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Health care priorities in developing countries: A systematic review

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Health Care Priorities in Developing Countries: A Systematic Review

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TABLE OF CONTENTS

Abstract

Countries around the globe are struggling to find an affordable health care system. Developing countries have it particularly challenging with a lack of health care professionals and funding to spend on health care. This systematic review analyzes five developing countries' (China, Dominican Republic, Ghana, Peru and Turkey) health care systems to find what is working well and what needs improvement. The main findings that these countries could adopt are requiring medical student graduates to do their residency in rural areas, giving more power of health care to local governments rather than the federal government, making insurance companies non-profit, and providing vaccinations free of charge.

Chapter 1: Introduction

The United States spends over nine thousand dollars per person annually on health care (Commonwealth Fund, 2015) and employs almost one million physicians (Young et al., 2014). The United States experiences greater disparities in the quality of care and higher expenditures on health care compared to other developed countries. Nevertheless, compared to developing countries, the United States has many services and laws in place to protect individuals when they become unhealthy. Developing nations are weighed down by many burdens that result in a lower quality of care. For example, the lack of stable economies results in relatively little money being spent on health care. This deficit creates a challenge in which educated people leave developing countries for better pay and better quality of life (Dodani & LaPorte, 2005). Consequently, fixing one portion of the problem alone does not resolve the bigger issues.

The goal of this paper was to look at the effectiveness of five different countries' (China, Dominican Republic, Ghana, Peru and Turkey) health care systems in terms of quality and cost. Based on the findings, suggestions on the most effective ways to enhance the health care systems in developing countries with limited resources are discussed. Because vision care is an important contributor to quality of life and work productivity, a brief overview of vision care offered in each country's health care systems was provided.

To provide diversity, the five countries, which qualified as developing nations with limited resources, were chosen from different continents. The five countries discussed have similar issues: doctors are scarce in rural areas, as most want to live in the city, making it more difficult for people in rural areas to access health professionals, due to the lack of transportation (Drislane, Akpaulu, & Wegdam, 2014). Numerous countries have universal health care systems,

creating a bevy of problems, such as how to pay for a universal system, ensure quality of care, and offer competitive pricing (Odeyemi & Nixon, 2013). Each country described in this paper has a governmental department working to improve health care.

This systematic review aimed to identify the quality and costs of health care systems in five developing countries. The primary objective was to develop suggestions for these countries that were cost-effective, quality driven, and promoted the common good. Examining different countries health care systems yielded beneficial information in developing similar suggestions. With a renewed adoption of strong health care systems in developing countries, more steps can be taken to address these problems. Whereas, first-world nations have an immediate focus on providing care to the largest amount of people possible, developing nations struggle to deliver any amount of care to remotely situated rural populations. Despite spending an increasing amount of money on health care, the quality of care does not seem to increase.

Another issue is the portion of costs the government pays through tax dollars and the amount people pay out-of-pocket. Though quality of care rises when more money is spent, the rise in quality is not proportional to the amount placed into the system. It is important to use health care costs efficiently. When prices rise there should be a higher quality of service provided to patients increasing quality of life and life expectancy.

As a secondary objective this review explored how eye health influenced people's quality of life. Eye health is not a top concern of health care systems when they have more pressing concerns, such as keeping people alive. People without serious vision problems are able to hold jobs and be productive members of society, and do not need a family member to stay home to take care of the person. Therefore, it should not be a matter of choice in terms of which is a

better option for a person, but rather they should work in tandem. While the patient is at the physician's office, he or she should also be checked for eye care and, if needed, directed to low-cost eye clinics. Health care systems often overlook eye care because there are more immediate problems to address. Eighty percent of blindness is preventable or can be cured (World Health Organization [WHO], 2017e), so countries should be doing more to increase productivity and quality of life in their community.

The current systematic literature review is important because developing countries are struggling to use their finite resources in the most efficient way. All of the countries reviewed lack trained doctors, especially in rural areas, and all of the countries are working towards universal health care. However, the countries struggling financially, do not have enough resources to provide everyone quality health care, and/or have difficulty signing up patients for universal health care, because they are in rural areas and lack knowledge/technology. In order to offer suggestions on how to best use the available resources in each country to ultimately benefit the greatest amount of people additional systematic literature reviews need to be conducted.

Chapter 2: Methodology

The Preferred-Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) was used in this research process. Five countries were chosen to study. The number five was chosen in order to have a sufficient number of countries to make an argument for suggestions for different countries' current health care systems. The sample size remained at five because comparing too many countries in this timeframe would prevent an in-depth analysis of each country. To select the five countries, the author conducted a Google search for a list of developing countries. The five countries were chosen based on the number of articles on the respective country available via the online JMU Library Catalog. Without enough information about a particular country's health care system, it would be difficult to present a persuasive argument. The countries, Ghana and Dominican Republic, were given preference because the author has experience in these countries through previous visits. The five countries were also chosen from different continents to create geographic diversity. Countries were not chosen from the same area, so the suggestions proposed in this paper are more effective. Other inclusion criteria included the fact that the developing country struggled to provide a quality health care system due to lack of money and health professionals.

The eligibility criteria were that the articles had to be written in English, published between the year 2005 and 2017 (preference given to more recent publication dates), and works that were general to the health care system (i.e., not specifically maternal health, mental health, traditional medicine, etc.). Approximately five to seven articles were found for each country. The search started with the JMU Library Catalog. The keywords searched were the name of the country, *health care system*, *health insurance*, and *health history*. If not enough relevant articles

were found from the online JMU Library Catalog where the full-text was available, the author searched PubMed Central using similar keywords. Lastly, the author searched for one or two articles on the eye care system in each country. Similarly, the online JMU Library Catalog was used first followed by Pub Med Central.

In the JMU Library Catalog website, *Ghana* and *health insurance* and *healthcare* or *health care* was searched. There were 607 results found. The articles were narrowed first by whether the full-text was available online. The search was narrowed to 361 results. The date range was then indicated as 2005 until 2017 and there were 300 articles. Only academic journals were selected, and there were still 255 articles. English text was also selected, but the 255 articles were already presented in English. The articles were sorted by relevance and the first five article titles and abstracts were read. Three of the five articles were chosen to use in the current analysis. The other articles were not as relevant to the current analysis because the articles focused on specific diseases or perceptions of patients. The articles that were chosen include Odeyemi and Nixon (2013), Akazilli et al. (2017) and Baidoo, Asare-Kumi, Nortey, and Kodom (2016). After reading these articles, it was important to learn more information about the quality of health care in Ghana and how the medical education/training worked. In the JMU Library Catalog, the keywords *Ghana* and *quality of health care* were used and 203 results were found. The same eligibility criteria were used, and there were still 96 articles revealed. Again, based on relevance, the first five title/abstracts were read. The Baidoo et al. (2016) article was also included in these five articles, but Escribano-Ferrer, Cluzeau, Culter, Akufo, and Chalkidou (2016) article was also used.

The other articles were excluded because they focused on nursing, end-of-life care, and pregnancy-related quality of health care. In the JMU Library Catalog, *Ghana* and *medical education* were searched and there were 241 results. After the previous eligibility criteria was established, there were 50 articles found. After reading several titles/abstracts, the information was deemed irrelevant for the purpose of the current analysis. The Pub Med Central was used with the same keywords and 987 results were found. After adding the same eligibility criteria as above, there were 695 results. Again, the first five titles/abstracts were read. The only relevant article was Drislane et al. (2014). The other articles were excluded due to their focus on babies, clinical operations, and emergency care. These steps were repeated similarly for each country.

For eye health, very little results were found on the JMU Library Catalog and PubMed Central using keywords *eye care* or *eye health* or *vision care* and the countries' names. For Ghana, after the eligibility criteria was applied, only 22 results were found. None were relevant to include in the current paper because the articles focused on a specific disease or a very specific population, such as cocoa farmers. A Google search was conducted using the same keywords, and the first seven reliable sources were read and two were chosen to use in the present analysis. The two articles chosen were: Potter, Debrah, Ashun, and Blanchet (2013) and Kumah (2017). The others were excluded because the articles were discussing several countries, were specific to a certain eye clinic, or specific to pediatric eye health.

The summary and analysis of notes were organized by country and then by title of article. All notes were then assigned a category: history of health care system, current health care system, statistics, eye health, and other. Each category was color coded. All notes were then organized by country within each category. The results section is a summary of the notes from

each category within each country. Statistics and other categories were either involved in each relevant section or deemed not necessary for the argument of the paper. Pros and cons were then given based on the results of what was working and what was not working in a country's health care system. Overall recommendations were proposed to developing countries. The importance of eye care was also discussed. The recommendations helped to answer the following research objectives:

- Identify suggestions for developing countries' health care systems that are cost-effective, enhance quality, and promote the common good.
- Describe how eye health influences quality of life.

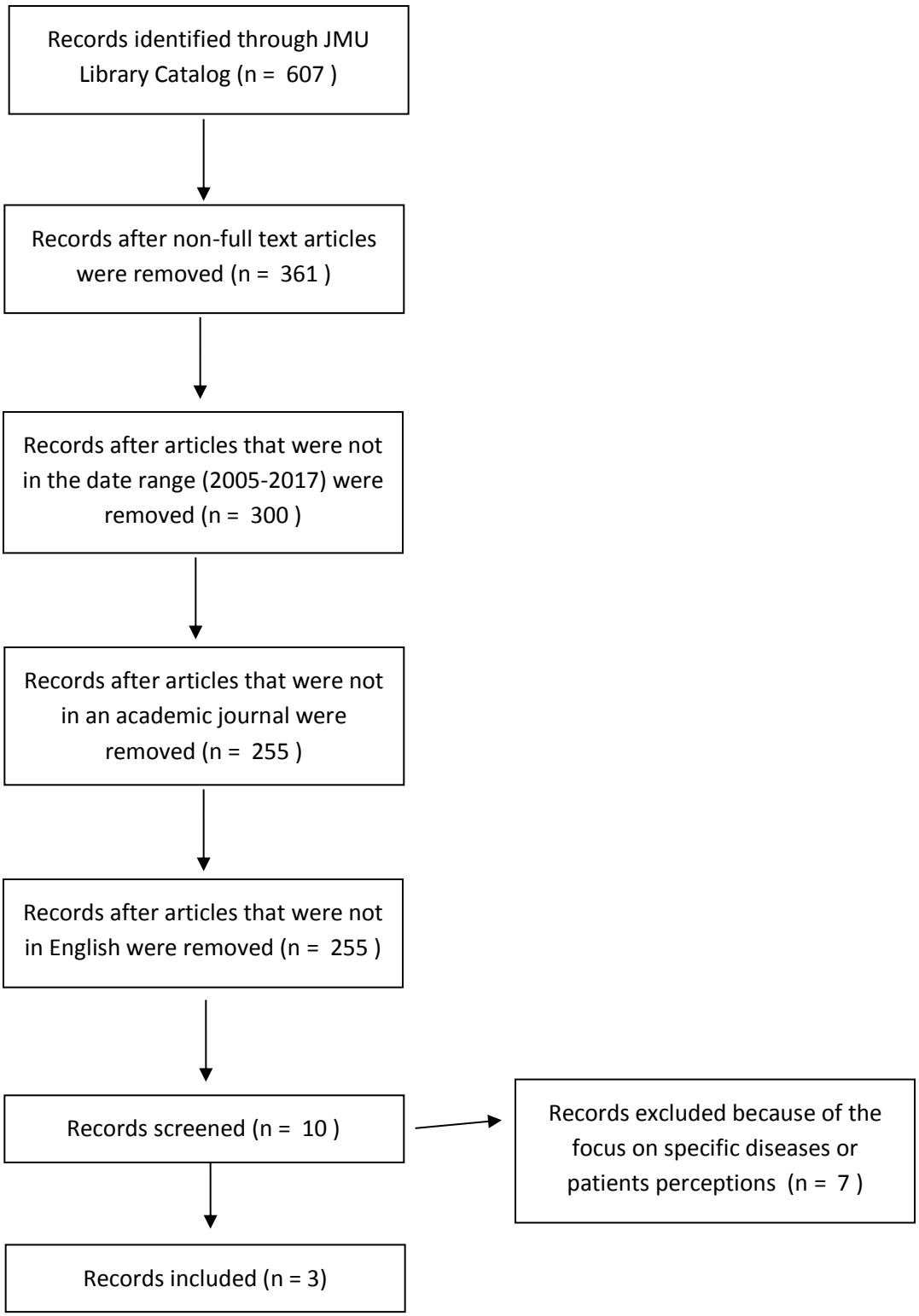
Some information and statistics were repetitive among the articles. The more recent article was favored for information. To reduce the risk of using articles that are biased, UlrichsWeb was used make sure the articles were peer-reviewed. Peer-reviewed articles help to minimize bias, but there may still be some underlying bias. One bias that these articles may still have was selective reporting of data. There are several steps to identify whether an article is peer-reviewed. Odeyemi and Nixon's (2013) article was published in the *International Journal for Equity in Health*. The journal was searched in UlrichsWeb and was found to be peer-reviewed. These steps were repeated for each article. Articles that were not peer-reviewed information were only included in the paper if other peer-reviewed articles suggested similar findings.

Most of the articles used in this systematic review were also systematic reviews or literature reviews; therefore, very little data were used. There are several biases that may occur

between articles. One bias was how quality of care is measured in one survey in a country differs from how another country measures quality of care.

Chapter 3: Results

An example of how the articles for Ghana were chosen from the JMU Library Catalog is shown in the flow chart below.



China

History of China's Health Care System

In 1949, China was overtaken by the Communist Party. At this time, all hospitals and health care facilities were government-run (Blumenthal, 2015). No health insurance was needed because all services were practically free. In rural areas, untrained doctors were performing duties to make up for the health care system (Blumenthal, 2015). These untrained doctors were known as 'barefoot doctors'. Even though they were untrained, they helped meet the needs in rural villages (Blumenthal, 2015).

Between the 1950's and 1980's, China's health care system was successful, until some dramatic changes took place that caused the health care system to drastically decline. The central government did not invest as much in health care services and had no plan to compensate people in need of health care (Blumenthal, 2015). The central government told local governments to manage the health care system, including funding. Local governments should have been trained to manage health care systems. In addition, when local authorities needed to tax people in that community to pay for health care services, there was a wide gap in the quality of and access to services between wealthy and poor communities. Previously, the central government taxed everyone and redistributed health care resources (Blumenthal, 2015).

In the 1980's, wealthy communities had access to a quality health care system and the poor communities had nothing (Blumenthal, 2015). With the lack of government support, China's health care systems became private markets and for-profit businesses. The Chinese government regulated what physicians were paid based on how profitable they were with selling

new drugs and technologies (Blumenthal, 2015). Patients may not necessarily need the drug or technology, but if the doctor could convince the patient that he/she needed it, the patient would buy it to maybe save his/her life. The new drugs and technologies made doctors more like businesses. Rather than focusing on helping people it caused a major distrust between patients and health care providers. This change in 1984 also caused 'barefoot doctors' to be out of jobs, and a significant portion of the population became uninsured, especially in rural areas (Blumenthal, 2015). The government still stayed involved in pricing. The price of physician's and nurse's time was limited. The price of drugs and technologies were unlimited, and this caused physicians to overprescribe drugs and perform unnecessary tests (Blumenthal, 2015).

In 2003, the government realized that people would enter poverty after trying to pay their medical expenses at hospitals. Therefore, some of the cost of hospital expenses began to be covered. However, there were still several major problems with China's health care system at the time (Blumenthal, 2015).

China's Current Healthcare System

In 2008, China wanted to provide affordable and quality basic health care for all citizens by 2020. China created government-subsidized health insurance to meet basic health care needs (Blumenthal, 2015). Primary care was now an important part of the health care system. The goal was to decrease the inequality between the quality of health care in urban and rural areas. 'Barefoot doctors' were still seen as a great asset to rural villages (Blumenthal, 2015).

The Chinese government now requires employer's insurance, which includes a medical savings account and catastrophic insurance coverage. Since the medical savings account is the

employee's own money, he/she must save; the hope is that the patient will be sensitive to the costs of care (Blumenthal, 2005). The employer's insurance has many drawbacks, including employees refusing to contribute money to their medical savings account, many rural people do not work for organized employers, employers try to avoid providing benefits to workers, and children and spouses may not be covered (Blumenthal, 2005).

China's government allotted 1-1.5% of the gross domestic product to universal health care (Yip & Hsiao, 2008). Firstly, China needs to determine the root cause of unaffordable health care, which is the drastically increasing cost of health care and the wasteful health care delivery system. Ultimately, if nothing changes, the allotted 1-1.5% is not going to help the people who do not have their basic health care needs met, as the allotment will be pocketed by providers. Additionally, China has numerous uninsured people and one of the highest out-of-pocket health care payments (Yip & Hsiao, 2008). People work their whole lives and are lucky if they can save any money. If any health problems occur in the family, they have to rely on their savings and will probably never pay off the expenses. No matter how much money the Chinese government is pouring into health care, if it is not done properly, only the profit-seeking providers benefit (Yip & Hsiao, 2008).

In order to close the disparity gap between urban and rural health care in China, the government is training rural doctors in urban hospitals, and new medical graduates are required to work as residents in rural health facilities (Fang, n.d.). Eighty-two percent of urban residents compared to seventy-two percent of rural residents found it easy to access medical care (Wan, Sengupta, Zhang, & Guo, 2007). Rural areas lack skilled doctors, so untrained 'barefoot doctors' are taking their place. Barefoot doctors make their money by selling drugs and intravenous

infusions as therapy. One-third of drugs given in rural areas are counterfeit (Hamed, 2010). Doctors overprescribe drugs to patients causing people to become highly-resistant to the drugs, and when the patient actually needs the drug to better his/her illness, his/her body will fight it (Hamed, 2010). Half of China's health care spending is for drugs, when they should be putting more money into education and preventative health (Blumenthal, 2005).

One idea that has worked well in China is the implementation of the New Cooperative Medical Scheme (NCMS). This system is a government-run voluntary insurance program, which allows local governments to decide what benefits are provided and the administration of the system (Yip & Hsiao, 2008). Local governments usually know what is best for the population surrounding them, because people in one rural area of China may suffer from certain diseases compared to other areas. The national government being involved in setting up this insurance will help local governments, while giving most of the power to how it is run to the local government. The only two requirements set by China's national government are voluntary enrollment and coverage of catastrophic illnesses (Yip & Hsiao, 2008).

Insurance is either financed publicly or privately. Publicly financed health insurance is divided into three sections: urban employment-based medical insurance (insurance for those working in urban areas); urban resident basic medical insurance (insurance for non-working urban residents); and the new cooperative medical scheme (insurance for rural residents) (Fang, n.d.). There is also privately financed health insurance, which is intended for higher-income Chinese residents. The private insurance allows better quality care and higher reimbursements. Fang (n.d.) reported,

> publicly funded insurance covers primary, specialist, emergency department, hospital, and mental health care, as well as prescription drugs and traditional medicine. A few dental services and optometry services are covered, but mostly such services are paid for completely out-of-pocket. Home care and hospice care are not included either (para. 10).

Moreover, hospitals are paid by out-of-pocket costs, health insurance, and some government subsidies (Fang, n.d.). In 2005, more than half of the China people answered a survey that they did not visit a health care facility, even though they needed to in the past 12 months, due to cost (Blumenthal, 2005). Currently, 95% of people in China have health insurance (Fang, n.d.).

Pros

Barefoot doctors are used in rural areas to replace skilled doctors. Even though skilled doctors would be preferred, they do not want to live in rural areas; therefore, without barefoot doctors, there would be no help in the rural areas. China is requiring medical graduates to work as residents in health care facilities to try to close the gap between rural and urban areas (Fang, n.d.). The required employer's insurance creates a cushion if someone gets sick, there is already a medical savings account set up (Blumenthal, 2005).

Cons

China's economy is booming, but is not reinvesting this money into the health care system (Blumenthal, 2005). Chinese doctors are overprescribing drugs to make more money (Hamed, 2010). This does not help, as China continues to have increasing health care costs and high out-of-pocket payments. Also, most employees' insurance does not cover children and spouses creating a greater financial burden (Blumenthal, 2005).

Eye Care in China

China has one of the highest rates of blindness and visual impairment in the world. More specifically, China has 6.6 million blind people and 70-80% live in underserved rural areas (Wang, n.d.). In rural areas, most people do not have access to basic eye care, such as vision tests. The level of eye care in China is far behind the United States, but China is working diligently to improve this particular service (Wang, n.d.). In the United States, 3,000 cataract surgeries per million people are performed each year compared to China, where only 300 cataract surgeries per million people are performed each year. Aier Eye Hospital Group is the largest private eye hospital in China (Wang, n.d.). Another important eye care facility in China is Zhongshan Ophthalmic Center (ZOC), which was China's first Western-style eye hospital (Lin, Luo, Chen, & Lui, 2012). In 1999, VISION 2020 was launched to decrease the amount of avoidable blindness and visual impairment by 2020. Lin and colleagues (2012) stated, "the ZOC is accomplishing this goal by increasing the public awareness of eye health, organizing training courses and developing the capacities of rural ophthalmologists" (para. 5).

Dominican Republic

History of Dominican Republic's Health Care System

In 1993, the World Bank mandated the Dominican Republic and other countries fulfill certain prerequisites to receive foreign aid, this was the beginning of the Dominican Republic's new reform (Hoyos & Gonzalez, 2011). Before the reform, health care was public-based and funded through federal taxes. There was a lack of priority for health care services, so the private sector grew, requiring patients to pay out-of-pocket (Rathe, 2010). In addition, before the reform,

those in the lower income bracket (majority of the population) received public services through SESPAS (Ministry of Public Health and Social Welfare), and those in the higher income bracket used private providers. Half of the nation's spending on health care came from out-of-pocket costs (Rathe, 2010). The new reform provided better resources to hospitals, but did not change the health care to improve equitable utilization of resources. There was still a large gap between the quality of care in the public and private health care sectors, as this reform did not focus on preventative measures and vulnerable populations (Rathe, 2010).

The second reform came about in 2001. One of the laws passed guaranteed certain levels of care be covered by the public health system. Hoyos and Gonzalez (2011) stated, "the second reform had very specific aims: provide equitable access to drugs, universal insurance coverage, and a zero-tolerance strategy toward the seven priority health problems (dengue, malaria, tuberculosis, HIV/AIDS, rabies, and vaccine preventable diseases)" (p. 25). This reform gave too much power to regional hospitals, because they oversaw allocating funds and resources to clinics. Hospitals could not be trusted, and since many rural clinics were underfunded, doctors stopped going to work (Hoyos & Gonzalez, 2011).

Dominican Republic's Current Health Care System

The Dominican Republic created a 10-Year Health Plan (2006-2015) with the goal of quality health services around the nation. There are public and private sectors of health care (Hayden, 2012). In the public sector, there is the Ministry of Public Health and Social Welfare, National Health Council, Social Security Treasury, and the National Health Insurance Program. The private sector consists of health risk administration, private health services providers, and nongovernmental organizations (Hayden, 2012). The National Chronic, Non-communicable

Disease Prevention and Control Program, established in 2009, promotes health and prevents non-communicable diseases (Hayden, 2012). The Dominican Republic has a fast-growing economy, even though 41% of its people live in poverty. Researchers urge the government to set an agenda and allot more funds to health research (Canario, Lizardo, & Colomé, 2016). In 2008, the National Office for Health Research was founded within the Ministry of Health and is charged with setting priorities (Canario et al., 2016). Ideally, this department will work with local leaders within communities to pinpoint significant priorities. Local people know their community better than the office workers making the priority agenda in the big cities (Canario et al., 2016).

The Dominican Republic spent less than $300 per capita of total expenditure on health compared to other countries, who had over $3000 per capita total expenditure (WHO, 2015). The Dominican Republic spends $560 million on health care a year. Sixty-seven percent of consumers' out-of-pockets expenses go toward pharmaceuticals (Rathe, 2010). These products are part of the free-market under state surveillance, and there are different prices among private, public, and international pharmacies. The amount people must pay to go to the doctor or hospital creates a distrust between the people and the government's public services. Due to the system being disordered, health care quality was low and inefficient (Rathe, 2010). A catastrophic medical expense can cost more than 20% of a patient's income. After the reform, the Family Health Insurance Program was implemented to provide comprehensive protection for physical and mental health (Rathe, 2010). Family Health Insurance is mandatory, as the employee pays 3.04% of wages, and the employer pays 7.09% (Hayden, 2012). In 2007, 27% of the population had insurance, and with the new reform two years later, 40% now have insurance. Almost half of Dominicans do not work for formal sectors and make less than minimum wage, which puts a huge strain on the government to provide health insurance for all (Rathe, 2010).

When young doctors are sent to rural areas for their residency they do not have the same technology they had in urban areas. This makes it difficult to serve their patients because they rely on the technology too much (Hoyos & Gonzalez, 2011). There are far more doctors and nurses in urban areas compared to rural areas. For example, in urban areas, there are 37.1 doctors per 10,000 people, and in rural areas, there are 8.3 doctors per 10,000 people (Hayden, 2012). Getting to health care facilities is difficult if a person lacks transportation or lacks funds to pay for health services. Rathe (2010) reported that, "these barriers tend to affect women, rural dwellers, and older people to a greater degree" (p. 8).

The top 10 causes of death in the Dominican Republic are ischemic heart disease, stroke, road injury, diabetes mellitus, lower respiratory infections, prostate cancer, hypertensive heart disease, HIV/AIDS, preterm birth complications, and cirrhosis of the liver. These diseases are mainly chronic conditions and not infectious diseases (WHO, 2015). Males and females in the Dominican Republic have higher blood pressure than other countries, but less obesity and tobacco use. Obesity and tobacco use are major causes of many diseases, so it is good that the Dominican Republic has such low numbers (WHO, 2015). Dengue is endemic and usually occurs during rainy seasons. Malaria is also endemic to the Dominican Republic, and the increase may be due to recent hurricanes in the area (Hayden, 2012). Ninety-seven percent of children, nine years and younger received vaccinations against measles, mumps, and rubella, thus eliminating measles and rubella, and controlling mumps (Hayden, 2012).

Pros

The Dominican Republic's current reform aims to "provide equitable access to drugs, universal insurance coverage, and a zero-tolerance strategy toward the seven priority health

problems (dengue, malaria, tuberculosis, and HIV/AIDS, rabies, and vaccine preventable diseases)" (Hoyos & Gonzalez, 2011, p. 25). The use of vaccinations has caused the elimination of measles, rubella, and the control of mumps (Pan American Health Organization [PAHO], 2012).

Cons

Upper-class families account for 56% of the national income, and lower-class families account for 4%. Compared to other Latin America countries, the Dominican Republic has lower health indicators, such as inequality of access to health services and higher prevalence of epidemics. This may be due to the inequality of income distribution, or health institutions that do not provide quality services (Rathe, 2010).

With regard to mental health, only 7% of the population has free access to essential psychotropic drugs (PAHO, 2012). Moreover, it is difficult for people to travel to health care facilities if they lack transportation or lack the funds to pay for it.

Eye Care in Dominican Republic

Research on eye care is limited in the Dominican Republic. Most of the available articles were written by volunteers who went to the Dominican Republic to help. For example, Brian Blum is an optometrist from Alaska and wanted to help the children of the Dominican Republic (Wagner, 2016). He noted that giving eyeglasses to children is critical to them being able to learn in school and take full advantage of the opportunities that doing well in school can offer (Wagner, 2016). Another volunteer named Dr. Kosoko-Lasaki went to the Dominican Republic to work on glaucoma and Vitamin A deficiency. Vitamin A deficiency is the leading cause of

preventable blindness in children and can lead to other health issues, such as anemia, increased risk of infection, and early mortality (Hayden, 2012). Vitamin A is mainly found in animal products, and these can be expensive for the poor to buy. Dr. Kosoko-Lasaki also noted that many people do not go see an ophthalmologist, because they cannot afford it and do not want to risk their jobs by taking off time from work (Hayden, 2012). Dr. Kosoko-Lasaki also worked with glaucoma in the Dominican Republic and helped hundreds of people during her time there. However, glaucoma medication is needed long-term and is very expensive (Hayden, 2012). There is only one ophthalmologist for every 40,000 people, and the leading cause of blindness is untreated cataracts (Hayden, 2012). The Dominican Republic needs to make eye health a priority and train more doctors in the eye care field.

Ghana

History of Ghana's Health Care System

When Ghana gained its independence in 1957, all health care was free on a tax-based health-financing system (Odeyemi & Nixon, 2013). The Hospital Fees Act of 1971 charged a low amount for medical services. In 1985, the Hospital Fees Regulation Act required patients to pay the full price for their drugs (Akazilli et al., 2017). In 1992, Ghana implemented the 'cash and carry' system and required the full price of drugs in public health facilities. The prices were lower than the cost of providing the health service, but still significant compared to patients' income levels (Akazilli et al., 2017).

Ghana's Current Healthcare System

In 2005, the Ghana Ministry of Health implemented The National Health Insurance Scheme (NHIS) to pay for "hospitalizations and outpatient doctor visits, as well as basic laboratory testing and certain medication" (Drislane et al., 2014, para. 16). NHIS offers financial protection, especially for the poor, but there are still out-of-pocket costs. In 2010, 66.4% of the population was registered for NHIS. NHIS is highly reliant on taxes, and the membership mainly helps the rich and urban people, because it is challenging to convince poor and rural people to sign up (Odeyemi & Nixon, 2013). The NHIS has a premium of $10 a year. Less than half of the population still does not have health insurance because of the complexity and lack of patient education (Drislane et al., 2014).

Another type of insurance is Community Based Health Insurance (CBHI), where nonprofits charge patients a small premium that is allotted to a pool of funds to help cover health services (Odeyemi & Nixon, 2013). Ghana has experienced many notable achievements in improving their health care, and it is mainly due to the support of community-based primary health care. The biggest issue in Ghana is the inequity in accessing health care services (Escribano-Ferrer et al., 2016). Rural areas in Ghana are not receiving enough health care because of limited resources, language barriers, and physicians not wanting to work in rural areas because of the working conditions and financial limitations. The majority of Ghana's medical facilities are located in the two biggest cities: Accra and Kumasi (Drislane et al., 2014). Finding a physician is more difficult to do in smaller towns. Years ago, it was mostly European physicians engaged in year-long missions in smaller towns, but Ghana wants to find a more sustainable program (Drislane et al., 2014). One idea to try to alleviate this problem is for

General Medicine residency programs to take place in rural areas in Ghana. The Ghana Postgraduate Medical College promotes residency training outside major cities to try to reach the needs of rural populations (Drislane et al., 2014). Medical technology is usually only found in urban-based university hospitals. Rural area health care providers have little, if any, medical technology. Luckily, Ghana has a growing middle-class population, and some private clinics are opening with advanced medical technology (Drislane et al., 2014).

Ghana's government pays for most of the health care in hospitals. Other funding comes from the Christian Health Association of Ghana (CHAG), which is self-sustainable, as operating costs are paid for by patients. Special projects or expansions are usually funded by foreign assistance and non-governmental organizations (Drislane et al., 2014).

Ghana has a problem with many physicians leaving the country. They are working to educate and keep physicians within its borders, but it is challenging to recruit physicians to work in rural areas, where they are most needed (Drislane et al., 2014). There are also few specialist physicians in Ghana, because the formal specialty training occurs abroad, and most end up remaining abroad (Drislane et al., 2014).

Chronic diseases are less of a problem in Ghana compared to other developed countries (Drislane et al., 2014). This is because people die from infectious diseases. Diseases such as heart disease and cancer are less of a problem. Diabetes is less common in Ghana because of a smaller overweight population (Drislane et al., 2014). If a patient does have a chronic disease, such as diabetes or cancer, he/she usually waits too long to see a physician, and it is too late to help him/her. Since many people in Ghana are uninsured, they do not have the money to visit a health care facility at the beginning of a problem and, therefore, they wait until it is too late.

Ghana suffers from similar illnesses as other developing countries, but has problems particularly with infection, trauma, and women's health (Drislane et al., 2014). Infections common in Ghana include malaria, typhus infection, tuberculosis, and HIV. Ghana has similar traumas compared to developed countries and significantly more motor vehicle accidents (Drislane et al., 2014). The high number of motor vehicle accidents is due to poor road conditions, less-trained drivers, lack of vehicle inspection, vehicle malfunction, and road rules are not typically followed or enforced. In regard to Ghana's women's health problems, a large amount of emergency and critically ill patients are young pregnant women, usually due to complications from careless abortions (Drislane et al., 2014).

Ghana's government plays a significant role in the health care sector, giving 15% of the budget to health care via direct and indirect taxes (Odeyemi & Nixon, 2013). If people are not protected from paying large amounts of health care payments, they are less likely to receive medical attention when needed, and are likely to enter extreme poverty after receiving health care. Uninsured people are at the highest risk of entering poverty if a family member becomes sick (Akazilli et al., 2017). There are three types of health insurance schemes under the NHIS in Ghana: The District Mutual Health Insurance Schemes (DMHIS), the Private Mutual Health Insurance Schemes (PMHIS), and the Private Commercial Health Insurance Schemes (PCHIS). The DMHIS is public while PMHIS and PCHIS are private. Less than 1% of the population has private health insurance (Odeyemi & Nixon, 2013).

Pros

Ghana has many great achievements in terms of improving their health care, which is mainly due to the support of community-based primary health care (Escribano-Ferrer et al.,

2016). Escribano-Ferrer and colleagues (2016) suggested that to improve the quality of care, quality improvement teams should be created in each facility that follow national guidelines. These teams will help solve problems that are specific to that facility/community, and will provide a good checks and balances locally and nationally to ensure better quality health care services, which could be applied to all countries (Escribano-Ferrer et al., 2016). Even though Ghana has not implemented the quality improvement teams yet, it is reassuring that Ghanaians are thinking of ways to improve the quality of their health care system.

Research has indicated that those who are enrolled in NHIS have better health outcomes. Those not covered by NHIS are covered by CBHI (Odeyemi & Nixon, 2013). CBHI is also non-profit, so the insurance company is not trying to make a profit (Odeyemi & Nixon, 2013).

Cons

Even though Ghana has great natural resources compared to other West African countries, they still rely on other countries for financial and technical assistance (Drislane et al., 2014). Years ago, it was mostly European physicians participating in two-year missions to smaller towns, but Ghana wants to find a program that is more sustainable (Drislane et al., 2014).

The cost of medications is the biggest expense to families. Families without insurance are forced to stop taking the medication because they cannot afford it, even if they are already mid-course, which can cause antibiotic resistance (Drislane et al., 2014).

Eye Care in Ghana

Ghana has support from national and international donors to improve eye care service quality and coverage. Eighty percent of Ghana's blindness is preventable, with 40-45% of the

blindness due to cataracts (Potter et al., 2013). Ghana is ranked one of the highest for the countries most affected by glaucoma. In fact, acute eye conditions are one of the top 10 causes of outpatient morbidity (Potter et al., 2013). The government supports efforts to provide eye health awareness, including World Sight Day, Glaucoma Awareness Week, and Glaucoma Association Week (Potter et al., 2013). In Ghana, there are 60 primary eye care (PEC) workers who are paid by the government to "provide eye health education, screen for eye conditions, counsel patients and refer them to the hospital for treatment, and help those with minor eye conditions access treatment at the community level" (Kumah, 2017, para. 6). Hospital management provides funds to eye clinic staff to participate in periodic outreach programs in Ghana's communities. One of the major eye care hospitals in Ghana is Tarkwa Municipal Hospital's eye clinic (Kumah, 2017).

Peru

History of Peru's Health Care System

Social health insurance began in Peru in the 1940s with EsSalud for workers (United States Agency for International Development [USAID], n.d.). Peru implemented a health sector reform in 1998, and since doing so, 80% of the population has access to health services (The World Bank, n.d.a). Peru implemented Comprehensive Health Insurance (SIS) in 2002 and in 2004, the Regional Health Authorities (DIRESAs) took responsibility for health facilities outside of Lima, while Lima remained under the national Ministry of Health (The World Bank, n.d.a). More recently, in 2011, Peru created the National Household Targeting System (SISFOH) to determine eligibility for Segura Integral de Salud (SIS) (The World Bank, n.d.a).

Peru's Current Healthcare System

There are three types of health care systems in Peru: contributory, semi-contributory, and subsidized. Contributory systems are direct payments from patients or employers (Seinfeld & Besich 2014). Semi-contributory systems are partially paid for the by the government and partially from personal or employer contributions. Subsidized systems are completely government-funded (Seinfeld & Besich 2014). EsSalud, the social security agency, is a contributory system, and employers must pay 9% of a person's salary. A few SIS beneficiaries, including independent workers and small companies, are semi-contributory systems, funded by general taxes and voluntary contributions (Seinfeld & Besich 2014). Most of SIS beneficiaries, the vulnerable population, is in the subsidized system, which is funded by the Intangible Solidarity Fund for Health (FISSAL) (Seinfeld & Besich 2014).

Segura Integral de Salud (SIS) is available to all Peruvians who have no other options for health insurance. About 60% of those insured have SIS, 20-30% are covered under social security, EsSalud, and 4-10% have health care from armed services, national police, or private insurance (Spencer, 2016). The aforementioned statistics include people who have health insurance. This leaves 20-30% who do not have health insurance (Spencer, 2016). The reason people do not enroll in SIS is because of information systems connectivity. Due to needing a computer and internet access, there are higher enrollments in SIS in urban areas and lower enrollment levels in rural areas (Spencer, 2016).

In Peru, the total health expenditure is 5.1% of the GDP, which is lower than the global average of 9.2%. Out-of-pocket costs represent 36% of total health costs (Seinfeld & Besich, 2014). Public insurance is set up to reach the poor. The most difficult part is helping the last

20%, which mainly live in rural regions (USAID, n.d.). The World Bank (n.d.a) stated, "Peru is striving to finance its broader health system in a way that incentivizes the expansion of infrastructure and human resource capabilities into poor rural areas" (p.1). Ninety-seven percent of hospitals are located in urban areas (Seinfeld & Besich, 2014). Target areas are rural areas without access to health care. Expansion to rural areas is a problem, but incentives and compensation for working in rural areas are offered to health care professionals (Whitman, 2016).

Humanitarian organizations greatly help provide health care in Peru. The Foundation for International Medical Relief of Child (FIMRC) works in Huancayo, which is an urbanized poor sector and La Merced, a jungle area rich with native culture (Whitman, 2016). The goal of these humanitarian organizations is to promote health education, because most problems are preventable with basic hygiene knowledge (Whitman, 2016). In addition, Partners in Health works in the poverty-stricken areas of Lima, which would not have health care otherwise. Partners in Health also focus on the study and treatment of multi-drug resistant tuberculosis (Whitman, 2016).

Peru decides what diseases will be covered with insurance by ranking all diseases from highest burden to lowest burden. The top 45% of conditions are covered by insurance (Spencer, 2016). In addition, conditions that need hospital care "with costs exceeding 30% of average annual spending for families living in extreme poverty" are also covered (Spencer, 2016, p. 3). Even though Peru has made great strides to offer universal coverage, there are still major inequalities between access in urban and rural areas. Although there are many health conditions covered by insurance, there are still hundreds that are not covered (Spencer, 2016).

Pros

Peru is receiving support from the United States Agency for International Development (USAID), such as the nutritional program that partnered with the Regional Government of San Martin to significantly reduce malnutrition rates (USAID, n.d.). Humanitarian organizations are working to increase the quality and access to health care, such as the Foundation for International Medical Relief of Children (FIMRC) and Partners in Health (Whitman, 2016).

Cons

Peru has a low amount of health facilities, and many are older and lack good quality equipment (Seinfeld & Besich, 2014). Furthermore, it is difficult to finance universal health care coverage when only a small number of workers are in the formal sector. Therefore, only a small portion of the population is paying direct taxes (Seinfeld & Besich, 2014).

Due to the Comprehensive Health Insurance's lack of budgetary expansion from the Ministry of Economic and Finance (MEF), political decisions have caused the shift in focus from trying to help the country's rural regions to focusing "on urban regions with much more advanced infrastructure and human resource levels" (The World Bank, n.d.a, p. 4).

Eye Care in Peru

Peru mainly relies upon non-profits to meet patients' eye care needs. One example is Clinica Oftalmologica Divino Nino Jesus (DNJ), which expanded from a small clinic to a sustainable, growing clinic that influences national eye care strategies (Rahmathullah, 2013). Established in 1996, the clinic originally provided general health services. In 2006, they expanded services and chose to focus on eye care. Initially, services were provided free of

charge, but it was found that more people received care and a higher quality of care when nominal fees were charged (Rahmathullah, 2013). DNJ developed a tiered fee system based on whether patients were rich (5%), middle-income (55%), poor (30%), and very poor (10%). The prices for medical tests or devices used to be negotiated, but it saves time, and patients know up front and can choose a service with fixed prices. In addition, the price patients pay includes the entire service, rather than being faced with repeated charges for return visits (Rahmathullah, 2013). Patients have the option to pay more to move to the front of the line for care. They can also receive foldable intraocular lenses during cataract surgery. DNJ's new implementations have made them a national leader in eye health (Rahmathullah, 2013).

Another non-profit is the Peru Eye Health Project, which works with people in Chulucanas, Peru, to increase awareness to prevent eye injuries and diseases. There are three phases of the project: phase 1 - eye health education; phase 2 - improving access to eye health services and resources; and phase 3 - eye health communications campaign (Marymount University, n.d.). This project began because 80% of people in Chulucanas had existing eye problems and were not receiving any medical attention for the conditions. Furthermore, it was found that the closest ophthalmologist was over 60 miles away (Marymount University, n.d.). Developing countries should have non-profits to help people when the government is unable to do so.

Turkey

History of Turkey's Health Care System

In 1945, Turkey introduced health insurance, but it was intended for blue-collar workers. In 1982, a new constitution guaranteed the right to health insurance and health services (Atun, 2015). During the 1980s and 1990s, little money was dedicated to health expenditures. Also during this time, the idea of competition and efficiency became a focus in terms of health care (Agartan, 2015). Between 1990 and 2002, the political party in charge was unconcerned about health coverage. In 2002, a new political party brought several changes, including the Health Transformation Program (HTP) (Atun, 2015). The HTP "aimed to improve public health, provide health insurance for all citizens, expand access to care, and develop a patient-centered system that could address health inequities and improve outcomes, especially for women and children" (Atun, 2015, para. 4). In 2003, Turkey worked to make major changes in their health care system and overcome major inequalities in health outcomes (Atun, 2015). When the new political party came into leadership, they made health care a priority. The new leader stated that the future goal is not about refusing the past, but learning from it (Agartan, 2015).

Turkey's Current Healthcare System

In 2008, coverage for preventative care and family medicine services became a priority, and health promotion and prevention programs were established. In fact, 85% to 96% of the population was covered by health insurance (Atun, 2015). Turkey worked to achieve the best health insurance with increased human resources and strong primary care. Turkey also asked for advice from international organizations such as the World Bank and World Health Organization

(Atun, 2015). Advice from highly-respected global organizations is important to improve the system's responsiveness to citizens (Atun, 2015). Turkey is under the government of Justice and Development Party (JDP) with these new policies being implemented. A research team surveyed people participating in the new policies, and respondents were satisfied "with direct access to private hospitals, easy access to affordable prescription drugs, and access to other services like free transportation for dialysis patients" (Agartan, 2015, para.1).

The Health Transformation Program (HTP) sought to make health care easily accessible, better quality, efficient, and effective for consumers. With the HTP, all public health facilities are now under the authority of the Ministry of Health, allowing everyone access to public health facilities (Jadoo, Aljunid, Sulku, & Nur, 2014). With HTP, Turkey has made great improvements in its health status indicators. Turkey is on the right path to creating a great health care system, because they are people-oriented and want to meet their expectations (Jadoo et al., 2014). The nation had over 70% positive opinion on the new health care system based on accessibility, availability of resources, quality, attitude, and preference (Jadoo et al., 2014). A large portion of Turkey's budget is dedicated to predictive and preventative health services with an aim to determine illnesses in their early stages with screening tests and prevent illnesses with vaccines. The focus of predictive and preventative care may cause a deficit in prices paid for health expenses overall (Dundar, Uzak, & Karabulut, 2010).

Turkey saw the troubles of low-income neighborhoods' access to health care. In fact, the prime minister shared his personal experience with his struggle growing up in a low-income neighborhood (Agartan, 2015). People who have a lot of money and always had great access to

health care should not be in charge of the government or health care; it should be someone who experienced it and knows what is best for that particular community (Agartan, 2015).

Pros

Turkey evolved their health care system drastically in the last two decades. In 2002, a new political party developed, the Health Transformation Program (HTP). HTP "aimed to improve public health, provide health insurance for all citizens, expand access to care, and develop a patient-centered system that could address health inequities and improve outcomes, especially for woman and children" (Atun, 2015, para. 4). The Turkey government has been asking advice from global organization such as health care advice from the WHO (Atun, 2015). In 2000, 88% of children were vaccinated, and in 2008, 96% of children were vaccinated due to the promotion of vaccination. Some vaccines are given free of charge, including rubella, meningitis, and hepatitis B (Dundar et al., 2010).

Cons

A survey was conducted in Turkey asking people about their satisfaction with the Health Transformation Program, comparing their thoughts before the HTP and after its implementation. Most people were satisfied, but single, unemployed, rural residents, who viewed themselves as unhealthy were not happy with the new health care system. Turkey is going to need to focus on adapting these populations to the new health care system and its benefits. According to the survey results, the Turkish people are dissatisfied with the treatment options they have available, how their privacy is being affected, and the changing of people working in their health care setting (Jadoo et al., 2014). There has been a reduction in out-of-pocket costs, but this has mainly

benefited the upper-income class. The poor income class are still having a difficult time paying for their medical treatment (Hazama, 2015).

Eye Care in Turkey

There is very little research available on Turkey's eye care. The only useful article found was about Turkey nurses in intensive care. The intensive care unit (ICU) generally deals with life threatening conditions and tends to not focus on eye problems (Guler, Eser, & Fashafsheh, 2017). Very little information is known about incidence, treatment, and eye care of ocular problems in the ICU. Most ICU's in Turkey do not have a standard protocol for eye assessment and eye care. Turkey needs to conduct more research on eye care and exploring best practice procedures (Guler et al., 2017).

Chapter 4: Discussion

Overall Suggestions

The countries examined in the current study are considered developing, and each country's government has set up a different way to finance health care. Consequently, it is important to learn what different countries are doing well to translate that information to other countries. Developing countries all lack in two main areas: skilled doctors (especially in rural areas) and funding for quality universal health care. Information learned throughout this study has been compiled to give suggestions to countries that are lacking skilled doctors and health care funding. This research is mainly to help developing countries, but developed countries may derive some benefits from this information as well.

Barefoot doctors are an important asset in China as they are able to attend a shorter, cheaper version of medical school. Barefoot doctors would know their patients better because they live in a community where there are not too many people, so they are familiar with most families. In addition, barefoot doctors would not expect to get paid as much, because they are not trained and did not attend schooling as long.

Another idea that several of the countries in this study mentioned is having medical graduates be required to work as residents in rural health facilities for a certain time period after graduation (Fang, n.d.). In this way, barefoot doctors could learn from trained medical professionals, and people in the local community can receive proper care. The downside to this is that most doctors will leave after their required time, because life for them and their family is typically better in urban areas. Peru has tried to keep these doctors in rural areas by offering

incentives and bonuses to health workers who are employed in rural areas (The World Bank, n.d.a).

Many developing countries also have the problem of the national government making all the decisions regarding health expenditure budgets. Local governments usually know what is best for their population. Therefore, if local governments could make some of their own decisions regarding how budgets are spent, doing so will better help the people in that area.

Ghana has a Community-based Health Insurance program that is non-profit (Odeyemi & Nixon, 2013). All insurance companies should be non-profit because for-profit companies are hurting citizens of the country. Furthermore, insurance companies should not be able to gain a financial advantage by overcharging for insurance.

Developing countries can also work to improve their vaccination rates. In Turkey, vaccines are given free of charge for rubella, meningitis, and hepatitis B (Dundar et al., 2010). Vaccinations are crucial for countries to not have a disease epidemic. When vaccines are given for free, it is a small cost compared to the very high costs that could occur if a person were to develop a particular disease. Different countries have different diseases that cause problems in their area, so each country should decide what vaccines are a priority to offer free of charge. Similarly, preventative care should be at the forefront of every country's health care. If a country's health services budget spends more money on preventive care and early stages of screening tests, there will be a deficit in prices paid for health expenditures overall.

A prime example of effective partnerships is Turkey asking advice from international organizations, such as The World Bank and World Health Organization (WHO), when trying to

improve health statistics and keep health services and insurance prices low (Atun, 2015). These highly recognized organizations' goal is to improve health around the world. Therefore, it would be ideal for countries to ask organizations, such as the WHO, for best practices to approach a problem.

Humanitarian organizations are also beneficial to countries in need. There are a lot of altruistic people in the world who want to help others with their time and resources. Countries should be recruiting people to help in needy areas. For example, Peru has high malnutrition rates, so USAID partnered with the Regional Government of San Martin to create nutrition programs to reduce malnutrition (USAID, n.d.). People want to help, so let them help and be appreciative of it, so they will want to continue to help in the future.

Importance of Eye Care

Eyesight is an essential part of our everyday life, and poor eyesight can have negative consequences on one's quality of life. Imagine how difficult life would be if one could not find a job because he/she does not have good eyesight. More specifically, it would be challenging to hold a job or be self-sustainable if one is nearly blind. Poor eyesight would also cause one to rely on a family member or friend to always accompany the individual, because he/she cannot perform necessary tasks on his/her own. Redness, itchiness, and foreign body sensation can be prevented with simple medication or the education of knowing to wear safety glasses, depending on one's job.

China is working hard to include eye care in their universal health care plan, but eye care has a lot of room for improvement. There is a lack of ophthalmologists in China. If no one in

China signs up for cataract surgery from now on, the current people on the waiting list will take seven years to treat (Wang, n.d.). In China, people living in rural areas do not have access to basic eye care services, such as sight tests (Lin et al., 2012). Not only are these people not receiving basic eye care, they do not have the education to prevent blindness (Lin et al., 2012).

Countries in Latin America and the Caribbean, including the Dominican Republic, have similar issues with the lack of eye care professionals. Furthermore, 66% of blindness in the Dominican Republic is attributed to cataracts, which is a treatable condition (Silva, Bateman, & Contreras, 2002). In 2005, Ghana had a population of 18.4 million people and only 43 ophthalmologists, 30 optometrists, and 200 ophthalmic nurses (Amponsah, Amoaku, & Ofosu-Amaah, 2005). Therefore, most people in Ghana who need eye care services do not have access to an eye care professional. Unfortunately, minimal research has been done on eye care in Turkey, and Peruvians mainly rely on non-profits to meet their eye care needs (Rahmathullah, 2013).

A common theme with the developing countries under examination is the health insurance that is being provided does not include eye care. There is also a lack of trained eye care professionals available in many developing countries. Another important area to address is the lack of education regarding eye health.

There have been numerous studies conducted on various countries' health care systems. However, minimal research has been done to compare them. Table 1 shows the five countries compared in the current study and adds the United States (a developed country). Even though the United States (U.S.) is a developed country, the U.S. does not have a perfect health care system. However, the comparison to developing countries may show what the latter countries can do to

have a more successful health care system. Ghana's government spends the lowest (6.8%) on health care (WHO, 2017d) and has the lowest per capita total health expenditure ($58) (The World Bank, 2017), as compared to the other developing countries in this study. The low expenditure for health care in Ghana could be why it has the lowest number of skilled health professionals (10.2 per 10,000 people) and lowest percentage of people using improved sanitation (15%) (WHO, 2017d). Among the five countries in this study, Turkey has the most skilled health professionals (42.7 per 10,000 people), highest percentage of people using improved drinking water sanitation (100%), and highest percentage of people using improved sanitation (95%) (WHO, 2017d).

	Skilled health professionals density (per 10,000 population)	**General government health expenditure as % of general government expenditure (2014)**	**Proportion of population using improved drinking water sources (%) (2015)**	**Proportion of population using improved sanitation (%) (2015)**	**Per capita total health expenditure (2014)**
China	11.8	10.4	96	77	$420
Dominican Republic	28.3	17.4	85	84	$269
Ghana	10.2	6.8	89	15	$58
Peru	26.1	15.0	87	76	$359
Turkey	42.7	10.5	100	95	$568
United States	117.8	21.3	99	100	$9,408

Table 1. The World Health Organization (2017d) compares several countries' health statistics, and The World Bank (2017) compares several countries' per capita total health expenditure.

Table 2 shows the percentage of people in each country who are insured. The new publicly funded health insurance in China is nearly universal, covering 95% of the population in 2011 (Fang, n.d.). In 2007, 27% of the population in the Dominican Republic were insured, and with the new reform two years later, 40% of the population now has insurance (Rathe, 2010). Ghana implemented the National Health Insurance Scheme (NHIS) in 2005, and in 2010, 66.4% of the population was registered (Odeyemi & Nixon, 2013). In Peru, 20-30% of people are uninsured, and those who are insured, 60% are covered by Segura Integral de Salud (SIS), which is available to all Peruvians who have no other options for health insurance (Spencer, 2016). Turkey made preventative and family medicine services a priority in 2008, with 85-96% of the population maintaining health insurance (Atun, 2015).

	Percent Insured
China	95%
Dominican Republic	40%
Ghana	66.4%
Peru	70-80%
Turkey	85-96%

Table 2. Comparison of the percent of the population with health insurance in developing countries.

Some limitations to this study are these developing countries tend to not have the best data available about health statistics, and it is difficult to find consistency across the various research studies done. Another limitation was not all studies are very recent, and the health care system is continuously changing. In addition, as stated in the methodology, there were several relevant articles that were excluded due to the wealth of articles and time constraints.

Chapter 5: Conclusion

Every country has different tactics to overcome health care obstacles. Health care systems around the globe are imperfect. Nevertheless, it is important to review what other countries are doing to learn from their mistakes and adapt ideas that have worked well. The current systematic review examined five developing countries with similar challenges, limited health care professionals, limited funding, and too many people living in rural areas, where it is difficult to access health care. Disease and disability affects everyone, regardless of one's religion, language, skin color, culture, and the like. Moreover, there is a lack of research available on eye care and ocular health in these developing countries. Countries around the world should continue to implement eye care in their universal health care plans due to the impact poor eye health has on a person's quality of life.

Each country has its own government, its own history, and its own ideas of an ideal health care system. Each country should be in control of the health of its citizens, but ideas from other countries in similar circumstances can improve health care systems. This paper compared five developing countries from different regions of the world and looked at how they tackle health care. The pros and cons of each country's health care system were discussed and suggestions were made. Overall, the suggestions concluded in this paper were to provide shorter, cheaper schooling to rural health care providers, so rural populations can have some health care, medical graduates required to do their residency in rural areas, giving local governments more say than the federal government in health care financing for their community, have insurance companies be non-profit, give free vaccinations for common preventable diseases in the area, and work with WHO and humanitarian groups to get advice and help.

Some obstacles to compiling the current analysis included the lack of health statistics maintained by these nations, and the lack of consistency across different subject areas. For example, the Dominican Republic may use different factors to measure its quality of care than Peru. There are clearly more than five nations that lack a quality health care system, but a narrow focus helped serve as a sample of all the various global problems in providing care. Another limitation is that the proposed suggestions in this paper may not meet all the needs of the developing countries, because the source of these problems may need to be addressed differently for each country. Nevertheless, the countries chosen had the largest available amount of research to best facilitate a quality systematic review.

Previous literature examined individual countries and their respective health care systems. Other literature provided surveys to citizens asking about their experience with the health care system, conducted interviews, or examined health statistics. A few previous studies compared two similar countries' health care systems. This systematic literature review addresses a gap in the literature. No previous studies examined developing countries in different regions in the world, compared the pros and cons of each, and provided suggestions. Future research might implement the suggestions provided in the current systematic review and conduct a longitudinal study to see how the suggestions worked in the respective communities. It is important to note that not every suggestion will work in every area. Future research may also implement some of the suggestions and see how health statistics and health care expenditures change over five years, ten years, and so on.

This paper will hopefully contribute to developing countries looking for economical ways to enhance their respective health care systems. The health care system of a country can

influence the health statistics and quality of life for individuals. The current systematic literature review offers practical implications for developing countries' governments, medical schools, and private practices. The current research may also help rural communities in developed countries facing similar struggles such as lack of access to health care facilities, lower person-per doctor ratio, and less advancement of technology.

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Appendix

Barefoot doctor a poorly trained 'doctor', who meet the needs of people in rural China and makes money by selling drugs and intravenous infusions as therapy (Blumenthal, 2005)

Community Based Health Insurance (CBHI) nonprofits that charge patients a small premium to put in a pool of funds to help cover the cost of health services (Odeyemi & Nixon, 2013)

Disability-Adjusted Life Year (DALY) the loss of a 'healthy' year (WHO, 2017b)

Free market when prices are based on competition and unrestricted by the government (Brink, 2015)

National Health Insurance Scheme (NHIS) established in Ghana to provide basic coverage without cost-sharing to help the poor and vulnerable populations to reduce the burden of out-of-pocket costs to patients (Akazilli et al., 2017)

New Cooperative Medical Scheme (NCMS) government-run voluntary insurance program, which lets local governments decide what benefits are provided and how administration is run (Yip & Hsiao, 2008)

Out-of-pocket payments made by patients to health care providers at the time of the service (WHO, 2017d)

Regulated market when the government has a level of control over the exchange of goods and services (Yip & Hsiao, 2008)

World Health Organization (WHO) is an organization whose goal is to "is moving towards universal health coverage. WHO works together with policy-makers, global health partners, civil

society, academia and the private sector to support countries to develop, implement and monitor solid national health plans" (WHO, 2017a, para. 2)

World Bank helps developing countries with financial assistance (The World Bank, n.d.b)