

IFMSA Policy Document

Climate Change

Proposed by Team of Officials

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Policy Statement

Introduction:

The ongoing climate crisis poses a significant and pressing threat to human health, with some even decisively categorizing it as a health crisis. Greenhouse gas emissions caused by human activity have been threatening the climate equilibrium, leading to multiple climate risk factors that harm human health through direct and indirect means, highlighting and exacerbating already existing social and health disparities. The effects of the climate crisis also pose a risk to global health systems, placing healthcare professionals at the forefront of addressing the needs of affected populations. The health community is increasingly receiving recognition as a key stakeholder in the attempts to mitigate the further impact of climate change and adapt to the irreversible damage already caused while protecting every life currently endangered.

IFMSA position:

The International Federation of Medical Students' Associations (IFMSA) recognizes the climate crisis as a health crisis that affects the physical and mental well-being, personal safety, culture, and community life of every human being. Medical students worldwide acknowledge that climate change is causing unprecedented human suffering, health deficits and material loss in communities around the world, thereby exacerbating existing social and economic inequities. IFMSA expresses grave concern over the continued extraction and combustion of fossil fuels, which result in greenhouse gas emissions that worsen the climate conditions and exacerbate the threat of pollution. Thus, IFMSA emphasizes the importance of working towards a net-zero economy on a global scale, including rapid and multisectoral decarbonization and increased efforts towards climate mitigation and adaptation. IFMSA asserts that climate change does not affect everyone equally, which entails that groups with vulnerabilities, including women, people living in poverty and Indigenous populations, must be recognized and prioritized in all actions taken. IFMSA regards healthcare institutions, medical professionals, and medical students as crucial actors in ensuring that health is treated as a central priority by decision-makers and that the health needs of every individual affected by the climate crisis are met and that health impacts and disparities caused by climate change are addressed in a powerful manner by future healthcare professionals.

Call to Action:

Therefore, the IFMSA calls for:

Governments to:

- Take rapid and multi-level action to ensure that the global temperature rise does not exceed 1.5 degrees Celsius above the pre-industrial level, and decarbonize the country's economy, divesting state treasury funds from the fossil fuel industry and supporting efforts to switch to renewable energy.
- Capacitate the Ministries of Health and equivalent public health institutions to respond to health crises induced by climate change, including increasing the awareness of state officials regarding the dangers, possible ways to mitigate them and identification of settings that increase vulnerability to the adverse impacts of climate change.
- Provide technical and financial support to ensure continuous contingency planning for extreme weather events happening on their territory and develop emergency alert systems to protect the health and lives of their citizens.
- Ensure the inclusion of the health aspect in relation to climate change in all the Nationally Determined Contributions (NDCs) and other reports submitted to the United Nations Framework Convention on Climate Change (UNFCCC).

- Provide material support and ensure the safety of individuals who seek refuge due to climate-induced extreme events or social instability in their home countries and territories.
- Integrate SRHR and other public health issues into climate action.
- Provide financial support to private individuals and state-run institutions to facilitate insulation of buildings to reduce the loss of heat during colder periods.
- Engage stakeholders from the civil society sector, including representatives of youth-led organizations, to participate in the climate dialogue.
- Commit to the implementation of actions decided upon by UN Climate Change Conferences of Parties (COPs).

The UNFCCC to:

- Continuously monitor, evaluate and strengthen the process of the global stocktake mechanism used to assess the world's collective progress towards achieving the purpose of the Paris agreement and its long-term goals.

Universities, educational institutions and medical schools to:

- Provide technical and financial support for climate-centered health research initiatives and institutions to enable them to track and report the state of communicable and non-communicable diseases in the respective countries, with a particular focus on the climate change impact.
- Organize educational opportunities for students from all sectors to continuously strengthen their awareness of the uniqueness of the climate crisis as a health crisis and the importance of transitioning towards sustainable lifestyles e.g avoiding environmental contamination with pesticides
- Include medical students and their organizations in the dialogue aimed at improving the status of inclusion of climate change in medical curriculum.

International Organizations and Non-Governmental Organizations to:

- Increase societal awareness of the importance of the health aspect in addressing the climate crisis across all age, gender and income populations.
- Increase Climate Change crisis visibility in their organizational work and include net-zero commitments in the administrative policies.
- Encourage and support activities and youth-led projects that promote climate action by integrating climate change, health and youth into their activities and work plans.

Private sector to:

- Take responsibility for the carbon footprint produced by their business operations and aim towards off-setting it and reducing it on the way to net-zero business models.
- Engage in reliably informing consumers about the climate impact of products and services offered to them.
- Effectively work towards just transition from fossil fuels.

Healthcare facilities to:

- Urgently create and implement plans for the transition towards being climate resilient, climate sustainable and net zero carbon healthcare facilities.
- Pay particular attention to the negative impacts of climate change on patients' health and ensure that their workforce can recognize and address signs of climate impact in their communities.

IFMSA National Member Organizations and medical students to:

- Actively engage medical students through increased visibility of the intersection of the climate crisis and health education, advocacy and promotion of sustainable practices.
- Raise their voices and play an active role at the government level in the national climate change policy-making process through provision of inputs, engaging in consultations and contributing to policy design and implementation.

Position Paper

Background information:

Climate change has been observed and examined as a phenomenon for several decades. Initially, various theories were proposed to explain the gaps in knowledge and evidence surrounding the issue. [1] With severe and multifaceted impacts becoming increasingly palpable and far-reaching in all regions of the world, the threat of climate change has emerged as one of the top concerns for the scientific community. Considering the overwhelming body of research accumulated over the years, the Intergovernmental Panel on Climate Change (IPCC), a UN institution tasked with the critical analysis of scientific research on this topic, has conclusively determined that the current crisis is beyond any doubt caused by human-induced greenhouse gas (GHG) emissions. [2] The reliance of the economy, industry, food systems and electricity production on the extraction and combustion of fossil fuels resulted in the release of carbon dioxide and other greenhouse gases into the atmosphere in quantities that have led to a net increase in their concentration each year. For several hundred thousand years, the average atmospheric concentration of CO₂ fluctuated around 280 ppm (parts per million). However, since the industrial revolution in the late 19th century, there has been a steady and steep increase in CO₂ levels, reaching 419 ppm by December 2022. [3,4] While a return to pre-industrial climate conditions is regarded as impossible within the foreseeable future, several projections have been constructed, according to different calculations concerning the velocity of energy transition and wider climate action, branded by the level of average temperature rise at which the increase would stop. [5] All of those will have consequences on humanity, including significant impacts on healthcare systems. [6]

Discussion:

Climate Change and its impact on human health

The impact of climate change on the determinants of health

Climate change bears responsibility for significant damage to the health of people of all ages, genders, income levels and ethnicities by impacting the determinants of health, including those tied to the social circumstances of one's life. [7] Social determinants of health comprise all the social prerequisites that are inadvertently present and contributing to the development and continued lifelong health status of an individual - these include lack of food security, lack of safe and sustainable shelter, subjection to racism or another form of discrimination, as well as poverty. [8] In fact, climate change has been described as a social determinant of health due to its multiple impacts on public health. [9] The impact of changing climate conditions on land-based and maritime ecosystems has put the basics of life sustainment and the continuity of essential health services at risk, depriving people of their shelter, food, drinkable water, medical assistance, and treatment of communicable and non-communicable diseases. [7,9] Combined with its direct adverse impact on health conditions, climate change puts excessive pressure on the healthcare systems worldwide, especially in low- and middle-income countries. [10] Discontinued provision of basic services inadvertently leads to social and political instability. Moreover, political determinants of health revolve around the equality of the inclusion of all people in the political decision-making process. Some of those decisions - including achieving universal health coverage (UHC) - determine the realization of health needs. [11] Through its impact based on human survival, climate change threatens democratic and representative political systems around the world, causing increased social inequality, discrimination and increased human suffering. [12]

Health equity is defined as a state in which there are no remaining areas of unequal and unfair disparities in achieving the highest possible level of health. [13] Individuals with unmet health needs are often economically or otherwise disadvantaged, making them less likely to escape environmental and climate threats. People living in poverty, or a financially precarious situation are more likely to suffer from extreme heat due to diminished access to air conditioning. [14] Importantly, these disadvantages can intersect with the issue of discrimination based on ethnicity - for instance, the Indigenous populations, whose status as protectors of their native ecosystems is becoming increasingly recognized, have disproportionately suffered from the consequences of climate change as their territories have been inadequately protected. [15]

Climate change and vector diseases

Climate plays a significant role in determining the distribution of communicable diseases spread by vectors, such as fleas, ticks, and mosquitoes. These ectothermic animals can potentially transmit pathogens to humans through bites, leading to illness. Transmission may occur between humans or from an animal to a human host. [16] A 2022 IPCC Report, *Climate Change 2022: Impacts, Adaptation and Vulnerability*, confirms with high confidence that zoonoses have spread to new areas and novel cases have emerged in connection to the changing climate conditions. [2] The distribution of vectors, and thus the diseases they carry, are dependent in terms of the geographic spread and seasonal occurrence not only on the climate conditions but also on factors like land use, socioeconomic and cultural context, pest control, equity in access to healthcare services, and other kinds of human response to disease risk, among others. All of these, to a certain extent, are being impacted by climate change. [17]

The rapid warming of the Earth's surface has had a profound and long-term effect on the control of vector-borne diseases and on prevention strategies and outcomes. Even though many of the vector species may fare better at higher temperatures, it is a challenge to identify the exact cause-effect mechanisms between temperature and vector survival, reproduction and feeding behavior. [18] A constant and largely understudied threat emerging from the climate crisis is the spillover of viral (and, to a lesser extent, bacterial and fungal) diseases from animal reservoirs. [19]

The transmission dynamics vary considerably among different communicable diseases, with some, such as malaria and the Zika virus, having humans as the primary host. In contrast, others, like Lyme disease, possess more complex parasitic and infectious cycles. [20] Malaria is the number one cause of death among vector-borne diseases worldwide, with around 247 million cases and 619,000 deaths reported in 2021. [21] Africa continues to be the most affected region, with the majority of fatal cases. However, changing climate conditions have led to new regions becoming affected, thereby threatening global malaria eradication efforts. [22-23] Other vector-borne diseases that constitute major public health concerns include dengue, caused by Flaviviridae viruses, and primarily spread by the *Aedes aegypti* mosquito species, as well as schistosomiasis, leishmaniasis, and yellow fever. [24]

Making accurate predictions on how climate change might influence the spread of these vector-borne diseases is a challenging task, given many variables are at play. [25] As human populations serve as reservoirs of vector-borne diseases, climate-induced migrations are likely to introduce pathogens to new territories and altered climate conditions will enable vectors to inhabit these areas, facilitating the spread of these diseases. [26] The global temperature rise speed, contingent upon collective human actions with respect to greenhouse gas emissions, will determine the future of communicable diseases worldwide. [2] Projecting, however, is additionally complex as it needs to consider changes in non-climate drivers, which are highly uncertain. For instance, the future use of effective public health interventions (such as vector control and/or vaccine development) will likely follow a non-linear model. [27] To gain an understanding

of a range of possible futures, empirical vector-borne disease models have been developed and validated. [28]

Climate change and non-communicable diseases

Non-communicable diseases (NCDs) constitute a broad and varied group of chronic medical conditions characterized by the lack of transmission from one person to another, as well as a multifactorial etiology involving a set of factors, including genetic predispositions, lifestyle choices, surrounding environmental conditions, and several behavioral factors. [29] Cancer, asthma, chronic obstructive pulmonary disease (COPD) and cardiovascular diseases (myocardial infarction, thrombosis, cerebral hemorrhage, and aneurysm) are common causes of decreased quality of life, disability, and early death. [30] According to the World Health Organization, 74% of global deaths have been caused by one of these diseases. [29] While a shift towards cardiovascular and oncological deaths towards the later stages of life is seen because of medical advances in preventing and treating communicable diseases and less morbid NCDs, over 40% of NCD-associated deaths, occur prematurely, defined as occurring prior to reaching the age of 70. [29-30] In addition, premature deaths of this nature disproportionately impact people living in low- and middle-income countries, placing a particular burden on their much-pressured health systems. [29,31] Environmental conditions are proved to be a key causative and aggravating factor for NCD patients, with two-thirds of all environment-related deaths being caused by NCDs. [32-33] In the face of the climate crisis, there is an increasing concern, confirmed by scientific observations and studies, that many NCD cases are climate-sensitive or are directly or indirectly induced by climate change. [34]

The 2022 IPCC Report indicates with very high confidence that extreme heat events have contributed to heightened morbidity and mortality in all studied regions. [2] Heat exposure is a particularly severe threat to individuals with health vulnerabilities, including people with e.g., heart conditions, diabetes, and chronic kidney disease, and to individuals of advanced age as well as children. [35] Heatwaves are causally tied to excess mortality, among the mentioned social groups. [36] A 2020 British study aiming at differentiating COVID-related and heatwave-related deaths during the first COVID-affected summer found that people with cardiovascular, respiratory, and age-related neurological conditions were particularly likely to die during the hottest days and nights. [37] In conclusion, despite increasing action on climate change, the consequences of human-induced climate change continue to escalate and will likely continue to do so considering the incidence of natural disasters like floods, droughts and storms, which can exacerbate NCDs. Climate change contributes to the risk of NCDs via several pathways, which could be direct or indirect. Some identified connections include air pollution/reduced air quality, extreme weather events and temperatures, malnutrition, competition for scarce natural resources, and agricultural infestation. [38]

Climate change and SRHR

Sexual and Reproductive Health and Rights (SRHR) is an overarching term that encompasses various health interventions and legal measures that safeguard human dignity and freedom in matters related to one's sexuality, sexual health, and reproduction, and constitute a vital component of Universal Health Coverage (UHC). [39] This group contains, but is not limited to, STIs prevention and treatment, availability of effective contraception, comprehensive sexuality education, antenatal/perinatal care, as well as access to safe abortion. [40] The degree of realization of SRHR in any society is heavily dependent upon various cultural and economic factors. Although these services are vital to every human being, regardless of gender, women and girls are at the greatest risk of adverse health impacts, should the SRHR provision be interrupted or ceased. Failure to sustain these services will threaten the fulfillment of Sustainable Development Goal (SDG) 3 (*Good Health and Well-Being*) and SDG 5 (*Gender Equity*). [41] Therefore, SRHR realization is a key element in building a climate-resilient health future. [42]

Climate change is anticipated to lead to severe humanitarian crises, contributing to food insecurity, hunger, displacement, and military conflicts, among others. [43-44] Such events constrict the scope of available health services overall by diverting attention and funds prioritization to acute life-saving care and disabling humanitarian relief schemes. [45] Regarding maternal health, climate change has been identified as a significant adverse factor impacting pregnancy outcomes. [46] Crucially, harm is being recorded in pregnant individuals who are impacted by underlying health inequities, for instance, the Indigenous populations. [47] Pregnancy outcomes are also affected, with high temperatures believed to induce preterm births. [48] A 2021 report by the National Adaptation Plan (NAP) Global Network and Women Deliver found that despite the overwhelming inclusion of health in the National Adaptation Plans, only a limited number of these documents systematically address SRHR. Since these plans are intended to guide resource allocation to facilitate the adaptation process, the inclusion of SRHR is seen as a means of safeguarding the continuity of appropriate care. [49]

Climate change and food security

The Food and Agriculture Organization of the United Nations defines food security as a *'situation that exists when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life'*. [50] Hence, food insecurity is understood not merely as a limitation in the daily caloric intake, but it can also occur when the nutritional quality of food available, despite a normal daily energy intake, does not meet the biological requirements of a healthy and complete diet. [51] On a global scale, it has been estimated that over 2 billion people, or more than a quarter of the world's population, lived under conditions of food insecurity in 2020, prior to the onset of the COVID-19 pandemic. This figure is likely to have increased in value due to economic disparities caused by the ongoing global health emergency. [52] Since providing affordable and nutritious food depends on crop yield and animal agriculture output, all factors that threaten the biological, economic, and political components of global food systems are valid threats to human health. [50]

Climate change is currently affecting global food security in multiple ways, including changes in seasonal temperature fluctuations, average precipitation, and the observed increase in the incidence and severity of various extreme weather events. [53] Altered ecological conditions of the arable lands and interconnected ecosystems greatly impact agricultural production. [25] Studies have found that plants' nutritional value changes when they are grown at elevated CO₂ levels. [54] In higher-latitude regions, increased temperatures have brought short-term benefits to agriculture in the last decades, such as expanded land suitability and crop yields, as well as an increase in the growing period. However, these observations are limited. In lower-latitude regions, the number of unsuitable soils is increasing, some lands are becoming arid, and higher temperatures are expanding the range and survival of agricultural pests in extreme conditions. [53] These observations must also be seen in the context of the increased frequency and severity of extreme weather events, which can lead to drastically adverse consequences such as reduced livestock productivity and increased livestock mortality. [55]

The food supply chains, and market prices are also significantly impacted by climate change. Volatility in these areas is attributed to various consequences of unstable climate, including extreme weather events, military conflicts, human displacement, etc. Some climate scenarios show that the food supply chain being affected can increase the overall hunger risk by 33 - 47%. [56] The impact of climate change on global food security is predicted to be reflected in an increase in the number of people at risk of hunger by 5 - 26% by 2080. This detrimental effect will be most evident in sub-Saharan Africa, which is on track to surpass Asia as the most food-insecure region on the planet. Even though this projection is equally

affected by the socio-economic development of these regions than by the direct consequence of climate change. [53]

The adverse impact of climate change

Impact of extreme weather events

Extreme weather can be understood as a complex and multifaceted phenomenon that lacks a universally accepted definition. [57-58] Researchers have employed various methods to classify and define extreme weather events. One approach defines extreme weather as climatological extremes that exceed a set threshold, such as temperatures below 0 degrees Celsius or above a certain percentile. Another definition of extreme weather focuses on the impacts of adverse weather conditions, such as significant material damage or negative health outcomes. [58-60] Consequently, scientifically equivalent events can be interpreted differently, having considered the usual climate conditions and social contingencies available to a particular population. [61-62] Overall, extreme weather can be classified into three main categories: extremes of temperature, extremes in precipitation or water levels, and storms or other forceful atmospheric events. [63]

Climate change has led to a discernible increase in the frequency, seasonal timing, and intensity of extreme weather events. As highlighted in the 2022 IPCC Report, these characteristics have been observed to surpass the scope of natural climate variability. [61] There has been a significant increase in heavy precipitation in the past century, and future climate scenarios predict a likely increase in the frequency of extreme precipitation events. [64] These extreme weather events are inextricably linked to societal, political, economic, and environmental systems by exacerbating the extant problems and crises, such as food insecurity, water scarcity, disease outbreaks, displacement of populations and disruptions to ecosystem structure and function. [59,64-68] This can lead to long-term harm, including poverty, malnutrition, loss of life, ecosystem destruction, and desertification. [65,69-71] Extreme weather events also devastate livelihoods through economic and material disruption, including damage to infrastructure and agriculture and essential systems for food and water supply. [69-70,72-73]

Given the significant losses and anticipated growth in losses from extreme weather events, particularly among populations with greater vulnerability to climate change, it is crucial to mitigate baseline vulnerability to extreme weather and vulnerability in the context of climate change. Developing tailored adaptation plans, in collaboration with impacted communities, can facilitate the identification of the underlying causes of vulnerability, risk, and harm at the household and community levels and enhance the understanding of how to effectively target vulnerability reduction efforts in specific contexts, considering local conditions, capabilities, and existing barriers. Such efforts must be complemented by comprehensive initiatives that address deficiencies in local programs and support their success. [63]

Climate displacement and migrations

The devastating consequences of climate change on the safety of communities around the world are numerous and far-reaching, with one of the most significant being human displacement in the form of climate-induced migrations. As natural resources such as drinking water become increasingly scarce in certain regions, individuals are forced to migrate across borders in search of sustenance. Furthermore, the alteration of weather patterns and temperatures caused by climate change can have detrimental effects on crops and livestock, threatening livelihoods and exacerbating existing tensions between countries and other entities. [74] The IPCC predicts that by 2050, over one billion people globally could be exposed to severe coastline climate hazards, potentially leading to tens to hundreds of millions of people being displaced from their homes. [75]

There has been an ongoing debate surrounding the use of the term "climate refugees". However, it is important to note that under international law, the term "refugee" does not strictly apply to this context. Instead, the International Organization for Migration (IOM) defines "environmental migrants" as individuals or groups of people who are compelled to leave their habitual homes due to sudden or progressive changes in the environment that negatively affect their lives or living conditions, whether temporarily or permanently, and whether within their country or abroad. [76] It is worth mentioning that 90 percent of all disasters are now tagged as weather- and climate-related, resulting in an annual cost of 520 billion United States Dollar (USD) to the world economy and pushing 26 million people into poverty. [77] As the impact of climate change continues to worsen, individual countries will be faced with difficult cost-benefit decisions, such as building sea walls or implementing managed retreats from eroding shorelines. The resources and foresight at the disposal of national politicians will define how much each country is affected by climate change, including how many of its population are forced to move. Domestic policy remains a key variable in disaster risk reduction and population distribution. With the right kind of adaptation, countries can reduce their vulnerability to the impacts of climate events and manage the evolution of climate processes. [78]

Climate crisis-induced conflicts and wars

Armed conflicts and wars are not recognized as a direct consequence of climate change, yet a plethora of factors directly sparked by changing climate conditions is undeniably a significant background cause of societal and political instability, resulting in military action with all its consequences on human health, safety, and dignity. In fact, the relationship between climate change, conflict and displacement is very much complex and context specific. [43,79] Climate change leads to a decrease in the scope of arable lands and available water supplies, which may lead impacted societal groups to take violent steps to ensure an unbroken supply of basic commodities. Alternatively, groups of people fleeing such conditions may become targeted in their newly inhabited territory based on ethnic, religious or economic discrimination. Already ongoing conflicts may increase in intensity while new attack targets are identified due to their natural resources. [80] These events inevitably lead to displacement and increase the vulnerability of impacted communities to weather conditions, violence, poverty, and food insecurity, while limiting their ability to adapt. [79,81] According to the United Nations High Commissioner for Refugees (UNHCR), individuals who flee their homes due to violent conflicts are among those most vulnerable to the effects of climate change and have limited chances of returning safely. [79] Water, soil and land contamination, as well as air contamination, water scarcity, and wildlife harm, can be leading to environmental degradation, and reducing individual and collective resilience and ability to adapt to climate change. Therefore, more investment is needed to support communities in adapting and preparing for extreme weather events, especially when there is also increased probability for climate crisis-induced conflicts and wars. [43,82]

Vulnerable settings for human populations

Individuals and communities most predisposed to climate change are categorized as populations with greater vulnerability who are socioeconomically disadvantaged due to but not limited to, gender, racial or disability-related discrimination. Children, women, and individuals living with disabilities or chronic illnesses are the social groups whose vulnerability to climate change is more significant areas of life. [83] Whilst climate change has adverse effects on all populations, some populations have greater vulnerability than others, and many of the factors at play remain beyond their individual control. [84] Climate risk-based vulnerabilities may arise from social, environmental, health and adverse financial impacts on disadvantaged populations, as well as due to a lack of knowledge or ability to protect themselves from natural and man-made climate disasters. Due to existing disparities, populations with vulnerability are at higher risks of suffering exacerbated health, financial and humanitarian adverse

implications of climate change. [25] The health implications of climate change are majorly witnessed by internally displaced people, immunosuppressed individuals and those living with chronic illnesses, pregnant, the elderly and young children. [85] It is important to identify vulnerable settings that predispose human populations to the adverse effects of climate change and take positive actions that can help ameliorate the negative impacts of climate change. [84]

The social, political and economic status of individuals and populations may influence the degree of impact of climate change on human populations and negatively impede climate recovery actions. [86] Individuals who lack the needed resources for climate recovery tend to suffer greater loss and damage. In addition, the lack of comprehensive climate action measures and recovery efforts has contributed to the continued lingering of vulnerable settings for human populations. Thus, assessing vulnerable settings that predispose human populations to the adverse effects of climate change and implementing climate action for climate recovery is needed to accelerate climate resilience in human populations. [87]

Climate action

Decarbonization and fossil fuel divestment

Decarbonization is defined as a shift in the macro- and microeconomic systems that are currently being driven forward by unchecked greenhouse gas emissions towards an economy that has net-zero or negative carbon contributions. The shift is meant to be carried out by counties, other public entities, as well as private individuals - all of whom choose to reduce their carbon consumption. [88] The realization of this process lies in halting carbon-heavy technology and industry and replacing it with renewable energy sources and facilitating the emission capture mechanisms. Decarbonization is projected to be achieved through substantial changes on the collective and individual levels. [89] A campaign called Race to Zero was launched in 2020 with the intention of gathering support from different stakeholders to advocate for and implement zero-carbon solutions in all branches of the economy. By 2022, numerous state and local governments, public institutions, private companies, and, importantly, health-related institutions will have joined the movement. [90]

Fossil fuel divestment is a process aimed at reallocating public and private investment away from business ventures based on fossil fuel extraction and combustion. [91] The movement commenced with private individuals putting pressure on private entities, including educational institutions, banks, and pension funds, but also on local and municipal governments to evaluate their investment portfolios and take steps to discontinue providing funding to initiatives whose energy source profile is unsustainable. [92] Consumer awareness often leads to consumer pressure that encourages private-owned stakeholders to follow suit. Consequently, the application of such criteria leads to the redirection of crediting opportunities to 'greener' companies and projects that might otherwise struggle to remain solvent while in competition with fossil fuel-based business models. [93] By 2021, it is estimated that the assets of institutions that publicly committed to fossil fuel divestment accumulated to more than USD 40 trillion, including some commitments that have been made by various parties including additional clauses concerning making investments in climate solutions. [94] Fossil fuel divestment is widely seen as not only an ethical obligation to future generations but also a key element of ensuring long-term economic prosperity globally while not delivering harm to the state of the economy at present. [95]

A global shift away from fossil fuels and towards a net-zero economy is going to lead to substantial health benefits, also those not directly linked to climate change. Phasing out coal- and natural gas-based power plants leads to decreased levels of air pollution. Since virtually the entire world population (99%, according to the World Health Organization (WHO) data) is affected by air of subpar quality, this move

will lead to a decreased disease burden. [96-97] Various groups of medical professionals, including a long-standing campaign by the British Medical Journal [98] and a call by physicians from the Canadian Medical Association, have raised voices for divestment from fossil fuels, underlining the inevitability of health-related damage, should fossil fuels remain the leading source of energy. [99]

Climate change mitigation

Climate change mitigation refers to all efforts carried out to reduce the total emissions of greenhouse gases, and through that slow down the speed of the greenhouse effect. This goal can be achieved through various means, including promoting technological advancement and designs, as well as altering individual behaviors. The goal of mitigation is to stabilize the concentration of greenhouse gases in the atmosphere. [100] Along with the measures to limit emissions, several ways to carry out *carbon sequestration* have been developed. [101] All over the world, measures are being taken to mitigate climate change by countries trying to live up to their commitments under the relevant global climate change agreements such as the Convention, the Kyoto Protocol and the Paris Agreement. [102] REDD+, a mitigation solution focusing on the reduction of emissions arising from forest degradation and deforestation, was developed by the Parties to the UNFCCC in line with the Warsaw Framework. Global action to sustain forests and strengthen their management, including aiding low- and middle-income countries, is the backbone of ensuring the natural carbon storage increase. [103]

Loss and Damage

Climate change is a serious cause of human suffering through life loss and material destruction associated with various factors, primarily climate-induced extreme weather events and changes to the climate equilibrium of temperature and water levels. Damage thereby caused can be classified into the material, including destroyed houses, amenities and infrastructure, and the non-material, including cultural, family and community ties. [104] Historically, the contribution of countries to the total greenhouse gas emissions have been remarkably unequal, with countries currently classified as low- and middle-income countries (LMICs) bearing lesser responsibility [105]. This fact stands in contrast with the disproportionate damage that these regions face, including the incidence of wildfires, flooding and other instances of adverse events threatening the material and non-material property of millions of people. [106] In order to counterbalance this perceived historic inequity, affected countries started raising their concerns and putting political pressure on developed countries to allocate funds to cover the loss and damage. UNFCCC Conference of Parties 19 held in Warsaw, Poland saw the establishment of the *Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts* (WIM), which ended the three-year work of the Work Program created at COP16 in Cancun, Mexico. Both extreme and slow-onset events were included as causes of loss and damage to be addressed. [107] In order to facilitate the implementation of WIM, the Santiago Network was created at COP25 in Madrid (2019) to catalyze technical assistance of relevant organizations, bodies, networks, and experts, for the implementation of relevant approaches for averting, minimizing and addressing loss and damage at local, national and regional levels, in developing countries that are particularly vulnerable to the negative effects of climate change. [108] The institutionalization of a Loss and Damage fund was described as a landmark moment of the UNFCCC Conference of Parties 27 in Sharm-el-Sheikh, Egypt. [109]

Healthcare and its carbon footprint

Healthcare systems are major parts of the economy of every country, being major employers, consumers of electrical energy and producers of waste. Globally, associated emissions account for 4.4% of the total annual amount. Significantly, the majority of these are recorded in high-income countries, with a 57-fold disparity between the United States of America and India. [110] Over the course of recent years, some parties operating within the healthcare sector have taken steps to minimize the carbon footprint of their

business model, with some efforts calling for *decarbonized healthcare*. [111] The carbon footprint of hospitals and other medical institutions must be understood in a wide context, considering the operations beyond the facility itself - for instance, medical transport of patients and the private means of transport used by patients and their families when accessing medical institutions are often cited as a forgotten aspect. [110] In addition, anesthetic gases used during surgeries are also contributors to the greenhouse effect. [112] A significant decrease in the healthcare-associated carbon footprint can be achieved by decreasing its reliability on fossil fuel-generated electricity and decarbonizing the supply chains. [110] Digital health services, including telemedicine consultations, have been pointed to decrease this burden. [113]

Health benefits of climate action

Climate change is a known threat to physical and mental health, community structures and economic safety. [114] It has been estimated that over 250,000 deaths are expected to occur between 2030 and 2050 due to the adverse impact of this ongoing crisis on health. [115] The understanding of climate action as an environmental problem is increasingly being recognized as too narrow, with health scientists calling for treating it as a public health emergency. Even though the health benefits linked to averting the negative outcomes discussed here at large are clear, not every health benefit of climate action will be caused in a direct manner. Since climate action impacts multiple levels of life, including means of transport, dietary practices, and lifestyle choices, among others, implementing policies that reduce emissions of greenhouse gases is poised to indirectly cause the common health burdens to subside. [116] Transportation remains one of the sectors with the largest source of greenhouse gas emissions. Transforming cities to reduce individual means of transport in favor of collective solutions is poised to decrease the number of casualties in road accidents. A more sustainable transportation pattern would reduce sedentary lifestyles, premature death, and chronic disease risk. Walking, cycling and other forms of low-effort daily exercise for citizens are due to improve cardiovascular outcomes. [117] Reducing the consumption of red meat, the production of which is a carbon-heavy enterprise, can decrease the mortality from colon cancer. [118] Decarbonization entails phasing out of fossil fuel-based power plants, which, coupled with a lesser number of vehicles in use, will improve the overall air quality, impacting the incidence of cancer and chronic respiratory diseases. [119] Also, a sustainable agriculture system would increase access to healthy consumables reducing the incidence of some heart diseases. [120]

Climate adaptation

Climate adaptation can be defined as a way of responding to the climate crisis on societal and individual levels to maintain the current state of being and alleviate the direct impact of the crisis on any institution, community or infrastructure. [101] It comprises the adjustments of the existing systems to reduce climate risks and vulnerabilities. There are many ways of adapting our current lifestyle by taking individual measures. However, the capacity and effectiveness of governments, political parties and decision-making organizations are crucial to this process by developing and implementing adaptation plans, as was agreed on in the Paris Agreement, and many countries have developed after the UN Framework Convention on Climate Change in 2011. Although it is observed an equal distribution of adaptation plans adopted by countries worldwide, at COP26, countries have adopted the Glasgow Climate Pact to support developing countries in building resilience and adapting to climate change. [121] Most of the current ongoing adaptation plans are not achieving their goals due to their small-scaled, sector-specific, fragmented and planning-focused characteristics, only responding to near-term consequences. Also, even though it is observed an increased awareness of the climate impacts and risks, the adaptation gaps exist largely in lower-income population groups. [2]

The adaptation plans must include measures for water-related risks, agriculture risks, natural forests risks, urban, rural and infrastructure risks, and energy risks. [2] Besides these, there is a recognition of some limitations of these adaptation plans, such as the financial restrictions that can delay the implementation of these measures. Also, these actions require large investments of resources, whilst some positive outcomes could only be perceptible in the long term. It is essential to increase public awareness and build accountability, transparency, monitoring and evaluation mechanisms. Another limitation is the lack of climate literacy, especially by lower-income groups, which are the most vulnerable and groups exposed to climate risks. In the bigger picture, understanding that adaptation does not stop climate change and does not prevent all the damage is a required step. At the same time, these adaptation actions cannot be enough since ecosystems are already reaching their limits. [2,101]

Climate finance

According to the UNFCCC, climate finance describes local, national, and transnational financing obtained from public, private and alternative financial or funding sources with the main aim of supporting climate action through climate change mitigation and adaptation. Ensuring sustainable climate finance to mitigate the adverse impacts of climate change on vulnerable populations and accelerating climate action requires integrated intersectionality across governments, climate action investors and partners, climate-related non-governmental organizations and civil society organizations, and the banking and finance sectors, including insurance agencies. [122]

Local and National efforts on Climate Financing: Amidst the negative drawbacks of climate action and resilience through lack of political will from various public office holders, several local and national efforts, including climate finance and funding efforts, have been demonstrated by both governmental and non-governmental organizations, inclusive of civil society organizations (CSOs) to fund beneficial climate action and ameliorate the impact of climate change on individuals and communities through various measures to reduce plastic pollution by promoting recycling of plastic bottles and enforcing regulations against pollution, promoting biodiversity, clean energy transition and conservation of marine bodies and advocating for actions to ensure net-zero carbon emissions. Examples of such national efforts can be seen in Singapore's announcement in August 2022 of a 50-year inaugural sovereign Green bond, which is targeted at developing sustainable green finance, attracting more investments in climate finance, and promoting climate recovery in the country through mitigation efforts. [123]

Global efforts on Climate Financing: As part of the global efforts to promote sustainable financing, a common leadership Investors' Agenda was instituted with the aim of assisting climate investors with high interests in climate action plans to combat the climate crisis. The Investors' Agenda was founded on the basis of four (4) key agenda points: Climate investment, Investor disclosure, corporate engagement and policy advocacy, and was developed by seven (7) co-founding partners - Asia Investor Group on Climate Change (AIGCC), CDP, Ceres, Inc., Investor Group on Climate Change (IGCC), Institutional Investors Group on Climate Change (IIGCC), Principles for Responsible Investment and United Nations Environment Program Finance Initiative (UNEP FI), with support from more climate action investors in countries such as Australia (AustralianSuper and TelstraSuper), the United Kingdom (Nest, Impax Asset Management and Railpen), Bolivia (Capital + SAFI), the Netherlands (NN Group) and the United States (San Francisco Employees' Retirement System - SFERS), several other supporting partners and Climate Works Foundation as its major funding partner. [124] In an article published by Financial Times in May 2022, some environmental activists suggested that investors should invest more in debt reduction rather than fossil fuel and equity divestment to minimize the political involvement in implementing tough climate regulations that can exacerbate climate change-related vulnerability settings of human populations, and thus complicate climate impact. [125] In November 2022, ten case studies

were published by global climate action investors, which showcased diverse Investor Climate Action Plans (ICAPs). [124]

In 2018 and 2019, an estimate of about \$78.3 billion and \$79.6 billion, respectively, were documented to be mobilized by developed countries as a total sum estimate of how much funding was invested into climate action. It is estimated that a grand total of about \$1.6 trillion - \$3.8 trillion will be required annually through 2050 to achieve a global transition into a net-zero emission low carbon future and avoid global warming exceeding 1.5°C. [126]

International politics of climate action

Introduction to global climate action

Climate action encompasses a multifaceted approach to addressing the pressing issue of climate change. It encompasses collaborative efforts taken by individuals, government, institutions, and environmental activists to reduce greenhouse gas emissions and implement policies for mitigation, resilience, and adaptation. [127] Climate action can also be a term used to describe efforts taken by civil society organizations to advocate for more impactful climate policies. [128]] In 2007, the United Nations Framework Convention on Climate Change (UNFCCC) adopted a 4-pillar international climate agenda, known as the Bali Action Plan, which focused on climate adaptation, mitigation, financing, and technology. [129]

The Paris Agreement, adopted in December 2015 by 196 parties, represents a significant step forward in international cooperation to combat climate change. The agreement aims to limit temperature rise to 1.5°C and global temperature not exceeding 2°C at pre-industrial levels, thus decreasing the adverse impacts of climate change on vulnerable populations. The Paris Agreement also focuses on utilizing Nationally Determined Contributions (NDCs), climate finance, technical support and capacity-building actions by parties to implement zero carbon solutions and achieve net zero carbon emissions across multiple sectors. [130] The 2019 Climate Action Summit also highlighted the commitments (aligned with the 2015 Paris Agreement commitments) and pledges made by several countries and major subnational economies to achieve net-zero greenhouse gas emissions by 2050, transition to a green economy and combat the climate crisis. [131]

Climate action requires joint efforts and long-term strategic planning and is not the sole responsibility of governments or any particular entity. Taking urgent action to combat climate change and its harmful consequences (SDG13) can help address other global goals such as ending poverty and hunger, increasing access to quality healthcare services and education, protecting lives on land and water, reducing inequalities and other harmful impacts on economic growth and displaced populations caused by environmental disasters like flooding, drought, storm etc. It was estimated that about 700 million people will be at risk of being displaced due to drought alone by 2030. [126] Climate action includes local, national, and global efforts and solutions to address climate change-related issues, ranging from environmental degradation, pollution, natural disasters, and deforestation to the conservation of life below water and on land. To advance the Sustainable Development Goals through climate action, measures such as integrating climate action into strategic planning and national policies, improving education and awareness, human and institutional capacity building, and financially supporting and building the capacities of women, youth, and marginalized communities in vulnerable communities in less developed countries are being implemented. [132]

Global governance on climate change

At the UN summit in Rio de Janeiro, Brazil (1992), multi-level global governance was launched as a model to accomplish a wide global mobilization of different actors in sustainable development which was also extended to climate governance. [133] Climate governance comprises voluntary mechanisms and regulations intended to steer social systems toward preventing, mitigating, or adapting to the threat of climate change. It aims at taking prompt action to tackle climate change and promote opportunities for climate action and interaction. Governance in this context takes place at different levels (including local and national) to ensure effective responses to climate change. However, the highest Level where negotiations are pursued between the national actors to create an agreement and seek to ensure ambitious action is the Global Level. Global climate governance works around three pillars: mitigation, adaptation and means of implementation. There are several problems and policies under each pillar, demonstrating several ways in which climate change affects the world. [134] The development of climate governance can be tracked to climate diplomacy amongst inter-state actors and the evolution of transnational networks and non-state actors. The first point of the establishment can be linked to 1992 during the United Nations Framework Convention on Climate Change (UNFCCC) in Rio, which has been named the main milestone in climate diplomacy. The following bodies influence climate governance first: UNFCCC-Regime, UNEP, Commission on Sustainable Development, and IPCC. The G7 and G8 summits have also influenced the global climate policy strongly. [133] The top-down method of allotting mitigation responsibilities as noted in the 1997 Kyoto Protocol was complemented by a bottom-up method at the Paris Climate Conference. In this approach, national governments define their contributions. The bottom-up action also gives new chances for non-State and subnational actors as they can now directly provide input to the execution of national climate targets. Additionally, the Secretariat of UNFCCC can give workable options to governments to incorporate into their national strategies [133-134]

Global equity in climate action

Equity is a core element of the climate crisis to understand its origin and find means to counteract it, not only because of the complexity of the problem but also due to its inherent unfairness. *Climate equity* entails the recognition and structural addressing of multi-level disparities that affect the position of an individual in the face of the climate crisis, as well as the access to benefits resulting from climate protection and climate action. [135] Some of these disparities are seen as deeply rooted in the historical events that led to the disadvantaging of certain social groups (ethnic minorities) and nationalities (formerly colonized countries). The inclusion of previously and currently disadvantaged groups is cited as key to making sure that the transition necessary to achieve the objectives of climate action does not leave anyone behind. [136] On a global scale, climate equity is seen to entail the greater responsibility of high-income countries regarding financing and facilitating efforts on climate mitigation and climate adaptation, as well as dealing with the loss and damage caused by climate change. This responsibility is often explained by the disproportional historical GHG emissions caused by these states as well as the fact that most low- and middle-income countries are still dealing with the negative impact caused by centuries of colonial rule, while the stability and economic prosperity of some of the high-income nations is explained through the years of social and environmental exploitation [137]

The role of international organizations

International organizations play important roles in climate resilience, mitigation, adaptation, and impact reduction from climate crises. International Organizations such as the United Nations IPCC, established by the United Nations Environmental Program (UNEP) and World Meteorological Organization in 1988, designed as the leading scientific international body for climate change assessment to provide clear scientific global knowledge and information on climate change and its impacts, support sustainable development and encourage climate action. [138]

Although international organizations have little influence on national climate-based policies, regulations and implementation, they assist national governments by rendering advice based on researched-based assessment reports of environmental trends and conditions, empowering individuals and institutions through capacity building and instrumental knowledge services, supporting and partnerships with both government and non-governmental organizations at grassroots, national and regional levels. International organizations also play an important role in climate mobility by supporting victims who have been displaced or suffer potential health or security threat risks because of climate crises. However, the support and assistance given by international organizations are limited, as several of these international organizations are not prepared to handle the consequential burdens posed by climate crises; thus, it is recommended that most international organizations adopt climate risk management strategies to enable them to deal better with the consequences of climate change, which may require increased efforts and support from them with time, if not properly addressed. [139]

International organizations also play an important role in achieving climate neutrality. At the United Nations Climate Change Conference (COP24) in Poland in December 2018; about fourteen (14) international organizations announced to operationalize climate neutrality for climate action before the century's end, as indicated in the 2015 Paris Agreement. The goal to achieve climate neutrality by these international organizations birthed several alternative climate solutions to reduce greenhouse gas emissions. [140]

Climate crisis as a health crisis

The IPCC Report published in 2022 leaves no doubt that climate change can impact human health through the direct aggravation of communicable and non-communicable health conditions, the effect upon the natural ecosystems, food and water scarcity and multiple other direct and indirect factors. On top of that, health systems are severely threatened by the multitude of health impacts, which may lead to a holistic decline in the scope of services provided. [2] Therefore, various stakeholders have stressed the importance of including health in all decision-making and policy implementation aimed at the climate crisis. [141] Some have even outright called the climate crisis a health crisis. [142-143] The Lancet Countdown on Health and Climate Change in its 2022 Report has pointed out that given the current trajectory of the global emission, insufficient efforts to facilitate climate mitigation and climate adaptation, increasing threat to communities around the globe due to environmental damage and the lack of substantial progress on the path to accessible cleaner energy, health can be described as "at the mercy of fossil fuels". The report reiterates the call to center the response to climate change on health-related issues [144]

The role of the health community

The health community constitutes a tool to influence nations, policymakers and the general population to mitigate and adapt their actions to the climate crisis, by providing information about the health harms of climate change. Health professionals are intimately connected to the communities and are seen as trusted people for the leaders, based on their evidence-based knowledge to plan interventions or advocate for them. These healthcare professionals' characteristics can raise awareness and increase support to the needed climate actions. [145] The majority of health professionals, besides recognizing that climate change is a threat that might harm the community and reporting that has already negatively affected the population's health, consider they have the responsibility to raise awareness of these effects to the public and to policymakers. Regarding the public, health professionals point out time limitations and lack of knowledge as the main difficulties to communicate about climate change and health with

their patients and the population. On the other side, regarding policymakers, health professionals believe it is the duty of health organizations to advocate with national and international leaders. [146]

As so, health professionals can act in 3 ways:

- Advocate and influence leaders and policy makers to implement actions and interventions against climate change. Governments and institutions seek counseling from experts related to the topics in need. When it comes to climate change, since it has a wide negative impact on health, the health community can raise a voice and support informed decisions and actions. Also, health professionals can lead some initiatives and movements, by acting as role models for the communities. [146]
- Educate the population on the impact of climate change on health. Health professionals are close to the communities and serve as the first contact with the health system, when in moments of fragility such as illness or even climate-related events that lead to the need to provide special medical support. The health community can include the topic of climate change and sustainability in their clinical practice and increase the people's knowledge and awareness and promote them to change and adopt new practices in their lifestyle to mitigate and adapt to climate change. [146]
- Promote sustainable healthcare practices and the decarbonizing of the healthcare systems. Health professionals are the workforce of the health systems, and as so can give recommendations to the health leaders to implement them. Changing the healthcare practices and the system is only possible if there is an investment in the professionals' education, undergraduates, and postgraduates, and on research related to climate change and health. [146]

Climate-resilient healthcare systems

Health systems comprise a variety of institutions, medical professionals and material resources tasked with maintaining and protecting health, including responding to the threats of communicable and non-communicable diseases, conducting health promotion, and influencing the wider health policy. [147] In the context of climate change, healthcare's resilience is the capacity to survive ecological and social disturbances brought about by the changing climate conditions, in a way that protects its internal structure and vital functions [148] Their resilience is dependent upon the capacity of individual and collective stakeholders to withstand health crises of different extractions in terms of the continued provision of healthcare services. In the age of information overload and the lingering threats of infodemics, a very valuable quality of resilient health systems is the ability to successfully communicate with the public through the means available. [149] In order to assure healthcare resilience, a number of interventions can be made, including training and capacitating the health workforce, ensuring the continued provision of healthcare services to the populations at the greatest risk, and creating contingency plans to ensure an uninterrupted source of electricity for medical facilities. [150-151]

Action for Climate Empowerment

UNFCCC Conference of Parties 27, held in Egypt in 2022, witnessed the adoption of a four-year action plan on the Action for Climate Empowerment (ACE) [152] The term dates back to its first use at a 2015 Article 6 dialogue conference in Bonn. Its focus is concentrated on six areas: education, public awareness, training, public participation, public access to information and international cooperation. These are directly related to Article 6 of the Convention and Article 12 of the Paris Agreement, which stipulates that these topics will lead the cooperation between Parties. [152-153] The ultimate goal is to ensure the empowerment of all social groups - with the inclusion of children and youth - to follow climate action with the knowledge and confidence necessary to understand and engage in this movement. [152] Through comprehensive and lifelong education and ensuring meaningful public participation and open

access to information, it is expected that critical thinking skills with regard to understanding climate change and the requirement to apply climate action will improve societal understanding of the necessary transitions. [152-153] Action for Climate Empowerment is seen as tied to the realization of Sustainable Development Goals, in particular, Goal 4 (Quality Education) and 13 (Climate Action). [154]

Climate change and the community

Societal reaction to the climate crisis

As climate change is regarded as one of the greatest challenges for humanity in the 21st century, its impact on society will be noticed in multiple ways and sectors by affecting the social organization, housing provision, food systems, as well as by increasing economic losses to affected communities, forcing migration, breaking human bonds, with hunger becoming a more recurrent event. [86] Furthermore, as climate change disproportionately affects different communities and regions, it threatens the continued existence of social and cultural diversity. [155] According to a polling conducted internationally by YouGov, a vast majority of the world's population, 90%, believe that climate change is real and is caused by human-made greenhouse gas emissions, with only a small percentage, 1%-9%, believing that climate change is happening but is not caused by human activity. Most people surveyed believed that it is still possible to avoid the worst effects of climate change if profound measures are undertaken soon. [156] Evidence has shown that more than 70% of those surveyed indicated at least some concern about being personally harmed by climate change, especially in Canada, most of Europe and South America. [157] This concern is more expressed in women and in young adults when compared to their older counterparts. Additionally, this public concern is aligned with the intention of taking personal steps to reduce the effects of climate change, with 80% of surveyed individuals indicating a willingness to make changes in their lives. In terms of societal engagement, more than half of those surveyed considered that their society is doing a somewhat good job in addressing climate change. [158]

The role of youth in the climate crisis

Youth is seen as a major stakeholder in the global response to the climate crisis, particularly as they constitute almost 25% of the global population (at 1.8 billion), with 90% of that population being citizens of low- and middle-income countries. [159] The current projections for climate scenarios paint a dire and perilous future for those born today. [160] In response to these tangible threats, the representatives of the young generation have been vocal in their dissatisfaction with the perceived inaction on the climate crisis and have mobilized to organize public demonstrations. One of the most publicized examples of this phenomenon is the movement initiated by a then-student Greta Thunberg in Sweden, who has since been credited with inspiring other young people to engage with this issue. [161] The role of young people in the climate crisis has been acknowledged by various parties, including the COP27 Presidency, which appointed the first-ever Envoy on Youth and included a Youth Pavilion at the conference site. [162-163] The strength and potential of youth is seen as essential in holding decision-makers accountable for their actions. Young people are disproportionately impacted by the effects of climate change, and this has driven many of them to become key agents of change. Their contributions are accelerating climate action so that their future will be brighter and more certain. [164]

The role of the IFMSA

Medical youth is a demographic comprising students of medicine and related subjects, fresh graduates, medical interns, junior doctors, and other medical professionals. These students, as individuals and in organized groups, assemble into student and youth organizations to carry out volunteer work to further social and political causes close to their future working environment. One such organization is the International Federation of Medical Students' Associations (IFMSA), a youth-led organization with over

1.3 million members worldwide that has actively engaged in the intersection of climate change and health. [165] Every year, the IFMSA Delegation participates in the United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties with observer status, enabling medical students to advocate for the inclusion of health in the decision-making process. [166] The Federation's National Member Organizations carry out campaigns and educational activities aimed at medical students or wider population groups to raise awareness of the urgency of climate action from a health perspective. These activities are enrolled under the IFMSA Program for Environment and Health. [167-168] Further, medical students, as individuals and in organized groups, actively advocate for the inclusion of climate sensitivity topics into the curricula of medical schools. [169-170]

Collaborations with external partners are crucial for medical youth organizations to achieve full impact and ensure continued capacity building of medical students in the face of the climate crisis. In 2022, the World Health Organization (WHO), Global Climate and Health Alliance (GCHA) and IFMSA jointly held the 1st Global Youth Forum on Health and Climate Change - a series of sessions presenting different approaches to addressing the health impacts. [171] Notably, former IFMSA Liaison Officer for Public Health Issues (LPH), Dr Omnia El Omrani, was appointed as the first-ever Envoy on Youth to the President of COP27. [172]

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