

WORLD HEALTH ORGANIZATION



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DIRECTOR'S LETTER

Dear Delegates,

My name is Charlotte Gunn, and I am the Director of the World Health Organization (WHO) at PACMUN 2019. I will be directing this committee with the help of my wonderful Dais members; Abbey Regan, my Chair, and Marjan Fathi, my Assistant Director.

The WHO is a critical committee that discusses issues that influence the entire world. The issues that we have chosen to discuss at PACMUN 2019 are both extremely important to bring awareness to, and very important to me personally. Maternal and infant health care is very dear to my heart because I am going to become a nurse and eventually a midwife, which makes me very passionate about the topic. Countering the development of antibiotic-resistant bacteria and viruses is also incredibly important for the future of medicine and very critical for maintaining the medical system as we know now.

In this background guide you can find helpful information to begin your research surrounding your country's policies and medical programs, which can only be properly represented by accurate and diligent research. I hope that this committee can make sound decisions, work together well, and create resolutions that will allow for lasting changes in these critical issues. I am looking forward to PACMUN 2019, and I wish you the best of luck in your preparations.

Best,

Charlotte Gunn

Director | World Health Organization

Pacific Model United Nations 2019



COMMITTEE OVERVIEW

The World Health Organization is a specialized agency of the United Nations composed of 194 member states formed with the goal of promoting and protecting the health of people globally. It serves many functions and is primarily responsible for assisting governments with healthcare upon their request, providing statistical evidence with regard to global health, providing and promoting research on solutions to major health issues, and suggesting global health regulations. The scope of what the World Health Organization can regulate is confined to regulation of pharmaceutical and biological products, standardization of diagnostic procedures, setting standards and methods of achieving high levels of sanitation, and deciding on medical nomenclature. Since its founding, the World Health Organization has created the Advisory Committee on Health Research, Ethics Review Committee, and the Guidelines Review Committee among many others. Delegates of the World Health Organization should have enough knowledge of the medical background of this committees' topics to thoroughly understand the issue and come up with effective and original solutions. This committee requires the submission of a position paper by the deadline to be considered for an award and delegates are encouraged to reference the Resources page in the PACMUN website for further information on other requirements.

Position papers should be turned in to the committee email address, who@pacificmun.com, no later than the time listed on the website, unless an extension has been granted by the dais.

TOPIC A

Combating Antibiotic Resistant Diseases

TOPIC INTRODUCTION

Antibiotics are medicines used to prevent and treat bacterial infections. As one of the staples of modern medicine, this substance is able to prevent bacteria from reproducing or destroy them altogether. Although, their abuse and overuse has also contributed to a widespread public health crisis as bacterial strains have developed resistance to not just one, but multiple antibiotic treatments. There are several different types of bacteria that are resistant to the antibiotics that have previously been the most effective against them. Some examples of these bacteria include multi-drug-resistant *Mycobacterium tuberculosis* (MDR-TB), vancomycin-resistant *Enterococcus* (VRE), and carbapenem-resistant *Enterobacteriaceae* (CRE) gut bacteria. Without the proper tools to tackle such dangerous sicknesses, developing and developed nations alike are under serious pressure to stop these antibiotic-resistant drugs in their tracks.

HISTORY

In the past, bacterially related diseases such as diarrhea and pneumonia were often fatal. Infected wounds were common, and people would often place bread mold on open wounds in an attempt to stop bacterial infections. Soils and other plants were also very common treatments, and tetracycline was found on skeletal remains in Egypt and Sudan, by-products from certain plants known to have antibacterial properties.

The first stride towards modern antibiotics was made by Paul Ehrlich. When exploring the effects of chemical dyes, he found that only some bacterial cells were affected by certain chemicals. This trend led him to hypothesize that certain chemicals could be made such that they would kill some types of bacteria but not others. Though his discovery was monumental in the path towards creating

antibiotics, it was not until 1909 that the first antibiotic, arsphenamine, was used to kill syphilis. Penicillin was discovered soon after by Alexander Fleming, when he accidentally contaminated a culture of staphylococcus bacteria with a sample of the fungus penicillium notatum.

Noting that the growth of staphylococcus was clearly reduced by penicillium notatum, even in very small doses, Alexander Fleming was able to invent a less toxic disinfectant than what was typically available in the market at the time. The efforts of scientists Florey and Chain made it so that penicillin was marketable, and despite Fleming's warning that penicillin overuse could lead to mutant strains of staphylococcus bacteria, it began to appear in everyday household products. Eventually, mutant strains of bacteria began to appear and in 1955 penicillin was relegated to only be used with a prescription.

Although antibiotics were first developed to treat humans, they soon expanded to encompass the agricultural sector. In 1940, the antimicrobial drug sulfonamide was discovered and marketed as a drug called Prontosil by the German Biochemist Gerhard Domagk. It was the first antibacterial drug to be used on food animals, though chlortetracycline soon took over as the primary treatment for infectious disease in animals. Although antibiotics reduce animal suffering and allows for the containment of large epidemics, animals also excrete the antibiotics they consume to their environment, contaminating the environment and increasing the likelihood that mutant strains of bacteria will emerge.

Antibacterial medicine has revolutionized the medical field and has mitigated the effects of many bacterial infections. However, antibiotics also pose many challenges. Because mutant strains of bacteria form when antibiotics are used, there must be a continuous production of antibiotics. Antibiotics are difficult to develop because they are expensive and must undergo (on average) ten years of development to ensure their dosage is high enough to kill bacteria but low enough to not be toxic to the patient. Standards for patient safety also make the testing of antibiotics difficult. With the last antibiotic being discovered in 1987, medical professionals are beginning to run out of effective antibiotics as bacteria continues to mutate and make certain types of antibiotics ineffective. Currently, scientists are looking into new options such as bacteriophages and antimicrobial peptides as a

means of combating bacterial infections, but these approaches are not popularly used by doctors in favor of more widely used and reliable antibiotics. Ultimately, antibiotic dependence is quickly becoming problematic, and humanity needs to find a solution.

PAST ACTION

As progression has been made for the sake of combating antibiotic resistance, the United Nations, through its Food and Agriculture Organization (FAO), the World Health Organization (WHO) and the World Organization for Animal Health (OIE), has called for responsible use of antibiotics in humans and animals to reduce the emergence of antibiotic resistance. The FAO advocates for the implementation of good practices in terrestrial and aquatic production and health systems.

In 1989, to support surveillance at multiple levels, the WHO Collaborating Centre for Surveillance of Antibiotic Resistance in Boston developed and supported the WHONET software for the management and sharing of microbiology laboratory test results. At present, WHONET is used in over 110 WHO Member States to support local and/or national surveillance in over 1700 clinical, public health, food, and veterinary laboratories. In most of these countries, the WHONET software is used as a core component of the national surveillance program. In 2001, the WHO Global Strategy for Containment of Antibiotic Resistance recognized laboratory-based surveillance of antibiotic resistance as a “fundamental priority” for the development of containment methods for antibiotic resistance and for assessment of the impact of interventions. In 2013, The Centers for Disease Control Agency (CDC) released the first report to look at the burden and threats to human health posed by antibiotic resistance, titled Antibiotic Resistance Threats in the United States, which brought attention to the threat and prompted government and industry leaders to take immediate action. This action taken by the United States spurred international awareness. With Resolution WHA A68/20, progress on antimicrobial resistance was made in 2015 specifically for a global action plan. The United Nations (UN) General Assembly held a high-level meeting on Antimicrobial Resistance, where nations

passed a resolution to combat antibiotic resistance worldwide in the year of 2016, while also launching the antimicrobial resistance challenge, a year-long campaign spearheaded by CDC to encourage global organizations to make formal commitments that further the progress against resistance.

CURRENT SITUATION

Antibiotic resistance is one of the most urgent threats to the health of the general population. Illnesses that were once easily treatable with antibiotics are becoming untreatable, leading to dangerous infections. A growing number of infections – such as pneumonia, tuberculosis, gonorrhea, and salmonellosis – are becoming more difficult to treat as antibiotics become less effective. In many nations around the globe, they can be bought for human or animal use without a prescription, which increases the spread and emergence of resistance. Additionally, in countries lacking standard treatment guidelines, antibiotics are overprescribed and over-used.

Incorrect diagnosis, unnecessary prescriptions, improper use of antibiotics by patients, and the use of antibiotics as livestock food additives for growth promotion all also increase antibiotic resistance. The rise in drug resistance is mainly due to the use of antimicrobials in humans and other animals and spread of resistant strains between the two. Growing antibiotic resistance has additionally been linked to dumping of inadequately treated liquid waste from the pharmaceutical industry, especially in nations where drugs are manufactured in bulk.

Antibiotic resistance is also a growing problem among humans and wildlife in both terrestrial and aquatic environments. Environmental contamination, especially through water pollution "hot spots" such as hospital wastewater and untreated urban wastewater, is a serious and contributing public health problem. Antibiotics have been polluting the environment since their introduction. Spread through human waste, medication, farming, animals, and the pharmaceutical industry, environmental sanctions need to be put in place to protect health. The contribution of the pharmaceutical industry is so significant that nations with the highest rate of

increasing antibiotic resistance are also found to be the nations with an increasingly influential pharmaceutical industry in politics and economics.

Antimicrobial resistance is also increasing globally because of greater access to antibiotic drugs in developing countries. An estimated 700,000 to several million deaths result per year due to resistance. In the United States alone, at least 2 million people become infected with resistant bacteria and more than 23,000 people have died as a result. Many global health scholars have argued that an international, legal framework is needed to prevent antimicrobial resistance, and to lessen its impacts. There have been concerns that development has slowed enough that seriously ill people may run out of treatment options, with drugs becoming increasingly less effective each day.

CASE STUDIES

CASE STUDY 1: LETHAL POSTPARTUM SEPSIS IN THE UK

While the continued mutations of bacteria has been a point of contention for many scientists, it is likely the most prominent in *Streptococcus pyogenes*, the bacterium that was once easily decimated by penicillin. Throughout the years, as penicillin has been repeatedly used to treat strep, mutant strains have made their way into hospitals, endangering the lives of patients and staff. In the case of maternal healthcare, where sanitation is extremely important but occasionally thrown on the backburner, antibiotic-resistant bacteria is especially problematic. In the field of maternal healthcare, antibiotic resistance has led to an increasing issue with postpartum or Puerperal sepsis, a pregnancy-related condition that has continued to be problematic.

Despite its small size, the UK boasts a population of more than 65 million citizens. The third strongest economy in Europe, the UK had a GDP of \$2.95 trillion in 2017 with more than 83% of citizens working in the service sector. Being a highly mechanized country, agricultural production in Britain is highly efficient for a European country with 2% of citizens able to produce enough food for 60% of the

population. Although the United Kingdom plays host to a wealth of technologies, it is faced with an important issue: maternal mortality by sepsis.

Currently in the UK, the leading cause for maternal mortality is sepsis, a bacterial infection that occurs most predominantly after childbirth. Postpartum sepsis is an infection of the blood and is most common during miscarriages, abortions, cesarean section, ruptured membranes during delivery, and mastitis. While the most common form of bacteria transmission is through asepsis and improper hospital sanitation, having a Urinary Tract Infection or pneumonia during delivery can also put an individual at risk. Because high blood pressure and elevated heart rate are characteristic of both sepsis and the aftermath of childbirth, follow-up appointments are vital to ensuring the health of the mother. As a result, women living in regions without access to hospitals are often placed at a greater risk of developing the condition.

A study was performed in July of 2013 documenting the deaths of two women in a UK hospital. The two of them died within 24 hours of one another, one from bacteremia and the other from hemorrhagic pneumonia. Upon investigation, the research team discovered that the perpetrator of these two deaths had been a penicillin-immune mutation of the strep bacterium. Not only had the bacteria spread throughout the hospital, putting the lives of four other patients at risk, it was also deduced that the bacteria had traveled through basic contact, signaling that the bacterium was able to quickly and easily spread throughout the hospital.

In the United Kingdom, postpartum sepsis is the main reason for maternal mortality. While sanitation practices are primarily to blame for the danger of sepsis, cases like this are only evidence of how antibiotic-resistant bacteria have become increasingly problematic in the realm of healthcare. To date, the United Kingdom has done little to address this issue, and many other countries also lag behind in the realm of maternal health care.

Despite the debatable efficacy of the United Kingdom's efforts, the Royal College of Obstetricians and Gynecologists have introduced guidelines that they hope will assist with the prevention of postpartum sepsis. Among these guidelines are an emphasis on preventing infection by *Streptococcus Pyogenes* and *Escherichia coli*, increased education of obstetricians, and increased clinical

observation of women for issues such as Urinary Tract Infections and mastitis. However, the root cause of the issue, antibiotic-resistant bacteria, remains unidentified.

CASE STUDY 2: THE SUCCESS OF COUNTERING ANTIBIOTIC-RESISTANCE IN LIVESTOCK IN NAMIBIA

After antibiotics were discovered, they were quickly acquired by the agricultural industry to be used as a preventative medicine against infection. As antibiotics are repeatedly used in livestock, antimicrobial-resistant bacteria would develop in the animal, most typically in the stomach of the animal, where it would be transmitted to the environment through the animal's fecal matter. If not properly disposed of, the animal's fecal matter could mix with run-off and infect other food items, such as fruits and vegetables. Some common bacteria that have been found in foods, such as Salmonella, Campylobacter, and Escherichia Coli are known for being difficult to treat. With antimicrobial bacteria in the mix, these microorganisms become increasingly deadly in the realm of human health.

Recognizing the issues presented by the overuse of antibiotics in agriculture, the WHO has released some guidelines. Sorting antibiotics into several different categories, they have deemed that antibiotics necessary to human health should not be used for the treatment of animals. Any newly discovered antibiotics are also discouraged for usage in agriculture, and an emphasis on preserving antibiotics for human treatment is quite clear. Furthermore, the WHO has suggested that preventative care with antibiotics be banned and that the usage of antibiotics is limited only to those who animals who are diagnosed with certain diseases. While the EU has begun to adopt these policies, perhaps it is the country of Namibia that best showcases how a successful agricultural sector is achievable without the usage of antibiotics for preventative care in livestock.

Namibia is a country in South West Africa. With a population of about 2 million citizens, Namibia is more sparsely populated than many more urban countries. With a GDP of 27.6 billion in 2017, the country's economy is weaker than that of the United Kingdom but still stronger than many of its neighbors. About 6%

of the population works in the agricultural sector with their primary exports being millet, sorghum, peanuts, grapes, fish, and livestock.

In Namibia, a law was passed in 1991 in which agricultural applications of antibiotics were only permissible in animals who had been diagnosed with a sickness. The law itself was in response to Methicillin-resistant *Staphylococcus aureus*, or a strain of salmonella that were wreaking havoc on individuals throughout the country. Namibian farmers have also chosen to uphold higher standards of animal care and have maintained proper hygiene, such as clean pens, proper spacing, and clean water to keep their livestock healthy. Farmers have also found that their industry is no less productive due to their lack of usage of antibiotics. Despite the fact that their livestock grows more slowly than their competitors who utilize GMOs, consumers are often willing to pay higher prices for higher quality meats that are grown antibiotic free. With this in mind, it may be time for other countries to make the swap to antibiotic-free agricultural practices.

Although Namibia has seen success with their agricultural practices, there are still a number of controversies surrounding the ban on antibiotics. Antibiotics are useful in the agricultural settings because of their potential application to increasing growth rate and mature size of livestock. As a result, farmers who do not use antibiotics often find themselves unable to compete against farmers who do. It is evident that a balance must be met in order to ensure the livelihood of farmers and protect humans and the environment from antibiotic resistance.

BLOC POSITIONS

The issue of antimicrobial-resistance is widely recognized across the world as complex and one of the most difficult to tackle on a global scale. Along with these many countries, the WHO has also made significant efforts to address it. However, antibiotic overuse remains an issue, in part due to its necessity in various sectors and nations.

Antibiotic Dependent: Human Health:

In developing countries, antibiotics are often vital to agricultural success and healthcare, and over dosage is common. In developing countries, hospitals are often sparse. Citizens often either have to deal with overcrowding or the necessity to traverse long distances to access hospitals, both of which are especially challenging to people who do have infections. Returning to these hospitals after the first diagnosis is often quite difficult for patients, and without proper means to check in on patients, doctors often over-prescribe antibiotics in an attempt to ensure that their patients are eventually cured of their afflictions. Countries that are reliant upon overdosage to ensure the health of their citizens include: Ethiopia, Gambia, Mozambique, Guinea-Bissau, Rwanda, Papua New Guinea, Mali, Zimbabwe, Democratic Republic of the Congo, and Ghana among others.

Non-Antibiotic Dependent Agricultural:

The issue of antibiotic use in agriculture is also quite contentious. Antibiotics used preventatively has been shown to have negative effects on the environment and are especially responsible for the development of superbugs. Members of the European Union have responded by banning the usage of preventative antibiotics in agriculture. Though this has made their agricultural sector less efficient, it has not significantly affected profitability. While member states of the EU have embraced the WHO's call for less antibiotics in agriculture, each individual country within the EU is often quite small and does not rely heavily on its agricultural sector for revenue. These countries include Italy, Germany, France, Switzerland, Sweden, Poland, Croatia, Romania, Spain, Netherlands, Bulgaria, Denmark, Greece, and Portugal.

Antibiotic Dependent Agriculture:

Countries with more landmass, such as Brazil, Argentina, Australia, India, and the United States, tend to favor the usage of antibiotics to maintain agricultural productivity. Because both countries export so much meat, they argue that



preventive antibiotics are necessary to maintain productivity and make it so that livestock are kept healthy. Furthermore, some organizations within each country go as far to argue that because ultimately antibiotics continue to be used as a means of treating illness, superbugs will continue to mutate regardless of whether or not antibiotics are used in animals, and as a result antibiotics should continue to be used in agriculture. These nations have high rates of antibiotic resistance in human medicines as well, which furthers the issue more. Though many of the concerns that these countries present are valid in their own respects, it may prove difficult to reconcile their concerns with those of other countries and reach a resolution on antibiotic usage in agriculture.

GUIDING QUESTIONS

1. What policies does your country have in place to reduce pharmaceutical waste from damaging public health?
2. Does your country have restrictions on antibiotics used within agriculture?
3. What progress could be made on the healthcare policies of your nation?

FURTHER RESEARCH

[PMC2937522](#)

An account of the history of antibiotic resistance and a variety of steps taken throughout the last century. Includes pertinent tables and maps.

[HTTPS://WWW.CDC.GOV/DRUGRESISTANCE/INDEX.HTML](https://www.cdc.gov/drugresistance/index.html)

General synthesis about antibiotic resistance created by the CDC. However, lacks international facts and focuses primarily on the American Health System.

[HTTPS://WWW.NCBI.NLM.NIH.GOV/PMC/ARTICLES/PMC4378521/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4378521/)

Detailed journal on antibiotic resistance. Includes drug specific reports, however, is weak on the international spectrum, focusing mostly on the United States.

TOPIC B

Improving Maternal and Neonatal Healthcare

TOPIC INTRODUCTION

The issue of healthcare for mothers and infants is one that is currently plaguing an unimaginable amount of people worldwide-- nearly 1,000 women die every day from preventable issues related to pregnancy and childbirth. This travesty is further compounded by the fact that 99% of these deaths occur in developing countries. While there are a multitude of issues surrounding the care of mothers and children, some of the most prominent include the increased maternal mortality rate in rural areas, the lack of adequate education surrounding infant care, and the lack of skilled professionals in developing areas. In developing nations, many of these issues stem from a lack of access to quality healthcare, and especially labor-related healthcare. These labor-related complications that are easily treatable for women in developed nations with access to antenatal care are often not recognized in developing nations, as this care isn't standardized, and the symptoms are either unnoticed or unattended to by a medical professional. In this committee, it is of the utmost importance that delegates discuss and organize a way in which we can add to the stimulation and improvement of the healthcare for mothers and their infants across the globe.

HISTORY

Hospital sanitation has been an important issue since their invention. Although the importance of cleanliness was initially unknown, poor hospital sanitation caused many issues with sepsis and gangrene. People would often die due to contracting infections or from blood poisoning from a lack of sanitation

during surgical procedures. During wars, soldiers would more often die from treatment of their wounds than from being wounded on the battlefield.

The first steps towards improved hospital sanitation were taken in the 18th century. People began to quarantine the sick, especially in American ports. Ships filled with people that had a certain disease were barred from having access to land and two permanent councils, Hanlon and Pickett, were formed to enforce rules with regards to quarantine and isolation. It was during this time period that disease moved from being seen as inevitable to preventable. As a result, scientists began to explore new ways to stop disease from spreading from person to person.

Although shifts in the 18th century allowed for the further exploration of preventing disease, it was during the 19th century that hospital sanitation was generally accepted in an event known as “The Great Sanitary Awakening”. At the beginning of this century, germ theory gained more momentum. This was in part due to the discovery of Louis Pasteur, a French chemist and microbiologist who found that fermentation and putrefaction were the results of organisms transmitted through the air. People began to believe that disease was caused by invasion of the body by microorganisms and that wounds were especially susceptible to this. During the Crimean war, a woman named Florence Nightingale worked as a nurse in the war-time hospital. Appalled by the lack of basic hygiene upheld by the nurses and doctors there, she used her own resources to bring fresh water and nutritional food to the hospital. Due to her efforts, the mortality rate due to infection in the hospital dropped significantly.

While Florence Nightingale’s efforts had a lasting impact on hygiene in nursing, it was during the 19th century that surgical hygiene was also drastically improved. A prominent surgeon at the time, Joseph Lister, was concerned with preventing sepsis. Although at the time people typically believed that exposure to air was what caused sepsis, Joseph Lister hypothesized that decomposing wounds coupled with exposure to air was the main culprit. He tried spraying carbolic acid into the air when performing procedures, drastically lowering the number of casualties due to postoperative issues like gangrene. Furthermore, he pioneered the practice of using tar on wound wrappings to help kill bacteria.

In modern hospitals, a number of standards have been put in place to ensure proper sanitation. Guidelines from the National Institute of Health stress the importance of sterilization of everything that a patient touches, repeated hand washing before and after patient contact, and keeping doctors themselves clean. Antiseptics are also commonly used to prevent blood-borne infection from improperly sterilized medical instruments. Through these measures, nosocomial infections, especially those of the iatrogenic variety, have become increasingly rare in developed nations.

Though new guidelines have been put into effect for hospitals, in developing countries, high levels of sanitation can be difficult to attain. A lack of access to running water makes it difficult to sanitize thus perpetuating the problem and making developing nations scramble for solutions to the lack of cleanliness in medical facilities.

PAST UN ACTION

In 1979, it has been reported by Dr. Halfdan Mahler, then the Director-General of the WHO and an early champion of maternal health, that 500,000 women die every year from tragic complications of not only pregnancy, but also abortion attempts and childbirth in developing countries. Three organizations who have taken action towards this issue are WHO, United Nations Children's Fund (UNICEF) and United Nations Population Fund (UNFPA), declaring that "The right to life is a fundamental human right, implying not only the right to protection against arbitrary execution by the state but also the obligations of governments to foster the conditions essential for life and survival...", along with expressing the importance of applying these rights without discrimination.

In 2005, WHO established the Partnership for Maternal, Newborn and Child Health with the goal to shed new light and emphasis on the continuum of care, with maternal health emerging as a focal point. During the U.N. Millennium Development Goals Summit in September 2010, former UN Secretary General Ban Ki-moon established the Every Woman Every Child campaign to raise awareness and new funding for maternal, newborn and child health based on the new Global Strategy

for Women's and Children's Health which aimed to save 16 million lives by 2015 in the 49 poorest countries around the globe. The WHO has created a near-miss approach to analyze health systems, which is the standardized method which is implemented in three steps: (1) baseline assessment (or reassessment); (2) situation analysis; and (3) intervention. The baseline assessment is to be performed in individual healthcare centers then scaled up to the entire health system. In order to advance a standard definition along with a uniform identification criterion for maternal near-miss cases, WHO established a working group comprised of obstetricians, midwives, epidemiologists and public health-care professionals in 2007.

The maternal health field has escalated quickly and if not always consistently since 1987. The Safe Motherhood Strategy issued by the Safe Motherhood Initiative in 1987, suggests for a policy approach to improving maternal health outcomes. One section of this strategy is to provide sufficient primary health care and an adequate portion of food for females from infancy to adolescence, along with universally available family planning. 2) sound prenatal care, including nutrition, with early detection and referral of those at high risk; 3) the assistance of a trained professional at all births; and 4) access to obstetric care essentials for women at high risk.

In May 2016, the 69th World Health Assembly (WHA) occurred in Geneva, Switzerland. The WHA, which is the highest decision-making body within the WHO, accepted a resolution related to women's, children's and adolescents' health. The resolution that was created at the 2016 WHA strives to ensure that every woman, child and adolescent worldwide are able to thrive by the year 2030. In 2003, WHO supported piloting a 6-month midwifery training programme in six districts for Family Welfare Assistant (FWA) and Female Health Assistant (FHA) to become Community-Based Skilled Birth Attendant (CSBA). Since 2004, the program has bolstering the CSBA with the goal of improving access to skilled care at the community level and CSBAs' skills to refer complications.

CURRENT SITUATION

Maternal mortality rates are astoundingly high. Approximately 830 women die due to complications related to pregnancy and childbirth daily. It is estimated that

303,000 women died during and after pregnancy and childbirth in 2015. Not surprisingly, these deaths were primarily preventable, 99% of them occurring in areas with a lack of the proper resources.

The inequities in healthcare and resources between impoverished and wealthy areas is displayed by the high levels of maternal deaths in areas that lack the proper materials and skilled workers needed to keep women and babies safe. South Asia and Sub Saharan Africa account for more than 70% of maternal and neonatal deaths. The maternal mortality rate in developing countries is 20 times higher than in developed nations; 240 per 100,000 births versus 12 per 100,000 births. In developing nations, maternal mortality is the biggest killer of girls under 15.

There are many factors that affect maternal mortality rates: geographical region, economic status, race, previous health issues, cultural practices, misinformation, and maternal age. Women living in rural areas, which often are at risk of having dangerously low levels of skilled health workers, often never receive any medical care surrounding their pregnancies and births, leaving the responsibility to trusted local women without proper training. Only 43% of impoverished women are assisted by a health professional while pregnant, compared to 89% of financially sound women. Millions of births occur without any assistance from a doctor, midwife, or nurse.

Pregnant women are at risk of high blood pressure, gestational diabetes, anemia, infection, preeclampsia, eclampsia, preterm labor, miscarriage, and stillbirth. While many of these are preventable, early detection and care are needed to keep both mother and baby safe. Proper nutrition and rest are also necessary to keep mom and baby healthy throughout pregnancy. During labor, issues such as breech position, placenta previa, and low birth weight can complicate the natural process and have lasting effects on mother and child.

While efforts to provide safer delivery options to women has led to most developed countries' rate of maternal mortality is decreasing, the United States' rate of maternal mortality has been increasing steadily since 2000. The number of rural hospitals in America without obstetrics and gynecological services has risen from 24% to 44% in the last 20 years. However globally, between 1990 and 2015, maternal mortality worldwide dropped by about 44%. Roughly 70% of India's pregnant

women live in rural areas, where access to doctors, monitoring equipment, and education is scarce. Racial and economic disparities also influence these trends, with minority populations often living on the fringes of society and thus lacking access to proper facilities and the resources necessary to prosper.

There have been a variety of studies and incentives surrounding providing care for expecting women. In Uganda, the promise of seeing your baby in utero has increased the attendance of rural clinics by six times the amount it was previously. In Haiti, mobile prenatal clinics have been established that provide basic checkups, prenatal vitamins and supplements, and disease testing. In India, apps have been created to help track maternal and fetal development. All of these policies have taken advantage of local cultures to improve attendance at hospitals, and perhaps countries should continue exploring the usage of innovative policy to influence their citizens to pursue proper maternal healthcare.

CASE STUDIES

CASE STUDY 1: ILLEGAL ABORTIONS AND CONTRACEPTIVE USE

When discussing maternal healthcare, the topic of abortion seems almost impossible to ignore. An inflammatory topic, abortion often inspires intense debate surrounding its morality. It seems that no side of the argument is truly morally correct with neither argument truly preserving life. However, it is impossible to deny the widespread effects of illegal abortions on women across the world.

Currently, a study from the National Institute of Health estimates an average of 42 million abortions performed annually, with 20 million of these abortions being unsafe. Of these women, 5 million will suffer from long term health complications and an estimated 68,000 women will perish from their unsafe abortions. The most common types of unsafe abortion are either done through ingesting toxic fluids like turpentine and bleach, undergoing blunt trauma to the abdomen, direct injury to the vagina or cervix with foreign objects, or receiving improperly performed

abortions from unskilled providers that often occur unhygienically and result in uterine perforations and infections.

The primary group seeking illegal abortions are individuals who often either are members of the lower class or live in countries with restrictive abortion laws. In developing nations such as those situated in Latin America, Africa, and South East Asia, 55% of abortions are unsafe. For women living in these two regions, the two major obstacles to getting an abortion are either religion or access. In many religions, abortions are recognized as immoral and are consequently discouraged. Furthermore, laws banning abortion limit women's access to safe abortion, and women in the lower classes of developing countries often cannot afford safe abortions, even if abortions are legal in that country. To illustrate this phenomenon is India, who, after instituting the India Medical Termination of Pregnancy Act legalizing abortion, continues to struggle with illegal abortions among women in their lower classes.

Although laws surrounding abortion are often quite controversial, it is clear that contraceptive education plays a large part in decreasing the overall number of abortions that occur. In Europe, where contraceptive education is widespread and usage is high, the overall number of abortions that occur are very low, with an average of 4.4 million abortions performed annually. Though this may seem high, when compared to Asia's 35.8 million annual abortions, it is clear that contraceptive usage plays a prominent role in preventing abortion.

In countries like in Japan, after abortion was legalized, a sharp drop in abortion-related fatalities was observed. However, it is important to not that in many countries, religion can make the implementation of abortion, with many religions scorning it as being immoral. With this in mind, when delegates address the crisis of illegal and unsafe abortions, it may be more pertinent to explore unique strategies to limit the number of abortions rather than settle the numerous moral dilemmas to either ban or legalize abortion.

CASE STUDY 2: INDIA

Maternal healthcare is often lacking in many parts of the world, but in no country is it more apparent than in India. India accounts for almost a quarter of all maternal deaths in the United States, with an estimated 136,000 cases of maternal mortality occurring annually. India also contributes to 25% of disability-adjusted life years in the world solely due to poor maternal healthcare. While obstructed labor is notorious in Indian mothers, postpartum conditions such as Hemorrhage, Anemia, and Sepsis are the principal causes of maternal mortality in India. One reason for this is the lack of available and affordable postpartum care for low income Indian mothers. Only 19% of low-income women received post-natal care, with lack of access to transportation, many fail to go to their government-mandated post-natal checkups and failing to receive a tetanus shot.

Among the top contributing factors to maternal mortality are the lack of access to obstetric care, little postnatal follow up, a lack of skilled birth attendants and first referral units. Because of the sheer size of India and the cultural diversity between regions, identifying and assisting regions has proved difficult. Many Indian states do not even acknowledge the issue in their policies, and in the past, the lack of doctors has made it difficult for India to actually create policies that support their women.

In an attempt to address the issue of maternal mortality in India, the state of Chiranjeevi enacted the Chiranjeevi Scheme. Beginning in 2005, the state began a unique public-private partnership between the state government and private hospitals. Hoping to augment the availability of hospitals to low-income women, the government instituted a program that subsidized the out-of-pocket costs of women's travel and directly paid obstetricians who assisted in delivery. The program was open to women who made less than a specified income and has since been used by many women throughout the state. Women have reported high levels of satisfaction with the program, saving an estimated 3000 Rupees (US 75) on their respective deliveries. With these supports, over 90% of women who had previously chosen to give birth at home decided to go to government facilities to give birth instead.

Although the program has mainly been used to address its intended beneficiaries, low income Indian women, the program does have a number of faults.

For one, despite the availability of the program, many women opt not to use the program due to the decisions of their families. Transportation costs are often not fully subsidized, and women often find themselves paying 200 Rs for their transportation. Neonatal vitamins and medicines are often either unavailable to women or not subsidized. Family members who stay with the mothers also often find themselves spending extra money on food and other necessities, although the cost of their labor is also government subsidized. Despite the necessity for the program to expand its reach and efficacy, its success should be used as an example for others who wish to improve maternal healthcare to impoverished populations.

BLOC POSITIONS

High Rates of Maternal Mortality Coupled with Wide-Spread Poverty: Afghanistan, Argentina, Bangladesh, Bhutan, Burkina Faso, Burundi, Central African Republic, Cote d'Ivoire, Ethiopia, Haiti, Honduras, India, Lesotho, Malaysia, Nicaragua, Pakistan, Panama, Paraguay, Peru, Philippines, South Africa, Venezuela, Yemen, Zambia, Cambodia

Women living in these countries often face numerous financial barriers to receiving proper maternal healthcare. Not only are there a lack of facilities for a sanitary deliver, but trained midwives are lacking, and women often do not have the ability to return for post-natal visits if they even have the ability to make it to a facility for their delivery. Pregnancy is often left outside of women's control, a societal issue that can endanger the life of many mothers.

High Rates of Maternal Mortality Despite General Financial Stability: Armenia, Iraq, Morocco, Russian Federation, Tunisia

These countries, despite a stronger financial base, often fail to provide sufficient maternal healthcare. Oftentimes this is because of a lack of emphasis placed on maternal health care and a lack of sufficient sanitation and protocols for delivery. Other times it is because of shortages of doctors in the country or the inability of the government to invest properly in healthcare.

Low Rates of Maternal Mortality Despite General Poverty: Bahrain, Brazil, Colombia, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Jordan, Kyrgyzstan, Latvia, Mexico, Mongolia, Oman, Qatar, Thailand

Despite the fact that a number of citizens in these countries are impoverished, rigorous national and international programs has resulted in these countries gaining a relatively low maternal mortality rate. Serving as an example to other countries is Bahrain who, despite having widespread poverty in more rural areas, was able to educate women and provide services allowing for improved maternal healthcare.

Low Rates of Maternal Mortality with General Financial Stability: Australia, Canada, Chile, China, Denmark, Egypt, France, Germany, Greece, Hungary, Iran, Israel, Italy, Japan, Netherlands, Saudi Arabia, Spain, Switzerland, Turkey, United Arab Emirates, United Kingdom, United States of America

These countries are able to use their financial resources to ensure women receive proper care. Women typically give birth with professional assistance in sanitary facilities along with receiving thorough postnatal care. Though areas with higher rates of poverty still experience issues with maternal health care, but oftentimes they can fall back on other programs that help them gain access to the medical assistance that they require. Oftentimes, these countries also have racial disparities that prevent people from accessing healthcare as well. Minority populations in China often hit roadblocks trying to get healthcare, and racial minorities in the United States often face discrimination when trying to receive Medicaid.



GUIDING QUESTIONS

1. What levels of maternal mortality are present in your country and what successes/challenges have they had in reducing that number?
2. Does your nation have cultural practices or beliefs that inhibit pregnant women from receiving the proper care? How can those beliefs be respected while safeguarding maternal healthcare?
3. What systems are in place in your nation to help reach rural areas? How can greater accessibility be ensured with quality healthcare?

FURTHER RESEARCH

[HTTP://CITSEERX.IST.PSU.EDU/VIEWDOC/DOWNLOAD?DOI=10.1.1.587.5640&REP=REP1&TYPE=PDF](http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.587.5640&rep=rep1&type=pdf)

International analysis of maternal health on a larger, global scale with focus on socioeconomic effects. Includes details on preexisting conditions on maternal and neonatal success.

[HTTPS://WWW.UNFPA.ORG/MATERNAL-HEALTH](https://www.unfpa.org/maternal-health)

Source for maternal health news, including maps, articles, and facts. Also includes yearly reports on advances made.

[MHRETROSPECTIVE_FINAL.PDF](#)

A detailed history of the progress made in maternal healthcare throughout the past four decades. This helps to clarify the solutions used and the dramatic change in mindset throughout the medical world on maternal health.

CITATIONS

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