LXIV

SIXTY-FOURTH SESSION

World Health Organization

Berkeley Model United Nations

Hello Delegates and Welcome to The World Health Organization (WHO)! I am Hunter Conrad, your head chair, and I am beyond excited to be running the WHO committee in BMUN LXIV. I am currently a fourth year, studying Interdisciplinary Studies with a focus on Public Health, Environmental Science, and Political Theory. Although I did not do MUN in high school international relations and travel have always interested me. I lived in Argentina for a year of high school, and have just returned from Santiago, Chile, where I was studying at the University of Chile researching barriers to reproductive health in rural youth populations. Beyond studying health, I love to hike, camp, surf, and swim. I will also be joined by my amazing vice chairs who this year will be Tiffany Ford, Nicholas Spelta and Stacey Dojiri.

Hi! My name is Tiffany Ford, and I'm currently in my first year at Cal as a hopeful double major in Molecular Environmental Biology and Public Health. I find the functionings of the human body and their interactions with the world around them to be inexorably fascinating, so I'm beyond excited to be a vice chair for the World Health Organization. Outside of my studies, I've been heavily involved in Model UN for the past four years as well as other advocacy groups. In my free time, I love hiking, spending time outdoors, traveling, and writing.

Hi, my name is Nick Spelta and I am a fourth year at Cal studying History. I was involved in Model United Nations in high school for four years, learning about relevant global conflicts and coming up with practical solutions. In my spare time, I enjoy playing tennis and guitar as well as hiking the Berkeley hills.

Hey delegates! My name is Stacey Dojiri and I am one of your vice chairs. I'm a second year at Berkeley intending to major in Public Health, and will hopefully be going to medical school in the near future. I am deeply interested in global health, particularly in infectious diseases; I work in a research lab that studies chlamydia. Model UN played an integral role in my high school experience, so I am thrilled to be able to give back to the MUN community through this amazing BMUN conference. My non-academic life involves graphic design, yoga, and cooking. I cannot wait to meet all of you!

This year at BMUN LXIV, we are excited to debate, discuss, and hopefully come up with some feasible solutions for two of the most pressing and contested topics in the realm of global health today--drugs and the double burden of disease in developing countries. For our topic on drugs we will be looking at whether drugs use and addiction should be treated as a health or criminal issue. Many countries today hold punitive policies for possession of even very small amounts of drugs and many people are subsequently incarcerated and likely to continue using when they are released. How could this issue be looked at through public health? could rehabilitation be a good solution? are there examples of countries already doing this? These will be the questions we will be diving into during this discussion.

Our other topic, the paradox of double burden of disease in developing countries will look at the recent phenomena which many people in developing countries and well as their health care systems have been faced with not only communicable diseases such as Malaria and food borne illnesses, but also chronic diseases such as obesity and cardiovascular disease. These two different kinds of disease require very different treatment and have very different causes, so how can both be addressed in countries with the limited resources of a developing country? We

invite you to really think critically about these issues in the context of your country, because undoubtedly they are affecting your citizens in some way or another, and will continue to do so.

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Drugs: Crime or Health Issue?

Every year, one addictive substance is responsible for 18% of human deaths globally — tobacco (Mathers et. al. 21). Tobacco is not normally a substance most organizations and people consider to be a dangerous addictive drug; however, it is clear that it has huge effects on global health. There are other substances that are more often associated with crime and death including heroin and cocaine, which are notorious for their addictive qualities and negative health outcomes. Yet, the way in which organizations categorize and deal with drug addiction and issues is often based on which drugs are considered to be the worst for society or individuals. Why is it that alcohol and tobacco are legal when their negative health outcomes have been clearly demonstrated, while other substances, such as marijuana and crack, are not only illegal, but treated as a criminal issue instead of a public health issue?

To better understand this topic, we must look at the different classifications of drugs. First there are pharmaceutical drugs, which are drugs that are used to treat disease or injury - essentially a medicine. These are the kinds of drugs that are regulated by the medical field and are in some shape or form legalized, whether or not a prescription is required. Alternatively, there are recreational drugs. These are classified as pharmaceutical, but can also be used for non-medical purposes. A defining trait of a recreational drug is taking a drug with the intention to alter the state of consciousness in order to create positive emotions or feelings. Examples include MDMA or heroine. Moreover, pharmaceutical drugs such as cough syrup can be used as recreational drugs if taken in large enough quantities by people for whom they are not prescribed. For example, the drug Ritalin is often taken recreationally as speed. On the other end of the spectrum there are traditional drugs which are used in traditional ceremonies or medicinally in unaltered forms. An example of this would be Peyote in the Native American groups of the Northwest, as well as the chewing of coca leaves in Bolivia, Peru, Paraguay and Brazil as a remedy for altitude sickness. Finally, there are addictive substances we do not normally classify as “drugs”: It is important to note that addictive substances such as alcohol and tobacco are classified as drugs, but often not perceived as drugs by society, although they are two of the main contributors of the global health burden today, especially in developing countries (Mathers et. al. 20).

In order to have a better understanding of the current situation, it is important to understand the idea that is often discussed in drug policy: the drug-crime link. The idea supposes that

generally, drug use results in a greater likelihood of that user of committing a crime. Toby Seddon further explains the concept in his piece *Explaining the Drug–Crime Link: Theoretical, Policy and Research Issue:*

> "From a social policy perspective, an understanding of the relationship between drug use and crime is important since it affects both criminal justice and drug policy. Different conceptions of the link underlie aspects of debates about drug treatment, prevention, enforcement and legalizations as well as about sentencing policy and the development of strategies for local policing…An implication of the 'drugs-cause-crime' model, if correct, would be that a free supply of drugs to 'addicts' or successful treatment should remove the need to commit crime" (96).

This is an important link to understand in terms of policy because it has dominated and heavily influenced both national and international drug policies since the 1970s. Yet, at the same time it is important not to assume this link to be unquestionably true, especially coming from a public health perspective. For example, there has been no conclusive data whether or not drug use is the cause of crime, or if it is just correlated, because drug use is often associated with other factors such as poverty, in which individuals might already be more prone to crime, regardless of drug use (Seddon, 97). This is why it is important to consider the difference between selling, using, and growing narcotics in terms of its links to health and crime.

The history of the drug crime-link can be traced back to U.S. President Richard Nixon's War on Crime in the 1970s. In 1971 President Richard Nixon declared "war on drugs". He proclaimed, "America's public enemy number one in the United States is drug abuse. In order to fight and defeat this enemy, it is necessary to wage a new, all-out offensive" ("The United States War on Drugs"). Nixon fought drug abuse on both the supply and demand fronts. This means that not only did he want to make it clear that the selling, production, and distribution of drugs was illegal, but that the use of drugs was also illegal. These policies may seem reasonable in that if the supply side is made illegal, the demand side should be illegal as well; however, from a public health perspective, it is anything but reasonable. This is because use and abuse is associated with problems of addiction, which is a health concern. Although it is a common belief

that drugs cause people to commit crimes, it is important to remember that this relationship is not proven, and can be linked back to Richard Nixon's policies in the War on Drugs.

Crime is of course a part of the production, selling, and buying of drugs, but the policies of the War on Drugs were not looking at the health issues associated with drug use, they were looking solely at the criminal issues. As a result, there has been a huge increase in the number of small time users that have been incarcerated since the 1970s. From a public health position, it is important to consider if treatment for addiction could be a more effective way to prevent drug use in the future instead of incarceration. Moreover, an often overlooked side effect of drug use is the spread of disease by means of sharing needles. Using direct injection is one way of administering drugs such as heroin and stimulants amphetamines, and if needle use is not controlled, individuals will share needles, leading to the spread of diseases such as HIV/AIDS and hepatitis C, both of which can have a huge affect on life expectancy and general health. This demonstrates that even if these drugs are completely illegal it is very important to consider how health is affected by drug use and not just criminal behavior. For example, in regards to this specific issue of needle sharing, there have been policies of providing clean needles for users in order to halt the spread of disease, even though heroin and amphetamines are illegal. In public health, we must look at the trade off between preventing diseases such as HIV/AIDS and preventing and treating drug use.

The drug-crime link is also very important for understanding current global policy in regards to drug use, trade, and production. Certain "types" of narcotics have been deemed completely illegal while others, such as marijuana, often walk the line between being legal and being illegal, while other drugs are legal. Why are drugs such as cocaine and MDMA illegal, when drugs such as Alcohol and tobacco are legal? In one study it was found that more than 33 million Americans are affected by problem drinking having a significant effect on their health outcomes ("More than 33 Million Americans"), demonstrating that it is not just drugs heavily associated with crime and not having notable impacts on health.

Past UN Action/Relevant Regional Organization & International Action

Topic Background

The first major UN action in regards to drug use and trade was The Convention for Limiting the Manufacture and Regulating the Distribution of Narcotic Drugs in 1931 which aimed to control opium, coca, and derivatives such as morphine, heroin and cocaine ("The Convention for Limiting"). The next major conference on drugs was the Single Convention on Narcotic Drugs in 1961, which consolidated earlier treaties such as the convention in 1931, and broadened their scope to include cannabis and drugs whose effects are similar to those of the drugs that has been previously specified in other conventions. Moreover, the Commission on Narcotic Drugs and the World Health organization were permitted to remove, add and transfer drugs among the four schedules of controlled substances in the treaty ("Single Convention") .

These provisions were not mandatory, but required countries to pass laws to carry out the provisions which were stipulated. This lead to the Single Convention having a major influence on the creation of the United State's Controlled Substance Act of 1970 (Nixon's War on Drugs) and the UK's Misuse of Drugs Act of 1971. This treaty was followed up by the 1971 Convention on Psychotropic Substances and the 1988 United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, which broadened the scope of drugs controlled to Psychotropic substances, limiting even their scientific and medical uses ("Convention on Psychotropic").

Another important recurring event in which action is taken in regards to Global drug policy is the United Nations General Assembly on Drug Use (UNGASS). There were two General Assembly special sessions in 1990 and 1998 specifically addressing global drug issues (Jelsma, 3). The 1990 special session focused on limiting drug supply and demand, aiming for a "drug-free" world in 10 years, by 2000. These special sessions "corresponded with a U.S.-led escalation of the "war on drugs" in the 1990s which was characterized by mass incarceration domestically, along with the threat of sanctions to pressure tightening of drug laws around the world and the militarization of foreign counternarcotics operations" (Jelsma, 2). For this reason, UNGASS Latin American countries that had been heavily affected by the U.S.'s "War on drugs" called for the American North to first look at how they could reduce the demand for drugs

domestically before using force internationally against drug production and supply. UNGASS led to a reevaluation of past drug policies, as well as “a more detailed study of the implications of decimalization and of harm reduction campaigns” as well as the real health effects of traditional drugs such as coca tea (made from the same leaves as cocaine) (Jelsma, 6). But the stark polarization of the two main policy trends, the escalation of the war on drugs and the more pragmatic approach of decriminalization and harm reduction, created paralysis at the UN during these two UNGASSs (Jelsma, 11).

Looking into the future of drug policy, the next UNGASS in regards to drug use is scheduled for 2016, and the same contradicting policy positions are predicted to come up, although the main focus seems like it will be harm prevention, with a greater focus on public health. These views have been reinforced by organizations such as the American Public Health Association (APHA), which call for reformed drug policies with a greater focus on Public Health. As explained by the APHA, “public health approaches offer effective, evidence-based responses, but some of the most effective interventions are not currently allowed in the United States owing to outdated drug laws, attitudes, and stigma. Substance misuse treatment is too often unavailable or unaffordable for the people who want it” (“Defining and Implementing a Public Health Response"). This points to the fact that global drug policy is very important, but it is up to individual countries to implement such policies, and which approach they choose to take can have an effect on health outcomes. Is the main concern harm reduction or drug production and use reduction?

Case Study I: US led reduction of Coca crops in Colombia

As discussed earlier, most drug-related policies are implemented at the national domestic level, and some countries choose a harm reduction based model in which the focus is protecting the health and welfare of mankind, instead of a strict focus on production reduction. In regards to these two policy forms the United States has chosen a strong position that is anti-production and use. For this reason there is a heavy focus on criminalization of drug use domestically, as well as an active policy against production abroad that can be imported to the United States.

One example of this foreign anti-drug policy is US-backed herbicide spraying of Coca crops in Colombia. Coca crops are what are used in a refined form in the production of cocaine,

which is primarily exported to the US if it is produced in Colombia. Yet, the coca leaf is also a traditional medicine of the region, which is used to treat altitude sickness and minor aches and pains. For this reason, although much of the coca produced in Colombia is used in the production of cocaine that is not its sole use. Regardless of the fact that the coca leaf has multiple uses, the US and Colombia, in a joint effort as part of a strong anti-drug policy have been spraying coca crops all across Colombia for over two decades (Neuman, "Defying U.S., Colombia Halts Aerial Spraying"). The spraying of the coca crop is one action related to the US's war on drugs in which the focus is to stop production.

This is an interesting case, as although the spraying of coca crops has been a joint effort for over 20 years, the Colombian government recently, as of May of this year, decided to stop collaborating with the US on the spraying. The decision to halt the spraying, which was backed by President Juan Manuel Santos came after an agency of the World Health Organization declared in March that the herbicide used here, a chemical called glyphosate, probably causes cancer in humans (Neuman, "Defying U.S., Colombia Halts Aerial Spraying"). This is important because Colombia's decision to stop the spraying of the herbicide is a possible move towards a harm reduction approach. In other words, they see the spraying of harmful chemicals on crops as more dangerous to the general well being of their citizens than the preventing the growth of coca plants. One alternative policy that has been considered by the Colombian government is attacking the links in the chain of drug trafficking, the labs where cocaine is processed, and large shipment of chemicals (Neuman, "Defying U.S., Colombia Halts Aerial Spraying"). This more targeted approach could lead to less health risks for individuals as well as a decrease in the production of cocaine. This demonstrates that it is important to consider the negative health related side-effects of such policies before and after implementation.

Case Study II: Needle Exchange Programs

The sharing of needles is a common practice of injection drug users (IDUs). This is a major issue in terms of public health due to the fact that dangerous viruses and diseases can be transferred from IDU to someone they are sharing their needles with. In order to address this health issue, many government agencies and public health organizations have introduced Needle Exchange Programs (NEPs) to areas and people at risk. A NEP is "a facility where drug injectors can obtain sterile needles and syringes and return used injecting equipment (Aldrich,

"Dimensions of HIV Prevention"). Although NEPs may make referral to drug treatment an important part of their services, they acknowledge that many IDUs, including some in drug treatment programs, continue to inject drugs and share injection equipment. It is for this reason, that the main focus of such programs is the reduction of harm associated with injectable substances.

Yet, a complicating factor in creating NEPs is that generally there are two major kinds of laws that restrict the possession, distribution, or sale of injecting equipment in some countries such as the United States, while in others, no such laws exist (Aldrich, "Dimensions of HIV Prevention"). Studies have shown that there is a relationship between laws which do not limit the possession, distribution, or sale of injecting equipment and lower needle sharing rates. For example, Schemes to promote the sale, distribution, or exchange of syringes in pharmacies have been a central element of the response to the HIV epidemic in Canada, Britain, Australia, New Zealand, Switzerland, Spain, France, and Germany, which have resulted in lower needle sharing rates (Aldrich, "Dimensions of HIV Prevention").

Yet, this does not mean that NEPs are the best answer to solving drug related issues, as many NEPs are not focused on referring users to drug treatment programs as they want to appear "user-friendly". Ideally, NEPs would be focusing on both clean needle distribution and helping to get drug users into treatment. Integrating NEPs into the existing public health system is a likely future direction for NEPs. One success of NEPs is the NEP program in New York: " 50% of IV drug users in New York City in the 1980s had HIV. That percentage has dropped to 16% today, falling steeply after the introduction of needle exchange programs" (Szalavitz, "Clean needles saved my life"). This shows that NEPs can be effective in stopping the spread of disease associated with drug use, but still may not be helping as much as they could in lowering drug-use rates.

Case Study III: Indonesian Drug Policy and Issues

In many developing countries narcotics and their criminal consequences are very salient. One such example that has been in the news recently is Indonesia's drug policy in which anyone can face life imprisonment for possession of Class A drugs, and the death penalty for trafficking them. Even selling addictive prescription drugs such as morphine or methadone can see dealers facing up to 12 years in prison, and the death penalty if the amount exceeds 5g. (Reynolds, "Why

drugs mean death"). These punitive narcotics policies exist because in Indonesia there are an estimated 1.4 million "regular" drug users, and 943,000 addicts, causing an estimated 33 drug-related deaths daily ("Narcotics Agency"). For such a small country, these are staggering numbers. The situation in Indonesia has come to international attention because many of the drug traffickers being detained and executed are foreign, typically from the neighboring country of Australia. Many international actors and groups see the death penalty as an extreme solution for Indonesia's drug problem (Reynolds, "Why drugs mean death").

One key aspect of narcotics in Indonesia is that the majority of users have opted for recreation prescription drugs as they are often cheaper and easier to obtain than their more expensive counterparts (Ritalin v. Speed). This is important because, as demonstrated by this case, drugs that are typically associated with crime such as cocaine and heroine are not the drugs causing people to be criminalized and incarcerated. Yet, drugs have not always been treated as a criminal issue in Indonesia, in the late 1990s, politicians such as Religious Affairs Minister Tarmizi Taher, a physician, supported the establishment of methadone clinics and needle exchange programs for drug users. President Abdurrahman Wahid, in office from 1999 to 2001, treated drug addiction as a health issue and not a criminal matter (Buehler, "Indonesia's dramatic executions"). Yet, in 2004, Susilo Bambang Yudhoyono, the "reform president", turned drug consumption into a security issue, and now about 60% of prisoners are imprisoned for drug-related issues (Buehler, "Indonesia's dramatic executions"). Yet, this year Indonesia has also promised to send 100,000 drug users to rehab, and aims to send 400,00 next year in attempts to curb issues of consumption, not just trafficking ("Narcotics Agency").

Indonesia serves as an interesting case when looking at crime policies versus health and rehab policies in regards to drug use. It is not yet clear which has been most effective, but international outcry is highlighting some of the major issues associated with criminalization tactics. Maybe both trafficking and use should be addressed in this case, as they could both be working together to create the drug crisis that Indonesia is fighting today.

Questions to Consider

1. Why are abused and misused medical drugs still legal and not as tightly regulated in some countries if they are known to have dangerous side effects?
2. In the United States, as well as in some countries in Europe, there has been the recent legalization of marijuana. What health effects could this have or not have?
3. How can there be a reconciliation of both traditional drug use which has limited health effects, and recreational drugs which are derivatives of a given traditional drug? An example would be opiates being turned to heroin or coca leaves being turned into cocaine?

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The Paradox of the Double Burden Disease in Developing Countries

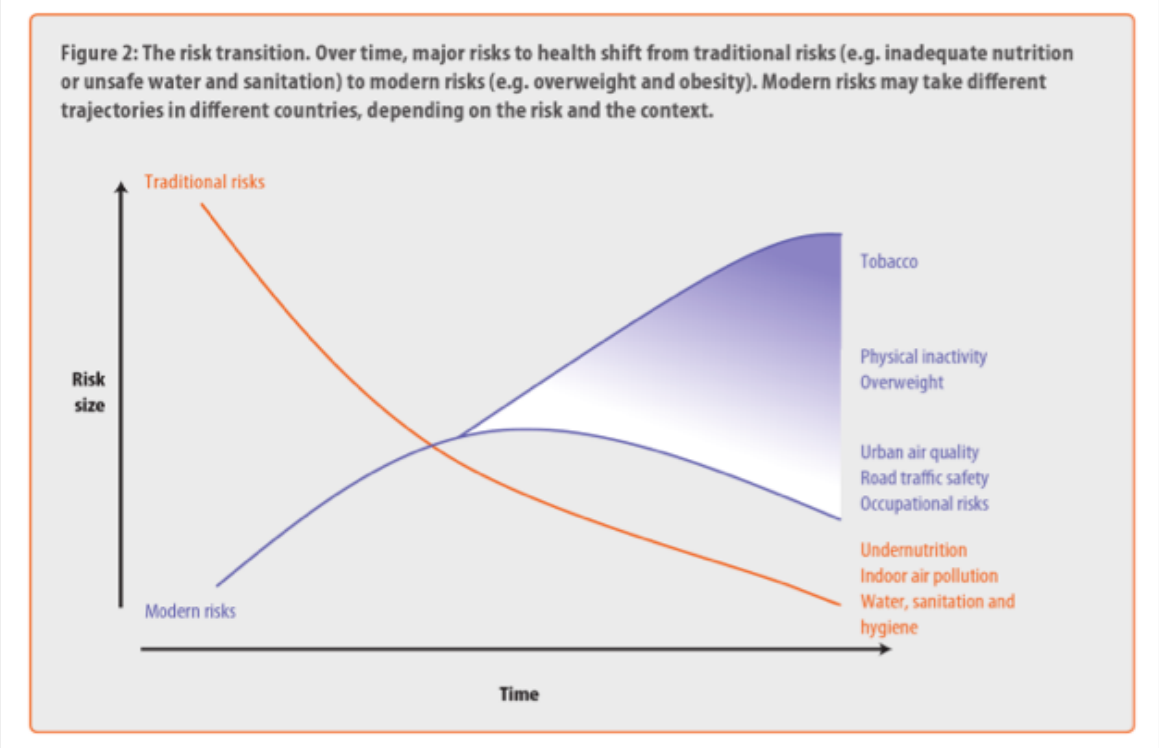
Topic Background

In 2008, "60% of all deaths in the world, a total of 38 million people, died from the four main non-communicable diseases: cardiovascular diseases, diabetes, cancers and chronic respiratory diseases. 80% of these deaths occurred in low- and middle-income countries" ("Non-communicable Diseases"). This is partly due to the fact that since 1950, the world has experienced unprecedented epidemiologic changes. First, child mortality fell, and life expectancy increased by 20 years in the last 6 decades – far more than in any previous time in all of human history. Second, fertility rates declined, slowing population growth and allowing greater investments in health and education. Third, most developing countries urbanized and productivity rose rapidly in non-farm enterprises. Infectious diseases and malnutrition have receded from the top causes of death in all but the poorest countries and, even there, they are on the decline. Most of this change occurred in less developed countries, where child deaths are declining due to investments in education, public health programs, and better access to medical therapies ("Non communicable diseases, Poverty") .

Currently, developing and underdeveloped countries are facing a unique health challenge, as they experience both communicable/infectious (CDs) diseases that are associated with underdevelopment as well as non-communicable diseases (NCDs) that are associated with development. This phenomenon is known as the double burden of disease. Non-communicable diseases, also known as chronic diseases, are not passed from person to person. They are of long duration and generally progress slowly. The 4 main types of non-communicable diseases are cardiovascular diseases, like heart attacks and stroke; cancers; chronic respiratory diseases, such as chronic obstructed pulmonary disease and asthma; and diabetes ("Noncommunicable diseases fact sheet"). On the other hand, communicable diseases are caused by infectious pathogenic microorganisms, such as bacteria, viruses, parasites and fungi; therefore, the diseases can be spread directly or indirectly from one person to another ("Infectious diseases"). The combination of both of these types of diseases presents a particularly challenging situation because these countries and, subsequently, their citizens, have to cope with diseases whose sources, causes, and treatments are diverse and often hard to determine.

For centuries, communicable diseases were the main cause of death around the world, which inevitably lead to a lessened life expectancy globally. Yet, after WWII, with the discovery of vaccines and antibiotics and improvement of general life conditions, NCDs began to have major effects in industrialized countries. Cancer, diabetes, chronic pulmonary diseases like asthma, and heart disease became an immense burden for developed countries' health systems. This led to an association between economic development and wealth with the diseases mentioned above. Yet, Prentice mentions in his article *The Emerging Epidemic Of Obesity In Developing Countries* that "now, at the dawn of the third millennium, NCDs appeared to be sweeping the entire globe, with an increasing trend in developing countries" (Prentice, 191). This is due to the fact that in developing countries, the change in nutritional intake combined with increasingly sedentary lifestyles resulting from food market globalization and increasing urbanization have led to the emergence of chronic diseases as a major new health threat (Marshal, 556).

This emergence of NCDs in developing countries is also known as an example of "health risks in transition". As described by the WHO publication *Global Health Risks: Mortality and burden of disease attributable to selected major risks*, health risks in transition involves the idea that "populations are ageing owing to the successes against infectious diseases, at the same time, patterns of physical activity and food, alcohol and tobacco consumption are changing low- and middle-class income countries now face a double burden of increasing chronic, non-communicable conditions, as will as the communicable diseases that traditionally affect the poor". This is demonstrated by the transition curve depicted below (Mathers et. al.):



This recent increase in NCDs is demonstrated by the fact WHO estimates that non-communicable diseases — already made clear obesity-related conditions — now account for 59% of the 56.5 million deaths which occur globally every year and almost half (45.9%) of the global burden of disease. Moreover, "in all but the poorest countries, the death and disability from chronic diseases now exceeds that from communicable diseases— comprising 49%, compared with about 40% for communicable disease and 11% for injuries" (Nugent, 70). This means that not only are chronic diseases increasing, but also they now are responsible for half of disease in developing countries. For example, Reports from WHO indicate that globally 33 million people live with HIV/AIDS, about one million people die from malaria annually, and 8.8 million people are living with tuberculosis (Chukwuma). However, at the same time, "WHO states that the proportion of global deaths attributed to NCDs was 63%. At least 70% of these deaths occurred in developing countries" (Chukwuma). This is a major issue because on one hand, treatments for chronic disease (i.e. cancer, diabetes etc.) are often more expensive and hard to obtain, but on the other hand, CDs remain to be a major health issue.

This is an important phenomenon to examine and address because it affects a vast number of the world's population. According to the Human Development Index, 84.5% of

humans on earth live in developing countries (Malik, 20). This means that more three-quarters of the world's population are living in conditions that expose them to both NCDs and CDs, affecting their life expectancy and daily life. How can health conditions be improved in these developing countries knowing the financial and practical limitations of treating and diagnosing both NCDs and CDs?

Past UN Action/Call to Action

Since the double burden of disease is a relatively new phenomenon, past UN action, and specifically WHO action, does not date back very far. This does not mean that no action has been taken to combat CDs or NCDs in developing countries, but that they have been combated separately instead of as one coherent issue. For example, as far as communicable diseases are concerned, in the early 1990s, WHO and the International Union Against Tuberculosis and Lung Disease set out the essential components of drug treatment for tuberculosis in the five-point DOTS strategy that has since been adopted worldwide, averting an estimated 7 million tuberculosis deaths between 1995 and 2010. Moreover, for malaria, WHO has helped build consensus around the best procedures for containing resistance to artemisinin, including the need for accurate diagnostic testing and treatment of confirmed infections. Malaria vector control has been enhanced by recommending that insecticide-treated bed-nets to be used by adults and children; 280 million long-lasting insecticide-treated bed-nets were distributed in Africa from 2008—10, enough to protect 73% of the population at risk (Chukwuma).

In order for these operations to be carried out successfully, WHO has collaborated with a range of stakeholders to support the development of new agencies and partnerships (MDG 8), including "UNAIDS, the Stop TB Partnership, the Roll Back Malaria Partnership, the Medicines for Malaria Venture (MMV), UNITAID, the Global Fund to Fight AIDS, Tuberculosis, and Malaria, the African Program for Onchocerciasis Control (APOC), and the Global Alliance for the Elimination of Lymphatic Filariasis (GAELF)" (Chukwuma). Although these efforts solely address the issue of CDs, it is important to note that the task of tackling any disease requires collaboration and support to get the most resources to help the greatest number of people.

On the side of NCDs, one major example of past WHO action on the subject is the 57th World Health Assembly and the resulting *Global strategy on diet, physical activity and health* (World Health Organization). This was a collaborative event that looked at the increase in

NCDs, specifically obesity and diabetes, two diseases closely associated with diet and exercise, as well as development. It recognized that NCDs have become more prevalent especially in developing countries, and that immediate action must be taken in regards to reforming diet and physical activity practices in developed and developing countries alike. This Assembly called for reforms including better labeling on products, governments providing accurate information on the issue, education, and national food and agriculture policies that are consistent with the protection and promotion of public health.

These examples demonstrate that action has been taken, but only action against either NCDs or CDs - not both collectively as the double burden of disease. Yet, the World Health Organization recognizes the importance of the double burden of disease, for the director of WHO's health statistics and informatics recently announced, "this evidence really shows that no country in the world can address health from either an infectious disease perspective or a non-communicable disease one. Everyone must develop a health system that addresses the full range of the health threats in both areas." ("Many countries hit"). Although to date there has been no specific action, many of the UN's Millennium Development Goals (MDG) are focused on issues that relate very closely to the double burden of disease. According to WHO's discussion paper, "Non-communicable diseases, poverty and the development agenda" (2009), the increased focus on NCDs in developing countries is crucial as it relates to the first MDG, of eradication of extreme poverty and hunger. This is because a high prevalence of NCDs in developing and developed countries can result in a poverty trap where the costs (treatments, doctor visits, medications) of NCDs are so high that they actually push families and individuals into poverty, or can cause those already struggling with poverty into deeper poverty. In other words, globally, "a pattern has emerged, across continents, of poor populations in low income countries, burdened by NCD, lacking access to public services, paying out of pocket in the private sector, and impoverished by the cost of care" ("Non-communicable diseases").

Moreover, the discussion paper on non-communicable diseases relates the double burden of disease and its importance to multiple MDGs: MDG 2, universal primary education; MDG 3, gender equality; MDGs 4 and 5, maternal and child health; MDG 6, tuberculosis and HIV/AIDS; MDG 7, environmental sustainability; and MDG 8, global partnership. This is because having the burden of both NCDs and CDs in a developing or already fragile economy can have major effects across the board. Women generally will have to stay home more often to take care of the

sick, CDs and NCDs can affect child health and life expectancy, and if children are chronically ill, they will not be able to attend school. Moreover, a high prevalence of both of these kinds of diseases will ultimately slow economic growth. It is clear the emergence of the double burden of disease can have far reaching effects on both an economic and individual level, all of which are important to the UN's Millennium Development Goals. It is for this reason that WHO and the UN are calling for action, but it is well recognized that this will require global partnership between governments, organizations, and individuals.

In the ECOSOC/UNESCWA/WHO Western Asia Ministerial Meeting in regards to the threat of the double burden of disease, they have for recommendations for future action: first, to accept the role of government in stemming the tide of NCDs, calling on the importance of the public sector in addressing and intervening on the issue; second, to invest proportionately to burden of disease, meaning that organizations and governments must collectively begin to invest resources in NCDs in developing countries, not just CDs; third, to seek co-benefits and common causes, meaning that treatment of disease is not the only thing to be explored, for factors such as urban planning and environmental health are related to and affect NCDs; and fourth, to seek common systems delivery, meaning that already implemented infrastructures (ones that exists for HIV/AIDS or Tuberculosis) should be readily utilized for addressing issues associated with the double burden of disease.

Case Study I: Urban-The Double Burden of Disease in Accra, Ghana

Accra is the capital of Ghana and is located in the Greater Accra Region, the most populated among the country's ten administrative regions. With an estimated population of 1.7 million in 2000, Accra contains 70% of the total population of Greater Accra Region, accounts for 30% of the urban population of Ghana, and accounts for 10% of the total population of Ghana (Agyei-Mensah). As in many developing countries and urban areas, in the last 100 years, population has increased dramatically (as shown below, Agyei-Mensah). This led to the need for better water systems to insure clean water supply and more health facilities. As early as the 1950s, records on causes of death showed the coexistence of both infectious communicable diseases and chronic non-communicable diseases as causes of death, partly because of this urban population boom. Yet, the health transition and the current double burden of disease become very apparent when the prevalence of NCDs and CDs has shifted over time, demonstrated by the

table below (Table 1). It is clear in 1953 that infectious and parasitic diseases were the leading cause of death and in 2001 the leading cause of death was circulatory, closely followed by respiratory (both NCDs), but infectious and parasitic diseases are still the second leading cause of death, demonstrating that both NCDs and CDs are important issues in Accra (Agyei-Mensah).

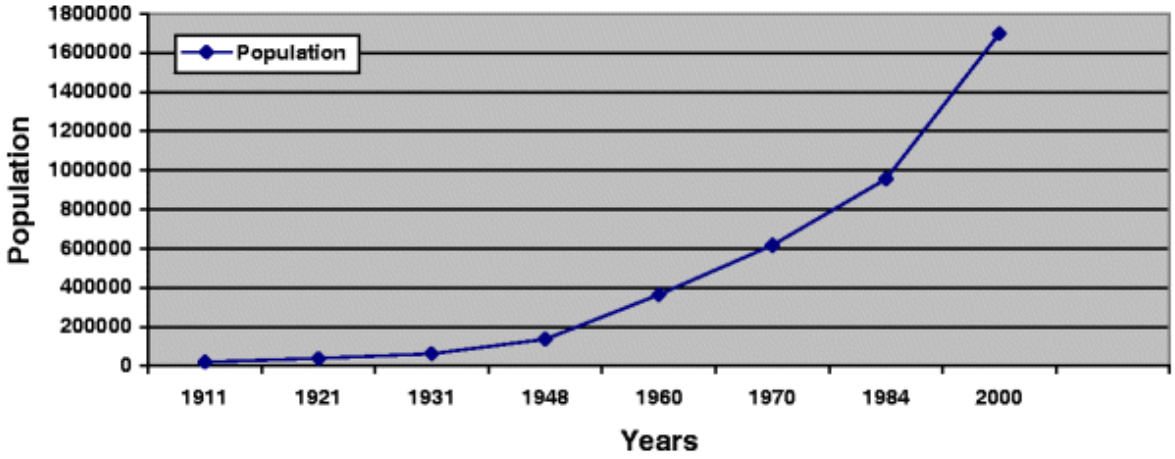


FIGURE 2

Population change in Accra, 1911–2000.

Table 1

Rank distribution of causes of death in Accra, 1953, 1966, 1991, 2001

1953	1966	1991	2001
[1] Infectious and parasitic	Infectious and parasitic	Circulatory (24.2)	Circulatory (30.4)
[2] Diseases of early infancy	Diseases of early infancy	Infectious and parasitic (18.2)	Infectious and parasitic (15.7)
[3] Respiratory	Digestive system	Respiratory (12.0)	Respiratory (15.6)
[4] Digestive system	Respiratory	Anaemia (6.9)	Neoplasms (5.8)
[5] Nervous system	Senility	Neoplasms (6.3)	Injury and poisoning (5.5)
[6] Old age	Accidents and emergency	Digestive system (5.4)	Digestive system (5.1)
[7] Circulatory system	Nervous system	Nervous system (4.5)	Abnormal (4.2)
[8] Pregnancy	Nutritional	External (4.0)	Nervous system (3.7)
[9] Violence	Circulatory system	Genito-urinary system (3.8)	Blood forming (3.5)

Source: 1953, 1966, 1991, 2001, Stephens et al.8; Agyei-Mensah30. The 1991 and 2001 data on causes of death were controlled for residents of the city

As demonstrated by the prevalence of both NCDs and CDs in Accra, Ghana shows a clear example of the double burden of disease. This is partly due to urban population increase and development, but compared to many countries, Ghana is fortunate, for it has a relatively well- developed public health infrastructure, yet it mainly is focused on the prevention and treatment of CDs. Moreover, as Ghana has become more and more globalized, with the help of foreign aid and economic stimulus since the 1980s, new forms of eating have been entering the urban areas, especially Accra. American fast-food restaurants have become popular especially among the middle and upper classes, and fewer and fewer Ghanaians are eating at home as they work too far from home to make lunch or breakfast for themselves, resulting in diets that are higher in both refined sugars and fats, which are both strong precursors for obesity (Agyei-Mensah). With increase development more and more NCDs are bound to become important factors in the health outcomes of the citizens of Accra, Ghana.

Case Study II: Rural-Double Burden of Disease in Rural South Africa

It is important to understand that the double burden of disease is not just an urban issue, but a rural issue as well, and can even be harder to address in rural situations. Currently in South Africa it has become clear that the double burden of disease is affecting rural areas, which comes with its own set of issues when compared to urban areas. A study done by Elizabeth W. Kimani-Murage reported that in rural South Africa, there has been "stunting at an early age and adolescent obesity, particularly among girls, that co-exists in the same socio-geographic population". The study also shows that HIV is an independent modifiable risk factor for poor nutritional outcomes in children and makes a significant contribution to nutritional outcomes at the individual level (Kimani-Murage). In more simple terms, this means that populations, especially children are being affected by both malnutrition (not a disease, but considered an outcome of under development) and at the same obesity (a NCD).

In short, we can see this as a clear example of health risk transition, even though it is in a rural area. However, even though the individuals studied were not living in urban areas, urbanization has played an important role in changing diets and lifestyle changes, as explained by Kimani-Murage:

> "Due to its historical background, characterized by nearly half a century of Apartheid, high levels of HIV/AIDS over the past few decades, and the recent

rapid economic and social transition and urbanization, South Africa has undergone a complex health transition. It is characterized by high levels of persisting undernutrition among the Black population, potentially due to high levels of food insecurity reported at the household level. On the other hand, a rapid nutrition transition has been experienced in the country with a marked shift from staple foods towards an energy dense diet occurring alongside urbanization. High levels of physical inactivity and sedentary lifestyles have also been associated with the nutrition transition in several studies in South Africa. This has resulted in a high prevalence of overweight and obesity among adults, particularly women; for example, 55% of adult women are either overweight or obese, with a consequent high disease burden of noncommunicable diseases".

It is important to think about the difference between rural and urban situations and how they may have to be addressed differently. Moreover, it is clear that the double burden of disease is affecting numerous countries across the globe, as well as diverse regions and populations. Different histories may result in the prevalence of different diseases, but there are undoubtedly both CDs and NCDs affecting most, if not all, developing countries today.

Questions to Consider

1. How does geography, history, and development affect what diseases a given country (specifically yours) or region is faced with?
2. How can a government address the issue of the double burden of disease, especially in a developing country with limited economic and health resources?
3. Are diseases related to things such as food choices and exercise levels (i.e. obesity, blood pressure issues, diabetes type 2) the responsibility of the individual or the government/global health institutions?
4. How does the double burden of disease affect health care in recent refugee camps and settlements, if many new refugees are suffering from chronic disease as will as communicable diseases?

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