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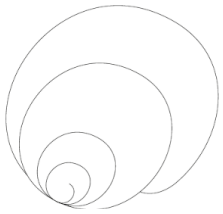

RESEARCH ARTICLE

Conceptualizing health in the degrowth movement: An exploratory survey

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Abstract
While health expenditure per capita has more than doubled since 2000—both in low- and middle-income countries and in high-income countries—and its increase has been above GDP growth in most countries, health care systems are not only drivers of economic growth but also have significant ecological impact. Overall, the organization of health care is defined by the biomedical model while other determinants of ill health are vastly ignored. To explore concepts of health and health care in the degrowth movement, attendees of the 9th International Degrowth Conference that took place in Zagreb in 2023 were invited to fill in an online questionnaire on health, illness and death, the perceived causes of ill health, the use of health care services, and policies to take a degrowth transformation of health care forward. This paper reports back on the results of the questionnaire. While respondents were apparently caught between the desire to reduce the ecological footprint of health care and, at the same time, the wish to preserve its current achievements, the scope of current biomedical health care went without being truly challenged. In the face of these intricate uncertainties and dilemmas of increasing complexity, I argue for using a post-normal science framework—together with the inclusion of extended peer communities in the form of deliberative mini-publics and citizens' assemblies—to develop a degrowth ethics of health and care, where all lives are considered equally valuable.

1. Introduction

Current health care systems in high-income countries are deeply embedded in growth-orientated economies (Hensher & Zywert, 2020; van de Pas, 2022; Zywert & Quilley, 2018). These systems are built and reliant upon the depletion of non-renewable resources, such as fossil fuels and rare earth elements, whose extraction reproduces and imposes colonial relations on the Majority World (Dorninger et al., 2021; Hickel et al., 2022; Petridis et al.,

2015). The pursuit of infinite growth—central to capitalist market economies—is inextricably linked to the transgression of key biophysical processes that regulate the stability and resilience of the Earth system (Richardson et al., 2023). Crossing these limits thus carries the risk of run-away global warming and spiraling biodiversity loss, amongst the surpassing of other planetary boundaries (Rockström et al., 2023). The progression to a "Hothouse Earth" scenario, that crosses planetary thresholds, could eventually threaten the survival of human and non-human life on Earth (Steffen et al., 2018). Already, the consequences of climate change are harming the most vulnerable groups of society and are deepening health inequity (Friel et al., 2024).

Alternative visions of the future, such as the degrowth framework, embrace the concepts of limits and conviviality by emphasizing that we can meet basic human needs for all with less aggregate material and energy use (D'Alisa et al., 2015; Kallis et al., 2012, 2018). Regarding the health care sector, this will require conceptualizing alternatives to current health care systems that are consistent with the convivial and democratic nature of degrowth (Aillon & Bonaiuti, 2024; Aillon & D'Alisa, 2020; Hensher, 2023a). Yet, reconceptualizing health and health care faces a panoply of wicked dilemmas that not only include the problem of health equity, the availability of resources, or the environmental impact of existing health care systems, but also the adequacy of the biomedical model that informs Western-style health care—which is based on the understanding of the human body as a machine to be fixed by medical interventions, where illness is attributed to specific and definable causes which rest in the individual patient (Lock & Nguyen, 2010). Furthermore, modern biomedical health care systems already face structural challenges, like health care access (Daniels, 1982; Oliver & Mossialos, 2004), efficacy, effectiveness and efficiency of services (Haynes, 1999), increased demand due to intercurrent epidemics and an ageing population, as well as lack of qualified workers willing to work for low wages and in poor working conditions (WHO Regional Office for Europe, 2022).

Against this backdrop, this article takes stock of the elements and organization that define biomedical health care and the determinants of ill health to assess if and how emerging paradigm shifts regarding health, illness, and death can inform a degrowth transformation of health and care practices. Even though health care represents large parts of the economy,

health and health care are barely covered in the program of degrowth conferences. Thus, this research project aims to explore concepts of health and health care within the broader degrowth community which might not necessarily be familiar with the growing body of literature on health and degrowth. For this purpose, attendees of the 9th International Degrowth Conference that took place in Zagreb in 2023 were invited to fill in an online questionnaire consisting of seventy-six multiple choice questions and scales of agreement (5-point Likert scale). The survey focused on personal concepts regarding health, illness and death, the perceived causes of ill health, the use of health care services, and suggested policies to take a degrowth transformation of health care forward. However, it must be emphasized that the present study merely represents an initial explorative study of concepts of health and health care in the degrowth community and it should not be interpreted as representative of the degrowth movement as a whole.

2. What can be wrong with modern concepts of health and health care?

To set the context for this scrutiny of health and health care from a degrowth perspective, I start by briefly outlining how the essence of modern biomedical health care is inextricably tied to and shaped by the biomedical paradigm and reproduces a specific history, epistemology, and assumptions about health that emerge in the wake of modernity and the Enlightenment (Ashcroft & Van Katwyk, 2016). The separation of man and nature, alongside the divide of the physical from the metaphysical, represents the cornerstone of a scientific discourse that enabled the description of and prescriptions for specific diseases attributable to causal relationships. Consequently, the reductionist approach of biomedicine disassembles the body into infinite components, whose malfunctions are treated by an increasing number of medical specialties that focus on fixing a distinct defect of the “body-as-machine” (Ashcroft & van Katwyk, 2016, p.144). This paradigm also implies that the biomedical gaze on particular bodies has to standardize them under an overarching theory of their functioning and, at the same time, place the disease inside the individual leaving out the historical, ecological, and social context of their genesis. Or, as Lock and Nguyen (2010) put it in their seminal work *An Anthropology of Biomedicine*:

> *It is commonly assumed that biomedical technologies, if equitably distributed, will dramatically improve the health and wellbeing of people everywhere. In principle we agree that this is indeed the case with respect to the majority of such technologies, but two major provisos need serious consideration. The first is that human bodies are not everywhere the same; they are the products of evolutionary, historical, and contemporary social change resulting from ceaseless interactions among human beings, their environments, and the social and political milieux in which they live. The second is that biomedical technologies are not autonomous entities: their development and implementation are enmeshed with medical, social, and political interests that have practical and moral consequences. (p.1)*

Consequently, biomedicine and the health care sector do not operate in a vacuum but in a given socioeconomic context, that of globalized capitalism. Initially depicted under the label of "the medicalization of society," medicine would not only become an institution of social control (Conrad, 1992; Crawford, 1980), but actually "medicine and the labels 'healthy' and 'ill' [were made] *relevant* to an ever increasing part of human existence" (Zola, 1972, p. 487). While this process engendered the expansion of medical authority and biomedicine, the dominion of the medical profession was eroded during the following decades through the relocation of power within the health professions towards biotechnology, genetics, and the pharmaceutical industry, as well as the active collaboration of social movements that promoted specific interests through self-help and patient advocacy groups. These transformations were meshed into the commercialization of health care that turned patients into consumers and made the pharmaceutical industry the most profitable industry in the world. At the same time, "managed care" became the standard for health care delivery in the United States, prioritizing cost control and profit over patient welfare by requiring pre-approval for specific treatments or by limiting access to certain types of care (Conrad, 2005, 2007). Since then, health care has become a multi-faceted industrial complex that not only involves the delivery of health care and the pharmaceutical industry, but also the manufacturing of medical devices and equipment, construction companies specialized in hospital construction, financial and governance structures, and—more recently—providers of digital health care technologies. Under the mantra of innovation, new concepts and ideas on disease and medical treatment are marketed in sync with novel diagnostic and therapeutic

procedures and technologies that reportedly improve clinical outcomes and safety (Omachonu & Einspruch, 2010).

Globally, the political economy perspective situates the passage of health care from the public towards the private market in context with Structural Adjustment Programs and associated austerity agendas that followed the financial and debt crises. Thus, market-driven investments sabotaged efforts to establish universal primary health care in the 1980s and 1990s (Labonté & Stuckler, 2016; Sell & Williams, 2020; Sparke, 2020). Emphasizing the success of the neoliberal transformation and the importance of technology-driven change, a recent editorial for a special edition of *Futures*—drawing on reports of major consulting firms like Accenture, Deloitte, KPMG, McKinsey, and PwC—claimed that the speed of technological progress put health care and life sciences at the forefront of an unparalleled revolution (Schiavone & Ferretti, 2021). Following the logic of the commodified capitalist market, this shift is being praised as a business opportunity where health care providers and other stakeholders must not only take advantage of technological innovation, but also harness large-scale data management and the willingness of patients to share their medical information to provide "greater value, better experiences and greater personalization" (Schiavone & Ferretti, 2021, p.2). Fusing the slogans of patient-centered care and patient empowerment into the redesigning of patients as consumers, this framework emphasizes patients' individual responsibility for a healthy lifestyle on the one hand and the use of predictive models like gene analysis, innovative technologies, and big data on the other. By devising the most "tailor-made solutions" for individual patients, wellbeing—instead of treatment of disease—is moved to the center of health care practice (Schiavone & Ferretti, 2021, pp. 2-3).

Ultimately, the wish to keep death at bay for as long as possible fuels the neoliberal arrangement of health care and, as Smith (2022, p. 1) puts it, "large sums are being invested in dramatically extending life if not in defeating death altogether." This can be understood as part of the bogus contract between doctors and patients that attributes greater powers to doctors than they actually have and is partially supported by the media that "prefer tales of what look like medical miracles to medical disasters" (Smith, 2022, p. 1). Consequently, the experience of dying and death itself becomes a clinical problem (Sallnow et al., 2022) and the

public is enticed to believe that the consumption of health services will free them from future illness, suffering, and death—under the auspice of preventive medicine and extended screening programs, which often are useless, at best, or turn healthy people into patients, increase suffering, and waste scarce resources (EUROPREV, 2022).

Under the growth paradigm of market capitalism, the fact that the health care sector has been able to draw increasing resources into its orbit can be considered a measure of success. Health expenditure per capita has not only been steadily rising and more than doubled since 2000—both in low- and middle-income countries and in high-income countries (WHO, 2024)—but, in addition, the increase in health expenditure has been superior to GDP growth, which shows that stakeholders in the health care sector were successful in redirecting economic activity from other sectors of the economy. According to data from the World Health Organization (WHO), total health expenditure in 2022 accounted for 16.6% of GDP in the United States of America (up from 12.5% in 2000), 12.7% in Germany (9.9% in 2000), and 10.6% in Portugal (8.6% in 2000). This represents an annual *per capita* expenditure of US$12,474.79 in the USA, US$6,191.04 in Germany, and US$ 2,585.58 in Portugal (WHO, 2022). It is however debatable whether the allocation of more resources to the health care sector will lead to improved health outcomes, even if—at first sight—a significant relationship between health expenditure, GDP per capita, and life expectancy can be observed (Felice et al., 2016; Freeman et al., 2020; Jaba et al., 2014; Kennelly et al., 2003).

As a driver of economic growth, the health care sector causes significant ecological impacts (Eckelman et al., 2020; Karliner et al., 2019; Lenzen et al., 2020). Even if health care is generally perceived as a service industry with a low environmental footprint, the assessment of overall resource use, including infrastructure, health equipment, drugs, IT equipment, as well as water and energy consumption shows a different picture. Energy-intensive activities occur not only on-site due to ventilation, temperature control, and use of medical equipment, but they also are embedded in the consumption of goods and services that require a high energy input (Karliner et al., 2019; Lenzen et al., 2020). Thus, total greenhouse gas emissions from health care amount to 5–10% of national emissions (Eckelman & Sherman, 2016; Pichler et al., 2019). In addition, the sector generates large amounts of solid waste, including 15% hazardous waste, which can be as large as 10 kg per occupied hospital bed per day (Chartier

et al., 2014). Under the perspective of planetary boundaries and the need to drastically reduce greenhouse gas emissions over the next decades, the resource and energy-intensive health care systems of the Global North can neither be replicated elsewhere nor sustained in their present form—especially when considering demands for social, environmental, and climate justice in the Global South, where those who suffer more have contributed less to the problem (Hensher, 2020; Levy & Patz, 2015).

By and large, the commodification of health care has reduced accessibility and health equity, while increasing the financial burden of disease. The resulting financial hardship impacts specifically on chronically ill, low-income, and other vulnerable groups, with the poorest households being the most affected by what has been labeled as impoverishing or catastrophic health spending (Thomson et al., 2019). Even in European countries with universal health coverage, either provided through government schemes or compulsory health insurance, out-of-pocket spending or payments for voluntary private insurances schemes can represent significant percentages of available income, amounting to over 35% of total health spending in countries like Portugal or Greece (OECD, 2023). Also, complementary and alternative therapies that are provided outside the biomedical model of modern health care contribute to increasing health expenditure, either directly from patients through out-of-pocket spending or indirectly through health insurance benefits or state-financed health care (Fjær et al., 2020; Nahin et al., 2016). Inequity and difficulty to access adequate care thus play out as the discriminatory use of biopower and “widening economic, racial, and gender disparities” (Dalmia, 2021, p. 45), particularly in exceedingly commodified health care systems like in the United States of America (Cristiansen, 2017; Dalmia, 2021). But the commodification of health care also impacts on the quality of services as such, in particular when investment is directed to where most profits can be expected, technology-based solutions are favored instead of care, or unnecessary services are provided, thus leaving health care systems unprepared to deal with pandemics like COVID-19 or other infectious diseases since these do not generate comparable revenues (Primrose & Loeppky, 2024). While “scientific advances in medical knowledge and technology drive the development of increasingly sophisticated treatments and interventions” (Sturgeon, 2014, p. 412), the transformation of health service users into health care consumers takes place in the context of—and reinforces—the competitive health care market. In a broader context, the diversion

of health expenditure towards profitable services instead of the common good is part and parcel of neoliberal market reforms that affect the collective protection of public health systems and the welfare state in general (Navarro, 2020).

Determinants of (ill) health

The consequences of globalized capitalism and the growth-orientated market economy on human health also unfold outside of health systems, which are reconfigured as business opportunities. As mentioned above, this includes ecological degradation, but also racism, structural violence, and the "commercial determinants of health" (Kickbusch et al., 2016). The current global environmental crises, whether they are framed as the advent of a new man-made geological epoch labelled the Anthropocene (Crutzen, 2002; Crutzen & Stoermer, 2000; Steffen et al., 2007) or as specific consequence of the organizing nature of capitalism defined as the Capitalocene (Moore, 2016), among many other propositions (Chwałczyk, 2020), are brought about by modernity, industrial civilization, and a capitalist market economy, which are deeply rooted in (neo)colonial exploitation and structural racism (Hickel et al., 2022; Saldanha, 2020; Sultana, 2022). In this light, the impact of capitalism on human health cannot be understood as an isolated environmental phenomenon, especially in a context where the health of human and non-human life is inextricably linked to their immediate surroundings. Rather, life becomes endangered by threats on an Earth system scale that include climate catastrophe, biodiversity loss, and lack of fresh water, with the most vulnerable being the most affected (Rockström et al., 2023; Sultana, 2023; Tong et al., 2022; Zywert, 2017).

The current ecological deterioration is partially addressed by the *One Health* concept, which recognizes the interdependency between humans, animals, and their environment under a transdisciplinary ecosystem approach (Rabinowitz et al., 2013). Under this framework, health hazards due to emerging zoonotic diseases that feed on the wildlife reservoir of potential pathogens, like the avian flu or the COVID-19 pandemic, require more than public health or biomedical interventions. Furthermore, the One Health approach entails mitigating the consequences of an increasing contact between humans and animals, of invasive and super intensive food production that advances on previously intact ecosystems, and of unlimited international travel (Mackenzie et al., 2014). Another focus of the One Health framework has been the transmission of vector-borne infectious diseases, like malaria or dengue, since local

breeding conditions and geographical spread of their mosquito vectors are favored by global warming and the degradation of ecosystems (Destoumieux-Garzón et al., 2018). The concept has ultimately resulted in the formation of the *One Health Joint Plan of Action* of the Quadripartite Organizations (FAO, UNEP, WOAH, WHO), which now includes the United Nations Environmental Programme (FAO et al., 2022). The plan can be considered complementary to the emphasis on zoonotic, tropical, and vector-borne diseases and antimicrobial efficacy that permeates the report on *Ten Threats to Global Health* (WHO, 2019), which considers health hazards like: air pollution and climate change; non-communicable diseases; a global influenza pandemic; other viral infections (Dengue, Ebola or HIV); antimicrobial resistance or vaccine hesitancy; fragile and vulnerable settings; and weak primary health care. Following a similar line, the *Lancet Commission on 21st-Century Global Health Threats* (Kanem et al., 2023) focuses on climate change, antimicrobial resistance, and food systems, but additionally includes inverted population pyramids. The One Health framework has been criticized on the assumption that, "at its core, [it] […] remains mainly hooked to biomedical, risk adaptation and risk mitigation strategies when it comes to existing and future pathogens emerging in the interactions between human(s), animals and the ecological environment" (van de Pas, 2023, p. 191). Also, as Dentico (2023) points out, "the conceptualization of One Health has been twisted to primarily serve biosecurity in all its forms and other containment measures, in a quasi-military defense logic" (p. 163). Thus, to move beyond doctoring around the symptoms, the resolve to address the root causes of ill health must run deeper and explore the conditions that reproduce illness and premature death. In their powerful account on how a sick and inflamed society sparks disease and inflammation in the human body, Marya and Patel (2021) dissected how the mechanisms of dispossession, racial violence, economic precarity, industrial pollution, poor diet, and contaminated water lead to ill health, building on the concept of structural violence and its intersection with health and medicine (Farmer et al., 2006). On a global scale, addressing ill health also requires countering climate coloniality and planetary injustice to overcome the "imperial mode of living" (Brand & Wissen, 2017) that is deeply interwoven in the growth paradigm of capitalist extractivism (Sultana, 2022, 2023) and is built on the commodification of human bodies and Nature, which must be understood as consequence of, and precondition for, the capitalist system. Hence, a truly global accord of human health will have to go beyond the sterile acclamation of "redefinition of prosperity to focus on the enhancement of quality of life and

delivery of improved health for all, together with respect for the integrity of natural systems" (Whitmee et al., 2015, p. 1974). While this notion is characteristic for most promoters of the planetary health agenda and is tied to the Sustainable Development Goals framework (Pongsiri et al., 2019), any genuine transformative effort must encompass a "decolonial relational [re]conceptualisation of planetary health" (Jones et al., 2022). This involves not only questioning the current anthropocentric view of human health but embracing systemic transformation and shifting away from "dominant values and ideologies" of Western epistemologies and ontologies (Jones et al., 2022, p. e838). Thus, "a decolonial eco-just global health agenda requires a material decolonisation of […] global economic structures and arrangements" and the advancement of post-growth policies (van Woerden et al., 2023, p. 4).

Besides the observed interlinkage between capitalism, colonialism, structural violence, the degradation of the environment and the transgression of planetary boundaries, as well as the reciprocal entanglement between the market economy and the health care sector, industrial capitalism also drives the commercial determinants of health that spur what has been framed as the "non-communicable diseases pandemic." While the deleterious impact on public health of commodities like tobacco, alcohol, and ultra-processed food and beverages with a high content in sugar and salt has been recognized for long (Stuckler et al., 2012), a more overarching definition of the commercial determinants of health has been proposed to include all business "strategies and approaches used by the private sector to promote products and choices that are detrimental to health" (Kickbusch et al., 2016, p. e895). A recent overview by Mialon (2020) showed that the concept has been expanded to also include chemical contamination of products that harm both workers and consumers (e.g. pesticides) or sectors like the pharmaceutical industry, the car industry, the mining sector, or other polluting industrial sectors. This definition embraces a far broader understanding of the negative health impact of profit-driven corporate business practices, which are enmeshed in and supported by "globalization of trade, corporate structures, and regulatory systems, articulation of social and economic power, neoliberal and capitalist ideologies" (de Lacy-Vawdon & Livingstone, 2020, p. 1). These practices enjoy an operationalizing power "that serve[s] to make their organisational needs a higher priority than protecting health, the environment, or social cohesion" (Gilmore et al., 2023, p. 1200).

An institutionalized effort to analyze the structural circumstances that reproduce poor health has been undertaken by the *Commission on the Social Determinants of Health,* which was established by the WHO in 2005 and published its final report three years later (CSDH, 2008). Its recommendations called on the WHO Member States to improve daily living conditions, to tackle the inequitable distribution of power, money, and resources, and to measure and understand the problem, as well as assess the impact of action. Reporting on the progress on the Social Determinants of Health Equity in 2023, the Director-General concluded that rates of improvement were scanty and unable to reach the goals set by the Commission due to "inequitable economic systems, structural discrimination including intersecting racism and gender inequality, and weak societal infrastructure," which were aggravated by "interlinked crises including climate change, the COVID-19 pandemic and conflict" (WHO, 2023, p. 3). Hence, strategies to overcome these limitations must reduce economic inequality, improve universal public services, enable inclusive governance, and provide equitable access to health and care (WHO, 2023). While this stops short of openly confronting the current neoliberal arrangement of the global capitalist economy, where not all human lives are equally valued (Butler, 2020), it challenges the rationale of tailored and individualized health care that shapes public policies in the health care sector and constitutes the imaginary of health care users and the general population.

3. Objectives & methods

The multiple structural causes of ill health are entangled in the globalized capitalist growth economy that prioritizes profit over planet and people. Therefore, the debate on health and health care is inherently critical of capitalism itself and cannot only be concerned with the commodification of basic public services. Degrowth scholarship and activists challenge growth-orientated market economies primarily on the basis of an excessive resource and energy throughput, which is incompatible with keeping within planetary boundaries (D'Alisa et al., 2015; Kallis et al., 2018). Instead of upholding the pursuit of GDP growth as a measure of success, which is written into all forms of capitalist economy and indispensable for its sustenance, the degrowth community claims that societies should focus on living well while using significantly less resources (Brand et al., 2021; O'Neill et al., 2018; Vogel et al., 2021). But, surprisingly enough, while living well or "buen vivir" seem to be assumed ideals of

degrowth, the discussion about health and health care has—so far—not been at the forefront of the degrowth debate, even if a growing body of literature on the topic has been emerging (e.g. Aillon & Bonaiuti, 2024; Aillon & D'Alisa, 2020; Borowy & Aillon, 2017; Hensher, 2020, 2023a; Hensher & Zywert, 2020; Missoni & Galindo, 2020; van de Pas, 2022; Zywert & Quilley, 2020). Yet, health and health care still eked out a rather shadowy existence at recent degrowth conferences. The existing gap between degrowth ideals and the attention given to the issue of health and health care was also confirmed in a recent systematic mapping of degrowth policy proposals by Fitzpatrick, Parrique, and Cosme (2022), where health and health care featured neither as part of the 50 goals nor the 100 objectives of the 530 policy proposals identified.

To continue unfolding the conversation about health and health care in the broader degrowth community, the present exploratory study surveyed personal concepts and aspirations in a group of degrowth scholars and activists. For this purpose, a total of approximately 450 attendees of the 9th International Degrowth Conference that took place in Zagreb in 2023 were invited to fill in an online questionnaire that consisted of thirteen multiple choice questions and sixty-three statements to prompt levels of agreement using a 5-point Likert (Table 1, supplementary material). The survey was designed based on the mapping of literature on degrowth and health, as well as relevant publications in the field of medical anthropology, medical sociology, and public and planetary health. Qualitative data collected in the context of my doctoral research project on the representations of health, illness, and death in the face of the Anthropocene informed the compilation of the survey (Eickhoff, 2022). Furthermore, 30 years of own clinical experience in the field of General Surgery contributed to the structuring of the present questionnaire.

The introductory part of the survey touched on personal health status and positionality regarding the global polycrisis and the value of individual lifestyle choices, while the following sections focused on personal concepts and responsibility regarding health, illness and death, the perceived causes of ill health, and the use of health care services. The final part of the questionnaire dealt with the visions for the future of health care and suggested policies for a degrowth transformation of health care. 250 handouts explaining the rationale and containing a link and QR code to access the survey were distributed among conference

participants. In a larger format, the handouts were also posted at the entrances to the main conference venues. In total, thirty-three attendees (7.3%) completed the survey.

From the beginning, the study was intended to be exploratory, and its findings should not be extrapolated to the degrowth community as a whole. Thus, the sample size of the study determines a 95% confidence level ($p<0.05$) with a 16.4% margin of error for overall findings. Results are presented visually as bar graphs and additional statistical testing used Spearman's rank correlation to estimate if participants' health status, positionality regarding the global polycrisis, or the value placed upon individual lifestyle choices influenced replies to the remaining questions and statements.

4. Results

Most participants reported to be in excellent health or to have only minor issues, while the perception regarding their own health had only negligible influence on the overall participants' replies to the questionnaire (Figure 1a). All participants agreed on a broad definition of health as a dynamic process that embraces happiness, prosperity, physical and mental independence, and involving active community participation (Figures 1b & 1c). The vast majority of respondents also endorsed the WHO definition of health as a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. No clear pattern emerged about what would configurate the absence of health, as respondents generally perceived health and illness neither as antagonistic and mutually exclusive, nor as a continuum where complete health is on one extreme and death on the other. The value of life expectancy as an indicator of population health was disputed in the surveyed group. Regarding personal responsibility, most participants top ranked the importance of a healthy lifestyle and a healthy diet, as well as regular exercise, but many also agreed that social determinants of health such as housing or employment have a significant influence on health (Figure 1d).

Participants concurred on the importance of taking good care of their health and living longer but were divided regarding their own responsibility. Almost all respondents agreed that the state and the government influence health outcomes and disagreed that lifestyle choices

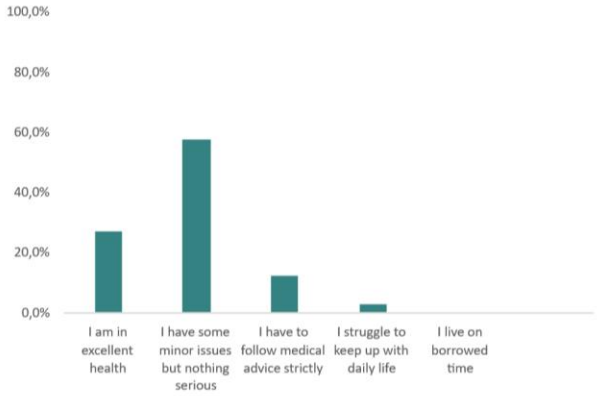
should be legally enforced and unhealthy choices punished. Disagreement on life being a lottery and the random influence of personal choices was almost unanimous (Figure 2a). This result was underpinned by a broad agreement that individual lifestyle choices are important in the struggle for a post-growth future (Figure 2b). Besides personal choices, participants concurred that the alienated growth society and its environmental crises have a negative impact on health, including mental health. In total, 25% of the participants indicated that they live with a permanent collapse awareness while two-thirds said their engagement with social movements gives them hope for the future (Figures 2c & 2d).

Most participants felt somewhat or strongly uncomfortable with the idea of being limited due to ill health, even when recognizing that pain and suffering are part of human existence. A slight majority indicated that they turn to their doctors right away when they feel ill, and approximately half of respondents said they use traditional or herbal medicine as a first approach to illness (Figure 3a). In case of serious illness, respondents widely preferred turning to the public health system over private clinics, complementary or alternative medicine, or traditional healers (Figure 3b). While most participants recognized that death is part of the life cycle, many professed a fearful reaction to the idea of death (Figure 3c). Notably, no respondent would like to die in a hospital and 18.2% indicated that they would prefer to die at a moment of their choice. Most respondents said they would prefer to die during sleep (36.4%) or surrounded by family and friends (Figure 3d).

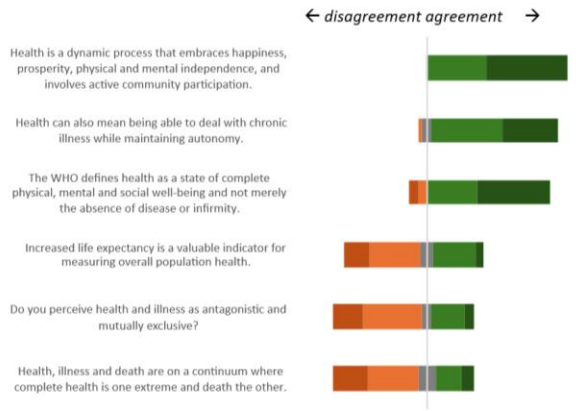
Modern biomedicine was largely perceived to improve population health and a vast majority agreed that it should be made available on a global scale, while most respondents also concurred that most causes of diseases are social rather than medical. Opinions regarding the value of technological progress were divided (Figure 4a). Most participants agreed on the importance of universal access to biomedicine on a global scale, which was considered beneficial both on an individual and a collective level—favoring an association between more health services and overall population health. While respondents considered that modern biomedicine based on vaccination and intensive care prevented millions of deaths during the recent COVID-19 pandemic, in stark contrast, opinions regarding the value of sophisticated technology in meeting the challenges of pandemics were divided and most respondents disagreed that, overall, European health systems require only minor improvements (Figure

4b). No clear preference emerged regarding the use of innovative therapies to prolong life, but most participants agreed that the preservation of life should not be prioritized at all costs (Figure 4c). Almost all participants perceived the environmental crises of the Anthropocene as a major challenge to current health care systems, which are also affected by overtreatment and commercialization. To a lesser extent, the participants also agreed that biomedical health care systems might turn into disease-promoting organizations. Overall, modern health care was understood as having a high ecological impact, using excessive resources, and producing too much waste (Figure 4d).

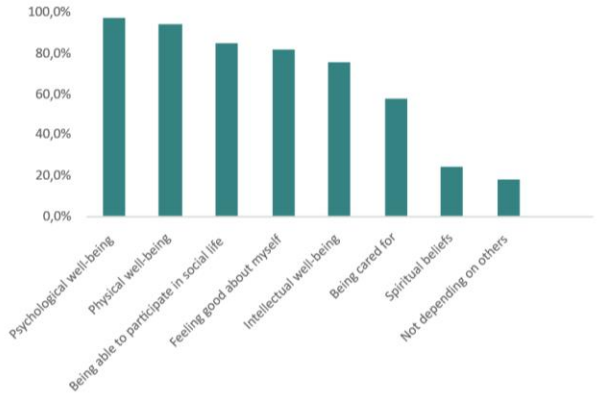
Regarding future degrowth health care systems, respondents emphasized the importance of social justice, followed by lifestyle counseling, eradication of infectious diseases and cancer, as well as better perinatal care (Figure 5a). Overall, care was considered central to human life and a holistic health system, along with up-to-date biomedical health care and universal access. However, a slight majority of respondents agreed that health services should be less sophisticated and technology dependent. While most participants indicated that care is something that belongs outside the monetary economy, somewhat contradictory, respondents were rather divided on the statement that all care work must be professionalized and paid for (Figure 5b). Participants concurred that a post-growth society would ensure better health without consuming a lot of health care resources. While health education was perceived as one of the most important measures to improve population health, opinions regarding the importance of addressing the social determinants of health over spending on health care services, the value of de-institutionalized knowledge instead of professional expertise, and the place of complementary and alternative medicine (CAM) were divided (Figure 5c). Most participants indicated that decisions about the future of health care should be made by all stakeholders (60.6%), followed by citizens, and health professionals (Figure 5d).



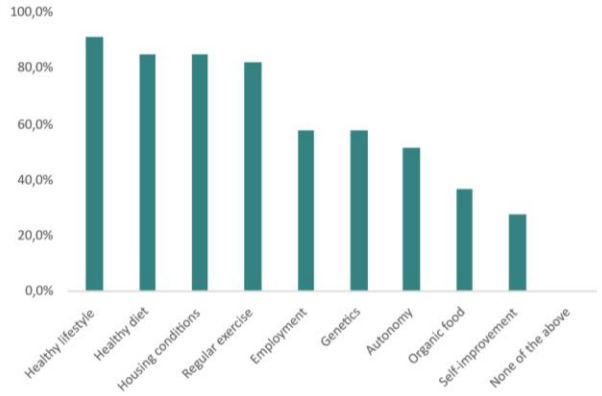
a) How would you describe your health?



b) What is health?

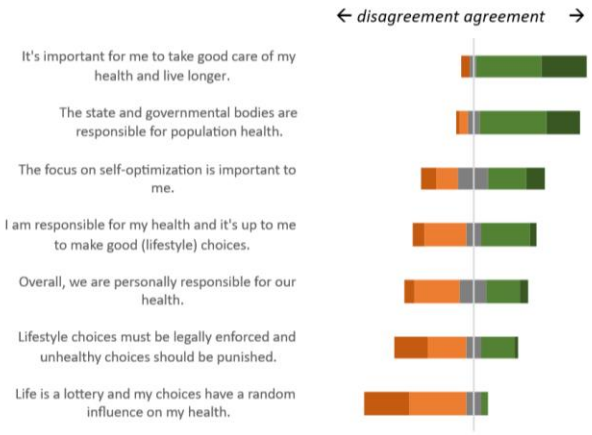


c) To be in good health includes the following:

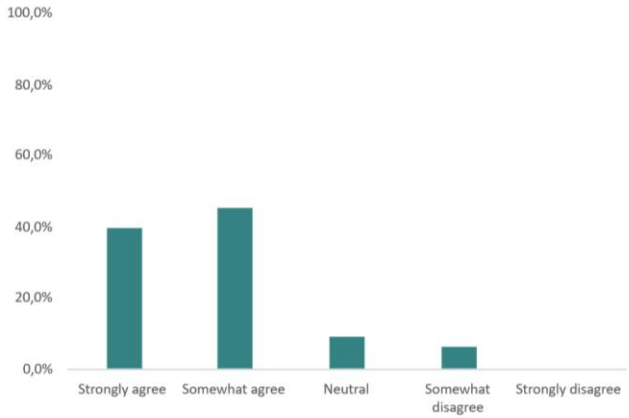


d) On an individual level, health depends foremostly on:

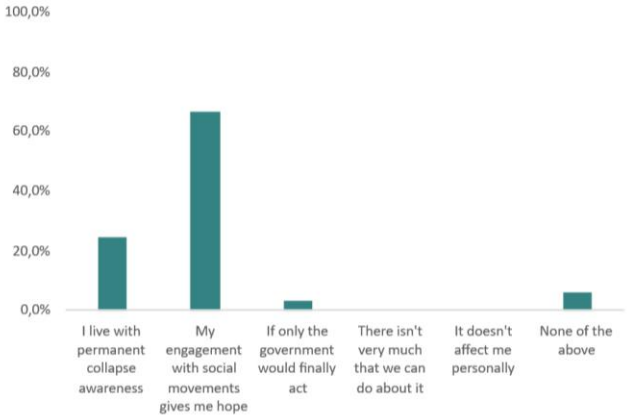
Figure 1: Concepts of health. Spearman's rank correlation coefficient revealed a significant positive correlation between good or excellent health status and an agreement on "The environmental crises of the Anthropocene challenge current health systems" (0.368, $p<0.05$), and a significant negative correlation between good or excellent health status and an agreement on "Complementary and Alternative Medicine (CAM) should substitute biomedical high-tech care" (-0.447, $p<0.01$).



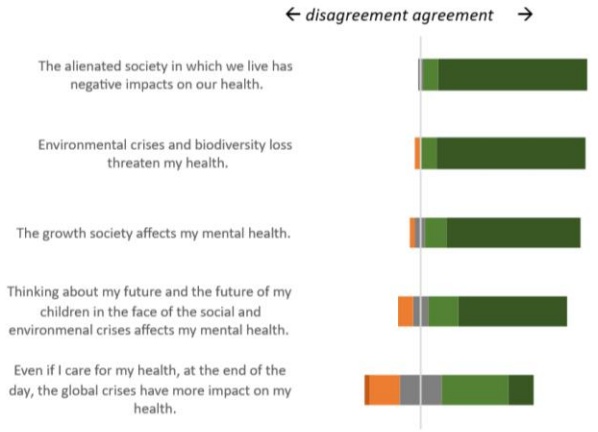
a) Personal responsibility



b) In addition to active citizenship, individual lifestyle choices to reduce personal footprints are also important in the struggle for a post-growth future.

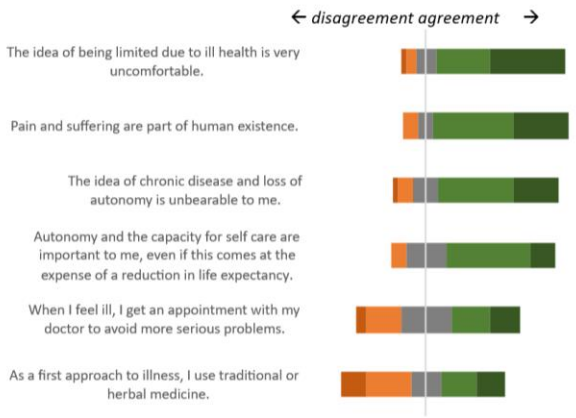


c) How do you feel about the global polycrisis?

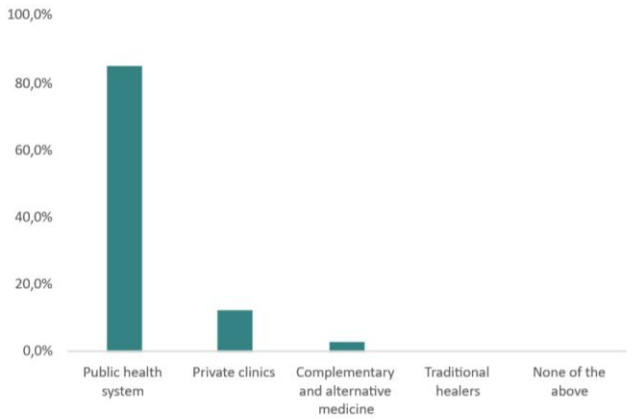


d) The impact of global crises

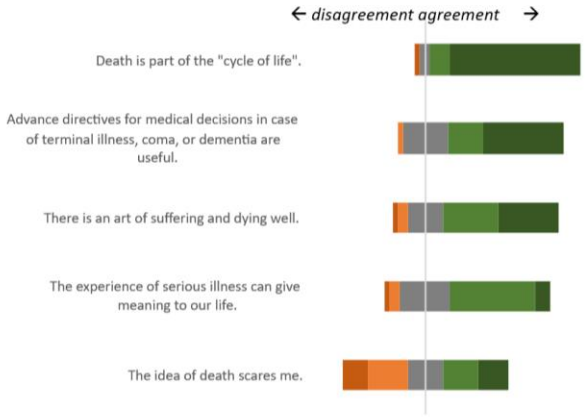
Figure 2: Global crises and personal responsibility.



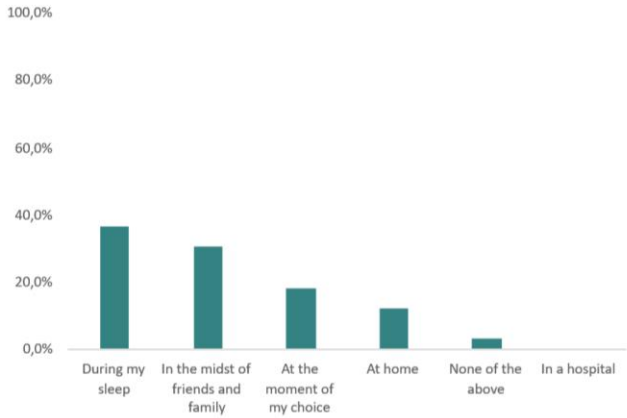
a) About ill health



b) In case of serious illness, I foremostly would turn to:



c) About death



d) How would you like to die?

Figure 3: Concepts of illness and death.

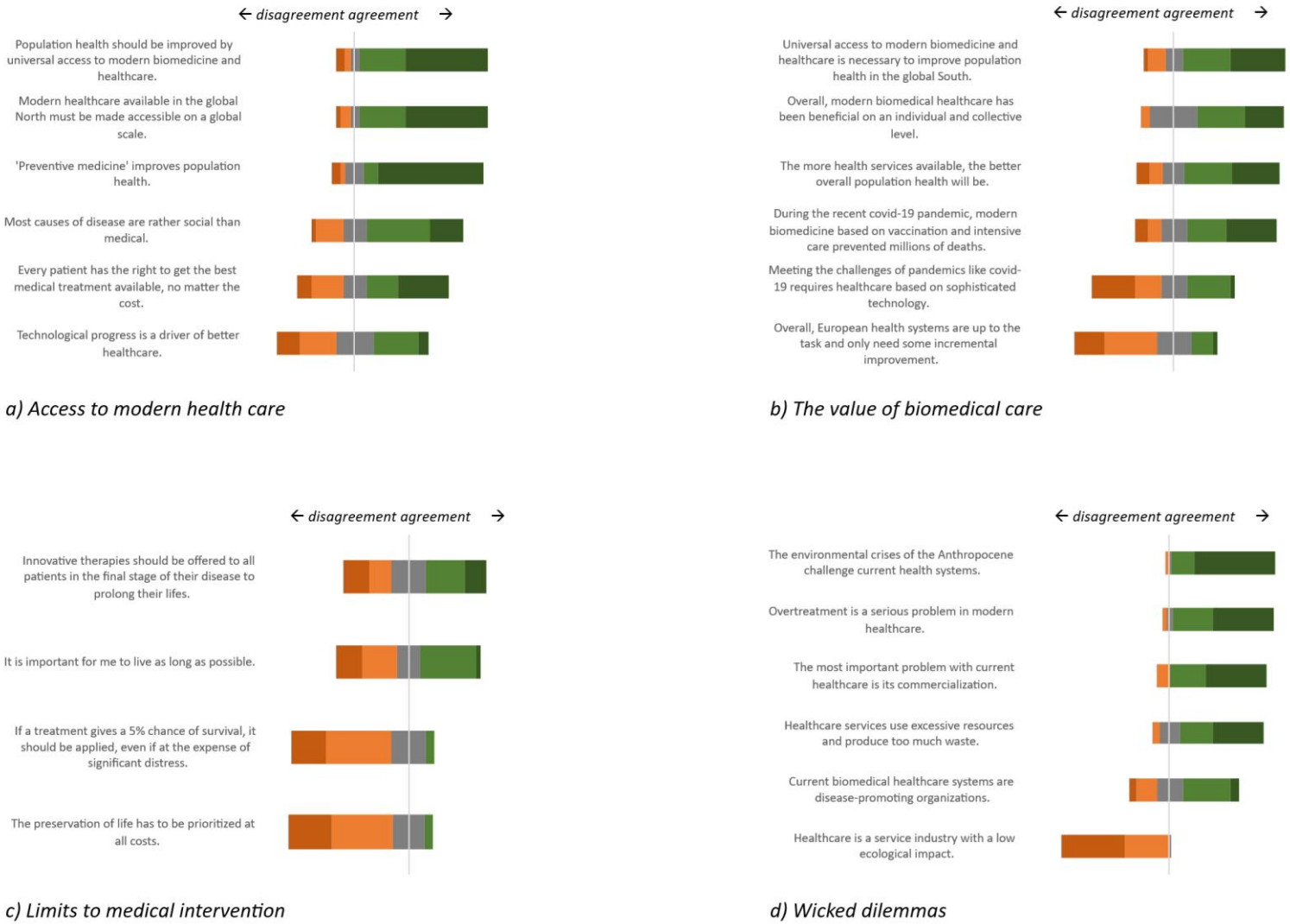
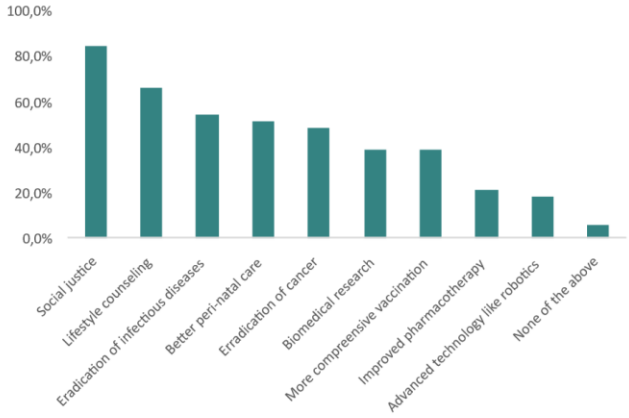
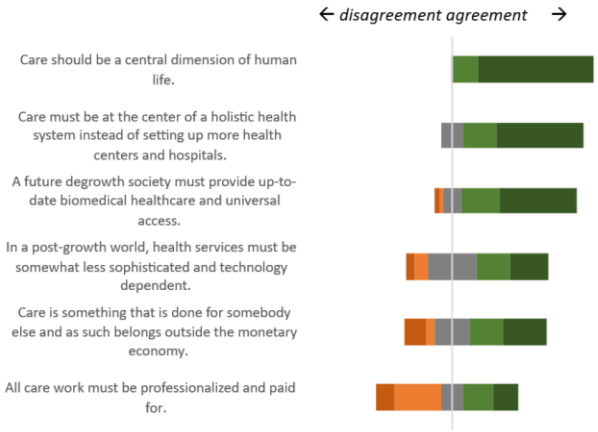


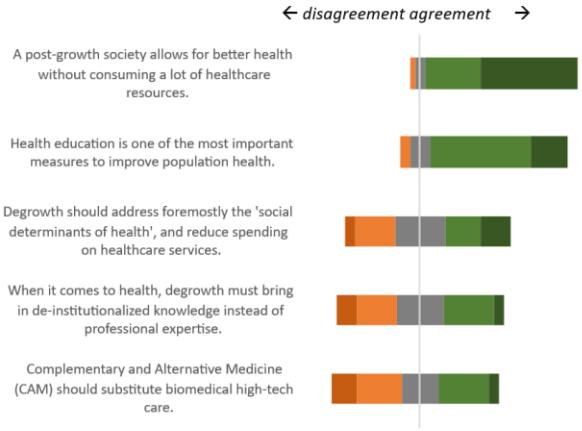
Figure 4: Biomedical health care and its limits.



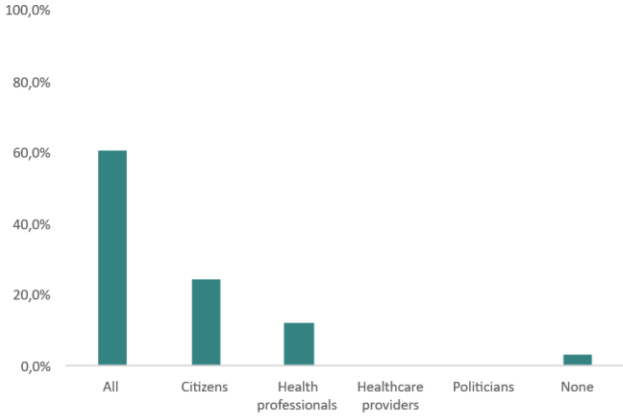
a) In a post-growth future, healthcare should focus on:



b) The value of care



c) The futures of degrowth health care



d) Who should decide?

Figure 5: Degrowth futures of health and care.

5. Discussion

The role of social sciences in epidemiological research has long been recognized (Cassel, 1964) and it underscores the importance of the relationship between social factors, health, and disease, but also the circumstances in which medical knowledge and intervention plays out within the cultural practices of society (White, 2002). Against this backdrop and inspired by Illich's mordant critic of the biomedical system (Illich, 1975/1995), an emerging body of degrowth scholarship and research has been exploring the subject of health and degrowth focusing on the concept of health and the biomedical paradigm, the impact and sustainability of modern health care systems, and a degrowth transformation of social-ecological systems and health care itself (Aillon & D'Alisa, 2020; Borowy & Aillon, 2017; Hensher et al., 2020; Hensher & Zywert, 2020; Missoni, 2015; Zywert, 2017, 2021). Most authors either explicitly underscored (or implicitly accepted) the importance of a holistic approach to health that embraces physical and mental health together with social well-being, in line with the WHO definition of health (WHO, 1948). This broad understanding of health was overall shared by the participants in the questionnaire (compare Figures 1b & 1c).

While most respondents acknowledged the importance of social causes for ill health, still more participants emphasized the need for broadening the scope of and access to modern health care (Figure 4a). Social epidemiology and public health research has shown that poverty is indeed a sensitive predictor for ill health and lower life expectancy, and that public policy should therefore focus on the social determinants of health and reach beyond the mere provision of medical care (CSDH, 2008; Wilkinson & Marmot, 2003). In particular, poor housing conditions, threatened eviction, or unemployment intersect with complex health issues, including addiction and mental health problems, which are poorly—or not at all—addressed by health care systems. Also increasing superdiversity in urban contexts due to migration challenges health care and welfare systems, and requires complex interventions from different actors outside the limits of health care provision (Phillimore et al., 2019). Thus, providing welfare in a broader sense includes goods and services besides health care, such as education, social security, and housing, and requires significant public spending which currently is being fueled by economic growth. In contrast, degrowth scholars propose that a degrowth transition and degrowth policy proposals would promote population health by

reducing inequality, working hours and unemployment, mitigating climate change, and expanding non-commercial forms of work and promoting social life (Aillon & Bonaiuti, 2024; Aillon & D'Alisa, 2020; Borowy & Aillon, 2017).

Respondents to the questionnaire tended to emphasize that individuals are largely responsible for their health (Figures 1d & 2a), while also recognizing the health-damaging effects of the industrial growth economy (Figure 2d). Crawford (1980) pointed out that reinforcing the importance of personal behavior, attitudes, or emotional states and resorting to a variety of experiences—from frenetic exercising and healthy nutrition to 'New Age' and homeopathic therapies—foremostly focuses on the individual optimization of the well-to-do. Hence, it runs the risk of fostering "a continued depoliticization and therefore undermining of the social effort to improve health and well-being" (Crawford, 1980, p. 368). Characteristically, the current technology-driven commodification of health care emphasizes patients' individual responsibility for a healthy life and devises "tailor-made solutions" to put individual—instead of social—wellbeing at the center of health care practice (Schiavone & Ferretti, 2021). Moving the problem of health and illness towards the private and framing it as a personal problem to be tackled by self-improvement or more health care consumption, embodies the dismissal of the political and social dimensions of health in favor of individualized biomedicine (Clarke et al., 2003; Finkelstein, 1990). Recognizing this ambivalence, Ivan Illich (1994), a caustic critic of the medical industry, underscored that the assumption of health as one's own responsibility deserved an emphatic "no" when conceived within a modern construct of health that is based on professional paternalism—the ideology of scarcity of complex health care and destructive industrial systems that are accompanied by increasing global poverty. Hence, Illich called for the renunciation of the "axiomatic certainties" of health and responsibility when 'health' only means adapting to "the misanthropic genetic, climatic, chemical and cultural consequences of growth" and responsibility "is reduced to a legitimizing formality" in a world of unjustifiable (and uncontrollable) interconnections (1994, pp. 4-5). The emphasis on personal responsibility voiced by the respondents to the questionnaire (see above) thus seems to be at odds with Illich's emphatic "no" and surprisingly aligned with the neoliberal paradigm and its focus on

personal responsibility and choice that permeates societal transformation during the past decades and ends up benefitting the privileged.[1]

Overall, participants in the survey valued modern biomedicine and advocated universal access in the Global South (Figures 4a & 4b), which feeds into a degrowth discourse that tends to favor the increase of health care spending and endorses the extension of life expectancy as proxy of good health and health care. Conversely, questioning the concept of subjective wellbeing could lead to prioritizing the satisfaction of universal human needs (Büchs & Koch, 2019; Koch et al., 2017). Making use of the degrowth framework that recognizes explicitly the existence of limits (D'Alisa et al., 2015), Aillon and D'Alisa (2020) propose to reconceptualize health and to abandon the unsustainable growth economy that "progressively undermines the principal determinants of health" (p. 318)—an approach that is supported by survey participants and scholarship regarding the determinants of health (see above), particularly in the field of ecological economics (Brand-Correa et al., 2022).

While public awareness of global warming, climate instability, the end of cheap energy provided by fossil fuels, the crossing of planetary boundaries, and biosphere integrity already acts as a driving force of climate activism and associated social movements (McKeever et al., 2023), awareness regarding the ensuing need for radical transformation of health care remains embryonic, even within the degrowth community as the results of the survey suggest. In this context, it might also be debatable if a farewell to economic growth will address current structural challenges to health care systems like health inequity, health care access (Daniels, 1982; Oliver & Mossialos, 2004), efficacy, effectiveness and efficiency of services (Haynes, 1999), and the ecological sustainability of health care itself (Hensher, 2020; Lenzen et al., 2020; MacNeill et al., 2021). As Zywert (2017) pointed out, the current pressure on the socio-ecological systems "could see the collapse of much of what upholds modern medicine, including welfare state benefits, international pharmaceutical and equipment chains, and antibiotic capabilities" (p. 233), thus demanding a full paradigm shift since mere symptom management has exhausted its scope. On the backdrop that the industrial

[1] A broader discussion on the difference between neoliberal freedom and a degrowth concept of autonomy would exceed the scope of this article. For an exhaustive exploration on the subject, please refer to *Reconceptualising freedom in the 21st century: neoliberalism vs. degrowth* (Windegger & Spash, 2023).

civilization faces an increasing complexity of interconnected challenges that include rising inequality, demographic change, and threats to environmental and climate stability, this situation affects health and health care directly,

> *including (1) the increasing vulnerability of high- overhead, materially and energetically intensive global healthcare systems funded through the welfare state in a future defined by ecological limits to economic growth, and (2) the diminishing returns of a curative health system that treats individual human bodies while incurring negative health outcomes at the level of society and ecology. (Zywert & Quilley, 2018, p. 204)*

Under a post-growth or degrowth approach, tackling the social, political, and environmental determinants of health will hence require alternative concepts and models of welfare to meet human needs (Corlet Walker et al., 2021).

European health care systems are already facing an increasing shortage of health and care workers in spite of raising expenditures to tackle the growing demand from an ageing population, the burden of chronic diseases, and intercurrent epidemics (WHO Regional Office for Europe, 2022). In fact, this shortage might represent a first sign of a collapsing system, which is also under pressure by implicit or explicit rationing of services due to resource limitations in face of increasing complexity and demand (Berezowski et al., 2023; Cox, 2013). While the workforce shortage arises due to unattractive employment and working conditions and a gender imbalance where women suffer the highest attrition, these statistics fail to acknowledge that care is further provided by unpaid family members, particularly women, or supplied by the community, outside the realm of formal economy (Dengler & Lang, 2022; Dengler & Strunk, 2018).

Data from the United States shows that “rising per capita incomes, the availability of promising but costly new medical technology, workforce shortages […] can drive up the unit cost of health care, and the asymmetric distribution of market power in health care […] gives the supply side of the sector considerable sway over the demand side,” which contributes decisively to increasing health expenditure (Reinhardt, 2003). While increasing demand for

health services in high-income countries is partially driven by an aging global population and chronic diseases, the reduction of death from communicable, maternal, neonatal, and nutritional diseases in poorer countries contributes to an increased life expectancy—and consequently to a rise in chronic diseases, which configure the so-called double burden of disease (Missoni & Galindo, 2020; WHO, 2020). Thus, rising life expectancy in low-income countries is primarily due to spending on basic infrastructure and public health, whereas in high-income countries the importance of disease management comes into play, which relies even more heavily on available economic resources (Büchs & Koch, 2019). Hence, in these countries explicit austerity measures with substantial cuts in health expenditure can have negative impacts on population health, as observed in Greece after the global financial crisis (Tyrovolas et al., 2018), even if economic contraction and recession do not always lead to impairment of health or decreased life expectancy as long as level of care is maintained (Stevens et al., 2015).

From a different perspective, and counterpointing the belief in the benevolence of modern health care, Illich (1975/1995) had underscored the need to recognize the impossibility of eliminating pain and curing all diseases in the face of unavoidable death. Characteristically, the 'modern' concept of health and health care—where death represents the ultimate failure of biomedicine and the process of dying is stretched as long as possible—exterritorialized and outcasted death and the process of dying, which are being hidden from the public as much as possible (Sallnow et al., 2022). Thus, the collective imaginary of adequate health care is predominantly shaped by the belief 'more is better', which mirrors the framework of neoclassical economics that configures illness as an individual defeat that must be mastered with the help of scientific and technological progress, defying—or even denying—the inevitability of death (Becker, 1973; Király & Köves, 2023; Smith, 2022). The successful framing of a fulfilling life as living as long as possible, with or without disease, accomplished with the support of the medical establishment and the medicalization of society as a whole, is thus embedded in the 'mental infrastructures' and socio-cultural environment of present-day growth-orientated consumer societies, regardless of whether a good and meaningful life is lived or not (Welzer, 2011). Drawing on Émile Durkheim and Serge Moscovici, I argue that these collective and social representations provide the code which gives meaning to the surrounding world and the individual experience in the social context (Durkheim, 1898; Farr

& Moscovici, 1984; Moscovici, 1988; Moscovici & Perez, 1997). Thus, these individual concepts that operate within societal belief systems of health, illness, and death (Herzlich, 1991) disembark in common-sense models of illness (Diefenbach & Leventhal, 1996) that illustrate the motivations for individual efforts and so-called "health behavior" to comply with the proclaimed goal of a long and healthy life. Consequently, the strong emphasis on individual responsibility and general support of modern biomedicine that was evident in the responses to the questionnaire can be understood as a subconscious and interiorized reflex of prevailing neoliberal paradigms and belief systems that, together, shape the mental infrastructures of today's society.

Approaches informed by human and health ecology have been proposed to clarify the multidimensional interplay between personal attributes, the relational context, and the physical environment, thus enabling the promotion of interventions that improve the individual health status by a combination of strategies that combine efforts on these different levels (Schneider & Stokols, 2015). However, the focus on personal and relational factors and the emphasis on health literacy (Batterham et al., 2016) not only reinforces the individualization of responsibility, but also serves as a justification for prioritizing research on lifestyle interventions and its associated financial costs and benefits under the mantra of value-based care (Livingston et al., 2021). Indeed, the individualized approach of 'preventive medicine', touted by the public opinion and health care professionals alike, was favored by a vast majority of survey respondents (Figure 4a). Yet, it has generally been reported to fail in improving life expectancy, while increasing overdiagnosis and overtreatment, thereby diverting resources from treating real patients and their diseases (Gérvas et al., 2008; Heath, 2007; Moynihan et al., 2012). For instance, using limited capacities for screening colonoscopies diverts resources from attending to symptomatic cancer patients. Similarly, screening for breast or prostate cancer generates no or only small improvements in disease-specific mortality and negligible improvements in overall mortality, while adding to treatment-related morbidity (EUROPREV, 2022; Saquib et al., 2015). Acknowledging the social determinants of disease and objective social conditions of ill health requires tackling its root causes, including the structural violence towards marginalized communities in local and global health ecosystems (Büyüm et al., 2020). Radical transformative change is critical for the populations of the Majority World in the Global South, particularly in low-income

countries in Africa and South-East Asia, where access to health care is often limited, unavailable, or unaffordable. Thus, against the backdrop that the present survey was carried out in a small sample of a highly selected and mostly European academic environment, future research on this topic might consider including non-European geographies and the general population to yield information that can be productively explored during a co-creative process for a degrowth concept of health and illness.

Shifting away from health care systems that rely heavily on technology and embracing a more care-orientated and holistic model of health could reduce patient or system-driven overconsumption of services (Borowy & Aillon, 2017; Hensher et al., 2020), while providing scope for the role of individual autonomy, even in the face of technocratic and system-orientated frameworks (Samerski, 2018). Petriceks (2024) recalls the concept of the two watersheds that characterize modern institutions: in the case of health care, the first watershed can be defined by the improvement of basic provisions like sanitation or vaccination; the second watershed—in the post-WWII period—is assigned the beginning of institutionalized health care, which increased costs of both prevention and treatment and engendered the medicalization of death, propagating social biases in medical practice and research and the irresponsible prescription of medication. To counter these tendencies, Illich (1973/2009) advocated the promotion of individual autonomy, in sharp contrast to responsibility, and the capacity for "vernacular subsistence and conviviality,"[2] opposing the expansion of industrialized products and technologies and the professional service industry (Samerski, 2018). Consequently, degrowth academics, like Aillon and D'Alisa (2020), refer explicitly to Illich's works and his emphasis on autonomy and citizen participation where the right to heal (or even to forego medical treatment) must go hand-in-hand with the access to equitable health care (Illich, 1975/1995).

In summary, and recognizing that survey results cannot speak for the degrowth community as a whole, degrowth scholars and activists that actually took the survey were apparently caught between the desire to reduce the ecological footprint of health care and, at the same

[2] On the meaning of 'vernacular' and 'conviviality', refer to the section on "Vernacular values" in the works of Ivan Illich (1973/2009,1981/2009).

time, the wish to preserve its current achievements without questioning that it is based on a system that reproduces the complexity of biomedical modernity. Personal concepts of health and illness did not reveal overt paradigm shifts that would transcend the scope of modern biomedical health care systems. On this backdrop, a broader discussion of proposals on health and degrowth that are brought forward within the degrowth framework and challenge the current growth paradigm is crucial to envision alternatives within the limits of planetary boundaries and reconceptualize the notion of health itself (Aillon & D'Alisa, 2020; Hensher, 2023b; Zywert & Quilley, 2020). Hensher's (2023a) analysis of challenges and opportunities for the degrowth transition in health care, that was published earlier in this journal, contains some suggestions in which direction research and conversations on degrowth and health might want to proceed. Future research will possibly not only have to question the ambivalence between local solutions and the access to modern health care technology or the role of the state, but also reflect on the role of prefigurative alternatives to modern professionalized health care and the biomedical paradigm (Zywert & Quilley, 2023).

6. Conclusion

Health care systems will have to undergo a profound upheaval to face what has been termed the Anthropocene. The concepts of health, illness, and death cannot remain embedded in the growth-orientated "mental infrastructures" of advanced industrial civilization (Welzer, 2011). Under a biomedical model, where the standard body has individual defects that require biomedical technology solutions, the commercialization of health care has been turning patients into clients where people became consumers of a wellbeing promise and less willing to endure illness, suffering, or the prospect of death (Conrad, 2009; Kickbusch et al., 2016; Lock & Nguyen, 2010). Both technological advances and an expanding scope of health care are triggering a mounting financial and ecological burden of injustice. As a result of neoliberal capitalism, individualization of health and medicalization of society have been mutually reinforcing each other and relegating the social determinants of health and the embedded structural violence of health systems into the background. Additionally, reduced availability of financial and material resources, climate instability, and the need to reduce harmful impacts on the environment intensified the increasing pressure from convergent forces that

compel a transformative reorganization towards a post-growth future (Hensher & Zywert, 2020).

The “wicked dilemmas of modernity” regarding health and health care (Zywert & Quilley, 2018) resemble the intricate uncertainties and increasing complexity of the post-normal science framework, where stakes are high and scientific expertise alone appears to be an inadequate problem-solving strategy. Hence, a situation that extends beyond professional knowledge and applied science calls for the participation of “extended peer communities” (Funtowicz & Ravetz, 1994), which, as D’Alisa & Kallis (2015) emphasized, have inspired “degrowth praxis” and the discussion about degrowth and democracy (Cattaneo et al., 2012). These extended peer communities might also take the form of “democratic and deliberative forums, to identify the goods and services necessary for needs satisfaction within a particular social and cultural context and environmental limits” (Büchs & Koch, 2019, p. 161). Inspiration and insights on the process can be provided by similar deliberative mini-publics or citizens’ assemblies that already have been successfully established in the field of climate action (Giraudet et al., 2022) or as pre-election panels to access policy proposals and improve voters’ knowledge (Gastil et al., 2023), amongst others.

Thus, to overcome the challenge of a missing degrowth concept of health and illness, a collective deliberative approach could provide a pathway to establish a truly participatory degrowth ethics of health and care that takes into account the imperative of moral psychology and philosophy where all lives are considered equally valuable, thus countering the destructive potential of current political structures (Butler, 2020).

Conflict of interest

The author has no conflicts of interest to disclose.

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