THE 2017 NATIONAL MODEL UNITED NATIONS

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Dear Delegates,

Welcome to the 2017 National Model United Nations New York Conference (NMUN•NY)! We are pleased to introduce you to our committee, the World Health Organization (WHO). This year's staff is: Directors Thejasvi Ramu (Conference A) and David Godoy (Conference B), and Assistant Directors Dakota Foster (Conference A) and Rym Bendimerad (Conference B). Thejasvi completed her B.A. in Anthropology and Political Science from the University of Victoria in 2015 and currently works in community infrastructure development in Canada. This will be her third year on staff. David received his B.A. in Political Science from Brigham Young University in 2015. He currently lives in Brazil and works in the development and training department of Laureate International Universities. This is his fifth year on staff. Dakota graduated in 2016 with a B.A. in Political Science and a minor in General Business and Philosophy from Texas Christian University and is currently working as a research assistant to construct a human trafficking database at Texas Christian University. Rym received her B.A. in International Relations at San Francisco State University. She is currently working in marketing and communications for the Qatar Olympic Committee.

The topics under discussion for WHO are:

I. Mitigating the Public Health Effects of Climate Change
II. Ensuring Access to Clean and Safe Water
III. Improving Coordination of Health Services in Outbreaks and Emergencies

WHO is the authority on global health issues and a key coordinator of multilateral efforts on a range of health topics. In light of the post-2015 development agenda and Sustainable Development Goals, WHO's work includes advancing universal health coverage and addressing challenges of non-communicable diseases. At NMUN•NY 2017, we are simulating the WHO Executive Board in terms of composition and size. For the purposes of the educational mission of the Conference, the committee has the ability to make programmatic and policy decisions on issues and topics within WHO's overall mandate.

This Background Guide serves as an introduction to the topics for this committee. However, it is not intended to replace individual research. We encourage you to explore your Member State's policies in depth and use the Annotated Bibliography and Bibliography to further your knowledge on these topics. In preparation for the Conference, each delegation will submit a Position Paper by 11:59 p.m. (Eastern) on 1 March 2017 in accordance with the guidelines in the Position Paper Guide and the NMUN•NY Position Papers website.

Two essential resources for your preparation are the Delegate Preparation Guide and the NMUN Rules of Procedure available to download from the NMUN website. The Delegate Preparation Guide explains each step in the delegate process, from pre-Conference research to the committee debate and resolution drafting processes. The NMUN Rules of Procedure include the long and short form of the rules, as well as an explanatory narrative and example script of the flow of procedure. In tandem, these documents thus serve as essential instruments in preparing for the Conference and as a reference during committee sessions.

Please take note of information in the Delegate Preparation Guide on plagiarism and the prohibition of pre-written working papers and resolutions. Additionally, please review the NMUN Policies and Codes of Conduct on the NMUN website regarding the Conference dress code; awards philosophy and evaluation method; and codes of conduct for delegates, faculty, and guests regarding diplomacy and professionalism. Importantly, any instances of sexual harassment or discrimination based on race, gender, sexual orientation, national origin, religion, age, or disability will not be tolerated. Adherence to these policies is mandatory.

If you have any questions concerning your preparation for the committee or the Conference itself, please contact the Under-Secretaries-General for the Human Rights and Humanitarian Affairs Department, Sarah Walter (Conference A) and Jess Mace (Conference B), at usg.hr_ha@nmun.org.

We wish you all the best in your preparations and look forward to seeing you at the Conference!

Sincerely,

Conference A
Thejasvi Ramu, *Director*
Dakota Foster, *Assistant Director*

Conference B
David Godoy, *Director*
Rym Bendimerad, *Assistant Director*

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United Nations System at NMUN•NY

This diagram illustrates the UN system simulated at NMUN•NY and demonstrates the reportage and relationships between entities. Examine the diagram alongside the Committee Overview to gain a clear picture of the committee's position, purpose, and powers within the UN system.

General Assembly

Security Council

Economic and Social Council

Secretariat

International Court of Justice

Trusteeship Council

Subsidiary Bodies

GA First – Disarmament and International Security
GA Second – Economic and Financial
GA Third – Social, Humanitarian, and Cultural
HRC – Human Rights Council

Related Organizations

IAEA – International Atomic Energy Agency

HLPF – High-level Political Forum on Sustainable Development

Funds and Programmes

UNDP – UN Development Programme
UNEA – UN Environment Assembly
UN-HABITAT – UN Human Settlements Programme
UNICEF – UN Children's Fund
WFP – World Food Programme

Other Entities

UNHCR – Office of the UN High Commissioner for Refugees

Functional Commissions

CCPCJ – Crime Prevention and Criminal Justice
CSocD – Social Development
CSW – Status of Women

Other Bodies

UNAIDS – Joint UN Programme on HIV/AIDS
UNPFII – Permanent Forum on Indigenous Issues

Specialized Agencies

UNESCO – UN Educational, Scientific and Cultural Organization
WHO – World Health Organization

Abbreviations

AMCOW	African Ministers' Council on Water and Sanitation
CCAC	Climate and Clean Air Coalition
CESCR	Committee on Economic, Social and Cultural Rights
CSO	Civil society organization
ECOSOC	Economic and Social Council
ERF	Emergency Response Framework
EU	European Union
EWARS	Early Warning and Response System
GA	General Assembly
GHC	Global Health Cluster
GLAAS	Global Analysis and Assessment of Sanitation and Drinking Water
HELI	Health and Environmental Change Initiative
HHWS	Heat-health warning systems
HRC	Human Rights Council
IASC	Inter-Agency Standing Committee
ICESCR	*International Covenant on Economic, Social and Cultural Rights*
IFRC	International Federation of Red Cross and Red Crescent Societies
IHR	International Health Regulations
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
IWA	International Water Association
IWRM	Integrated Water Resource Management
JMP	Joint Monitoring Programme
MDG	Millennium Development Goal
OHCHR	Office of the United Nations High Commissioner for Human Rights
PAHO	Pan American Health Association
PBAC	Programme, Budget and Administration Committee
SARS	Severe acute respiratory syndrome
SDG	Sustainable Development Goal
SIDS	Small Island Developing States
SRF	Strategic Response Framework
UDHR	*Universal Declaration of Human Rights*
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	*United Nations Framework Convention on Climate Change*
UNHCR	Office of the United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNMEER	United Nations Mission for Ebola Emergency Response
WAHO	West African Health Organization
WASH	Water, sanitation, and hygiene
WCO	World Customs Organization
WHA	World Health Assembly
WHO	World Health Organization
WSP	Water Safety Plans
WWAP	World Water Assessment Programme
WWDR	World Water Development Report

NMUN•NY

Committee Overview

"As the international community enters the era of sustainable development, the global health landscape is being shaped by three slow-motion disasters: a changing climate, the failure of more and more mainstay antimicrobials, and the rise of chronic non-communicable diseases as the leading killers worldwide. These are not natural disasters. They are man-made disasters created by policies that place economic interests above concerns about the well-being of human lives and the planet that sustains them."[1]

Introduction

The **World Health Organization** (WHO) is a specialized agency of the United Nations, reporting to the Economic and Social Council (ECOSOC).

The World Health Organization (WHO) is the directing and coordinating authority on international healthcare issues within the United Nations (UN) system, promoting the attainment of the highest possible level of health by all people.[2] WHO is active in six intersecting areas of work: assisting its 194 Member States in the development of their respective health systems; the eradication of non-communicable diseases; the promotion of good lifelong health; prevention, treatment, and care for communicable diseases; preparedness, surveillance, and response with respect to international health emergencies; and extending corporate services to the organization's public and private partners.[3] WHO is guided by the principle that health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.[4]

At NMUN•NY 2017, we are simulating the Executive Board of WHO in terms of composition and size; however, delegates are not limited to the strict mandate of the Executive Board during the conference. For the purposes of NMUN•NY 2017, and corresponding with the educational mission of the conference, the committee has the ability to make programmatic and policy decisions on issues within the mandate of WHO in line with the overall function of the organization.

Outlined in the *Constitution of the World Health Organization* (1946), the principle was adopted in July 1946 by the then 51 UN Member States and 10 additional states.[5] After a complete breakdown of international health cooperation during the Second World War, an Interim Commission was tasked to continue the activities of existing institutions until 26 Member States ratified WHO's constitution.[6] After entering into force in April 1948, the World Health Assembly (WHA), the organization's decision-making body comprised of all WHO Member States, convened in Geneva on 24 June 1948 for the first time.[7] Although WHO had largely remained a stimulator for health research throughout its first decade, its operative programs gradually expanded in the following years.[8] The adoption of WHA resolution 19.16 of 13 May 1966 on a "Smallpox Eradication Programme" marks the organization's first global immunization campaign and eventually succeeded in eliminating the disease in 1980.[9] Another defining moment for WHO was the 1978 International Conference on Primary Health Care in Alma-Ata, Kazakhstan, declaring access to primary health care for all as the organization's key strategic objective, and linking health to social and economic development[10] The *Declaration of Alma-Ata* (1978) served as the basis for WHO's *Global Strategy for Health for All by the Year 2000* (1981), aiming to achieve universal primary healthcare, a goal that is still valid today.[11]

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[1] WHO, *Address by Dr. Margaret Chan, Director General of the World Health Organization to the Sixty-ninth World Health Assembly on 23 May* 2016 in Geneva, 2016.
[2] WHO, *About WHO*, 2015; WHO, *Basic Documents – 48th ed. Including amendments adopted up to 31 December 2014*, 2014.
[3] WHO, *What we do*, 2015.
[4] WHO, *Constitution of WHO: principles*, 2015.
[5] WHO, *Origin and development of health cooperation*, 2015.
[6] Ibid.
[7] Ibid.
[8] Ibid.
[9] WHO, *The Third Ten Years of the World Health Organization – 1968-1977*, 2008, pp. 177-181.
[10] Ibid., pp. 303-304.
[11] WHO, *Global Strategy for Health for All by the Year 2000*, 1981; *Declaration of Alma-Ata*, 1978.

Governance, Structure, and Membership

While WHO's secretariat is located in Geneva, Switzerland, the organization has a worldwide presence, staffing six regional offices across the globe as well as operating a total of 149 country offices and decentralized sub-offices.[12] WHO's executive functions are assigned to its Executive Board, which comprises 34 experts in the field of health, each appointed for a three-year term by a Member State of WHO elected by WHA with respect to population per region proportions.[13] The board's key policymaking functions include the drafting of multiannual programs of work as well as submitting draft resolutions to WHA for consideration.[14] In formulating WHO policies, the board's Programme, Budget and Administration Committee (PBAC) plays an important role, as it makes recommendations to the Executive Board with regard to planning, monitoring, and evaluation of WHO programs, and the organization's financial and administrative matters.[15] The PBAC consists of 14 board members, with two members from each region elected by the Executive Board for a two-year period. [16] The Executive Board is tasked with giving effect to the decisions and policies of WHA and to lead coordination efforts in the response to international health emergencies.[17] The Executive Board meets at least twice a year, once at the beginning of every year and immediately after the convention of WHA.[18] The board also holds special sessions in the event of an international health emergency, most recently in response to the Ebola outbreak in West Africa on 25 January 2015.[19]

WHA is the supreme decision-making body of WHO, meeting once every year and comprising delegates from each of the organization's Member States.[20] In addition to the determination of WHO's policies, the Assembly supervises the organization's financial policies, adopts its budget, and appoints the Director-General on the nomination of the Executive Board.[21] WHO's Director-General acts as the chief technical and administrative officer of the organization, supported by administrative staff of WHO's secretariat.[22] WHO's Director-General also serves as the ex-officio secretary of WHA, the Executive Board, as well as WHO's commissions and committees, and is also responsible for submitting WHO's financial statements and budget estimates to the Executive Board.[23] The current Director-General, Margaret Chan, has been in the position since 2006, and will be completing her second term at the end of June 2017.[24] The process to elect the next Director-General for a five-year term officially began in April 2016, with the final round of voting occurring during the seventieth session of WHA, in May 2017.[25]

WHO's biennial program budgets derive from its multiannual programs of work, and are funded via a mix of assessed and voluntary contributions.[26] Assessed contributions consist of membership dues paid by WHO's Member States, calculated relative to their wealth and population.[27] Voluntary contributions are provided by WHO Member States in addition to their assessed contributions, as well as other partners such as non-governmental organizations (NGOs), academic institutions, and private corporations.[28] These contributions can be either earmarked for a specific WHO program or represent a core voluntary contribution, which can be assigned to any item in WHO's biennial program budget.[29] WHO has steadily received assessed contributions in the past, however, an increasing number of voluntary contributions has led to a gradual decline in assessed contributions.[30] In the course of the reform process

[12] WHO, *WHO Presence in Countries, Territories and Areas. 2015 Report*, 2015.
[13] WHO, *The Executive Board*, 2015.
[14] WHO, *Governance*, 2015; WHO, *Constitution of the World Health Organization*, 1946, p. 9.
[15] WHO, *Revised terms of reference for the Programme, Budget and Administration Committee of the Executive Board (EB131.R2)*, 2012, p. 3.
[16] Ibid.
[17] WHO, *Constitution of the World Health Organization*, 1946, p. 9.
[18] Ibid.
[19] WHO, *The Executive Board*, 2015; WHO, *Special Session on the Ebola Emergency (EBSS/3/2015/REC/1)*, 2015.
[20] WHO, *Governance*, 2015.
[21] WHO, *Constitution of the World Health Organization*, 1946, p. 6.
[22] Ibid., p. 9.
[23] Ibid., pp. 9-10.
[24] WHO, *Director-General's Office*.
[25] WHO, *Process to elect next Director-General of WHO begins*, 2016.
[26] WHO, *Planning, finance and accountability*, 2015; WHO, *Funding WHO*, 2015.
[27] WHO, *Assessed contributions*, 2015.
[28] WHO, *Programme Budget 2016-2017*, 2015; WHO, *Voluntary contributions*, 2015.
[29] Ibid.
[30] WHO, *Assessed contributions*, 2015.

of WHO's funding, initiated in January 2010, a financing dialogue with Member States and other stakeholders was established to assign WHO's funding evenly across its main areas of work.[31]

In May 2011, the Executive Board agreed to start a Member State-led reform to transform WHO into a more "effective and efficient, transparent and accountable" body that is able to play a key role in global health governance in the twenty-first century.[32] The reform addresses three core areas: program and priority setting; governance; and management, addressing issues relating to accountability, human resources, evaluation, and communication.[33] The governance reform will be looking at the working methods of WHO's governing bodies, engagement practices with external stakeholders, and ultimately WHO's governance role in the global community on issues relating to health.[34]

Mandate, Functions, and Powers

WHO's 1946 constitution established the organization as a specialized agency of the UN in accordance with Article 57 of the *Charter of the UN*.[35] Notwithstanding its status as an autonomous organization within the UN system, WHO operates within the purview of the Economic and Social Council (ECOSOC).[36] Accordingly, WHA reports to ECOSOC concerning any agreement between the organization and the UN.[37] Furthermore, WHO's Director-General is the ultimate representative of international health efforts across a broader range of policy areas.[38] As such, the Director-General is a key member of the UN System Chief Executive Board for Coordination, which comprises the 29 executive heads of the UN including its funds and programs, the specialized agencies, and subsidiary bodies.[39]

Article 2 of WHO's constitution mandates the organization to foster mental, maternal, and child health, and to provide information, counsel, and assistance in the field of health.[40] The mandate defines WHO's role in advancing the eradication of diseases, coordinating and directing international health programs and projects, as well as improving nutrition, sanitation, accommodations, recreation, and other conditions.[41] In order to achieve these tasks, WHO may partner with other UN bodies and specialized agencies, Member States' health administrations, as well as NGOs.[42] Finally, WHO is responsible for advancing medical and health-related research, promoting scientific collaboration, improving standards of training in health, medical and related professions, as well as developing international standards for food, biological, pharmaceutical, and similar products.[43]

WHO carries out myriad of projects, campaigns and partnerships, addressing a virtually all-encompassing range of health topics.[44] Illustrated by WHO's response to the 2014 Ebola outbreak in West Africa, WHO programs may operate on global, regional, and country levels simultaneously.[45] In July 2015 WHO had approximately 1,100 technical experts and medical staff on the ground in the three most affected countries; Guinea, Liberia, and Sierra Leone.[46] WHO's activities in these countries have been complemented by the work of the Global Outbreak Alert and Response Network, a coalition of Member States' scientific institutions, medical and surveillance initiatives, regional technical networks, the UN Children's Fund (UNICEF), the Office of the UN High Commissioner for Refugees (UNHCR), the Red Cross, and other humanitarian NGOs.[47] WHO's Executive Board adopted resolution EBSS3.R1 titled "Ebola: ending the current outbreak, strengthening global preparedness and ensuring WHO's

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[31] WHO, *Twelfth General Programme of Work 2014-2019: Not merely the absence of disease*, 2014, p. 39; WHO, *WHO's financing dialogue*, 2015.
[32] WHO, *WHO reform: overview of reform implementation*, 2015.
[33] Ibid.; WHO, *Why reform?,* 2016.
[34] WHO, *WHO reform: overview of reform implementation*, 2015.
[35] *Charter of the United Nations*, 1945; WHO, *Constitution of the World Health Organization*, 1946, p. 2.
[36] UN DPI, *The United Nations System*, 2015.
[37] WHO, *Constitution of the World Health Organization*, 1946, p. 7.
[38] UNSCEB, *Who we are*, 2015.
[39] Ibid.
[40] WHO, *Constitution of the World Health Organization*, 1946, pp. 2-3.
[41] Ibid., p. 2.
[42] Ibid.
[43] Ibid., p. 3.
[44] WHO, *Health topics*, 2015.
[45] WHO, *Ebola Response in Action*, 2015; WHO, *Partners: Global Outbreak Alert and Response Network (GOARN)*, 2015.
[46] Ibid.
[47] Ibid.

capacity to prepare for and respond to future large-scale outbreaks and emergencies with health consequences" of 25 January 2015, outlining the coordinating framework for stakeholders involved in the response to the 2014 Ebola outbreak in West Africa.[48] The resolution sets priorities for assistance to affected countries' health systems, and calls upon Member States and WHO's Director-General to strengthen disease surveillance capacities and data flows between stakeholders.[49]

WHO also assumes a norm- and standard-setting function to help states prevent the outbreak of public health issues, most notably via promoting the implementation of the *International Health Regulations* (IHR) (2005).[50] The IHR was adopted by WHA resolution 58.3 "Revision of the International Health Regulations" of 23 May 2005.[51] The regulations call for a legal instrument strengthening states' diseases surveillance capacities, an issue that has become salient following a resurgence of several epidemic diseases in the 1990s such as outbreaks of cholera in South America and the plague in India[52] The IHR came into force on 17 June 2007 and represents a legally binding instrument for 196 states, including all WHO Member States, setting standards for the prevention and response to acute, cross-border public health risks.[53] Following the IHR's entry into force, the instrument's standards immediately applied to all WHO Member States, though the IHR lacks an enforcement mechanism, as incentives for compliance are based solely on peer pressure and public knowledge.[54]

The promotion of health-related research plays a central role in advancing global health and provides benefits across WHO's areas of work.[55] Acknowledging this, WHA adopted the *WHO strategy on research for health* (2010), which aims to invigorate cooperation between WHO's secretariat, Member States, health practitioners, and researchers to reinforce research on Member States' priority health needs and strengthen national capacities for health research.[56] Another key contribution by WHO is the provision of data across a variety of health issues.[57] This is conducted via the organization's Global Health Observatory Data Repository, established in 2005, to complement WHO's annual *World Health Statistics Reports*.[58] The continuous, systematic collection, analysis, and interpretation of health-related data allow the organization, its Member States, and external stakeholders to conduct quality public health surveillance.[59]

Partnerships

WHO partners with other UN bodies such as the Joint UN Programme on HIVAIDS, as well as external public entities, NGOs, and private sector actors.[60] Most notably, WHO leads the Global Health Cluster (GHC), which was established in 2006 and currently comprises 48 partners, including UN bodies such as UNICEF, as well as public stakeholders and academic institutions.[61] Aiming to minimize the health impact of humanitarian emergencies, GHC partners collaborate to foster global capacities for emergency preparedness, response, and recovery from humanitarian health crises.[62] In the light of increasing complexity and scale of humanitarian emergencies, GHC provides a platform for collaborative action among a diverse range of international humanitarian actors, ensuring humanitarian health action during emergencies benefits from the right expertise in the right place at the right time.[63]

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[48] WHO, *Special Session on the Ebola Emergency (EBSS/3/2015/REC/1)*, 2015, pp. 3-7.
[49] Ibid., pp. 3-7.
[50] WHO, *International Health Regulations (IHR)*, 2015.
[51] WHO, *Frequently asked questions about the International Health Regulations (2005)*, 2015.
[52] Ibid.
[53] Ibid.; WHO, *International Health Regulations (IHR)*, 2015.
[54] WHO, *Frequently asked questions about the International Health Regulations (2005)*, 2015.
[55] WHO, *The WHO strategy on research for health*, 2012, p. 8.
[56] WHO, *Sixty-Third World Health Assembly. Resolutions and Decisions. Annexes (WHA63/2010/REC/1)*, 2010, p. 119; WHO, *The WHO strategy on research for health*, 2012, p. 8.
[57] WHO, *Global Health Observatory Data Repository*, 2015; WHO, *World Health Statistics Report 2005*, 2005, p. 5.
[58] Ibid.
[59] WHO, *Public Health Surveillance*, 2015.
[60] WHO, *Partnerships*, 2015.
[61] WHO, *About the Global Health Cluster*, 2015; WHO, *Global Health Cluster Partners*, 2015.
[62] WHO, *The strategic framework of the Global Health Cluster*, 2015.
[63] Global Health Cluster, *Global Health Cluster Strategic Framework 2014-2015*, 2014, pp. 3-6.

Recent Sessions and Current Priorities

By adopting WHA resolution 66.1 of 24 May 2013, WHA approved the organization's 12th General Programme of Work 2014-2019, which specifies WHO's current leadership priorities.[64] WHO's work focuses on promoting IHR's implementation, improving access to medical products, action on social determinants of health, advancing universal health coverage, addressing the challenge of non-communicable disease, and shaping WHO's role in achieving the Sustainable Development Goals (SDGs).[65] WHO was an active participant during the 2015 UN Climate Change Conference (COP 21) in Paris, France, which recognized the benefits improved adaptation of climate action protocols would have on health.[66] WHO co-hosted the Second Global Conference on Health and Climate with the Government of France, to portray how public health actors would aid in implementing the *Paris Agreement*.[67]

During the Sixty-Ninth Session of WHA, the Assembly adopted resolutions addressing the global shortage of medicines and vaccinations (A69/25), inappropriate promotion of food for infants and young children (A69/9), and the burden of mycetoma (A69/21).[68] During the 139th Executive Board meeting, discussions were focused on technologies and health, including access to assistive technology and the use of mobile wireless technologies for public health.[69] With the adoption of WHA resolution 69.2 "Committing to implementation of the Global Strategy for Women's, Children's and Adolescents' Health" of 2016, WHA fostered its commitment to ensure all women, children, and adolescents are able to access and utilize the highest standard of health.[70] Furthermore, WHA adopted resolution 69.3 "The global strategy and action plan on ageing and health 2016-2020: towards a world in which everyone can live a long and healthy life" and report 69/17, "Multisectoral action for a life course approach to healthy ageing: global strategy and plan of action ageing and health" to address the growing global ageing population and health-related issues arising.[71]

Recently, WHO has been actively addressing mosquito-related viral outbreaks including the Zika virus outbreak, and their associated complications, as well as health-related emergencies in places of conflict.[72] To address the increasing challenges of coordinating efforts in outbreaks and emergencies, WHO is developing a program to improve national capacity-building.[73] Additionally, the organization continues to be actively engaged in clean and safe water as well as climate change and health programs policies.[74]

Conclusion

WHO is the coordinating authority on international healthcare issues within the UN system. As the organization's executive body responsible for the formulation and review of WHO's policies, the Executive Board assumes a key responsibility addressing current health priorities through the preparation of draft resolutions to be considered by WHA. In order to address the complexities of global health issues in the modern dynamic environment, the need for policy to be flexible is becoming increasingly important. In light of persistent challenges across current priorities highlighted above, delegates are expected to develop effective solutions to address challenges to health for all in the spirit of WHO's key principles and objectives.

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[64] WHO, *Twelfth General Programme of Work 2014-2019 (WHA66.1)*, 2013.
[65] WHO, *Leadership priorities*, 2015.
[66] WHO, *WHO key messages for COP 21*, 2015; WHO, *Health events in the 2015 UN climate change conference of parties (COP 21)*, 2015.
[67] WHO, *Second Global Conference on Health and Climate Change*, 2016.
[68] WHO, *Agenda (A69/1 Rev.1)*, 2016; WHO, *Evaluation: annual report*, 2016.
[69] WHO, *Agenda (EB139/1 Rev.1)*, 2016.
[70] WHO, *Global Strategy for Women's, Children's and Adolescents' Health 2016-2030*, 2016, p.10; WHO, *Committing to implementation of the Global Strategy for Women's, Children's and Adolescents' Health*, 2016.
[71] WHO, *The Global strategy and action plan on ageing and health 2016-2020: towards a world in which everyone can live a long and healthy life (WHA69.3)*, 2016, p.1.
[72] WHO, *WHO in emergencies*, 2016.
[73] Ibid.
[74] WHO, *WHO Workplan on Climate Change and Health*, 2015, p.1.

Annotated Bibliography

World Health Organization. (2014). *Basic Documents – 48th ed. Including amendments adopted up to 31 December 2014*. Retrieved 25 August 2016 from: http://apps.who.int/gb/bd/PDF/bd48/basic-documents-48th-edition-en.pdf

This regularly updated document published by WHO compiles the organization's founding documents and accompanying legal provisions. It inter alia includes WHO's constitution, provides information on its governing bodies' rules and procedures, and specifies WHO's agreements with other intergovernmental and non-governmental organizations. Furthermore, the document specifies the legal provisions on WHO's financial administration. The document provides delegates with an encompassing overview of WHO's legal framework and details the formal mandate for the organization's operations.

World Health Organization. (2015). *About WHO* [Website]. Retrieved 25 August 2016 from: http://who.int/about/en/

This section of WHO's website provides delegates with access to comprehensive information on the organization's history and structure, WHO's main areas and locations of work, as well as background information on its governing bodies and WHO's cooperation with other organizations. The website represents a key resource for delegates to get a quick overview not only on WHO's formal structures and history, but also on its role in the UN system and WHO's work with Member States. While information provided on the website is fairly general, its sub-sections contain helpful links to more specific sources of information on the topics outlined above.

World Health Organization. (2015). *Global Health Observatory Data Repository* [Website]. Retrieved 25 August 2016from: http:// http://www.who.int/gho/database/en/

This online database maintained by WHO provides access to an extensive collection of data across a wide range of health-related topics, countries, and time. The database also provides links to download WHO reports on a number of health issues and its World Health Statistics publication. The database represents an excellent resource for delegates to learn more about statistical trends and current health priorities on a global, regional, and country-level. Furthermore, the database's WHO Indicator and Measurement Registry allow delegates to understand how data across various health topics is collected.

World Health Organization. (2015). *Programme Budget 2016-2017.* [Report] Retrieved 27 August 2016 from: http://www.who.int/about/finances-accountability/budget/PB201617_en.pdf

This WHO report provides a detailed overview of the different types of contributions to WHO's current biennial program budget and specifies the allocation of funds by health issues, WHO's categories of work and WHO regions. The report provides insight as to areas of increased or decreased funding, outlining the need for this change. The website represents an excellent resource for delegates to learn more about the volume of funds needed for individual WHO programs and projects, and how need is defined by the organization.

World Health Organization. (2016). *Evaluation: annual report*. Retrieved 16 July 2016 from: http://apps.who.int/gb/ebwha/pdf_files/EB139/B139_9-en.pdf

This annual report by the WHO Executive Board examines how far WHO has been able to implement the new evaluation mechanism throughout the body. It explains the impact of the new mechanism while highlighting the persistent flaws. More importantly, this annual report provides insight on how the new evaluation system works with WHO's current global strategies. Delegates will find this source valuable in understanding existing evaluating and monitoring mechanisms that govern the organization, its programs, and campaigns.

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I. Mitigating the Public Health Effects of Climate Change

Introduction

Climate change is currently defined by the United Nations (UN) Framework Convention on Climate Change (UNFCCC) as "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods."[75] Although climate change is a natural phenomenon, its effects have been accelerated due to human activities.[76] This, in turn, has had a significant impact on the earth's ecosystems.[77] The rise in temperature caused by greenhouse gases has led to the melting of glaciers, a rise in sea levels, changes in precipitation patterns and extreme weather events.[78] It is predicted that the average global temperature between 1990 and 2100 will increase 1.1-6.4 °C.[79] Consequently, climate change affects both the environment and people's health.[80] However, the link between health and climate change is still not fully established in the international community, with only 15% of Member States mentioning health in their National Climate Change Plan.[81] The World Health Organization (WHO) has also acknowledged that climate change has already negatively affected the health of millions of people, and it predicts that between 2030 and 2050, the effects of climate change will cause 250,000 additional deaths each year, costing an estimated $2-4 billion in healthcare-related costs each year.[82]

The Intergovernmental Panel on Climate Change (IPCC) divides the health effects of climate change into three main groups, the first being the direct impact on health caused by more frequent and severe extreme weather events.[83] These events include the increase in warm day and nights, floods and violent storms, and the increase in ultraviolet radiation.[84] The second group is the impact on other natural systems such as water, food and air.[85] These impacts increase the cases of vector-borne diseases such as malaria and dengue; diseases caused by parasites and bacteria that are more common in warmer temperatures; and a decrease in air quality due to high emissions of CO_2 gases.[86] The third main impact on health caused by climate chance is on social and human systems.[87] This includes malnutrition, heat stress, mental illnesses, and, population displacement, an increased risk of violent conflicts, and a decrease on economic growth.[88] In order to better prepare for the health effects caused by climate change it is important that Member States build resilience and adaptation measures.[89] The term resilience in this context means the capacity for health systems to effectively respond and manage health risks, while maintaining their capacities and functions.[90] Countries build resilience when they are able to prepare, respond and recover from a climate-related event.[91]

Although resilience and adaptation work together and might seem similar, adaptation to climate change is defined as the ability that Member States have to adjust to climate effects while seeking to mitigate the negative impacts.[92] In order to build resilience and adaptation, it is necessary to recognize the effects that climate change has on people's health, monitor its escalation, anticipate and prepare potential health risks, and maintain open communication with other Member States concerning the potential climate change threats and ways to build resilience.[93]

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[75] *UNFCCC*, 1992; UN SDGs, *Goal 13: Take urgent action to combat climate change and its impacts*, 2016.
[76] Ibid.
[77] Ibid.
[78] WHO, *Global Health Risks*, 2009.
[79] Ibid.
[80] WHO, *World Health Assembly highlights importance of multisectoral action on health*, 2016.
[81] Ibid.
[82] WHO, *Climate Change, 2016.*
[83] WHO, *Strengthening Health Resilience to Climate Change*, 2015.
[84] Smith et al., *Human health: impacts, adaptation, and co-benefits*, 2014, p. 720.
[85] WHO, *Strengthening Health Resilience to Climate Change*, 2015.
[86] Smith et al., *Human health: impacts, adaptation, and co-benefits*, 2014, p. 722.
[87] WHO, *Strengthening Health Resilience to Climate Change*, 2015.
[88] WHO, *Strengthening Health Resilience to Climate Change*, 2015.
[89] WHO, *Operational Framework for Building Climate Resilient Health Systems*, 2015, p. 2.
[90] Ibid., p. 7.
[91] Ibid., p. 8.
[92] Ibid., p. 7.
[93] Ibid., p. 8.

International and Regional Framework

Historically, climate change and health have been discussed separately within different international frameworks.[94] In the past, climate change has been regarded as an ecological and meteorological issue with several international documents and conventions addressing this topic, including both the *Rio Declaration on Environment and Development* (1992) and the UNFCCC.[95] Both documents were adopted during the 1992 Earth Summit in Rio de Janeiro, Brazil.[96] The principle objective of the Convention is to mitigate climate change by decreasing the concentration of greenhouse gases in the atmosphere.[97] The first document created by the Convention was the *Kyoto Protocol* which contains specific policies and actions that urge each Member State to reduce their greenhouse gas emissions an average of 5% between 2000-2012.[98] The Protocol is effective in setting specific goals to reduce the emission of greenhouse gases in the atmosphere, however even being legally binding, there was no established way to sanction Member States that did not meet their goals, and the Protocol itself was not very well implemented globally.[99] The Second Global Conference on Health and Climate, adopted the *Paris Agreement* in December 2015.[100] This agreement acknowledged the importance of discussing climate issues and although the document does not itself connect climate change to health, it recognizes the right to health in addition to the benefits of promoting climate mitigation strategies.[101]

The right to health is well recognized in the international community. According to article 25 of the *Universal Declaration of Human Rights* (UDHR) (1948) all people have the right of adequate health and well-being.[102] The *International Covenant on Economic, Social and Cultural Rights* (1966) also underlines in articles 7 and 12 the importance of health and well-being.[103] WHO's constitution emphasizes the importance of the right to health, in addition to the importance of children developing the ability to live in a changing environment.[104] Moreover, the work of connecting health and climate change has been strengthened recently with the adoption of the *Sustainable Development Goals Report 2016*.[105] In particular, among the Sustainable Development Goals (SDGs), SDG 3 promotes a healthy life for all, and SDG 13 aims to combat the impacts of climate change.[106]

Role of the International System

WHO was one of the firsts UN entities to make the clear connection between climate change, and health-related issues when it noted that by resolving issues on climate change, the international community is also resolving health issues.[107] In 2008 WHO adopted resolution on "Protecting Health from the Effects of Climate Change" which urges Member States to work on decreasing greenhouse gas emissions, strengthening their existing health systems and incorporating climate change policies into their health programs.[108] WHO also created the Workplan on Climate Change and Health (2014-2019), which supports Member States in combating the effects of climate change on health.[109] This Workplan aims to identify good health protection strategies that will enhance human health, support, access, and monitor health vulnerability, and promote health equity and good practices.[110] The plan is divided into four main objectives which include: building partnerships among international actors, increasing awareness of the

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[94] WHO, *Second Global Conference: Health & Climate - Conference conclusions and Action Agenda*, 2016.
[95] UNFCCC, *Background on the UNFCCC: The international response to climate change*, 2014.
[96] UNFCCC, *First steps to a safer future: Introducing the UNFCC*, 2014.
[97] *UNFCCC*, 1992.
[98] UNFCCC, *A Summary of the Kyoto Protocol*, 2014.
[99] Ibid.
[100] Krisberg, Global climate change treaty to have public health impacts: Lowering greenhouse gas emissions, *The Nation's Health*, 2016.
[101] Ibid.
[102] UN General Assembly, *Declaration on the sixtieth anniversary of the Universal Declaration of Human Rights (A/RES/63/116)*, 2009.
[103] UN General Assembly, *International Covenant on Economic, Social and Cultural Rights (A/RES/2200 (XXI))*, 1966.
[104] WHO, *Constitution of the World Health Organization*, 1946.
[105] UN SDGs, *Sustainable Development Goals*, 2016.
[106] Ibid.
[107] WHO, *Message from WHO Director-General*, 2008.
[108] WHO, *Protecting Health from the Effects of Climate Change (WPR/RC59.R7)*, 2008.
[109] WHO, *What WHO is doing for climate and health*, 2016.
[110] Ibid.

health impacts caused by climate change, promoting scientific innovations that will help strengthen resilience and adaptation measures, and helping states implement health response strategies by providing technical and policy support to Member States.[111] In order to address health issues caused by climate change, WHO works alongside several key international agencies. Amongst these, are the United Nations Environment Programme (UNEP), UNFCCC, and the Climate and Clean Air Coalition (CCAC) with projects such as Breath Life, which focuses on the health effects that air pollution causes to human health.[112] Alongside UNEP, WHO created the Health and Environmental Linkages Initiative (HELI) that further strengthens the relationship between health and climate change, and also has an economic development component.[113] This initiative is targeted at less developed states, and encourages Member States to discuss the health implications of climate change, provides policy advisory tools, and promotes better access to information.[114]

The IPCC is another international body that helps fight against climate change by providing scientific information thought assessment reports to Member States.[115] In particular, the Fifth Assessment Report (AR5) provides a detailed scientific summary on climate change and its effects and was created in such a manner that policymakers can clearly understand the scientific explanations behind climate change, helping them to better implement climate change related policies.[116] Currently the IPCC is working on the Sixth Assessment Report (AR6), which will contain updated information on the impact of global warming, climate change, renewable energy sources, and the risks associated with extreme weather events.[117]

Food Security

Even though there has been a significant decrease in hunger worldwide, over 793 million people still suffer from malnutrition.[118] The effects of climate change have a major impact on food security.[119] Food security has four major dimensions: food availability, meaning food sufficient for the population; food access, meaning access for all and fair pricing; utilization, meaning nutritious and quality food; and food stability, meaning people can safely rely on the frequent availability of food supplies.[120] From 1980 to 2008 the average amount of weather related disasters grew significantly, and the agriculture, forestry and fishery industries have all felt the consequences of these changes in climate.[121] Rising sea levels and extreme worldwide weather events such as tornados, floods and violent storms, have damaged crops and important infrastructure, increasing poverty in certain regions, and making it difficult for people to access food.[122] Due to these changes, the food prices have also increased, making it more difficult for the poorest members of the population to have three meals a day.[123] With less food, people's nutritional intake is weakened, decreasing their overall health and immunity to diseases.[124]

WHO provides recommendations that enable communities to increase resilience and protection from malnutrition and hunger.[125] Such practices include: creating food storage, diversifying sources of income, and changing consumptions patterns and food preparation.[126] Member States are also advised to take necessary actions to protect food security by creating risk management systems that evaluate and predict potential risks related to food security; protecting food supplies against the potential weather events, especially against floods and tornados; researching and learning about different crops that can adapt and live in conditions where a significant change in the climate is

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[111] WHO, *WHO Workplan On Climate Change and Health - Aims and Objectives: 2014-2019*, 2015.
[112] WHO, *World Health Assembly highlights importance of multisectoral action on health*, 2016.
[113] WHO, *Health and Environment Linkages Initiative*, 2016.
[114] Ibid.
[115] IPCC, *Activities*, 2016.
[116] IPCC, *Climate Change 2014: Synthesis Report – Summary for Policymakers*, 2014.
[117] IPCC, *Activities*, 2016.
[118] WFP, *Climate Impact on Food Security*, 2016.
[119] Ibid.
[120] WFP, *Climate Impact on Food Security*, 2016.
[121] FAO, *Climate change and food security: a framework document*, 2008.
[122] WFP, *Climate Impact on Food Security*, 2016.
[123] Ibid.
[124] Ibid.
[125] FAO, *Climate change and food security: a framework document*, 2008, p. 41.
[126] Ibid.

occurring; and improving livestock and cultivated land management.[127] The Food and Agriculture Organization of the United Nations (FAO) has published a detailed framework that provides useful guidelines for Member States to help strengthen their resilience for food security by mitigating climate-related risks.[128] The framework discusses the importance of intensifying food production in order to meet future demands while still efficiently managing water supplies when watering crops.[129] Furthermore, it also highlights the overall importance of implementing more renewable clean energy systems that can decrease air pollution and increase energy efficiency.[130]

Heatwaves

A heatwave occurs when there is intense warm weather that lasts for several days causing a significant impact on the health and well-being of those in the area such as, exhaustion, heat cramps, heatstroke, and death.[131] Dry heatwaves usually increase the cases of heat stress and exposure to large amounts of solar radiation.[132] Heatwaves usually occur more in traditionally warm locations; however, due to climate change, this is spreading more throughout the globe and unlike other natural hazards, heatwaves occur over large areas.[133] Even though heatwaves used to be rare events, more frequent cases are occurring, and it is predicted that this phenomenon will greatly increase in the next 100 years.[134] These extreme temperatures have many implications for health, exemplified by the fact that in the United States alone it causes over 688 deaths each year.[135] In 2003 heatwaves caused over 70,000 deaths in 13 European states.[136] Heatwaves can cause heat exhaustion, heat stroke, exacerbated circulatory and kidney disease, particularly to those who work outdoors.[137] Higher temperatures also increase the level of pollutants in the air, as well as pollen and other aeroallergens, which cause respiratory diseases such as asthma.[138] Extremely hot days are also one of the main causes for dehydration, heat exhaustion, heat cramps, heat syncope, and heat rash.[139] Additionally heatwaves have the potential to damage health facilities and other important infrastructure networks.[140] One example of this was the 2009 heatwave in Australia, which resulted in damage on electric infrastructures and in transportation services, causing disruptions that cost approximately $800 million to repair.[141]

In order to build resilience and preparedness for future heatwaves WHO is focusing on building heat-health warning systems (HHWS) that inform local populations of future heatwaves.[142] These warning systems use forecast technology to predict and identify weather situations that can affect human health.[143] HHWS also serve to warn Member States about potential heatwaves and their health threats, and provides advice on measures that can be taken in order to avoid negative health impacts.[144] HHWS works with three distinct warning categories, the first of which is a low-level warning that informs local population of a potential minor heatwave and its effects.[145] The second higher-level warning not only notifies of potential heatwaves but also informs of the high risk effects on human health.[146] Finally in extreme cases the third and highest-level warning informs governments of possible measures that should be taken in the affected areas to avoid severe health problems to the population.[147] To date, only 15

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[127] Ibid.
[128] Ibid.
[129] Ibid.
[130] Ibid.
[131] WHO, *Heatwaves and Health: Guidance on Warning-System Development*, 2015.
[132] Ibid.
[133] Ibid.
[134] WHO, *Heat-waves: Risks and Responses*, 2004.
[135] Harmon, How Does a Heat Wave Affect the Human Body?, *Scientific American*, 2010.
[136] WHO, *Heatwaves and Health: Guidance on Warning-System Development*, 2015.
[137] WHO, *Strengthening Health Resilience to Climate Change*, 2015, p. 8.
[138] WHO, *Climate Change and Health*, 2016.
[139] WHO, *Heatwaves and Health: Guidance on Warning-System Development*, 2015.
[140] WHO, *Strengthening Health Resilience to Climate Change*, 2015, p. 7.
[141] NCCARF, *Historical Case Studies of Extreme Events*, 2010, p. 4.
[142] WHO, *Heat-waves: Risks and Responses*, 2004.
[143] WHO, *Heatwaves and Health: Guidance on Warning-System Development*, 2015.
[144] Ibid.
[145] Ibid.
[146] Ibid.
[147] Ibid.

Member States have declared that they utilize HHWS, in particular both Germany and Portugal have implemented the system in targeted cities within their borders.[148]

The Health Effects on Vulnerable Populations

Due to inadequate infrastructure in national health systems worldwide, such as low quality hospitals and health centers, less developed states are more vulnerable to the effects of climate change.[149] In addition, due to socioeconomic status, age, gender, and ethnicity, certain members of their populations are also more vulnerable to the health effects of changing weather patterns.[150] In particular, climate change related issues can cause significant health risks to children in less developed areas, due to their fragility during the development stages, and early exposure to environmental changes.[151] A study conducted by WHO in 2000 noted that roughly 90% of deaths due to climate change were of children, especially those who lived in less developed states.[152] These deaths were mostly attributed to climate-sensitive health outcomes such as under nutrition, malaria, and diarrhea.[153] Because climate change affects access to food, many children with poor socioeconomic status also suffer from under nutrition, which increases their vulnerability to diseases due to weaker immune systems.[154] Lack of access to safe drinking water also affects children, especially those under the age of 5, increasing their risk of death by diarrhea or waterborne diseases. [155]

Of the 1.7 billion people that live in extreme poverty, 70% of them are women that are disproportionally affected by climate change due to current gender inequalities.[156] In several of the poorest areas of the world, there is evidence that women's mortality, especially that of young girls, is significantly higher than that of men, due in part to the severity of changing weather conditions and to their lower socioeconomic status.[157] In low-resource settings such as dry regions of Australia, Africa, and India, rural women tend to travel to collect water and food, and due to unexpected droughts they are more likely to suffer from lack of food security and water safety.[158] Women's vulnerability is further impacted by differences in their social roles and responsibilities in comparison with men.[159] In many societies women are expected be the caregivers of their families, as such women are more likely to be at home when extreme weather events occur.[160] In areas where climate change affects access to water, women are forced to search for water in unsafe areas, which can lead to waterborne diseases affecting not only the women but their families. [161]

Furthermore, elderly people aged 65 and over, have been found to be more susceptible to health issues relating to heat exposure, resulting in heart-related illnesses and even death.[162] They are a more vulnerable group because their respiratory and cardiovascular systems are weakening.[163] This correlation is more evident in less developed states, especially those in sub-Saharan Africa, South Asia, and Small Island Developing States (SIDS), where governments do not have enough capacity to respond to crisis situations.[164] The elderly population is disproportionately affected by these events as many who face health-related barrier may not be able to protect themselves during these

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[148] WHO, *Heat-waves: Risks and Responses*, 2004.
[149] WHO, *Strengthening Health Resilience to Climate Change*, 2015, p. 10.
[150] Ibid.
[151] Ibid.
[152] Ibid.
[153] Ibid.
[154] WHO, *Global Health Risks*, 2009, p. 13.
[155] Ibid., p. 23.
[156] WHO, *Strengthening Health Resilience to Climate Change*, 2015, p. 10.
[157] Ibid.
[158] Ibid.
[159] WHO, *Gender, Climate Change and Health*, 2010.
[160] Ibid.
[161] Ibid.
[162] WHO, *Heat-waves: Risks and Responses*, 2004.
[163] WHO, *Strengthening Health Resilience to Climate Change*, 2015, p. 10.
[164] Ibid., p. 9.

circumstances.[165] Between 2030 and 2050, it is expected that climate change will result in an additional 38,000 elderly deaths as a direct result of climate-related disasters.[166]

Adaptation Measures

In order to prevent and protect people from the health risks caused by climate change, the international community is focusing its work on two main areas: adopting measures that will slow the effects of climate change; and adopting adaptation measures to lessen the health issues associated with climate change.[167] WHO is already involved in several programs such as the Climate Change Adaptation to Protect Human Health launched in 2010.[168] Alongside the UN Development Programme (UNDP), this project has the objective to improve the capacity of health systems to adapt and respond to climate change.[169] With 7 Member State partners, the project helps identify climate-sensitive health risks and best practices for countries to adopt and protect the health of people affected by climate change.[170] Some practices include improving early warning and action systems, building capacity for national health institutions, performing health reduction interventions, and studying, promoting, and sharing effective measures to mitigate health risks.[171] In China, the project focuses on reducing the effects of heat waves on cerebro-cardiovascular diseases, by focusing on data collection, data sharing, increasing communication, and public awareness.[172] In Jordan, the project's main goal is to develop necessary water consumption regulations, increase the state's capacity to protect human health, and improve its ability to monitor water usage in order to avoid unnecessary waste.[173]

A project known as Water, Sanitation and Hygiene (WASH) is another venture that WHO is involved in with the United Kingdom Department for International Development and four pilot Member States: Bangladesh, Ethiopia, Nepal, and Tanzania.[174] This project aims at building health adaptation measures to climate change through resilient water infrastructures, and enhancements in sanitation and hygiene.[175] In the four pilot Member States, the project is revising and promoting national policies that involve climate change and its effect on health, building resilient water safety plans, and strengthening local communities to increase resilience to climate change.[176]

WHO is also working on projects that promote the reduction of greenhouse gas emissions.[177] Air pollution is one of the great modern threats to health, where minute pollution particles such as black carbon and methane penetrate our lungs and bloodstream causing heart disease, stroke, lung cancer, or other pulmonary diseases, ultimately resulting in 1 in 8 deaths worldwide.[178] Breathe Life is a WHO project in partnership with the CCAC that aims at reducing air pollution by promoting measures that will reduce gas emissions.[179] Such measures include sustainable transportation, renewable power, solid waste management, and energy efficient homes.[180] Within the past five years progress has already been seen in cities being monitored by the project, where a reduction of 5% of air pollution levels has been observed.[181]

A Seven-Country Initiative

Regions in Europe with arid or semi-arid water-stressed locations, as well as high mountains areas are experiencing an increase in environmental emergencies such as heatwaves, floods, violent rainstorms, droughts, harsh winters and

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[165] Ibid.
[166] WHO, *Climate Change and Health*, 2016.
[167] WHO, *World Health Assembly highlights importance of multisectoral action on health*, 2016.
[168] WHO, *Climate Change Adaptation to Protect Human Health*, 2016.
[169] Ibid.
[170] Ibid.
[171] Ibid.
[172] WHO, *Climate Change Adaptation to Protect Human Health: China Project Profile*, 2016.
[173] WHO, *Climate Change Adaptation to Protect Human Health: Jordan Project Profile*, 2016.
[174] WHO, *Building adaptation to climate change in health in least developed countries through resilient water, sanitation and hygiene (WASH)*, 2016.
[175] Ibid.
[176] Ibid.
[177] WHO, *Breathe Life*, 2016.
[178] Ibid.; WHO and CCAC, *Health and Climate Impacts*, 2016.
[179] WHO, *Breathe Life*, 2016.
[180] Ibid.
[181] Ibid.

hurricanes.[182] The melting of glaciers is also affecting people in the Artic and sub-Arctic regions of Europe, causing damage to health infrastructure and transportation routes.[183] WHO, supported by the German Federal Ministry for Environment, Nature Conservation and Nuclear Safety, initiated in 2008 a project titled "Protecting Health from Climate Change: A Seven-Country Initiative." The initiative is being implemented in the following seven pilot countries: Albania, Kazakhstan, Kyrgyzstan, the Russian Federation, Tajikistan, Former Yugoslav Republic of Macedonia, and Uzbekistan.[184] The main objectives include: building capacity in the workforce; developing strategies to address health risks due to climate change; building institutional capacity in preparation for extreme weather events; researching and promoting renewable energy, and exchanging knowledge and experiences in regards to adaptation measures.[185]

In Albania, the initiative focused on air pollution, which kills about 200 people a year in the capital city of Tirana alone.[186] The project supported the creation of an air quality monitoring system that collected and shared data with other organizations.[187] The project also performed health emergency management training in hospitals, preparing doctors and nurses for cases of extreme weather events, as well as how to identify potential health problems that can become more severe due to the effects of climate change.[188] In Tajikistan, a state with an arid climate that is more prone to natural disasters, only 55% of the population has access to clean water.[189] Through this initiative, Tajikistan started developing resilience initiatives by developing water safety plans in order to guarantee more access to water for two pilot villages.[190] These initiatives included assessing the water supply systems, identifying potential risks, and intensifying sources of contamination and water loss.[191]

Conclusion

Although climate change and health were not traditionally discussed together, the international community is now addressing the link between the two topics and elaborating on its causes, effects and health implications.[192] Even by taking immediate action to prevent the increasing effects of climate change, in the next decades the earth will still pass through changes in the atmosphere and see extreme weather conditions that will have an impact on the health of millions of people.[193] In this regard, less developed states are more vulnerable and will suffer more from climate change, as will the more vulnerable groups within those states.[194] Heatwaves, waterborne diseases, respiratory illnesses, food security, and water safety are the main areas in which climate change will affect the health of individuals worldwide.[195] The international community must come together and work collaboratively to create measures that will help Member Sates prepare and build health resilience systems against climate change.[196] WHO is participating actively in the fight against climate change with several projects already underway, but more discussion is still needed, especially on the topic of climate change and its relation to health.[197]

Further Research

Delegates are encouraged to think of the following questions when considering this topic: What can the international community do to strengthen the link between health and climate change? What is the difference between adaptation and resilience strategies? What can Member States do in order to increase their own resilience and protect the health of their citizens from the effects of climate change? How can the international community better protect vulnerable

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[182] WHO, *Protecting Health from Climate Change: A seven-country initiative*, 2013.
[183] Ibid.
[184] Ibid.
[185] Ibid.
[186] Ibid., p. 20.
[187] Ibid.
[188] Ibid., p. 22.
[189] Ibid., p. 28.
[190] Ibid., p. 29.
[191] Ibid.
[192] WHO, *World Health Assembly highlights importance of multisectoral action on health*, 2016.
[193] WHO, *Strengthening Health Resilience to Climate Change*, 2015, p. 6.
[194] Ibid.
[195] WHO, *Climate Change and Health*, 2016.
[196] WHO, *Strengthening Health Resilience to Climate Change*, 2015, p. 6.
[197] WHO, *World Health Assembly highlights importance of multisectoral action on health*, 2016.

populations against the health risks associated with climate change? What are other health risks that are influenced by climate change? What can WHO do to increase awareness of climate change related health risks?

Annotated Bibliography

United Nations Framework Convention on Climate Change. (1992). Retrieved 19 July 2016 from: http://unfccc.int/key_documents/the_convention/items/2853.php

This convention is an important document to study when learning about climate change. Delegates should try to assess how this document can be applied to help mitigate health risks. In particular, it discusses the major goals that the international community has committed itself to on this issue of climate change. The UNFCCC is the main international document that initiated a global discussion on climate change which helped in the development of international treaties such as the Kyoto Protocol and the Paris Agreement. As stated in article 2, the convention aims to stabilize the emission of greenhouse gas in order to prevent interference with the climate system. All Member States of the UN ratified this convention thus committing to work in reducing the emission of carbon in to the atmosphere.

United Nations Framework Convention on Climate Change. (2014). *Framework Convention on Climate Change* [Website]. Retrieved 20 July 2016 from: http://unfccc.int/2860.php

This resource will direct delegates to the main webpage of the UNFCCC. By using this website delegates can learn more about climate change and its discussion in the international community. The page discusses the progress of the Kyoto Protocol and the Paris Agreement and its international repercussions. There are also several useful links that directs delegates to climate change subtopics such as technology, capacity-building, cooperation with the international community, and greenhouse gas emission data. The website also provides a link to the Kyoto Protocol document which is one of the first's conventions where health issues and climate change were discussed together.

World Health Organization. (2013). *Protecting Health from Climate Change: A seven-country initiative*. Retrieved 22 August 2016 from: http://www.euro.who.int/__data/assets/pdf_file/0019/215524/PROTECTING-HEALTH-FROM-CLIMATE-CHANGE-A-seven-country-initiative.pdf?ua=1

This report is the summary of an initiative taken place in several countries in Europe and central Asia. The document focuses on natural hazards that are occurring more often in Europe due to climate change. The action plan was created to further research on the topic and begin implementing new strategies that will protect the health of affected populations. The report goes in to detail about the project's implementation in the seven pilot countries. Due to this project, climate change public awareness rose in several countries, more people were able to have access to safe drinking water, and more research was conducted on the different causes and consequences of the natural hazards.

World Health Organization. (2015). *Heatwaves and Health: Guidance on Warning-System Development*. Retrieved 28 August 2016 from: http://www.who.int/globalchange/publications/WMO_WHO_Heat_Health_Guidance_2015.pdf

This guide focuses mostly on heatwaves and its implications for the health sector. As discussed in the guide, heatwaves are a recent climate hazard, which are occurring more often around the globe. Its health implications include several cardiovascular diseases, especially for the elderly and outdoor workers. The guide discusses the necessity for more research and awareness on the issue. Some of important measures also discussed in the guide include the protection of people during heatwaves, building early warning systems, and better infrastructure that will endure even during high temperatures.

World Health Organization. (2015). *Operational Framework for Building Climate Resilient Health Systems*. Retrieved 25 August 2016 from: http://apps.who.int/iris/bitstream/10665/189951/1/9789241565073_eng.pdf?ua=1

This document is very useful for delegates, as it discusses important projects on climate change and health which were adopted by WHO. This document was created for Member States as an attempt to highlight how state health systems can address the growing issue of climate change.

The main goal of the framework is to increase the capability for health systems to respond to unstable new climatic events. It was intended for health professionals, but is a great source for delegates in helping them make decisions based on other sectors such as food security, water access, and emergency management.

World Health Organization. (2015). *Strengthening Health Resilience to Climate Change*. Retrieved 26 August 2016 from: http://www.who.int/phe/climate/conference_briefing_1_healthresilience_27aug.pdf

The above briefing is a very useful tool for studying the health risks associated with climate change. The document defines and explains the different changes in climate that have been occurring more recently, such as heatwaves, floods, violent storms, etc. The briefing discusses how these changes affect health, including the different diseases that have been effected by climate change, such as waterborne diseases such as dengue and malaria. The document also highlights that due to climate change there are more at-risk members of the population. These groups include populations in poorer countries, children, women and the elderly.

World Health Organization. (2016). *Climate Change Adaptation to Protect Human Health* [Website]. Retrieved 27 August 2016 from: http://www.who.int/globalchange/projects/adaptation/en/

One of WHO's projects alongside with UNDP is the Global Project Overview mentioned previously in this guide. This project aims at building better health systems that take into consideration the effects of climate change. Some of the improvements that the project has focused on include building better early warning systems and early action, research and knowledge sharing. This webpage goes in to more detail about the program explaining its development in the following seven pilot countries: Barbados, Bhutan, China, Fiji, Jordan, Kenya, and Uzbekistan.

World Health Organization. (2016). *Climate Change and Health* [Website]. Retrieved 19 July 2016 from: http://www.who.int/mediacentre/factsheets/fs266/en/

This is the main WHO page on climate change and health. It is designed to show the connection between climate change and public health, and how millions of people are dying due to greenhouse gas emission. The page contains statistics and other useful information, effectively defining climate change, public health, and identifying the most vulnerable populations that are suffering with the changing climate. Delegates can learn a little more about heatwaves, natural disaster effects, measuring effects, and who is at risk. The site also provides useful links to other important documents covering this issue.

World Health Organization. (2016). *What WHO is doing for climate and health* [Website]. Retrieved 20 July 2016 from: http://www.who.int/globalchange/health_policy/who_workplan/en/

In 2008 WHO created a workplan which aimed at protecting human health from the negative effects of climate change. This plan provides educational support to Member States on the topic of health issues related to climate change and how to build resilience. The page highlights important measures that need to be taken such as identifying new strategies to protecting health against climate change, the need for more research, and supporting current health systems. This webpage also contains a link to WHO's four climate and health priorities: awareness, strengthening partnerships, enhance scientific evidence, and strengthen health systems.

World Health Organization. (2016). *World Health Assembly highlights importance of multisectoral action on health*. Retrieved 24 August 2016 from: http://www.who.int/mediacentre/news/releases/2016/WHA69-importance-of-multisectoral-action/en/

This webpage contains the summary of the speech by Christiana Figueres, the Executive Secretary of the UNFCCC. In her speech, Figueres thanks WHO for its involvement at the Paris Conference and urges WHO's delegates to continue their work on the health effects of climate change. Figueres highlights the fact that both issues are deeply connected, and notes that the international community should always consider health effects caused by climate change. Figueres also highlights the health implications created by climate change and mentions the importance of promoting measures that will reduce the impact of climate change. Delegates are also able to access her full speech provided by WHO's website.

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II. Ensuring Access to Clean and Safe Water

"Ensuring water and sanitation for all is crucial for reducing poverty and achieving other Sustainable Development Goals."[198]

Introduction

A milestone was reached when the United Nations (UN) General Assembly formally recognized the human right to water and sanitation in 2010 with resolution 64/292, "The Human Right to Water and Sanitation."[199] Lack of access to clean water, sanitation, and hygiene are crucial public health issues that primarily impact rural areas in less developed nations.[200] The Water Project estimates that 80% of illnesses in developing states are linked to inadequate access to clean water and sanitation, and that 20% of child mortality under the age of five is caused by a water-related disease.[201] As of 2015, the World Health Organization (WHO) and UN Children's Fund (UNICEF) Joint Monitoring Programme (JMP) estimates that 2.4 billion people still lack improved sanitation facilities, 663 million people lack access to improved drinking water sources, and at least 1 billion people continue to practice open-defecation.[202] The time spent on trying to obtain water reduces the opportunity for women and children to receive education and contribute to economic development, while also compromising their safety.[203] The lack of access to improved water and sanitation and the associated impact is known as the water and sanitation crisis.[204]

Though water, sanitation, and hygiene (WASH) are separate fields that address the water crisis and associated health issues, they are grouped together due to their interconnectedness and require concerted action to successfully address the issues related to each field.[205] Water focuses on the safety and quality of the water, and easier methods to obtain access to water.[206] Sanitation focuses on the effective treatment of water in order for it to reach a sufficient level of quality, which includes preventing exposure to human waste and proper water management to prevent waterborne infectious diseases.[207] Hygiene is the use of quality water and sufficient sanitation to prevent diseases and improve the overall health of communities.[208] The focus on, and the interdependence between each of the fields, provides a foundation to address the specific issues.[209] Access to WASH services provides indicators of progress towards the Sustainable Development Goals (SDGs) particularly Goal 3: Good Health and Well-Being, Goal 5: Gender Equality, and Goal 6: Clean Water and Sanitation.[210] WHO provides leadership in WASH-related issues through authoritative statements, recommendations, partnerships, and influencing policy.[211] By ensuring access to clean and safe water through proper development, implementation, and management of water resources, the opportunity arises for the international community to collectively find success in various development goals for all regions throughout the world.[212]

International and Regional Framework

The human right to water and sanitation is not explicitly stated in the *Universal Declaration of Human Rights* (UDHR) (1948).[213] However, access to water as a human right was first stated in the Action Plan from the 1977 Mar del Plata United Nations Water Conference, which declared all peoples, no matter their social and economic

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[198] UN DPI, *UN and World Bank chiefs announce members of joint high-level panel on water*, 2016.
[199] UN General Assembly, *The human right to water and sanitation (A/RES/64/292)*, 2010.
[200] The Water Project, *Facts About Water: Statistics of the Water Crisis*, 2016.
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[205] UNICEF, *About WASH*, 2016.
[206] WHO, *Water safety and quality*.
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[208] WHO, *Diseases and risks*.
[209] UNICEF, *About WASH*, 2016.
[210] WHO, *WASH Post-2015: Proposed indicators for drinking water, sanitation and hygiene*, , 2014, p. 1
[211] WHO, *Vision, mission and strategic objectives.*
[212] UN-Water, *Water in the 2030 Agenda for Sustainable Development*, 2015.
[213] UNRIC, *Making water a human right.*

conditions, have the right to have access to drinking water that meets their basic needs.[214] In 1992, the UN Conference on Environment and Development endorsed the outcome of the Mar del Plata Water Conference through Chapter 18 of the *Agenda 21*.[215] In 1999, General Assembly resolution 54/175 on "The Right to Development," recognized the rights to food and clean water as fundamental human rights.[216] In 2002, General Comment 15, a document published by the Committee on Economic, Social, and Cultural Rights (CESCR), interpreted the 1966 *International Covenant on Economic, Social and Cultural Rights* (ICESCR) as confirmation that the right to water has been present in international law[217] The General Comment further provided guidelines for interpreting the right to water as framed within Articles 11 and 12 of the ICESCR, and implying the human right to water as "a prerequisite for the realization of other human rights."[218]

It was not until 2010 that the right to water and sanitation was formally recognized by the UN through General Assembly resolution 64/292, "The human right to water and sanitation," which acknowledged that clean water and sanitation are essential elements for the realization of all human rights.[219] Furthermore, resolution 64/292 called for international cooperation as an essential element in providing the right to water and sanitation.[220] In 2010, the Human Rights Council (HRC) affirmed in resolution 15/9, "Human rights and access to safe drinking water and sanitation," that states are legally bound by international human rights law to recognize the human right to water and sanitation.[221] HRC has reaffirmed this language through resolutions 16/2 (2011), 18/1 (2011), 21/2 (2012), 24/18 (2013), and 27/2 (2014), all of which address "Human rights and access to safe drinking water and sanitation."[222]

The milestones that led to the recognition of water as a human right, along with the efforts through the Millennium Development Goals (MDGs), have resulted in stand-alone SDG 6 on Water and Sanitation -.[223] The reflection of water and sanitation as core priorities for sustainable development emphasizes the crucial linkages to other SDGs, and the subsequent effects of meeting SDG 6 has on generating greater success in SDG 3 on Good Health and Well-Being and towards achieving the 2030 Agenda.[224]

Role of the International System

WHO, in collaboration with UNICEF, formulated the JMP in 1990 for Water Supply and Sanitation.[225] The mission of the JMP is to support Member States as they work to improve their monitoring and management of WASH services.[226] The JMP also coordinates with international initiatives, such as the UN-Water Global Analysis and Assessment of Sanitation and Drinking Water (GLAAS), to monitor WASH progress at the regional and global level.[227] The new strategy surrounding GLAAS covers the traditional GLAAS topics of governance, monitoring, and human resources, but additionally includes finance and the cost to achieve universal access to WASH services.[228] Further efforts have included a joint partnership between UN Secretary-General Ban Ki-moon and the World Bank Group President Jim Yong Kim that resulted in the 2016 High-level Panel on Water, which aims to provide focus on accelerated action toward ensuring sustainable management of WASH services for all people and meeting the targets of SDG 6.[229]

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[214] Ibid.; UN-Water, *The Human Right to Water and Sanitation: Milestones*, p. 1.
[215] Ibid.
[216] Ibid., p. 2.
[217] Ibid.
[218] Ibid.
[219] Ibid., p. 3.
[220] Ibid.
[221] UN HRC, *Human rights and access to safe drinking water and sanitation (A/HRC/RES/15/9)*, 2010.
[222] UN OHCHR, *Resolutions*.
[223] UN DESA, *International Decade for Action 'Water for Life' 2005-2015: In Focus.*
[224] UN-Water, *Water in the 2030 Agenda for Sustainable Development*, 2015; UN-Water, *A Dedicated Water Goal: Water at the Core of Sustainable Development*, 2015.
[225] JMP, *Mission and objectives*.
[226] WHO, *Water supply, sanitation and hygiene monitoring*, 2015.
[227] JMP, *Mission and objectives*.
[228] WHO, *GLAAS 2016/2017 Cycle*, 2016.
[229] UN DESA, *High-level Panel on Water*, 2016.

In 2000, General Assembly resolution 55/196 declared the year 2003 as the "International Year of Water" to bring the lack of water and sanitation to attention and promote action for addressing the crisis.[230] The International Year of Water resulted in collaboration between 31 UN-Water members and partners, known as the *World Water Assessment Programme* (WWAP).[231] UN-Water is a UN inter-agency coordinator that focuses on all issues relating to freshwater and sanitation.[232] WWAP produces the *World Water Development* Report (WWDR), an annual report on the management and use of the world's water resources, and recommendations on implementing sustainable measures for providing WASH services.[233] WWDR 2016 focuses on water and jobs highlighting the necessity to promote a healthy workforce for sustainable economic growth.[234]

Following the "International Year of Water," the enhanced understanding of the water and sanitation crisis led to the adoption of General Assembly resolution 58/217 (2005), which declared 2005-2015 the "International Decade for Action 'Water for Life' ".[235] The decade provided a renewed focus on the magnitude of the water and sanitation crisis, establishing the commitment to establish sustainable management of water resources.[236] Additionally, 'Water for Life' focused on the sub-Saharan Africa region, which faces an overall lack of water and adequate sanitation.[237] The African Ministers' Council on Water and Sanitation (AMCOW), through their African Conference on Sanitation and Hygiene (AfricaSan) initiative, placed sanitation and hygiene as the priority on the development agenda for Africa.[238] Since 2008, AfricaSan has focused on the *eThekwini Declaration*, which empowers individual states to create separate budget lines designed to improve sanitation and hygiene in their respective countries.[239]

The Sphere Project, established by the International Red Cross and the Red Crescent Movement to improve the quality of disaster response, has framed a *Humanitarian Charter* and a set of minimum standards to be met in disaster-affected populations.[240] Among these minimum standards is the promotion of WASH services and appropriate health action through effective communication between the agency and the disaster-affected population in an effort to provide the best possible response to protect health and promote sufficient hygiene.[241] The principal users of the *Sphere Handbook* are those involved in planning, managing, and implementing a humanitarian response; however, governments, local authorities, and private companies are encouraged to follow the standards to form appropriate action.[242]

The monitoring and assessment of civil society organizations (CSOs), such as WaterAid and The Asia Foundation, has a substantial role in ensuring governments and local facilities continue to work toward improved WASH services.[243] The WaterAid campaign, The Healthy Start, is a four-year project that strictly focuses on access to WASH services to improve the health of newborn babies and children by calling for increased efforts from national governments and healthcare facilities to strengthen WASH services.[244] The Asia Foundation has sought to improve the lives of communities and vulnerable groups, including women that have been impacted by poor management of Himalayan Rivers, which are crucial for the region's ability to access WASH services.[245] In 2016, The Asia Foundation called for proposals under the Civil Society Fund of the *South Asia Water Governance Program* to improve the management of the rivers and find collaborative solutions.[246] Through this effort, The Asia Foundation

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[230] UN DPI, *UN Launches International Year of Freshwater to Galvanize Action on Critical Water Problems*.
[231] UNESCO, *World Water Assessment Programme (WWAP): About WWAP*.
[232] UN-Water, *About UN-Water*, 2014.
[233] UNESCO, *World Water Assessment Programme (WWAP): About WWAP*, 2016.
[234] UNESCO, *WWAP: 2016 UN World Water Development Report, Water and Jobs*, 2016, p. 2.
[235] UN General Assembly, *International Decade for Action, "Water for Life", 2005-2015 (A/RES/58/217)*, 2004; UN DESA, *International Decade for Action 'Water for Life' 2005-2015: About the Decade*.
[236] Ibid..
[237] UN DESA, *International Decade for Action 'Water for Life' 2005-2015: Africa.*
[238] AfricaSan, *About: Background*, 2016.
[239] AfricaSan, *The eThekwini Declaration and AfricaSan Action Plan*, 2008, p. 1.
[240] The Sphere Project, *What is Sphere?*
[241] Ibid.
[242] Ibid.
[243] WaterAid, *Healthy Start*.
[244] Ibid.
[245] The Asia Foundation, *The Asia Foundation Announces Call for Proposals for the Civil Society Fund – South Asia Water Governance Program*, 2016.
[246] Ibid.

brings together people, ideas, institutions, and other CSOs from seven focus countries to collectively find solutions for effective governance of the Himalayan Rivers.[247]

Impact from Lack of WASH Services

Waterborne Infectious Diseases

Waterborne infectious diseases are resultant of disease causing pathogens that can be spread through contact with contaminated water.[248] JMP estimates that at least 1.8 billion people around the world drink fecal-contaminated water and even more drink water through inadequate sanitation systems.[249] The risk of waterborne infectious diseases that result from a lack of WASH services is a health concern for people in every aspect of their life.[250] The basic access to WASH services at home and the workplace indirectly influences an improved economy through a healthy and productive population.[251] A lack of WASH services leads to health hazards in the workforce, such as dehydration and disease.[252] According to the 2016 WWDR, 17% of the world's work-related deaths are a result of work-related communicable diseases, of which the primary contributing factor is poor WASH services.[253] Development of quality WASH services offers an enhanced framework for global development, as workers are able to work efficiently under healthy conditions.[254] Furthermore, the increased number of decent jobs serves the broader objectives of sustainable development.[255]

Impact on Women's Health

WASH services connects to some of the priority issues regarding women's health, such as reproductive health, maternal health, violence against women, and mental health.[256] When water is a scarce resource and not easily accessible, women and girls are disproportionately tasked with collecting water, which is often a time-consuming and dangerous journey for what is likely unclean water.[257] Collecting household water reduces the amount of time spent on education and other productive endeavors while leaving women susceptible to violence and sexual abuse during their journey to collect water.[258] Water scarcity also contributes to the practice of open-defecation, which not only increases risk of widespread disease, but in an effort to maintain privacy and dignity, women and girls wait until nightfall to practice open-defecation.[259] Resorting to these practices perpetuates the susceptibility to sexual violence.[260] This threat causes women and girls to limit their consumption of food and drink and can result in further negative health effects.[261] Furthermore, water scarcity increases psychological stress for women and girls, particularly when symptoms of menstruation, pregnancy, and childbirth cannot be managed discreetly.[262] Organizations such as Water.org have sought to provide sustainable solutions to address the water crisis and improve the conditions for women and girls.[263] Among the programs implemented by Water.org is WaterCredit, which uses small loans that are invested to empower individuals and communities to address their specific water needs.[264] Improving WASH services thus leads to positive outcomes that include strengthened physical and mental health of women through promoting dignity and enhancing safety.[265]

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[247] Ibid.
[248] WHO, *Waterborne Zoonoses: Identification, Causes, and Control*, 2004, p. 14.
[249] UN-Water, *Statistics*.
[250] WHO, *Water for Health – Taking Charge*.
[251] UN-Water, *United Nations World Water Development Report 2016: Water and Jobs*, 2016, p. 2.
[252] UN-Water, *United Nations World Water Development Report 2016: Water and Jobs Executive Summary*, 2016, p. 9.
[253] Ibid.
[254] Ibid., p. 12.
[255] Ibid.
[256] Bustreo, *Ten top issues for women's health*, 2015.
[257] UNICEF, *Gender and water, sanitation and hygiene(WASH).*
[258] Ibid.
[259] Ibid.
[260] Ibid.
[261] Ibid.
[262] Water.org, *Facts About Women and the Water Crisis*.
[263] Water.org, *Small loans, big impact: WaterCredit*.
[264] Ibid.
[265] WHO, *Sanitation*, 2013.

Children's Health
The impact of inadequate WASH services for children is primarily characterized through diarrheal diseases.[266] Diarrheal disease, with an estimated 1.5 million under-five deaths every year, is the second leading cause of child mortality and is resultant of primarily contaminated food and water sources, as well as poor sanitation facilities.[267] WHO has recommended a seven-point plan for comprehensive diarrhea control that is divided into a treatment package and a prevention package.[268] The treatment package, issued in a 2004 joint statement by UNICEF and WHO on "Clinical Management of Acute Diarrhea," highlights the use of oral rehydration salts that contain lower concentrations of glucose and salt as well as sufficient zinc supplements as key to reduce mortality from diarrhea.[269] Additionally, the prevention package includes sustainable improvements to WASH services emphasizing recommendations must be instilled as routine practice in homes and approached in a concerted manner to maximize impact and effectively prevent and treat instances of acute diarrhea.[270] These packages, in conjunction with the previous methods of prevention and treatment through increased fluids, breastfeeding, and selective use of antibiotics, can lower the mortality rate of children from diarrhea.[271]

Proper Management of Water Resources

Wastewater, excreta, and greywater pose a health concern when not properly managed; however, proper management can result in promising uses, such as in agriculture and aquaculture.[272] With more than 10% of the world's population consuming foods produced from wastewater irrigation, the use of untreated wastewater continues in agriculture and increases health concerns and chance of disease.[273] However, when treated and managed properly, wastewater, excreta, and greywater offer solutions to the increasingly critical issue of water scarcity in the world.[274] Currently, Integrated Water Resource Management (IWRM) is effectively managing wastewater, excreta, and greywater at regional and local levels.[275] IWRM is the process of promoting sustainable measures of water management in a way that maximizes the economic and social welfare without compromising vital ecosystems.[276] The foundational capacities of IWRM are to improve nutrition, reduce risk of disease, and improve hygienic needs.[277] WHO has promoted IWRM with Member States to build national capacities that can assess the health impact through best practices of IWRM.[278] In 2012, 65% of the 130 Member States that provided a response to a survey question indicated that management plans had been implemented at the national level.[279] Further success is necessary to improve access to WASH services, making IWRM a target of SDG 6.[280]

Water Safety Plans
WHO has also emphasized the importance of Water Safety Plans (WSPs) as a reliable framework for effective and sustainable water management.[281] Effective management of water supplies at a regional level is critical for establishing sustainability of WASH services, and WHO has designed the WSP approach to be adaptable to individual water systems.[282] The WSP approach is outlined as the: a) assessment, b) monitoring of priority control measures, and c) continuous management of water supply systems.[283] The assessment consists of a system

[266] WHO, *Diarrhoeal disease*, 2013.
[267] WHO, *Diarrhoea: Why children are still dying and what can be done*, 2009, p. 1.
[268] Ibid., p. 31.
[269] WHO and UNICEF, *Clinical Management of Acute Diarrhoea*, 2004, p. 2.
[270] WHO, *Diarrhoea: Why children are still dying and what can be done*, 2009, p. 32.
[271] WHO and UNICEF, *Clinical Management of Acute Diarrhoea*, 2004, p. 2.
[272] WHO, *WHO Guidelines for the Safe Use of Wastewater, Excreta and Greywater: Volume I Policy and Regulatory Aspects*, 2006, pp. 3-15.
[273] Ibid., pp. 2-6.
[274] Ibid., p. 3.
[275] Ibid.
[276] UN DESA, *International Decade for Action 'Water for Life' 2005-2015: Integrated Water Resources Management (IWRM)*.
[277] UN-Water, *Status Report on Integrated Water Resources Management and Water Efficiency Plans*, 2008, pp. 4-26.
[278] UN-Water, *Status Report on Integrated Water Resources Management and Water Efficiency Plans*, 2008, pp. 4-26..
[279] UN DESA, *Progress of Goal 6*, 2016.
[280] Ibid.
[281] WHO, *Water Safety Planning for Small Community Water Supplies*, 2012, p. v.
[282] WHO, *Guidelines for Drinking-water Quality*, 2011, p. 46.
[283] Ibid.

assessment that determines if the water supply-chain can deliver water that meets the targeted quality.[284] The monitoring step is used to ensure quality of water is consistently maintained and any deviation is detected in a timely manner.[285] The continuous management step includes documented plans for upgrades of systems, monitoring and evaluation, and actions to take to fix incidents that may occur with the systems.[286] WSPs have been implemented throughout the world, but in order to maintain sustainability require ongoing auditing for effectiveness of individual systems.[287] WSPs are organized and implemented by local governments, non-governmental organizations (NGOs), and private organizations that effectively communicate to establish the best plan to match individual water systems.[288] WHO and the International Water Association (IWA) published *A practical guide to auditing water safety plans* in 2015 to support the development of WSP auditing schemes to be used at individual water systems.[289]

Technology

Innovative technologies and infrastructure are requisites to successfully addressing the water and sanitation crisis.[290] Technology is capable of fostering more efficient use of water, improving wastewater treatment, increasing access, and enhancing many other areas.[291] In many regions, treated wastewater has been used to directly produce drinking water without any waterborne disease outbreaks.[292] The utilization and sharing of these technologies provide a means to actively address the water crisis; however, this requires adequate human, institutional, and financial arrangements for long-term management.[293] Even with successful technology transfer, public acceptance of the use of such technology remains a primary obstacle.[294] Other obstacles include cost-effectiveness, knowledge of technology, and insufficient capacity.[295] The private sector, NGOs, and CSOs have important roles in overcoming these obstacles for successful technology adaptation.[296] Through the use of incentives, strengthening relations, and information sharing, these stakeholders can effectively approach the barriers to technology sharing.[297]

Case Study: Viet Nam's Success with Improving Access to WASH Services

The beginning of the MDGs fostered a vigorous 15-year commitment by the government of Viet Nam to meet the MDG target for water and sanitation.[298] Before this commitment, nearly half of the population of Viet Nam practiced open-defecation and had no access to improved sources of drinking water.[299] Child mortality rates were high and there was no centralized management of WASH services.[300] Through support from WHO, UNICEF, the World Bank Group, and other international organizations, the Viet Nam government developed the *National Rural Clean Water Supply and Sanitation Strategy to 2020*.[301] The strategy established a collaborative effort among all government agencies to strive for universal WASH services, a more ambitious target than the MDGs.[302] At the conclusion of the MDGs, Viet Nam exceeded the MDG target for water and sanitation with 98% of the 90 million Viet Nam residents obtaining access to improved drinking water sources and 78% receiving access to toilets that meet international standards.[303] Effective IWRM through the Ho Cho Minh City Environmental Sanitation Project reduced flooding for 88,000 homes and created centralized wastewater collection systems for 265,800 homes.[304] Through current

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[284] Ibid.
[285] Ibid.
[286] Ibid.
[287] WHO, *A Practical Guide to Auditing Water Safety Plans*, 2015, p. 10.
[288] WHO, *Guidelines for Drinking-water Quality*, 2011, p. 12.
[289] WHO, *A Practical Guide to Auditing Water Safety Plans*, 2015, p. 1.
[290] UN-Water, *Means of Implementation: A focus on Sustainable Development Goals 6 and 17*, 2015, p. 16.
[291] Ibid.
[292] Ibid.
[293] Ibid.
[294] Ibid., p. 17.
[295] Tonda, *Technology Challenges and tools for the implementation of the water-related SDGs and targets*, 2015, p. 6.
[296] UN-Water, *Means of Implementation: A focus on Sustainable Development Goals 6 and 17*, 2015, p. 16.
[297] Ibid., p. 21.
[298] WHO, *Viet Nam: Closer to bringing water and sanitation for all*, 2015.
[299] Ibid.
[300] Ibid.
[301] Ibid.
[302] Ibid.
[303] Ibid.
[304] World Bank Group, *Vietnam: Achieving Success as a Middle-income Country*, 2013.

strategies, public awareness campaigns, and additional investments in rural areas, the government of Viet Nam strives for sustainability of WASH services with plans to achieve universal access to clean drinking water and universal elimination of open-defecation by 2030.[305]

Conclusion

Though considerable advances towards universal access to WASH services have been made, further work remains to be done to ensure these basic human rights.[306] Collaborative efforts by the international community are essential in order to meet the targets of the SDGs and provide healthy living for affected populations.[307] Further research, cooperation, and technology sharing is required to improve successes, and enhanced development, implementation, and management of water systems is imperative for future efforts.[308] Success in Viet Nam indicates that a government with a strong and ambitious plan can achieve and exceed goals for improved WASH services and a healthier population.[309] Accordingly, CSOs must continue to play an instrumental role in encouraging governmental action and implementing effective plans at grassroots levels.[310] WHO is committed to a leadership position in enhancing WASH services in all regions and continues to provide recommendations for best practices.[311] While there have been successes in addressing the lack of WASH services and promoting effective management of water resources, there is still a long way to go in achieving the greater goals of sustainability of clean water and sanitation resources.[312]

Further Research

Delegates should consider the following questions when conducting their research: What is the impact of the SDGs in providing focus on improving WASH services? How can efforts be improved in regions with the most impact, such as sub-Saharan Africa? What actions can be taken to ensure that governments remain committed to providing WASH services for their population? What other best practices exist and what additional work has been done by CSOs? Which obstacles stand in the way of IWRM? What steps can WHO take to ensure the crucial focus required to successfully address these issues? How can WHO improve its initiatives in improving WASH services? What partnerships should develop to ensure efficient and effective approaches to the lack of sufficient WASH services? And finally, what initiatives should be expanded or reduced by WHO to ensure the best response to approaches and mechanisms at regional and local levels?

Annotated Bibliography

Bustreo, F. (2015, March 8). Ten top issues for women's health [News Article]. Retrieved 26 August 2016 from: http://www.who.int/life-course/news/2015-intl-womens-day/en/

This article provides a list of the greatest challenges to women's health, many of which are directly related to the lack of WASH services. Many of the stated challenges are seemingly unrelated to the lack of WASH services; however, this article is foundational for understanding the core of these challenges and having a deeper understanding of the issues facing women. Delegates will find use from this article as a central element for further research on the challenges women face today and how WASH services impact those issues.

United Nations Children's Fund. (n.d.). *Gender and water, sanitation and hygiene (WASH)* [Website]. Retrieved 25 August 2016 from: http://www.unicef.org/esaro/7310_Gender_and_WASH.html

This website provides an important insight on the impact of water on the health of women and children in various manners. The website gives recent advances in these areas as well as insights on the work that needs to be done. These insights offer a necessary understanding of the

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[305] WHO, *Viet Nam: Closer to bringing water and sanitation for all*, 2015.
[306] UN DPI, *Goal 6: Ensure access to water and sanitation for all*.
[307] WHO & UNICEF, *Millennium Development Goal drinking water target met*, 2012.
[308] UN DESA, *Decisions by Topic: Water and Sanitation*.
[309] WHO, *Viet Nam: Closer to bringing water and sanitation for all*, 2015.
[310] UN-Water, *Civil Society: key contributors to water and sustainable development*, pp. 1-3.
[311] WHO, *The WASH vision and mission*, 2016
[312] UN DESA, *International Decade for Action 'Water for Life' 2005-2015: In Focus*.

challenges faced by women and children due to the lack of WASH systems and provide recent practices that can be paralleled in other regions. Delegates will find this document useful as a tool to research the strategies of their respective countries in improving the conditions of women and children, especially in regard to the lack of access to WASH systems.

United Nations, Department of Water. (n.d.). *Civil Society: key contributors to water and sustainable development* [Report]. Retrieved 26 August 2016 from: http://www.un.org/waterforlifedecade/waterandsustainabledevelopment2015/pdf/OP_CivilSociety_4themes_FORMAT.pdf

This document identifies CSOs as key contributors to WASH development as well as the other SDGs. It identifies several areas that are opportunities for CSOs to provide encouragement, development, cooperation, and financing of WASH systems. Delegates will find this document useful because it is a starting point for understanding best practices of civil societies and guidelines on areas civil societies should provide contribution to.

United Nations, Department of Water. (n.d.). *The Human Right to Water and Sanitation: Milestones* [Briefing Note]. Retrieved 19 August 2016 from: http://www.un.org/waterforlifedecade/pdf/human_right_to_water_and_sanitation_milestones.pdf

This document outlines the milestones that led to the formal recognition of clean water and sanitation as a basic human right. It indicates the conventions and documents that identified the right to clean water and sanitation as part of international law that should be followed by Member States as well as the formal recognition of the basic right by the UN. Delegates will find this useful as it provides a central link to the foundational documents that recognize access to clean water and sanitation as a basic human right

United Nations, Department of Water. (2015, July 15). *Means of Implementation: A focus on Sustainable Development Goals 6 and 17* [Report]. Retrieved 28 September 2016 from: http://www.unwater.org/fileadmin/user_upload/unwater_new/docs/UN-Water%20MOI%20compilation_15%20July%202015.pdf

This report focuses on the means to achieving the targets of SDG 6 and 17. The article discusses aspects of implementation as well as the roles of technology sharing, developing capacity, and strengthening partnerships. Delegates will find this report useful as a source to gain a deeper understanding of what is necessary to effectively achieve the SDGs, specifically SDG 6 as it pertains to water and sanitation. This report is also useful as a foundation to understanding the role of technology in addressing the water and sanitation crisis.

United Nations Educational, Scientific and Cultural Organization. (2016). *World Water Assessment Programme (WWAP): 2016 UN World Water Development Report, Water and Jobs.* Retrieved 20 August 2016 from: http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/wwdr/2016-water-and-jobs/

The World Water Development Report provides an overview of the 2016 focus on water development. This report identifies the connection and importance of clean water in aspects of life outside of the home, and the impact it holds on the greater population. As it is a primary guideline for the international community in future water development projects, this report and past WWDR reports, offer a research focus for delegates to identify the stances of their respective countries on these project; and the efforts their respective countries have made to advance these agendas.

United Nations, General Assembly, Sixty-fourth session. (2010). *The human right to water and sanitation (A/RES/64/292)* [Resolution]. Retrieved 17 July 2016 from: http://undocs.org/A/RES/64/292

In resolution 64/292 of 28 July 2010, the General Assembly formally recognized the basic human right of having access to clean and safe water for the first time. The resolution discusses the importance of water for all people. It also calls for cooperation among Member States to share best practices to ensure the access clean and safe water. The resolution provides context for the goals of the international community as well as several documents referenced that delegates will find especially useful for continued research.

World Health Organization. (n.d.). *WASH Post-2015: Proposed indicators for drinking water, sanitation and hygiene* [Briefing Note]. Retrieved 24 August 2016 from: http://www.who.int/water_sanitation_health/monitoring/coverage/wash-post-2015-rev.pdf?ua=1

The WHO/UNICEF JMP brochure for WASH Post-2015 provides information on indicators for monitoring progress toward SDG 6. This brochure focuses on the targets and methods to track progress toward achieving universal access to water. It emphasizes the benefit of independent regulators for monitoring progress of clean water. The brochure provides delegates with a concise foundation to understanding the various target areas for achieving greater access to water, sanitation, and hygiene; as well as some progressive recommendations to meeting the target areas. Delegates can use the broad understanding of the focus on clean water and sanitation to further refine their research.

World Health Organization. (2006). *WHO Guidelines for the Safe Use of Wastewater, Excreta and Greywater: Volume I Policy and Regulatory Aspects* [Report]. Retrieved 25 August 2016 from: http://apps.who.int/iris/bitstream/10665/78265/1/9241546824_eng.pdf

This report identifies the risk associated with and the opportunities that develop from the safe management and use of wastewater, excreta, and greywater. Policies and regulatory aspects are the focus of the report, which are necessary for a government to understand when addressing the lack of WASH systems. The value of this document is received through the emphasis it places on IWRM and WSPs, and the crucial impact these practices hold on improving development of WASH systems, especially in agriculture and aquaculture. Delegates will be able to use this report to identify best practices and how they can be applied at regional and local levels.

World Health Organization. (2015). *Viet Nam: Closer to bringing water and sanitation for all* [Website]. Retrieved 17 July 2016 from: http://www.who.int/features/2015/viet-nam-water-sanitation/en/

This website provides a source of information on the successes of Viet Nam with the MDGs and the continued strive for sustainability. The website discusses the importance of setting national standards to achieve goals and following recommendations by WHO. This provides an important case study for delegates to research and determine the further steps that may be taken by the international community to replicate the achievements and continued success found in Viet Nam, with regard to clean and safe water.

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World Health Organization. (2016). *GLAAS 2016/2017 Cycle* [Website]. Retrieved 25 August 2016 from: http://www.who.int/water_sanitation_health/glaas/en/

World Health Organization (2016). *The WASH vision and mission* [Website]. Retrieved 24 August 2016 from: http://www.who.int/water_sanitation_health/about/en/

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III. Improving Coordination of Health Services in Outbreaks and Emergencies

"Preparedness means addressing the root causes of vulnerabilities that allow outbreaks to take countries and the international community by surprise."[313]

Introduction

For decades, the international community has witnessed outbreaks and life-threatening health emergencies.[314] According to the World Health Organization (WHO), a public health emergency is defined as "an occurrence or imminent threat of an illness or health condition, caused by bio terrorism, epidemic or pandemic disease, or (a) novel and highly fatal infectious agent or biological toxin, that poses a substantial risk of a significant number of human facilities or incidents or permanent or long-term disability."[315] WHO has stated that health emergencies and outbreaks occur frequently each year, in which all Member States have an equal potential to be exposed.[316] Yet, when evaluating the different capabilities states have in responding to health crises, it is evident that individuals who reside within less developed states tend to be the most affected when outbreaks emerge, due to their limited amount of health resources and services.[317] Moreover, these critical situations have been prevalent in vulnerable areas throughout the world, including in West Africa, where urbanization has occurred at a fairly rapid pace, leading to an increase in disease transmission due to overall population density.[318]

Since its creation as a United Nations (UN) agency in 1945, WHO has promoted the significance of global health, and highlighted the importance of preparedness when it comes to health-related emergencies.[319] WHO established during the first World Assembly, in 1948 that the main health issues which should be focused on were: malaria, women and children's health, tuberculosis, venereal disease, nutrition, and environmental sanitation.[320] In 2016 alone, it has been estimated that 1.1 million individuals, a 20% increase since the amount that was estimated in 2015, has had an urgent need for health-related assistance.[321] This rising number is due in part to improperly managed health facilities, poor hygiene, and poor sanitation; all of which are also linked to persisting diseases such as cholera and measles.[322] Some recent examples of common outbreaks which have been faced by Member States include the emergence of Ebola in West Africa, the pervasiveness of the Zika virus in South America, and the cholera epidemic in South Sudan.[323] Although these particular examples are only a select few diseases among many outbreaks which have occurred in recent years, it is important to consider that proper coordination and response mechanisms are a crucial step towards alleviating these issues.[324] Furthermore, as noted by WHO Director-General Dr. Margaret Chan at the 69th World Health Assembly, these unyielding outbreaks essentially reflect the deficiencies within the collective preparedness of the international community.[325]

International and Regional Framework

The international community has frequently cooperated in order to prevent the spread of life-threatening viruses and outbreaks.[326] As stated within article 25 of the *Universal Declaration of Human Rights* (UDHR) (1948), Member

[313] WHO, *Director-General addresses high-level conference on global health security, Dr. Margaret Chan*, 2016.
[314] Ibid.
[315] WHO, *Humanitarian Health Action - Definitions: Emergencies*, 2016.
[316] WHO, *Ensuring WHO's capacity to prepare for and respond to future large-scale and sustained outbreaks and emergencies*, 2015.
[317] WHO, *Support for developing countries' response to the H1N1 influenza pandemic*, 2009.
[318] WHO, *Emergencies, Preparedness, Response: Increased risk of urban yellow fever outbreaks in Africa*, 2016.
[319] WHO, *History of WHO*, 2016.
[320] WHO, *Working for health: An introduction to the World Health Organization*, 2007.
[321] WHO, *WHO Humanitarian Response Plans*, 2016.
[322] Ibid.
[323] WHO, *2015 WHO Strategic Response Plan: West Africa Ebola*, 2015; European Centre for Disease Prevention and Control, *Current Zika Transmission*, 2016; WHO, *Cholera prevention measures reduce transmission among displaced people in South Sudan*, 2015.
[324] UN General Assembly, *Strengthening the global health architecture: implementation of the recommendations of the High-level Panel on the Global Response to Health Crises - Report of the Secretary-General (A/70/824)*, 2016.
[325] WHO, *Address to the Sixty-ninth World Health Assembly*, 2016.
[326] UN High-level Panel on the Global Response to Health Crises, *Protecting Humanity from Future Health Crises*, 2016.

States have the responsibility to prioritize the health of every individual within their borders, regardless of their class, race, gender, sexual orientation, or any other characteristic which may distinguish them from others.[327] The 1966 *International Covenant on Economic, Social and Cultural Rights* sets out the importance of global health as a human right, as highlighted within its article 12.[328] Moreover, various international treaties have incorporated topics on the protection of health, such as the 1961 *European Social Charter,* the 1981 *African Charter on Human and Peoples' Rights*, and the 1989 *Convention on Rights of the Child, and its two optional protocols* (2000).[329] These particular documents and international agreements have established that the right to health does not necessarily mean that individuals have a right to be healthy, but rather, set forth that every human being is guaranteed to have access to a minimum reachable standard of physical and mental health.[330] Ultimately, it is the responsibility of states and their leaders to properly manage their health services in order to ensure that this human right is protected.[331] Millennium Development Goals (MDGs) 4 through 6 on the topics of reducing child mortality, improving maternal health, and combating the spread of disease, and the Sustainable Development Goals (SDGs), in particular SDG 3 which promotes healthy lives for all, have garnished particular global support.[332] The topic of prioritizing the achievement of MDGs and SDGs which relate to health, remains a vital component of addressing health concerns at the international level.

Role of the International System

WHO, along with the Office of the United Nations High Commissioner for Human Rights (OHCHR) has reported that Member States could be held accountable if they neglect to properly monitor outbreaks that arise within their borders.[333] Thus, states are required to collaborate with various actors, including non-governmental organizations (NGOs), national human rights institutions, as well as international treaty signatory states in order to limit the potential spread of an outbreak.[334] External actors are therefore required to intervene if states do not comply with this obligation; as exemplified by a case which occurred in August 2001, after the Treatment Action Campaign, an initiative focusing on equal access to health services for those suffering with HIV/AIDs, took action after the government of South Africa failed to implement a program which would provide health services to reduce mother-to-child transmission of HIV within its territory.[335]

WHO is present in over 150 Member States, which has solidified the agency's role as a key actor when it comes to alleviating health crises.[336] In 2005, WHO's International Health Regulations (IHR) entered into force in 196 states in order to increase their international capacity to manage health outbreaks, and to ensure the proper functioning of response systems.[337] With the help of these IHRs, WHO was able to collect data within outbreak-affected states in 2014-2015.[338] Likewise, WHO closely monitored regions within the Middle East which are prone to respiratory syndrome coronavirus (MERS-CoV), in addition to Ebola-affected regions in West Africa, and the spread of influenza A (H7N9) in China.[339] During situations of health outbreaks and emergencies coordination efforts fall under the direction of WHO and in collaboration with the Inter-Agency Standing Committee (IASC) Health Clusters and partner organizations that advocate for humanitarian health.[340]

In recent years, WHO has worked under the direction of the National Coordination Center and has established strong partnerships with governments and communities of states that have struggled with the persistence of outbreaks such as the Ebola virus.[341] In 2014, the UN established the UN Mission for Ebola Emergency Response

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[327] UN General Assembly, *Universal Declaration of Human Rights (A/RES/217 A (III))*, 1948.
[328] UN General Assembly, *International Covenant on Economic, Social and Cultural Rights (A/RES/2200 (XXI))*, 1966.
[329] OHCHR, *The Right to Health, Fact Sheet No. 31*, 2008.
[330] Ibid.
[331] Ibid.
[332] WHO, *Sustainable Development Goals (SDGs)*, 2016; WHO, *Millennium Development Goals (MDGs)*, 2016.
[333] OHCHR, *The Right to Health, Fact Sheet No. 31*, 2008.
[334] Ibid.
[335] Ibid.
[336] WHO, *About WHO*, 2016.
[337] WHO, *Strengthening Health Security by implementing the International Health Regulations (2005)*, 2016.
[338] WHO, *Implementation of the International Health Regulations (2005): Responding to public health emergencies*, 2015.
[339] Ibid.
[340] WHO, *Questions and answers about WHO's role in Humanitarian Health Action*, 2016.
[341] WHO, *WHO Strategic Response Plan: West Africa Ebola*, 2015.

(UNMEER), which was attributed with the sole focus of combating the issue of the Ebola crisis within the international community.[342] The same year, WHO called for a High Level Meeting on Building Resilient Systems for Health in Ebola-Affected Countries in Geneva, Switzerland, in order to develop useful strategies to alleviate this global health crisis.[343] Many states have also taken preventative measures in order to deal with the issue of health outbreaks and emergencies within their own borders, in order to enhance global readiness for future health emergencies.[344] For instance, in the height of the Ebola outbreak, several affected states, such as Guinea and Sierra Leone, closely monitored any reported cases within their own territories in order to identify the precise areas in which the disease would initiate.[345] In addition, WHO has developed a *Strategic Response Plan* in order to efficiently manage the effects brought by the Zika virus.[346] As such, WHO has indicated the three main steps which should be immediately taken by states at risk: Strengthen surveillance in order to effectively monitor populations of *Aedes* mosquitoes, in addition to closely monitoring cases of the virus itself; incorporate effective response mechanisms in order to enhance outbreak preparedness; and promote research related to the virus in order to develop more ways to counter any future outbreaks and reduce the risk of the virus altogether.[347] Nonetheless, cooperation between communities, as well as partner associations and NGOs, such as the World Bank, the International Monetary Fund (IMF), the European Union, the African Development Bank, the Red Cross, and UN agencies like the United Nations Children's Fund (UNICEF), is essential in order to further the overall work of the international community in reducing the risk of global health crises.[348]

Case Study: Ebola Outbreak

Since the emergence of Ebola, there have been 21,831 cases in addition to the 8,690 which had already been reported in 2015.[349] This fatal illness is usually transmitted sexually or through other forms of human-to-human contact, in addition to wildlife-to-human contact which can occur if an individual comes close to an infected animal.[350] Although the outbreak was initially detected in the Central African region, most cases have been reported within West African countries such as Guinea, Liberia, and Sierra Leone.[351] Not only has the health of the populations within these states been put at risk since the outbreak, but the economies of these states have also been weakened due to the added stress the outbreak has imposed on their already weak socioeconomic systems.[352] Furthermore, these areas struggle with maintaining resilient health systems, which has hindered their overall development.[353] Certain groups of individuals who have been particularly affected by Ebola, such as the elderly, disabled persons, or those with HIV/AIDS have a poor chance of survival due to their social exclusion, as health services are very limited and tend to be provided to a select number of privileged individuals.[354] Moreover, the adversity of Ebola has trigged a behavioral effect in which at-risk populations are frustrated with their state leaders. This, in turn, has caused fear and distrust to spread towards governments and health authorities whose efforts have not been enough to alleviate the consequences of this outbreak.[355]

There have been a variety of different responses by the international community towards the Ebola crisis, one example of which has been led by the West African Health Organization (WAHO).[356] WAHO convened an experts'

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[342] UN Global Ebola Response, *UN Mission for Ebola Emergency Response (UNMEER)*, 2016.
[343] WHO, *High Level Meeting on Building Resilient Systems for Health in Ebola-Affected Countries*, 2014.
[344] WHO, *Follow up to the World Health Assembly decision on the Ebola virus disease outbreak and the Special Session of the Executive Board on Ebola: Roadmap for Action*, 2015.
[345] UN Security Council, *Peace and security in Africa* (S/PV.7502), 2015.
[346] WHO, *Zika virus outbreak global response: Interim Report*, 2016.
[347] WHO, *Zika Situation Report: Neurological Syndrome and Congenital Anomalies*, 2016.
[348] UNDP, *Recovering from the Ebola Crisis*, 2015.
[349] WHO, *Special session on Ebola: ending the current outbreak, strengthening global preparedness and ensuring WHO's capacity to prepare for and respond to future large-scale outbreaks and emergencies with health consequences*, 2015.
[350] WHO, *Ebola Virus Disease*, 2016.
[351] UNDP, *Recovering from the Ebola Crisis*, 2015.
[352] Economic Commission for Africa, *Socio-Economic Impacts of Ebola on Africa*, 2015.
[353] WHO, *High Level Meeting on Building Resilient Systems for Health in Ebola-Affected Countries*, 2014; ECOSOC, *Humanitarian Affairs Segment: Synthesis*, 2015.
[354] UNDP, *Recovering from the Ebola Crisis*, 2015.
[355] Ibid.
[356] Ibid.

committee on the issue in order to analyze the virus and its overall effects on the region.[357] In 2014, Member States collaborated in order to establish a roadmap to efficiently counter the virus.[358] The *Ebola Response Roadmap*, highlights the importance of efficient coordination within Member States, and urges international support in order to enhance outbreak preparedness and ultimately work towards a long-lasting solution in which all Member States benefit.[359] In a domestic context, the Ministries of Health of Ebola-affected states, including Guinea, Liberia, and Sierra Leone focused on alternative methods which could be useful in order to eliminate the severity of the issue, which includes tactics relating to disease prevention and control, in addition to enhancing surveillance of the outbreak within affected communities.[360] Moreover, significant efforts have already been made by WHO and its partners in regards to the topic of improving coordination during outbreaks such as Ebola.[361] Although, these early recovery activities, have largely focused on rebuilding health systems to enhance preparedness for future outbreaks.[362]

Despite these constant efforts, there still remains a prominent funding gap, which will not be enough to cover the necessary costs of the Ebola crisis.[363] This financial gap, an estimated $588.27 million, has been addressed by WHO's Executive Board's Special Session on the Ebola Emergency in 2015.[364] Funding is a crucial matter when it comes to countering the Ebola crisis, as significant monetary resources are needed to cover a majority of Ebola response activities, preparedness activities, early recovery activities, research, and development activities, in addition to survivor focused activities.[365] WHO has additionally reported that most of these funds have been acquired through generous donations from Member States and partners such as the United States of America, Japan, the World Bank, the African Development Bank, and the Ebola Multi Partner Trust Fund.[366]

Case Study: Zika Virus

The most recent outbreak of the Zika virus was detected in Brazil in 2015, alarming many within the South American region due to the fear of possible transmission.[367] It has been reported that 69 Member States have been affected by the Zika virus within the same year, and the disease has expanded its reach to other parts of the world, including Asia and Africa, since its initial outbreak.[368] This disease has been associated with serious health complications, such as microcephaly and Guillain-Barré syndrome.[369] Microcephaly in particular, which causes newborn babies to suffer from head growth after birth, is a critical condition to which no treatment currently exists.[370] Symptoms associated with the Zika virus mainly come from its association with *Aedeas albopictus* mosquito bites, which are prevalent within certain regions of the world and have been known to transmit other diseases, such as yellow fever.[371] This disease is also transmitted locally through sexual activity or internationally through travel.[372] The Zika outbreak has resulted in a large number of casualties; in Brazil alone, there has been between 497,593 to 1,482,701 cases associated with the virus since it initially emerged in the region.[373]

As a response to this outbreak, WHO and the Pan American Health Association (PAHO), along with other international partners, have provided the global community with the *Zika Strategic Response Plan*, which

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[357] Ibid.
[358] WHO, *Decisions and list of resolutions*, (A68/DIV./3), 2015.
[359] WHO, *Ebola Response Roadmap*, 2014.
[360] WHO, *Decisions and list of resolutions*, (A68/DIV./3), 2015.
[361] WHO, *Emergencies preparedness, response: Recovery toolkit*, 2016.
[362] Ibid.
[363] WHO, *Proposed Programme Budget 2014-2015*, 2013.
[364] WHO, *Executive Board Special Session on the Ebola Emergency* (EBSS/3/2015/REC/1), 2015.
[365] WHO, *Emergencies preparedness, response: West Africa Ebola Outbreak: Funding*, 2016.
[366] Ibid.
[367] WHO, *Zika Virus*, 2016.
[368] Ibid.
[369] UN, *WHO Outbreaks and Health Emergencies Programme*, 2016.
[370] WHO, *Microcephaly Fact Sheet*, 2016.
[371] WHO, *Zika: Strategic Response Plan, Revised for July 2016 - December 2017*, 2016.
[372] WHO, *Zika Virus,* 2016.
[373] WHO, *Zika Situation Report: Neurological Syndrome and Congenital Anomalies,* 2016.

emphasizes the importance of augmenting the quality of health services within Zika-affected areas.[374] Certain Member States have taken additional precautionary measures in order to eliminate the spread of the Zika virus within their territories.[375] For instance, in October 2013, states within the European Union (EU) called for the improvement of border protection, in order to enhance preparedness in the case of serious health emergencies and outbreaks.[376] This decision was sought under the direction of the EU Health Security Committee, which places pressure on Member States to effectively respond to public health crises within the European continent by ultimately reflecting on the importance of International Health Regulations set forth by WHO.[377] Moreover, constant surveillance of the spread of Zika is a crucial step when it comes to alleviating the issue, and thus, states have focused on tracking the populations of *Aedes* mosquitoes within their territories in order to reduce the transmission of the virus.[378] Although this particular species of mosquito does not travel long distances, it is still possible for the virus to emerge within other states if an infected individual travels to a new area, or accidentally transports an infected mosquito across state borders.[379]

The global effort to reduce the transmission of Zika has been extensive when taking the recent operations of WHO in to consideration, as it has collaborated with its partners to implement a *Strategic Response Framework (SRF)* and Joint Operational Plan.[380] The SRF emphasizes three principal areas of focus in order to effectively counter the Zika pandemic: surveillance; response; and research.[381] Various UN agencies, such as the UNICEF, in addition to partners such as the International Federation of Red Cross and Red Crescent Societies (IFRC), intergovernmental organizations, and NGOs have worked alongside the guiding principles set forth by WHO's plan of action to provide aid for at-risk communities prone to the Zika virus.[382] Although the current and previous actions taken by the international community have shown the potential for a promising outlook in future years, the global response strategy to the Zika virus faces similar obstacles to that of the Ebola virus.[383] As such, in 2016, the funds needed to effectively counter the Zika virus had been estimated to be around $25 million, yet only about $4 million had been covered.[384] WHO has also reported that its current *Zika Strategic Response Plan* still requires $122.1 million worth of funds in order for it to be properly implemented by December 2017.[385]

WHO Reform

Recent outbreaks and emergency situations, such as the outbreak of severe acute respiratory syndrome (SARS) and influenza A subtype H1N1, have taught the international community that there must be changes in the global response to large-scale public health emergencies.[386] In many cases, a lack of expediency and coordination in addressing the situation, and the absence of "clear lines of decision making," negatively affected the health of those requiring aid, and limited the ability of the organizations involved to adequately provide the support needed.[387] Nonetheless, when it comes to addressing health needs during humanitarian emergency situations, WHO has attempted to reform its protocols over the years in order to efficiently fulfill its role as a primary leader in global health.[388] One advancement in particular is the creation of WHO's Global Early Warning and Response System (EWARS), which is a tool that detects early warning signs of possible outbreaks and humanitarian emergencies, allowing for a timely response, and ultimately preventing many deaths from occurring.[389] As an example, this system was used to help ameliorate national surveillance tools in South Sudan, as it was able to identify the initial

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[374] WHO, *Zika Virus Outbreak Global Response,* 2016.
[375] European Commission, *Public Health: Decision on serious cross-border threats to health*, 2013.
[376] Ibid.
[377] European Commission, *Public Health: Health Security Committee Members*, 2013.
[378] WHO, *Zika: Strategic Response Plan, Revised for July 2016 - December 2017*, 2016.
[379] WHO*, Zika virus and complications: Questions and Answers*, 2016.
[380] UNICEF, *Risk Communication and Community Engagement for Zika Virus Prevention and* Control, 2016.
[381] Ibid.
[382] Ibid.
[383] WHO, *Zika: Strategic Response Plan, Revised for July 2016 - December 2017*, 2016.
[384] Ibid.
[385] WHO*, Zika Virus Outbreak Global Response*, 2016.
[386] WHO, *Ensuring WHO's capacity to prepare for and respond to future large-scale and sustained outbreaks and emergencies*, 2015.
[387] Ibid.
[388] WHO, *Humanitarian Health Action: Crises*, 2016.
[389] WHO, *WHO launches new early warning system in a box to help 500 000 people for only $USD 15 000*, 2015.

cases of cholera during a 2014-2015 outbreak.[390] Moreover, WHO has reiterated its responsibility to take immediate action during crisis situations within its Emergency Response Framework (ERF).[391] This document lays out the grading criteria to identifying the intensity of an event which occurs in a state that may potentially put the lives of its citizens in danger.[392] For instance, ERF has graded health-related emergency events into three categories. An event is 'ungraded' if it is currently in the process of being evaluated, thus not requiring any immediate action from WHO.[393] An event is considered 'Grade 1' if it involves a minimal public health issue which affects single or multiple states, thus requiring minimal response from WHO, and support from World Customs Organization (WCO) if it is absolutely needed.[394] 'Grade 2' states, on the other hand, experience moderate-level public health issues which thus require a moderate WCO or WHO response, and an Emergency Support Team may also get involved depending on whether or not multiple regions are affected.[395] The final and most serious grade to a state undergoing a public health crisis is 'Grade 3,' which usually involves single or multiple states that experience significant consequences concerning health, and ultimately, this requires an immediate and high-level response from WHO, with external support from WCO, under the direction of an Emergency Support Team.[396] In other words, efforts made by the WCO during the Ebola outbreak, for instance, have focused on keeping a close guard within state borders and additionally have sought to inform Member States of their safety responsibilities in order to prevent the outbreak from spreading further.[397]

WHO's more recent reforms have prioritized its funding programs, in which changes have been made to modify the agency's budget which will ultimately ensure better financing for future health-related projects.[398] This remains an important topic when it comes to WHO's previous as well as future projects, considering that sufficient funding has greatly contributed to the advancement of WHO's work and its collaborative efforts with its partners.[399] In addition to these particular reforms, WHO has also shown many improvements in its emergency response capacities, and has created a new *Health Emergencies Programme,* which aims to provide more effective and efficient aid to vulnerable communities affected by a health crisis.[400] WHO's reforms have highlighted the agency's role as a key actor for global health as it continuously works to implement new strategies in order to address future health-related crises.[401]

Conclusion

Member States are continually being faced with outbreaks and emergencies, in which basic health services are required. Having access to these health care services is a human right that individuals within the international community are entitled to.[402] As a specialized UN agency which strives to promote the maximum level of health for individuals around the world, WHO has displayed its dedication when it comes to addressing health emergencies and outbreaks.[403] Finding a long-term solution in order to counter these outbreaks will require significant amount of work, which ultimately will rely on cooperation between Member States and their partner organizations. In order for this goal to become a reality, it is crucial for the international community to begin working efficiently towards finding ways to improve the coordination of health services during outbreaks and emergencies.[404]

Further Research

While conducting research on this topic, delegates should consider the following questions: What can be done by international organizations and NGOs to ensure better quality and easier access to health services during an outbreak

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[390] Ibid.
[391] WHO, *Emergency Response Framework*, 2013.
[392] WHO, *Humanitarian Health Action: Crises*, 2016.
[393] Ibid.
[394] Ibid.
[395] Ibid.
[396] WHO, *Humanitarian Health Action: Crises*, 2016.
[397] WCO, *Ebola Virus Disease (EVD) outbreak*, *2014.*
[398] WHO, *WHO reform process*, 2016*.*
[399] Ibid.
[400] WHO, *WHO's New Health Emergencies Programme*, 2016.
[401] Ibid.
[402] OHCHR, *The Right to Health, Fact Sheet No. 31*, 2008.
[403] WHO, *About WHO*, 2016.
[404] WHO, *WHO's New Health Emergencies Programme*, 2016.

or emergency situation? What are some necessary and appropriate measures which could be taken by Member States in order to ensure the protection of health for all, especially if an outbreak were to suddenly arise? How could we ensure the protection of communities which are more vulnerable and susceptible to life-threatening outbreaks? What could be done to protect the health and the lives of socially marginalized individuals, such as disabled or elderly individuals, or those who are already struggling with a life-threatening illness, such as HIV/AIDs, in order to protect them from exposure due to an outbreak? How can Member States prevent future outbreaks from occurring and ultimately ensure the prioritization of good health for all? Moreover, what could be done to strengthen the coordination of health services, and ultimately, ensure faster and more effective response mechanisms in the case of outbreaks and emergencies?

Annotated Bibliography

Office of the United Nations High Commissioner for Human Rights. (2008). *The Right to Health, Fact Sheet No. 31.* Retrieved 23 October 2016 from: http://www.ohchr.org/Documents/Publications/Factsheet31.pdf

In this report, OHCHR and WHO have partnered to develop a useful document which portrays the significance of health as a human right. This subject is simplified in to five separate sections, all of which exemplify the importance of global health and its obligation to be protected by Member States within the international community. In addition, the report provides information regarding significant treaties and international agreements which have been relevant to the issue of global health, and which continue to set forth important international regulations concerning the implementation of individual state policies which pertain to health.

United Nations Development Programme & Partners. (2015). *Recovering from the Ebola Crisis* [Report]. Retrieved 19 July 2016 from: http://www.undp.org/content/dam/undp/library/crisis%20prevention/Recovering%20from%20the%20Ebola%20Crisis-Full-Report-Final_Eng-web-version.pdf

This document exhibits the collaborative work of the UN, the World Bank, the European Union and the African Development Bank against the issue of Ebola. It is ultimately the product of extensive research conducted in Guinea, Liberia, and Sierra Leone from 12 to 16 January 2015, and reflects on the necessary steps which must be taken in vulnerable communities that are more prone to the Ebola outbreak. In other words, the five initial steps which these communities must focus on to address post-Ebola recovery include the following: Stopping the epidemic, Risk Management, Restoring and Strengthening Capacity, Restoring Livelihoods and building community resilience, and Addressing structural factors. Additionally, they assesses the necessary preventative measures which could be implemented to ensure faster response mechanisms as well as better preparedness in the case of potential health emergencies.

United Nations, Economic Commission for Africa. (2015). *Socio-Economic Impacts of Ebola on Africa, Revised Edition* [Report]. Retrieved 17 July 2016 from: http://www.uneca.org/sites/default/files/PublicationFiles/eca_ebola_report_final_eng_0.pdf

This detailed document is focused on the primary ways in which the spread of Ebola within Africa could instigate a wave of harsh socioeconomic consequences, which would not solely affect certain areas within the African continent but within the entirety of our international community. This document consists of a study which analyzes the severity of the Ebola outbreak, and additionally emphasizes the need to incorporate certain response mechanisms into the current measures taken in order to properly manage this issue in the future.

United Nations, Economic and Social Council. (2015). *Humanitarian Affairs Segment: Synthesis* [Meeting Coverage]. Retrieved 19 July 2016 from: https://docs.unocha.org/sites/dms/Documents/ECOSOC_HAS_v1.0_20160129_Screen.pdf

This document provides a detailed summary of the 2015 Humanitarian Affairs Segment of ECOSOC discussions from 17 to 19 June at the Palais des Nations, Geneva. It also includes information addressed during the General Debate, in which Member States focused on the theme of "The Future of humanitarian affairs: Towards greater inclusiveness, coordination, interoperability and effectiveness", as well as two high-level panels, which were centered on the following topics: "Addressing capacity-and-resource challenges through humanitarian financing," and "Protecting civilians by upholding international humanitarian law."

United Nations, General Assembly. (2016). *Strengthening the global health architecture: implementation of the recommendations of the High-level Panel on the Global Response to Health Crises - Report of the Secretary-General (A/70/824)* [Report]. Retrieved 17 July 2016 from: http://undocs.org/A/70/824

In this report, the Secretary-General acknowledges the collaborative efforts of the High-level Panel on the Global Response to Health Crises following their recommendations to the UN and WHO on the topic of global outbreaks, published within: 'Protecting Humanity from Future Health Crises.' Furthermore, the Secretary-General highlights potential modifications which could be made to strengthen these particular recommendations. The report additionally provides a brief evaluation of the actions taken by the UN Mission for Ebola Emergency Response (UNMEER), the first emergency health mission in UN history. The Secretary-General ultimately concludes this report by noting that states must consider their crucial responsibility to take action against this global pandemic.

United Nations, High-level Panel on the Global Response to Health Crises. (2016). *Protecting Humanity from Future Health Crises* [Report]. Retrieved 19 July 2016 from:http://www.un.org/News/dh/infocus/HLP/2016-02-05_Final_Report_Global_Response_to_Health_Crises.pdf

This document discusses the recommendations set forth by the High-level Panel on the Global Response to Health Crises, which has been called upon by the UN Secretary-General in April 2015 as a result of the many casualties which could have been prevented during the Ebola crisis. It was created in order to prevent the threat of future outbreaks from inflicting harm upon the international community. The main purpose of this document is to provide the international community with necessary guidelines which could ultimately help mitigate the consequences of health crises and in turn, ensure that human lives will be rightfully protected from future health emergencies.

United Nations, Security Council. (2015). *Peace and security in Africa: the global response to the 2013 Ebola virus disease outbreak (S/PV.7502)* [Meeting Coverage]. Retrieved 17 July 2016 from: http://undocs.org/S/PV.7502

This document illustrates a briefing which focuses on the global response to the Ebola outbreak in West Africa. It provides information regarding this particular disease and details which states have been the most affected by the outbreak since its initial emergence within the global community. It additionally evaluates the role of WHO in alleviating this issue, and then explicitly indicates the weaknesses of the African Union support to the Ebola outbreak in West Africa due to its inability to acquire successful results from the previous measures which they have taken to eliminate the outbreak, in order avoid making the same mistakes in the future.

World Health Organization. (2015). 2015 *WHO Strategic Response Plan: West Africa Ebola Outbreak*. Retrieved 19 July 2016 from: http://apps.who.int/iris/bitstream/10665/163360/1/9789241508698_eng.pdf?ua=1&ua=1

This document is comprised of specific explanations which relate to the responses taken by WHO following the Ebola outbreak in West Africa. It provides a list of various methods which could be advantageous in the future in order to eliminate the predominance of this disease and to ultimately prevent the spread of Ebola altogether. Although mainly focusing on the outbreaks which have occurred in countries such as Guinea, Liberia, and Sierra Leone, this report contains useful information which goes into great detail regarding coordination efforts which have been made within the international community to effectively counter the Ebola pandemic. It additionally touches on the importance of international partnerships and collaboration when it comes to solving health crises.

World Health Organization. (2015). *Special session on Ebola: ending the current outbreak, strengthening global preparedness and ensuring WHO's capacity to prepare for and respond to future large-scale outbreaks and emergencies with health consequences*. Retrieved 19 July 2016 from: http://apps.who.int/gb/ebwha/pdf_files/EBSS3/EBSS3_R1-en.pdf

This document reflects on the actions taken by the WHO Executive Board in the midst of the Ebola pandemic. It provides vital obligations for Member States to comply with, in order to eliminate the overall issue of Ebola within the international community. Moreover, the resolution set forth within this document stresses that a significant amount of collaboration between the international

community is crucial in order to successfully contain the Ebola outbreak, and that each Member State must comply with the listed WHO recommendations in order to improve global preparedness to protect the lives and the health of individuals around the world.

World Health Organization. (2016). *Zika: Strategic Response Plan, Revised for July 2016 - December 2017*. Retrieved 18 July 2016 from: http://apps.who.int/iris/bitstream/10665/246091/1/WHO-ZIKV-SRF-16.3-eng.pdf?ua=1&ua=1&ua=1

This report was developed as a result of the collaboration between WHO Outbreaks & Health Emergencies Programme and its many partner organizations. It is an updated version of the Strategic and Joint Operations Plan, January - June 2016, and establishes the necessary guidelines which pertain to the international effort towards the prevention of the Zika virus. The report primarily focuses on four important methods: detection; prevention; care and support; and research, which could potentially enhance the effectiveness of the response mechanisms utilized by states that have faced the challenges of this viral outbreak. The report is broken down into three parts: Part I of the report includes an overview of the issue and highlights the ideal requirements which could serve to promote a stronger response strategy in the future. Part II of the report establishes a joint operations plan which could further aid to the prevention of the virus. Part III of the report contains an annex in which the affiliated partner organizations are identified, in addition to their funding requirements, and concludes with the WHO Zika Virus Research Agenda.

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