



We're in This Together: Intergenerational Health Policies as an Emerging Public Health Necessity

Barbara Plagg^{1,2*}, Jörg Oschmann³, Adolf Engl¹, Giuliano Piccoliori¹, Andreas Conca⁴ and Klaus Eisendle^{1,4}

¹ College of Health Care Professions Claudiana, Institute of General Medicine, Bolzano, Italy, ² Faculty of Education, Free University of Bozen/Bolzano, Bolzano, Italy, ³ Institute of Cultural and Social Anthropology, Ludwig Maximilians University, Munich, Germany, ⁴ Central Hospital Bolzano/Bozen, Bolzano, Italy

OPEN ACCESS

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*Correspondence:

Barbara Plagg
Barbara.Plagg@am-mg.claudiana.bz.it

Specialty section:

This article was submitted to
Political Ecology,
a section of the journal
Frontiers in Human Dynamics

Received: 21 July 2020

Accepted: 23 October 2020

Published: 23 December 2020

Citation:

Plagg B, Oschmann J, Engl A,
Piccoliori G, Conca A and Eisendle K
(2020) We're in This Together:
Intergenerational Health Policies as an
Emerging Public Health Necessity.
Front. Hum. Dyn. 2:566705.
doi: 10.3389/fhumd.2020.566705

The global handling of the COVID-19 pandemic has highlighted the lack of intergenerational public health solutions. Discontinuity of educational and health care services and environmental threats increase various pathologies and may provoke long-term health damage among the youngest. Unbalanced generational approaches within health policies have been evident before the pandemic and will continue to be a global challenge as both acute and chronic threats due to environmental hazards and social disparities are increasing. We therefore aim to bring with the present article the concept of intergenerational health to the center of socio-political attention as it must become beyond the COVID-19 crisis a core concept in the development and implementation of health policies.

Keywords: intergenerational health policy, children's health and development, adolescent health, COVID-19, age-specific prevention, risk reduction, public health threats, environmental health

INTRODUCTION

As humans, we shape the world we live in by interacting with our environment and creating social and cultural networks. However, not all people shape our world to the same degree: Power is unequally distributed, and because there is a lack of balanced reciprocity and mutual cooperation between generations of people, present adult generations exercise power over younger and future generations (Encyclopedia Britannica, 2020). Indeed, political power as a structural expression of “a complex strategic situation in a given social setting” leads to decisions affecting heterogeneous collectives, which—depending on the priorities set by the actors in power—can be good for some people while being bad for others (Moe, 2005). Depending on the region, many groups with different characteristics (e.g., women, BAME community, LGBTQ, etc.) are under- or not represented at all in positions of power—but since seniority is ubiquitously an important element in legislatures, children and adolescents are the one group missing overall (Wall, 2012). Beneficence, non-maleficence, and justice are fundamental ethical principles in health promotion. However, existing tools for decision-making are usually single-generational and referred to solving an immediate problem as identified via health parameters like incidence and prevalence. Recently, intergenerational disparities, which even in non-crisis periods influence the political shaping of our social and ecological environment, became particularly apparent in the global handling of

the COVID-19 emergency: Most health-related policies in response to the viral outbreak were lacking intergenerational solutions. At the same time, the concept of “intergenerational health” becomes with the rise of both communicable and non-communicable diseases due to environmental threats and social disparities an emerging public health necessity and a valuable concept for political ecology. We therefore aim to bring the concept of intergenerational health to the center of socio-political attention.

INTERGENERATIONAL HEALTH AS AN EMERGING CONCEPT OF MODERN PUBLIC HEALTH APPROACHES

The term “intergenerational equity” occurs across several fields, is mostly discussed in public economics and in environmental justice, but has yet to become a central concept in modern public health approaches and political ecology of health. When used in health care, the term “intergenerational health” merely refers to an interfamilial and sometimes epigenetic concept, with parents and grandparents influencing their descendants’ health (Bygren, 2013) and social disparities shaping the subsequent generation (Kahn et al., 2005). On the other hand, “intergenerational justice” is often referred to future generations, which, by definition, do not exist now (Meyer, 2008). However, the concept of intergenerational health is an emerging public health necessity—with both high immediacy on all present generations as shown by acute events such as COVID-19 and long-term consequences due to anthropogenic activity. It is of essential and urgent importance, that the concept of “intergenerational health” broadens up from an interfamilial and individual understanding to societal level and is included as a key aspect in prevention of both acute (e.g., infectious) and chronic (e.g., long-term) threats.

As a matter of fact, human health happens at the interface of environment and society and cannot be approached from a purely biomedical perspective. While immediate and medium-term decisions are taken on public health indicators such as incidence, prevalence, mortality rates, and disability adjusted life years (DALYs), intergenerational effects and environmental indicators encompassing costs and benefits over long periods of time and for different generations should be used as a basis for health-related decision-making. Especially within health-related policies driven by neoliberal interests and implemented by adult members of society, intergenerational conflicts become obvious when it comes to macro-societal threats with age-specific risk variations—such as the COVID-19 pandemic or climate change. Here, political ecology of health steps in as an assisting framework to the commonly used public health indicators for understanding how social and environmental systems intersect to shape health across spatial and temporal scales and impact human population (King, 2010). While these impacts certainly vary individually according to background and these backgrounds are added up intersectionally (e.g., gender, class, ethnicity, etc.), the following analysis on the basis of COVID-19 focuses on the issue of intergenerational influences.

POLICY AND IMPLICATIONS DURING COVID-19: LOCKING DOWN ALL AGE GROUPS

In the 1st months of 2020, territories and countries all around the world have enforced lockdowns of varying degrees including total movement control and the closure of kindergarten, schools and universities impacting almost 70% of the world’s student population (UNESCO, 2020a). With the implementation of these measures, suddenly people all around the globe with their various backgrounds, living situations, and health needs had one thing in common: they all became target groups of preventive measures imposed by 194 states during the silent spread of SARS-CoV-2 (UNESCO, 2020a). Doubtlessly, the protection from an exponential viral transmission is a public health priority—but ultimately the corona crisis presents itself not only as an acute, but also as a chronic challenge: The impacts may be linked to direct effects of the virus or indirect social and environmental effects due to the lockdown measures and thus vary greatly in their effects and target groups.

Indeed, COVID-19 varies vastly in its severity and lethality across ages: Age-stratified lethality rates thus far show an alarmingly high mortality in elderly people [Italy, 18.05.2020: case fatality rate (CFR) 80–89 years: 31.1%; CFR \geq 90 years: 27.6%] while it appears small in children (CFR 0–9 years: 0.2%; 10–19 years: 0%) and young adults (CFR 20–29 years: 0.1%) (Istituto superiore di sanità, 2020). On the opposite, while being relatively spared by direct consequences, children and young people represent the highest risk group for secondary damage through lockdown measures: “Hundreds of millions of children around the world,” stated UNICEF by the end of March 2020, will likely face increasing threats to their safety and well-being because of actions taken to contain the spread of the COVID-19 pandemic (UNICEF, 2020a). By April 2020, they raised their estimate to 2.34 billion children and young people under 18, who currently live in one of the 186 countries with movement restriction and 60% of all children live in one of the 82 countries with full (7%) or partial (53%) lockdown (UNICEF, 2020b).

CHILDREN AND SECONDARY DAMAGE THROUGH COVID-19 MEASURES

Discontinuity of Health Care Services

The perspective of collapsing health care systems is one of the central arguments for cross-aging measures and represents a strong motivation for all age groups to adhere to them—because if (other) treatments can no longer be carried out due to overburdening, the virus ultimately bounces indirectly back to low-risk groups. However, it is known that during epidemic events even without reaching the limits of capacity, health care for patients of all pathologies and ages can no longer maintain the accustomed standard due to reduced shutdown activity: During the Ebola outbreak in West Africa (December 2013–June 2016), most maternal and child health indicators significantly declined, rates of maternal mortality ratio and stillbirth rate increased, and immunization services were disrupted (Delamou

et al., 2017). By 2017, maternal and child health services had not recovered to their pre-outbreak levels (Delamou et al., 2017). During COVID-19, polio vaccination campaigns have ceased, and 23 countries have suspended measles immunization (United Nations, 2020a). A British study recently found that 26% of 2,111 included children with mental health needs were unable to access mental health support during COVID-19 (Young Minds, 2020a). Further, the Secretary-General of the UN warned that “there could be hundreds of thousands of additional child deaths in 2020” as a consequence of interrupted health services and global recession (United Nations, 2020a). A recent analysis based on the worst of three scenarios in 118 low- and middle-income countries estimated that an additional 1.2 million under-5 child deaths could occur within just 6 months due to reductions in routine health services due to COVID-19 (Robertson et al., 2020). Fair, affordable, and intergenerational access to health care facilities thus remains a central challenge in times of crisis.

School’s Out: Consequences of Kindergarten and School Closures

Educational institutions are of central importance for the health and development of children and adolescents. By leaving children homeschooled, states structurally deprive their opportunities for growth and development since school closures have been associated to hurt children’s prospects, which, without intervention, may persist lifelong (United Nations, 2020b). The high social and economic costs of school closures are particularly severe for low-income families (UNESCO, 2020b). Besides increased exposure to violence and exploitation, gaps in childcare—since working parents may, in absence of other options, leave their children alone—increase negligence and isolation (UNESCO, 2020b). Evidence suggests that children lose their cardiorespiratory fitness when schools are closed during holidays as they are physically less active and have irregular sleep patterns, much longer screen time, and less favorable diets (Brazendale et al., 2017; Wang et al., 2019). These negative effects are exacerbated by enforced isolation at home resulting in limited interaction with peers and natural environments leading to reduced physical activity outdoors. Additionally, as seen in different regions worldwide after disasters like epidemics, with school closures sexual exploitation of girls and young women rises (Plan International, 2014), teenage pregnancies increase (Quartz Africa, 2015), child labor grows, and more children are recruited into militias (Baytiyeh, 2018).

Even though the lockdown could entail opportunities for personal growth and family cohesion, disadvantages such as anxiety, lack of peer contact, and reduced opportunities for stress regulation pose a major health challenge. It is known that isolated or quarantined children are at increased risk of developing acute stress disorder, adjustment disorder, and grief, with 30% meeting the clinical criteria for post-traumatic stress disorder (Sprang and Silman, 2013). Furthermore, due to the feelings of frustration and agitation and due to issues related to parental unemployment or loss of household income, aggression may arise. The extent to which the combination of public health disaster and economic crisis affects people can be seen, among other things, in their

consumer behavior: In March 2020, supermarket sales of alcohol in the UK rose by 22%, suggesting increased consumption of alcohol at home (The Times, 2020), and in the USA, gun sales have skyrocketed with an increase of 85% compared to March 2019 (Mannix et al., 2020).

Protecting Some, Harming Others

By May 2020 at the latest, it had become clear that UNICEF was right with its early predictions and governments worldwide had taken no or insufficient measures to protect children during isolation measures: China reported a 40% increase in children abuse (Campbell, 2020); the UK children’s charity NSPCC reported a 20% rise in calls coming mostly from neighbors, extended family members, or delivery drivers (BBC, 2020); Germany’s “Number Against Grief” reported a 22% increase (Die Bundesregierung, 2020); an online survey with 8,000 German families found one-third of all children between 3 and 15 years are having difficulties with the isolation (Deutsches Jugendinstitut, 2020). A Chinese study found that clinging, inattention, and irritability were the most severe psychological conditions demonstrated by children between 3 and 18 years during COVID-19 isolation (Jiao et al., 2020). In particular, children and adolescents with mental health or special education needs suffer as schools keep being closed: A British survey found that for 83% of all included youngsters with mental health needs, the pandemic had worsened their conditions (Young Minds, 2020b). The extent to which children are affected by the isolation measures only becomes clear with latency: In the 1st weeks of the lockdown, many states have seen reductions in the number of calls to child welfare hotlines because people trained to recognize abuse or neglect like teachers and educators were not seeing the children anymore (Human Rights Watch, 2020).

BEYOND COVID-19: INTERGENERATIONAL AND ENVIRONMENTAL INJUSTICE IN PUBLIC HEALTH POLICIES

The COVID-19 outbreak is—as approximately three-quarters of emerging infectious diseases in humans—zoonotic in origin (Jones et al., 2008) and has thus been triggered by human–animal interaction. Eventually, the health threat, which is a direct consequence of human–environment interaction, has resulted itself in numerous impacts on the environment with both positive and negative consequences: While the global reduction in human activity such as the decline in plane travels, drop in air pollution, and reduction in carbon emissions was named “anthropause” due to its temporarily positive environmental effects (Rutz et al., 2020), emissions rebounded quickly and negative consequences of the lockdown included illegal deforestation, reduced environmental diplomacy efforts, poaching, and increased burden of plastic waste due to the usage of disposable personal protective equipment (PPE) such as masks and gloves (El Zowalaty et al., 2020). The extent to which intergenerational health prevention and environmental justice are blocked by neoliberal forces that pitch population

health against economic stability of the country (Smith and Judd, 2020) became particularly visible when, after an initial drop in the infection rates, states gradually “restarted” their economic, but not their education system and did neither use the potential of the “anthropause” to reduce long-term environmental health threats. By May 18th, when several states had at least partially restarted their economic activity, UNESCO counted still 1,210,295,995 (1.2 billion) learners in 156 countries affected by school closures (UNESCO, 2020a).

The unbalanced distribution of intergenerational interests regarding health policies has been evident before and will continue to be a key challenge on a global scale: In the disease continuum from acute to chronic, scientific evidence shows that there are increasing threats to children as, due to increased environmental threats, it is “highly probable that this current pandemic will be neither the last nor the worst global health crisis of the present century” (Horton, 2020). Recently, in particular, young people made increasing demands that their (future) health and well-being must be integrated into current policies as children across the world will be worst affected by climate change and its associated consequences on health (Watts et al., 2019). Compared to an acute infection by a virus, chronic and long-term environmental damage is less immediate and cannot be compared in its biological and physical ramifications. However, the response to these two distinct and different health threats gives an insight into the unequal weighting of generations and power asymmetry in public health policies decided and implemented by most governments mainly against a neoliberal backdrop with individualism, free market, privatization, and deregulation influencing their decisions (McGregor, 2001): Both events present themselves as serious health threats against which preventive measures are, according to current scientific knowledge, needed. However, the two threats differ substantially in their respective target groups: The virus presents itself as a danger for adults and elderly; climate change, on the other hand, threatens the current young generation. Additionally, while children in particular suffer from unintended disadvantages through COVID-19 measures, mitigation and adaptation strategies against climate change would mostly affect adults and the economic system. Whereas transnational regulations and autocratic decisions were taken to contain the virus including control and sanctions of transgressions, there are neither rigorous measures nor sanctions for the long-term damage caused by anthropogenic activity (e.g., climate change) as the failure to implement the Paris Agreement by all major industrialized nations impressively proved (Victor et al., 2017).

The weighting and assessment of intergenerational health effects would change the way we perceive and classify health threats as the focus shifts away from temporal immediacy targeting high-income age groups and economic efficiency toward long-term social and environmental dynamics for those groups, who are relatively marginalized in the political spectrum. Accordingly, an intergenerational analysis would influence the valuation and alter thus the development and implementation of health measures. With the intergenerational shift in emphasis toward “non-economic” target groups, environmental and social health risks, whose long-term consequences only emerge

over time, are recognized in the present, enabling timely primary prevention. Intergenerational justice remains therefore an efficient health measure for all those whose participation in society is limited or non-existent due to their age or because they have not yet been born.

ACTIONABLE RECOMMENDATIONS

Intergenerational Assessment Models

Benevolence, non-maleficence, and justice are fundamental ethical principles in health promotion; however, existing tools for consistent moral decision-making such as Seedhouse’s Ethical Grid (Seedhouse, 2008) are usually single-generational and referred to solving an immediate problem as identified via health parameters. While Integrated Assessment Models (IAMs) (such as DICE or PAGE2002) are widely used to evaluate climate policies over long periods of times and for different generations (Kaplow et al., 2010), (global) health policies as well must integrate intergenerational effects over time and environmental dynamics to set the right course for health-promoting measures. The principle of non-maleficence must thus be evaluated in an intergenerational manner to find healthy solutions for every age group.

Working Together: Transdisciplinary and Gender-Balanced Cooperation

Major societal challenges such as acute or chronic health threats require age-inclusive prevention and crisis management through inter- and transdisciplinary cooperation between different actors and disciplines. In addition, each task force advising decision-makers should be as diverse as possible in terms of a gender-equitable distribution: Female policymakers give more attention to social welfare and policies regarding children and adolescents (Solheim, 2000; Forbes, 2020; United Nations, 2020c). Therefore, separatism in terms of age-, discipline-, or gender-stratified division in the ranks of the policymakers does not offer a future-oriented and inclusive solution to immediate or longer-term health challenges.

Environmental Protection Is Health Protection

The environment influences our health in many ways. In particular, children are most vulnerable to environmental influences as it is long known that children bear the highest death toll by environmentally caused deaths yearly, mostly in developing countries (WHO, 2006). For this reason, environmental changes and factors must have important policy implications and governments worldwide should adhere to the environmental protection measures proposed by expert commissions (e.g., the UNFCCC), since environmental protection measures translate into health protection—especially for the younger generation and for the next generations that have not yet been born.

Targeting and Tailoring

What is good for one group does not have to be good for another: COVID-19 illustrated that there is an imminent need for

age-specific risk assessments in order to enable age-appropriate and tailored interventions. In this specific case, access to schools, kindergartens, and colleges must be considered public health priority and should be guaranteed while maintaining age-appropriate hygienic measures. More so, current evidence on COVID-19 transmission suggests that children are unlikely to be the main drivers of the viral transmission and school and kindergarten openings would unlikely impact COVID-19 mortality rate (Ludvigsson, 2020). In any case, school closures must be kept as temporary and short-term as possible and can, under no circumstances, become a long-term preventive measure. Political decision-makers must therefore weigh up direct damage with indirect damage for each age group. Even in the context of a pandemic, acceptable solutions in accordance with hygienic precautions (e.g., sufficiently large rooms, good ventilation, breaks in smaller groups etc.) must be provided to allow development and education in the community.

Buffer Secondary Damage

Flat-rate solutions do not meet people's heterogeneous needs and different living realities: Where secondary damage occurs, countermeasures must be taken. In the case of school closure, governments are for instance urged to act against the unintended and negative effects on children and adolescents: teachers must be provided with didactic measures and families must be provided with adequate equipment in case they cannot afford it. Social assistance to families needs to be expanded, low-threshold contact opportunities for children and young people must be provided, and the continuity of nutrition programs and maternal and newborn care must be prioritized. Solutions to buffer collateral damage must be developed for any age group also for example for people in isolated retirement homes (Plagg et al., 2020). Environmental damage caused by preventive measures (e.g., increasing toxic or plastic waste) must be avoided and prevention measures that go along with changing consumer behavior and altered production chains (e.g., masks) must be designed as environmentally friendly as possible. National and local governments are urged to treat health care and non-health-care waste management as an urgent and essential public service.

Do Not Prioritize and Marginalize

In the provision of plans, resources, and support, no age groups should be preferred: State subsidies must, for instance, be assigned based on the different needs of every age without prioritizing specific groups and marginalizing others according to neoliberal principles and capitalistic interests. Altogether, it is neither efficient nor justifiable to restart most branches of the economic system while leaving the educational system on hold and neglecting environmental protection. Because society functions only as a whole, the marginalization of certain groups ultimately always harms others, too.

Between Local Action and Global Needs

The pandemic has shown that protectionist tendencies become stronger in a crisis. The USA has, for instance, withdrawn

from the WHO and there has been less cooperation than competition in the distribution of medical and non-medical resources (Horton, 2020). Why countries and regions with different health systems and socio-political contexts find it difficult to cooperate is a discussion going beyond the scope of this article; however, such cooperation (from local to global level) must be strived for, because major health challenges such as a pandemic or climate change cannot be solved by individual countries alone.

After all, and beyond the current crisis, the welfare of the younger generation and the long-term impact on their lives must be included in informed decisions on adaptation and mitigation strategies for all kinds of global and collective health threats. Both in crisis management of acute hazards and in dealing with long-term threats, an intergenerational approach focused on risk reduction for all age groups is imperative and must be a core part in the development and implementation of current policies.

CONCLUSIONS

The handling of the pandemic illustrates missing intergenerational approaches within the development and implementation of health-promoting measures even in otherwise relatively inclusive societies: As soon as a crisis affects society as a whole and resources need to be allocated and measures prioritized, a strong age gradient leads to marginalization of the youngest [and also the oldest (Plagg et al., 2020)]. In our societies, already skewed in favor of economic privileges, disadvantages follow a strong intergenerational gradient, whose climax is to be found in childhood and youth.

Eventually, the pandemic has opened up generational rifts, but it has also shown one thing: How intertwined humans are across generations in all their diversity because health has become—against the background of a globalized world, the influence of environmental agents, and the social determinants on human health—more than ever a social and collective challenge, rather than an individual good.

AUTHOR CONTRIBUTIONS

BP wrote the first draft. JO, KE, AC, AE, and GP corrected the draft, completed the content, added additional literature, and thoughts on actionable recommendations. All authors contributed to the development of the policy brief, the interpretation of adopted policies during COVID-19, data on secondary effects on children, and have read and approved the final article.

ACKNOWLEDGMENTS

The authors would like to thank their family members who—in times of kindergarten and school closures—took care of the authors' children so that they could work on the article.

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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