

Climate change, healthcare and ethics

Opinion of the Swedish National Council on Medical Ethics

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Summary

According to the World Health Organization (WHO), global warming is the single biggest threat to human health. We can expect that the Swedish healthcare system will be put under greater strain due to increased and somewhat different care needs as the effects of global warming become more tangible. In this Opinion, the Swedish National Council on Medical Ethics (SMER) superimposes an ethical perspective on the challenges facing the Swedish healthcare system in its efforts to transition, adapt to and manage the consequences of climate change as a result of global warming.

SMER is of the opinion that society must act vigorously to stop global warming. The world's governments and parliaments bear the greatest responsibility, but responsibility also lies with decision-makers in the sectors that produce greenhouse gas emissions. The healthcare sector and its professions also have a responsibility to transition to long-term sustainable healthcare, and to prepare for the changes in the climate that are yet to come. According to SMER, it is unsatisfactory that a large part of the public sector is not included in the central planning for the climate transition.

SMER recommends that healthcare actors should:

- step up their work to transition to climate-smart and sustainable healthcare;
- review and implement the measures necessary to ensure that healthcare is adequately prepared to deal with the consequences of changes in the climate; and
- identify and discuss the ethical issues that need to be addressed at different levels in climate transition and adaptation work, and once the consequences of climate change have materialised.

SMER recommends among other things that the Swedish Government should:

- facilitate the healthcare system's climate transition; and
- work to ensure that the healthcare system is adequately prepared to deal with the consequences of climate change.

1 Introduction

The Swedish National Council on Medical Ethics (SMER) is tasked with analysing the medical ethics issues that arise in healthcare and in medical research from an overarching societal perspective. Now that the negative consequences of global warming are becoming increasingly clear, like several other European bioethics councils, SMER finds that working with issues that concern climate change and health is imperative.¹ According to the World Health Organization (WHO), global warming is the single biggest threat to human health and climate change will have tangible consequences for the healthcare system. At the same time, the healthcare system's production and consumption is contributing to global warming. Global emissions from the sector have been estimated at 4.4–4.9% of total net greenhouse gas emissions.²³

In this Opinion, SMER superimposes an ethical perspective on the challenges to the Swedish healthcare system posed by global warming and climate change. The challenges concern the transition to reduced greenhouse gas emissions as well as work with climate adaptation and dealing with the consequences of climate change.

¹ See for example the Bioethics Commission. (2022). [The Climate Crisis as an Ethical Challenge](#) and Deutscher Ethikrat. (2023). [Climate Ethics](#). [webpage].

² Nordic Centre for Sustainable Healthcare. (2019). [Energi- och klimatsmart sjukvård En överblick](#).

³ Romanello, M. et al. (2021). The 2021 report of the Lancet Countdown on health and climate change: code red for a healthy future. [The Lancet](#), 398(10311):1619-1662.

2 Background

2.1 Global warming has major negative effects on health

Climate change has major negative consequences for human health. Climate change will very probably lead to ill health, disease and death as a result of increasingly frequent extreme weather events such as heat waves, storms and floods, as well as the increase in zoonoses⁴ and food and water-borne diseases, other somatic diseases and mental health problems. In addition, climate change undermines many of the determinants of good health, such as functional sanitation systems, food systems, livelihoods, and access to healthcare and social support structures. The health risks arising in the wake of climate change are estimated to be the most serious for already vulnerable sections of the population: children, women, those living in poverty, ethnic minorities, migrants, the elderly and people with underlying health conditions. Greater inequalities in the risk of being affected as well as access to measures in the event of illness or injury can be expected. Many of these consequences are already apparent, and with each rise in temperature they are expected to get worse.⁵

According to an analysis by the Public Health Agency of Sweden, the greatest risks to health in Sweden from a changed climate⁶ are expected to be heat waves and tick-borne infections. Heat waves have so far occurred on average every 20 years, but are expected to occur every three to five years by the end of this century. In addition,

⁴ Diseases or infections that can be transmitted naturally between animals and humans.

⁵ WHO. (2023). [Climate change and health](#). [web page].

⁶ The Public Health Agency of Sweden based its conclusions on the RCP8.5 scenario (Representative Concentration Pathway), which is based on greenhouse gas emissions continuing to increase.

temperatures of 40°C may begin occurring every 20 years in southern Sweden. Climate change is also likely to lead to changes in pollen allergies, more floods, a deterioration in drinking water quality and more water- and food-borne infections. Serious health consequences are also anticipated from mosquito-borne infections and wild fires, although they have a lower probability.⁷ We can thus anticipate that the Swedish healthcare system will be put under greater strain due to increased and somewhat different care needs.

Changes in the climate are also causing a lot of concern here and now. Climate change is the social phenomenon that Swedes aged 18–29 worry most about according to a survey conducted by the Swedish chapter of the World Wide Fund for Nature from 2023.⁸

2.2 Measures for the climate transition and climate adaptation

Through several international conventions and processes, including the United Nations Framework Convention on Climate Change, the Paris Agreement, and the 2030 Agenda, most of the world's countries have committed to reducing greenhouse gas emissions in order to prevent further global warming. The goal of the Paris Agreement is to keep the increase in the global average temperature well below 2°C relative to the pre-industrial level, and strive to limit it to 1.5°C. In Sweden, the Riksdag has adopted a goal that Sweden should not have net zero greenhouse gas emissions by 2045, and subsequently achieve negative emissions. The EU has set itself the target of reducing greenhouse gas emissions by 40% by 2030 compared to 1990 levels, achieving climate neutrality by 2050.

According to the latest Synthesis Report of the Intergovernmental Panel on Climate Change (IPCC) from March 2023, the combined global commitments thus far will probably not be sufficient to reach the target of no more than 1.5°C of warming compared to pre-industrial levels, and funding for the transition is insufficient. The possibility of ensuring an acceptable and sustainable future for all is rapidly diminishing. Emissions need to

⁷ Public Health Agency of Sweden. (2021). [*Hälsokonsekvenser av klimatförändring i Sverige En risk- och sårbarhetsanalys*](#).

⁸ World Wide Fund for Nature (WWF) (2023). [*WWFs Klimatbarometer 2023: Ökat tryck på att politikerna ska agera för klimatet och naturen, särskilt utanför storstäderna*](#). [web page].

be cut drastically from 2025 if we are to have any chance of reaching the 1.5°C target, or even the 2°C target. The choices and measures implemented this decade will have an impact now and for a long time to come.⁹

Besides the work to prevent further global warming, work is underway to adapt society to the consequences of climate change. In 2013 and 2021, the EU has adopted climate adaptation strategies based on a long-term vision of how the EU will become a climate-resilient community. Sweden has a national plan for climate adaptation, and among other things this means that a number of government agencies have tasks in this area.

2.3 The climate issue is complex

The climate issue raises multiple ethical questions including about responsibility, solidarity and justice within and between generations and nations, risk management, and humankind's relations with animals and nature. But this issue also has political, economic, technical and psychological dimensions.

Greenhouse gas emissions continue to increase, even though they should be decreasing. Our modern societies' energy, industrial and agricultural systems are structured around the burning of fossil fuels. A distinguishing feature of climate change is that it is a global problem in the sense that the damage does not occur locally to emitters of greenhouse gases, but everywhere on Earth. Global warming is also a collective problem, as virtually all of the world's inhabitants and companies contribute to emissions, albeit to very different degrees, through their consumption and production. But every individual, company and industry contributes only a small part of the total amount of emissions, and the links between greenhouse gas emissions and their impacts are invisible to most people and take effect over centuries.

In addition, people have different views about the climate issue based on both different sets of values and different ideas of the nature of the world and how it works (assumptions). Differences in values include, for example, differing view on what responsibility

⁹ The Intergovernmental Panel on Climate Change. (2023). [Synthesis Report of the IPCC Sixth Assessment Report \(AR6\)](#). *Summary for Policymakers*.

those of us alive today bear for future generations' prospects for well-being, what is a just and fair distribution of the Earth's resources, humankind's relations with animals and nature, and how much risk society should be exposed to. Assumptions concern, for example, the extent to which future technology can solve the problem and how much we need to change our way of life, and whether political or individual solutions are needed.¹⁰ Although all predictions of the future climate contain a certain element of uncertainty¹¹, there is scientific consensus that climate change is happening very fast, that it has or will have serious social consequences in the near future and for future generations, and that it is caused by humans.

¹⁰ Hedenus, F. et al. (2022). *Hållbar utveckling*. Studentlitteratur.

¹¹ See, for example the Swedish Civil Contingencies Agency. (2020). [*Säkerhet och osäkerhet i klimatscenerierna*](#).

3 Ethical issues in healthcare

Many of the ethical issues that arise in the wake of the climate crisis on a global level are also manifest in the healthcare system. Ethical issues that arise in the sector in the transition to reduced greenhouse gas emissions as well as work with climate adaptation and dealing with the long-term consequences of climate change are discussed below.

3.1 Climate transition

The healthcare system's use of energy, medical products, food, textiles, medical devices, healthcare consumables and transportation all contribute to global warming. Global emissions from healthcare have been estimated at 4.4–4.9% of total net greenhouse gas emissions.^{12,13} Sweden's climate policy action plan adopted in 2019 presented both sector-specific and cross-sectoral measures to reduce greenhouse gas emissions in Sweden, but healthcare was not specifically mentioned. According to the Swedish Association of Local Authorities and Regions (SALAR), municipalities (local authorities) and regions should be leaders in reducing greenhouse gas emissions and strengthening society's resilience to the consequences of climate change.¹⁴ Work is going on locally and regionally to reduce climate impact, but there is no centrally adopted plan for reducing greenhouse gas emissions from healthcare, nor is there any systematic follow-up of results which could be used to

¹² Nordic Centre for Sustainable Healthcare. (2019). [Energy and climate-smart healthcare at a glance](#).

¹³ Romanello, M. et al. (2021). The 2021 report of the Lancet Countdown on health and climate change: code red for a healthy future. [The Lancet](#), 398(10311):1619-1662.

¹⁴ Swedish Association of Local Authorities and Regions (SALAR) (2023). [Klimat](#). [webpage].

evaluate the progress being made. Each region decides on its own sustainability efforts.

Both the World Medical Association¹⁵ and the International Council of Nurses¹⁶ have put out statements that, based on what we know about the negative impacts of climate change on human health, call on governments and other actors to start transitioning on the one hand, and to task the healthcare professions with contributing to the climate transition of the healthcare sector, and to people adopting a sustainable lifestyle. In its policy for the climate, health and sustainable healthcare, the Swedish Society of Medicine (SLS) emphasises the benefits that a climate transition of society and the healthcare system would have for public health, the environment and the planet.¹⁷ SLS has also developed a sustainability guide with recommendations for clinical practice.¹⁸ According to its policy for climate and health, the Swedish Society of Nursing is to contribute to an ecologically sustainable society and promote the kind of development that leads to a good living environment and good health through supporting nurses' sustainability efforts among other things.¹⁹

However, the transition to a healthcare system with less or zero climate impact can lead to conflicts in objectives and values, and conflicts of interest. The climate transition will lead to a better basis for good health in the long term, but may require increased financial as well as human resources, and may thus conflict with the healthcare system's task to operate healthcare based on needs that exist here and now, unless more resources are provided to the sector. Using fossil-free fuels and energy and purchasing medical products, goods and services with a smaller climate footprint can be more expensive and result in less scope in the budget for healthcare measures. New ways of working and new tasks can take time away from the regular work of healthcare and social care. One question that could arise is whether to choose healthcare measures or materials with a smaller climate footprint but with potentially

¹⁵ World Medical Association. (2009 and 2017). [WMA Declaration of Delhi on Health and Climate Change](#)

¹⁶ International Council of Nurses. (2018). *Nurses, climate change and health, Position statement.*

¹⁷ Swedish Society of Medicine. (2020). [Policy för klimat, hälsa och hållbar sjukvård.](#)

¹⁸ Swedish Society of Medicine. (2022). [Klimat och hållbarhet i det kliniska arbetet.](#)

¹⁹ Swedish Society of Nursing. (2021). *Climate and health policy.* Appendix to [Ett ändrat klimat ger ohälsa.](#)

poorer outcomes for the patient. Making a decision on such a question requires difficult ethical considerations where, for example, trust in the healthcare system plays a role. Would this be acceptable to staff and patients? It is also a difficult task to estimate and compare the impact of disposable items and their alternatives, for example, on both the climate and patient benefit. An analysis by the Uppsala County Administrative Board of municipalities' and regions' conditions for working with climate issues shows that there is already much work being done for the climate transition, but also that climate considerations, measures and investments are given lower priority if they are seen as pulling resources from areas such as healthcare, schools and social care.²⁰ As tasked by the Swedish Government, the County Administrative Board has submitted proposals on what measures should be taken at regional and local level.²¹ A programme committee for sustainable development within SALAR has also produced proposals addressed to central government, SALAR, and Sweden's regions and municipalities that aim to strengthen climate efforts and the climate transition in regions and municipalities.²²

The transition measures can also lead to synergistic effects. Improving energy efficiency or reducing food waste can mean savings, which increases the scope for providing healthcare here and now. Work is also already in progress to reduce unnecessary

²⁰ Uppsala County Administrative Board. (2022). *Lokal och regional klimatomställning Underlag inför klimatpolitisk handlingsplan 2023*, County Administrative Board's message series 2022:14.

²¹ The Uppsala County Administrative Board's analysis of municipalities' and regions' conditions for working with climate issues shows that the responsibility structures and roles in the transition to a sustainable society are perceived as unclear because no one has a coordinating role at national level and the responsibility can also be fragmented within the municipality's or region's organisation. The main obstacles identified are the lack of or an inadequate vision, direction, objectives and leadership; organisational capacity and resources for the transition to a sustainable society; and framework agreement conditions and requirements levels. In order to overcome these obstacles, the County Administrative Board proposes, among other things, that the Government should appoint a national coordinator tasked with being a change leader to increase the pace and facilitate the climate transition for municipalities and regions. In addition, the Board proposes the establishment of a coordinated climate initiative with expanded cooperation between government agencies, a knowledge arena, an advisory centre and the development of statistics and monitoring, as well as increased support for the development and use of climate requirements in public procurement. See Uppsala County Administrative Board. (2022). *Lokal och regional klimatomställning Underlag inför klimatpolitisk handlingsplan 2023*, County Administrative Board's message series.

²² Swedish Association of Local Authorities and Regions (SALAR). (2023). *Rättvis och hållbar omställning för klimatet. Proposals from SALAR's programme committee for the transition to a sustainable society*.

interventions in healthcare based on a sustainability perspective among other things.

Preventive health measures at the individual and population levels such as quitting smoking, changing one's diet to include more vegetables and less meat, and cycling or walking instead of driving a car, are also positive for the climate.²³ If the healthcare system actively promotes a healthier lifestyle in terms of food and physical activity, this can benefit both the climate and public health. But the promotion of such a lifestyle may also entail ethical dilemmas that need to be discussed from somewhat differing points of view depending on whether the dilemma concerns the population or the individual level. When people make choices that are considered to be adverse for their own health as well as for the climate, can this be called into question without violating the individual's freedom and autonomy? Is it ethically justifiable to use different forms of reward systems, nudging or coercion? How might trust in the healthcare system be affected?

The climate transition also raises questions concerning responsibility. How much responsibility does the Swedish healthcare sector have to transition? And if so, who should initiate and decide on such matters? Is it the Government or the Riksdag, or the regional or hospital management? What responsibilities do people have, as employees or individuals?

3.2 Climate adaptation

The regions do not have a specific task within climate adaptation, but they do make decisions about their own work. One example of climate adaptation work in several regions is the healthcare system's preparedness for heat waves, with well-developed procedures for primary care.²⁴ Another type of adaptation concerns preparedness for new diseases. When there are changes in what the healthcare system offers, there may be a need to set new priorities, which could pose major challenges.

²³ See for example Patterson, E. et al. (2021). Potential health impact of increasing adoption of sustainable dietary practices in Sweden, *BMC Public Health*, 21 (1):1332.

²⁴ Swedish web portal for climate change adaptation (Klimatanpassning.se). (2023). *Roles and responsibilities Regionally*. [webpage].

Climate adaptation work must address questions concerning uncertainty and risk. There are always uncertainties in forecasts of global warming and its consequences. The consequences are also often described in terms of risks. For example, the warming leads to an increased risk of extreme weather such as heat waves and droughts, but it is not possible to predict exactly where and when these will occur. Will we have more cases of illness and different illnesses, more natural disasters that threaten hospital buildings, or more climate refugees? And if so, when? How uncertainties and risks are rated affects what measures are considered reasonable to take today. The consequence of being too cautious in the sense of overrating risks may be that resources are invested in unnecessary measures and thus used inefficiently; while the consequence of underrating the risks may be that we are poorly prepared and that future suffering or costs will be unnecessarily great. The greater the risk of negative consequences and the more negative the consequences, the more resources should be devoted to reducing greenhouse gas emissions and to climate adaptation. A balance must also be struck between resources for the climate transition and resources for climate adaptation.

3.3 Facing the long-term consequences

As climate change becomes more tangible, the healthcare system may face dilemmas that cannot be fully resolved with far-sighted climate adaptation. For example, the increased frequency of extreme weather events can lead to crises where the healthcare system's resources fall short of what is needed. This will require the setting of priorities. Even a changed disease panorama may place new and different demands on priorities, where groups with great needs may also be pitted against each other.

As a result of climate change, some areas will become uninhabitable due to increased drought, reduced access to water, sea level rises or other natural disasters, and one effect of this is increased migration. Already today, the number of climate refugees amounts to tens of millions each year, and this number is expected

to increase significantly.²⁵ Refugees with high medical needs may come to Sweden. People who come to Sweden as climate refugees may be suffering from malnutrition and diseases that are uncommon in the Swedish healthcare system and which the system may not be well prepared for, or have the competence and skills to manage.

²⁵ McAllister, S. (3 June 2023). There could be 1.2 billion climate refugees by 2050. Here's what you need to know. [Zurich Magazine](#).

4 Considerations and recommendations

SMER bases its ethical analyses on a humanistic view of humanity. A humanistic view of humanity intrinsically includes respect for the right of each individual to self-determination and respect for human dignity. The Council considers that medical ethics which seek to uphold respect for human dignity must also promote the health and opportunities in life of future generations.

Climate research shows that we are in an acute crisis that must be addressed here and now by all countries and sectors. SMER is of the opinion that society must act vigorously to stop global warming. Transitioning to a sustainable society and climate adaptation are moral duties, but also investments in the future. The greatest responsibility lies with the governments and parliaments of the world. They have the power to influence the behaviour of other actors through regulation and economic instruments, for example. A heavy burden of responsibility also rests on decision-makers in the industries that produce greenhouse gas emissions. Furthermore, SMER is of the opinion that the healthcare sector and its professions also have a responsibility to transition climate-smart and long-term sustainable healthcare, and to prepare for the changes in the climate that are to come. According to SMER, it is unsatisfactory that a large part of the public sector is not included in the central planning for the climate transition. The healthcare sector is a key actor that both contributes to global warming and will face serious ethical challenges as a result of climate change, where patients are at risk of being negatively affected. At the same time, how the costs of climate change are to be shared between actors and sectors is an overarching social issue that must be decided at national level.

In their climate transition and climate adaptation efforts, and in the work to deal with the negative consequences of climate change when they materialise, the healthcare system and its staff will face ethical dilemmas. SMER believes that healthcare actors need to identify and discuss the ethical issues that are already manifest today and those that will ultimately arise. Conflicts of interest, of objectives and of values must be elucidated and addressed. The bases on which decisions are made must be communicated in a transparent way. How uncertainties and risk are rated is also extremely important in these contexts. Furthermore, the transition towards a climate-smart society and a sustainable healthcare system must be guided by principles of equality and justice. An analysis needs to be made of the groups anticipated to be most affected by climate change as well as what impact different measures would have on different groups. These are difficult tasks that require thorough analysis and ethical expertise. The Council wishes to continue to assist the healthcare system by providing ethical analysis and discussion in this area.

SMER calls on healthcare actors to:

- step up their work to transition to climate-smart and sustainable healthcare;
- review and implement the measures necessary to ensure that healthcare is adequately prepared to deal with the consequences of changes in the climate; and
- identify and discuss the ethical issues that need to be addressed at different levels in climate transition and adaptation work, and once the consequences of climate change have materialised.

SMER calls on the Swedish Government to:

- facilitate the climate transition of the healthcare system;
- work to ensure that the healthcare system is adequately prepared to deal with the consequences of climate change;
- consider whether further steering is required so that public authorities with responsibilities in the area of healthcare can take the climate into consideration in their operations to a greater extent than today; and

- in all work with the regulation, governance and organisation of the healthcare system, attach great importance to climate footprint, climate adaptation and sustainability.
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The decision on this Opinion was made *per capsulam* on 26 June 2023.

Sven-Eric Söder, chair; and Yasmine Bladelius, Åsa Gyberg-Karlsson, Per Landgren, Sofia Nilsson, Anton Nordqvist, Thomas Ragnarsson, Per Ramhorn and Anna Starbrink – all members of the Council – participated in this decision. Lilas Ali, Anders Castor, Göran Collste, Titti Mattsson, Kerstin Nilsson, Olle Olsson, Nils-Eric Sahlin, Mikael Sandlund, Marie Sten and Kristina Wikner – all expert members of the Council – also contributed to the preparation of this Opinion.

A working group consisting of Lilas Ali, Yasmine Bladelius, Göran Collste, Kerstin Nilsson, Anton Nordqvist and Titti Mattsson assisted the Secretariat in the preparation of this Opinion. Carolina Östgren, research officer, drafted this Opinion.

For the Council,



Sven-Eric Söder
Chair