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Discussion

A call for urgent action to safeguard our planet and our health in line with the helsinki declaration

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ABSTRACT

In 2015, the Rockefeller Foundation-Lancet Commission launched a report introducing a novel approach called Planetary Health and proposed a concept, a strategy and a course of action. To discuss the concept of Planetary Health in the context of Europe, a conference entitled: "Europe That Protects: Safeguarding Our Planet, Safeguarding Our Health" was held in Helsinki in December 2019. The conference participants concluded with a need

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for action to support Planetary Health during the 2020s. The Helsinki Declaration emphasizes the urgency to act as scientific evidence shows that human activities are causing climate change, biodiversity loss, land degradation, overuse of natural resources and pollution. They threaten the health and safety of human kind.

Global, regional, national, local and individual initiatives are called for and multidisciplinary and multisectorial actions and measures are needed. A framework for an action plan is suggested that can be modified for local needs. Accordingly, a shift from fragmented approaches to policy and practice towards systematic actions will promote human health and health of the planet. Systems thinking will feed into conserving nature and biodiversity, and into halting climate change.

The Planetary Health paradigm – the health of human civilization and the state of natural systems on which it depends – must become the driver for all policies.

1. Introduction

In 2015, the Rockefeller Foundation-Lancet Commission introduced a novel approach called Planetary Health and proposed a concept, a strategy, and a course of action. In brief, the report argued that, to safeguard human health in the Anthropocene epoch, human health and the health of Planet should go together (Whitmee et al., 2015).

The new concept of Planetary Health was discussed in a conference entitled "Europe That Protects: Safeguarding Our Planet, Safeguarding Our Health" in Helsinki in December 2019 (Finnish Institute for Health and Welfare (THL), 2019). It brought together researchers, policy makers, and regulators to identify and discuss the main scientific challenges to enhancing and benefiting from healthy environments and respect for the integrity of natural systems. The conference was co-organized by the Finnish Institute for Health and Welfare, the Finnish Environment Institute, and the European Commission under the auspices of Finland's Presidency of the EU in 2019. The present Discussion is based on the conference presentations and includes the Declaration of Helsinki as approved by participants after the meeting.

We focus on the Planetary Health concept due to its holistic perspective to the global sustainability deficit. However, our interest in the Planetary Health approach has led to a re-examination of similar existing approaches such as One Health and EcoHealth (Rabinowitz et al., 2018). These different approaches can be seen as evolving efforts to integrate the unfinished agendas of environmental health and animal health with the global 2030 sustainability agenda.

2. Urgency to act

The Planetary Health strategy includes the need to act urgently, a need that has been highlighted by the 2018 report of the Intergovernmental Panel on Climate Change (IPCC) (Masson-Delmotte et al., 2019) and by the report of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) (IPBES, 2019). The COVID-19 pandemic, which was identified soon after the conference in Helsinki, has further reinforced this. The COVID-19 pandemic exemplifies the extent of global interdependence and the lack of preparedness for global health threats. The emergence of a new global pandemic was predicted but warnings were largely unheeded. It was a question of when rather than if or how it would occur, given how habitat disruption, deforestation, live-animal trade, and intensive farming and land-use increase the risk of zoonotic diseases in humans. These activities, compounded by the increase in international air travel, created ideal conditions for the emergence and rapid transmission of a new virus. The COVID-19 pandemic could be described as "the disease of the Anthropocene" (O'Callaghan-Gordo and Antó, 2020). As the pandemic has spread, many countries have found themselves unprepared and thus paying high costs in terms of lives, overwhelmed health systems and contracting economies. Social, economic, and environmental inequalities have become more apparent.

The urgency to act should also be understood in the framework of the 2030 United Nation Agenda for Sustainable Development. Although the Sustainable Development Goals (SDG) have attracted wide interest and commitment from many organizations and stakeholders, current trends in terms of action to achieve the goals are not reassuring. Observations in the first Global Sustainable Development Report (GSDR 2019) (Independent Group of Scientists appointed by the Secretary-General, 2019) sound alarming: rising inequalities, climate change, biodiversity loss, and increasing amounts of waste. However, a systemic approach could be taken to redirect the key development activities in our societies onto a sustainable path. Planetary Health is at the core of this.

3. Major threats to human health and the health of the planet

The concept of Planetary Health is based on the understanding that human health and human civilization depend on flourishing and balanced natural systems and the wise stewardship of those ecosystems. However, natural systems are being degraded to an extent unprecedented in human history (Whitmee et al., 2015), and there are also natural sources of substances harmful for human health. Environmental and human health face major disruption, now and in the future, from climate change, biodiversity loss due to changed land-use, pollution and chemicalisation.

3.1. Climate change

Climate change, largely due to the anthropogenic activities like burning of fossil fuels and land use change, is now considered by the IPCC to be 'unequivocal'. It is already affecting our health and will have far-reaching and potentially catastrophic effects in the near future (Watts et al., 2019). The effects may be direct, such as extreme-heat events; mediated through ecosystems, such as reduced crop yields, changes in the incidence and distribution of vector-borne diseases, changes in sea level and amount of radiation due to melting glaciers, as well as loss of nature's protection against storms and heat; or mediated through complex socioeconomic pathways such as impoverishment, uncontrolled mass migrations, and population displacement (Lelieveld et al., 2019). Increased greenhouse gas (GHG) emissions from melting of permafrost may further fortify these effects.

Urgent action to protect health from the harmful effects of climate change is imperative. We have less than 30 years to achieve net-zero GHG emissions to have a reasonable chance of staying within 2 °C above pre-industrial levels (Masson-Delmotte et al., 2019). While natural GHG sources, e.g. from volcanic activity, exist, many policies to reduce GHG emissions and to develop green infrastructure could yield improvements in human health. Phasing out fossil fuels could reduce premature deaths from air pollution by over 3 million annually (Haines and Ebi, 2019). Increased public transport use and walking and cycling in cities can reduce air pollution and the incidence of non-communicable diseases (NCD) related to physical inactivity. Reduced consumption of red and processed meat and increased consumption of fruit, vegetables and seeds can reduce GHG emissions and land-use requirements as well as NCD mortality (Milner et al., 2015) and increase wellbeing of wild and farmed animals. These co-benefits can make greener policies more attractive to decision makers and stimulate action. In addition to mitigation, measures to adapt to ongoing climate change are urgently needed and their relative efficacy needs to be evaluated.

3.2. Global pollution

According to the Lancet Commission on Pollution and Health (2017), pollution is now the largest environmental cause of death in the world - 1 in 6 people die from pollution related causes (Landrigan et al., 2018). It has severe consequences for health ranging from asthma to liver problems and from lower intelligence quotients to miscarriage. Impacts are documented at all ages, but are especially severe in children and the elderly. Recent estimates, based on currently established causal exposure-disease associations suggest that nine million deaths a year (16% of all deaths worldwide) can be attributed to air, water, and soil pollution (Landrigan et al., 2018). However, these estimates are an underestimation as many (human and animal) risks remain unknown (Landrigan et al., 2018), and others, like biodiversity loss in urban environments have not yet been considered in the impact estimates (Haahtela et al., 2019). In addition to human health, there are equally harmful effects of pollution on animal health though these have been less examined and verified (Isaksson, 2010; Thimmegowda et al., 2020).

3.2.1. Air pollution

Ambient air pollution is a complex mixture of particles and gases from multiple sources. Long-term health effects from air pollution include respiratory and cardiovascular morbidity and mortality. Air pollution can also cause long-term damage to people's nerves, brain, kidneys, liver, and other organs (GBD 2016 Risk Factors Collaborators, 2017) and be associated also with neurological (Clifford et al., 2016) and metabolic disorders (Yang et al., 2020). Moreover, in utero and early childhood exposures are responsible for health effects in children. Scientific evidence accumulated since the publication of the air quality guidelines of the World Health Organization in 2006 indicates that health effects occur below the current guideline levels for air pollution (Chen and Hoek, 2020).

Air quality standards and emission limits can be important tools in protecting the health of the population from fine particles and gaseous pollutants, but need to be appropriately ambitious and fully implemented. Moreover, current legislation does not capture all health-relevant effects of ambient aerosols. In particular, emissions of ultrafine particles, smaller than 100 nm in diameter, are not regulated for many sources even though these particles have been associated with health harms (Chen et al., 2020). Understanding the sources of air pollutants and the interaction between air pollution and other risk factors in urban and rural areas is essential for the promotion of cleaner and more sustainable environments.

3.2.2. Water pollution

In the European Union (EU), concern about the effects of water pollution has led to the establishment of legislation to protect human health and the environment (European Commission. Environment. Water. 2020) covering surface (fresh and salt), ground, waste, and drinking water. Most of the legislation aims to reduce pollution at source and is supported in this by other pieces of legislation including those on chemicals, industrial emissions, and waste. Some other legislation, for example on food standards, also indirectly protects human health from water pollution. The prevention of microbial contamination of drinking and bathing waters is still a critical objective, on which great progress has been made. In relation to chemical pollutants there is increasing concern about the effects of mixtures of pollutants in water, including emerging pollutants such as pharmaceuticals and microplastics. Current EU policy contributes to achieving a range of sustainable development goals (European Commission. Commission Staff Working Document, 2019). Good water management is important for the Planet, people and the economy and major transdisciplinary efforts in research, policy and practice are needed to maximize its contribution to protecting both human health and the Planet (Larsen et al., 2016).

3.2.3. Chemical pollution

Pollution is, however, much more than just air and water pollution and many pollutants, depending upon their nature, are subject to global transport, whether naturally in air or water, or by way of the movement of raw materials, from soil to food, consumer products, or waste. Thus, in our systemic world, the effects of Anthropocene chemicals also go beyond borders (Bernhardt et al., 2019). Chemicals and their interactions are a prerequisite for life but chemical pollution across different environmental compartments has, during the Anthropocene era, become a pervasive specific threat to our health and environment. Humans should be able to eliminate and/or reduce their exposures to harmful chemicals. However, inadequate knowledge of chemicals used in various products (e.g. cosmetics, pesticides and plastics) hampers informed decisions. The nature of a vast number of anthropogenic chemicals used in the production of drinking water, energy, construction materials, consumer products and other goods is often poorly known to the users. Hundreds of thousands of chemicals are used, but their environmental fate, along with that of their transformation products, is known only to a limited extent. Known and unknown chemicals create complex mixtures (cocktails) to which humans and other living species are exposed.

Lead (Hore et al., 2019), mercury, arsenic (especially from the mining industry but also from natural sources e.g. groundwater), pesticides, flame retardants, plasticisers, and pharmaceuticals are among the most widespread pollutants. Many such pollutants are persistent, bioaccumulative, carcinogenic, and/or have endocrine disrupting properties. Most of the toxins or the abiotic toxicants are not covered by any global treaties or conventions – yet they have global impact by causing harmful effects on the environment (terrestrial and aquatic) and human health. For example, the per- and polyfluoroalkyl substances (PFAS), used in household products, are persistent toxicants, which can accumulate over time and lead to adverse human health effects. In addition, pollutants are drivers of climate change, poor air, water and soil quality, and eventually, human hunger. In the systemic World, the Anthropocene chemicals will eventually affect poverty, equality/inequality, growth, peace, and justice.

3.2.4. Chemical contaminants in humans

Chemicals in the outdoor and indoor environment, food and consumer products find their way into our bodies. The ever-expanding chemical constellation from natural and anthropogenic sources leads to enormous pressure on the risk assessment process. These challenges are transdisciplinary, but all require scaling up of efforts and throughput to safeguard Planetary Health. Networks such as the Network of reference laboratories, research centres and related organizations for monitoring of emerging environmental substances (now the NORMAN Association) (Dulio et al., 2018), the Human BioMonitoring for EU programme (www.hbm4eu.eu), and The European Exposome Cluster (www.humanexposome.eu) bring together regulators, practitioners, and scientists and offer valuable hubs for data collection and knowledge exchange. Targeted and non-targeted human biomonitoring analyses provide information on aggregate internal exposure to chemicals from all sources and via all pathways (Bopp et al., 2018). They help in combination with other data to identify sources of exposure and effective measures to reduce exposure. The HBM4EU network, involving 117 partners from 30 countries, assesses human exposure to selected prioritized chemicals. HBM4EU and similar international targeted HBM programmes provide comparable information about the exposure status of adults and children globally.

Recently, the "exposome" has emerged as a new concept aimed at understanding how simultaneous or sequential exposure to multiple chemicals during a human's lifetime, as well as to other environmental physical and psychosocial exposures, influences biological responses, health and disease (Rappazzo et al., 2017; Sunderland et al., 2019; Vermeulen et al., 2020). Large-scale exposome studies may thus provide a systematic approach to prioritizing action. Exposome studies together

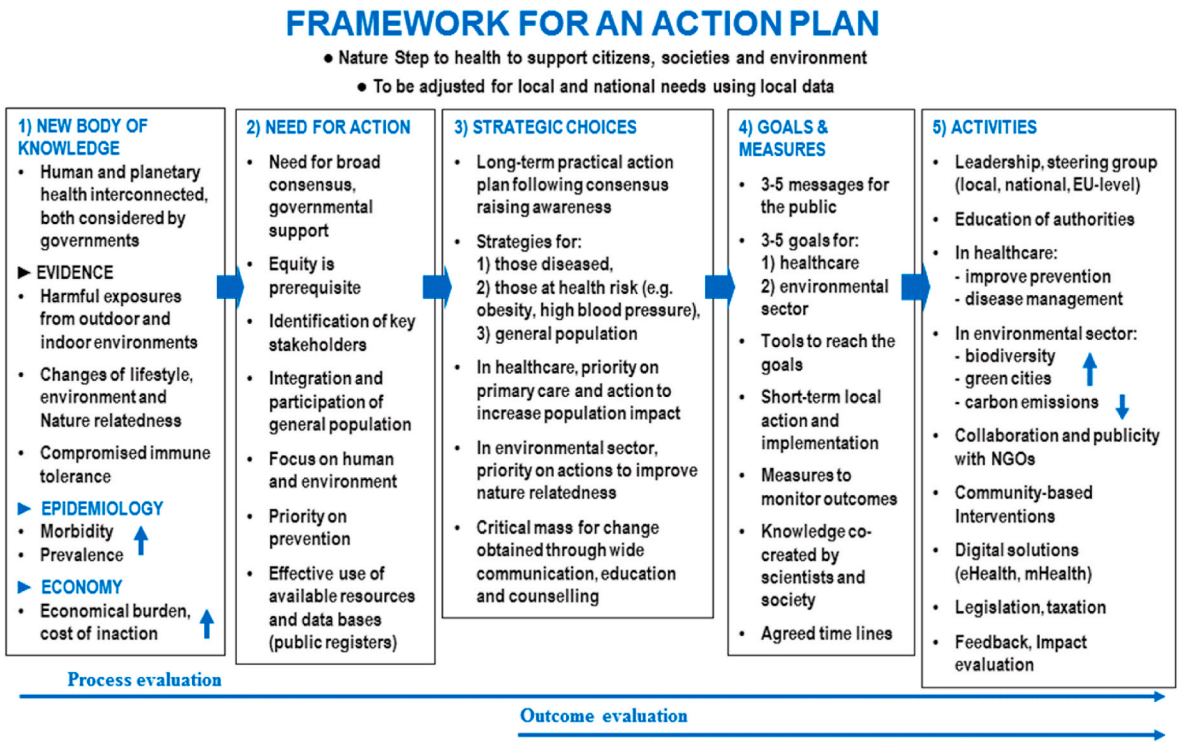

Fig. 1. Nature Step framework for Action Plan developed within The Finnish Allergy Programme.

with high-throughput toxicology screening should enable the evaluation of effects of classes of chemicals on specific biological pathways known to be related to adverse health. This should allow the design of new compounds (by applying safe and sustainable chemical design principles) with minimal impact on health, thus preempting the "regrettable substitution" that can occur when individual chemicals are banned.

4. Steps to reduce major threats in Europe

As the way forward, the conference discussions reflected need for strategic visions and priorities, which should be worked out in more detail by finding borad consensus, setting quantitative goals, specifying targets, choosing tools, practicing wide communication and defining measures to follow the outcomes. That work depends much on the local social and political environment and economical prerequisites. As a basis for such work serves the Nature Step framework for Action Plan (Fig. 1) that was developed within The Finnish Allergy Programme 2008–2018. It could be modified for local purposes to start actions towards reduction of the human and planetary health threats.

4.1. Regulation of chemicals in the European Union

The EU has one of the most comprehensive chemicals regulation frameworks in the world, its aim being the protection of human health, the environment and animals from the harmful effects of chemicals. This framework is based on consensus of the harmful effects of chemicals (Fig. 1). Principles underpinning this framework include the polluter pays and precautionary principles: companies have to prove that chemicals can be used safely in order that they are allowed onto the market. This requires more and better toxicological information on the new compounds.

For example, the European Chemicals Agency manages the technical and scientific work underpinning the implementation of the REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) regulation. A recent evaluation by the European Commission identified that some improvements could be made to the system, in particular to further develop and harmonise the tools and methods used to implement the legislation (European Comission, 2018).

4.2. A zero pollution ambition for a toxic-free environment

The European Green Deal is a new growth strategy that aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient, and competitive economy where there are no anthropogenic net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use (European Comission, 2019). To address these interlinked challenges, the Commission has announced the strengthening of the EU's climate ambition to achieve climate neutrality by 2050 and promised a zero (anthropogenic) pollution action plan for air, water, and soil. Regarding pollution, its aims include restoring the natural functions of surface and groundwater, implementing a 'Farm to Fork' strategy (European Commission, 2020) to reduce soil- and water-related pollution from excess nutrients, addressing pollution from urban runoff and from micro plastics and pharmaceuticals, reviewing air quality standards in line with WHO guidelines and implementing a 'Chemicals Strategy for Sustainability'.

While the natural background pollution levels are not at zero, e.g. due to volcanic activity and arsenic in groundwater and in soil, the zero anthropogenic pollution ambition needs to become a global commitment. To be reflected in the development and cooperation plans of the EU, wide communication, education and counselling at various levels are needed (Fig. 1). The environmental footprint of Europe is an area that needs more attention and funding – especially when compared with the investment in tackling (other) major health crises. The health crisis arising from that footprint is a problem that is preventable, and, importantly, solvable in our lifetimes (Swinehart et al., 2019).

5. Healthy cities for humans and the planet

5.1. Urbanisation

Half the world's population lives in cities and this is likely to increase

to 70% over the next 20 years. The urban population of the world is rapidly growing: in 1950 it was around 751 million, while in 2018 it reached 4.2 billion. In Europe the urban percentage has already reached 74% (United Nations, 2019). The urban environment affects human health in countless ways, yet currently we probably underestimate the impacts. Recent research on cities has continued to report new types of adverse and beneficial health effects, increased our knowledge of the effect mechanisms of environmental exposures (Kirjavainen et al., 2019; Lanki et al., 2017) and reinforced a holistic picture of health. In general, the push to build more compact cities is expected not only to lead to decreased CO_2 emissions, but also to bring many health benefits, e.g. through more walkable areas (Sarkar et al., 2017). By applying 'a health lens' throughout the planning process and aiming at cross-sectorial collaboration, health benefits of compact cities can be maximized, health harms minimized, and environmental equity advanced (WHO, 2016).

In the 20th century, cars were introduced on a large scale into cities. Since then, new city districts have often been designed and adapted to accommodate the car; streets are no longer dominated by people, but by cars being driven and parked, with the exception of a few low-car areas in city centres. The failure of urban and transport planning to protect health in car-populated cities has resulted in large health impacts: 1.35 million deaths globally due to car crashes in 2018 (WHO, 2018); 4.2 million deaths globally due to outdoor air pollution in 2018 (WHO, 2019); an obesity epidemic partly due to fewer people practising active mobility; stress related to traffic; and, last but not least, impacts from climate change which will likely increase in the long run (Nieuwenhuijsen, 2020).

5.2. Urban design

Fortunately, there is a growing body of evidence on how cities can become healthier through better urban design and transport planning. New innovative urban policies, interventions, and actions can improve public health. These include the need for land-use changes, reduced car-dependency and moves towards public and active transportation, reduced air pollution and noise levels, greening of cities, visioning, citizen involvement, collaboration, leadership, and investment and systemic approaches (Nieuwenhuijsen, 2020). More sustainable (i.e., carbon-neutral and biodiverse) and liveable (e.g., low pollution) cities will create multiple benefits for both human health and the Planet.

Some of the urban issues mentioned above are linked by the emerging concept of Nature-Based Solutions (NBS) where tackling socio-environmental challenges is developed by using sustainable management and use of natural, regulatory feedbacks between biota and water as a basis. NBS are considered to increase the overall robustness of urban systems and can thus secure wellbeing by making urbanization sustainable, enabling nature restoration in densely populated areas, supporting adaptation to climate change, improving risk management and increasing the efficiency of resource use (Nesshöver et al., 2017). There is growing evidence that contact with nature and NBS are beneficial for human health (Brymer et al., 2019; Sandifer et al., 2015). To ensure successful application of NBS to cities, current city planning approaches need to be revisited. If Europe succeeds in redesigning cities to protect human health and the health of the Planet, those cities can serve an examples for the rest of the world.

5.3. The City of Lahti - towards European planetary urbanism

The European Green Capital 2021, City of Lahti, stands as a city that is a pioneer in environmental activities, according to European Commission. Lahti will be an example to other cities and produce innovative and applicable environmental solutions for various conditions. Lahti's circular-economy innovations, good practices in green infrastructure planning and water conservation, its communal zoning scheme, as well as digital apps for active citizenship are solutions that can be easily applied elsewhere. Becoming carbon neutral in 2025 as the first such major city in Finland is made possible because Lahti made a major energy transformation and stopped using coal at the beginning of April 2020 while spending approximately EUR 180 million on a bioenergy plant using renewable fuel. Lahti was also the first city in the world to launch, in 2019, a personal travel emissions trading scheme for residents.

6. Sustainable development and planetary health

The political framework of UN Agenda 2030 supports sustainable development in which the social dimension is protected by ecological goals and the ecological dimension links with social goals. The cohesion between these two dimensions is analogous to Planetary Health, which builds on a symbiosis between the health of humans and the health of the natural environment. However, when implementing the political agenda, a more concrete approach is needed where societal actions are always taken with a view to achieving or at least not compromising the SDGs. In the 2019 Global Sustainable Development report (Independent Group of Scientists appointed by the Secretary-General, 2019) Planetary Health contributes to transformations towards sustainable development in the following areas: human well-being and capabilities, sustainable and just economies, sustainable food systems and healthy nutrition, energy de-carbonization with universal access, sustainable urban and peri-urban development, and securing global environmental commons.

6.1. Human well-being and caring for aging populations

Regarding human well-being and capabilities, the most relevant issue is to find a way to achieve human well-being and foster capabilities without threatening environmental systems. This requires a conscious cultural transformation of the relationship between human civilizations and natural systems. In European health policy, healthy aging is one of the most topical issues. Active and healthy ageing (AHA) can be seen from a Planetary Health angle by focusing on the environmental threats to human health and their link to the sustainability of the Planet. Factors causing the vulnerability of older people are associated with the ageing process and accumulated environmental exposures over the life course (Bousquet et al., 2015), including contamination of food through water or soil (Willett et al., 2019), air pollution (Cohen et al., 2017; Zhao et al., 2018), and climate change-related risks (Leyva et al., 2017). Risks are higher for older people because they have been exposed for longer, are physiologically more susceptible and may suffer more from social inequalities.

6.2. Sustainable urban and peri-urban development and the connection to nature

Biodiversity-rich living environments are linked to healthy human microbiota, balanced immune function, physical activity and relaxation and are essential both for mental and physical well-being (Twohig-Bennett and Jones, 2018). The concept of the Nature Step (Fig. 1) initiated during the Finnish Allergy Programme (Haahtela et al., 2008) was a breakthrough in allergy science (Bousquet et al., 2008) and then in medicine. It has evolved from innovative research indicating how the changed lifestyle in urban surroundings reduces contact with biodiverse environments, impoverishes microbiota, affects immune regulation and increases the risk of NCDs (Hanski et al., 2012; Ruokolainen et al., 2016). The Nature Step in the Finnish Allergy Programme calls for strengthened connections to nature. Physical activity in natural environments should be promoted, use of fresh vegetables, fruits and water increased, and consumption of sugary drinks, tobacco and alcohol restricted. Nature relatedness should be part of everyday life and especially emphasized in the care of children and the elderly (Haahtela et al., 2019). An area of growing interest is the contact with forests as a health-promoting intervention complementing other approaches to

Fig. 2. The Helsinki Declaration emphasizes the urgency to act.

health care (van den Bosch and Ode Sang, 2017).

6.3. Sustainable food systems

Food systems can be thought of as all the elements and activities that relate to the production, processing, distribution, preparation, and consumption of food. Mass production of meat and dairy products and ultra-processed foods are key drivers of climate change, land-use change, biodiversity loss, soil quality, e.g. biochemical cycles of nitrogen and phosphorus, and overuse of fresh water. Clearly, large changes in food systems are urgently needed involving identified key stakeholders (Fig. 1) including individuals as well as different occupations and industries. Combining measures and policies in the prevention of obesity, NCDs, undernutrition, soil pollution, and climate change will save human lives and expense.

The long and complicated food chains across the world have a heavy impact on various dimensions of sustainability such as food security, poverty, and land-use. Local or regional food production is often the most resilient. Still, in food chains, attention should be paid to make them optimally sustainable and to develop rules for fairer sharing of benefits and losses.

Sustainable and healthy diets need to be globally just, lie within planetary boundaries e.g. regarding soil and water, promote human wellbeing and health, be nutritionally adequate and safe, and be socially and culturally acceptable (Sarlio, 2018; Willett et al., 2019). Most dietary guidelines are in line with the dietary changes required for an environmentally sustainable diet, but new research is needed to understand whether people are able to maintain nutritional balance when altering their diets to more sustainable ones. A Nordic roadmap on healthy and sustainable food system is currently under development at the Stockholm Resilience Centre. Dietary change could revolutionize the agricultural and food sector to benefit health and the environment. As part of the Green Deal, the European Commission's 'Farm to Fork' strategy (European Commission, 2020) aims to build a food chain that works for consumers, producers, climate, and the environment.

6.4. Securing global environmental commons: the need for future environmental health research

Failure of knowledge transfer between sectors is one of the overarching challenges in Planetary Health (Whitmee et al., 2015). Thus, multi- and transdisciplinary research with effective use of available data sources (Fig. 1) is urgently needed. Health and Environment Research Agenda (HERA) is an EU project to identify the priorities for the environment, climate, and health research agenda for the next 10 years (Health Environment Research Agenda for Europe (HERA), 2020). The ultimate goal is to support decision-making at all levels and to protect and improve ecosystem quality and human health. Priorities identified so far have been grouped into strategic goals covering mitigating and adapting to global change, reducing harmful environmental exposures, promoting healthy living and public health, supporting transformative approaches, and developing critical technologies and tools. Within each

strategic goal HERA has identified top-priority areas including climate change, the urban environment, chemical pollution, changes in lifestyle and the development of implementation research and relevant technologies. HERA conclusions and its final agenda will be available by the end of 2021.

7. Conclusions

The Helsinki Declaration to support Planetary Health for the 2020s.

The Helsinki Conference on Planetary Health was aimed at deploying the Planetary Health concept as a useful strategy for academic centres, public health and environmental institutions, governments, and other stakeholders to concurrently work in Europe towards integrating the unfinished environmental health agendas with the SDGs and the EU Green Deal. Though there are many similar ongoing efforts arising in different contexts, we suggest that the Planetary Health framework is a suitable approach with a relevant added value due to its integrative and multidimensional nature able to interlink biological, physical and social systems; its emphasis in understanding complexity through multidisciplinary and interdisciplinary collaborations to unravel the nuanced nature of most of current challenges; its action and impact oriented determination closely aligned with the global sustainability agenda; and its sense of urgency as a response to the unpredictable consequences of the climate's and planet's crisis.

The conference participants concluded with a need for action to support Planetary Health during the 2020s. The Helsinki Declaration (Fig. 2), which has been widely disseminated (https://thl.fi/en/web/thlfi-en/-/the-time-to-act-is-now-helsinki-declaration-on-planetary-health-calls-for-commitment-from-the-eu), emphasizes the urgency to act. Scientific evidence shows that human activities are causing climate change, biodiversity loss, land degradation, overuse of natural resources, and pollution. They threaten the health and safety of human kind. The Planetary Health paradigm – the health of human civilization and the state of natural systems on which it depends – must become the driver for all policies.

Global, regional, national, local, and individual initiatives are called for and multidisciplinary and multisectorial actions and measures are needed to stop the downward spiral. Any delay in actions will lead to dire consequences. All governments and decision makers need to address the health impacts of major environmental threats on a regular basis to prompt timely and concrete actions. A shift from fragmented approaches to policy and practice towards systematic actions will promote human and Planetary Health. Systems thinking will feed into conserving nature and biodiversity, and into halting climate change.

Improved cooperation between various sectors including health, environment, energy, agriculture, and transport as well as chemical and other industries is essential. With this aim we call for a multidisciplinary approach in the EU with the full commitment of the relevant sectors. This could be implemented in the spirit of the WHO Global Strategy on Health, Environment and Climate Change (WHO, 2020) and Health in All Policies approach (WHO, 2014).

There is substantial evidence that initiating a European Strategy for Planetary Health in support of the Green Deal 2019 could help to achieve the UN's SDGs. Now is the moment to unite individuals, communities, and societies in shared action.

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Declaration of competing interest

All authors declare no conflict of interest.

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