



Communicable Diseases

Background and problem statement

Background

Communicable diseases are a broad group of diseases that are prevalent throughout the world and present a significant challenge to healthcare systems, medical students, and communities in general. Though there has been a major effort to eradicate and improve outcomes of communicable diseases in the last 15 years, there is still an undeniable need to address these issues in a different manner.

The epidemiology of a number of communicable diseases has been shown to be a major cause of morbidity and mortality internationally, but particularly in low-income regions. One-third of the world's population is infected with Tuberculosis (TB), with at least 1.3 million deaths yearly from the disease. Even Malaria, which is considered to be both preventable and curable, causes over half a million deaths yearly through active transmission in 97 different countries, most of which are clustered in sub-Saharan Africa. Even though the World Health Organization targeted reducing transmission, morbidity and mortality through the Millennium Development Goals, both TB and malaria transmission have not yet decreased. In addition, chronic liver infections, namely Hepatitis B and C, has been estimated to infect 380 million people, leading to over one million deaths through liver injury.

Although well-known communicable diseases like TB, malaria, and hepatitis, are the major long-term focus of both governments and non-governmental organizations alike, many communicable diseases still receive infrequent and insufficient action. Notably, neglected Tropical Diseases (NTDs), which includes 17 different diseases, are by definition neglected, despite affecting more than 1.4 billion people around the world. Even more challenging are emerging tropical diseases, such as Ebola, where meaningful interventions are difficult due to a lack of knowledge of the disease itself, preventing its transmission, and treating patients who have contracted it. Furthermore, some diseases are clustered in certain regions or appear only at certain times, as with the H1N1 seasonal influenza worldwide pandemic in 2009 or the outbreak in India in 2015.

Transmission of communicable diseases is intricately linked with a number of other realms, requiring mobilization on a number of fronts to effectively manage communicable diseases. While it has been known for a number of years that proper sanitation, hygiene, and water/food safety reduces transmission, barriers still exist to ensuring that proper safety measures are followed. Population migration and international travel bridges the gap between regional health issues and international outbreaks. As well, there is an increasing body of knowledge from veterinary medicine regarding the links between animals and human health; zoonotic diseases. Even within health care systems, Antimicrobial Resistance is a relatively new problem facing both high-income and low-income systems, stemming from improper prescribing practices and improper medication use. Moreover, from the end of the neonatal period and through the first 5 years of life, the main causes of death are pneumonia, diarrhoea and malaria.

More than half of under-5 child deaths are due to diseases that are preventable and treatable through simple, affordable interventions. Vaccines are available for some of the most deadly childhood diseases, such as measles, polio, diphtheria, tetanus, and pertussis, pneumonia due to *Haemophilus influenzae* type B and *Streptococcus pneumoniae* and diarrhoea due to rotavirus. Vaccines can protect children from illness and death. Globally, 1 out of 10 children never receive any vaccination. All of these factors play a role in the prevalence of communicable diseases throughout the IFMSA's member nations and regions, as well as throughout the world in general.



Problem Statement

While current curriculum in medical schools as well as interventions by both governmental and non-governmental organizations has made an effort in reducing prevalence and impact of communicable diseases, there is a need for further work to be done. Medical students in general are undereducated about a number of communicable diseases topics and have not been adequately trained to advocate for changes in communicable diseases programming and policy or in implementing student-led programs. As well, deficits in the general public exist in terms of hygiene, sanitation, prevention strategies, and awareness of communicable diseases.

Target group and beneficiaries

Target groups

- Medical students - to educate and equip them to take an active role in prevention, mitigation, and advocacy
- Other health professionals - to recognize the links between human health and animals
- Communities and schools, local authorities, media - to educate them on preventing communicable disease transmission
- Children - to educate and equip them to take active role in prevention of communicable diseases
- Vulnerable populations, including migrants and refugees, people with disabilities, people who face any kind of discrimination
- Authorities (local, national)
- Policy makers (national, international) - funding into communicable diseases, strengthening prevention part of health systems etc.....

Beneficiaries

- Medical students - to be equipped to deal with communicable diseases on a patient basis and a public health basis, leading to better patient outcomes and community health
- Other health professionals - to be equipped to educate about animal transmission of communicable diseases
- General public - to practice safe hygiene, sanitation, and prevention practices that prevents contraction of communicable diseases
- Children: to be healthy and properly vaccinated, to be safe from all vaccine preventable childhood illnesses.
- Vulnerable/At-Risk Populations (immunocompromised, Immigrants/Indigenous populations) - to be treated cautiously and adequately to prevent negative health outcomes
- Governments (Local and National) & Non-Governmental Organizations - to gain expertise from medical students in implementing meaningful programming and for adopting responsible policy

Logical framework of interventions

End-goal and assumptions

End goal



The aim of this program is to educate medical students and the general public on Communicable Diseases (CDs) and to strengthen student-driven interventions focusing on CDs in order to reduce the negative health impact of communicable diseases worldwide.

Assumptions

- Medical students and the general public are undereducated in a number of communicable disease topics, including diseases themselves (specifically neglected tropical diseases and emerging diseases), epidemiology, prevention strategies, and treatment.
- Medical students are unaware of or have not developed skills that are specific for communicable disease advocacy.
- Transmission and negative health outcomes from communicable diseases are related to deficits in hygiene, sanitation, prevention strategies (including vaccinations), and public awareness.
- Antimicrobial drug resistance is a leading cause of health care systems' inability to control communicable diseases.
- Children are undereducated about safe hygiene practices (like proper way to wash hands) and vaccines which leads to increased rate of infectious childhood diseases.

Preconditions and backwards mapping

Reducing the negative health impact of communicable diseases requires mobilization in three main areas. First, this program looks to improve the knowledge of communicable diseases and skills to evaluate shortcomings in communicable disease management. Second, this program looks to build advocacy skills that are specific to communicable diseases and to use these skills to reach the goals of the program. Third, this program aims to increase the rate of vaccination in the target population. Last, this program aims to reduce the impact of Antimicrobial Resistance through education and engagement.

Communicable Disease Education & Critical Skill Development

1. To educate medical students and the general public on the various types of communicable diseases and their epidemiology, ranging from well-known diseases to rare or region-specific diseases
2. To educate medical students and the general public on appropriate prevention strategies for communicable diseases, including safety, hygiene, sanitation, medications, and vaccinations.
3. To equip medical students with the ability to identify and act on barriers to adequate communicable disease prevention and care, including economic, cultural, and religious barriers.
4. To equip medical students with the ability to identify populations at high risk of contracting communicable diseases or having poor health outcomes as a result of communicable diseases.
5. To equip medical students with strategies to reduce contraction of communicable diseases and improving health outcomes for high-risk populations.
6. To educate and equip children with strategies to reduce contraction of communicable diseases and improve health outcome.

Communicable Disease Advocacy & Program Implementation

6. To provide medical students with specific skills in communicable diseases advocacy, allowing



them to work locally, regionally, nationally, and internationally with governmental and non-governmental organizations.

7. To connect medical students with governmental and non-governmental organizations to facilitate joint advocacy, program development and implementation

Antimicrobial Resistance

8. To educate medical students and the general public on the mechanisms, epidemiology, and

impact of Antimicrobial Resistance (AMR).

9. To educate medical students and other health professionals on the relationship between veterinary practices, the food chain and AMR in human communicable diseases.

10. To equip medical students with the tools to critically examine antimicrobial strategies locally, regionally, nationally, and internationally, and advocate for changes to antimicrobial stewardship practices that increase AMR.

11. To support medical student-lead implementation strategies to reduce transmission and/or improve health outcomes for communicable diseases.

Milestones and indicators

Outcome 1: Improved knowledge and empowered medical and other health related students on topics in communicable diseases

Indicator: Number of educational activities on topics of the program initiated in locally, nationally and internationally. Number of NMOs organizing educational activities. Number of satisfied and empowered student participants.

Target group: Medical students, other healthcare students.

Threshold: 10 activities per year in at least 3 out of 5 IFMSA regions focusing on education of medical students and other health related students

Outcome 2: Educated and engaged communities that recognize and take preventive measures on communicable diseases

Indicator: Number of activities that involve communities. Number of beneficiaries in activities. Number of NMOs organizing activities.

Target group: Communities, Medical students

Threshold: Activity development and sustenance through community-based intervention

Outcome 3: Medical student engagement in international, national and local communicable diseases advocacy.

Indicators: Number of NMOs taking part in policy making. Number of advocacy campaigns organized. **Target group:** Governments and International bodies.

Threshold: Campaigns and advocacy activities .

Outcome 4: Medical student involvement in developing and implementing programming on communicable diseases that is student lead or that works with NGOs or GOs

Indicator: Involvement in programming

Target group: Medical students, Governmental Organizations, Non-Governmental Organizations

Threshold: Active engagement of medical students in program implementation

Outcome 5: Improved knowledge of medical students, other health related students, children and communities on topics related to vaccine preventable childhood illnesses and infectious diseases.

Indicators: Number of educational activities on topics of the program initiated in locally, nationally and internationally. Number of NMOs organizing educational activities. Number of satisfied and empowered participants.

Target group: Medical students, Children, Communities.



Threshold: 10 activities per year in at least 3 out of 5 IFMSA regions focusing on education of mentioned target groups.

Interventions

Communicable Disease Education & Critical Skill Development

- Educate medical students about communicable diseases, treatment, and prevention: organizing workshops, seminars or congress's about prevention, treatment and management
- Foster the development of critical thinking in local, regional, national, and international communicable diseases problems: organizing workshops, seminars, or congresses
- Educate the general public about communicable diseases and general prevention measures: awareness campaigns, distributed pamphlets, capacity building
- Educate children about communicable diseases and general prevention measures: awareness campaigns, distributed pamphlets, capacity building
- Community outreach campaigns based on participatory health promotion of safe hygiene and sanitation practices
- Educate medical students and other health professionals on the link between human health and animals
- Creation of standardized resources used to educate medical students or the general public
- Supporting and creating opportunities for students to be directly involved in research surrounding communicable diseases, including epidemiology, antimicrobial resistance, and social determinants of health
- Promotion of professional exchanges through the IFMSA to regions or countries that are unproportionally impacted by communicable diseases

Communicable Disease Advocacy & Activity Implementation

- Education on how to advocate for policy and program changes in communicable diseases, as well as how to build long-term and sustainable activities
- Conducting local, national and international advocacy activities focusing on communicable diseases, including that focused on high risk populations
- Implement activities that provide services to medical students or general public, such as prevention (including vaccination) or screening and others
- Creating partnerships between individual medical students, Medical Students Associations, NMOs, IFMSA, and other local, regional, national, or international organizations to focus on activity development and policy building

Narrative

The communicable diseases program is designed to decrease the negative impact of communicable diseases around the world through education, advocacy, and activity implementation. In order for this to occur, medical students and the general public need to be educated on communicable diseases and prevention strategies. As well, medical students need to be educated regarding specific advocacy strategies, Antimicrobial Resistance, and the link between veterinary health and human health. Once educated, the IFMSA will support advocacy work, student-lead initiatives, and partnerships with other stakeholders to utilize learned skills in affecting change.

Organisational content 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.
- the organization of different international campaigns on world days (TB, Hepatitis, Rabies, Health, Malaria...)
- national and international campaigns on Antimicrobial resistance.
- Specific campaign and project guides.
- Training manuals and materials.
- Samples of IFMSA Activities Forms on Communicable Diseases
- Database of examples of good practice activities

Collaboration

- NMOs are strongly encouraged to work with other health and environmental organizations to improve the efficacy and consistency of action.
- One Health Initiative: coordinating the health triad on from human, animal and environment perspective
- STOP TB Initiative: implementing local projects with our NMOs and encourage collaboration with other health organizations.
- The WASH Project by supporting projects already existing within our NMOs
- WHO department on Neglected Tropical Diseases to provide us with materials and guidance.
- Vaccination campaigns:
- Other Healthcare Students Organizations: IVSA, IPSF
- Antimicrobial stewardship organizations

Budget

- Transportation and accommodation for workshop coordinators.
- Public Relations and marketing (for example community organising servers such as nation builder, creation of professional videos and other materials).

References

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