

Environment and Health

Background and problem statement

Background

Our health is inextricably linked to the environment we live in, from rural areas to dense cities, the water we drink to the food we eat, from the places we live to the places we work, and thus damage to our natural environment also results in damage to human health.

Environmental factors such as lack of access to safe drinking water and sanitation, air pollution and climate change contribute to 23% of all deaths worldwide and 36% of all deaths among children 0-14 years old (1). An estimated 1.8 billion people drink from faecally contaminated water and 2.5 billion people live without basic sanitation facilities, contributing to diarrhoeal diseases, malnutrition and death (2). Unsafe drinking water, inadequate availability of water for hygiene, and lack of access to sanitation together contribute to about 88% of deaths from diarrheal diseases, which cause 11% of mortality of children under the age of 5 (3).

Ambient (outdoor) air pollution was estimated to cause 3.7 million premature deaths worldwide in 2012, with the vast majority of these deaths (88%) being of people living in low- and middle-income countries (4). Particulate matter, PM_{2.5} and PM₁₀, can result in respiratory diseases such as chronic obstructive pulmonary disease, asthma and lung cancer, ischaemic heart disease and stroke (5). The WHO Air Quality Guidelines provide thresholds and limits for the key air pollutants and examples of successful policies which reduce air pollution (6). Household (indoor) air pollution from cooking with solid fuels causes an estimated 4 million premature deaths and is estimated to contribute to more than 50% of premature deaths under the age of 5 (7).

Urbanization contributes to increased rates of vector-borne diseases, sedentary lifestyles and high stress levels, which can lead to mental health problems and substance abuse as well as air, land and water pollution, noise pollution and extremes of temperature (8,9). In addition, road traffic accidents account for an estimated 1.24 million deaths and 20 to 50 million injuries each year (10). Road design, urban structure and density, lighting, signs, road maintenance and legislation and enforcement around speed limits, drink-driving, motorcycle helmet use, seat-belts and child restraints can all work towards reducing the incidence of death and injury (11).

Furthermore, the health impacts of climate change are numerous and complex. Some of these impacts include disease, injury and death due to heat waves and fires, increased risks of food- and water-borne diseases and vector-borne diseases, under-nutrition resulting from diminished food production in poor regions and consequences for mental and societal health of trauma, lost work capacity and reduced labor productivity (12). Climate change is also associated with large-scale global health risks of conflict,

displacement and mass migration (13). Climate change mitigation strategies can also be associated with public health co-benefits of reductions in non-communicable diseases such as obesity, diabetes, ischaemic heart disease, hypertension, stroke, lung disease, dementia and depression through developments in areas of transport, agriculture, consumption of less animal products, renewable electricity generation and increased energy efficiency (14-16).

The Sustainable Development Goals (SDGs) are a proposed set of targets relating to future International Development which are to replace the Millennium Development Goals by the end of 2015 (17). They aim to provide the world with a framework to tackle global developmental challenges to reach a higher level of prosperity and to decrease inequalities. The following SDGs are relevant to environment and health:

- Goal 2: End hunger, achieve food security and improve nutrition and promote sustainable agriculture;
- Goal 6: Ensure availability and sustainable management of water and sanitation for all;
- Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all;
- Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation;
- Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable;
- Goal 13: Take urgent action to combat climate change and its impacts;
- Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development;
- Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Many of the major health problems such as chronic illness, growing inequality and health inequities, climate change and threats to our natural resources are inextricably linked. These problems are known as “wicked problems”, meaning they have complex causal pathways, which include environmental factors as well as institutional power, the social environment and economic and work environments, requiring complex, multi-disciplinary solutions. Health in All Policies is a collaborative approach to improving the health of all people by incorporating health considerations into decision-making across sectors and policy areas with attention to the social determinants of health to help manage these wicked problems (18). As environmental damage is one of the many causal factors in these wicked problems, protection and care for our natural environment must be one of the considerations in Health in all Policies.

Problem Statement

The health impacts associated with damage to our environment are extensive and range from diarrhoeal and vector-borne diseases to respiratory diseases, ischaemic heart disease and stroke to mental health impacts of extreme weather events, failing livelihoods, conflict and displacement. Damage to our natural environment contributes to almost a quarter of all deaths. A wide range of sectors and local,

national and international policy makers must work together to introduce systemic and sustainable changes can reduce the health burden of environmental issues. Some issues, such as climate change, are more urgent than others. Without rapid mitigation, the IPCC expects a global mean surface temperature increase of 3.7-4.8 degrees Celsius by 2100 (19).

As future doctors who will be working in a world with a likely increase in disease and death associated with environmental factors, it is our responsibility to advocate for changes to protect human health and to prepare our workforce for environmental consequences we cannot avoid. The post-2015 sustainable development framework, in which health must be seen as a transcendent pillar, offers an opportunity that the world, including medical students, shall seize to create a healthy, more sustainable future for all.

Target group and beneficiaries

Target group

1. Medical students as the future health professionals to educate and engage them about the links between the environment and health and to empower them to become advocates in these issues.
2. Universities, health faculties and medical schools as educators of health students to ensure environmental health - including climate change - is part of curricula and that future health professionals are prepared for the changing patterns of disease that are associated with the changing environment and also act to reduce their own carbon footprints and move to fossil free investments.
3. The medical professionals, as well other health professions and emergency services and also other sectors such as agricultural, transport, environmental management and energy sectors, which will be involved in working towards solutions and reduce their own carbon footprints and move to fossil free investments.
4. Non Governmental Organizations(NGOs) including both health organizations and environment organizations to share resources and ensure strong and effective coordination on environment and health.
5. Policy makers at the local, national and international level who will be making decisions on effective and sustainable and safe environmental policies.
6. The wider public to become educated on the links between the environment and health to advocate to policy makers, reduce their own carbon footprints and move to fossil free investments and be prepared for unavoidable environmental changes.

Beneficiaries

1. Medical students and other health students will be better educated and prepared to manage the health effects of environmental issues as well as gain experience in effective advocacy.
2. Governments will benefit from creating more sustainable economic models as well as avoiding the consequences of environmental changes.

3. Communities worldwide will enjoy a better standard of health associated with a healthier planet.

Logical framework of interventions

End-goals and assumptions

End goals

The environmental impacts on health are enormous and require collaboration from a wide range of sectors at all levels of governance. By collaborating with external partners and relevant institutions, the IFMSA seeks to contribute to these ultimate end goals:

1. To achieve a state of sustainable communities that is not damaging to the natural environment.
2. To limit global warming to 1.5 degrees by 2100.
3. To dramatically reduce the health impacts of environmental issues, including, but not limited to, urbanisation, road trauma, water, sanitation and hygiene, air pollution.
4. To prepare and adapt the health sector as well as other sectors for unavoidable environmental changes.

Long term goals for IFMSA

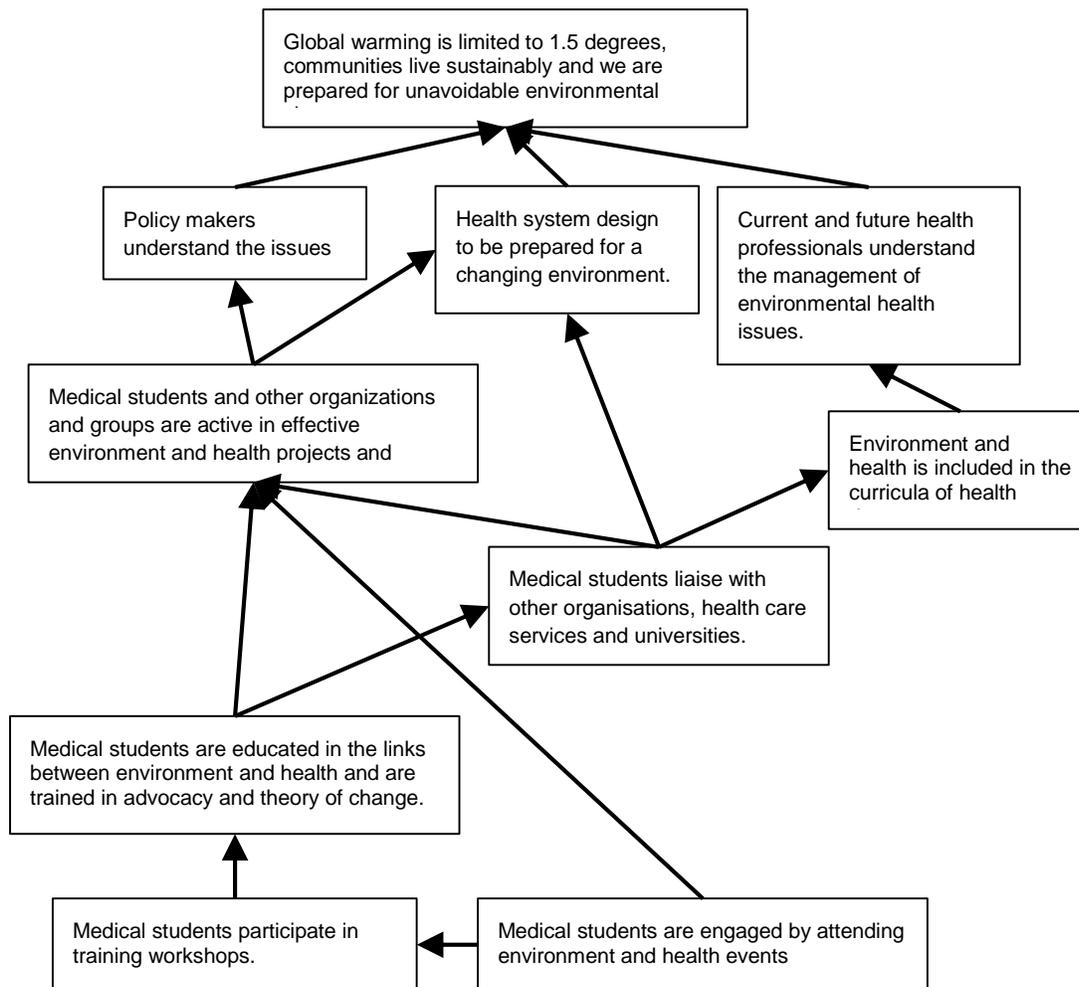
1. To educate the future medical workforce on the relationship between health and the natural environment.
2. To contribute to the preparation of health care systems of the health impacts of changing environments.
3. To inspire action on environment and health within NMOs from all regions.
4. To maintain health as a central part of discussions concerning environmental protection.
5. To implement policies that are mutually supportive of both the environment and the health.

Assumptions

- Medical students are effective advocates of the links between the environment and health.
- Medical students and other organizations and groups are active in effective environment and health projects and activities.
- Different sectors and organizations will be willing to work together to achieve mutually beneficial outcomes.
- Upon understanding the associations between environmental issues and public health, policy makers shall take the necessary actions required to minimise and avoid these.
- As a service to provide access to healthcare to obtain the highest attainable health, the health sector is willing to lead and guide development of mitigation and adaptation strategies.
- As the environment is such a major contributor to death and disease, universities will recognise it as an important component of medical curricula.

Preconditions and backwards mapping

Medical students enrolled in this program should receive training on environment and health advocacy and theory of change to prepare them to run projects and activities in environment and health. Medical students should look at setting up committees or working groups to establish projects and campaigns within their NMOs. It is also important to ensure that health and the environment are included in formal medical curricula to ensure that medical students are aware of the links between the environment and health and are prepared to prevent and manage the health consequences of environmental damage. To achieve effective outcomes, they should engage the outlined target groups, including but not limited to other health students, other health and environmental organisations, universities, health services, governments and policy makers, (such as hospitals and health care centres) and the broader community.



Backwards mapping using climate change and health as an example.

Milestones and indicators

Outcome 1: International trainings for medical students and future healthcare professionals considering the health effects of existing and future environmental issues, the politics involved, the role of health professionals, advocacy training, project and campaign planning.

Indicators: Number of international workshops organised per year. Number of participants trained. Post training evaluation.

Target group: Medical students.

Threshold: Trainings for medical students run by someone who has attended previous trainings or has experience in environment and health advocacy and projects.

Outcome 2: National and local trainings for medical students on environment and health.

Indicators: Number of trainings per year. Number of NMOs holding trainings. Number of participants who have attended trainings.

Target group: Medical students.

Threshold: Training for medical students run by someone who has attended previous national or international trainings or has experience in environment and health advocacy and projects.

Outcome 3: Medical student engagement in international environmental politics.

Indicators: Number of medical students attending meetings with policy makers. Number of specific policies discussed in these meetings. Number of formal documents submitted to policy makers on the topic of the environment and health.

Target group: Governments and International bodies.

Threshold: One person attending meeting as a representative of the IFMSA.

Outcome 4: Medical student engagement in local and national in the field of environment and health.

Indicators: Number of NMOs active in this. Number of meetings attended with policy makers. Number of specific policies discussed. Number of formal documents submitted to policy makers on the topic of the environment and health.

Target group: Local and national governments.

Threshold: One person attending meeting as a representative of the IFMSA or NMO.

Outcome 5: Individuals and organisations switch to fossil free investments

Indicators: Number of organisations and individuals who have fossil free portfolios.

Target group: Medical students, NMOs, other health organisations, universities, other institutions.

Threshold: No investments in the top 200 listed fossil fuel companies.

Outcome 6: University education in environment and health.

Indicators: Number of medical schools that include environment and health in the curriculum.

Target group: Medical schools, academics, medical students.

Threshold: Environment and health education, including climate change, integrated into the curriculum of medical schools in 60 countries.

Interventions

Capacity Building:

- National and international training workshops on environment and health, advocacy and project planning.
- Creation of national and international networks for the sharing of resources and ideas.

Education:

- Engagement of medical schools and faculties to include environment and health in the medical curriculum.
- Undertake research relating to health and the environment:
 - Measurement of specific health effects of environmental damage and climate change.
 - Preparing health services to respond to climate sensitive illnesses.
 - Effective education – promote healthy behaviours with environmental co-benefits.
 - Effective promotion of active transport (eg. walking and cycling) to build health and reduce adverse environmental impacts
 - Effective communication of information about the health and environmental benefits of a high fruit and vegetable/low ruminant diet (ie. improves diet, reduces greenhouse gas emissions and water consumption).
 - Brainstorming and discussing ideas for safe sewage disposal where no mains drainage is available.

Activities:

- Actively improving the environmental sustainability of the IFMSA and NMOs through sustainability assessments.
- Fossil free investment campaigns: can target individuals, medical student organisations, other health organisations (such as medical associations), universities, hospitals, city councils.
- Surveys of existing medical student knowledge and formal education on environment and health.
- Fundraising events for projects such as WASH, clean household cooking technologies.
- Engagement and awareness raising events on local, national and international level.

Advocacy:

- Creating partnerships between IFMSA and International and National Organizations that work for environment and health.
- Representation at conferences, summits and other events relating to the environment and health.
- Engagement of media and social media.
- Political advocacy campaigns.

Narrative

The IFMSA Environment and Health Program is proposed to encourage medical students to be active in minimising the health effects of environmental damage and to recognize that caring for our natural environment plays a major role in improving health of populations. As future medical professionals who will be managing the health effects of these environmental issues, we have the responsibility to advocate for mitigation and adaptation strategies and prepare ourselves for changing patterns of disease. The ultimate desired outcomes are to achieve a state where communities worldwide exist in an environmentally sustainable manner where health is not compromised by climate change and other environmental issues. The assumptions are that medical students are effective advocates on the links between the environment and health and once educated on these links, medical students, health professionals, organizations, universities, communities and governments will be motivated and empowered to take the necessary action on these issues. Intermediate goals include the establishment of national and international environment and health trainings for medical students, the establishment of groups active on environment and health and the establishment of specific projects and campaigns. Interventions include political advocacy campaigns, healthy investment campaigns, inclusion of environment and health in medical curricula, research relating to health and the environment and engagement and awareness raising events.

Organisational context and necessary resources to launch the program

Human resources

- Trained IFMSA workshop coordinators.
- Trained participants from the IFMSA workshops or similar workshops.
- Students who join local and national working groups and committees.

Program materials

- Workshop slides.
- Specific campaign and project guides.
- Training manuals and materials.
- Samples of IFMSA Activities Forms on Environment & Health

Collaboration

- NMOs are strongly encouraged to work with other health and environmental organizations to improve the efficacy and consistency of action.

Budget

- Transportation and accommodation for international workshop coordinators.
- Public Relations and marketing (for example community organising servers such as nation builder, creation of professional videos and other materials).
- Hard copy of project guides and training manuals.
- Training materials.

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