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Influence of Medical Education Scholarships on Reducing Physician Shortages

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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the review committee have been made.

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Walden University
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Abstract

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MBA, St. George's University, 2007

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Project Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

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Abstract

For more than 44 years, the study site university and the Government of Grenada, a low- and middle-income country island, have collaborated to provide medical education scholarships for qualified citizens. These scholarships aim to provide an education pathway to medical school and a solution to the island's physician shortage by having the scholarship recipients return to serve their country as physicians. However, the problem of a physician shortage persists because most recipients migrate to higher income countries, primarily the United States. The purpose of this basic qualitative study was to explore the perspectives of scholarship recipients and providers regarding how the medical education scholarships could influence the physician shortage problem. The theory of planned behavior was used to guide the study. Semistructured interviews were conducted with 12 scholarship recipients and providers who represented university and government administration. Findings from thematic analysis indicated three main themes: scholarship first impressions, managing scholarship expectations, and scholarship culture. Although scholarships were appreciated by recipients, the lack of structure and support and the lure of the United States for physicians prevented the study site from benefiting. Findings indicated that a review of the scholarship processes could be useful and that a collaborative investment is needed to bring about a change in scholarship culture, which could positively influence physician shortages in the area.

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Dedication

This study is dedicated to my wife, Gail; son, Mikhail; and all of my family members, friends, and mentors who have encouraged and supported me in pursuing my dream. I would also like to recognize the many colleagues and associates whose assistance and input made this journey attainable. I could not do this alone, and I am eternally grateful. Finally, I am eternally thankful to God.

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Thank you all!!!

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Section 1: The Problem

The issue of physician shortages is global and is experienced by high-income countries (HICs) like the United States, as well as low- and middle-income countries (LMICs) like the study site for a variety of reasons. Al-Shamsi (2017) stated that the world suffers from physician shortages for reasons including mal-distribution, changes in population demographics, and migration. The American Association of Medical Colleges (AAMC, 2020, as cited in Zhang et al., 2020) predicted that by 2030 the United States will experience a shortage of up to 121,300 physicians. Gong et al. (2019) stated that between 2005 and 2016, the supply of physicians decreased, and there was a severe shortage of primary care physicians in rural areas of the United States. Al-Shamsi noted that HICs recruit international medical graduates (IMGs) to cope with their physician shortages. Kamimura et al. (2017) stated that these IMGs contribute significantly to health care in underserved areas and fill the shortage of physicians in primary care. However, many LMICs do not possess the resources needed to retain their physicians and lose them to HICs (Al-Shamsi, 2017). Kamimura et al. explained that 25% of physicians in the United States graduated from an international medical school, and most of these IMGs were foreign-born, representing 135 countries. Zhang et al. (2020) noted that in 2016 the United States employed 215,630 IMGs, far more than any other country.

Physician shortages can have devastating effects on a community. Phillips et al. (2018) attributed increasing mortality rates to three factors: physician shortages, socioeconomic deprivation, and a lack of health insurance. These factors are comparable in LMICs and vulnerable communities like those in the rural United States. Shrime et al. (2020) stated that the migration of physicians from LMICs to HICs has further

exacerbated the global problem of inequitable distribution of physicians. The massive financial burden caused by physician shortages is also a burden carried by developing countries and communities. Shrime et al. detailed the economic consequences of large-scale physician migration from LMICs to HICs being approximately USD $15 billion, which results in inadequate physician supply to these LMICs and, eventually, increased mortality in the LMICs. Chojnicki and Moullan (2018) stated that HICs are very concerned about the international shortage of physicians, and these shortages are expected to increase in the coming decades due to the aging population's demands on health care and the retiring baby boomers.

The Local Problem

The study site university is on a LMIC island, which has a population of approximately 110,000 people and is home to one of the world's largest medical schools. The government of this LMIC and the study site university have a 45-year-long partnership, which began in 1976 and includes a medical education scholarship program that has sponsored more than 400 talented citizens (Modica, 2022). This scholarship has existed since the university's charter in 1976, with most scholarship recipients successfully completing medical school, according to the study site office of enrollment communications. However, physician shortages on this LMIC persist despite this scholarship program that provides the opportunity for locals to become physicians. Physician migration, mainly to the United States, is the leading reason for the persistence of the physician shortage on this LMIC. This migration of physicians assists in reducing the physician deficit in the United States but perpetuates the physician shortage for this LMIC. Although this LMIC is home to this university and the medical education

scholarship program, the government's ministry of health continues to report physician shortages across all medical fields, including cardiologists, ophthalmologists, endocrinologists, and others. Due to physician migration, approximately 39 out of every 40 of the scholarship recipients who complete their graduate medical education (GME) migrate to the United States for various reasons, including pursuing further training and career opportunities; this means fewer than 10 scholarship recipients who have gone on to complete their GME training to become specialist licensed physicians have returned, and only three physicians who completed GME currently practice medicine in the public health system on this LMIC. Physician migration continues to negatively influence physician shortages in this LMIC, losing these physicians adds to the financial burden of the country and makes it difficult to provide adequate health care to the people of this country.

The World Health Organization (WHO) recommended that for every 10,000 people in a population, there should be a total of 22.8 midwives, nurses, and physicians (WHO, 2019). WHO statistics showed that this LMIC has approximately 14 physicians per 10,000 people. In other regional LMICs, the WHO reported 24 and 27 physicians per 10,000 people. In addition, the United States reported experiencing a growing physician shortage problem with an average of 28 physicians per 10,000 people (WHO, 2019).

Miseda et al. (2017) stated that there is a global deficit in human resources for health despite efforts made to reduce the gap and that LMICs bear most of the burden of this deficit. Noguchi (2021) wrote that due to intense burnout among health care workers and accelerated nurse retirements, hospitals across the United States are desperate for nurses. Miseda et al. noted that resolving these deficits will require a united effort from

national and international agencies. The WHO (2020) is working closely with its member partners, including the public and private sector, to address physician shortages and health workers' retention, largely represented by doctors and nurses from LMICs.

I explored the perceptions of scholarship recipients and providers related to this medical education scholarship achieving its goals of providing medical education and physicians to the LMIC, thereby influencing the physician shortage problem. The goal of this medical school and LMIC government working collaboratively is to address the physician shortage problem and effect positive social change. A greater understanding of this issue and the best opportunities for solutions may be achieved by working collaboratively with stakeholders including this study site university administration, scholarship recipients, and government administrators.

The findings of this study may guide the development of creative solutions to reduce the gap in practice related to physician shortages on this LMIC due to physician migration of scholarship recipients. In addition, what is learned from this study may also contribute to the gap in knowledge pertaining to the issue of physician shortages on the LMIC and may assist in addressing physician shortages locally, regionally, and internationally. Finally, this study may provide solutions that can assist other LMICs and vulnerable communities globally in working collaboratively with higher education and community partners to develop creative solutions to address the physician shortage problem, particularly in LMICs and vulnerable communities that educate their local physicians and lose them to physician migration.

Rationale

Countries with physician shortages experience challenges with mortality rates and overall financial well-being. A major contributor to physician shortages on this LMIC is physician migration, as 1 in 40 scholarship recipients remains on the island to practice medicine. Shrime et al. (2020) detailed the economic consequence of large-scale physician migration from LMICs to HICs of approximately USD 15 billion, resulting in inadequate physician supply and eventual increased mortality in LMICs. Additionally, according to the AAMC (2020), medical school tuition ranges from approximately $150,000 for in-state public schools to approximately $250,000 for private medical schools, typifying the financial loss being shouldered by this LMIC who train these physician then lose them. Considering the financial loss to the LMIC with the 400 plus scholarships granted and approximately 1 in 40 scholarship recipients over the existence of this program practicing medicine in this LMIC, this is a major human resource and financial loss to this country. The loss to this LMIC of these physicians educated at approximately $250,000 per student over 40 years is a considerable financial loss for both the government of this LIMC and this university.

When considering the fiscal and social losses, the impact on mortality rates associated with these scholarships, and the ongoing physician shortages, it is reasonable to expect that this higher education institution and the LMIC government would consider a more effective means of addressing this problem and administering this resource. The scholarship should enable positive social change by providing pathways to higher education and influencing the physician shortage problem in this LMIC. This university sponsors a visiting volunteer physicians program called the Physician Humanitarian

Network because of the physician shortage issue. This program sponsors annual trips of over 30 GME physicians across various specialties to administer health care to the country's people. The study site university shoulders the cost of this program to minimize the effect of the physician shortage problem for this LMIC community.

However, if physician shortages are reduced, the need for programs like this one will be reduced. The resources needed to run it, including time and cost associated with these programs, can be better allocated in other collaborations and programs to support other areas of need, including the improvement of health care delivery to the LMIC community and developing suitable education programs for the sustainability of education and health on the LMIC. Some of the possible improvements include investments in health care equipment and technology, additional scholarship programs in areas of medical technical and support programs, and nursing training because health workers are in demand globally. Physician shortages are a global problem with no set solution; therefore, a multisector collaborative approach is necessary to begin providing solutions. Higher education professionals are tasked with educating and producing doctors; therefore, they should be part of the solution discussion and process.

I explored the perspectives of scholarship recipients who migrated to the United States and those who returned home, and scholarship providers who were represented by university leaders and government administrators. These perspectives allowed for a better understanding of how these medical education scholarships can be a more efficient and effective aid in influencing the physician shortage problem on the LMIC, including providing suggestions for the improved administering of the medical education scholarship program. This basic qualitative study addressed the perceptions of

scholarship recipients and providers to determine how this higher education institution and LMIC government can better utilize medical education scholarships to influence the physician shortage problem on this LMIC.

Definition of Terms

The following definitions were used as a guide in this study:

Graduate medical education (GME): Training done by physicians upon completion of medical school to prepare them for independent practice, in which physicians continue their didactic and clinical education in a medical specialty of their choosing (UTHealth Houston, 2020).

International medical graduate (IMG): An international medical graduate is a physician who received a medical degree from a medical school located outside of the United States and Canada. These schools are mostly not accredited by a U.S. accrediting body, the Liaison Committee on Medical Education, or the American Osteopathic Association. The location and accreditation of the medical school, not citizenship, determine whether the graduate is an IMG. This means that U.S. citizens who graduated from medical schools outside of the United States and Canada are considered IMGs. Non-U.S. citizens who graduated from medical schools in the United States and Canada are not considered IMGs (Educational Commission for Foreign Medical Graduates, 2020). The terms international medical graduates, foreign medical graduates, and overseas trained graduates are used interchangeably (Motala & Van Wyk, 2019).

Low- and middle-income countries (LMICs): The World Bank (2021) classified LMICs as countries with a gross national income (GNI) per capita between $1,036 and $4,045. In addition, the World Bank classified the world into four groups based on GNI

per capita: low income, low-middle income, upper-middle income, and high income. LMIC encapsulates the first three classifications, and these categories are utilized in determining lending policies (The World Bank, 2021).

High-income countries (HICs): The World Bank (2021) defined high-income countries as economies with a GNI per capita of $12,536 or more.

Medical migration: The movement of doctors and medical professionals from one country to another. Countries experiencing medical migration should examine the social relationships within the profession and investigate whether the opportunities for deriving professional satisfaction from everyday work exist or whether this has been thwarted by hierarchy, conservatism, cronyism, or lack of comprehension of good medical care. The migration of human medical resources is a problem and cannot be stopped with administrative measures and exhortations and appeals, moralization, and condemnations. Brain drain is and has been a global phenomenon (Loefler, 2001).

Significance of the Study

The problem of physician shortages related to physician migration from LMICs to HICs has been well documented. Chojnicki and Moullan (2018) explained how HICs find it much easier to recruit IMGs to address their physician shortages compared to the financially burdensome and time-consuming options of recruiting and training new doctors locally. The time and investment needed to expand local medical school capacity and to recruit suitable candidates to meet physician shortages are not ideal. Recruiting IMGs is immediate and does not require the investment cost of education of between $150,000 and $250,000. Yuksekdag (2018) explained that physician migration creates a medical brain drain and leads to imbalances such as physician shortages and a series of

related problems. LMICs like the study site are challenged with medical brain drain to HICs for various reasons. These reasons include higher wages, greater opportunities for advanced training, and job opportunities in specific fields (Botezat & Ramos, 2020). I noted that a critical effect of medical brain drain is the further loss of physicians from underserved regions like LMICs, exacerbating basic health delivery deprivation. Yuksekdag proposed that migrating physicians must be held accountable for some of the inequity issues in cases of medical brain drain. The significance of Yuksekdag's study is that it is grounded in the need for data and information related to how medical schools can address the global problem of physician shortages and its corresponding social and economic problems.

The government of the LMIC, in collaboration with the study site university, grants more than 15 medical education scholarships annually (20 at the time of this study) to qualified local students. These students are contracted to return to their home island on completion of their medical degrees; however, this has not been fully realized as most scholarship recipients migrate to the United States after GME training. Hancock et al. (2007) explained that global physician migration patterns indicate that some medical schools train physicians from their local country to join the U.S. physician workforce. LMICs do not have the resources to provide GME, specialized training, or the many advanced career opportunities. Therefore, it is expected that some physicians will be lost to HICs. In the case of this study site, physician retention is almost nonexistent. Approximately 1 in every 40 trained physicians has returned to the LMIC out of more than 250 medical doctors completing GME from the medical education scholarship program, which has provided more than 400 grants.

The results of this study will be presented as a white paper to university and government leaders associated with this scholarship provision to influence the gap in local practice related to this physician shortage problem caused by the migration of scholarship recipients to the United States. The knowledge gained is expected to inform and educate higher education institution leadership, government scholarship administrators, and scholarship recipients by identifying solutions and adapting opportunities to improve this scholarship's efficiency in the future. Through the results of this study, the study site university and its alumni may effect positive social change for this LMIC.

I explored the experiences of scholarship recipients and providers to understand how these medical education scholarships can be more effective in creating opportunities that influence the physician shortage problem and the negative effects associated with physician shortages. The information collected from this study may be used to assess the scholarship process and create policy to positively influence this problem for the LMIC. Study findings may be used to effect positive social change for the people of the LMIC who deserve the scholarship benefits of having the education opportunity provided and the required impetus that returning physicians can have on the health care system. This study may be used to reduce the financial, social, and psychological burdens associated with the physician shortage on the LMIC.

The insights captured by this study on physician migration are unique and are related to what motivates and influences scholarship recipients to migrate to HICs or return to work at home. The study also offers guidance on how to improve retention and participation of physicians at home to reduce the gap in practice of physician shortage

and the corresponding issues. Finally, the findings of this study may assist the university and the government of the LMIC in developing more effective uses of resources for its scholarships and community collaborations.

Research Question

I explored the perceptions of university-government medical education scholarship recipients and providers to gain useful insights on whether these scholarships can influence physician shortages in the LMIC. The research question that guided this study was as follows: What are the perceptions of scholarship recipients and scholarship providers regarding this medical education scholarship's ability to affect physician shortages?

Review of the Literature

The literature review intent is to substantiate the problem by critically evaluating related studies by scholars in the field (Faryadi, 2018). The current literature review also provided a theoretical framework and methodology for this study. These were derived from a skillful search of the necessary information in the literature, which led to the creation of new knowledge (see Dena, 2013). There are many papers that discuss the problem of physician shortages and related issues, but little information exists on solutions to this problem or how medical schools, physician alumni, and community (government) can be part of the solution. Al-Shamsi (2017) suggested that the world's physician shortage problem is due to emigration, mal-distribution from rural to urban, and changes in population demographics. Many approaches are being considered to solve the problem, including increased class sizes, recruiting IMGs from LMICs, and implementing technology like telemedicine (Al-Shamsi, 2017). However, a feasible

solution continues to elude stakeholders of both LMICs and HICs. Therefore, higher education institutions (medical schools and universities), governments, and physicians must be part of the solution, including the community of government administrators and private and public sector organizations. The quest for information began with a search through the Walden University databases including WHO, ERIC, and SAGE. The database search began with key terms such as *physician shortages*, *physician migration*, *medical migration*, *international medical graduates*, *foreign medical schools*, *vulnerable communities*, *low-income countries*, *scholarships*, *physician retention*, and *rural medical schools*.

The literature review started with the framework for this study and included the causes of physician shortages and issues arising from physician shortages and proposed solutions for these problems. The literature review is divided into sections that cover the following: physician shortages and their effects on the country of origin, physician migration and brain drain, the drivers of physician migration, the U.S. demand for IMGs or foreign physicians, physician shortages in the rural United States, and interventions to address physician shortages and the related problems these shortages create.

Conceptual Framework

The conceptual framework that grounded this study was Ajzen's (1991) theory of planned behavior (TPB). Ajzen described the TPB as an extension of the theory of reasoned action (TRA), which started in 1980 to predict an individual's intention to engage in a behavior at a specific time and place. Yzer (2013) described TRA as a theory that can identify the beliefs that explain people's behaviors. The TRA suggests that an individual's opinion toward behavior and subjective norms influence behavioral

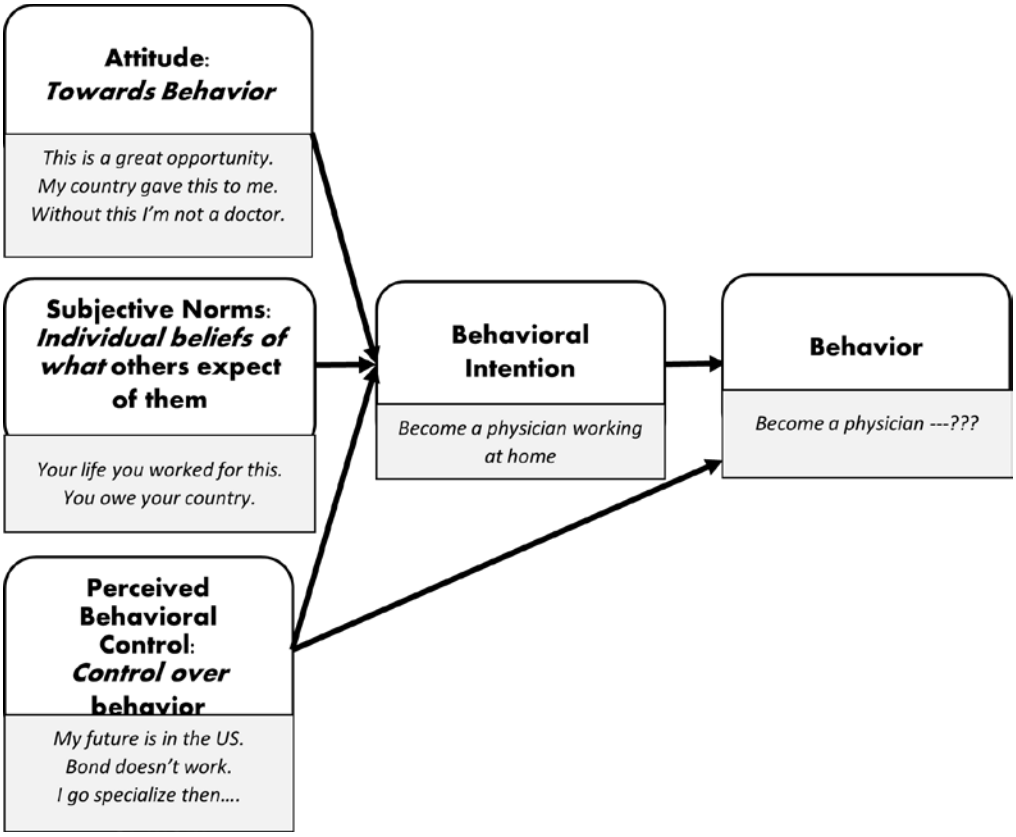
intentions and actual behavior. In 1991, the extension of the TRA to the TPB theoretical model was proposed by Ajzen (Teo, 2012).

Wenhold and White (2017) noted that the TPB is a model often used for predicting human, social, and health-related behavior. This theory proposes that behavioral intention is the most important determinant of behavior and contains three constructs that determine an individual's intention to perform a behavior (see Figure 1): attitude, subjective norms, and behavioral control (Wenhold & White, 2017). Attitude represents the rational and emotional likelihood to perform a behavior, subjective norms are the social pressures, and behavioral control is the perceived ease or difficulty to achieve the behavior inclusive of potential obstacles (Wenhold & White, 2017).

These constructs represent personal, social, and environmental influences on intention to perform a behavior. External variables can moderate the impact of these constructs (Ajzen, 1991). Behavioral intentions demonstrate the extent of a person's effort to carry out a specific behavior (Ajzen, 1991; Teo, 2012). However, it is important to note that the TPB expands the TRA by establishing the necessity of volitional control or the power of an individual to choose or determine their intended behavior or expression of behavioral intention (Ajzen, 1991; Chennamaneni, 2006). This theory aligned with the purpose of behavior prediction of people in determined roles and was therefore appropriate to answer the current research question. This basic qualitative study addressed the perceptions of scholarship recipients and providers to determine how these medical education scholarships can be better utilized by higher education institutions and governments to influence physician shortages in the LMIC. TPB has been widely used to predict health services utilization (Andrykowski & Burris, 2010).

Figure 1

Theory of Planned Behavior



The TPB was used to explore what encouraged or persuaded these scholarship recipients to make the decision they made after receiving their medical education scholarship, being educated as physicians, and choosing their career paths of working in the United States or at home in the LMIC. TPB offers empirical support to predict and explain changing social behaviors (see Figure 1). Behavioral intention is attained from attitudes toward the behavior, perceived behavior control, and subjective norms (Ajzen, 1991).

Borezta and Ramos (2020) stated that physicians are some of the most highly skilled, mobile professionals, but little is known about how medical doctors choose their

destinations. On the LMIC, government-university medical education scholarship recipients consistently migrate to the United States after completing their medical degrees. This physician migration is the dominant cause of the physician shortage problem on the island.

Physician Shortages

Physician shortages continue to be a worldwide concern (Al-Shamsi, 2017). The issue of physician shortages is not limited to LMICs. Physician shortages are also a major concern for HICs worldwide (Chojnicki & Moullan, 2018). Chojnicki and Moullan (2018) noted that HICs recruit internationally to solve their physician shortage. This approach increases the human and capital resource deficits already existing in many poor LMICs. Walton-Roberts et al. (2017) explained that India is the largest supplier of physicians to the world, and this causes human and capital losses in the country.

George et al. (2019) stated that the increasing demand for health services and insufficient supply of health professionals (such as doctors and nurses) has caused HICs to recruit health professionals, including physicians, from LMICs internationally. Zhang et al. (2020) found that in the United States, one of the main limitations to meeting health care needs is the lack of availability of physicians to patients. Miseda et al. (2017) stated that the health care worker shortage is due to factors including the concentration of health care workers in urban areas, increased chronic diseases, conflict, and brain drain. Brain drain is a factor for LMICs, although these shortages occur in LMICs and HICs like the United States and United Kingdom. Health care worker shortages are more prevalent in LMICs. Zhang et al. (2020) also noted that the U.S. Bureau of Labor predicted that 91,400 physician jobs will be needed between 2016 and 2026.

This demonstrates an increasing physician shortage problem, with the demand for physicians growing faster than the supply. This will perpetuate the negative cycle of physician migration and related resource issues. George et al. (2019) stated that HICs actively recruit health professionals from LMICs like those in the Caribbean, which prevents adequate health services and jeopardizes the region's ability to achieve universal health objectives. Glauser (2019) explained that despite some viewing HIC physician recruitment from LMICs as unethical, the emphasis of the recruiting country is on addressing their own physician shortages. Miseda et al. (2017) noted that health care worker shortages have significantly reduced the likelihood of achieving health-related millennium goals and, if not addressed, could undermine the achievement of health-related sustainable goals.

Physician Migration

Karan et al. (2016) proposed that physician migration from LMICs to HICs started in the 1960s because universal health coverage began in HICs. Although the United States does not have universal health coverage, other factors have contributed to physician migration. Botrzat and Ramos (2020) explained that factors such as the global expansion of education, reduced migration costs, and the greater role of human capital in economic development has led to an increase by policymakers in HICs to attract workers from abroad. Physicians' migrating patterns like those seen from LMICs to HICs are also experienced in rural areas of HICs but with physicians migrating from rural communities to urban areas (Al-Shamsi, 2017).

Wilhelmi et al. (2018) highlighted the difficulties facing rural communities with the migration of physicians from rural to urban areas as well as the difficulties to recruit

and retain needed physicians. Brugha et al. (2016) postulated that physicians move from one destination to the next in search of additional advantages or as a reaction to disappointments in their point of origin. Kamimura et al. (2017) stated that although some IMGs sought careers in the United States for various reasons, the main reasons were opportunities for high-level training and a higher income compared to their home countries.

The consequences of physician migration can be explained by looking at the migration of educated people in general. Castille (2018) explained the twofold consequences of educated people migrating. First, those migrating from LMICs to HICs constitute a net loss of qualified human resources for the origin country, referred to as brain drain. Second, the origin country can benefit from financial remittances, which serve to benefit those remaining in the origin country. Castille explained that globally more than 244 million people migrated from one country or region to another in 2015, and the number is expected to continue to grow. Castille also explained that although migration has occurred for centuries, there is little scientific data on why people migrate. Broadly, the reasons for migration can be viewed through the lens of labor or economic gains and those seeking asylum (Castille, 2018). Considering these explanations, physician migration can be categorized as labor or economic migration with the resulting brain drain felt by the LMICs. However, there is the hope of financial remittances to the migrating person's country of origin.

Health Worker Shortages

Leong et al. (2021) postulated that task shifting is being used to allow physicians in primary care to provide more complex care and expand health care capacity because of

health care human resource shortages. Tasks are being reallocated to individuals within health care teams with fewer qualifications that typically would not be within their scope of work. Westgard et al. (2018) commented that the WHO recognized the shortage of skilled health workers as a growing crisis facing underserved populations leading to less than adequate community health and reducing chances of survival. Adynski and Morgan (2021) remarked that health workers including physicians, nurses, and midwives are needed for health coverage worldwide, noting that all countries were challenged with skilled health worker shortages.

The problems associated with these shortages are worse for LMICs because of the migration of health workers due to poor wages, poor health infrastructure, high burden of disease, and poor working conditions. Kadam et al. (2021) stated that in India, primary health care services are being delivered via a variety of peripheral health institutions due to the absence and nonavailability of physicians. India, a LMIC, has found it difficult to recruit and retain skilled health workers (physicians and nurses), especially in rural areas.

Challenges to U.S. Medical Education

Hayek et al. (2018) noted that in 1976 the U.S. Graduate Medical Education National Advisory Committee predicted a surplus of 145,000 physicians by the year 2000. This led to a voluntary restriction by the medical community of the number of positions available in U.S. medical schools and a halt on Medicare-funded medical residencies. It also lessened the available GME positions, leading to insignificant growth in medical school positions or residencies (advanced training) through to 2002.

Figueiredo et al. (2019) stated that the education system could influence the number and type of health professionals in a country. Furthermore, the expansion policies

of medical schools are important in determining the appropriate number and distribution of medical graduates to address local and national needs. The AAMC (2020) proposed a change in projections of needed physicians from surplus to a significant shortage, and noted how this would alter the number of needed medical school positions and the necessary federal funding for residency positions and GME. This request was made through the Resident Physician Shortage Reduction Act of 2009, and the bill was not passed (Hayek et al., 2018). Figueiredo et al. stated that the increase in the demand for doctors had been caused by current epidemiological and demographic changes and the expansion of the health care labor market. Brodt et al. (2019) argued that despite major actions to increase enrollment in medical schools and to increase the number of medical schools in the United States, challenges such as limited diversification in the U.S. physician workforce make this process increasingly difficult. DeCarvalho et al. (2018) stated that there are more than 96 million racial and ethnic minorities in the United States who are underrepresented in the medical profession. In medically underserved areas, these racial and ethnic populations would prefer to see a physician of the same racial and ethnic background.

Terregino et al. (2015) remarked that there had been a call for medical education to strategize beyond measures being taken related to compositional diversity of trainees or representational rations because, in the US, racial and ethnic disparities in health care continue regardless of improvements seen in health indicators. DeCarvalho et al. (2018) noted that difficulties exist because minority students typically score lower on traditional medical school predictors of success than their white counterparts, which reduces their chances of acceptance into US medical schools.

Therefore, a commitment to increase minority recruitment must be paired with assistance in their higher education journey. Ballejos (2018) noted that the medical school admissions process in the US is highly competitive, and there are more qualified applicants than available positions. *2020 FACTS: Applicants and Matriculants Data* (2020) data showed that out of 53,030 qualified applicants, only 22,239 matriculated into US medical schools.

IMGs: An Unbalanced Solution

The physician shortages experienced by LMICs are further exacerbated by recruitment policies within the HICs, that seek to resolve their shortages. For example, the Conrad 30 Program of the US Citizenship and Immigration Services provides IMGs with an additional two years of residency in the US if applicants serve in vulnerable areas or areas of physician shortages (USCIS, 2020). Duvivier et al. (2019) stated that IMGs have both gap filling and safety net roles in the US physician system, representing 24.6% of US trainee physicians and are most likely to serve in underserved and rural communities. Gong et al. (2019) explained that US mortality rates in rural areas exceeded those in urban areas, and this can be attributed to three factors physician shortages, lack of health insurance and socioeconomics. Brugha et al. (2016) stated that many HICs, including the US, heavily recruit IMGs to fill their health workforce needs. To further conceptualize this issue, Botrzat & Ramos (2020) explained the cycle of brain drain.

The migration of tertiary educated people from poor to rich countries is an important feature of international migration. Furthermore, Botrzat and Ramos highlighted that medical professionals are one of the most mobile of highly skilled professionals and continue to have consistently high mobility rates. The authors noted that for the past two

decades, there had been steady migration growth of medical doctors from LMICs to HICs.

Clarke et al. (2017) brought a unique perspective. They found that although the emigration of physicians from HICs is less studied than that of emigration from LMICs. Nonetheless, the economic cost and impact on the source country is significant. Furthermore, Oshotse (2019) added the perspective that medical brain drain severely undermines the source country, especially LMICs, and their ability to develop their health care systems. Finally, Kamimura et al. (2017) demonstrated that although IMGs face some challenges with the immigration process and language in some cases, the ability to be competitive on the medical board licensing exam USMLE was the main determinant in opening career opportunities for IMG.

Physician Migration in Rural America

Griffith et al. (2020) stated that there is a critical shortage of physicians in the US, and the effect of this shortage is felt most in rural communities. Greer et al. (2016) also acknowledged that specific to physician shortages in the US, too few physicians practice in rural areas. Griffith et al. went on to explain that poor and rural communities in Kentucky are one of the worst affected by physician shortages. In fact, these areas are below the national US average, with figures of 228 physicians per 100,000 compared to 257 per 100,000 in other communities. According to Mayala (2021), physician shortages in the US, particularly in medically underserved rural areas, create a need for IMGs to fill the gap. Griffith et al. added, the dire situation related to physician shortages in rural Kentucky and factors associated with difficulties in recruiting physicians to rural and

poor communities. These factors are coupled with the aging population and general poor health of these poor communities relative to the rest of the US.

Recruitment and Migration

Clarke et al. (2017) noted that the WHO's response to the immigration of doctors and nurses from LMICs to HICs was written in the Global Code of Practice on International Recruitment of Health Personnel. The authors noted that this came about after reviewing the global crisis and noting that LMICs were not the only ones affected. Walton-Roberts et al. (2017) stated that India is the world's largest exporter of doctors, yet they face challenges with their own health care workforce. The authors noted that international migration and the financial remittances associated with this migration had increased consistently with global tendencies. India received over 70 billion dollars in remittances in 2013. Tomblin Murphy et al. (2017) stated that Caribbean countries continue to face the issue of migration of highly trained health professionals, such as physicians and nurses. Tomblin Murphy said that even though substantial amounts of research have been done on the migration of health professionals, the causes of this migration have not been compared across countries. Motala and Van Wyk (2019) found that IMGs are often offered perks like financial incentives, training opportunities, and citizenship when considering migration. The authors noted that the loss of these medical professionals further depletes the quality of the health sector in the LMIC, which ironically requires these human resources more than the HIC.

The Chair of the Canadian Institute of Health Research, stated that it is unethical for Canada to recruit physicians from the UK, as the UK is facing its own physician shortages (Glauser, 2019). Glauser acknowledged that Canada launched a fast-track

immigration stream for recruiting doctors, and noted that the unethical nature of these physician recruiting practices was further substantiated when the head of the National Health Services UK remarked that it also could not be ethical for the UK to deplete LMICs of their health professionals to fulfill the UK's needs. Masanet (2017) explained that state institutions and bilateral agreements play important roles in the active recruitment and migration of skilled medical professionals especially considering the negative effects of migration of medical professionals on the source country.

Physician Shortage Recommendations

Some studies recommend that physicians shortages can be resolved by training and hiring more primary care physicians (Corso et al., 2018). Motala and Van Wyk (2019) noted that South Africa is unique in its model, which supplies physicians to HICs and receives physicians from LMICs; South Africa has also been able to establish a training program with one of its physician providers that enable South Africans to be trained abroad and then return to South Africa. Glauser (2019) suggested that income tax can be collected from physicians who migrated to HICs from countries with physician shortages. This was one of the suggestions made to compensate LMICs for HIC fueled brain drain.

Implications

The WHO estimates there is a global shortage of 2.8 million physicians, with LMICs being the worst affected (Shrime et al., 2020). With this shortage, WHO (2014) recognized that both LMICs and HICs continue to face major challenges with responding to the global demand for physicians and health workers in general. The causes of physician shortages are multifactorial, with physician migration from LMICs to HICs

being one of the dominant causes. This is because physician migration is viewed as a quick fix for physician shortages by HICs (WHO, 2014). Al-Shamsi (2017) stated that physician shortages are a worldwide concern. However, the programs in HICs that are geared at attracting IMGs are to the detriment of LMICs as LMICs do not have the resources to compete with HICs.

The physician shortage problem is exacerbated by the continued loss of physicians from LMICs, and this problem must be addressed. The physician migration and physician shortage perpetuate a weak or poor health care system with social implications for the populations who are affected by the lack of needed health services and an increased financial burden on the government to manage this recurring problem. This university continues to work collaboratively with the LMIC's government as a community partner to address this problem. This study explored the perspectives of recipients and providers of these medical education scholarships to try to provide answers to influence this physician shortage problem on the LMIC. The findings are intended to reduce the gap in practice related to the physician shortage problem in the LMIC, and findings will also add to the greater body of knowledge that aims at providing a solution or solutions to this global problem of physician shortages.

Summary

This section introduced physician shortages as a global problem, specifically the physician shortage problem created by physician migration on this LMIC. I also explained how LMICs are especially at risk, examining approaches taken to reduce the gap created by physician shortages, including this government-university medical

education scholarship program, which has existed for more than forty years, and in its present format has not been able to reduce the gap in local practice.

Although these medical education scholarships have been partially successful by providing tremendous benefit to recipients through access to tertiary education and the achievement of their career goals of becoming physicians, the LMIC still suffers from physician shortages and the resulting negative effects, as most of these successful scholarship recipients now work in the US and have not addressed the need for physicians on the LMIC. It would be beneficial to the study site university, its students, employees, and the LMIC community to have sufficient physicians to develop a robust and effective health care system that could manage the health needs of this country, including the university population. It is also the ethical, humane, and socially responsible response of this university to assist its home community in helping to find a solution to the physician shortage problem. Accomplishing effective and sustainable health care is an achievable positive social change goal. This accomplishment will significantly impact the lives of this LMIC population; reducing the gap in physician shortages is attainable and can be realized amicably through a collaborative and supported effort. Section 2 will discuss the methodology, justification, participants, data collection, and data analysis for this basic qualitative study.

Section 2: The Methodology

In Section 1, the problem was introduced regarding how vulnerable populations like LMICs are at greater risk for physician shortages and the associated issues, and a detailed literature review was provided to support this assertion, including what is perpetuating this cycle. Finally, some suggested approaches to reduce the gap were offered. This basic qualitative study addressed the perceptions of scholarship recipients and providers to determine how the medical education scholarship can be better utilized by both this tertiary institution and government to influence the physician shortage on the LMIC. The objective of a basic qualitative study is to understand how individuals make sense of their lives and their experiences (Merriam & Tisdell, 2016).

Research Design and Approach

The focus of this section is the research design, participants, data collection, and analysis. The study site for this research was a university located on a LMIC island. A basic qualitative approach was used, and the method of data collection was semistructured interviews. According to Creswell (2013), a basic qualitative approach works well when the variables of the research problem are unknown. For the current study, there was considerable literature on the problem of physician shortages with minimal literature on solutions; there was even less literature on higher education institutions working toward a community solution. The thoughts and perceptions of scholarship recipients and providers on how these medical education scholarships could be a part of the solution to this physician shortages problem were also unknown. Hence, a basic qualitative design was appropriate for this study.

Ravitch and Carl (2016) stated that qualitative research is based on the methodological pursuit of understanding how people view, approach, or experience the world, to put meaning to their experiences regarding a phenomenon. Creswell and Creswell (2018) explained that using a basic qualitative design allows the researcher to investigate a present phenomenon within a real-world perspective. The purpose of the current basic qualitative study was to investigate the perspectives of scholarship recipients and providers to gain an understanding of how the government-medical education scholarships can be better utilized to influence the physician shortage problem and contribute to the gap in practice related to the LMIC as well as add to the body of knowledge related to physician shortages.

Merriam and Tisdell (2016) identified four characteristics of qualitative studies: The study is focused on understanding, the researcher is the primary instrument, the study uses an inductive process, and the study involves gathering detailed descriptions. All four characteristics were included in the current study. When researchers seek to understand a phenomenon, discover a phenomenon, or understand the perspectives of the people involved in a phenomenon, a basic qualitative design can be used (Merriam, 2009). A basic qualitative design was used for the current study, including semistructured interviews. This study was significant because little was known about these government-medical education scholarships and the ability of these scholarships to influence the physician shortage problem on the LMIC.

In this basic qualitative study, semistructured interviews were used to encourage participants to share their personal experiences freely. This method was also suitable because it allowed the same prompts for each participant. In addition, Creswell and

Creswell (2018) explained that a detailed understanding of the study phenomenon could be gained by presenting why, how, and what questions.

The four types of qualitative research are case study, ethnography, grounded theory, and phenomenology (Lodico et al., 2010). Case study research was considered for the current study; however, this design was not suitable because the purpose of a case study is to examine one or several cases in individualized settings (see Merriam & Tisdell, 2016; Patton, 2015). Ethnographic studies address interactions within cultural groups, grounded theory studies are conducted to generate a theory, and phenomenological researchers collect data that involve a particular event or experience (Lodico et al., 2010). A quantitative approach was not the best choice for the current study because it focuses on numerical data (see Merriam, 2009). Also, the goal of quantitative research is different because it is based on predictions and hypothesis testing. For this study, a basic qualitative design was used. The basic qualitative study provided the data from those who had lived the experiences.

Participants

The goal of this study was to capture scholarship recipients' and providers' perceptions to determine whether these government-university medical education scholarships could influence this physician shortage problem. Participants were selected through purposeful sampling. Purposeful sampling is described as a situation in which participants are selected based on a characteristic (Creswell, 2013). Understanding the rationale and practice of sampling in qualitative research is necessary (Gutmann, 2014). Purposeful sampling in the current study allowed for in-depth interviews with participants who satisfied criteria such as being familiar with and knowledgeable about

this scholarship, which permitted me to explore participants' perceptions of these scholarships related to achieving their desired outcomes for country, recipient, and provider and influencing physician shortages.

Participant Selection

Purposeful sampling was the strategy used for participant selection. Participant selection criteria included study site scholarship recipients and scholarship providers. The participant population provided perceptions of the scholarship and what the scholarship set out to achieve. Criteria for inclusion of participants were based on the following: (a) scholarship recipients who completed their GME or postgraduate training and went on to work in the United States, and their home country, and (b) scholarship providers representing the university administration, and government administration who were familiar with or associated with the provisions of this scholarship.

Justification for Participant Numbers

According to van Rijnsoever (2017) all information needed to achieve comprehensive insight on a topic can be detected, and data saturation can be attained with purposeful sampling. Ravitch and Carl (2016) noted that qualitative research aims to understand the topic being studied. Saunders et al. (2017) stated that data saturation occurs when no new data are being attained. Considering the topic and the participants' criteria in the current study, I anticipated 12 participants. Ravitch and Carl (2016) postulated that there is no single formula to determine the number of participants in qualitative research. Hennink and Kaiser (2022) stated an adequate sample size is reached when saturation occurs, (i.e., when no additional issues or insights are being identified and data begin to repeat themselves), noting if saturation does not occur the samples size

is increased until saturation occurs. Burkholder et al. (2016) recommended a sample size of 5 to 15 for basic qualitative studies. Although saturation is central to supporting the rigor of qualitative samples, there is a noted lack of consistency in how sample size is justified in published qualitative research (Hennink & Kaiser, 2022). By interviewing these scholarship recipients and providers, I was able to explore their perspectives of this university-government medical education scholarship. From these interviews, I captured participants' lived experiences and perceptions of this scholarship achieving its goal, and the ability of this scholarship to influence physician shortages in the LMIC.

Protecting Participants' Rights

Before proceeding with the study and selecting participants, I obtained dual institutional review board (IRB) approval from Walden University and the study site. A strict code of ethics was used with all participants regarding informed consent, protection from harm, and confidentiality (see Lodico et al., 2010). All potential participants were forwarded an email invitation to participate (see Appendix C) ensuring there was no pressure to accept. Following the participant's acceptance of the invitation, a consent form was emailed seeking their consent to proceed. This form provided further details on the study and the participant's rights and required participants to consent to go ahead with their voluntary participation in interviews and recordings. Upon receiving IRB approval and consent from participants, I scheduled the interviews. Data collection through one-on-one electronically recorded interviews followed.

Data Collection

The data collection protocol in this basic qualitative study was recorded semistructured interviews. Interviews are one of the three basic types of qualitative data

(Brooks & Normore, 2015). Conducting interviews is the most common strategy in qualitative research (Merriam & Tisdell, 2016). Creswell (2013) and Moustakas (1994) explained that basic qualitative research's primary data collection tool is in-depth individual interviews. Burkholder et al. (2016) explained that using data obtained from basic qualitative research enables meaning to be derived from social experiences. Open-ended interview questions were used (see Appendix B). Open-ended questions allowed for follow-up questions and deeper exploration as themes began to emerge.

Basic qualitative studies provide an opportunity to avoid the use of closed-ended questions, replacing them with an inductive, open-ended process that has a stronger individual focus (Creswell & Creswell, 2018). Castillo-Montana (2016) provided the protocol refinement framework used to evaluate the interview procedure. This framework consists of (a) aligning the interview with the research question, (b) developing the interview as a discussion that is investigation based, (c) looking for feedback on the interview procedure or protocol, and (d) practicing the interview procedure (Castillo-Montoya, 2016). This interview protocol was refined with support from colleagues at the University Department of Educational Services and the Surveys Department. First, questions were developed guided by the study topic and the research question being answered. Next, key topics such as goal actualization, understanding the scholarship, perception of patriotic loyalty, gratitude toward this scholarship, the organization to whom the debt is owed, and awareness of support systems were some of the topics proposed and selected to guide the interview. These key topics were used for further alignment with the guiding theory of TPB. Questions were also practiced to establish ease of conversation and flow of the interview.

Schwandt (2015) noted that researchers could use data to answer the research question by providing evidence to support hypotheses, findings, and claims. In the current study, careful attention was paid during the interview process, and observations of behavioral changes like mood or displays of anxiety related to questions were noted in a separate interview journal. Stake (2010) explained that there are multiple ways to think qualitatively, such as interpretive and experiential, which are based on situational and personal studies.

Data were collected during 12 semistructured interviews between October 20 and November 12, 2021. The time of each interview ranged between 45 minutes and 90 minutes, with the average time being 50 minutes. Saturation was observed after 10 interviews. At this point, I noted that no new data were being collected. Two additional interviews were conducted to verify this finding. All interviews were done virtually and electronically recorded via Microsoft Teams due to participant locations and COVID-19 restrictions. All interviews were done utilizing private offices, and headphones were used to maintain additional privacy. Interview transcripts, journal notes, and recordings were stored on my password-protected OneDrive folder, and paperwork was stored in my password-protected safe. The semistructured interview protocol was suitable for prompt responses needed to answer the research question; interviews were conducted and recorded using interview protocol (see Appendix B). Once interviews were completed, the recordings were used as a cross-reference to provide accurate transcriptions.

Participant Safety

All IRB and qualitative research guidelines were followed to safeguard the rights of study participants. Following the acceptance of the invitation to participate in this

study, participants were emailed a consent form providing further detail on the study and the participant's rights; this form required participants to give their consent to go ahead with their voluntary participation in this interview. All participants were reminded at the start of each interview of their right to withdraw from the study at any time. Measures were put in place to safeguard participant information and maintain confidentiality. These measures included using private offices and headphones, and interview transcripts and recordings were kept in a password-protected OneDrive electronic safe folder. Paper copies, physical journals, and notes were physically stored in a fireproof safe to which I alone had access. To ensure participants' confidentiality, interview information was coded using alphanumeric codes (e.g., A1 I1 and D1 I2). These measures provided the necessary assurances to participants, which allowed them to be confident and respond freely to questions knowing their answers would be both kept private and secure. Walsh (2012) stated that data collected from interviews is enough to reveal the perceptions of participants to address the research questions.

Role of the Researcher

Lodico et al. (2010) reiterated that the researcher is the primary measurement instrument because all data are synthesized through the researcher's senses. Therefore, my role was the systemic collection and analysis of data. Ravitch and Carl (2020) stated that qualitative researchers could be viewed as their own data collecting tool. My role as the researcher was to ensure participants received, reviewed, and responded to invitations and consent forms; to schedule interviews; to observe participants' conduct; to record and transcribe interviews; and to analyze the data collected. In research there is always potential for bias. Hagues (2021) remarked that bias does not have to be negative; bias

can encourage thoroughness of research. When researchers are aware that biases exist, they are forced to go above and beyond to document reality, not only what they think they see.

As the researcher, my role also included steps to mitigate bias in the study. These steps included a thorough explanation of the study and the study's goals to participants, and ensuring documentation and recordings were precise. Karagiozis (2018) noted that in qualitative research the relationship between the researcher and participants shapes the interview. My role as a senior university administrator presented opportunities for bias from potential relationships with participants or familiarity with the study topic. I relied on colleagues to review my interview questions and pilot the interview process. These practices allowed me as the researcher to reflect and challenge my own biases and interpretation (see Ravitch &Carl, 2016). I also provided participants with clarity regarding their confidentiality and voluntary status, including the ability to withdraw from this study at any time even during or after interviews.

Before gaining access to participants, I sent invitation letters providing potential participants with complete details on the study, including my role as a student researcher, their voluntary participation, interviews and recordings, confidentiality, and what the study aimed to do, including the study's potential benefits. Email and phone contact information was also provided granting participants the option to have dialogue or to address any further questions or concerns that they may have. All participants were vetted to ensure that I did not work directly with them, supervise them, or influence them either professionally or personally; any such participant was excluded.

Limitations

Limitations included the assumption that each participants' perceptions would be representative of all scholarship recipients or scholarship providers over the years and perceptions based on participants' memories which can be altered subjectively based on factors like time and individuals' own recall. Another limitation was related to how participants' varied experiences over time could influence their perceptions. This study could potentially have had participants who held their own biases and provided minimal input on how this scholarship could be administered differently to affect change. Anticipating these limitations, I made efforts to make sure my participant pool would include representation from recipients and providers whose input, regardless of opinions, would provide data that would highlight gaps in the system based on the comprehensive scholarship experience.

Other limitations included probable bias considering this being the only university on a small island which increased the chances of bias by interactions with study participants. This could have been influential in creating a culture of scholarship recipients and providers in which opinions may have been pre-formed, making it difficult to capture a true representative reflection of scholarship performance. Through the 44 plus years of this scholarship's existence, the developed scholarship culture could have shaped both recipients' and providers' beliefs and expectations. Anticipating this, the assumption was that even if minimal new data was collected, any new information would be helpful in providing knowledge related to influencing change in this uncharted area of study. Another limitation was the lack of information available on this topic of addressing physician shortage support through scholarships. The information gathered is helpful to

higher education institution leaders and administrators, and government scholarship administrators, and supports the process to devise ways to influence physician shortages and provide positive social change in this community. The final limitation was the many restrictions created by the COVID-19 pandemic. This allowed the utilization of technology to overcome the many restrictions and creating efficiencies, including conducting and transcribing confidential interviews electronically.

Data Analysis

I used hematic analysis as my data analysis method, which involves identifying, interpreting and analyzing patterns of meaning in qualitative data (Jason & Genwick, 2016). Analysis of data was completed after all interviews were conducted. Transcripts were read multiple times, first a quick read with the interview fresh in my mind allowing for the most accurate recollection of interview responses and statements of interest and cross-referencing with journal notes. Followed by rereading of transcripts, a minimum of 3 times, each time highlighting and color-coding statements of interest. I used both the inductive and deductive nodes of open coding to analyze the data for my analysis. Bingham and Witkowsky (2022) explained deductive and inductive nodes; deductive analysis involves the application of theory to the data to test the theory, sometimes referred to as a top-down approach to analysis as it involves the application of predetermined codes to the data. The codes can be created from concepts taken from the literature, from theory, developed purely as an organizational tool, or from the researcher's position of consideration. Inductive analysis is considered an emergent approach; codes and concepts develop after thoroughly reading the data. Regarded as bottom-up as done in open coding, in vivo coding, and constant comparative analysis.

Data Organization and Coding

The deductive process required the application of theory-based codes from the TPB and assigned into categories to maintain alignment to the research question (Figure 2). After reading the transcripts, three categories based on the TPB were formed, and research question answers were assigned into the relevant categories. This was followed by the inductive process that required the search for emergent themes. This process began with multiple thorough readings of the data, followed by open coding, which involved organizing my data by color-coding similar statements from interview responses; during this process, chunks of colors were grouped to create emergent categories. This was done utilizing the transcripts in Microsoft Word and a created Excel spreadsheet. I used information recorded in my journal to remember or highlight any information not captured in the recordings as the data was further condensed, categories generated the overall themes or short phrases that will assist in answering the research question. After reading transcripts multiple times and coding in Excel, transcripts were also uploaded to DeDoose qualitative assessment software and analyzed electronically. The deductive findings from both manual and automated processes produced very similar results.

Data Accuracy or Trustworthiness

Several steps were taken to maintain accuracy in this study. Creswell and Creswell (2018) wrote that researchers need to communicate what steps were taken in a study to check for the accuracy and credibility of the study's findings. Creswell and Creswell explained that terms like trustworthiness, credibility, and authenticity are used in qualitative literature to address accuracy. Creswell and Creswell recommended that one or more strategies to check for accuracy of findings should be identified and

discussed. The concepts of credibility, dependability, confirmability, and transferability are accepted to provide trustworthiness in qualitative research (Denzin & Lincoln, 2018). Merriam (2009) wrote that when conducting basic qualitative research, it should be noted that the facts collected, and the conclusions deduced from those facts, have a major influence on credibility and trustworthiness.

Credibility

Credibility is concerned with the trust that can be placed in the research findings. Credibility and reliability were strengthened through a number of steps being taken, including piloting my protocol with the assistance of university scholars, all qualified with PhDs and a Masters Degrees from the University Surveys Department, Public Health and Psychological Services. This allowed the interview to be simulated, creating an immersive experience of the data collection process, giving time for self-reflection, creating a transparent narrative, and removing bias. Credibility was further enhanced by providing a script that allowed participants to be probed deeper and collect rich and meaningful information. Additionally, the data collecting protocol employed meant that interviews were digitally recorded and transcribed both electronically and manually. Lastly, after interviews, peer-review debriefings were conducted to ascertain agreement or disagreement on the process, codes, and findings, ensuring accountability and a transparent process.

Dependability and Confirmability

Dependability refers to the stability of the results over time. Participants corroborated responses providing accuracy of the compiled data. Data saturation was considered for dependability; saturation was confirmed by replicating categories and

creating no new information. I further addressed dependability by triangulation, data was collected from three different data sources comprising of recipients, and government and university administrators built a coherent justification of themes. Direct participant responses verified themes.

The dependability and confirmability of this study was strengthened as a precise data collection audit trail was maintained in which written accounts of all steps taken were maintained, and every aspect of the data collection protocol was followed in a transparent and accountable manner. DeDoose electronic assessment software was also used to enhance confirmability and remove bias. Korstjens and Moser (2018) noted that audit trials consider the extent to which other researchers can validate research findings

Transferability

Transferability refers to the applicability of the research to different settings or contexts with other participants (Korstjens & Moser, 2018). By giving detailed information about the interviews, the context of the study, and why the research is being done, using open-ended questions that enabled probing during interviews delivering detailed, thick descriptions from study participants endures transferability. In addition, participants were selected through purposeful sampling, and all data were collected using Microsoft Teams, ensuring all data was captured accurately and transcribed, ensuring an accurate assessment.

Discrepant Cases

As coding commenced, my focus was on finding similar categories and themes. After subsequent data assessments, I did not find any discrepant cases. Therefore, since I had no data, discrepant labeling findings were unnecessary.

Data Analysis Results

Data analysis method used was thematic analysis and included inductive and deductive nodes of qualitative coding, which commenced after interviews for data collection was done. Coding is characterized as a rigorous process in which a researcher makes meaning of the data (Adu, 2019). Creswell (2012) noted that data analysis comprises some basic steps for analyzing qualitative data as specified. Recorded interviews were first transcribed and reviewed by reading along with the interview recording and my journal notes to ensure accuracy. Creswell (2012) recommended that data should be analyzed directly by researchers to interpret details. Familiarity with the data was gained by reading each transcript at least three times. All data collected from interviews are read a minimum of three times to maximize accuracy before coding begins, looking for patterns and meanings that support the phenomenon being studied (Moustakas, 1994). Coding of the data followed. Adu (2019) explained the process as being systematic, transparent, and subjective and involves generating codes from the data followed by developing categories and themes. Creswell and Creswell (2018) suggested the following process for data analysis:

Data Organization

Each recorded Microsoft Teams interview and the generated transcript was immediately uploaded to my password-protected OneDrive folder under an alphanumeric code (e.g., D1 I1). Transcripts were reviewed and edited using the recorded interview and my journals to make any needed corrections to guarantee accuracy.

Table 1

Participant Categories

Participant	Role	Status	Location
Participant 1	Physician	Recipient	United States
Participant 2	Physician	Recipient	United States
Participant 3	Physician	Recipient	Home
Participant 4	Government admin	Provider	Home
Participant 5	Physician	Recipient	Home
Participant 6	Physician	Recipient	United States
Participant 7	Physician	Recipient	United States
Participant 8	University admin	Provider	Home
Participant 9	Physician	Recipient	Home
Participant 10	Physician	Recipient	United States
Participant 11	Government admin	Provider	Home
Participant 12	Government admin	Provider	Home

Familiarization With Data

Multiple readings of the data. Data were collected from 12 interviews with the participant pool listed in Table 1. Transcripts were initially read after interviews, with interviews vivid in memory, following each transcript was read along with the audio recording to ensure accuracy on transcript further, my journal notes were used to highlight or add any emotions or significant findings not captured by the recording and to make corrections or edits. After edits and corrections were done, transcripts were read and reread a minimum of three times. Transcripts were securely saved and stored as uniquely labeled (e.g., D1 I1) Microsoft Word documents to my password-protected OneDrive. Journals and notes were stored in a fireproof safe.

Coding Procedure

During initial readings, coding commenced, always considering the purpose of this study and my research question. I started the deductive process, using pre-determined codes generated from three constructs of the TPB; attitude (that is, their rational and emotional likelihood to perform a behavior), subjective norm (which is related to social pressure), and perceived behavioral control (related to the perceived ease or difficulty to achieve a behavior), these constructs provided pre-determined categories as participants ability to determine their behavior was explored (Figure 2). Coding continued with inductive open coding, which commenced by labeling and highlighting each meaningful statement in a selected color. This was done utilizing the transcripts in Microsoft Word and a created Excel spreadsheet. Vollstedt and Rezat (2019) stated that labels are produced from the content of transcripts, and categories are simple descriptions of participants' accounts. These color-coded statements were then chunked into categories that emerged from grouping the data. Saldana (2016) noted that when data does not fit into the original structure, additional categories are created. Themes were the small phrases used to name the compressed categories crated to house emergent data. Using the predetermined codes and the codes that emerged, transcripts were uploaded to the qualitative analysis software program Dedoose where electronically the coding process was refined, and data analysis was generated, providing themes and codes in their categories. Saldana (2016) stated that data was developed into summarized or concise themes then organized into a table exhibiting the themes and codes in each category.

Themes and Categories

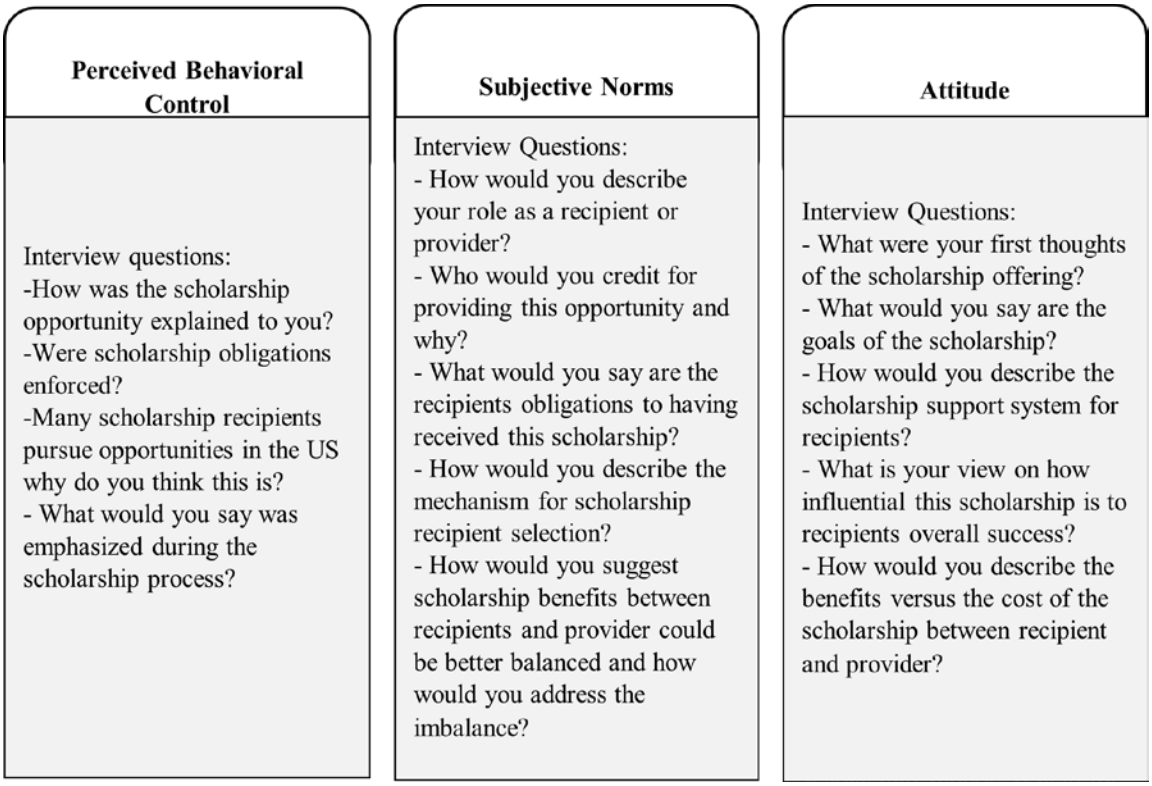
Ravitch and Carl (2016) define codes as descriptive labels that allow data to be organized into manageable units. Themes are the major discoveries of a study (Creswell & Creswell, 2018). Adu (2019) noted that themes were devised centered on assessment of categories, which have been lessened to represent the codes and to address the research question (Table 2). Creswell (2014) noted that themes must address the research questions because the study is guided by the research questions. Braun and Clarke (2014) stated that a decision needs to be made if the research question supports the categories and themes developed during interviews.

Perspectives

Quotations from data collection were used to support the themes and categories being displayed to show participants varied points of view.

Figure 2

TPB Interview Questions



Research Findings

The research findings in this basic qualitative study were generated by analyzing and making sense of the collected data. As the transcribed data was analyzed, patterns emerged; these patterns were consolidated into categories explained or supported by quotes from study participants responding to interview questions. Finally, categories were grouped and labeled as themes; these themes were used to answer the research question.

Participant responses in this study presented a chronological look at the phenomenon. In addition, participant responses provided perspectives of the scholarship experience from the scholarship introduction, to how life evolved after receiving the scholarship, and finally, perspectives on what could have been done and what should be

done to improve scholarship performance. The three themes that emerged were: (1) Scholarship first impressions, (2) Managing scholarship expectations, and (3) scholarship culture (see table 2). The analysis included both inductive, emergent, and predetermined deductive categories using the TPB and direct content analysis.

Table 2

Themes and Categories

Theme	Category
Scholarship first impressions	Capturing the significance of the opportunity (attitude)
	Immense appreciation (perceived behavioral control)
	Financial emancipation
	Key to success
Managing scholarship expectations	Managing unpredicted life changes (attitude)
	Acknowledging what did not work (perceived behavioral control)
	The return home option (subjective norm)
	Latent obligations (subjective norm)
Scholarship culture	Poor accountability
	Culture change

Theme 1: Scholarship First Impressions

As a baseline, this study needed to ascertain what were the participants' impressions and understanding of this scholarship. Questions 1- 4 asked participants about their first impressions of the scholarship, how they found out about the scholarship, what they thought their obligations were, and what they thought were the scholarship goals. Participants provided perspectives on their scholarship engagement and what they understood the scholarship purpose to be. Participants explained how they were introduced to this scholarship, what their understanding of the scholarship purpose was,

and the role they thought they played as recipients or providers. Excerpts of these perspectives were summarized into the following categories: Capturing the significance of the opportunity, immense appreciation, financial emancipation, and latent obligation. These categories were organized appropriately into the theme of scholarship first impression, which captured participants' first interactions with the scholarship experience. A summary of the four categories is as follows:

Capturing the Significance of the Opportunity

The significance of this scholarship for individuals and country was evident in participant responses to questions 1 and 3. The understanding of why the scholarship was created and what it aimed to achieve was captured in participant responses. The expressions of gratitude and the utterances of praise for how this scholarship set out to change the lives of individuals and improve the health care system of the LMIC were echoed by all participants. Not only were recipients being offered the opportunity to become physicians, but these physicians would also be coming back to work and providing physicians to the island. The relevance of participant understanding of the scholarship's purpose and goals is central to understanding what went wrong and what needs to be done to address this problem.

Participant understanding, gratitude, and happiness for this scholarship was captured in responses from recipient D1I1 who said, "The scholarship opportunity was a very generous opportunity to be able to pursue a career in medicine, which opened the door for me to be able to assist people in the field of medicine, which I thought was and still is my calling, so I describe it as a very generous opportunity. It opened the door to a field that I am not sure if I would have had the opportunity to be able to be a part of

otherwise"; recipient D3I3 added, "To get people educated in medicine to come back to the country to serve and improve medical availability in Grenada"; and D2I3 said, "I was delighted. To find out that this opportunity was available to me as a Grenadian".

Additionally, scholarship provider A2I2 responded, "the vision of the scholarship really is twofold. It is geared towards education and bolstering the human resources of the health care sector".

These statements along with others provided clear evidence that study participants understood and appreciated the significance of the scholarship.

Immense Appreciation

Participants' responses to questions 2, 8, and 9 provided insight into how the scholarship was viewed; participants regarded this scholarship as a life-changing opportunity. All participants appreciated that most recipients would not have had the opportunity to pursue their dreams without this scholarship and that the scholarship would provide needed physicians to the LMIC. Participant responses also showed no evidence of resistance to the scholarship terms, participant responses supported that scholarship requirements and obligations were accepted as reasonable at the time of receiving the scholarship. Participant responses included recipient D1I3, "I was and will always appreciate the scholarship. Moreover, the fact that it exists should give Grenadians a path to a career that, you know, becoming a doctor is not like I always think about; it has to be a calling. Recipient D1I1 answered, "If it were not for the scholarship, I do not believe that we would have had so many Grenadian doctors, both in Grenada and abroad. Thus, I would think that the scholarships have generated 80, maybe even 90% of the doctors that we have available". Participant D2I3 stated, "I was delighted. To find out

that this opportunity was available to me as a Grenadian". Provider A2I2 responded to say, "My first thoughts were, an excellent idea. It is certainly very much needed at this time because we have been going down that road for many years (meaning lack of doctors and no way of filling that gap) and it is time that we had such a scholarship". Provider A1I2 said, "I have thought of it as a very, very important asset for the government to be able to help with the development of the long-term availability of experienced and well-trained clinicians."

Recipients and providers remarks demonstrated a deep appreciation for this scholarship; most responses acknowledged how highly this scholarship was regarded as a valued asset to individuals and as an asset to this country.

Financial Emancipation

Participant responses throughout the interview process showed participants understood what it cost to attend medical school and recognized the enormity of the financial burden that this scholarship would relieve them of. This scholarship represented financial freedom, and with that freedom came peace of mind to focus on success. Participant responses included recipient D3I1, "I think the goal of the scholarship was to provide an opportunity for Grenadian persons; most Grenadians would not have the financial support, the family support, and other structures to take themselves through a medical school. Most of us would not have had any of the above" recipient D1I3 added, "I was a scholarship recipient. I had the greatest benefit. I got the biggest cost of my medical school, which has been my dream fulfilled. Furthermore, I think the biggest costs would obviously be to the government because that is money out of their coffers. Another recipient, D1I3, stated, "I think getting the scholarship and knowing without it you may

not have been able to pursue this path to becoming a physician. It forces you to strive and work harder and not take it for granted". Scholarship provider responses included A1I2, who said, "I do remember students one or two literally crying when they came for the interview because they knew if they did not get the scholarship, they would be no chance to go and do medicine," and provider A2I1stated, "I mean if not for the scholarship, then they are not going anywhere. I mean, that is just the reality. It provides access to the education that they are academically qualified for".

Understanding the financial implications of this scholarship was central to understanding how participants envisioned their commitment and the value of what was being provided. Was this a gift, or was this a grant carrying a debt with it? All participants had a clear understanding of what it would take financially to attend medical school and the freedom of this scholarship from that financial burden. Participants expressed extreme gratitude and acknowledged how central this scholarship was to their lives being where they are today.

Key to Success

The agreed perception of study participants was that this scholarship was the catalyst to recipient success. Both recipients and providers agreed that the scholarship was responsible for immeasurable personal success. With that is the acceptance of the failure of what was agreed upon to return to serve the LMIC. Recipient D5I1 replied, "that scholarship opened doors for recipients. That scholarship was the bedrock for the success of recipients. I can assure you that the vast majority of us would have never had an opportunity to be physicians without that scholarship. That scholarship provided a springboard for advancement. Recipient D2I3 stated, "I think the scholarship value goes

to Infinity. I mean, it changed the lives of so many people and changed my life. It opened up an entire world to me. It is amazing." Participant D3I3 remarked, "the scholarship was absolutely influential. So many people would not be able to be to have become doctors if it was not for the scholarship. I know I am probably in that group of people who would not be here if not for that scholarship, so I think it is extremely important". Providers' responses included A1I1, who said, "Well. I know many Grenadians are qualified as physicians, and many of them, I want to say the vast majority of incredibly successful. So, from a non-selfish point of view, it has achieved their goal with these individuals that we wanted to be educated have been educated and have become physicians. They are good physicians and successful of physicians".

The four categories of capturing the significance of the opportunity, immense appreciation, financial emancipation, and the key to success lead to the emergence of the theme of scholarship first impressions. This scholarship was perceived as a welcome opportunity for recipients to achieve career success by opening doors to medical school, which was financially difficult to do for these academically qualified individuals. All participants demonstrated their understanding of what the scholarship required and their genuine intention of fulfilling what was expected of them. The scholarship was welcomed as a positive and valuable life-changing opportunity with no objections to what was required of recipients. What was evident was the euphoric excitement related to what the scholarship would provide, with very little emphasis on how this will be effectively managed to ensure the benefits will be received by the providers. Theme 2 will continue investigating what prevented this scholarship from achieving its goals.

Theme 2: Managing Scholarship Expectations

This scholarship had two objectives: providing access to medical school for qualified citizens of the LMIC and scholarship recipients returning to serve their country. Theme 1 recognized positive trends of appreciation and gratitude, in which all study participants acknowledged the generosity of the scholarship offer and what the scholarship opportunity helped them achieve. Theme 2 is appropriately labeled *managing scholarship expectations, understanding the appreciation, and positive reception*. Participants provided their perceptions of what occurred between receiving the scholarship and fulfilling scholarship expectations—understanding that most scholarship recipients went on to achieve their goal of becoming physicians, and very few of these qualified physicians returned to serve their country as planned. What went wrong? The categories extracted from the data are: unpredicted life changes, acknowledging what did not work, returning home, and latent obligations, summarized by the second theme, managing scholarship expectations.

Unpredicted Life Changes

Participants expressed their appreciation for this scholarship which opened doors to opportunities like attending medical school and achieving their dreams of becoming physicians. Participants' perceptions provided insights into where changes occurred. These included consideration of the length of time physician training involves and all that can occur over this period. This could include starting families in new locations, which would now be difficult to uproot, as well as career opportunities that are not available at home, and the influences of peers at medical school and training. When you begin

medical school as a young person, you have one goal in mind. As you mature over the five to ten years of school, much can change.

Recipient D1I2 noted, “I mean you go to medical school for four years with a lot of foreign people, once they get to the United States, there is a big opportunity, to specialize or even more. Moreover, I would say most of us have stayed on to specialize. So that is seven to 10 years from when you first committed, you know, to return, and things change in seven to 10 years”. Recipient D3I3 remarked, “I think it starts with the fact that you have moved to a country, and then you start a life, and you get married, everything is here, and then to uproot it. It is not always easy, especially if you have kids and you have a husband or a wife that has their own job. So it is not always easy to just uproot and move back home after being in whichever country, whichever state for as long as we have”. Recipient D1I1 noted, “The United States has a good residency program. It allows persons after they graduate from medical school to become specialists and subspecialists after they graduate. So, to answer the question: 1. It provides an opportunity for subspecialty development, 2. It provides a wide range to practice medicine and 3. Which cannot be denied that it also provides the economic opportunity”. Provider responses strengthened the point as provider A1I1 noted, “Because most of them do they their clinicals in the USA, they develop a base there,” and A2I2 stated, “There is no way that Grenada can absorb all of them. I mean, using all the criteria, there is no way, so we need to have all of this properly recorded and properly followed up on”.

These statements point to a lack of understanding of the program’s structure. Study participants began this journey knowing what was expected of them and agreeing

to the process. Participants provided their insight into what changed and how outcomes did not live up to expectations.

Acknowledging What Did Not Work

All participants acknowledged a clear understanding of the scholarship goals: to become physicians and return home to serve as doctors. Participants acknowledged that the scholarship objective of becoming physicians was overwhelmingly successful, and the other objective of providing physicians to the LMIC was almost a complete failure. Participants provided insights into why the scholarship goal of returning home failed, acknowledging that more needed to be done by all stakeholders to improve communication, understanding, loyalty, and commitment.

Recipient D3I1 stated, “I firmly believe the problem here is that this country does not view health care as very important. It is all the way down here. If you make some decisions about what type of physicians you want to see in leadership roles and set down some criteria, you will recruit persons with that criterion”. Recipient D1I2 stated, “No, because I decided that after I finished medical school. I did come back home, and I would say that I gave three years working at the General Hospital. Probably was not enough time. At the time my course changed, I became an interventional cardiologist, and there is really no role for me at home, at this, you know, time”.

Provider A1I1 stated, “I say well, one of the requirements recipients have to adhere to is that they have to come back to the island and practice, and this is working perfectly because you have 300 physicians working on the island. I do not know what kind of work they would do because if there is an over the influx of return medical students on the island, then there is just not enough work for that number of doctors to

do. However, I do not think that is the case, meaning I do not believe that all the scholarship students returned to the island".

Findings showed a lack of organization and clear guidelines related to what would happen to these now successful physicians. Both recipients and providers gave insights on a level of disorganization leading to what can be considered scholarship culture. How and where you fit into the medical system is unclear, for you continue where you are successful.

Returning Home as an Option

Participants gave their perceptions of the challenges associated with considering the option of coming home—participant perceptions included feeling unwanted and unsupported. Although participants agreed that returning home was stipulated, perceptions were that the transition home was not well-organized. Recipient D1I3 stated, "So, after Med school, went back to Grenada, worked in the hospital. They had an internship; my guess would be ultimate to kind of encourage you to become part of the team. But the team was absent, right. It was not a pleasant experience". Participant D2I3 stated, "I was told to send your resume, and we will see, and I wrote a letter, and I sent my resume, and then I got a letter back saying that they had no jobs for me. And this is at a time when it was very traumatic. All of my colleagues in training had already accepted positions. I was the only fellow in my program who had not gone on one job interview because I was coming back home, and there was no need for me". Provider A1I1 stated, "if you have 300 physicians working on the island, I do not know what kind of work you would let them do (this is a small island) because I think if there is an over the influx of doctors on the island, there is just not enough work for that number of doctors to do".

The findings do not justify decisions not to return home. Instead, they provide insight into some of the problems associated with physicians returning. If scholarship recipients are not correctly advised and do not feel welcome after completing such a rigorous course of study, the decision is easy to stay where you are appreciated. Additionally, we look into the category of bond leniency; if scholarship recipients are not held accountable, this makes it even easier to migrate.

Latent Obligations

Responses to questions 2b, 4, and 8 showed that study participants were acutely aware of both what they received and what was expected from them on receiving this scholarship. What was also evident was the lack of structure around these bond obligations holding participants accountable. The pathway to migrating was perceived as an unwritten option. Provider A2I2 remarked, “obligations are not enforced. I believe over the many, many years that. If these were enforced and made binding on the recipients and their significant others or their family members or whoever. Their immediate circles that we would have a lot more for the benefit of the country would come out of this office scholarships.” Provider A2I1 stated, “obligations are not enforced. The failure is multiple. I will start with the government, and then I will come home. So there needs to be better coordination and collaboration. Ministry of Education. Ministry of Health. There needs to be a genuine commitment to the return of these physicians”. Recipient D3I3 responded, “well, we were told that if we took the scholarship, we had to go back to Grenada, but that was about it. There was no follow-through as to hold you accountable for going back, I guess”, and D1I3 said, “well, I am in a whole other country. I do not know to be honest, how strict the bond was being enforced. But, when it was

time for me to advance my career out of the country. I had a few hoops to jump through, but it was nothing difficult".

Findings support that this imbalance in scholarship outcomes continues partially due to a lack of enforcement of scholarship bonds or contractual obligations. Scholarship recipients are not held accountable, adding to the neglect of scholarship responsibility.

The theme of managing scholarship expectations emerged from the four categories: unpredicted life changes, acknowledging what did not work, returning home as an option, and latent obligations. These provided insight into how these scholarship expectations were impacted, leading to the outcome of many successful physicians living and working in the US and not on the LMIC. Addressing the identified issues surfaced as the investigation continued.

Theme 3: Scholarship Culture

Findings revealed by participants captured what this scholarship meant to individuals and the country; findings also revealed how personal, professional, and environmental factors affected the scholarship goals for participants. Participant experiences gave insights into how the missteps of the past could have been avoided and possibly corrected in the future. Suitably themed remodeling for success emerged from categories of created culture and misunderstood support, which captured participant experiences of these scholarships and how they could have been better capitalized on.

Poor Accountability

The history of this scholarship goes beyond forty years of expectations, with the same result every year. Participants demonstrated their understanding of what the scholarship set out to achieve and acknowledged that these achievements were not

accomplished, particularly in favor of physicians returning home to work. Participant responses highlighted that although unintentional, the lack of guidance and following through creates a culture of poor accountability.

Scholarship recipient D3I3 stated, “well, we were told that if we took the scholarship, we had to go back to Grenada. but that was about it. There was no follow-through as to holding you accountable for going back, I guess”, and recipient D4I1 noted “I do not think so. I did not feel that coming home was a priority because you saw that other people were able to leave without even doing anything or did not come back after they had done their steps. So, you always felt like OK, what is happening here, and some of us who were back here felt like what is being done to encourage folks to do come back strongly?”. Provider comments included A1I2, “the system as it exists today in the hospital, or the health structure is often not necessarily welcoming enough to graduates that come back home, and this goes into a bigger issue, and that is the issue of management of health care and more importantly hospital care.”

D3I1stated, “the whole issue of creating platforms that you know persons, both here and the US or wherever they are who are trained in specific areas, areas that Grenada needs. These persons can be recruited at this time, but it has to be organized. The platform has to be prepared. Persons have to know where they are going and what they are doing”, and recipient D1I1 echoed, “So as we start the process, make sure everyone understands and is part of the movement to assist in health care systems, assisting in assisting in building up Grenada’s health care system. Maybe in black and white instead of just saying we need to build up the health care system. We need to have a blueprint of what this contribution to Grenada is in terms of human power.”

Providers added A2I1: “Inventory in terms of HR skills that we need, and HR is health care system, so not just physicians. So, it is up and down the deck. So, the human resources needs of the island are important and the physical needs”.

The findings indicated that although the problem of physicians not returning is an issue, the number of physicians being trained is more than the LMIC can absorb. Additionally, needs must be identified and a mechanism for addressing those needs provided. This will enable the right persons to be trained and career planning to be established to appoint physicians in areas of need and allow others to repay their bonds in alternative ways.

Culture Change

Participants acknowledged the need for more to be done to understand the scholarship objectives and to change the scholarship culture of both recipients and providers. Recipient D1I3 stated, “So one of the biggest things is when you are through with medical school or close to being through with medical school and thinking of returning to Grenada to serve the country. This should, in a way, be marketed to you and shown to you as a viable opportunity to practice and do so successfully, do so with good support. Which really is not there when you are done with med school”. Recipient D3I1 noted, “The whole issue of creating platforms that you know persons, both here and the US or wherever they are trained in specific areas, areas that Grenada needs. These persons can be recruited at this time, but it has to be organized. The platform has to be prepared persons have to know where they are going and what they are doing”. Recipient D2I3 stated, “I think a bit more could be could have been done in terms of groundwork, in terms of figuring out exactly if nationals apply to go to the medical school, and went

on to obtain that specialty training, arrangements should be made to follow along with those individuals at the end of the training process to accommodate their return. They seemed to be unable to do that". Provider A1I1 stated, "Because most of them do their clinicals in the USA, they develop a base there. These are strong students. They are monitored by entities that provide them with opportunities, and I think we have to be bold enough to admit that the opportunities that are being provided to them in the US at sometimes advanced academic or research institutions probably give them more opportunities than perhaps in less developed hospitals and countries".

Summary

The results of this chapter were premised on answering the research question, which was to explore the perceptions of scholarship recipients and providers regarding this medical education scholarship's ability to influence the physician shortage problem on the LMIC. This study is prefaced on the persistence of physician shortages in this LMIC, despite approximately four hundred medical education scholarships being granted to local students over the 44 year existence of this program, with most of these recipients being successful at becoming physicians.

The research question, interview questions, and the conceptual framework (the TPB) were aligned. All study participants were either scholarship recipients or scholarship providers. Scholarship recipients comprise now qualified doctors who are either working at home or in the US, and scholarship providers comprise senior university and government administrators, who oversee the provision of the scholarship. This study drew immediate interest as physician shortages continue to be a topic of discussion internally at the study site university and in the LMIC, especially considering

the size of the study site medical school. All invitations to this study were favorably received, and study participants all expressed their interest in supporting this study to completion with the hope of affecting change. All participants and invitees registered their interest in seeing the completed study focusing on finding a solution to this problem. Participants were not at all hesitant in providing their perspectives, as they considered the input they provided as important to understanding this issue specific to this LMIC and hoped to lead to change. All participants saw this as a problem that has existed for too long and spoke freely about why they thought this scholarship had failed to achieve the desired goals. Participants were all optimistic that this problem could be solved, and in many cases, participants accepted some responsibility for the persistence of this problem. All participants provided recommendations on what they thought could be done to improve this scholarship's outcomes and influence physician shortages.

Description of the Project

A project was designed to provide findings of this study to the university and government scholarship administration leadership. First, the project will be to present a position paper providing university and government scholarship administration leadership with a thorough understanding of study findings, including how and why the study was done and the forty-plus year history of the scholarship program. Secondly, the recommendations received from this study aim to improve the program's success, particularly related to influencing physician shortages.

Section 3: The Project

The goal of the white paper is to provide a thorough understanding of study findings to the university and government scholarship leadership teams. Stanford Law School (2015) stated that white papers are authoritative reports or guides often addressing issued and providing solutions used in business, government, technical and other fields to educate and aid people in making decisions. A white papers is a strong medium to present a compelling point of view to resolve a problem and can effectively and efficiently generate solutions and create opportunities. The aim of the current white paper is to present this issue to the leaders in charge of this scholarship in a format that will inform, educate, and provide recommendations aimed at generating solutions, thereby garnering the support needed to influence the physician shortage problem. Cran (2016) stated that leadership teams are what transforms the mindset within a culture, noting that individuals, teams, and organizations can adapt to deal with the future by transforming cultures.

The current study addressed scholarship recipients' and providers' perceptions of a medical education scholarship's ability to influence the physician shortage problem on this LMIC. I sought to explain why the problem of physician shortages persists in the LMIC even though between the years 1981 and 2021 more than 400 citizens were given the opportunity to become successful physicians through government and university scholarship collaboration. As reiterated by both providers and recipient participants, the two main goals of these scholarships have been to educate qualified locals by allowing them to attend medical school and to provide physicians to the LMIC. Since the scholarships inception, more than 400 locals have realized their dreams of becoming

physicians, but very few of these physicians have returned to work on the LMIC. In addition, I considered only GME-qualified physicians eligible to work in either the United States or at home.

Rationale

This issue of physician shortages is not unique to this LMIC; this is a global issue. Al-Shamsi (2017) stated that the world suffers from physician shortages for reasons including mal-distribution, changes in population demographics, and migration. The predominant reason for the persistence of physician shortages is the migration of graduate scholarship recipient physicians from the LMIC to the United States, a HIC. Shrime et al. (2020) noted that the migration of physicians from LMICs to HICs has further exacerbated the global problem of inequitable distribution of physicians. I interviewed scholarship recipients and providers to explore their perspectives of how this scholarship could influence physician shortages. The goal of this medical education scholarship has always been to provide medical education and physicians to serve this country.

Most scholarship recipients have gone on to become physicians, and most of these successful physicians work in the United States, leaving the LMIC in a physician deficit. This demonstrates an imbalance in expected scholarship outcomes, with most scholarship recipients attaining their goals of becoming a qualified physician and very few of these qualified physicians returning to serve their home country, exacerbating the physician shortage problem. I investigated why this has occurred and provided recommendations to address this imbalance. Considering the demonstrated imbalance in scholarship outcomes and the more than 40-year existence of this scholarship, which started in 1977 and graduated its first recipients in 1981, this study was timely and was intended to influence

the physician shortage positively. This study's findings were meant to reduce the gap in local practice related to this physician shortage and add to the knowledge gap associated with the global problem of physician shortages.

This project's aim was to use the knowledge gained from this study to bring university and government scholarship leadership together, encouraging open participation in a collaborative and educational effort at creating sustainable solutions. This approach was chosen to allow all sides to contribute freely, especially considering how long this imbalance has existed and the enormity of this problem affecting the institution and the country, including financial implications related to the loss of trained physicians and the social and financial implications that the loss of physicians has on this population. Creswell (2012) noted that the audience must be considered when reporting research; writing, formatting, and presenting the report in a style suitable to the entire audience is important. This white paper provides an ideal opportunity to address these leaders with a comprehensive high-level overview of findings related to this topic.

Cran (2016) pointed out that leadership is upgraded through awareness, training, and practice, and this advanced leader unifies the ability to inspire with the ability to meditate and to build mutually acceptable solutions that are inclusive of others' ideas and opinions when making final decisions. The topic of optimizing this scholarship continues to be discussed between government and university leadership, with the hope of eventually creating a solution. A sustainable solution will provide a balance in the achievement of scholarship outcomes of education success and positively influencing the physician shortage problem. This paper provides the first opportunity to present findings, create awareness, and provide recommendations based on participant input to provide

solutions. The findings of this study supported the need for this scholarship program to continue. Findings also provided clear recommendations for the transformational change needed to permit this medical education scholarship program to achieve both goals of educating recipients and reducing physician shortages.

Review of the Literature

The literature review in this section presents recent peer-reviewed articles and publications on the importance of university and community relations, change leadership, leadership, and social change. This basic qualitative study addressed the perceptions of medical education scholarship recipients and providers related to this medical education scholarship's ability to influence physician shortages. Study findings will be presented as a white paper to university and government scholarship leadership at the provost advisory council Meeting (see Appendix A). This white paper will inform leaders of what was learned and provide a recommendation meant to enlighten and guide decision making resulting in improved medical education scholarship performance related to influencing physician shortages on this LMIC. This literature review captures the importance of universities and higher education institutions to their communities via leadership, change leadership, and social change. Databases examined for this literature review included Education Resources Information Center, and SAGE publishing. The database search began with key terms such as *university and community*, *anchor institutions*, *change leadership*, *social change*, and *leadership*.

University Community Relations

According to Gonzales and Rosing (2019), recognizing that social change begins on or around higher education campuses is one of the most important changes in higher

education. Gonzales and Rosing stated that universities must partner across communities internally and externally if the transformative power of higher education is to be realized. Telles (2019) stated that the literature on the conversion of higher education institutions into connected, collaborative institutions indicated the great promise this revolution can have on higher education's ability to address pressing social issues. Harkavy (2016) stated that it is necessary that universities, as premier anchor organizations in communities, participate by being effective and practical contributors to decrease the pervasive, ongoing, difficult problems of inner cities, including the complex, multicausal problem of health inequity. Anchor institutions in higher education are colleges and universities embedded in their communities, building and maintaining collaborative relationships with stakeholders, advancing democratic partnerships, and investing in economic opportunities (del Rio & Loggin, 2019). Soska and Butterfield (2004) stated that university-community partnerships are those in which the institutional response would be one in which the university institutionalizes a structure within itself, such as a center or nonprofit organization, to engage with the community.

According to Khandros (2019), the University of Pennsylvania's community engagement efforts have been the most widely recognized; almost every anchor hospital and university in Philadelphia is involved in terms of community engagement. However, most anchor institutions made efforts to connect with and serve their neighborhoods. Khandros noted that anchors institutions wield considerable power being major clients and making a collaborative structure suitable to produce more impactful results than individual, institutional efforts. Moxley and Abbas (2016) noted that anchor universities are increasingly being relied on to provide economic support to governmental agencies,

nonprofits, and private sector entities in postindustrial urban locations. These anchor institutions were not created in silos. The paradigm shift to new management focused on tool-based network governance has permitted anchor institutions to reinvent themselves as network anchors that provide essential instruments within the local governmental, nonprofit, and private sector organizational network. At its core, new governance represents the inclusion of third parties to govern effectively in modern systems, especially to alleviate social problems (Moxley & Abbas, 2016).

Leadership

Leadership is the key to generating capacity for new and pioneering answers difficult for business organizations. Global problems are now both a business and global priority that must be scaled, recognizing that the world is becoming more complex, uncertain, and volatile (Anderson et al., 2019). Ansley et al. (2019) stated that the role of school leadership in personnel working conditions and professional outcomes is supported by research. Luciano et al. (2015) noted that leadership has been theorized to be critically important for multiteam systems and is one of the most researched subjects in the multiteam systems literature.

Leadership is needed more than ever to take people into the future; leaders have a vision, courage, and the ability to chart a new course and start from new leadership to take people into the future (Tracy, 2014). Tracy (2014) also noted that leadership is needed in institutions and businesses because the needs of working people are far more complex, demanding, and analytical, and people have become more selfish than ever before. Carter et al. (2020) stated that leadership is particularly important in public or political organizations. Making meaning and becoming a powerful symbol or collective

representation is the essential aspect of leadership. The symbolic facets of leadership are expected to be important in any organizational context (Carter et al., 2020).

Change Leadership

According to Buller (2015), the question of how academic leaders can approach their challenges and opportunities can be answered by understanding that there are several different ways to look at change, and the perspective taken profoundly affects the way people lead others through the change process. Organizational change requires understanding the related internal and external environments and ways to positively influence outcomes (Sutin, 2018). Lischwe (2016) stated the idea that foreseeing circumstances and being proactive is promoted by leading instead of managing change, which provides an inherent level of control, thereby making changes more acceptable, less threatening, and more successful.

The leading change also presents opportunities to address unrelated but troublesome operational issues that could disrupt the flow of operations if tackled separately. Scholars have suggested that adaptive governance approaches can assist the public sector with the current operational environment (Greve et al., 2020; Ylinen, 2021). Ylinen (2021) suggested that when agile practices are implemented in the public sector, the characteristics of public sector organizations need to be considered. Jones and Harvey (2017) explained that the higher education sector functions in an increasingly complicated global environment that puts it under extreme stress. These stresses require universities and colleges to take more practical economic positions and build more collaborations with external stakeholders. Higher education institutions are being

required to be more accountable, at times operating like corporate entities monitoring profits (Jones & Harvey, 2017).

The introduction of change is not easy. It requires the support and commitment from those who will implement the change. For academic institutions, change leaders may need to develop strategic competencies related to visioning, strategic thinking, and innovation. In addition, given the collegiate nature of universities, developing the social and collaboration skills of academic leaders is a must (Hechanova et al., 2018). Existing theoretical research and limited practical studies in other contexts offer proof supporting the moderating role of organizational change magnitude on the relationships among transformational leadership, follower values, follower attitudes, and performance outcomes (Groves, 2020). Delgado-Alban et al. (2021) stated that in order for institutional development, instructional practices, and community impact to be made, higher education institutions' leadership is critical. These leaders have to be able to overcome constant and vigorous challenges.

Social Change

Schirmer et al. (2016) expounded that almost a century ago Dewey proposed that schools were agents of social change. Therefore, students must be fully exposed to educational practices that allow them to become well informed about the global society in which they live, to think critically about their environment and community, to be effective communicators, and to be empowered to effect social change. Schuyler et al. (2016) stated people could choose to promote things that work, to pay attention to what does not work, and to plant seeds for the future because there is something nourishing about focusing attention on creating a healthy world. Thomas (2018) noted that it is

necessary to understand the local conditions or the context because this plays a significant role in transforming inputs into sustainable, useful outputs. Skendall (2017) stated that to be effective, leadership educators need to realize context must be considered in how participants' opinions on leadership have been formed.

In many cases, leaders have knowledge and often have experience but may not be best suited to create a better world. Skendell (2017) reasoned that in the social change model of leadership development, participants learn leadership through reflections on experience, observation, and applying new concepts that are learned. Yang et al. (2022) related that social change cannot be assigned to one person's decision to challenge significant social problems. Instead, social change is gradual in that those who respond to social problems can begin a process that promotes and eventually leads to social change. DeJordy et al. (2020) noted that activism is key for moving transformative social change ahead in the organizational context. Interesting theoretical possibilities for social change are created when combinations of outsider power and insider savvy are considered (DeJordy et al., 2020). Schuyler et al. (2016) noted that concentrating on systemic and societal health brings life into leadership and organizational development.

Project Description

This study will be presented in electronic and print form as a white paper to the university and government scholarship leadership. This white paper will present findings from this qualitative study, which addressed the perceptions of medical education scholarship recipients and providers on this scholarship's ability to influence physician shortages in this LMIC. The white paper (see Appendix A) will be presented to university and government leadership at the provost advisory committee meeting. The goal of this

project is to use the knowledge gained from this study to bring university and government scholarship leadership together and encourage an environment of collaboration with a willingness to listen and learn. Furthermore, there is a need to create a platform that can be a catalyst for welcoming varied suggestions and ideas related to how these scholarship goals can be better balanced and work toward positively influencing the physician shortage problem on this LMIC.

One of the key considerations for the selection of this white paper presentation is the audience, identifying the leaders and policymakers being addressed. Another consideration was the history of the problem, recognizing how long this problem has been occurring, and the roles the university, government and community partners play. Additional consideration was given to understanding the financial and social implications related to the loss of physicians on this LMIC, with no solution to the problem readily available. This study sought to provide a collaborative and inclusive solution with input from providers (government and university), the recipients who migrated, and those who work at home. Cran (2016) stated that reshaping issues, transforming operations, and understanding the situation requires a new leadership capability. The approach to inform, enlighten and educate leadership on findings is suitable. The issues and findings emerging from this study allow people to better understand this problem, improving collaborations, addressing policy, and provide implementable solutions.

Therefore, presenting this white paper is suitable as the issue of physician shortages in the LMIC has historically and currently relevance which can be addressed through leadership collaborations between this university and the LMIC government. Presenting the findings of this study to university and government scholarship leadership

is an ideal opportunity for developing a deeper and unified understanding of this problem. This white paper will use the knowledge gained from the study to present findings intended to encourage open participation and collaboration to create sustainable solutions. This white paper will encompass the main themes identified in this study, which also guides both what was learned and recommendations: 1. The opportunity, how it started, 2. Change, navigating the journey, and 3. Making it right, getting back on course.

Project Evaluation Plan

White papers are written to inform audiences of particular issues (Kolowich, 2018). This white paper will present findings from this first-ever comprehensive study, which investigated the perceptions of medical education scholarship recipients and providers on this scholarship's ability to influence the physician shortage problem on the LMIC. Considering the university and government leaders involved in this topic, this white paper will be presented to university and government scholarship leadership. The initial expectation will be very methodical discussions related to findings and recommendations provided. The internal university leadership team should request feedback and recommendations for the next steps, which will be guided by internal feedback and recommendations, and government participant feedback. The findings of this study and the history of successful collaboration between this institution and the LMIC support the success of this collaboration. The formative evaluation of this white paper will be guided by university leadership feedback and government scholarship leadership feedback. Follow-up meetings will be scheduled with both groups. Individual

follow-up meetings will be scheduled with key players to receive feedback on findings and deliverables related to the next steps.

Project Implications

The implications of this project are important to this university and its community which is the LMIC. First, the influence of this study on the specific issue of physician shortages can be immeasurable to this institution and the country, and secondly, what is learned can be influential in moving knowledge ahead related to the global problem of physician shortages. This project can have massive financial and social implications and create positive social change for thee LMIC. Since its inception, the scholarship has been a driver of social change. It has changed the lives of hundreds of recipients by providing a pathway to higher education and career dreams and the lives of thousands of individuals whom these recipients have impacted. As stated by all scholarship recipients who participated in this study, they acknowledge that this scholarship vastly changed their quality of life for them and their families and in many cases their communities, which they are better able to serve. This project seeks to improve the social change implication by having an effect beyond the direct recipients and their families to influencing physician shortages for the entire LMIC.

Providing a sustainable solution to the problem of physician shortage on the LMIC has major social change implications tied to economic and social factors. Most notable, individual health is a concern for everyone, and the provision of adequate health care is a concern for every government. The availability of qualified physicians to serve the needs of their populations is, in turn, a goal for every country and its leadership to ensure health care can be provided to maintain the health of individuals. For many

communities and countries like the LMIC, fulfilling this goal is challenging, as physician shortages continue to be a problem. As we learned in this study, highly trained, in-demand, and skilled physicians often migrate from LMICs to HICs for various professional and personal reasons. This project seeks to understand better how this LMIC can utilize this medical education scholarship to positively influence this physician shortage problem for this LMIC.

Lack of physicians affects the social and financial wellbeing of individuals, families, and communities. The social implications include the inability to provide physicians needed to adequately serve the health care needs of the population and the resulting social implications on the individuals, communities, and countries who either do not receive the care needed or do not receive care in a timely manner. Access to basic health care improves population health in both chronic communicable and non-communicable diseases and improves the overall quality of life of the population. The social change implications of this study can be enormous for individuals, families, communities, and the country by improving the lives of individuals and the life expectancy of a nation's population. The economic and financial implications are directly related to the social implications as poor health outcomes impact the performance of individuals, families, and communities in their abilities to do basic things, like work, be educated, and care for others, which in turn puts a greater financial burden on individuals, families, communities, countries, and their governments.

Additionally, the associated resources, cost, and social implications expended by the government and the university for decades, to educate and train scholarship recipients, are lost as these physicians migrate. The university and the LMIC government

are social partners. They are aware of the advantages of a functioning, effective, and efficient health system, reducing the financial burden of importing physicians to cover the patient needs and exporting patients to get the care that is unavailable locally. The potential of resources being made available also increases the opportunities for additional improvements through improved teaching and training opportunities, which can only occur when resources being used to manage physician shortage problems become available to assist in further enhancing and improving health care delivery.

Study participants provided a number of suggestions. One of these included the need for improved support structures to educate scholarship recipients of all facets of the scholarship from onboarding to offboarding, the provision of mentoring, especially from the government and hospital system to build closer ties and relationships between recipients and the health system they should be familiar with and to keep scholarship recipients connected. A second suggestion was to improve the government human resource infrastructure with a plan to implement personnel or human resources needs assessment, reabsorption, and retention of graduate medical professionals' plan, along with a thorough assessment of the present contract ensuring recipients are locked into their obligations and are provided fair and just options to allow advancement. This should include alternative opportunities to fulfill their bond obligations, outside of the soul option to return to work, which may not always be the best option for individual or country. Finally, participants' recommendations were provided as steps to guide the process related to how this scholarship can be utilized to influence the physician shortage problem positively.

Section 4: Reflections and Conclusions

The problem of physician shortages is not unique to this LMIC. Al-Shamsi (2017) stated that the world suffers from physician shortages for reasons including mal-distribution, changes in population demographics, and migration. The current study addressed the problem of physician shortage on one LMIC from the perspective of medical education scholarship recipients and providers to determine how these scholarships can influence this problem. After a thorough analysis of the data, the findings indicated that all participants believe that these scholarships can be better managed to influence this problem and positively influence social change in this LMIC.

Project Strengths and Limitations

Strengths

This project's strengths and goals are aligned with the relationship shared between this study site university and the country. The recognition of this problem and how it affects the LMIC has and continues to be a leading agenda item when this university and government administration meet. This study site university and government share a long and fruitful relationship in which many collaborations and shared projects have brought positive results to the LMIC. The findings of this study serve to further strengthen this relationship and enhance efficiencies related to this scholarship. At the same time, the study should provide some relief related to the physician shortage problem, which will have positive implications for both the LMIC and university. The study's strength is also the provision of information related to this being a global problem; the research, findings, and recommendations provide additional knowledge that could aid other countries and communities with their physician shortage

problems. The strength of the networks formed through project engagements and interactions could also lead to the creation of additional advantages, as witnessed during the COVID-19 pandemic response by the LMIC. The awareness that this study brings to this issue, beginning with study participants, is further emphasized by the overwhelming support the LMIC received as this community dealt with the COVID-19 pandemic and its effects of rising cases and deaths in the fall of 2021.

Initial communication with one scholarship recipient led to a collaborative effort involving more than 70 U.S.-based scholarship recipients providing support (see Appendix E). This support provided major human resources and supply relief allowing the LMIC to manage the crisis better. Networks were made, and recommendations were implemented efficiently, including providing scholarship recipient physicians with COVID-19 expertise in the United States coming to the island to provide clinical, mentoring, and psychological support services and training. These U.S.-based physicians networked and supplied hundreds of thousands of dollars of equipment and supplies and a growing network of experts for future planning and development.

The success of this initiative was emphasized in the willingness of scholarship recipients, university personnel, and government staff to work together to achieve additional goals. Some of these include the impact on the local health system through ongoing collaborations that started with scholarship recipients in this study, and the creation of networks to assist as a government and hospital support group working with the university and government on long-term support plans. Some of these plans include the hospital dialysis program in which consultative services are being provided by U.S.-based scholarship recipients and imaging services support for the general hospital. The

opportunity for increased collaboration with the university, government, and U.S.-based physicians provides the greatest opportunity to develop and implement middle- and long-term health care improvement goals, including mentorships to new recipients, and provides examples of how a well-structured bond agreement could work. The bond contract should be restructured allowing it to include opportunities for physicians to serve in alternative ways if coming home is not readily possible and options to pay back the value of scholarship if returning home does not happen. Creating avenues for continued improvement of the local health sector. This will provide the greatest long-term social change benefit to the LMIC, with continued education opportunities being provided and averting the catastrophic effects of physician shortages by addressing it through collaboration.

Lastly, what has been learned from this study is that the acquisition of new knowledge and information related to physician shortages may be utilized as a template for other LMICs and underserved communities. As noted in this study, LMICs are at a disadvantage to HICs regarding wealth and the availability of opportunities they can provide. This study offers a variety of suggestions that can be explored to understand the issues and work to bring about solutions, which can be helpful to others experiencing human resource shortages due to loss of skilled workers and how higher education can be a partner to this advocacy.

Limitations

Some of the limitations related to this project include support and buy-in from leaders. This issue has been occurring for more than 4 decades, and it may seem unsolvable to many. Getting stakeholders to agree first to be open to listening to

perspectives and then work toward implementing plans to bring about solutions can be challenging and prevent progress. Another limitation has been the distraction of the COVID-19 pandemic, which has impacted countries' and institutions' resources; this may continue to hinder the ability of both government and university to address this issue promptly. Administrations' focus may be toward what is seen as more immediate issues. A further limitation of this project has to do with the possibility of political will. Government collaboration is required to bring about the required change needed to allow this scholarship to achieve the required outcome. This can be challenging if political motives are involved.

Recommendations for Alternative Approaches

Alternative approaches being considered include investing pathways for scholarship recipients to be trained regionally and forgoing the need for GME training in the United States. This mitigates the need for scholarship recipients to go to the United States and prevents the U.S. relationship from being formed. This also limits the exposure of the brightest and best, who typically earn scholarships to gain first-world exposure to technology and research.

Another approach would be the implementation of a rigid bond arrangement. The government may hold scholarship recipients to their legal bond obligations to return to give service immediately after graduation. This will prevent or limit scholarship recipients from attaining GME. This will be less advantageous because trained GME physicians like cardiologists, endocrinologists, or nephrologists are what is needed.

The third alternative is to set up a system in which a percentage of recipients are trained to be supplied to the HIC's health system, creating a preplanned balance of

physicians returning and those migrating. This is a potentially workable long-term plan that can work in tandem with a reengineered bond and a human resource assessment plan for the public health system.

Scholarship, Project Development and Evaluation, and Leadership and Change

Boyer et al. (2016) noted that the leading position is to be a scholar. Research and publication are how scholarly productivity is measured. Boyer et al. asked the question considering today's higher education complexity whether it is possible for a scholarship to be defined in a way that recognizes explanatory and integrative work. Scholarship involves research aligned with evolution to bring something new to knowledge and enhance what is there. This journey to acquiring my doctorate opened my eyes to what is required for scholarship and allowed me to immerse myself in scholarship that can influence positive social change. Schultz and Kainer (2013) postulated that key questions about the potential for engaged scholarship to have a major and transformative influence on communities need to be asked. Schultz and Kainer noted that many higher education institutions in Canada consider it necessary to engage closely with communities and institutionalize this interest through policy development, support for community-service learning programs, creation of centers and institutes, the establishment of administrative leadership positions linked to engagement, and development of engagement programs and processes.

The potential of engaged scholarship for enacting social transformations aimed at equality needs to be explored. Schultz and Kainer (2013) stated that it would require engagement with community partners because this kind of involved scholarship requires

attending to both the epistemological and ontological aspects of engagement and needs the questions about what is known and who people can become together to be asked.

The path to my doctorate has been a challenging yet rewarding experience. The personal, professional, and educational growth associated with this journey and the trust and networks gained through this study and project have been transformational. Dy-Boarman et al. (2021) noted that higher education institutions gain benefits like enhancement of the institution's reputation, assistance with curricular assessment and development, and public promotion of the institution's excellence in teaching and learning from faculty who are actively engaged in educational research and the scholarship of teaching and learning.

Project Development

The project has been one of the most challenging pursuits of my life, and one of the leading motivators has been the thought of what the study can mean to this nation. The development of this project needed to be methodically planned and scientifically supported to allow its findings to resonate across the institutions of education, government, and community. This project needed to be supported by research and practice to be applied to the present-day situation in a meaningful way. How I present this project is as relevant as to whom it is presented because this will determine how the audience is captivated, how the audience listens and learns, and how the audience becomes dedicated, stimulating participation in the development of recommendations and ideas that create solutions. The project was created out of findings from this study and developed to enhance the present medical scholarship program without being disruptive to the present process. The project also allows for collaborative involvement with room to

assess all potential solutions for applicability as part of the solution. The overriding goal of this project is positive social change by inviting the participation of leaders of this medical education scholarship to listen, learn, and think critically, thereby paving the way for this medical education scholarship to be more efficiently managed and to be a part of the solution to the physician shortage problem on the LMIC.

Leadership and Change

Understanding what defines a leader can be confusing. During this study and project, I considered leadership from the perspectives of higher education, higher education institutions, and their responsibility to their community, as well as my role as a leader. All of these considerations can be protagonists for change. The history of collaborations between institutions and communities has created an avenue for positive social change by providing higher education opportunities to talented citizens in the LMIC. Education is a pathway, probably the greatest pathway to opportunity and development. This is the case with these medical education scholarships.

For this reason, these scholarships should continue to provide this opportunity and allow those who can get to the highest levels of education to have the opportunity to achieve their goals and, on achieving these goals, pay it forward. This project seeks to develop a unified understanding among university and government scholarship leaders and at the same time nurture a deeper understanding of what needs to be done collaboratively to create greater returns for the LMIC. Stakeholders need to be motivating these talented scholarship recipients and providing better communication that will allow them to be more informed and able to contribute as a more educated and involved part of the decision-making and contribution process. Leadership through a more collaborative,

informed, and educated process will allow for a better chance of favorable education outcomes and a balanced return process, thereby influencing the physician shortage problem and providing positive social change through improved health care.

Reflection on Importance of the Work

As a senior member of the leadership team of my university, I am aware of how higher education institutions connect with and influence their communities. Higher education institutions serve as major economic and social drivers by providing business, employment, and expertise to share with their communities. Through collaborations, higher education institutions also provide leadership support in policy and decision making. The provision of supportive technical and nontechnical expertise can be the difference in improving efficiencies and reducing cost implications in many project areas, especially in LMICs where resources are already limited. Engagement occurs around many topics that allow the university and community to thrive in cooperation. The health and well-being of this nation are relevant to me as a leader in higher education. It is important to my institution, and it is in the interest of all to find a solution to this problem.

Implications, Applications, and Directions for Future Research

The subject of physician shortages, the scholarship, and the LMIC are not new topics of discussion or agenda items for the collaborative university and government administration team; however, this study provided an opportunity to include the thoughts of scholarship recipients into this conversation. For the first time, recipients of this scholarship have been allowed to provide their perceptions of this scholarship and suggest how it may influence the physician shortage problem. These perceptions and

suggestions, along with perceptions and recommendations from university and government administrators, offer a greater opportunity for creating a comprehensive and collaborative solution. This study's collaborative and inclusive nature may serve as a catalyst for advocacy and foster higher degrees of engagement and innovation required to create and implement solutions.

This project has real implications related to the scholarship and the LMIC. The findings of this project and recommendations address a gap in practice in this scholarship provision and the physician shortage problem on the LMIC. The knowledge gained from this study will be available to support further research on this problem. Physician shortages are a global issue with global ramifications to LMICs and HICs. The findings and recommendations address a gap in practice that can have major positive social change implications for this LMIC. This scholarship aims to provide young talented citizens a path to higher education and, at the same time, provide a mechanism for providing physicians to the LMIC. A solution will have positive social change implications through the social and economic relief provided. Physician shortages affect communities in numerous ways, including mortality and major financial burdens to individuals, communities, and countries, with LMICs bearing most of these burdens. This project seeks to provide a solution.

Conclusion

This study is important because it contributed to a gap in practice related to the problem of physician shortages in the LMIC and the medical education scholarship's ability to influence this problem. In addition, this work also contributed to the gap in knowledge on the global problem of physician shortages. Findings from this study

indicated that this university and the LMIC government can work collaboratively to improve this scholarship performance and, by doing so, continue to create pathways for education advancement of qualified locals and provide opportunities to influence the physician shortage problem positively.

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Appendix A: The Project White Paper

Understanding Medical Education Scholarships and Physician Shortages

Brendon La Grenade

White Paper

Walden University

April 2022

Introduction

Physician shortages are global, impacting both high-income countries (HIC) and low and middle-income countries (LMIC). This problem occurs for a variety of reasons, often with devastating effects. Al-Shamsi (2017) stated that the world suffers from physician shortages for reasons including mal-distribution, changes in population demographics, and migration, and these physician shortages are a worldwide concern. Botrzat and Ramos (2020) noted that for the past two decades, there has been steady migration growth of medical doctors from LMICs to HICs. Chojnicki and Moullan (2018) noted that HICs recruit internationally to solve their physician shortage.

However, the programs in HICs that are geared at attracting international medical graduates (IMG) are to the detriment of LMICs as they do not have the resources to compete. Gong et al. (2019) stated that between 2005 to 2016, the supply of physicians in the US decreased, and there was a severe shortage of primary care physicians in rural areas of the US. The American Association of Medical Colleges (AAMC) predicts that by 2030 the US will experience a shortage of up to 121,300 physicians (Zhang et al., 2020). Kamimura et al. (2017) stated that international medical graduates (IMG) contribute significantly to health care in underserved areas of the US and fill the shortage of physicians in primary care. The issue here is that physician shortages affect every community, with LMICs struggling to compete against HICs.

The Local Problem

Physician shortages in this LMIC persist despite a more than 40-year-old medical education scholarship collaboration between this university and the LMIC, the goal of which is to provide access to medical education to the local population and to see these

talented scholarship recipients return as physicians to serve their country. Most scholarship recipients migrate to the US, leaving this LMIC and this university struggling to manage the effects of this chronic problem. At the time of this paper, this collaboration has provided more than 280 scholarships to talented citizens to become physicians. The scholarship provision has increased from an initial 3-5 scholarships to more than 15 scholarships annually. To date, fewer than ten specialists or physicians with graduate medical education (GME) qualifications now practice medicine in the country that granted them the scholarship.

Botezat and Ramos (2020) explained that physicians migrate for various reasons, including higher wages, greater opportunities for advanced training, and job opportunities in specific fields. Brugha et al. (2016) stated that many HICs, including the US, heavily recruit IMGs to fill their health workforce needs. To further conceptualize this issue, Botrzat and Ramos (2020) explained that the cycle of brain drain in which the migration of tertiary educated people from poor to rich countries is an important feature of international migration.

This Study

The inspiration for this study came from acknowledging three factors: First, the considerable number of resources invested in this program by both university and country to address this problem, second, the devastating effect physician shortages have on their communities, and third, the financial burden this problem creates is due to both the loss of human resources and the impact this loss has on the health and health system of the community. Shrime et al. (2020) detailed the economic consequences of large-scale physician migration from LMICs to HICs in the amount of approximately $15USD

billion, resulting in inadequate physician supply and, eventually, increased mortality in LMICs. Physician shortages have devastating effects on communities and require innovation and intervention to resolve this problem.

Project Goal

This project aims to learn from the perceptions of scholarship recipients and providers about how this scholarship could affect physician shortages. The insights that were captured and examined provided unique perspectives on this problem that can be used to inform and guide future decisions being made by the leadership overseeing the provision of this scholarship. The goal is social change for the LMIC by improving the effectiveness of this medical education scholarship focused on reducing the gap in practice of physician shortages and the effects of this problem on this community.

Theoretical Framework

This study was conducted using a basic qualitative research methodology to explore this phenomenon. This study was guided by Ajzen's (1991) Theory of Planned Behavior (TPB). Wenhold and White (2017) noted that the TPB is a model often used for predicting human social and health-related behaviors. The TPB proposed that behavioral intention is the most important determinant of behavior and contains three constructs that determine an individual's intention to perform a behavior. These three constructs are: Attitude, subjective norms, and perceived behavioral control. This theory was used to guide this investigation.

Participants

This study's participants comprised of (a) scholarship recipients who have completed their GME, making them all eligible to work either in the US or at home and

went on to i) work in the US or ii) work in their home country, and (b) scholarship providers who are i) university administrators and ii) government administrators, who are familiar with or associated with the provisions of this scholarship. This participant population was selected to provide their perceptions of this scholarship's ability to achieve its goal of providing physicians to the LMIC and therefore affecting physician shortages.

Research Design

This study is significant because little research has been conducted regarding how these government-university scholarships on this LMIC could better contribute to the solution of physician shortages. Therefore, I utilized a basic qualitative study design to investigate the perspectives of scholarship recipients and providers. In this basic qualitative study, open-ended semi-structured interview questions were used to encourage participants to share their firsthand experiences freely, allowing this study to capture individual perspectives making this research able to capture new and relevant information, which can drive informed decision making related to how these scholarship provisions can be enhanced to improve their performance related to physician shortages.

The Research Question

The research question that guided this study was:

RQ: What are the perceptions of scholarship recipients and scholarship providers regarding this medical school scholarship's ability to affect physician shortages?

This research question guided the development of the interview questions.

Interview Questions

1. What were your first impressions/thoughts of this scholarship offering?

    a. How would you describe your role or duty?

2. From your perspective, how was this scholarship opportunity presented, described, or explained?
    a. Whom would you credit for providing this opportunity, and why?
3. What would you say/describe are the goals of this scholarship?
    a. How would you describe this scholarship's performance? Is it achieving its goal(s)?
4. How would you describe the scholarship recipient's obligations?
    a. What is the appropriateness of these obligations?
    b. How are these obligations enforced?
5. How would you describe the mechanism for scholarship recipient selection?
    a. What would you say is emphasized during the scholarship process?
    b. What could you suggest could enhance this process related to achieving the scholarship's goals?
6. How would you describe the scholarship support system for recipients?
    a. Are recipients provided with adequate incentives and guidance?
    b. What challenges/concerns come to mind?
    c. What would you recommend could be done to improve support?
7. Many scholarship recipients pursue opportunities in the US; why do you think this is?
    a. How can this be improved to benefit both recipients and the country?
8. What is your view on how influential this scholarship is to recipient success?
    a. What would make this scholarship more successful?

b. How would you suggest this could be better balanced?

9. How would you describe the benefits versus the cost of this scholarship?
    a. How would you address the imbalances?
10. Do you have any final thoughts on the scholarships or how the scholarship process can be improved?

Results

The data collected for participant interviews were analyzed using strict qualitative methods, and a thorough literature review was undertaken. The results of this study were carefully analyzed, resulting in recommendations that sought to attain a greater balance of this scholarship's goals of individual success in becoming physicians and physicians serving their community, hence positively affecting the physician shortage problem on the LMIC. The data's credibility and accuracy were maintained by ensuring data was transferable, confirmable, and dependable.

This study aims to do more than present a summation of how this scholarship performed over the past 40 plus years. This study will present findings that will cultivate a deeper understanding of what occurred with these scholarships from the perspectives of those who received and provided these scholarships and align this with the thorough research done on the global issue of physician shortages. These findings will provide a greater understanding of what occurred that led to this scholarship partially achieving its goals and provide recommendations on how this scholarship provision may be enhanced to improve the overall outcomes.

Although findings from this study are specific to this LMIC and this scholarship, what was learned may be useful to other regional or international communities filling the

gap in practice with their issues of physician shortages, or it may be transferable to other professions going through a similar loss of skilled talent. This study's findings provided a look into the experiences of study participants from their initial introduction to the life-changing experiences that came with attaining this scholarship and eventually understanding and accepting how things worked out and what can be changed. A number of categories emanated from interview responses, and three main themes emerged from these categories these are (1) Scholarship first impressions, (2) Managing scholarship expectations, and (3) ingrained scholarship culture.

Themes

Three primary themes emerged:

RQ: What are the perceptions of scholarship recipients and scholarship providers regarding this medical school scholarship's ability to affect physician shortages?	
Theme 1: Scholarship first impressions	Categories: - Capturing the significance of the opportunity (Attitude) - Immense appreciation (Perceived Behavioral Control) - Financial emancipation - The key to success
Theme 2: Managing Scholarship expectation	Categories: - Managing unpredicted life changes (Attitude) - Acknowledging what did not work (Perceived Behavioral Control) - The return home option (Subjective Norm) - Latent obligations (Subjective Norm)
Theme 3: Scholarship culture	Categories: - Poor Accountability - Culture shift

Theme 1: Scholarship first impressions

The first theme correctly captures the start of the scholarship journey. Participant responses captured a clear understanding of the scholarship and what the scholarship opportunity aimed to achieve. Category capturing the **significance of this opportunity**: Provider A2I2 responded, “my first thoughts were, an excellent idea. It is certainly very much needed because we have been going down that road for many years and it is time that we had such a scholarship”.

The vision of the scholarship really is twofold. It is geared towards education as well as bolstering the human resources of the health care sector. All recipients and providers displayed a clear understanding of the scholarship. All participant responses were grouped into further categories of **immense appreciation** for the scholarship opportunity, with recipients showing thanks for the opportunity and providers appreciating what this scholarship set out to do for individuals and the country.

Study participants acknowledged the freedom from the financial burden associated with medical school tuition that this scholarship offered as **financial emancipation,** and the final category is the acknowledgment of this scholarship opening the doors and being the **key to success** for recipients and the country. Participant responses included provider A1I2, saying, “They wouldn’t have been any success. The majority of recipients wouldn’t have been able to enter medical school if they didn’t get a scholarship. I don’t know the details, but I do sense that without the scholarship they would have had greave financial problems at any point”.

The vision of the scholarship really is twofold. It is geared towards education and bolstering the human resources of the health care sector. Recipient D1I1 stated, “The scholarship opportunity was a very generous opportunity to be able to pursue a career in medicine, that opens the door for me to be able to assist people in the field of medicine, which I thought was and still is my calling, so I describe it as a very generous opportunity. It opened the door to a field that I am not sure if I would have had the opportunity to be able to be a part of otherwise.” D3I3 stated,. “To get people educated in medicine to come back to the country to serve and improve medical availability in Grenada,” and D2I3 said, “I was delighted. To find out that this opportunity was available to me as a Grenadian.”

The theme of scholarship first impressions emerged from these categories, which presented findings of what the initial scholarship introduction meant to study participants. This served as a baseline for this study as participants demonstrated a thorough understanding and appreciation for what this scholarship aimed to do.

Theme 2: Managing scholarship expectations

Study findings captured that on introduction to this scholarship, recipients acknowledged deep appreciation for this scholarship and demonstrated that they understood what was expected of them. Participant perceptions of what happened after receiving the scholarship emerged in categories, leading to the theme of managing scholarship expectations. These categories included **managing unprecedented life changes, acknowledging what did not work, the return home option and latent obligations**.

The response from recipient D3I3 can summarize, “I think it starts with the fact that you have moved to a country, start a life, and get married, everything is here, and then to uproot it. It is not always easy, especially if you have kids and you have a husband or a wife that has their own job. So, it is not always easy to just uproot and move back home after being in whichever country, whichever state for as long as we have”. The categories of **acknowledging what did not work**, was captured by provider’s A1I1 response, “I say well, one of the requirements recipients have to adhere to is, they have to come back to the island and to practice and can we say this is working perfectly because do you have 300 physicians working on the island (sarcasm). I do not know what kind of work they would do if 300 physicians came because if there is an over the influx of return medical students on the island, then there is just not enough work for that number of doctors to do. However, I do not think that is the case, meaning I do not believe that all the scholarship students returned to the island”—highlighting that the present structure is almost set up to fail. The final categories are **the return home option,** and **latent obligations,** which were drawn from many participant responses, which recognized that coming home was the only option on the table, and this was a poorly supported and planned option, from both perspectives of receiving the expected number of returning physicians graduating annually and the availability of a plan or structure to receive and reintegrate the return physicians. Many participant responses included being told that there were no opportunities available, feeling unsupported when they returned, and others coming home and then leaving because there were better appreciated and had better opportunities elsewhere. All participants acknowledged their awareness of the bond obligation, but it was not properly structured and often not enforced throughout the

scholarship program's history. Over time, participants realized that no one would hold them accountable to their obligation.

Additionally, the lack of options to fulfill their bond obligation prevented recipients from having a point of compromise related as to how the scholarship obligations could be fulfilled. This created a culture in which most recipients simply went on to work in the US, where opportunities were provided with no commitment. All recipients acknowledge that the scholarship's value to them was immeasurable and that structures needed to be assessed and addressed to allow better returns for this appreciated opportunity.

Theme 3: Scholarship culture

Findings generated from study participants' responses generated the final theme of ingrained scholarship culture. Participant responses of **poor accountability** and **culture shift** led to the emergence of this theme. Responses of participants included recipient D3I3, who stated, "well, we were told that if we took the scholarship, we had to go back to Grenada. but that was about it. There was no follow-through as to holding you accountable for going back; I guess", and A1I2 reported, "the system as it exists today in the hospital or the health structure is often not necessarily welcoming enough to graduates that come back home, and this goes into a bigger issue, and that is the issue of management of health care and more importantly hospital care." Because the participants perceived that no one was attending to the scholarship, they could do what they wanted.

Considering that for more than forty years this scholarship has failed to achieve its goals, there needs to be a **culture shift.** Study participants acknowledged the need to better understand the aims of the scholarship to change the scholarship culture for both

recipients and providers. Recipients D1I3 stated, “So one of the biggest things is when you are through with medical school or close to being through with medical school and thinking of returning to Grenada to serve the country. This should, in a way, be marketed to you and shown to you as a viable opportunity to practice and do so successfully, do so with good support. Which really is not there when you are done with Med school.” Recipient D3I1 noted, “The whole issue of creating platforms that you know persons, both here and the US or wherever they are trained in specific areas, areas that Grenada needs. These persons can be recruited at this time, but it has to be organized. The platform has to be prepared. Persons have to know where they are going and what they are doing”. Study participants acknowledged that from the scholarships inception recipients migrated to the US to complete their studies and pursued their careers, this lead to what could be accepted as scholarship culture which will require intervention by stakeholders to create a new culture. As provider A1I1 stated, “if something is done for a number of years why would anyone expect it to be done differently, if scholarship recipients typically go on to work in the US, why would different be expected now, especially if they can be successful.”

Summary of Findings

Findings were based on this study’s purpose, which was to explore the influence medical school scholarships have on reducing physician shortages in the LMIC. All participants voluntarily took part in this study, and all seemed eager to provide their input. Participants unanimously agreed that the scholarship is invaluable to the LMIC and unanimously agreed that there is a problem related to how the scholarship is structured. It

needs to be more effective in achieving both goals of providing education pathways and physicians to the LMIC.

All participants agreed that more needs to be done beyond the delivery of the scholarship to recipients. Everyone agrees that there is a disconnect during the years following the introduction and acceptance of the scholarship. Findings included the need for mentorships at multiple stages of the scholarship journey, the creation of a thorough onboarding and offboarding procedure, a human resource needs assessment for health personnel needs, and a review of the bond arrangement to allow for options other than all recipients returning home on completion of their studies.

Key findings associated with themes

Theme 1: Scholarship first impressions

All participants viewed this as a positive opportunity for both recipient and country. Most recipients agreed that they would not be able to attend medical school without this scholarship. All participants understood what was required of them and the scholarship deliverables. The expectation was to perform well, become physicians, and provide service to the country. Participants shared that more needs to be done to better understand how participants transition through the scholarship process from onboarding to offboarding.

Theme 2: Managing scholarship expectations

Participants outlined their intentions which included responses of plans from most participants to return home to work after completing their studies. However, these expectations were disrupted for a number of reasons supported by the studies literature review and participant responses; these disruptions included advanced training

opportunities, career opportunities, new life opportunities (in some cases, new families), and financial advantages. Additionally, participants highlighted the lack of structure behind the bond arrangement, a lack of planning with regards to how exactly scholarship recipients would be absorbed into the local medical system, and in some cases, a general feeling of being unwanted and unsupported when they attempted to return. Finally, responses also outlined a general lack of planning related to human resource needs on the health administration side of the health system.

Theme 3: Ingrained scholarship culture

Participants surmised that they were all partially responsible for various parts of the failure of this scholarship. After years of poor accountability, a shift in what is now the scholarship culture is needed. All participants agreed that this culture is correctable, and a collaborative approach to correction is essential. The effort needs collaboration and compromise to achieve the desired results. All participants agreed that this scholarship is vital, and both recipient and country should feel the benefit.

Recommendations

Participants agreed that this scholarship was an excellent idea from its inception in 1977 but realized that adjustment is necessary to allow the full potential of this provision to be appreciated and realized. Therefore, participant recommendations are as follows:

Onboarding

Participants recommended a thorough document describing the scholarship in its entirety, such as giving applicants and successful candidates a transparent outline of

scholarship selection criteria, scholarship support structure, requirements, and obligations and expectations.

Recruiting Survey

Onboarding Candidates Survey

The suggestion is to develop a tool to measure and capture candidates' areas of interest in medicine, the potential to absorb after training, and the likelihood of returning or migrating. This can work along with the needs assessment to provide statistical projections for administration and offboarding insight to recipients as they prepare to enter their professional careers.

Mentorships

Participants recommended creating several mentorship programs to follow a logical sequence annually, to build better communication and nurture recipient-provider relationships. These mentorships include:

1. Student Mentors: Senior students will serve to update and advise new recipients as they join the program; this will allow new scholarship recipients to always be supported. Student recipients can also serve to advise new scholarship applicants annually, providing a closer communication and information link prior to and during the interview and application process.
2. Physician and Health Administration Mentors: Members of the health system should have information sessions and discussions with scholarship recipients continuously throughout their education to keep recipients aware of the need for physicians and how they can fit into the health system. This will also keep health

providers and scholarship recipients connected and in the reabsorption process after completion of training.

3. Administrative mentors: These mentorships will focus on scholarship issues and developments ensuring that providers, recipients, educators, and institutions are aware of the support and needs deficits.

Bond Agreement

Participants all agreed that the bond arrangements needed to be reviewed. Recipients need to be held accountable for what they have agreed to. Additional criteria for bond repayment should be considered, including a payment option, provision of specialized medical services remotely, combinations of service and payments, provision of training and education in areas of need, equipment support, and supplies, and other purposeful ways.

Human Resource Needs assessment

Participants suggested that the government should undertake a human resource needs assessment, which will provide a roadmap for physician requirements in the public sector. Giving a closer estimation of needs in specified medical specialties will allow for a better recruitment strategy based on projected needs. (This will include retirements, expected losses, and other estimates on overturning).

Offboarding

Participants suggested a structured program advising and updating scholarship participants as they navigate their final year. This would consider the participants' professional opportunities and what will be required related to the bond agreement. This will prepare both the recipient and the administration for the transition.

Conclusion

Study participants included senior administrators who have had leadership roles related to this scholarship, and scholarship recipients who are physicians, some working in the US and some working at home, all achieving their success through this scholarship provision. All participants welcomed this study as an opportunity to provide information that can be integral to providing a solution.

Participant responses and study findings provided a variety of reasons for the scholarship failing to achieve its full potential and provided suggestions to make the scholarship successful through collaboration. The fundamental goals of this scholarship are to provide an educational opportunity and to provide physicians to the LMIC. The aim is not to fulfill one goal and abandon the other. Findings acknowledged that these scholarships enabled recipients to achieve their potential, which we all agree should be continued and nurtured. We all agree that the goal of reducing physician shortages should not be ignored, and therefore, the failure of this scholarship to achieve this goal needs to be addressed.

All recipients should be held to the agreement that ensures that they repay their debt to their country. What we understand from this study is that this scholarship cannot be delivered to recipients and have the work end there. These scholarships need to be monitored for the duration. This study's findings point to a need for a willingness to listen, learn and collaborate. We can all learn from past errors and make the necessary changes to develop a sustainable scholarship program. This scholarship can open doors to higher education and provide opportunities to this underserved population and, in return,

fuel social change in this LMIC by providing physicians, education, finance, and infrastructure support needed to improve the delivery of health care.

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Appendix B: Interview Protocol

Interviewee's Code:

Date and Time of Interview:

State Purpose of Study and Interview: I am Brendon La Grenade, a doctoral student at Walden University. Thank you for agreeing to participate in my study. The purpose of this study is to examine the perceptions of scholarship providers and recipients with regards to what this government-university scholarship is expected to achieve. Specifically, did these scholarships achieve the intended goals or purpose for which they were provided on this LMIC island?

Rights to confidentiality: Please examine the consent form which further explains the purpose of the study and your rights, including confidentiality. Please sign the consent form if you agree to the terms. The interview will last approximately 60 minutes.

Due to current COVID-19 restrictions all interviews will be done and recorded via telephone or Internet. Will I have your consent to record the session? (Recording will commence with your agreement to record).

Interview Questions:

11. What were your first impressions/thoughts of this scholarship offering?
    a. How would you describe your role or duty?
12. From your perspective how was this scholarship opportunity presented, described, or explained?

   a. Who would you credit for providing this opportunity and why?

13. What would you say/describe are the goals of this scholarship?
   a. How would you describe this scholarships performance, is it achieving its goal(s)?
14. How would you describe the scholarship recipient obligations?
   a. What is the appropriateness of these obligations?
   b. How are these obligations enforced?
15. How would you describe the mechanism for scholarship recipient selection?
   a. What would you say is emphasized during the scholarship process?
   b. What would you suggest could be done to enhance this process related to achieving the scholarship's goals?
16. How would you describe the scholarship support system for recipients?
   a. Are recipients provided with adequate incentives and guidance?
   b. What challenges/concerns come to mind?
   c. What would you recommend could be done to improve support?
17. Many scholarship recipients pursue opportunities in the US why do you think this is?
   a. How can this be improved to benefit both recipients and country?
18. What is your view on how influential this scholarship to recipient success?
   a. What would make this scholarship more successful?
   b. How would you suggest this could be better balanced?
19. How would you describe the benefits versus the cost of this scholarship?
   a. How would you address the imbalances?

20. Do you have any final thoughts on the scholarships or how the scholarship process can be improved?

Appendix C Invitation Letter

Dear (Scholarship recipient or provider),

I am Brendon La Grenade, a doctoral student at Walden University working on my dissertation titled “The Influence of Medical Education Scholarships on Physician Shortages”.
You are being invited to participate in this study because of your medical scholarship experience. This study’s intention is to provide a solution to physician shortages on this island. Your perspectives on the scholarship experience is expected to provide valuable new knowledge which will guide this study.
As you may be aware, physician shortage is a global problem which negatively affects high- and low-income countries and communities and presently there is no clear solution available. You are being invited to be a part of this study which aspires to provide a solution, starting on this island.
You participation is appreciated, voluntary and completely confidential, please respond to communicate your interest.
The process includes, an interview which is expected to last approximately 1 hour, at a time convenient to you. The interview will be guided by pre-established questions, these questions can be made available to you. If you have any additional questions or concerns about this study these can also be answered via email or phone.
Your time is valuable, and your participation will be greatly appreciated. Once interested, I will follow up your response with the consent form and additional details including sample questions and scheduling an interview date and time.
Looking forward to hearing from you

Sincerely,
Brendon La Grenade
Doctoral student at Walden University

Appendix D: Scholarship Recipients Support Document

Grenada Covid Crisis Group (GCCG)

We appreciate everyone taking the time to extend the assistance needed to help Grenada through the recent Covid-19 surge. We thank you all for your patience and continued support. Please see below an update of all that has been done so far.

To recap, the five initiatives of Grenada Covid Crisis Group (GCCG) are:

- providing assistance for medical doctors and nurses to render on-site assistance - ”Boots on the Ground” - to the Grenada medical health care team caring for patients with COVID-19 infection
- establishing fund raising to procure medications, medical equipment, medical supplies to be sent to Grenada and to assist in the care of patients with COVID-19 infection
- obtaining, triaging and shipping donated supplies to Grenada
- establishment of a Telemedicine Multi-Specialty Service
- COVID-19 mass media education: “Taking back the field and returning to normal.”

Expanding on the above: There were four critical care nurses and five physicians including Dr. Phillip Bonaparte, Dr. Molara Alexis, Dr. Carina David and Dr. Shawna Lambert-Pitt, who traveled to Grenada with medical supplies to include antibiotics etc. In addition, more than one hundred and twenty members of the wider SGU alumni have stepped forward to join us in volunteering to travel to Grenada and to provide telemedicine service. We are also currently working with Northwell Healthcare through one of our members, Dr. Lincoln Cox, to arrange for a health care team to travel to Grenada to assist with expanding training on certain aspects of medical care; in servicing on management of Long Haulers Syndrome; providing emotional support and conducting the necessary assessment to prevent another surge.
To date, our fundraising receipts of over one hundred and thirty-three thousand dollars ($133,000) have been raised through a GoFundMe drive in collaboration with Grenadians United in Virginia Inc., a 501c(3) charitable organization. We expressed sincere thanks to The Dr. Khan and Liza Nedd donor foundation along with The Kellogg Foundation for their generous contribution to the fund.

Together, the suppliers of Oxygen in Trinidad and St. George’s University, the GCCG worked diligently to increase the frequency of liquid oxygen tanks to Grenada hospitals and to increase the number of oxygen cylinders in circulation in the Grenada health care

system. In a closely coordinated effort with the St. George's University, the Diaspora Desk, the Robert Wood Johnson/Barnabas Health Group through Ms. Jean Darbeau, the New York Nurses Association of Grenada, Carriacou and Petite Martinique, and other generous donors in the diaspora, over eight hundred and fifty thousand dollars ($850,000.00) of supplies and equipment has been collected. These items have either arrived or are enroute to Grenada.
The GCCG group also implemented the WHO Essential Supplies Forecasting Tool (EFPT) to streamline their efforts. As the number of active cases have declined, this effort is 'winding down' for now. However, we are still working to obtain 'high priority' supplies. Currently, we are working with Dr. Beverly Nelson and Dr. Barbara Gordon to procure medical devices to be placed at the hospitals in St. George's, St. Andrew's and Carriacou.

With regards to Telemedicine, the establishment of subspecialties within our group - Infectious
Disease, Endocrinology, Pulmonary Medicine, Adult Critical Care, Pediatric Critical Care Anesthesiology, Cardiology, Psychiatry and Mental Health, as well as Nephrology have already been brought online. The Nephrology team has created a protocol to reduce the risk of kidney failure in admitted patients, as there is currently no hemodialysis service at the hospital. Gastroenterology will be added next. Currently SGU is working on the most appropriate platform/s to host and schedule this service.

As part of our education initiative, our members have done Public Service Announcements (PSAs), appeared on panels, and delivered addresses on the importance of being vaccinated. After gleaning input from different stakeholders and meeting with the Grenada Medical Association (GMA), our initial lecture was delivered on Sunday the 3rd of October by Dr. J. Peter Figueroa, on Covid-19 Vaccines: Eligibility, Efficacy and Safety. Dr. Figueroa is a graduate of the University of London: School of Hygiene and Tropical Medicine. He is Chair of PAHO's Technical Advisory Group on Immunizations and a member of the WHO working group on vaccines. He was given a token of our appreciation. The group also met with the Grenada Conference of Churches and will continue to enlist the aid of our 70 members in getting the message out on vaccination, mask-wearing, social distancing, hand-sanitizing and the appropriate measures to take after being exposed to or testing positive for the Covid-19 virus. Currently we are working with local artists on a series of PSAs in the form of audio and video skits, produced in the local dialect and aimed at connecting with the Grenada population.

We would especially like to thank St. George's University through Vice Provost Brendon LaGrenade for their assistance in so many ways. The efforts noted above have been greatly enhanced by their contributions.

We would also like to applaud the work of the Medical Team in Grenada.

As we plan ahead, procurements are ongoing with purchasing of computers, medicine, medical devices and collaborating with the Rotary Club to assist the families and students who were affected by The Crisis. In addition, we will also continue to collaborate with SGU to provide monthly CME's to our colleagues in Grenada.

We will continue to keep you updated as we move forward.

We thank you all.
Warmest Regards,

Dr. Michele Friday
Dr. Dwight F. Matthias
Dr. Kester Nedd
Dr. Lisa Radix
[The Core Team]