also part of the recipe to success.³⁷

The trustfulness and packaging of the message is also essential, just as the trustfulness of the messenger. The political acceptability of policy responses to crises is indeed influenced by people's trust in one another and in institutions. Yet, present trends point to a worrisome and uneven drop in both, when collective action and its democratic legitimacy depend critically on trust.³⁸

The lack of equity within societies lowers trust and potentially undermines the social contract required to support social protection systems. It increases social injustice and puts solidarity-based systems under threat. And this link between social protection and trust operates in both ways: effective universal social protection fosters trust and social cohesion.³⁹

10. Tackle the drivers of climate change outside the health system.

Climate change further threatens health by acting on the social and environmental determinants of health. In turn, climate change is exacerbated by causes that lie beyond healthcare systems.

Therefore, collaborating with other sectors to promote a "Health in all policies" approach is one of the most successful strategies that health systems can use. Effective measures are needed in many other policy areas such as food systems, agriculture, urban planning, mobility, biodiversity loss, pollution, and energy – to cite but a few. Action should be coordinated across all sectors to boost public health and environmental gains.

... and Social Protection.

11. Prevent the exacerbation of inequities by guaranteeing the fair transition to climate-resilient societies through a more systematic integration of social justice into EU Climate policies.

Measures implemented to operate the transition to climate-resilient societies can have a significant impact on individuals, sometimes hitting lower socioeconomic groups harder. For example, higher energy and food prices affect the poor disproportionately. Climate-mitigation measures can also lead

³⁶ World Bank, p. 33, 48.

³⁷ *Idem*, p. 45.

³⁸ WHO_EU Health and social equity xiv

³⁹ *Idem*, pp. 50-51.

to job losses, food insecurity, etc. To ensure a fair transition, it is therefore vital to compensate for the losses caused by those measures.

Social protection can help in that compensation. It can also contribute to incentivise measures that support a just societal transition to a climate-resilient future and green economy.⁴⁰

The European Commission proposed the Social Climate Fund as part of its “Fit for 55” package to mitigate the social impacts arising from the new emissions trading system for buildings and road transport. It requires Member States to submit national Social Climate Plans, in which climate action and social compensation measures are put in place. Yet, its objectives can only be achieved by ensuring that sufficient resources are allocated to the fund and to the national Plans.

While the Fund marks a significant step towards a more systematic integration of a social justice into EU climate policies, additional green social protection programmes should be created to further increase social resilience against the effects of climate change and environmental degradation. These programmes could include unemployment insurance to compensate for job losses due to extreme weather or the closure of carbon-intensive industries, funding programmes to assist households with energy efficiency renovations, etc.

12. Develop new cross-sectoral approaches and policies to reduce climate risk and vulnerability and achieve equity, as a basis for better preparedness.⁴¹

Vulnerable groups are more affected by climate-related hazards, which reinforce already existing inequalities. In addition, climate change exacerbates poverty and vulnerability and puts new groups at risk.⁴² By acting on socioeconomic determinants, social protection helps reduce inequities and make populations less vulnerable to climate hazards. Policies to reduce vulnerability and tackle poverty should thus accompany climate-change mitigation actions.

Current social policy can be improved by promoting institutional coordination between all national social protection agencies. It also needs adequate financing to deliver on reducing vulnerability, improving well-being and fostering human development.⁴³ It is also essential to strengthen Universal Health Coverage finance systems by finding new sources of income for healthcare financing and adjusting benefit plans to take diseases caused by climate change into consideration.⁴⁴

Social protection is a valuable tool that can help our societies become more resilient to the increasing effects of climate change. Well-designed social protection systems can also help ensure an effective response to shocks, protecting populations that are more susceptible to adversity from climate change, helping after catastrophic weather disasters like storms, droughts and floods, which are on the rise internationally.⁴⁵ On the other hand, they are also crucial to preparedness.

⁴⁰ Costella, pp. 21,22.

⁴¹ *Idem*, p. 8

⁴² *Idem*, p. 9.

⁴³ Argawal, p. 2. (climate resilience through SP)

⁴⁴ World Bank, p. 25.

⁴⁵ Costella, p.6

13. Link social protection and climate change responses and integrate risk management.

Social protection and responses to climate change must be linked, and risk management related to climate change integrated into social protection programmes and measures.⁴⁶ Yet, so far, response has mostly relied on humanitarian and disaster response, and adaptation measures have not shown a sufficient impact on risk.⁴⁷ It is necessary to integrate climate and social protection risk and vulnerability analysis, indicators and information, in order to ensure the proper design of policies and interventions. Establishing links with early warning systems and forecast-based alarms would also enable faster shock-response.⁴⁸ In addition, combining social protection programmes and insurance with development and climate ones can allow for better coverage and boost the efficacy of social protection.⁴⁹ This can be coordinated under a common national strategy, with adequate funding, which encourages coordination across sectors.⁵⁰

Financing for climate and social protection should be aligned and linked, so that investments in climate-resilience also take social outcomes into account and vice-versa. On top of the determining factor of funding, such an integration requires investment in digital and non-digital infrastructure and linking social protection systems to early warning and early action systems.

Sources:

Argawal, A., et al. . '[Climate resilience through social protection.](#)' *Background paper to the 2019 report of the Global Commission on Adaptation.*, Rotterdam and Washington, DC, 2019.

Costella, C., McCord, A., van Aalst, M., Holmes, R., Ammoun, J., Barca, V., '[Social protection and climate change: scaling up ambition](#)', Social Protection Approaches to COVID-19 Expert Advice Service (SPACE), DAI Global UK Ltd, United Kingdom, 2021

Healthcare without Harm, [Sustainable healthcare waste management in the EU Circular Economy model](#), 2020.

Newton-Lewis, Tom, et al., [Working Paper: What is a Shock-Responsive Health System?](#), 2020

Seppänen A.-V. et Or Z., '[Comment améliorer la soutenabilité environnementale des systèmes de santé ? Une revue de littérature et un cadre d'action pour la France](#)', Irdes : Questions d'économie de la santé n° 278 - Mai 2023

IRDES, [The Environmental Sustainability of Health Care Systems: A literature review on the environmental footprint of health care systems and interventions aiming to reduce it – towards a framework for action for France](#), 2023

VITO, [Impact of climate change on the health care system in Belgium](#), 2021

WHO, [WHO Operational framework for building climate resilient health systems](#), 2015

World Bank Group, [COVID-19 and Climate-Smart Health Care : Health Sector Opportunities for a Synergistic Response to the COVID-19 and Climate Crises](#), 2021.

⁴⁶Costella, 25-27.

⁴⁷ Idem, p. 10.

⁴⁸ Idem, p. 28.

⁴⁹ Argawal, p.2.

⁵⁰ Costella, p. 22, 28.

WHO Europe, [*Transforming the health and social equity landscape: promoting socially just and inclusive growth to improve resilience, solidarity and peace - DRAFT FOR CONSULTATION*](#), 2023.

Vdek, [*Resolution der Mitgliederversammlung des vdek zu Klima und Gesundheit*](#), 2022.