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**Employment Patterns of Graduates
who passed the Philippine Pharmacy Licensure Examination**

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the Dr. Mariano Que College of Pharmacy
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Bachelor of Science in Pharmacy

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August 2021



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***“Employment Patterns of Graduates
who passed the Philippine Pharmacy Licensure Examination”***

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ABSTRACT

The rapid growth in demand for pharmacists has resulted in a scarcity in the pharmacy workforce. The worldwide gap has been observed in the increased vacancy rates and difficulties in hiring pharmacists. This study aims to determine the demographics and employment patterns of graduates who passed the Philippine Pharmacy Licensure Examination from 2015-2019. A validated, self-administered, structured online questionnaire was used to collect, which was then processed using descriptive statistics.

Of the 290 respondents, 83.10% were female and only 16.90% were male. 30 respondents are currently unemployed due to the reasons of (1) pursuing postgraduate studies, (2) pursuing other fields of interest, (3) limited job opportunities, or (4) planning to put up a business. Furthermore, 268 of the respondents are currently working mainly in the regions of NCR, CALABARZON, and Western Visayas, of which 256 of them are practicing pharmacists mostly in the field of community, hospital, and regulatory while the majority of non-practicing pharmacists are quality control analysts. The majority of the respondents have a salary ranging from ₱10,958.00 to ₱21,914.00.

Moreover, 69% of the respondents plan to work overseas in the next two to five years.

Keywords: pharmacists, employment patterns, health human resource



TABLE OF CONTENTS

	PAGE
ACCESS AUTHORIZATION	i
TITLE PAGE	ii
APPROVAL SHEET	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
TABLE OF CONTENTS	vi
LIST OF TABLES	ix
LIST OF FIGURES	xiv
CHAPTERS	
I. INTRODUCTION	
Background of the Study	1
Statement of the Problem	2
General and Specific Objectives	2
Significance of the Study	2
Conceptual Framework	3
Scope and Delimitations	4
Definition of Terms	5
II. REVIEW OF RELATED LITERATURE	
Global Pharmacy Workforce	8
Philippine Health and Pharmacy Workforce	9
The Philippine Human Health Resource Masterplan	11
Impact of COVID-19 on the Philippine Health Workforce	14
Migration and Push and Pull Factors	15
Migration Costs	18



Immigration Policy	19
Demographic Characteristics	19
Political and Environmental Factors	20
Other Considerations	20
Interventions and Solutions to Address HRH Shortage	21
Synthesis	25
III. METHODOLOGY	
Research Design	27
Population and Sampling Technique	27
Instrumentation	28
Data Gathering Procedure	30
Data Analysis	30
Methodological Limitations	31
IV. RESULTS AND DISCUSSION	
Demographics	46
Employment Patterns	49
A. Currently Employed VS Currently Unemployed Respondents	33
B. Philippines-based Respondents VS Overseas-based Respondents	35
C. Distribution of the Respondents by their Region or Country of Employment	36
D. Distribution of Philippines-based Pharmacists according to their Current Field of Employment	43
E. Distribution of Overseas-based Pharmacists according to their Current Field of Employment	49
F. Distribution of Private and Public Employees Working in the Philippines and Overseas	50
G. Distribution of the Respondents based on their Employment Status	53
H. Distribution of the Respondents based on their Monthly Salary	55



I. Benefits Received by Philippines-based Respondents	57
J. Benefits Received by Overseas-based Respondents	59
K. Respondents Pursuing Postgraduate Studies while Working	60
Reasons for Migration	62
A. Distribution of Currently Employed Philippines-based Respondents Planning to Work Overseas Over the Next Few Years	62
B. Respondents' Reasons for Migrating	64
V. SUMMARY AND CONCLUSION	66
Summary	66
Conclusion	67
Recommendation	68
REFERENCES	69
APPENDICES	
Appendix A: Letter of Request for Face Validity Certification	80
Appendix B: Certificate of Face Validity	81
Appendix C: Endorsement Letter to YPG - Philippines	82
Appendix D: Research Tool	84
Appendix E: Research Questionnaire	85
Appendix F: Data Privacy Consent Form	92
Appendix G: Publicity Materials for the Study	93
Appendix H: Curriculum Vitae	94



LIST OF TABLES

TABLE		PAGE
1	Strategic Objectives (SO) of the DOH	22
2	Inclusion and Exclusion criteria	27
3	Number of PLE Passers from 2015 to 2019	28
4	Methodology Matrix of the Study	31
5	Distribution of the Respondents by Age, Sex, and the Year when they Passed the PLE	33
6	Distribution of Currently Working and Not Working respondents	34
7	Reasons of Unemployed Respondents for Not Working	34
8	Schools where the Respondents are Pursuing their Postgraduate Studies	35
9	Number of Working Respondents who are based in the Philippines	35
10	Distribution of the Respondents by their Region or Country of Employment	37
11	Regional Distribution of Pharmacy Schools in the Philippines	41
12	Distribution of the Philippines-based Respondents based on their Current Field of Employment	45
13	Distribution of the Overseas-based Respondents based on their Current Field of Employment	49
14	Distribution of Private and Public Employees Working in the Philippines and Overseas	51
15	Distribution of the Respondents based on their Employment Status	54
16	Distribution of the Respondents based on their Monthly Salary	56
17	Benefits Received by Philippines-based Respondents	58
18	Benefits Received by Overseas-based Respondents	59
19	Distribution of Pursuing Postgraduate Studies while Working	60



20	Distribution of Currently Employed Philippines-based Respondents Planning to Work Overseas Over the Next Few Years	62
21	Respondents' Reasons for Migrating	64
22	Motivations for Respondents Living in Lower-Middle Countries to Possibly Migrate in the Future (Mamiya et al., 2021)	65



LIST OF FIGURES

TABLE		PAGE
1	Conceptual Framework	4
2	Research Questionnaire Flowchart	29



CHAPTER 1 INTRODUCTION

Background of the Study

Those in the pharmacy profession have worried about the employment future for pharmacists, particularly recent graduates, for several years (Kelley et al., 2019). Among other causes, the rising demand for pharmacists has been attributed to an increase in prescription volume and the expansion of pharmacists' roles. However, the rise in demand for pharmacists has been met with a decline in the pharmacy workforce. According to Loquias and Robles (2012), pharmacist shortage is a recognized phenomenon worldwide. In the Philippines, it is clear that the country is losing its pharmacists permanently to other countries, especially the United States of America (USA) and Canada. Various factors that influence migration can be classified as push-factors, "or reasons why people might want to emigrate," and pull-factors, or reasons why a country attracts immigrants (Mamiya et al., 2020).

While it was usual for pharmacists to work overseas, the data of Loquias and Robles (2012) showed that some pharmacists left permanently for other countries. In a study done by Mamiya et al. in 2020, a number of "push-pull factors" that influenced the migration of the healthcare workforce were determined, the push factors being low pay, poor/dangerous working conditions, unemployment, lack of resources, limited career opportunities, limited educational opportunities, economic/political instability while the pull factors are higher pay, better working conditions, better-resourced health system, career opportunities, provision for post-basic education, higher standard of living, travel opportunities, aid work, and political stability.

According to the World Health Organization (WHO), about 10.5 million Filipinos worked overseas in 2011. In 2013, WHO stated that 17,000 to 22,000 health professionals leave the country to work abroad annually. This migration of professionals is influenced by a variety of factors, including opportunity differentials between sending and receiving countries and historical, political, and trade relationships (Mamiya et al., 2020).



Statement of the Problem

The global deficit of pharmacists has been documented around the world. Studies have indicated the rising vacancy rates and challenges in employing pharmacists in developed countries such as the United States, Canada, and Australia. As a result, pharmacists are expected to be in high demand in the future (Loquias and Robles, 2012).

Currently, no updated published literature in the Philippines can comprehensively describe the demand for pharmacists both nationally and globally (Loquias and Robles, 2012). While there are several studies in the Philippines that detail the profiles of health professionals, there are few studies on the variables that influence their choice of site. Much of the research in this field focuses on variables that influence migration decisions rather than on plans to stay in one's own country (Abrigo et al., 2021).

General and Specific Objectives

The study generally aims to determine the employment and migration patterns of graduates who passed the Philippine Pharmacy Licensure Examination (PLE) from 2015-2019. Specifically, it aims:

- To determine the demographic characteristics of graduates who passed the Philippine PLE from 2015-2019
- To determine the employment patterns of the respondents based on their current profession, employment status, company or institution, monthly salary, benefits received, and reason/s for staying in current job
- To determine the primary reasons for the migration of the respondents who are working overseas

Significance of the Study

The findings of this study will redound to the benefit of the following:

Future Researchers. The information that will be gathered in this study may help future researchers who want to investigate further the employment and migration patterns of pharmacists, as well as the pull and push factors that contribute to such patterns.

Universities. This study will provide information on the recent graduates and board passers from the year 2015 up to the year 2019. Because of this, universities can be prompted to keep track of their students after graduating to monitor their performances



and to know which field of work they have landed their jobs in or who pursued higher education.

Department of Health (DOH). The WHO sets the standard ratio between the ideal number of healthcare workers in a population. This study will be beneficial to the DOH as this will provide information and an overview of whether the Philippines has enough pharmacists serving the country and/or if the standard ratio between a pharmacist and a population is being achieved or not.

Pharmacy associations. By identifying the push and pull factors in the employment and migration patterns, associations of pharmacy professionals may create policies, guidelines, or persuasive calls on members for them to continue practicing their profession.

The findings of this study shall inform policymakers and decision-makers regarding the employment and reasons for the migration of PLE passers, including the various identified push-pull factors which contribute to their decision to practice in the country or overseas. Currently, there is no updated data on this topic, causing difficulty in addressing the problem of human health resources. The study shall help provide significant information that may support further policy recommendations to help improve employment conditions for pharmacists in the country.

Conceptual Framework

The study was patterned after the study of Loquias and Robles (2012). However, the study added additional variables such as the school where the respondent graduated, the salary range, whether the respondents are practicing pharmacists, employment status, and the sector where they are currently employed. In contrast to the study done by Loquias and Robles (2012), the study opted not to limit the location of where to sample.

The independent variable of this study is the demographic characteristics of the respondents, including age, sex, and the year they passed the Philippine PLE, while the dependent variables of the study are their employment patterns based on their current profession, employment status, employment sector, monthly salary, benefits received, and reasons for staying in current job and location may it be local or overseas, as well as the primary reasons for migration of the respondents who work abroad (Figure 1).

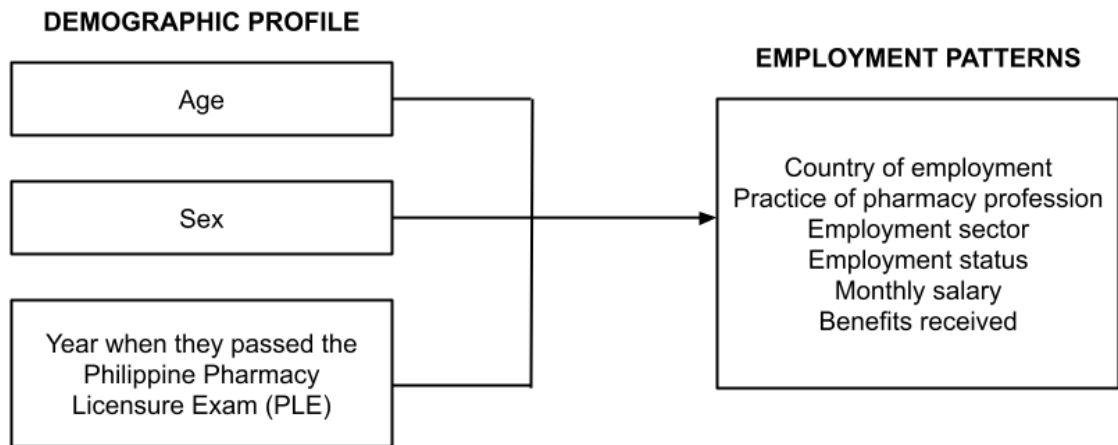


Figure 1. *Conceptual Framework of the Study*

Scope and Delimitation

The study focused on the employment patterns from 2015 to 2019 graduates of Bachelor Science (BS) in Pharmacy after passing the PLE in the Philippines. The research was conducted with the use of a questionnaire through Google forms collecting the data covering their region of employment, profession, employment status, company or institution, monthly salary, and benefits received. It also aimed to discuss the primary reasons of the respondents who chose to work overseas. The researchers only discussed the study's findings and did not associate the variables with each other using comparative and correlational statistics.

Additionally, the general intent of the study was solely conducted for research purposes only and not for other means. Also, this research was limited to registered Filipino pharmacists who took the PLE from the year 2015 to 2019 in the Philippines, regardless of their current country of residence. Furthermore, the data from the study was collected during the time of the COVID-19 pandemic, wherein their responses may be subject to bias.



Definition of Terms

Demographic profile

Age	Indicates the current age of the respondent.
Sex	Indicates the physical or physiological distinctions, including primary and secondary sex characteristics between men and women (Newman, 2018). In other words, it pertains to whether a person is a male or a female.

Employment status

Self-employed	Any person under independent business or contractor who earns a living through any autonomous pursuit of economic activity. They are not considered employees and do not receive benefits or compensation. Their clients do not deduct taxes from their payments for services rendered (Internal Revenue Services [IRS], 2012).
Company-employed	Someone who works for a company as an employee, may it be a full-time or part-time job. They are paid by the employer and receive benefits such as paid sick leave, vacation, health insurance, and participation in other retirement plans (Doyle, 2020). <ul style="list-style-type: none">a. Contractual. Fixed-term or contractual employees may work full or part-time and have the same leave benefits as permanent employees for a set period of time or to complete a specified task. The length of their employment is regulated by a formal agreement or a contract (Small Business Development Corporation, 2017).b. Part-time. Usually work less than 38 hours per week and on a consistent schedule. They are paid the same as full-time employees on



Income brackets

a proportional basis, based on the number of hours they work (Small Business Development Corporation, 2017).

- c. Regular.** Also known as full-time employees, they usually work for an average of 38 hours per week on a regular basis. Hence, the actual hours employed are determined by an agreement between the employer and the employee. Regular employees are entitled to receive benefits, leaves, and paid holidays from their employer (Small Business Development Corporation, 2017).

The following strata are created by the Philippine Institute for Developmental Studies (PIDS) based on individual monthly salaries of Filipinos:

- Poor: < ₱10,957.00
- Low-income but not poor: ₱10,958.00- ₱21,914.00
- Lower middle: ₱21,915.00 to ₱43,828.00
- Middle: ₱43,829.00 to ₱76,669.00
- Upper middle: ₱76,670.00 to ₱131,484.00
- Upper middle but not rich: ₱131,485.00 to ₱219,140.00
- Rich: >₱219,140.00

Migration

It is an act of moving away from their customary residence, either over an international border or within a single country. This may be permanent, temporary, or seasonal depending on the push-pull factors such as the social, economic, and environmental (Castree et al., 2013).

Practicing pharmacist

Pertains to a person who passed the Philippine PLE who is practicing pharmacy profession.



Reside

The current location of your residence, whether it is a house, a condominium, or a mobile home, refers to the neighborhood in which you live.



CHAPTER 2 REVIEW OF RELATED LITERATURE

Global Pharmacy Workforce

Pharmacists are the world's third-largest healthcare professional group. Pharmacists work at neighborhood pharmacies, hospitals, and other medical facilities for the most part. The pharmaceutical business employs a smaller number of pharmacists (Global Pharmacy Workforce and Migration Report [GPWMR], n.d.). In recent years, the usage of prescription medications and other pharmaceutical care services has increased dramatically in the United States (US). Medications are an effective way to treat, cure, or control a wide range of acute and chronic disorders, and for a large number of Americans, they are life-saving therapy. According to the Bureau of Health Professions (BHP) (2000), pharmacists are healthcare professionals who specialize in distributing prescription medications and offering an increasing number and range of essential pharmaceutical care services for high-quality health care and medication use. Pharmacists play a critical role in ensuring pharmaceutical safety and reducing prescription errors.

A vast proportion of pharmacists are employed in community pharmacies, hospitals, medical facilities, and other retail pharmacies such as convenience stores and groceries that offer pharmaceutical products and other institutional settings like long-term care facilities. Pharmaceutical companies, managed care and health insurance plans, governments, consulting firms, home health care, and colleges all employ fewer pharmacists (BHP, 2000).

While developments in technology and automation in the drug dispensing process can help pharmacists be more efficient, the overall workload associated with providing pharmaceutical care services will continue to expand as the volume and complexity of medications rises. Additional per capita pharmaceutical use and a bigger population base, for example, necessitate increased patient counseling efforts, and more complicated medications necessitate greater management to avoid drug interaction issues (BHP, 2000).



The Philippine Health and Pharmacy Workforce

In the Philippines, among the professions of dentistry, physical therapy, pharmacy, and midwifery, an increase in the number of board passers has been seen in the past 15 years. 1,700 pharmacy board passers from the year 2000 rose to 3,300 passers in the year 2015; however, the reason for the increase of board passers for pharmacy is not the same as the increase in the passers for physicians, which is mainly because of higher passing rates, but instead, the increase is due to the rise in board takers (Abrigo and Ortiz, 2019).

For the past 25 years between the years of 1990 and 2015, the stock estimates propose that the Philippines had an increased growth in the health human resources, which include the following professions: nurses (7.7%), physiotherapists (6.5%), pharmacists (4.8%), pharmaceutical technicians (4.4%), and physicians (2.6%), gaining a growth rate of more than 2% annually (Abrigo and Ortiz, 2019).

There were a few observations in some of the professions in the healthcare system of the Philippines. One of the most widely observed is the aging of the professions of dentists, optometrists, and opticians, while only the professions of pharmacists and nurses are getting younger. During the time of 1990, pharmacists and nurses' median age were 34 and 31 years old, comparing it to the year 2015 wherein the median age changed to 32 and 28 years of age, thus resulting in an increase in the number of board passers and younger professionals in the field (Abrigo and Ortiz, 2019).

Professions including midwifery, nutrition, nursing, dietetics, and pharmacy, which are known to be dominated by females, are slowly shifting towards gender equality. During the year 1990, these professions were dominated mainly by women; midwives (99%), pharmacists (93.6%), nutritionists and dieticians (92.2%), and nurses (90.6%). But throughout the years, in a data collected in 2015, the participation of men in these professions increased, specifically 25.9% for nurses and 16.6% for pharmacists (Abrigo and Ortiz, 2019).

Although the Philippines appears to have an adequate supply of healthcare workers compared to worldwide indicators, specific data on human health resources (HHR) density reveals a considerably more complex picture. Only around a quarter of cities and municipalities meet the WHO required HHR density of 41 physicians, nurses, and midwives per 10,000 people or above. As a result, three-quarters of the country's



cities and municipalities will likely lack the number of HHRs to provide health care. Indeed, over the past 25 years, healthcare practitioners have become increasingly geographically focused (Abrigo & Ortiz, 2019).

Using the discrete-choice location model, Abrigo and Ortiz (2019) discovered that most healthcare workers in the Philippines prefer to work in places closer to their homes and where they have been trained to be skilled and to places where there are higher pays.

According to Castro-Palaganas (2017), Filipino healthcare workers reach the point of working abroad rather than in the Philippines. Data presented by the Philippine Overseas Employment Administration (POEA) in 2010, over 13,9000 healthcare professionals were temporarily employed abroad. These are primarily nurses, about 86.9% of the total, and the rest are physical therapists (6.4%), midwives (1.9%), physicians (1.3%), and nutritionists and dieticians (1.3%). However, this data does not include information about other healthcare professionals not under the categories mentioned and both temporary and permanent Filipino migrants.

Naqvi et al. (2017) found out that in recent years, the large-scale migration of healthcare workers has been a significant source of alarm for developing countries like the Philippines. "Brain drain," or the transfer of healthcare professionals from developing to industrialized countries, happens due to the reasons for searching for greater pay, better job opportunities, and better quality of life.

Countries have employed equivalency exams and procedures to be able to prevail over the differences between curricula of programs from different countries. Despite the equivalency exams and complicated license application procedures, there is no evidence of a negative impact on migration trends. In contrast, there has been a considerable rise in migration, especially among new pharmacy professionals from emerging nations. Moreover, during their last year of undergraduate study, students are more focused on preparing for equivalency examinations (Naqvi et al., 2017).

The push factors include the lack of career possibilities, an unstable political and social context in the nation, low wages for pharmacists, and bad and demotivating working conditions. On the other hand, various reasons 'draw' younger generations of pharmacists to developed nations such as Australia, Canada, New Zealand, and the USA. Higher wages and compensation, a better quality of life, appealing immigration



possibilities, and more options for professional growth are just a few of them; hence, contrary to common assumption, brain drain is caused by a mix of social, economic, and psychological reasons that drive experts to relocate from one country to another (Naqvi et al., 2017).

The size of the labor force is determined by a number of factors, including the number of people of working age in the labor market, the participation rate of those who are employed, and the availability of those who are no longer employed but may return to pharmacy jobs. It's also crucial to consider pharmacists' health and retirement age. Other priorities could include determining the levels, causes, and consequences of pharmacist turnover across different cohorts, studying the appropriateness and applicability of undergraduate training, assessing pharmacist job satisfaction and motivation, and assuring ethical recruitment (Naqvi et al., 2017).

Philippine Human Resources for Health (HRH) Masterplan

The Philippines lacked about 25 health human resources per 10,000 population in 2018 compared to the WHO's estimate of 44.5 per 10,000 population to attain the sustainable development goals (DOH, 2020).

The basis of the HRH Masterplan comes from different reports and studies from the Situation Analysis Report, a Strategy Paper, the HLMA Report, and the Policy Omnibus Review Report. According to the situation analysis of the master plan, the established main problem is due to the lack of fully functional integrated HRH systems, which includes long-term employment, professional growth, information system, deployment planning, and appealing remuneration packages. Numerous problems are to be addressed using the masterplan:

- A. Insufficient healthcare professionals in the communities** are mainly due to the low number of medically related professional graduates because of high attrition rates, limited job opportunities in the country, lack of support to the healthcare system and healthcare workers, the uncertainty of healthcare workers on their career paths, and higher demands abroad for healthcare workers.
- B. Unequal distribution of healthcare workers in the different communities**, wherein factors that affect the unequal distribution comprise of the difference in the salary between public and private companies on both local and national levels,



not enough compensation especially on low-income class communities, and due to local government units (LGUs) which cannot take deployed healthcare workers. Factors may also include poor working conditions and the environment of the workplace that may affect a person's perception of staying in the assigned area.

C. Inadequate accuracy on the HRH information for planning and policymaking.

The country doesn't have up-to-date information about the total number of healthcare workers working in the country; thus, this doesn't reflect real-life information. Also, unemployed, migrants, and returning workers do not have records.

D. Lack of collaboration between stakeholders. Most of the stakeholders of HRH work independently without consulting others, and this is where the HRH Network was established to be able to integrate ideas from different stakeholders for discussing issues, policymaking, and carrying out collaborative decision making, data sharing, and policy implementation.

E. Separated HRH governance and indefinite responsibilities and accountabilities. The DOH is mainly responsible for the hospitals, employment, and deployment program for healthcare workers, while the LGUs are responsible for ensuring enough staff in field health facilities.

F. Inadequate and absence of policy implementation. A lot of policies were made, but some issues need to be addressed like competency criteria and skill levels, sustainable deployment of human resources of health, improving health governance, and performance management systems. Apart from the poor implementation of these policies, there is also a lack in linking important policies between the sectors of education, health, labor, and others.

Factors Contributing to Pharmacist Shortage in the Country

The DOH and Human Resource (2000) found that the shortage of pharmacists has had a substantial impact on the provision of pharmaceutical services as well as pharmacists' professional practice. These include the following:

- Due to an inability to fill empty positions and reach full staffing, several pharmacies provide limited services. Although such limits have not been systematically documented, a number of incidents were identified in response to



a Federal Register notice seeking public and private comments on the existence of a pharmacist shortage. Shorter operating hours and delays in opening new stores are two examples. Due to an enormous workload, pharmacists were frequently reported to be diverted from the critical role of giving patient counseling. From small rural hospitals to huge academic medical facilities, all forms of pharmacy services appear to be under threat.

- Extended operating hours and far less schedule flexibility result in increased job stress, worse working conditions, and lower professional satisfaction. This scenario appears to be widespread, based on public opinion and several surveys conducted by the pharmacy profession.
- Due to pharmacist fatigue and insufficient time to provide patient counseling and/or check for errors, the risk of prescription errors may increase.
- Increased vulnerability of medically underserved or otherwise vulnerable populations and communities. Individuals taking medicine for mental illness, rural populations without easy access to physicians, and people who rely on government-funded programs, such as Native Americans and Veterans, are among these groups.
- As a result of alternative recruiting by the pharmaceutical manufacturing industry and other job settings, there are critical openings among instructors at pharmacy schools. As a result of the shortage of professors, it is possible that the number of students enrolled in pharmacy school will be limited.

Different policies are being considered to be able to redesign programs to secure and keep different healthcare professionals in the country. One of which is to increase household income by safeguarding a professional practice's economic viability. Both the government and private sectors have important roles in ensuring equal distribution of healthcare professionals in the whole country. Also, incentives in the supportive private health care practice like insurance systems for healthcare professionals may be helpful for them to continue practicing, especially in underserved areas.

Another plan is to reassess common- and deep-rooted beliefs on health care professional practice. An example of the beliefs is the healthcare professionals' altruistic motives in working in rural areas; however, these motives may not be the most



sustainable in recruiting HHR in these areas. Another important plan is to raise the number of healthcare workers among minorities.

Impact of COVID-19 on the Philippine Health Workforce

Prior to the beginning of the COVID-19 in the year 2019, which caused a state of emergency in the Philippines, the Human Resources for Health Network (HRHN) has already predicted the shortage of healthcare workers for about 290,000 and that the deficit in the national supply is worsened by an average yearly migration of 13,000 health care workers in comparison with WHO's HRH ratio of 44.5 HRH per 10,000 population to be able to achieve the sustainable development goals (SDGs) (POEA, 2020).

The HRHN, an inter-agency policy and program support network established by the DOH, anticipated a shortage of roughly 290,000 health workers in the country in the year 2019, before the emergence of the COVID-19 pandemic based on the research study of the University of the Philippines Population Institute (UPPI) (2020). This is based on the WHO's suggested HRH ratio of 44.5 HRH per 10,000 people for achieving the SDGs. Furthermore, 13,000 health care professionals leave the country each year, aggravating the country's shortage of health care personnel (POEA, 2020).

According to data from the 2018 Occupational Wages Survey (OWS), most health professionals earn less than the national average, which is currently ₱18,1081.00 per month. Only specialist medical practitioners (₱54,090.00), generalist medical practitioners (₱35,592.00), and dentists (₱28,123.00) have a monthly pay that exceeds the national average.

Despite the fact that the country generates a large number of health professionals each year, there is still a shortage of health workers to meet the standard demand for the country's rising population. The ongoing outmigration of health professionals is a significant element in this. According to the 2015 Census, about a fifth of most health professionals in the Philippines work abroad. This continuous tendency is evident in the uneven distribution of health professionals in the younger age group. More qualified and experienced health workers are likely to have already migrated to other countries in search of better opportunities. Low compensation and a lack of possibilities for professional advancement, combined with the rising cost of a medical degree, have all contributed to this out-migration over time.



In the midst of the COVID-19 epidemic, the HRH shortage became even more severe. The country's rapid spread of illness has caused the government to declare a national emergency, requiring the temporary suspension of all healthcare personnel, including nurses and medical doctors/physicians. This temporary halt will remain unchanged until the national state of emergency is terminated and COVID-19-related travel restrictions in the destination nations are lifted. The directive will ensure a continuous supply of sufficient health staff to meet any future contingencies, particularly to replace, substitute, or reinforce existing employees who are under stress.

Lastly, according to Lewis et al. (2012), due to the lack of healthcare professionals in the country distributed in the different communities, most specifically with physicians, there is a need to find an alternative way to be able to deliver care and service to different communities.

Employment Push and Pull Factors

The forces that drive people and their families to leave their native nation and establish a new life in another. According to the study of Simpson (2017), some of these pressures are likely to be economical in nature: higher quality of living, the opportunity to obtain a better job, or a more secure safety net. Other factors, such as greater facilities, a democratic government system, and access to a better education system, also play a role. Between 2000 and 2010, the number of migrants in the world increased by 4.6 million per year. When evaluating the implications of immigration policy, it is crucial to understand the fundamental factors of migration patterns. Setting immigration policy without first considering the many mechanisms that drive migrant flows is a bad idea that could have unanticipated repercussions (Simpson, 2017).

A. Income differentials and income inequality

The increase in income acquired by migrating, or the difference between origin and home country income, is one of the economic benefits of migration. Historically, global migration patterns have tended to flow from south to north, with the south being perceived poorer and the north being wealthier. Workers in poorer countries seek higher earnings and better job prospects, which are typically found in wealthier countries. As a result, almost every economic model of migration includes income disparities and finds



them to be a significant component in explaining migrant flows over time. Low-income levels might contribute as a "push" factor, forcing people to leave their home country. On the other hand, high-income levels can serve to "pull" migrants towards a certain country or region (Simpson, 2017).

Both push and pull forces are at work in many instances of south-to-north migration. Income disparities between countries may vary over time, affecting migrant flows; there is a greater incentive to migrate when income disparities widen. When economic differences decrease, the opposite is true. In this instance, the net benefit of migration decreases, making it less appealing for workers to relocate abroad. As a result, income levels and variations in income are often considered among the most important determinants in the decision to migrate, as they alter the net advantages of migration (Simpson, 2017).

B. Networks: Family and Friends

Almost every study regarding the factors that influence migration takes into account the relevance of migrant networks in the home country. Controlling for the stock of migrants from a given migrant's origin country in the home country or region is the most common technique to measure networks. Network impacts have been relatively easy to quantify because migrants are collected in most national censuses. Migrant networks have a big, positive effect on forecasting new migrants, according to research. New migrants are generally drawn to host nations with large populations from the same place of origin. The psychological costs of migration are reduced when there are people that share a common language and culture. Networks can also help migrants save money by assisting them in finding work and accommodation, as well as assisting them in acclimating to their new environment. As migrants become more acquainted with their new country, their reliance on the migrant community may reduce as they acquire the culture and language of their home country, reducing the net benefits generated by the local migrant community (Simpson, 2017).

According to estimates, if the number of migrants from a particular country increases by 1,000, the flow of migrants will increase by 4.7 people per year, though the effect diminishes as the migrant stock grows larger, implying that migrant networks have



the greatest impact when migrant stocks are small. Furthermore, migrant networks are more vital for migrants from low-income countries (Simpson, 2017).

C. Taxes, transfers, and the government safety net

Taxes and government payments like unemployment insurance are more of a pull than a push influence. Countries with progressive income taxes may prevent the flow of high-skilled migrants by reducing the motivation to relocate due to lower after-tax salaries. Low-skilled migrants, on the other hand, will be taxed very little in a country with progressive taxes, giving them greater incentives to relocate. Migrant flows to countries with higher tax burdens are found to be lower. Other sorts of taxation will impact migration decisions in the same way. On the other hand, capital gains taxes may deter migrants looking for investment opportunities abroad (Simpson, 2017).

People's willingness to migrate appears to be influenced by the availability of social insurance programs. Access to good health care and educational systems in the host nation can boost the benefits of migration and act as a powerful draw factor. In fact, many families move abroad primarily for educational reasons; they desire better educational opportunities for their children (Simpson, 2017).

Migrants may be attracted to countries with significant government payments. As a result, certain sorts of migrants who would be eligible for these types of benefits may be attracted by government transfers. Governments are increasingly making it difficult for migrants to collect government benefits, at least in the short aftermath of their migration. Migrants are frequently required to labor in the host country for a period of time before being eligible for government assistance. Migrants from the poorest countries of origin, on the other hand, appear to be more prone to relocate to nations with more liberal immigration policies (Simpson, 2017).

D. Insurance and remittances

The family unit as a whole must determine whether to migrate as a whole or send only one member of the household overseas. Uncertainty in the form of household and macro-level shocks may motivate migration as a sort of insurance. Remittances are the major form of insurance for migrants, as they allow migrant family members to return a percentage of their earnings back home. Furthermore, families frequently assist in easing



the strict borrowing constraints that potential migrants experience, particularly when it comes to financing the trip. Households may be motivated by the security that migration provides, whether through the smoothing out of macroeconomic cycles over time or through monetary or in-kind transfers from family members abroad. Overall, utilizing migration as a type of household-level insurance against the individual or aggregate shocks can minimize household income volatility and improve migration's net benefit over time. Remittances can account for a large portion of household income for some families, particularly in relatively impoverished countries of origin, amplifying these effects (Simpson, 2017).

E. Macroeconomics factors: Exchange rates, business cycles, unemployment

Many other macroeconomic factors influence migration decisions, in addition to income as measured by per capita GDP. As a result, currency rates directly impact relative pricing abroad and, as a result, purchasing power. A strong foreign currency compared to the currency of origin allows money earned abroad to be spent more effectively at home, enhancing the net benefit of migration. A strong native currency, on the other hand, will depreciate the value of revenues earned overseas. Exchange rates influence migration decisions through both earnings and remittances (Simpson, 2017).

Migration Costs

The travel expenditures involved with the shift are included in the direct economic costs of migration. These are usually determined by the distance traveled, as flight and other travel-related expenditures tend to rise as distance increases. In addition, obtaining legal admission frequently necessitates the payment of considerable sums for visas and residency permits. Fees for visas and permits differ greatly between the two countries. People seek information on the possible host country because migration is a serious risk. These information costs, such as time, can be considerable, but because of technological advancements, they are steadily diminishing. A potential migrant can now learn more about the availability of housing, jobs, and government assistance. As a result of technological advancements, migration flows have increased (Simpson, 2017).



Immigration Policy

The role of immigration policy in restricting the influx of international migrants is crucial. Some governments make it difficult for citizens to leave; however, the more usual practice is to restrict the number of people entering every year. Controlling the home country's immigration policy is critical for estimating the factors of migration. The degree to which a country controls its borders and enforces its immigration policy is critical; countries that are regarded to be relatively easy to enter may appeal to potential migrants more. When countries execute their immigration policies, however, migration costs may become prohibitively high to discourage migration (Simpson, 2017).

Immigration policy is used as a proxy for migration costs in most theoretical models of migration. Moving to nations with lax policies will be less expensive, while moving to countries with strict policies will be more expensive. Migration expenses always outweigh the benefits. A positive migration flow in all other circumstances indicates that the net advantages of migration exceed the drawbacks for some migrants (Simpson, 2017).

Demographic Characteristics

Potential migrants' traits have long been a key factor in determining who migrates and who does not. It's crucial to remember that people who migrate for jobs are not always the same as those who come for family reunification. Furthermore, each migration movement has its own set of demographic features, such as age, gender, and educational achievement. Due to having more time to achieve the projected benefits of migrating, labor migrants are usually young. Historically, labor migrants were mostly working-aged men, but migratory flows are increasingly composed of women and families looking for work overseas. Marital status is also significant, as married persons are less likely to travel alone and return home sooner (Simpson, 2017).

According to the migrant's skill or education level, the motivations for their migrating decision may be highly diverse. On the basis of gender, country of origin, and skill level, there are significant disparities in the responses to recent migrant flows. Furthermore, research shows that migrants are often healthier than non-migrants in their home country and natives in the home country and that migration rates are higher among persons who speak the host country's language. Migration costs may be reduced



because the transitions into the culture and work are smoother when people speak the same language and are healthier. Overall, the most important features change dramatically over time and across different migratory flows. Language distinctions, for example, may become less important in the future if English becomes the world's common language (Simpson, 2017).

Political and Environmental Conditions

When countries differ in terms of rules and political situations, the costs of traveling between them may be prohibitively high, reducing migration rates. Furthermore, worsening political situations overseas while improving domestic ones can lessen the desire to migrate. Significant political differences between countries may account for some of the reasons why individuals do not migrate between them (Simpson, 2017).

Environmental considerations, such as the host country's deteriorating air quality, can deter migration. Improvements in the quality of life in the nation of origin, on the other hand, may lessen the desire to migrate (Simpson, 2017).

Other Considerations

War, oppression, corruption, crime, or discrimination are push elements in a country's political condition, whereas established property rights, law and order, and freedom are considered pull factors (Simpson, 2017).

War has been one of the major drivers of massive migratory movements. People flee their native countries for fear of persecution under repressive political regimes, which drive up migration rates. On the other hand, Corruption increases the cost of doing business; many people who do not wish to participate in bribes are pushed out of their home nation and drawn to a country where property rights and the rule of law are well-established. Civil conflicts, upheavals, and breaches of human rights are all well-documented push factors (Simpson, 2017).

Environmental factors may force migrants to leave their home nation, especially in the short term. Natural catastrophes can cause a sharp increase in migration as households are hit with a substantial, unexpected, and generally uninsurable shock. Famines, like natural disasters, can force people to evacuate their homeland (Simpson, 2017).



All migrants, whether legal or illegal, low-skilled or high-skilled, young or old, are affected by the total calculation due to push and pull forces. It's worth noting that, as a result of immigration policy, some factors play a larger impact on certain migrant groups. Meanwhile, illegal migrants may be more affected by economic situations. Illegal migrants enter many nations primarily to work, but legal migrants enter for a variety of reasons, including familial ties. The push and pull of relative economic conditions affect everyone, regardless of their legal status or level of expertise as employees. On the other hand, high-skilled employees may have greater resources to meet the expenses of relocation because their household income is likely to be higher (Simpson, 2017).

The timing of migration is crucial. When considering the net advantages of migration, an individual or family may elect to relocate overseas with the intention of returning home at a later date once they have maximized the benefits of living abroad, particularly if they have left family behind in their home country (Simpson, 2017).

Interventions and Solutions to Address HRH Shortage

In this modern time, technological solutions may be of help to bridge gaps between healthcare problems, especially in remote areas needing medical consultations and diagnosis. Gaps may also be filled not only by technology but also through the role of certification for healthcare workers wherein they will fill in physicians' tasks that are also applicable to their professions. In countries like the US, Canada, and the United Kingdom (UK), their nurses are allowed to assess the patient's needs, read and interpret lab tests, and prescribe medications.

Working circumstances, such as using technology to offer health care, are improved via workforce initiatives that focus on increasing skills and professional growth. HRH is also provided with competitive pay and benefits, ensuring their well-being (DOH, 2020).

- Establish permanent employment for HRH such as Barangay Health Workers & Barangay Nutrition Scholars to meet the requirements of the health industry.
- Ensure that roles for health professionals are defined and that they get a reasonable wage, benefits, and incentives such as career advancement, a uniform remuneration system, and an acknowledgment and compensation system to promote work fulfillment and motivation.



- Protect health care workers against developing and re-emerging illnesses (e.g., wellness programs, mental health, etc.).
- Utilize occupational safety and health (OSH) standards to fully comply with the minimal work environment requirements as well as infectious control measures.
- Ensure that health establishments have the right balance of expertise and responsibilities.
- Collaborate with the public and private sectors to create and execute career paths for healthcare professionals at various sectors, from national to local.
- Contribute to the professional growth of volunteer healthcare workers.
- Education and in-service staff development approaches should be used to help healthcare professionals acquire the necessary skills, information, and behaviors.
- Healthcare professionals should be given more teaching, mentoring, and supportive supervision.

Table 1. Strategic Objectives (SO) of the DOH (2020)

Strategy Number	Strategy Components
SO 1	<p>Systematically recruit and retain qualified human resources for health care (HRH), resulting in a sufficient and equitable HRH allocation based on local health requirements. SO 1 consists of four production methods that include retention in an attempt to create an appropriate quantity of HRH and minimize the inequitable distribution of HRH. Approaches include reorienting the present curriculum to prioritize primary health care, exposure and immersion in rural subjects and practice, and the use of rural health information systems (RSAs) as a learning tool. The plan for reorienting the curriculum includes the creation of a new set of skill sets, notably in the delivery of healthcare services utilizing technology. This is critical in public health situations like the current epidemic. The Commission on Higher Education (CHED), PRC, HEIs, LGUs, the Congress, professional organizations, student groups, and private and public health facilities are among the stakeholders engaging in this set of plans. The approach for reorienting curriculum includes the creation of new specific skills, notably in the implementation of health services utilizing technology. In public health crises, such as the current pandemic, this is essential.</p>



Table 1 (cont'd). *Strategic Objectives (SO) of the DOH (2020)*

Strategy Number	Strategy Components
SO 2	<p>Systems for improving HRH competencies and careers of healthcare professionals should be developed and maintained in order for HRH retention to be improved</p> <p>SO 2 focuses on (a) increasing HRH abilities through conventional and new learning techniques, through the use of technology, as well as coaching, mentorship, and supportive supervision, and (b) building volunteer and professional healthcare workers' careers. Human Resource Health's (HRH) productivity and ability to respond to population requirements will increase at work, and higher retention is encouraged.</p>
SO 3	<p>Enhance HRH professionals' retention and productivity by promoting performance and work satisfaction within the organization.</p> <p>Roles, remuneration, perks, and incentives will be standardized as part of SO 3's short-term strategies. Both initiatives will enhance work satisfaction and motivation by addressing the issue of insufficient HRH in the industry. Three different methodologies that will increase occupation fulfillment and motivation are: (1) guarantee the prosperity of HRH including their protection, (2) guarantee consistency with complying to health standards and disease and prevention control drives to further develop conditions in the work setting (for example telehealth, telemedicine), and (3) ensure the right balance of expertise in health care institutions. As a result of these three techniques, global health crises such as COVID19 will be better addressed.</p>
<p>The Center for Disease Control and Prevention (CDC) (2021) also recommended strategies to mitigate healthcare personnel staffing shortages that prioritizes the health of the healthcare professionals, including:</p> <ul style="list-style-type: none"> • Maintaining adequate staffing levels in healthcare institutions is essential for ensuring a safe and healthy work environment for healthcare professionals and for safe patient care. Due to excessive exposures, illness, or the necessity to care for family members at home, personnel shortages are anticipated to arise as the 	



COVID-19 pandemic progresses. Healthcare institutions must be ready for any personnel shortages and have strategies and processes in place to deal with them, including communicating with professionals about the facility's actions to address shortages and ensure patient and staff safety, as well as providing resources to help those who are anxious or stressed.

- **Contingency and then crisis capacity strategies** are supposed to be studied and implemented progressively; for example, contingency strategies should be adopted before crisis strategies. For example, suppose healthcare professional staffing shortages persist despite efforts to alleviate them, healthcare systems. In that case, facilities and the appropriate state, local, territorial, and tribal health authorities may decide that HCPs with suspected or confirmed COVID-19 can return to work before the full Return to Work Criteria are met.
- **Staffing schedules** are being adjusted, more healthcare professionals are being hired, and HCP are being rotated to jobs that support patient care activities. All non-essential operations and visits should be canceled. Healthcare professionals in these areas should be shifted to assist other patient care activities in the facility. Facilities must guarantee that these healthcare professionals have received adequate orientation and training to work in these unfamiliar environments.
- **Attempt to overcome social barriers** that may prevent healthcare workers from reporting to work, such as a lack of transportation or housing that promotes social isolation, particularly if they live with people who have underlying medical issues. Consider how these sociocultural conditions disproportionately affect persons of color and ethnic minorities, both of whom are impacted by COVID-19. Requests that healthcare professionals made may be postponed at any optional time off from work as needed. However, the mental health advantages of time off should be considered, as well as the fact that the weight of disease and caregiving obligations may differ significantly among specific racial and ethnic groups.

In the Philippines, benefits for healthcare employees' families are distributed by the DOH (2020). According to the Bayanihan to Heal as One Act of 2020, it has handed checks to the families of healthcare professionals who died as a result of COVID-19 or who got a severe version of the disease. The law provides a ₱100,000,00 compensation



to public and private healthcare personnel who get COVID-19 severe infection while on the job, as well as a ₱1,000,000.00 stipend to the family of any health worker who dies battling the COVID-19 pandemic.

All checks for 32 eligible recipients of the one-million-peso award have been issued, and 30 checks have been received by their families. Meanwhile, the Department is organizing the transfer of government aid with the heirs of two fallen healthcare employees who are located abroad, in the United Kingdom and the USA. On the other hand, based on the current implementing rules (DOH-DBM-DOLE Joint Administrative Order No. 2020-001), two healthcare employees have been ruled ineligible, and their claimants have been removed from the list of beneficiaries.

In terms of compensation for healthcare professionals who contracted serious COVID-19, the DOH also announced that all 19 checks for the health workers had been distributed. The Malasakit Program Office, through the Administration and Financial Management Team, and the Centers for Health Development, through the Field Implementation and Coordination Team, supported the distribution of compensatory payments.

Synthesis

Pharmacists are medical professionals that engage in the distribution of prescription drugs and pharmaceutical care services. In the Philippines, the number of board passers has increased during the last fifteen years. From the year 2000 to the year 2015, the number of pharmacy board passers increased from 1,700 to 3,300. Between 1990 and 2015, stock estimates suggest that the country experienced increased growth in health human resources, including nurses (7.7%), physiotherapists (6.5%), pharmacists (4.8%), pharmaceutical technicians (4.4%), and physicians (2.6%), with an annual growth rate of more than 2%. Hence, Filipino healthcare employees have reached the point where they prefer to work abroad rather than in the Philippines, with over 13,900 healthcare professionals temporarily employed abroad. These are mostly nurses, accounting for around 86.9% of the total, with the remainder consisting of physical therapists (6.4%), midwives (1.9%), physicians (1.3%), and nutritionists and dieticians (1.3%). In recent years, health professionals have been a matter of concern for developing countries such as the Philippines.



The shortage of pharmacists had a significant influence on both the availability of pharmaceutical services and the professional practice of pharmacists. These include factors such as the incapability to fill potential staff and achieve the full number of staff, ability to provide limited services, extended business time and less schedule flexibility that led to higher work-related stress, inadequate time to provide patient counseling services and check for errors due to pharmacist fatigue that may lead the rise of prescription errors, and vulnerability of the patients.

Prior to the start of the COVID-19 in 2019, it was predicted that there would be a scarcity of approximately 290,000 healthcare workers and that the gap in national demand would be exacerbated by an average yearly migration of 13,000 health care workers in comparison to the WHO's HRH ratio of 44.5 HRH per 10,000 population in order to achieve the sustainable development goals. Furthermore, the HRH shortage has worsened.

The HRH assures a constant supply of enough health personnel to meet any future exigencies, notably to replace, substitute, or reinforce existing employees who are under stress. As a result, they will be given competitive salaries and benefits, and their health is secured from illnesses. Moreover, the Centers for Disease Control and Prevention also recommended strategies to mitigate healthcare personnel staffing shortages that prioritize the health of healthcare professionals, such as preparedness and crisis capacity strategies, appropriate staffing maintenance, and adjusted staffing schedules for more to be hired and distributed to support aspects of patient care.

Currently, there is no updated data in the Philippines regarding the pharmacy workforce in the country; hence, in order to effectively plan, strategize, and implement policies, an updated baseline data is needed.



CHAPTER 3 METHODOLOGY

Research Design

The study utilized a descriptive cross-sectional design since it is used to describe the characteristics of the chosen population at a specific time period, determined at a one-time measurement only. The cross-sectional study design was used to (1) determine the demographic characteristics of the study participants, (2) describe their employment patterns, and (3) determine the reasons for the migration of the respondents who are working overseas. The researchers chose not to investigate correlative relationships between these variables of the study. Furthermore, the researchers used a self-administered, structured, online survey questionnaire to collect data from their respondents.

Population and Sampling Technique

The researchers used non-probability, convenience sampling to determine the respondents fit to be recruited for the study following the established inclusion and exclusion criteria (Table 2).

The researchers first obtained the number of PLE passers from 2015 to 2019 from the official website of the Professional Regulation Commission (PRC) (Table 3).

Table 2. *Inclusion and Exclusion Criteria*

Inclusion Criteria	Exclusion Criteria
<ul style="list-style-type: none"> • 2015-2019 PLE passers who are residing in the Philippines • 2015-2019 PLE passers who are working in other countries • Either of the two mentioned prior, and either currently working or not 	<ul style="list-style-type: none"> • Passers of PLE 2014 and below • Passers of PLE 2021 (June and April)



Table 3. *Number of PLE Passers from 2015 to 2019*

Year and Month	Number of Passers
2015	
January	1,292
July	2,004
2016	
January	1,487
June	1,406
2017	
March	2,426
August	2,784
2018	
March	1,695
August	2,927
2019	
March	2,100
August	3,097

Note. $N = 21,218$

The researchers used the Raosoft Sample Size Calculator to compute the required sample size for the study at a confidence level of 95% and a margin of error of 5%. With a total population of 21,218, the computed sample size was 378 respondents. Initially, a total of 293 respondents were garnered. However, the researchers removed some responses because the respondents did not answer several questions appropriately. After excluding three responses, the number of respondents was finalized to 290.

Instrumentation

The study used a structured, self-completed, seven-part questionnaire through Google forms (Appendix D, E, and F). In *Part 1: Informed Consent Form*, respondents were first asked for their consent to voluntarily participate in the study and allow the researchers to use the data that they provided.

Part 2: Demographics consisted of questions about the respondents' age, sex, and the year when they passed the PLE. Respondents who answered 'Yes' in the



question 'Are you currently working?' in *Part 3: Employment Patterns Decision Point* proceeded to *Part 4: Migration Patterns Decision Point*, where they were asked whether they are working in the Philippines. Respondents who answered 'Yes' were automatically directed to *Part 5: Employment Patterns (A)*. Those respondents working overseas were led to *Part 7: Migration Patterns*. Meanwhile, those who are currently not working were transferred to *Part 6: Employment Patterns (B)* (Figure 2).

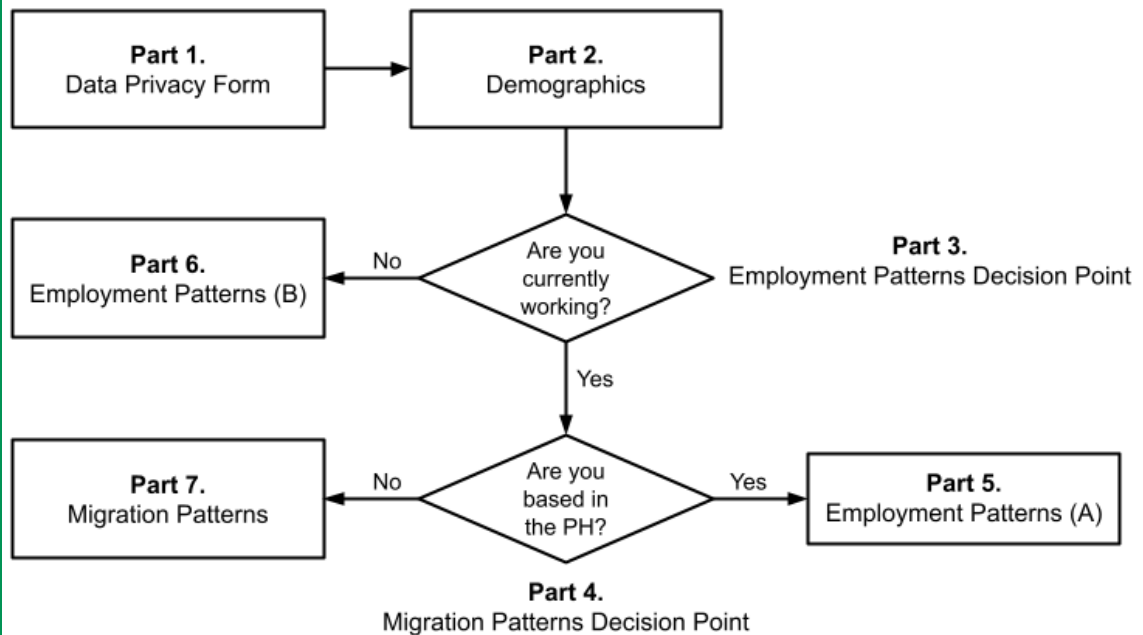


Figure 2. Research Questionnaire Flowchart

Employment Patterns A consists of a total of 11 questions mainly about the respondent's working status, such as their (1) region of employment, (2) area of practice, (3) employment status, (4) monthly salary, and (5) employment benefits.

Employment Patterns B comprises a total of three questions. Respondents who answered 'Pursuing postgraduate studies' in Question 1 were required to answer the program that they are taking and the school they are enrolled in.

Excluding the region of employment, *Migration Patterns* contains the same questions as *Employment Patterns (A)*, with an additional question about the country they migrated to. Respondents working overseas were also asked to rank the given factors based on their reason for migrating to the country they are currently in. These six pull



factors are based on the study of Mamiya et al. (2020), Naqvi et al. (2017), and Simpson (2017).

The survey questions were not translated to Filipino since the study participants are professionals who are expected to be capable of understanding and using the English language.

The research tool was subjected to face validity evaluation conducted and certified by Dr. Yolanda Robles, RPh, MPharm, PhD, one of the authors of the study to which this research paper is patterned after (Appendix A and B).

Data Gathering Procedure

Data gathering was conducted starting from the 1st week of July 2021 until the 3rd week of the month. Before the data collection period commenced, the researchers first wrote a formal letter to Young Pharmacists Group Philippines, Inc. (YPG-Philippines) (Appendix C) to endorse the study to their members. YPG-Philippines was selected because their members are young, registered pharmacists between the ages of 21 and 35. Hence, the organization was considered a potential source of participants for the study. The researchers sent the online survey form link together with the publicity materials (Appendix G) to YPG-Philippines via email. After the link was deployed to the operations committee, the research tool was endorsed to the members of YPG-Philippines via a post in their official Facebook group. The researchers also used their social media accounts to promote the study and garner more participants.

Data Analysis

Responses from the study participants were encoded first using Microsoft Excel. Data from the questionnaire were interpreted using descriptive statistics, such as frequency and percentage (Table 4).



Table 4. *Methodology Matrix of the Study*

Specific Objectives	Data Source from the Research Instrument	Plan of Analysis
To determine the demographic characteristics of the respondents	Questions under Section 2	Descriptive Statistics
To describe the employment patterns of the respondents	Questions under Section 3 to 6	Descriptive Statistics
To determine the primary reasons for migration of the respondents who are working overseas	Questions under Section 7	Descriptive Statistics

Methodological Limitations

Since data gathering was conducted online, the usage of an internet connection was required. Potential respondents might not have accessed the research questionnaire due to low internet connection receptivity in their area of residence. Because the sample size was not met, the study's primary findings were less generalizable. Also, the results could not be used to comment on the current state of each of the employment characteristics of Filipino pharmacists. With regards to the research instrument, some questions might have been misinterpreted by the respondents; hence, causing them to submit an answer that is different from what is true for their case. Moreover, comparative and correlational statistics were not conducted between the variables of the study.



CHAPTER 4 RESULTS AND DISCUSSION

Demographics

Out of the 293 respondents, a total of 290 entries were included in the data analysis. The three entries were excluded due to incomplete and/or ambiguous responses.

The majority of the respondents fall under the age range of 23 years old to 26 years old, with 24 years old being the age with the highest percentage (19.31%) of the respondents. The ages with the least number of respondents were 31 years old to 35 years old, each having one respondent (0.34%). In between these are the ages 21 years old with 1.03%, 22 years old with 5.86%, 28 years old with 4.14%, 29 years old with 1.03%, and 30 years old with 2.07% (Table 5). The respondents' age ranges from 21-35 years old, which might be influenced by the inclusion criteria set on the study, which is PLE passers from the year 2015 to 2019, and the study's target, which are the young pharmacists.

In terms of the sex of the respondents, 83.10% were female, and only 16.90% were male (Table 5). During the year 1990 in the Philippines, these professions were dominated mainly by women: midwives (99%), pharmacists (93.6%), nutritionists and dieticians (92.2%), and nurses (90.6%) (Abrigo and Ortiz, 2019). At present, women continue to constitute the majority of the global health workforce (Bukhari et al., 2020). Specifically, female pharmacists continuously outnumber male pharmacists in the global pharmacy workforce (FIP, 2017). Of 79 participating countries in the International Pharmaceutical Federation (FIP), 45 of which established that women make up 59% of active practicing pharmacists in their country. According to Janzen (2013), women have always been drawn to the pharmacy field since it is regarded as a field that allows them to balance work and family life (Janzen, 2013).

In terms of the year when they passed the PLE, the majority of the respondents (27.59%) passed the exams in 2018, followed closely by the year 2019 (26.90%) (Table 5).



Table 5. *Distribution of the respondents by age, sex, and the year when they passed the PLE*

	Demographic Characteristics	N	%
Sex	Female	241	83.00
	Male	49	17.00
Age	21	3	1.03
	22	17	5.86
	23	52	17.93
	24	56	19.31
	25	51	17.59
	26	50	17.24
	27	36	12.41
	28	12	4.14
	29	3	1.03
	30	6	2.07
	31	1	0.34
	33	1	0.34
	34	1	0.34
Year when they Passed the PLE	2015	38	13.10
	2016	28	9.66
	2017	66	22.76
	2018	80	27.59
	2019	78	26.90

Note. N = 290

Employment Patterns

A. Currently Employed VS Currently Unemployed Respondents

Out of 290 respondents, 89.66% or 260 are currently employed, while only 10.34% or 30 respondents are currently unemployed (Table 6). The International Labor Organization (ILO) classified human health and social work activities as low risk in terms of employment disruption due to their importance in crisis management and disease prevention or eradication during a pandemic (ILO, 2020). In July 2021, the country's employment rate was reported to be 93.1%, with the number of employed people predicted to be 41.7 million. In the same month, "the sub-sectors of professional, scientific, and technical activities increased to about 187,000" (Philippine Statistics Authority [PSA], 2021).



Table 6. *Distribution of Currently Working and Not Working respondents*

	N	%
<i>Working</i>	241	83.00
<i>Not working</i>	49	17.00

Note. N = 290

The COVID-19 pandemic resulted in “massive business closures and reduced economic activity” worldwide. Increased unemployment is one of the manifestations of the mentioned economic losses (Cho et al., 2020). Unemployed Filipinos are classified as such for one of two reasons: either they do not have a job, or they are currently looking for one (Urrutia et al., 2017). Of the 30 currently unemployed respondents, seven had their personal reasons, such as taking care of children and pursuing other profitable ventures. In contrast, some took another field of interest that is outside the medical field that relates to information technology, freelancing, and business. Moreover, 7 (23.33%) of the respondents are unemployed due to limited job opportunities, while 17 (56.67%) respondents are currently pursuing postgraduate studies (Table 7).

Table 7. *Reasons of Unemployed Respondents for Not Working*

Reasons for Not Working	n	%
<i>Pursuing postgraduate studies</i>	17	56.67
<i>Limited job opportunity</i>	7	23.33
<i>Planning to put up a business</i>	2	6.67
<i>Pursuing freelancing career</i>	1	3.33
<i>Pursuing other fields of interest</i>	1	3.33
<i>Pursuing other profitable ventures</i>	1	3.33
<i>Taking care of children</i>	1	3.33

Note. n = 30

Out of the 17 respondents pursuing postgraduate studies, only 15 stated the program they are pursuing, which is Doctor of Medicine (MD). The majority of them (6 out of 17) are 23-years old who passed the PLE in 2019. One possible implication of this is that these respondents immediately pursued medicine after passing the PLE, most likely, in March. This would suggest that they already began their first semester in the 3rd quarter of 2021 (July to September) at the same time when the data gathering of this study was being conducted. Those medicine students older than 23 years old took the PLE earlier than 2019. These results would seem to suggest that these respondents are



already in their sophomore, junior, or senior year of their postgraduate studies. Of the 15 Doctor of Medicine students, only 12 disclosed the school where they are currently studying (Table 8).

Table 8. *Schools where the Respondents are Pursuing their Postgraduate Studies*

	Name of Schools	n
1	Davao Medical School Foundation, Inc. (DMSFI)	2
2	De La Salle Medical and Health Sciences Institute (DLSMHSI)	2
3	Far Eastern University – Dr. Nicanor Reyes Medical Foundation (FEU-NRMF)	1
4	Iloilo Doctors' College of Medicine (IDCM)	1
5	Matiaz H. Aznar Memorial College (MHAM CM, Inc.)	1
6	Our Lady of Fatima University (OLFU)	3
7	St. Luke's Medical Center College of Medicine – William H. Quasha Memorial (SLMC-CM WHQM)	1
8	University of Perpetual Help – Dr. Jose G. Tamayo Medical University (UPH-DJGTMU)	1

Note. $n = 12$

The decision to pursue medicine as a higher education depends on a number of considerations. In a study done by Zayabalaradjane et al. (2018), the most common factor that affects the choice of medicine as a career was the influence of family members. This is followed by being impressed by the role of doctors and wanting to serve the society. Other reasons for choosing medicine as a career include an interest in knowing about the human body, health, and diseases and an interest in health research. According to Dayrit et al. (2018), pharmacy is one of “the most common bachelor’s degrees” taken as a pre-MD program.

B. Philippines-based Respondents VS Overseas-based Respondents

Data from the sample population shows that a majority of working respondents are based in the Philippines, with 96.92%, while only 3.08% are currently based overseas (Table 9).

Table 9. *Number of Working Respondents who are based in the Philippines*

Based in the Philippines or Not	n	%
<i>Philippines-based</i>	252	96.92
<i>Overseas-based</i>	8	3.08

Note. $n = 260$



Among the overseas-based respondents, four passed the PLE in 2017, and three were 2018 passers. Only one opted to work overseas of the respondents who passed the PLE in 2019. The reason for this is not clear, but it may have something to do with the COVID-19 pandemic. A possible explanation why recent passers chose to stay in the Philippines is the fear of traveling outside the country because of the COVID-19 pandemic. With the COVID-19 pandemic, national polls show a significant increase in anxiety and fear about the virus (Mertens et al., 2020). Taylor et al. (2020) developed the COVID Stress Scales (CSS), which found evidence of a “COVID Stress Syndrome” in representative samples from Canada and the US. One of the symptoms of anxiety and stress that the tool measured was the fear of being contaminated by the virus. Another possible reason is the traveling restrictions that countries have imposed worldwide since the pandemic (Department of Foreign Affairs [DFA] Public Information Services Unit, 2020). The Inter-Agency Task Force (IATF) published Resolution No. 90 on December 22, 2020, establishing a travel ban on foreign nationals arriving from the UK. Following the addition of the US to the travel ban list on January 1, 2021, more countries were added by the Bureau of Immigration (BI) (Galvez and Cruz, 2021). Because the Philippines is one of the pandemic's "worst-hit countries in terms of infections, deaths, and economic losses," certain countries, such as Japan and the UK, have specifically banned Filipino travelers from entering (Abad, 2021; Reuters, 2021).

However, the results for this item in the questionnaire might most likely be influenced by convenience sampling. The study was broad in scope, frequently crossing geographical boundaries within the institutions' reach. Apart from the willingness and availability of individuals to participate in the research, there are no further criteria for this selection approach other than the ones listed in Table 2.

C. Distribution of the Respondents by their Region or Country of Employment

The National Capital Region (NCR) has the majority of employed respondents (33.33%), followed by CALABARZON (25%) and Western Visayas (11.51%), while the rest of the regions have almost similar numbers (Table 10). Between 1990 and 2015, the Mega Manila region, which includes the NCR and the neighboring MIMAROPA and Central Luzon, was home to more than half of all health care workers in the Philippines (PIDS, 2018). There is only a small difference between the results from NCR and Region



4A, possibly due to the weakening of dominance in terms of worker density in favor of other regions, especially those in Luzon (Abrigo and Ortiz, 2019). Still, NCR dominates the other regions in terms of the distribution of respondents.

Table 10. *Distribution of the Respondents by their Region or Country of Employment*

Region or Country of Employment	<i>n</i>	%
<i>Philippines-based</i>	252	96.92
NCR	84	33.33
Cordillera Administrative Region (CAR)	4	1.59
1: Ilocos	12	4.76
2: Cagayan Valley	1	0.40
3: Central Luzon	26	10.32
4A: CALABARZON	63	25.00
4B: MIMAROPA	1	0.40
5: Bicol	3	1.19
6: Western Visayas	29	11.51
7: Central Visayas	5	1.98
8: Eastern Visayas	2	0.79
9: Zamboanga Peninsula	3	1.19
10: Northern Mindanao	6	2.38
11: Davao	8	3.17
12: SOCCSKSARGEN	4	1.59
13: Caraga	0	0.0
Bangsamoro Autonomous Region in Muslim Mindanao (BARMM)	1	0.40
<i>Overseas-based</i>	8	3.08
Canada	2	25.00
UAE	2	25.00
USA	4	50.00

Note. $n = 290$

One factor that may explain this scenario is the mobility of healthcare workers in the Philippines. Abrigo and Ortiz (2019) cited a 2010 census depicting that healthcare workers are more likely to work outside of their region than their home province. Pharmacists (15.5%) were one of the top three cadres of healthcare workers who were 'more mobile' in terms of work, followed by physicians (14.6%) and nurses (12.8%) (Abrigo and Ortiz, 2019). Other commonly cited reasons for the concentration of healthcare workers in certain areas are (1) opportunity for employment, particularly in a job offering with higher remuneration (Abrigo and Ortiz, 2019), and (2) availability of hospitals and tertiary education facilities in the region (PIDS, 2020).



To expound on the distribution of tertiary education facilities like pharmacy schools and colleges in the Philippines, “health care workers are likely to practice their profession close to their area of training” (Abrigo and Ortiz, 2019). Looking into the distribution of tertiary schools in the Philippines to identify existing trends, Table 11 shows the regional distribution of the 90 schools with a BS in Pharmacy program that participated in the June 2021 PLE. This list was published by the PRC several days after the board exam concluded. The majority of pharmacy schools are concentrated in the following regions: NCR, Central Luzon, and CALABARZON (Table 11). Likewise, the trend for the distribution of Philippines-based working respondents also shows the dominance of NCR over the other regions, followed by CALABARZON (Table 10).

In terms of the distribution of pharmaceutical companies and drug establishments, NCR and CALABARZON are also the most concentrated regions. In a report published by the Philippine Pharmaceutical Manufacturers’ Association (PPMA) in 2012, CALABARZON and NCR account for 59% (42 of 71) of the pharmaceutical manufacturing establishments. Meanwhile, Central Luzon (n=13), Central Visayas (n=7), Western Visayas (n=3), Northern Mindanao (n=3), and Davao (n=3) account for the rest (Reyes and Tabuga, 2020). The dominance of Mega Manila has also been seen in the distribution of other drug establishments, such as distributors, traders, and retail outlets, in 2009 (Reyes et al., 2011). These drug establishments are required by the Food and Drug Administration (FDA) to be supervised by a registered pharmacist, in accordance with Administrative Order No. 2020-0017 (DOH, 2020). This suggests that there is at least one pharmacist working in each drug establishment.

Although scant, the distribution of the respondents in Visayas and Mindanao regions could be attributed to either the choice of pharmacists to practice their profession (Abrigo and Ortiz, 2019) or due to the impact of the DOH-Human Resources for Health (DOH-HRH) deployment program. This program seeks to recruit healthcare professionals in places where there is a sufficient supply to be deployed in locations lacking human resources in the health workforce. Out of the 28,504 deployed healthcare workers by the DOH-Health Human Resource Development Bureau (DOH-HHRDB) in 2020, the Bicol Region (9.1%), Eastern Visayas (8.6%), and Central Visayas (8.0%) were the top beneficiaries (Abrigo et al., 2021).



However, the inequitable distribution of HRH is evident in underserved areas. Aside from a lack of or deficiency in health facilities, health professionals either transfer to urban regions or work overseas. In comparison to urban areas, geographically isolated and disadvantaged regions (GIDA) face HRH shortage. “Low compensation, limited job opportunities, and poor working conditions” are identified as major factors (Collado, 2019; Naria-Maritana et al., 2020).

Among the respondents working overseas, 4 out of 8 are working in the USA, while the other half migrated to two other countries, which are Canada (25.00%) and the United Arab Emirates (UAE) (25.00%) (Table 10). Even though the pharmacy profession is considered as the third biggest healthcare provider group around the world (after physicians and nurses), it is the professional group whose shortage has garnered less attention in low-income nations. (Wong et al., 2021).

The pivotal factor in the decision to migrate is the financial incentive. According to the theory of modernization, migration is viewed as the movement of an individual “from a poor country or region to a richer one” (Alvarez et al., 2018). In the same way, immigrants are drawn to countries with high employment opportunities, including those countries that respondents are currently working in, such as Canada, US, UAE. The ability to find work and earn enough money, as well as the need to ensure economic self-sufficiency, are important factors in deciding to migrate. The majority of workers aim to migrate in order to improve their way of living; thus, they are more inclined to install themselves in countries where they can do so quickly (Alvarez et al., 2018). Opportunities such as promotions, improved pension plans, and study benefits are just a few of the financial- and non-financial incentives that overseas workers look out for in their country of destination (Afzal et al., 2012).

USA and Canada are the top two countries that respondents chose to emigrate to, based on the study conducted by Loquias and Robles (2012). These are two of the world's most populous immigrant destinations, with extensive histories of immigration. These neighboring countries have received huge influxes of immigrants from many of the same sending countries, despite having vastly different immigration policies and labor market conditions, and institutional frameworks (Kaushal and Lu, 2015). It is worth noting that the USA is a multicultural society with individuals of many religious, ethnic, and linguistic backgrounds. As a result, settling in the USA is considered easier than in any



other country. Filipinos, specifically, are familiar with American culture and are known to have high English proficiency among other Asian countries. These characteristics demonstrate the significant impact of American colonization on Philippine society. The “lack of a language barrier,” combined with a desire to seek a better life, may be reasons why Filipinos migrate to the US (Baldado, 2019).

On the other hand, Canada, unlike the USA, offers more flexible immigration regulations and recently implemented a computerized immigration program to expedite the processing of qualified applicants' immigration applications. Aside from that, Canada has a “high standard of living and steady economic growth,” as well as a reputation for being a welcoming and inclusive nation. For all of these reasons, it is almost certain that skilled immigrants find it relatively easy to settle and integrate in Canada (Kaushik and Drolet, 2018).

With regards to the Middle East, the region boasts “a stable market,” and its countries rely heavily on Filipino healthcare professionals “to run their healthcare facilities” (Tsujita, 2017). Unlike some neighboring Arab countries like Saudi Arabia, the general business culture in the UAE is less strict or rigid, allowing easier penetration by overseas employees (AbdelRahman et al., 2012). Non-nationals from different countries make up 90% and 96% of Dubai and Abu Dhabi's healthcare employees, respectively. Furthermore, in the whole UAE, the majority of the healthcare workforce is known to come from other Arab countries, India, and Southeast Asia (SEA), mostly the Philippines (Paulo et al., 2019).



Table 11. *Regional Distribution of Pharmacy Schools in the Philippines*

Region	Province	Name of School
NCR (n=21)	Not applicable	Adamson University (AdU)
		Arellano University – Manila
		Centro Escolar University (CEU) – Makati
		CEU – Manila
		Emilio Aguinaldo College (EAC) – Manila
		FEU-NRMF
		Manila Central University – Caloocan City
		Metropolitan Medical Center – College of Arts, Science & Technology (MMC-CAST)
		National University (NU)
		OLFU – Quezon City
		OLFU – Valenzuela City
		Philippine College of Health Sciences (PCHS)
		Philippine Women’s University (PWU)
		Saint Jude College (SJC) – Manila
		South Seed LPDH College – Las Pinas
		Trinity University of Asia (TUA) – Quezon
		University of Makati (UMak)
UPH System Dalta – Las Pinas		
University of Santo Tomas (UST)		
University of the Philippines (UP) – Manila		
World Citi Colleges (WCC)		
CAR (n=2)	Benguet	Pines City Colleges (PCC)
		Saint Louis University (SLU)
1 (n=6)	locos Norte Pangasinan	Mariano Marcos State University (MMSU)
		Lyceum-Northwestern University (L-NU)
		University of Pangasinan (UPang)
		Urdaneta City University (UCU)
		University of Luzon
		Virgen Milagrosa University Foundation (VMUF)
2 (n=8)	Cagayan	International School of Asia and the Pacific (ISAP) – Tabuk Branch
		Saint Paul University (SPU) – Tuguegarao
		Medical College of Northern Philippines (MCNP)
		University of Saint Louis (USL) – Tuguegarao City
	Isabela	University of La Salette (ULS) Santiago
		UPHS – Cauayan City
	Nueva Vizcaya	PLT College, Inc.
		Saint Mary’s University (SMU)
3 (n=13)	Bulacan	CEU – Malolos
		Colegio de San Gabriel Arcángel (CDSGA)
	La Union	Central Ilocandia College of Science and Technology (CICOSAT)
		Lorma College



Table 11 (cont'd). *Regional Distribution of Pharmacy Schools in the Philippines*

Region	Province	Name of School
3 (n=13)	Nueva Ecija	Araullo University Nueva Ecija Colleges Nueva Ecija Doctors Hospital
	Pampanga	Wesleyan University – Philippines Angeles University Foundation Guagua National Colleges OLFU Philippine Rehabilitation Institute Foundation, Inc.
	Tarlac	Central Luzon Doctors' Hospital Educational Institution
4A (n=12)	Batangas	Lyceum of the University – Batangas, Inc.
	Cavite	DLSMHSI Lyceum of the Philippines St. Dominic College of Asia St. Jude College - Dasmarinas
	Laguna	UPH System Dalta – Molino Campus LPU-St. Cabrini School of Health Sciences Lyceum of the Philippines UPH Rizal – Calamba Campus UPHS – Laguna
	Quezon Rizal	Sacred Heart College of Lucena City, Inc. OLFU – Antipolo City
5 (n=1)	Albay	Aquinas University
6 (n=4)	Iloilo	Central Philippine University University of San Agustin Riverside College, Inc.
	Negros Occidental	University of Negros Occidental – Recoletos
7 (n=4)	Bohol	Southwestern University
	Cebu	Cebu Doctors' University Southwestern University University of Southern Philippines
8 (n=3)	Leyte	San Lorenzo Ruiz College of Ormoc St. Scholastica's College Tacloban
	Samar	Samar State University
9 (n=3)	Zamboanga del Norte	Dipolog Medical Center College Foundation
	Zamboanga del Sur	Universidad de Zamboanga
	Zamboanga Sibugay	Medina College – Ipil, Inc.
10 (n=1)	Lanao del Norte	Adventist Medical Center College – Iligan, Inc.
11 (n=5)	Davao del Norte	Tagum Doctors College
	Davao del Sur	Davao Doctors College Mindanao Medical Foundation College San Pedro College – Davao City



Table 11 (cont'd). *Regional Distribution of Pharmacy Schools in the Philippines*

Region	Province	Name of School
11 (n=5)	Davao del Sur	University of the Immaculate Conception – Davao
12 (n=7)	Cotabato	Kidapawan Doctors College Inc.
		North Valley College Foundation, Inc.
	South Cotabato	University of Southern Mindanao – Kabacan
		General Santos Doctors' Medical School Foundation, Inc.
		Goldenstate College
		Notre Dame of Dadiangas University
		St. Alexius College

D. Distribution of Philippines-based Pharmacists according to their Current Field of Employment

242 (96.03%) of the respondents residing in the Philippines are practicing pharmacists, and the non-practicing pharmacists were only 10 (3.97%) of the sample population (Table 12). The majority of the non-practicing respondents passed the PLE in 2015 (n=4), followed by 2017 passers (n=3) and 2018 (n=2). Among the registered pharmacists who passed the PLE in 2019, only one was non-practicing. From the data, it is apparent that early PLE passers (2015-2017) comprise the non-practicing Philippines-based pharmacists' subpopulation.

No studies have been found which discuss the distribution of practicing and non-practicing pharmacists in the Philippines. However, a recent study conducted in New Zealand by Aspden et al. (2021) revealed the top reasons why pharmacists leave or plan to leave their profession. In their study, 25% of the respondents expressed their dissatisfaction with the pharmacy professional environment; 24% explained that the profession lacks career opportunities, while 20.6% said that their knowledge and skills are underutilized.

The respondents who were dissatisfied with the professional environment expounded their answer and gave the following specific reasons for leaving: (1) low recognition by the general public, government, and other healthcare professionals (18.9%); (2) unfair remuneration (18.4%), and; (3) inconsistent and ineffective representation of the pharmacy profession (16.1%). Those who said that the pharmacy practice provides limited career opportunities defended their answer by explaining that the profession lacks either (1) "a clear and appealing progression pathway" (33.7%), (2)



"promotion pathways" (32.1%), or (3) "innovation" (22%). Lastly, the pharmacists who complained of being underutilized cited two specific reasons for leaving the profession: being uninvolved in the patient care process (47.6%) and having "low/no clinical roles" (52.4%) (Aspden et al., 2021).

These findings support the previous research of Mak et al. (2012). Some of their respondents cited "dissatisfaction with the pharmacy profession" as a factor in their decision to leave the industry. The lack of a professional work atmosphere and the problems they withstand in a profit-driven profession were repeated themes. Participants' decision to leave the pharmacy profession was also closely linked to a lack of career advancement prospects and rigidity in pharmacy institutions. Some participants desired more involvement in patient care, which they felt was lacking in their previous experiences with the pharmacy profession (Mak et al., 2012).

With regards to the nature of the job of non-practicing pharmacists that are based in the Philippines, most are employed as quality control (QC) analysts, and the others are scattered into various professions outside of the health allied field (Table 12). The findings observed in this study mirror those of the results that were produced by Aspden et al. (2021). Among the 109 respondents in the study, 62 (56.9%) went on to pursue or were considering a career in a field related to health. Other respondents, on the other hand, had gone into or planned to move into a range of non-health-related industries, such as (1) accounting, business, and entrepreneurship (13.76%), (2) general sciences (4.59%), (3) education (2.75%), (4) non-health consultancy (0.92%), and (5) medical writing (0.92%). It is encouraging to compare these results with those found in the study of Mak et al. (2012), which explains that while some participants left the pharmacy profession due to a lack of clinical roles, others stated that they left because they "wanted a change of profession or a change in their personal circumstances," rather than "because they were dissatisfied with the pharmacy profession."

On the other hand, the majority of practicing pharmacists work in the community setting, which accounts for 40.50% of the respondents. This is followed by those employed in the hospital at 20.25% and pharmacists working in the regulatory field at 12.40% (Table 12). These results are consistent with those of other studies and suggest that community pharmacy is the most common choice of practice that pharmacists resort to.



Table 12. *Distribution of the Philippines-based Respondents based on their Current Field of Employment*

Employment Fields	<i>n</i>	%
<i>Practicing Pharmacists</i>	242	96.00
Academe	12	4.96
BPO Telemedicine	1	0.41
Clinical	5	2.07
Clinical and Warehousing Storage	1	0.41
Clinical Research	6	2.48
Community	98	40.50
Compounding	1	0.41
Hospital	49	20.25
Manufacturing	10	4.13
Marketing	1	0.41
Medical Coding	1	0.41
Nuclear	1	0.41
Pharmacovigilance	15	6.20
Pharmacy Benefit Management	1	0.41
Academe	12	4.96
BPO Telemedicine	1	0.41
Clinical	5	2.07
Public Health	4	1.65
Regulatory	30	12.40
Research	3	1.24
Roving	1	0.41
Storage and Distribution	1	0.41
Systems-based Information Technology	1	0.41
<i>Non-practicing Pharmacists</i>	10	4.00
Assessor	1	10.00
Business	1	10.00
Business Process Outsourcing	1	10.00
Corporate Medical Affairs	1	10.00
ESL Teacher	1	10.00
Medical Writing	1	10.00
QC Analysis	3	30.00

Note. $n = 252$

In a similar study by Loquias and Robles (2012), almost three-fourths (70%) of the pharmacists were in the community setting. In their round table discussion (RTD), the deans of the selected schools from different regions stated that 50 to 90% of their graduates choose to work in the community setting. A study by Ongpoy et al. (2019) provided similar data wherein the majority of the respondents were community pharmacists at 48.6% ($n=52$), followed by hospital pharmacists (21.5%), and industrial



and academe pharmacists (15.0%). These findings are in agreement with the FIP's 2017 report, entitled Pharmacy at a glance, which showed that 75% of the 2,824,984 actively practicing pharmacists were in community practice, followed by hospital pharmacy at 13%, and other areas of practice at 12% (FIP, 2017).

Community pharmacists are frequently recognized as “the most accessible health professionals,” as they may provide tailored pharmaceutical services to patients “on a walk-in basis” without an appointment (Smith, 2019). Pharmacists in community pharmacies are the third largest healthcare professional group in the world, trailing only physicians and nurses (Goode et al., 2019). A possible reason for this phenomenon is the existence of regulations requiring “the presence” of pharmacists in drug outlets (FIP, 2017). Conversely, the Republic Act No. 6675, or the Generics Act of 1988, requires at least one pharmacist to be present during operating hours in all drug stores (Loquias and Robles, 2012). For many years, the retail pharmacy sector has been a well-established industry in the Philippines, particularly in the provision of accessible healthcare to the communities (Ramos et al., 2017). Currently, there are more than 39,000 drugstores in the Philippines licensed by the FDA. Hence, if there is at least one pharmacist in all drug outlets in the country, a total of more than 39,000 community pharmacists will be calculated.

In their 2020-2021 survey, the FIP (2021) discovered that among the 3,489,559 actively practicing pharmacists who participated, 1,869,570 (53.58%) were community pharmacists. This is approximately 21% less than the number of community pharmacists in 2017. The reduction in the number of pharmacists working in the community setting may have something to do with the expansion of the scope of pharmacy practice. Although pharmacists are mainly distributed in community practice, the pharmacy profession is changing, with a greater emphasis on “patient-centered care, clinical decision-making on pharmaceutical usage, and interprofessional collaboration” (Bates et al., 2016). Pharmacists' duties in the Philippines are expanding and evolving beyond the “traditional product-oriented functions of compounding and dispensing.” At present, pharmaceutical services “include more patient-centered functions” that are designed to support the “pharmaceutical care practice paradigm” (Agaceta et al., 2014).

Out of all the world's regions, SEA had the highest density of hospital pharmacies per 100,000 population at 2.74. Across Asia and the Middle East, pharmacy schools are



jumping on board to promote clinical pharmacy (Scahill et al., 2017). Clinical pharmacists play an important role at tertiary hospitals in the Philippines, such as St. Luke's Medical Centre. Similarly, St. Elizabeth Hospital in General Santos City began incorporating clinical pharmacy into their health care services in 2016. Clinical pharmacy practice has also been incorporated as an important component of the Davao Doctors Hospital (Faller et al., 2016).

Despite this, pharmacists working directly with physicians and other healthcare workers are still uncommon in the Philippines (Kawaguchi-Suzuki et al., 2019). The field of hospital pharmacy remains “underserved,” according to FIP (2017). Also, the establishment of “clinical pharmacy programs is considered a novel phenomenon” (Scahill et al., 2017). In a 2015 study conducted by Kawaguchi-Suzuki et al. (2019), only 20 commercial and six government hospitals provided clinical pharmacy services, among 1,812 institutions.

Agaceta et al. (2014) found that the majority of their respondents believed that the perceived significant impediment to the implementation of pharmaceutical care practice is the lack of support from physicians and other health professionals. These findings further compliment the idea that some healthcare professionals are frequently resistant to the innovation of the pharmacy practice. According to a study by Bryant et al. (2009), “general practitioners accept the traditional duties of supply and distribution of pharmacists but disagree with more clinical functions of medicine management.” Similarly, according to Ibrahim and Ibrahim's (2014) study, physicians in the UAE are comfortable with pharmacists offering a wide range of services but are less comfortable with pharmacists providing direct patient care. Apart from that, other healthcare professionals, especially physicians, may be alarmed by the seeming overlap of responsibilities. Pharmacists may also be skeptical due to a lack of financial recompense from authorities and administrators. Hospital pharmacists in the private sector consider a lack of financial incentives to be a more significant barrier than the absence of support from health experts. This could be due to the lesser pay and benefits offered in these types of hospitals compared to those offered in government hospitals (Agaceta et al., 2014).

Turning now to the other fields of pharmacy practice, a scattered and small percentage of the sample population has gone into pharmacovigilance (6.20%), the



academe (4.96%), manufacturing (4.13%), clinical research (2.48%), public health (1.65%), research (1.24%), marketing (0.41%), and nuclear pharmacy (0.41%) (Table 12). Other occupations in the sample population are in practice areas, such as clinical and warehousing storage, BPO telemedicine, pharmacy benefit management (PBM), systems-based information technology, compounding, and roving pharmacy; each practice area contributes 0.41% to the total percentage.

As far as the manufacturing practice is concerned, employing pharmacists is also a challenge for retailers. Many businesses find it challenging to comply with the FDA's requirement that each drug establishment should at least have one pharmacist. Despite the fact that there are several sources of pharmacy graduates, pharmacists have varying areas of specialization, and hence not all of them are qualified to work in pharmaceutical establishments (Reyes and Tabuga, 2020).

In the current COVID-19 climate, the majority of pharmaceutical companies are conducting vaccine and medication clinical studies. Vaccine development is being sped up through a number of research studies and trials. The pandemic also "changed the use of informational technology in the healthcare system." Telemedicine allows for electronic consultations, thereby lowering the risk of transmission by reducing in-person contact among people (Mallhi et al., 2020). These changes that the pandemic brought paved the way for pharmacists to venture to other areas of practice such as clinical research, clinical warehousing, and telepharmacy.

The pandemic also "opened new scenarios in the field of pharmacovigilance." The "poor adherence of patients to anti-COVID-19 medications" is a growing area of interest in pharmacovigilance regarding adverse drug reactions (ADRs) (La Gatta and Ghidinelli, 2021). In the Philippines, the FDA conducts "post-market surveillance by sampling drug products, inspecting drug establishments and outlets, testing drug samples, and investigating ADRs, and adverse event (AE) reports to ensure the safety of a drug already on the market" (Dayrit et al., 2018). The National Pharmacovigilance Program was moved into implementation by Administrative Order No. 2011-0019 in 2011. The order established the National Pharmacovigilance Center (NPVC), and registered pharmacists are deemed eligible to apply as staff members of the mentioned units (DOH, 2011).



E. Distribution of Overseas-based Pharmacists according to their Current Field of Employment

From the respondents that are working overseas, there are four (50.00%) practicing pharmacists and four (50.00%) that are non-practicing pharmacists (Table 13). One of the two non-practicing pharmacists is a pharmacist trainee in UAE, while the other respondent works as a retail pharmacist in the USA. Meanwhile, half of the practicing pharmacists working overseas are in community practice (n=2), with one working in the UAE and the other one in Canada. The other half of the practicing pharmacists are currently working as hospital pharmacists, one in the USA and one in Canada (Table 13).

Table 13. *Distribution of the Overseas-based Respondents based on their Current Field of Employment*

Employment Fields	n	%
<i>Practicing Pharmacists</i>	4	50.00
Community	2	50.00
Hospital	2	50.00
<i>Non-practicing Pharmacists*</i>	4	50.00

Note. n = 8

**Non-practicing pharmacists working overseas are pharmacists who perform their designated duties and responsibilities without the license to practice in their country of employment.*

Immigrants may find it difficult to break into the professional field in their new country based on the study of World Education Services (WES) (2019). They may have sufficient knowledge or expertise but translating abilities and qualifications in a way that local employers will respect and comprehend is frequently a struggle. It may require further education and training, as well as knowledge of the local labor market and how to navigate possibilities to the desired employment. Also, the job of the pharmacist can vary substantially depending on the pharmacy sector in another country. However, it does not prevent immigrants from becoming certified and practicing their profession in another country (WES, 2019).

According to the National Association of Boards of Pharmacy (NABP) (2020), before taking a pharmacy licensing exam or applying for a state board of pharmacy license, pharmacists who were educated outside of the USA must get a Foreign Pharmacy Graduate Examination Committee (FPGEC) certification. The certification does not grant the holder the right to practice pharmacy; rather, it guarantees that a



foreign pharmacist's education fulfills the same standards as pharmacists who received their education from US pharmacy schools. The qualifications for acquiring a license vary by state. Once the pharmacist has been qualified, it is critical to check with the state's board of pharmacy for specific licensure requirements (NABP, 2020).

On the other hand, pharmacists who wish to migrate to Canada can apply for Canadian immigration. The data in an applicant's profile determines their score. The Express Entry (EE) System uses the Canadian Comprehensive Ranking System to assign a score to an applicant based on their (1) age, (2) English and French fluency, (3) qualifications, and (4) job experience. An applicant is ranked using a “focuses-based framework” in the EE System. If they are highly ranked, they will be eligible to seek permanent residence as a skilled immigrant (Faisal, 2021).

In the UAE, prior to the establishment of the Dubai Health Authority (DHA) and the Health Authority of Abu Dhabi (HAAD), the Ministry of Health (MOH) required pharmacy practitioners with a bachelor's degree in pharmacy and/or a diploma in pharmacy from any authorized institution or university to take two scientific exams focused on pharmacology and pharmacy jurisprudence. Passers of these examinations may practice as registered practitioners in the state. Now, “a pharmacist in Abu Dhabi is only requested to pass the HAAD scientific exam.” On the other hand, “a pharmacist in Dubai is still required to hold both MOH as well as DHA licenses to work inside the Emirate” (Rayes et al., 2015).

F. Distribution of Private and Public Employees Working in the Philippines and Overseas

The private sector contains the majority of the employed respondents at 87.30% (n=220), while 12.70% (n=32) are part of the public sector (Table 14). According to previous data from the 2018 OWS, the majority of Filipino health professionals work in the private sector, with about 40% working for the government or a government-owned and controlled organization (University of the Philippines Populations Institute [UPPI], 2020). For the respondents working overseas, 87.50% (n=7) are employed in the private sector, while only one of the eight participants (12.50%) works in the public sector (Table 14). These results are almost the same as those of the Philippines-based respondents.

The Philippine health system is a hybrid system that includes both public and private health care. Health services in the public sector are supplied by national and local



government-run health facilities and are primarily funded through a tax-based budgeting system. The Local Government Code of 1991 gave LGUs complete autonomy and responsibility for managing and implementing their own health programs and services, with technical assistance from the DOH (Dayrit et al., 2018). Despite the shift in the attention towards the public health sector because of the COVID-19 pandemic and the passing of the Universal Health Care Act in 2019, the Philippines' private health sector is still the dominant stratum, and its financial capacity has supplemented the former's shortages and shortcomings (Dayrit et al., 2018; Oxford Business Group, 2021).

Table 14. *Distribution of Private and Public Employees Working in the Philippines and Overseas*

Employment Sector	<i>n</i>	%
<i>Philippines-based Respondents</i>	252	
Private	220	87.00
Public	32	13.00
<i>Overseas-based Respondents</i>	8	
Private	7	87.50
Public	1	12.50

Note. $n = 260$

The private sector is a disjointed healthcare system made up of thousands of for-profit and nonprofit providers who supply a variety of healthcare products and services. Clinics, drugstores, hospitals, and pharmaceutical companies are just a few of the facilities that make up this sector (Dayrit et al., 2018). The consistent increasing trend in domestic private health expenditure per capita, which rose to \$87 in 2017, reflects the dominance of private health facilities over public establishments (Oxford Business Group, 2021). The imbalance is even more pronounced in tertiary institutions, where government hospitals are four times dominated by private hospitals (DOH, 2012). Data from the DOH Bureau of Health and Facilities revealed that the Philippines has “428 government-run hospitals” and “808 private hospitals” in 2019 (Ladrado, 2019). These numbers imply that, in 2019, the public-private hospital ratio is almost 1:2.

Through the years, factors other than the already existing disparity in the distribution of health facilities have contributed to the lopsidedness of professionals working in public institutions. Occupational fatigue has been identified as one of the major contributing factors to this problem. Steege et al. (2016) defined this as the “state that



arises in workers who are exposed to excessive demands through their work tasks, environment, and schedules.” Even before the pandemic happened, government hospitals have had a reputation for receiving a large number of patients (Larido, 2019). With the long hours that government health employees must work, it is anticipated that they will at least be fairly compensated.

Despite the supposed rise of salaries resulting from the amended Executive Order 201 in 2019, healthcare workers in government-owned institutions are still underpaid (Ladrado, 2019). In this study, almost three-fourths (23 out of 32 or 71.88%) of the pharmacists employed in the public sector receive a monthly salary ranging from ₱21,915.00 to ₱43,828.00. Pursuant with the stipulations of the Salary Standardization Law V (SSL V), this range is equivalent to Salary Grade 14 to Grade 21 (Department of Budget and Management [DBM], 2021). The lowest salary identified was less than ₱10,957.00; most of the respondents receiving this salary range are public hospital pharmacists.

Lack of regularization among government health workers has also been a factor why employees opt to work in the private sector. Globally, contractualization has been a lingering labor concern (Tolentino, 2017). Even before it was defined through Presidential Decree No. 442, or the Labor Code of 1974, contractual employment has been a major topic in the Philippine labor sector (Mangaoang, 2020). Contractualization amongst government employees was meant to be terminated in December 2018, but it was later prolonged to the end of 2022 because of the COVID-19 pandemic. As of August 2020, the Civil Service Commission (CSC) revealed that the government has 600,000 contractual employees (Senate of the Philippines, 2021). As far as the Philippine health sector is concerned, the government continues to grant only a limited number of plantilla positions, preventing hospitals from hiring permanent employees in favor of contract workers (Ladrado, 2019). Among the public-employed respondents in the current study, more than half (n=20) are contractual workers, mostly working as hospital (n=13) or public health (n=4) pharmacists (Table 14).

In developing economies, there is a rising inability to pay for needed medicines through government programs, as well as the volume rise of pricey generic drugs. In terms of pharmaceutical companies and other institutions, such as academies and medicinal facilities, it is projected that the private sector manages 67% to 97% of the



pharmaceutical firms, according to a study by Chakravarthy et al. (2015). Based on profit pools, there is a strong case for increasing direct and indirect investment in private sector pharmaceutical distributors and retail pharmacies in emerging markets, which have a combined market size of \$94.00 billion, with \$66.00 billion in pharmaceutical distribution and \$28.00 billion in retail pharmacy (International Finance Corporation, 2017). In the US, the healthcare system is mostly comprised of “private providers and private insurance” (Nunn et al., 2020). In terms of health systems financing, it is 48% publicly funded, 52% private, and the public share is rising, according to WHO (2020). On the other hand, Canada spends 70% of its healthcare budget on the public sector and 30% on the private sector. However, the Canadian Institute for Health Information (CIHI) (2018) disclosed that the country’s public sector has been declining (as mentioned in Lee et al., 2021). In the UAE, the private sector healthcare spending is expected to expand at a 9.5% compound annual growth rate (CAGR) from 2018 to 2022, which is significantly greater than the government's contribution growth rate of 4.4%. Several causes, including the privatization of hospitals, clinics, and required medical insurance, are driving this rise, particularly in Abu Dhabi and Dubai (Mehrotra et al., 2020).

G. Distribution of the Respondents based on their Employment Status

Out of the 252 respondents working in the Philippines, 194 (76.98%) are regular company-employed workers, followed by contractual-company-employed workers (11.90%), self-employed workers (6.75%), and finally, part-time company-employed workers (4.37%) (Table 15). These results are comparable to a report published by UPPI (2020), which revealed that “about 8 in 10 Filipino healthcare workers are permanently employed, while 1 in 6 is employed on a short-term or seasonal basis” (UPPI, 2020).

Based on the data, the majority (66.67%) of the 30 contractual company-employed workers are from the public sector. As was mentioned previously, most of these contractual workers are hospital and public health pharmacists.

For the 11 part-time company-employed workers, most of them practice their profession in the community setting (n=7) while some work in the academe (n=4). Among the respondents working part-time, almost all (9 out of 11) are female. Gidman et al. (2007) speculated that this might be a reflection of the working behavior of women, which consists of personal and employment-related factors. The limits imposed by family



commitments are one explanation for the “lower levels of workforce participation amongst women” who are significantly “more likely to work part-time if they have children or other domestic duties.” In fact, women frequently cite “family commitments” as the reason, they do not want to, or are unable to, work full-time (Gidman et al., 2007); consequently, they only land part-time jobs in pharmacies as pharmacy assistants, or in the academe, filling associate professor posts (Goldin and Katz, 2016; Janzen et al., 2013).

Table 15. *Distribution of the Respondents based on their Employment Status*

Employment Status	n	%
<i>Philippines-based Respondents</i>	252	
Self-employed	17	7.00
Company-employed: Contractual	30	12.00
Company-employed: Part-time	11	4.00
Company-employed: Regular	194	77.00
<i>Overseas-based Respondents</i>	8	
Company-employed: Contractual	3	37.50
Company-employed: Part-time	2	25.00
Company-employed: Regular	3	37.50

Note. n = 260

As for the 17 self-employed respondents, 13 of them own a drugstore; two respondents are currently working in different fields of practice (roving and regulatory pharmacy), the other one is working as an ESL teacher, and the last is managing their own non-pharmacy business. Of the drugstore owners, almost (n=12) all are women, mostly aged 23 and 26 years old. This finding contrasts with that of Gardner and Stowe (2006), who argued that despite increasing numbers of women in pharmacy, they are still underrepresented in leadership roles. A possible explanation for the study’s findings is that some of these female pharmacists are mothers already. Since daily wage is directly proportional to working hours, women with children earn less (Gidman et al., 2007; Goldin and Katz, 2016). Since women continue to be the major care providers for children, it is simpler for them to devote adequate time to raising their children while running their own pharmacy. Women who choose a flexible employment where they can work as professionals without sacrificing a fulfilling family life are drawn to such a lucrative career alternative (Goldin and Katz, 2016; Sandip University, 2021). Another implication of the results is that these women are young entrepreneurs. Based on their age range, these respondents are classified under the cohort of Generation Z, famously called as the



Centennials. According to Samuelson (2020), “Generation Z is drawn to starting businesses at an early age,” as inspired by their Millennial parents, who are most likely entrepreneurs as well.

There are three contractual company-employees among the respondents who work abroad; two are employed as hospital pharmacists, and one is a non-registered pharmacist trainee working in a community pharmacy. On the other hand, there are two part-time company-employed workers, one of whom works as a pharmacy technician and the other as a community pharmacist. Lastly, there are a total of three regular company-employed individuals. They serve the profession as a pharmacy operations manager, a pharmacy technician, and a certified community pharmacist (Table 15). Based on the data collected, none of the overseas-based respondents answered as self-employed, and the majority are not employed full-time. There are two likely causes for these findings: (1) the respondents either just recently migrated or (2) they have not taken the examination or certification to practice their profession in their current migrating location.

H. Distribution of the Respondents based on their Monthly Salary

More than half (53.85%) of the respondents working in the Philippines have a monthly salary falling between the range of ₱10,958.00 to ₱21,914.00 followed by the salary range ₱21,915.00 to ₱43,828.00 (32.31%) (Table 16). In the same vein, the 2018 OWS states that most health professionals, with the exception of specialist medical practitioners, generalist medical practitioners, and dentists, receive a monthly wage that is lower than the national average, which is ₱18,108.00 (UPPI, 2020).

The data gathered by the researchers show that a majority of the respondents with a salary falling under the range of ₱10,958.00 to ₱21,914.00 work in community pharmacies located mostly in Region 4A and the NCR. A majority of this subpopulation passed the PLE in 2018. Taken together, these results suggest that most of these respondents are only starting in their careers; thus, they may only be receiving starting salaries. With regard to those categorized as middle-income, these respondents are regular employees, often in the private sector. Based on the gathered data, those with an income between ₱43,829.00 to ₱76,669.00 are all located in the NCR. One can attribute the years of experience these respondents have as well as being employed as regulars



with having a higher salary compared to those who are contractual, fresh-graduates that do not have much work experience yet.

Table 16. *Distribution of the Respondents based on their Monthly Salary*

Employment Sector	n	%
<i>Philippines-based Respondents</i>	252	
Less than ₱10,957.00	15	5.95
₱10,958.00 to ₱21,914.00	140	55.55
₱21,915.00 to ₱43,828.00	84	33.33
₱43,829.00 to ₱76,669.00	10	3.97
₱76,670.00 to ₱131,484.00	2	0.97
₱131,485.00 to ₱219,140.00	1	0.40
Greater than ₱219,140.00	0	0.00
<i>Overseas-based Respondents</i>	8	
P43,829.00 to P76,669.00	1	12.50
P76,670.00 to P131,484.00	3	37.50
P131,485.00 to P219,140.00	3	37.50
Greater than P219,140.00	1	12.50

Note. n = 260

Those who earn ₱21,915.00 to ₱43,828.00 have the greatest variety in terms of occupation as those employed that fall under this income bracket can be found in different fields of the pharmacy profession, and a majority are regular company-employed workers. Respondents with a monthly salary of less than ₱10,957.00 make up a small amount of the sample population. The data shows that the common field of practice among these respondents are community and hospital pharmacies located outside of the NCR and Region 4A. Those under this salary bracket are mostly contractual or part-time company-employed workers.

One of the two income brackets with the smallest frequency is ₱76,670.00 to ₱131,484.00 (n=2), which is comprised of a medical scientific liaison and a drugstore owner. Another community pharmacy owner earns ₱131,485.00 to ₱219,140.00 monthly.

For the respondents working overseas, the two salary brackets with the highest numbers are ₱76, 670.00 to ₱131,484.00 and ₱131,485.00 to ₱ 219,140.00, followed by the salary brackets ₱43,829.00 to ₱76,669.00 and greater than ₱219,140.00 (Table 16). In the US, healthcare workers are reported to have a higher median annual salary (\$69,870.00) than the median annual wage for all occupations (\$41,950.00), according to the US Bureau of Labor Statistics (2021). As opposed to data from Table 16, the



monthly salary of those working overseas is classified only from middle income to rich. Despite having similar areas of practice, because a majority of respondents working overseas are employed in the community setting as well, a huge wage gap can be observed. The years the respondents passed the PLE are almost identical as well, as most of the overseas respondents passed in the years 2017 and 2018.

1. Benefits Received by Philippines-based Respondents

The most common employment benefit received by the Philippines-based respondents is a 13th month bonus followed by a paid vacation leave, paid sick leave, health insurance, Pag-ibig housing, and social insurance, and a Christmas bonus as a majority of respondents stated that they are provided with these benefits by their employers (Table 17).

In the public sector, prior to June 2019, except for Doctors to the Barrios (DTTB), physicians and other health professionals under the DOH-HRH deployment program were employed on a contract-of-service basis and were eligible for statutory benefits such as basic pay, personnel economic relief allowance, representation allowance, subsistence allowance, and hazard pay, if applicable. An additional 5% bonus is given to these health professionals as well. Under the DOH Department Order No. 2018-0009, the provincial DOH office (PDOHO) or the integrated provincial health office are tasked with lobbying for supplementary incentives to support deployed health workers in addition to the specified monthly compensation. (Abrigo et al., 2021). The supplementary incentives and benefits listed under these department orders can be seen in Table 17 as some of the respondents are provided with paid meal allowances (n=62), transportation allowance (n=56), and honorarium (n=1). Department Order 2018-0009 also mandates the provision of learning and development opportunities as incentives that should be offered to deployed health care workers. Examples of these incentives are received by the respondents of the study, which include: sponsorships for scientific conventions (n=16), discount for tuition fee (n=6), study pay (n=5), and research grants (n=4) for those who may want to avail these benefits. Some of these benefits are often added to attract applicants into the company. These benefits are not required by any law to be given to employees and are under the decision of the company administrators (Table 17).

Table 17. *Benefits Received by Philippines-based Respondents*



Benefits	n	%
<i>13th-month bonus</i>	211	83.73
<i>Health insurance</i>	137	54.36
<i>Pag-ibig housing</i>	109	43.25
<i>Social insurance</i>	108	42.86
<i>Paid academic leave</i>	17	6.74
<i>Paid birthday leave</i>	57	22.62
<i>Paid maternity/paternity leave</i>	77	30.55
<i>Paid sick leave</i>	159	63.10
<i>Paid vacation leave</i>	168	66.67
<i>Paid assignment allowance</i>	13	5.16
<i>Hazard pay</i>	46	3.35
<i>Paid laundry allowance</i>	16	6.35
<i>Paid subsistence allowance</i>	14	5.56
<i>Sponsorship in scientific conferences</i>	16	6.35
<i>Study pay</i>	5	1.98
<i>Transportation allowance</i>	56	22.22
<i>Travel incentives</i>	9	3.57
<i>Research grants</i>	4	1.59
<i>Professional chairs</i>	6	2.38
Others		
<i>Mobile phone reimbursement</i>	1	0.40
<i>Wellness allowance</i>	1	0.40
<i>PhilHealth</i>	2	0.80
<i>Rice subsidy</i>	1	0.40
<i>Medicine allocation</i>	1	0.40
<i>Clothing allowance</i>	2	0.80
<i>Rice allowance/subsidy</i>	5	1.98
<i>Snack allowance</i>	1	0.40
<i>Annual eye and dental check-up</i>	1	0.40
<i>Premium pay</i>	1	0.40
<i>Life insurance</i>	1	0.40
<i>Honorarium</i>	1	0.40
<i>HMO</i>	1	0.40
<i>All-expense paid</i>	1	0.40
<i>convention/seminar/conference</i>		
<i>Mobile phone reimbursement</i>	1	0.40
<i>Wellness allowance</i>	1	0.40
<i>PhilHealth</i>	2	0.80
<i>Rice subsidy</i>	1	0.40
<i>Medicine allocation</i>	1	0.40
<i>Clothing allowance</i>	2	0.80
<i>Rice allowance/subsidy</i>	5	1.98
<i>Snack allowance</i>	1	0.40
<i>Annual eye and dental check-up</i>	1	0.40
<i>Premium pay</i>	1	0.40
<i>Life insurance</i>	1	0.40
<i>Honorarium</i>	1	0.40

Note. n = 252



J. Benefits Received by Overseas-based Respondents

The majority (6 of 8) of the sample population that is working overseas receive paid maternity/paternity leave, paid sick leave, and paid vacation leave followed by health insurance, wherein 62.50% receive this benefit. 37.50% of the respondents are provided with the discounted purchase of food products and paid hospitalization fees. Paid birthday leaves and paid uniform allowances are given to 25.00% of the respondents, while 12.50% of the respondents are given discounts for their dependents, financial assistance, free board and accommodation, social insurance, and paid academic leave (Table 18). Compared to the employment benefits that respondents employed in the Philippines receive, none of the overseas workers receive a 13th month bonus. Companies in countries such as the USA are not obliged to give out 13th month pay or Christmas bonuses unless it is included in the contract.

Table 18. *Benefits Received by Overseas-based Respondents*

Benefits	<i>n</i>	%
13 th month bonus	0	0.00
Health insurance	5	62.50
Social insurance	1	12.50
Paid academic leave	1	12.50
Paid birthday leave	2	25.00
13 th month bonus	0	0.00
Health insurance	5	62.50
Social insurance	1	12.50
Paid academic leave	1	12.50
Paid birthday leave	2	25.00
Paid maternity/paternity leave	6	75.00
Paid sick leave	6	75.00
Paid vacation leave	6	75.00
Paid assignment allowance	13	5.16
Hazard pay	46	3.35
Paid laundry allowance	16	6.35
Paid subsistence allowance	14	5.56
13 th month bonus	0	0.00
Health insurance	5	62.50
Social insurance	1	12.50
Paid academic leave	1	12.50
Paid birthday leave	2	25.00
Paid maternity/paternity leave	6	75.00
Paid sick leave	6	75.00
Paid vacation leave	6	75.00
Paid assignment allowance	13	5.16

Note. *n* = 8



Table 18 (cont'd). *Benefits Received by Overseas-based Respondents*

Benefits	<i>n</i>	%
<i>Hazard pay</i>	46	3.35
<i>Paid laundry allowance</i>	16	6.35
<i>Paid subsistence allowance</i>	14	5.56
<i>Paid assignment allowance</i>	0	0.00
<i>Hazard pay</i>	0	0.00
<i>Paid laundry allowance</i>	0	0.00
<i>Paid subsistence allowance</i>	0	0.00
<i>Paid meal allowance</i>	0	0.00
<i>Paid uniform allowance</i>	2	25.00
<i>13th to 15th-month pay</i>	0	0.00
<i>Car service</i>	0	0.00
<i>Christmas bonus</i>	0	0.00
<i>Discount in tuition fee</i>	0	0.00
<i>Discounted purchase of products</i>	3	37.50
<i>Discounts for dependents</i>	1	12.50
<i>Financial assistance</i>	1	12.50
<i>Free board and accommodation</i>	1	12.50
<i>Paid hospitalization fee</i>	3	37.50
<i>Loyalty pay</i>	0	0.00
<i>Sponsorship in scientific conferences</i>	0	0.00
<i>Study pay</i>	0	0.00
<i>Transportation allowance</i>	0	0.00
<i>Travel incentives</i>	0	0.00
<i>Travel incentives</i>	0	0.00
<i>Research grants</i>	0	0.00
<i>Professional chairs</i>	0	0.00

Note. n = 8

K. Respondents Pursuing Postgraduate Studies while Working

The percentage of respondents that are working as well as pursuing a postgraduate study is 20.63% (Table 19).

Table 19. *Distribution of Pursuing Postgraduate Studies while Working*

Studying while working?	<i>n</i>	%
Yes	52	20.63
No	200	79.37

Note. n = 252

Professionals who pursue postgraduate studies have numerous reasons, including (1) desire to gain more knowledge, (2) desire to help others via their work, (3) to teach in higher education, and (4) for other motives for the chosen career. A previous



study by Almeda (2014) has reported that eagerness to study, professional progression, time management, overcoming barriers, faculty competency, faculty advising, learning environment, and peer impact emerged are common themes seen in people pursuing postgraduate studies.

Moreover, the majority of those respondents in the current study pursuing postgraduate studies currently work in the academe or in the community as branch pharmacists or branch managers. One of the most notable reasons for pursuing postgraduate studies is for career advancement and promotion, especially in the academe wherein it is mandated by the Commission on Higher Education (CHED) through the Memorandum Order No. 40, s. 2008 (Faculty Development Program), which states that all faculty members of institutions providing tertiary education are required to have at least a master's degree to qualify to teach. It also allows one to appreciate and comprehend more of their professions' field, as well as their relevance to the work they undertake. The skills learned through the postgraduate program help in improving oneself.

Meanwhile, those who are not pursuing postgraduate studies among the study's respondents are 79.37%. Almeda (2014) noted that balancing a variety of responsibilities, such as school fees, homework, loaded classes, studying for longer periods of time, catering to other non-school-related problems, and managing their time from job to school are some of the respondent's concerns. Also, the majority of part-time students find it challenging to attend lessons every day.

Bian (2006) cited challenges such as having family support, personal drive, being able to have access to an online library, and most especially, being able to afford the tuition fee. In the current study, only five of the 12 practicing pharmacists working in the Philippines receive study pay benefits, and half of the respondents' salary ranges from less than ₱10,958.00 to ₱21,914.00, which may result in the difficulty of pursuing higher studies (Table 16).



Reasons for Migration

A. Distribution of Currently Employed Philippines-based Respondents Planning to Work Overseas Over the Next Few Years

The majority of the respondents (69.05%) of the study stated that they had plans of working overseas over the next two to five years (Table 20).

Table 20. *Distribution of Currently Employed Philippines-based Respondents Planning to Work Overseas Over the Next Few Years*

Planning to work overseas over the next few years	<i>n</i>	%
Yes	174	69.00
No	78	31.00

Note. *n* = 252

Loquias and Robles (2012) recognized economic factors as key push-pull elements, most specifically the salary received by pharmacists. In the same vein, the majority of the respondents' salary falls from ₱10,958.00 to ₱21,914.00. Also, a portion of the population receives a salary of less than ₱10,957.00 (Table 16). These corroborate of Mamiya et al. (2021). In their study, "more than 80% of respondents from upper-middle- (\$3,896.00 to \$12,055.00), lower-middle- (\$996.00 to \$3895.00) and low-income (≤ \$995.00) countries showed a desire to conduct further study outside of their country and a desire to work outside of their home countries." Among the respondents from these three income strata, 69% were planning to migrate either after graduating or within the next five years.

Researchers in other countries have also proposed main reasons for migration, including better and higher salaries in the target country, joining relatives, political and social instability, poor living conditions, inadequate working and management conditions, and career development opportunities (Wuliji et al., 2009). Similarly, Dela Cuesta (2002) perceived that working overseas would allow Filipinos to attain personal development, start their own business, and support their families. Also, pharmacists abroad are well-known to be more respected, recognized, and can have more professional and clinical roles.

Poor salary, worsening economic conditions, high unemployment rate, low GNP income, foreign exchange shortage, and institutional policies specified in the POEA's



overseas contract are some of the macro-level factors that drive Filipino healthcare workers to seek jobs overseas (ILO, 2005). However, source nations might suffer a variety of negative consequences as a result of the migration of their healthcare workers. Severe domestic labor loss can result in a “brain drain” of younger highly qualified workers, workforce depletion, and a significant decline in the availability and quality of services.

The circumstances are not great even for pharmacists who already have stable employment. They are still subject to being underpaid, working part-time or contractual, being undervalued, or not working to their full capacity, which encourages them to work overseas. However, upon migrating, numerous requirements are needed before being accepted as a registered and licensed Pharmacist abroad. Aside from passports and visas, licensed Filipino pharmacists are required to study for more years to be a candidate for the FPGECE Certification Program (Findlay and Lowell, 2001).

However, the FPGECE Certification does not automatically allow passers to practice as licensed pharmacists and does not equate to a license. The certification program only ensures that the training of overseas pharmacists meets the same standards as those who studied and trained in the US. FPGECE certificate applicants should also obtain an unrestricted, permanent license and pass the Foreign Language Internet-based Test (TOEFL-IBT), which is the English language proficiency examination (Findlay and Lowell, 2001).

Despite the equivalency exams, complicated license application procedures, and long periods of preparation, there is still an increase in the migration trends (Naqvi, 2017).

B. Respondents’ Reasons for Migrating

Based on the pointing system created by the researchers, the majority of the respondent’s reasons for migrating is due to higher salary having 35 points, followed by more job opportunities (31 pts.), living with their relatives (30 pts.), better working conditions and healthcare system (26 pts.), and lastly, higher standard of living (20 pts) (Table 21).



Table 21. Respondents' Reasons for Migrating

Reasons	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Rank 6	Total	OR
Better healthcare system	2 (12 pts)	0 (0 pts)	1 (4 pts)	2 (6 pts)	1 (2 pts)	2 (2 pts)	26	4th
Better working conditions	1 (6 pts)	0 (0 pts)	2 (8 pts)	2 (6 pts)	3 (6 pts)	0 (0 pts)	26	4th
Higher salary	1 (6 pts)	4 (20 pts)	1 (4 pts)	1 (3 pts)	1 (2 pts)	0 (0 pts)	35	1st
Higher standard of living	0 (0 pts)	1 (5 pts)	2 (8 pts)	1 (3 pts)	0 (0 pts)	4 (4 pts)	20	5th
More job opportunities	0 (0 pts)	3 (15 pts)	2 (8 pts)	2 (6 pts)	1 (2 pts)	0 (0 pts)	31	2nd
Relatives	4 (24 pts)	0 (0 pts)	0 (0 pts)	0 (0 pts)	2 (4 pts)	2 (2 pts)	30	3rd

Legend:

- OR = Overall Rank
- Point system: Rank 1 = 6 pts; Rank 2 = 5 pts; Rank 3 = 4 pts; Rank 4 = 3 pts; Rank 5 = 2 pts; Rank 6 = 1 pt

More job possibilities and higher wages were two of the most compelling reasons as to why the respondents are working overseas. This may be due to the fact that the pharmacy profession in industrialized nations is more advanced and sophisticated, necessitating the use of more human resources and therefore providing more job possibilities (Naqvi, 2017). The migration of health workers may also be due to inadequate pay for health professionals in the Philippines, along with a high demand for health experts overseas. The country's low and fluctuating wage rates are also considered a potential barrier that prevents health professionals from earning "decent living wages." Jobs overseas were also thought to provide better family security, enhance the family's financial condition, and provide the family with more possibilities to migrate as well (ILO, 2005).

Meanwhile, relatives placed third on the overall ranking. A likely explanation is that Filipinos are known to be family-oriented, and ones' life revolves around their family. By migrating, one can reunify with their family living overseas. This view is supported by



ILO (2005), which stated that the majority of Filipinos prefer working in the US because their relatives have already migrated.

Better working conditions that can contribute to professional development is also a possible reason why healthcare professionals prefer holding down a job in the US. Likewise, Dela Cuesta (2002) stated that one of the factors that encourage healthcare workers in the Philippines to migrate is the opportunity for personal and professional growth. Additionally, the working condition of healthcare professionals in the Philippines is considered as a significant factor that contributes to the migration of these workers (Dela Cuesta, 2002).

In accordance with the present results, the study of Mamiya et al. (2021) involving registered pharmacists and pharmacy students (n=1,423) have demonstrated that the motivations for respondents living in lower-middle countries (n=460 or 32.33%) to possibly migrate in the future were mostly employment-related (Table 22). Similarly, the respondents in this study chose “higher salary” and “better job opportunities” as the top two reasons for migrating to the country they are currently residing in right now.

Table 22. *Motivations for Respondents Living in Lower-Middle Countries to Possibly Migrate in the Future (Mamiya et al., 2021)*

Motivations for migrating	N	%
<i>To have a better pay/salary</i>	297	59.60
<i>To gain new experiences</i>	376	81.70
<i>To have better job opportunities</i>	263	81.70
<i>To have better professional development and training opportunities</i>	263	81.70
<i>To have better career pathways</i>	242	52.60
<i>To have a better lifestyle and quality of life</i>	252	54.80

Note. N=1,423.



CHAPTER 5 SUMMARY AND CONCLUSION

Summary

A. Demographics

In terms of demographics, the majority of our respondents fall under the age range of 23 years old to 26 years, possibly due to the inclusion criteria being those who passed the PLE from the years 2015-2019. Data with regards to sex show that the pharmacy profession may still be dominated by females (83.00%), which has been the case for other studies as well. The year where the respondents passed the licensure exam that has the largest percentage is 2018 (27.59%).

B. Employment Patterns

The study aimed to determine the employment patterns of the respondents based on various characteristics. The data that corresponds to this objective show that 89.66% of the licensure exam passers are currently employed, while 10.34% are unemployed. The most commonly cited reasons for unemployment are (1) pursuing postgraduate studies and (2) limited job opportunities.

For those who are employed, 252 (96.92%) are based in the Philippines, while eight (3.08%) are working overseas. As observed, the majority of the respondents stayed in the Philippines. This can be explained by the 2016 Philippine Pharmacy Act that increased the opportunities for pharmacists in the country. The region with the most worker density was NCR (33.33%), followed by Region IV-A (25.00%), possibly due to the mobility of health care workers and the distribution of pharmacy schools and drug establishments in these locations.

Majority of the employed respondents are practicing pharmacists (96.00%), mostly in the community pharmacy setting (40.50%). The private sector (87.00% and 87.50% for the Philippines- and overseas-based workers, respectively) comprises the majority of these professionals. With regards to employment status, the majority of the respondents are company-employed regular workers (77.00%). Data shows that the salary bracket that is the most common among the respondents is that of the low but not



poor income (₱10, 958.00 to ₱21,914.00) (55.55%), while the most commonly received employment benefits are the 13th month bonus (83.73%) and health insurance (54.36%).

A majority of the respondents that are employed opted not to pursue postgraduate studies. For those who are unemployed and are pursuing postgraduate studies (n=17), majority are taking the Doctor of Medicine program.

For the respondents working overseas, the majority are company-employed regular (37.50%) and company-employed contractual (37.50%) workers, with their monthly salary mostly belonging to the middle-high to high-income bracket (75.00%). Benefits such as paid maternity/paternity leave (75.00%), paid sick leave (75.00%), paid vacation leave (75.00%), and health insurance (62.50%) are the most commonly received by the overseas-based workers. The 13th month pay and Christmas bonus are not mandatory benefits that companies overseas give to their employees.

C. Reasons for Migration

The results from the migration pattern area of the study show that the countries that the respondents have migrated to are the USA (50.00%), Canada (25.00%), and the UAE (25.00%). The reasons for migration with the highest rank are higher salary, more job opportunities, and having relatives within the chosen country of migration. Half of those who migrated are practicing pharmacists (50.00%) and work in the community (50.00%) and hospital pharmacy (50.00%) setting.

Conclusion

Data on the demographics of the respondents affirm that the pharmacy profession remains dominated by females. The age range most commonly represented is 23 years old to 26 years which can be attributed to the inclusion criteria of when the respondents passed the PLE. With regards to the employment patterns of these respondents, the region where most Philippines-based workers are employed was the NCR, while those working overseas are mostly in the USA. The field of practice that comprises the majority of the study's population is community pharmacy. In terms of the employment sector, majority of the study participants, both Philippines- and overseas-based, are in the private sector. Analysis between the salary of those employed locally and those abroad showed that there is a huge wage gap, with those working in the Philippines commonly having a



salary that is considered of the low but not poor income. On the other hand, the majority of those overseas-based respondents have a salary of ₱76,670.00 to ₱131,484.00 and ₱131,485.00 to ₱219,140.00. Although there is a significant gap between the wages of those Philippines- and overseas-based workers, the high cost of living in other countries cannot be overlooked.

The high salary earned by those overseas is also one of the highest-ranked reasons for migration for work, including more job opportunities and having relatives within the chosen country of migration. More than half of those working in the Philippines have plans of working abroad over the next five years, often due to the observed wage gap between those abroad who are working in the same field.

Recommendation

The following are recommendations for future studies/ research:

1. Additional data on whether the respondents have plans on changing from the current pharmacy field of practice to another could be included.
2. Implementing the study during a time when there is no pandemic may produce different data, as the global pandemic may have skewed the results of the study.
3. Targeting additional respondents that are based overseas as well as those in the Philippines but are outside of the Luzon area.
4. Lengthening the range of the inclusion criteria in terms of the year the PLE was passed in order to determine whether the length of work experience may have an influence on any of the employment patterns.
5. Partner with alumni associations of pharmacy schools to reach more respondents.



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Appendix A: Letter of Request for Face Validity Certification

09 June 2021

Dr. Yolanda R. Robles, RPh, MPharm, PhD
Former Dean and Professor 12
College of Pharmacy
University of the Philippines
Manila, Metro Manila

Dear Dr. Robles:

Greetings of peace in the name of St. La Salle!

We are third year BS Pharmacy students from De La Salle Medical and Health Sciences Institute currently pursuing a research entitled **Employment and Migration Patterns of Graduates who passed the Philippine Pharmacy Licensure Examination**.

Our study aims to determine the employment and migration patterns of graduates who passed the Philippine Pharmacy Licensure Examination from 2015-2019. Specifically, it aims:

1. To determine the demographic characteristics of graduates who passed the Philippine Pharmacy Licensure Examination from 2015-2019.
2. To determine the employment patterns of the respondents based on their current profession, employment status, company or institution, present job position, monthly salary, benefits received, and reason/s for staying in their current job.
3. To determine the employment patterns of the respondents based on their current profession, employment status, company or institution, present job position, monthly salary, benefits received, and reason/s for staying in their current job.


Our study is patterned and influenced by your research entitled, **Issues and concerns on utilization of the pharmacy workforce in the Philippines**, with Dr. Monet M. Loquias published by the Journal of Asian Association of Schools of Pharmacy (JAASP) last 2012. We firmly believe that it is essential to update the current body of information that we have in relation to the employment and migration patterns of pharmacists from the Philippines, and that our study will be a significant help in providing insights regarding the employment and migration patterns of pharmacy licensure exam passers, including the various identified push-pull factors which contribute in their decision to practice in the country or overseas.

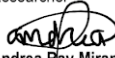
With your expertise, we are humbly asking for your permission to validate our online survey tool which you can view at <https://forms.gle/Ka7QLbnVGydh5iL7>. Should you have any questions or concern, please feel free to email the undersigned at chmm.research@gmail.com or at 09175293542 (Globe) (Ms. Hemedes). We can also schedule a virtual meeting with you if you prefer for any further questions and suggestions in relation to our study at your most convenient time.

We hope to hear from you within the week and are looking forward to a positive response to our request.

Thank you for your consideration and your time.

Respectfully yours,


Precious Nicole Cruz
Researcher


Andrea Ray Miranda
Researcher


Maria Isabel Hemedes
Researcher


Sat Gian Carlos Manuel Montes
Researcher

Noted by:

Diana Dalisay Orolfo, RPh
Faculty Adviser



Appendix B: Certificate of Face Validity

CERTIFICATION

This is to certify that the undersigned has reviewed and validated the research tool of the thesis entitled:

“Employment and Migration Patterns of Graduates who passed the Philippine Pharmacy Licensure Examination”

by:

Precious Nicole Cruz

Maria Isabel Hemedes

Andrea Ray Miranda

Sat Gian Carlos Manuel Montes

This certification is issued upon the request of the researchers for whatever purpose it may serve them.

Signed by:

Yolanda R. Robles

YOLANDA R. ROBLES, RPh, MPharm, PhD

Former Dean and Professor 12

College of Pharmacy, University of the Philippines Manila

Date Signed: 1 July 2021



Appendix C: Endorsement Letter to YPG - Philippines

24 June 2021

Krishelle Anne M. Obispo, RPh
President
Youth Pharmacist Group Philippines, Inc.

Dear Ms. Obispo:

Greetings of peace in the name of St. La Salle!

We are third year BS Pharmacy students from De La Salle Medical and Health Sciences Institute currently pursuing a research entitled **Employment and Migration Patterns of Graduates who passed the Philippine Pharmacy Licensure Examination**.

Our study aims to determine the employment and migration patterns of graduates who passed the Philippine Pharmacy Licensure Examination from 2015-2019. Specifically, it aims to

:

1. Determine the demographic characteristics of graduates who passed the Philippine Pharmacy Licensure Examination from 2015-2019.
2. Determine the employment patterns of the respondents based on their current profession, employment status, company or institution, present job position, monthly salary, benefits received, and reason/s for staying in their current job.
3. Determine the employment patterns of the respondents based on their current profession, employment status, company or institution, present job position, monthly salary, benefits received, and reason/s for staying in their current job.

Our study is patterned and influenced by a research, entitled **Issues and concerns on utilization of the pharmacy workforce in the Philippines**, conducted by Dr. Yolanda R. Robles and Dr. Monet M. Loquias published by the Journal of Asian Association of Schools of Pharmacy (JAASP) last 2012. We firmly believe that it is essential to update the current body of information that we have in relation to the employment and migration patterns of pharmacists from the Philippines, and that our study will be a significant help in providing insights regarding the employment and migration patterns of pharmacy licensure exam passers, including the various identified push-pull factors which contribute in their decision to practice in the country or overseas.

With a target of at least 200 respondents, we are searching for people who will satisfy the following inclusion criteria:

- A 2015-2020 PLE passer who resides in the Philippines, or;
- A 2015-2020 PLE passer who is permanently or temporarily residing overseas.
- Either of the two and:
 - Either currently working or not
 - Pursuing postgraduate studies

The research questionnaire will be asking for the following data:

1. The respondent's age and sex
2. The year the respondent passed the Pharmacy Licensure Exam



Appendix C (cont.)


3. Employment status, nature of the respondent's work, job position, monthly salary range as well as the benefits the respondent receives.
4. If the respondent is working overseas, the country they are currently in and other information regarding their migration such as the possible pull factors.
5. If the respondent is currently not employed, the reason for unemployment will be asked.
6. If the respondent is currently pursuing postgraduate studies, the program they are studying will be asked.

With this, we are humbly asking for your help to endorse our research questionnaire (<https://forms.gle/Ka7QLbnVGydh5iL7>) to your members. We are also amenable to setting up a meeting should you have any further questions and clarifications in relation to our study and our questionnaire.

We hope to hear from you within the week and are looking forward to a positive response to our request.

Thank you for your consideration and your time.

Respectfully yours,

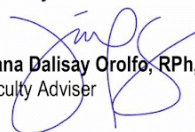

Precious Nicole Cruz
Researcher


Andrea Ray Miranda
Researcher


Maria Isabel Hemedes
Researcher


Sat Gian Carlos Manuel Montes
Researcher

Noted by:


Diana Dalisay Orolfo, RPh, MPH (cand)
Faculty Adviser



Appendix D: Research Tool

Employment and Migration Patterns of Graduates who passed the Philippine Pharmacy Licensure Examination

Employment and Migration Patterns of Graduates who passed the Philippine Pharmacy Licensure Examination

INFORMED CONSENT

Good day!

We are third-year students from De La Salle Medical and Health Sciences Institute under the program of BS Pharmacy. We are currently conducting a study entitled "Employment and Migration Patterns of Graduates who passed the Philippine Pharmacy Licensure Examination." This study generally aims to determine the employment and migration patterns of graduates who passed the Philippine Pharmacy Licensure Examination for the year 2015 up to the year 2019.

The findings of this study shall inform policymakers and decision-makers regarding the employment and



Appendix E: Research Questionnaire

Number	Question	Choices
<i>Section 2: Demographics</i>		
1	Age	
2	Sex	Male
		Female
3	When did you pass the Philippine Pharmacy Licensure Examination?	2015
		2016
		2017
		2018
		2019
<i>Section 3: Employment Patterns Decision Point</i>		
1	Are currently employed?	Yes (Proceed to <i>Section 4</i>)
		No (Proceed to <i>Section 6</i>)
<i>Section 4: Migration Patterns Decision Point</i>		
1	Are you based in the Philippines?	Yes (Proceed to <i>Section 5</i>)
		No (Proceed to <i>Section 7</i>)
<i>Section 5: Employment Patterns (A)</i>		
1	In what region in the Philippines do you work?	National Capital Region
		Cordillera Administrative Region (CAR)
		Region 1: Ilocos Region
		Region 2: Cagayan Region
		Region 3: Central Luzon
		Region 4A: CALABARZON
		Region 4B: MIMAROPA
		Region 5: Bicol Region
		Region 6: Western Visayas
		Region 7: Central Visayas
Region 8: Eastern Visayas		
Region 9: Zamboanga Peninsula		



Appendix E (cont'd): Research Questionnaire

Number	Question	Choices
<i>Section 5: Employment Patterns (A)</i>		
1	In what region in the Philippines do you work?	Region 10: Northern Mindanao
		Region 11: Davao Region
		Region 12: Soccsksargen
		Region 13: Caraga
		Bangsamoro (BRMM)
2	Are you a practicing pharmacist?	Yes
		No
3A	If you answered 'No' in Question 2, kindly specify the nature of the job you are in. If you are a member of the pharmacy workforce, kindly type 'NA' in the space below.	
3B	If you answered 'Yes' in Question 2, kindly choose among the choices below the field of pharmacy you are in. If you are not a member of the pharmacy workforce, kindly select 'Not applicable' from the choices below.	Academe
		Clinical Pharmacy
		Clinical Research
		Community
		Hospital
		Institutional
		Manufacturing
		Marketing
		Pharmacovigilance
		Public Health
		Regulatory
		Research
	Others	
	Not applicable	
4	Are you working in a public or private company/institution?	Private
		Public



Appendix E (cont'd): Research Questionnaire

Number	Question	Choices
<i>Section 5: Employment Patterns (A)</i>		
5	What is your current employment status?	Self-employed
		Company-employed: Contractual
		Company-employed: Part-time
		Company-employed: Regular
6	What is your current job position? Kindly specify.	
7	What is your monthly salary? Kindly choose from the income brackets below created by the Philippine Institute for Development Studies (PIDS).	Less than P10,957.00
		P10,958.00-P21,914.00
		P21,915.00 to P43,828.00
		P43,829.00 to P76,669.00
		P76,670.00 to P131,484.00
		P131,485.00 to P219,140.00
8	Kindly choose from the choices below the benefits you receive.	13 th month bonus
		Health insurance
		Pag-ibig housing
		Social insurance
		Paid academic leave
		Paid birthday leave
		Paid maternity/paternity leave
		Paid sick leave
		Paid vacation leave
		Paid assignment allowance
		Hazard pay
		Paid laundry allowance
		Paid subsistence allowance
Paid meal allowance		
Paid uniform allowance		



Appendix E (cont'd): Research Questionnaire

Number	Question	Choices
<i>Section 5: Employment Patterns (A)</i>		
8	Kindly choose from the choices below the benefits you receive.	13 th to 15 th month pay Car service Christmas bonus Discount in tuition fee Discounted purchase of products Discounts for dependents Financial assistance Free board and accommodation Paid hospitalization fee Loyalty pay Sponsorship in scientific conferen Study pay Transportation allowance Travel incentives Research grants Professional chairs
9	Are you also pursuing postgraduate studies while working?	Yes No
10	Are you considering working overseas in the next 2-5 years?	Yes No
<i>Section 6: Employment Patterns (B)</i>		
1	Kindly choose the reason among the choices below.	Pursuing postgraduate studies Limited job opportunities Others
1B	If you are currently pursuing postgraduate studies, kindly specify the program you are in. If you are not pursuing postgraduate studies, kindly type 'NA'.	
1B(a)	Kindly specify where you are pursuing postgraduate studies. If you are not pursuing postgraduate studies, kindly type 'NA'.	



Appendix E (cont'd): Research Questionnaire

Number	Question	Choices
<i>Section 7: Migration Patterns</i>		
1	Kindly specify the country where you migrated to.	
2	Rank the following factors (1 being the highest, and 6 being the lowest) based on your reason for migrating to the country where you currently reside. The following pull factors are based on the study conducted by Mamiya et al. (2020), Naqvi et al. (2017), and Simpson (2017).	Better healthcare system
		Better working conditions
		Higher salary
		Higher standard of living
		More job opportunities
		Relatives
3	Do you have other reasons for migrating? If yes, please specify. If no, kindly answer 'None'.	
4	Are you a practicing pharmacist?	Yes
		No
5A	If you answered 'No' in Question 4, kindly specify the nature of the job you are in. If you are a member of the pharmacy workforce, kindly type 'NA' in the space below.	
5B	If you answered 'Yes' in Question 4, kindly choose among the choices below the field of pharmacy you are in. If you are not a member of the pharmacy workforce, kindly select 'Not applicable' from the choices below.	Academe
		Clinical Pharmacy
		Clinical Research
		Community
		Hospital
		Institutional
		Manufacturing
		Marketing
		Pharmacovigilance
		Public Health
		Regulatory
		Research
Others		
	Not applicable	



Appendix E (cont'd): Research Questionnaire

Number	Question	Choices
<i>Section 5: Employment Patterns (A)</i>		
6	Are you working in a public or private company/institution?	Private
		Public
7	What is your current employment status?	Self-employed
		Company-employed: Contractual
		Company-employed: Part-time
		Company-employed: Regular
8	What is your current job position? Kindly specify.	
9	What is your monthly salary (in Philippine peso)? Kindly choose from the income brackets below created by the Philippine Institute for Development Studies (PIDS).	Less than P10,957.00
		P10,958.00-P21,914.00
		P21,915.00 to P43,828.00
		P43,829.00 to P76,669.00
		P76,670.00 to P131,484.00
		P131,485.00 to P219,140.00
		Greater than P219,140.00
10	Kindly choose from the choices below the benefits you receive.	13 th month bonus
		Health insurance
		Pag-ibig housing
		Social insurance
		Paid academic leave
		Paid birthday leave
		Paid maternity/paternity leave
		Paid sick leave
		Paid vacation leave
		Paid assignment allowance
		Hazard pay
		Paid laundry allowance
		Paid subsistence allowance



Appendix E (cont'd): Research Questionnaire

Number	Question	Choices																		
<i>Section 7: Migration Patterns</i>																				
8	Kindly choose from the choices below the benefits you receive.	<table border="1"><tr><td data-bbox="1044 464 1435 516">Paid meal allowance</td></tr><tr><td data-bbox="1044 516 1435 569">Paid uniform allowance</td></tr><tr><td data-bbox="1044 569 1435 621">13th to 15th month pay</td></tr><tr><td data-bbox="1044 621 1435 674">Car service</td></tr><tr><td data-bbox="1044 674 1435 726">Christmas bonus</td></tr><tr><td data-bbox="1044 726 1435 779">Discount in tuition fee</td></tr><tr><td data-bbox="1044 779 1435 831">Discounted purchase of products</td></tr><tr><td data-bbox="1044 831 1435 884">Discounts for dependents</td></tr><tr><td data-bbox="1044 884 1435 936">Financial assistance</td></tr><tr><td data-bbox="1044 936 1435 989">Free board and accommodation</td></tr><tr><td data-bbox="1044 989 1435 1041">Paid hospitalization fee</td></tr><tr><td data-bbox="1044 1041 1435 1094">Loyalty pay</td></tr><tr><td data-bbox="1044 1094 1435 1146">Sponsorship in scientific conferen</td></tr><tr><td data-bbox="1044 1146 1435 1199">Study pay</td></tr><tr><td data-bbox="1044 1199 1435 1251">Transportation allowance</td></tr><tr><td data-bbox="1044 1251 1435 1304">Travel incentives</td></tr><tr><td data-bbox="1044 1304 1435 1356">Research grants</td></tr><tr><td data-bbox="1044 1356 1435 1398">Professional chairs</td></tr></table>	Paid meal allowance	Paid uniform allowance	13 th to 15 th month pay	Car service	Christmas bonus	Discount in tuition fee	Discounted purchase of products	Discounts for dependents	Financial assistance	Free board and accommodation	Paid hospitalization fee	Loyalty pay	Sponsorship in scientific conferen	Study pay	Transportation allowance	Travel incentives	Research grants	Professional chairs
Paid meal allowance																				
Paid uniform allowance																				
13 th to 15 th month pay																				
Car service																				
Christmas bonus																				
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Financial assistance																				
Free board and accommodation																				
Paid hospitalization fee																				
Loyalty pay																				
Sponsorship in scientific conferen																				
Study pay																				
Transportation allowance																				
Travel incentives																				
Research grants																				
Professional chairs																				



Appendix F: Data Privacy Consent Form

INFORMED CONSENT

Good day!

We are third-year students from De La Salle Medical and Health Sciences Institute under the program of BS Pharmacy. We are currently conducting a study entitled "Employment and Migration Patterns of Graduates who passed the Philippine Pharmacy Licensure Examination." This study generally aims to determine the employment and migration patterns of graduates who passed the Philippine Pharmacy Licensure Examination for the year 2015 up to the year 2019.

The findings of this study shall inform policymakers and decision-makers regarding the employment and migration patterns of pharmacy licensure exam passers, including the various identified push-pull factors which contribute in their decision to practice in the country or overseas. Currently, there is no updated data on this topic, and our study shall help fill in the gap in terms of pieces of evidence that may support further policy recommendations to help improve employment conditions for pharmacists in the country.

This online questionnaire consists of less than 20 questions which can be easily completed within 15 minutes or less. The survey is divided into three (3) main parts:

Part I: Demographic Characteristics

Part II: Employment Patterns

Part III: Migration Patterns

In accordance with Republic Act No. 10173 or the Data Privacy Act of 2012, the researchers will "implement a reasonable and appropriate level of security, ensure confidentiality at all times and that the information will be retained only for as long as necessary for the fulfillment of the purposes." Because of this, the information that will be gathered will be strictly used only for the purpose of this study. And only the researchers and their adviser will have access to this information. This survey is entirely voluntary, and respondents may wish to withdraw if they desire to stop answering the questionnaire due to various circumstances.

We are thanking you in advance for taking part in this study and completing our questionnaire. Before you answer the online survey, we ask you to read the agreement terms below.

PARTICIPANT'S AGREEMENT

1. I passed the Philippine Pharmacy Licensure Examination between the years 2015 to 2019.
2. I am aware that the results of this study will be utilized in a paper or poster presentation, as well as maybe in an academic journal publication. Before the paper is presented, submitted, and approved for publication, I have the right to review, comment on, and/or withdraw information. Throughout the research, the information gathered in this study will be kept private and anonymous.
3. I voluntarily agree to take part in this study.

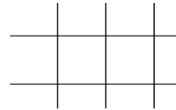
Do you agree?

I AGREE with all of the information mentioned above.

I DISAGREE with all of the information mentioned above.



Appendix G: Publicity Materials for the Study



CALLING FOR RESPONDENTS 🔍

WE ARE IN NEED OF

PASSERS OF THE PHILIPPINE PHARMACY LICENSURE EXAMINATION FROM 2015-2019

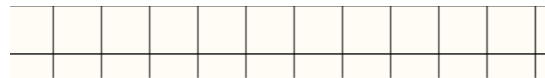
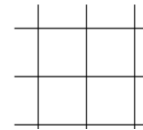
- ✓ EITHER CURRENTLY WORKING OR NOT
- ✓ EITHER RESIDING IN THE PHILIPPINES OR OVERSEAS



For inquiries, contact us:

📞 09175293542 (Globe) (Ishy)

✉️ chmm.research@gmail.com



GOOD DAY!

We are third-year students from De La Salle Medical and Health Sciences Institute under the program of BS Pharmacy. We are currently conducting a study entitled "EMPLOYMENT AND MIGRATION PATTERNS OF GRADUATES WHO PASSED THE PHILIPPINE PHARMACY LICENSURE EXAMINATION."

This study generally aims to determine the employment and migration patterns of graduates who passed the Philippine Pharmacy Licensure Examination for the year 2015 up to the year 2019.

The findings of this study shall inform policymakers and decision-makers regarding the employment and migration patterns of pharmacy licensure exam passers, including the various identified push-pull factors which contribute in their decision to practice in the country or overseas. Currently, there is no updated data on this topic, and our study shall help fill in the gap in terms of pieces of evidences that may support further policy recommendations to help improve employment conditions for pharmacists in the country.

This online questionnaire consists of less than 20 questions which can be **easily completed within 15 minutes or less**. The survey is divided into **three (3) parts**:

- Part I: Demographic Characteristics
- Part II: Employment Patterns
- Part III: Migration Patterns

We are thanking you in advance for taking part in this study and completing our questionnaire. God bless!



SCAN ME



PRECIOUS NICOLE D. CRUZ

Address 101 Gov. Drive Ternate, Cavite
Contact Number 09262572317
Email preciousnicole09@gmail.com



PERSONAL PROFILE

Birth Date	September 26, 1999	Nationality	Filipino
Age	22	Civil Status	Single
Sex	Female	Religion	Roman Catholic

EDUCATION

Tertiary

Bachelor of Science in Pharmacy 2018 - present
 De La Salle Medical and Health Sciences Institute
 Dasmariñas City, Cavite

Secondary

STEM 2016 - 2018
 Cavite National Science High School (RSHS)
 Garita-B Maragondon, Cavite

ACHIEVEMENTS/AWARDS/RECOGNITIONS

7th Honors, Gawad Dekana for the A.Y. 2019 – 2020
 College Honors for the 2nd Semester of A.Y. 2018 – 2019
 College Honors for the 1st Semester of A.Y. 2019 - 2020
 University Honors for the 2nd Semester of A.Y. 2019-2020



MARIA ISABEL C. HEMEDES

Address 159 Poinciana Sta. Rosa City, Laguna

Contact Number 09175293542

Email michemedes@gmail.com



PERSONAL PROFILE

Birth Date April 26, 2000

Nationality Filipino

Age 21

Civil Status Single

Sex Female

Religion Roman Catholic

EDUCATION

Tertiary

Bachelor of Science in Pharmacy 2018 - present

De La Salle Medical and Health Sciences Institute

Dasmariñas City, Cavite

Secondary

STEM 2016 - 2018

St. Scholastica's College - Westgrove

Silang, Cavite

ACHIEVEMENTS/AWARDS/RECOGNITIONS

College of Pharmacy Student Publication (The Stellar) Head Photojournalist, A.Y. 2020 - 2021

College of Pharmacy Student Publication (The Stellar) Head Photojournalist and Web Head, A.Y. 2019 - 2020

Seeking Knowledge on Labor And Science Technology Engineering and Mathematics (SKOLASTEM – SSC-W SHS Organization) Founding Member, A.Y. 2016 - 2017



ANDREA RAY T. MIRANDA

Address Blk 14 Lot 4 Yakal St. ACM Sherwood Homes, Anabu 2-B, Imus, Cavite

Contact Number 09234379560

Email andrearaymiranda@gmail.com



PERSONAL PROFILE

Birth Date October 11, 1999

Nationality Filipino

Age 22

Civil Status Single

Sex Female

Religion Roman Catholic

EDUCATION

Tertiary

Bachelor of Science in Pharmacy 2018 - present
De La Salle Medical and Health Sciences Institute
Dasmariñas City, Cavite

Secondary

STEM-BIOLOGY 2016 - 2018
De La Salle University - Dasmariñas
Dasmariñas City, Cavite

ACHIEVEMENTS/AWARDS/RECOGNITIONS

DLSMHSI Institutional Peer Facilitators Organization Vice President, 2020-2021

College of Pharmacy Student Publication (The Stellar) Literary Editor, 2020-2021

College of Pharmacy Student Council (CPSC) Vice President for Internal Activities,
2019-2020

College of Pharmacy Student Council (CPSC) Batch 2022 Representative, 2018-2019



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PERSONAL PROFILE

Birth Date	July 31, 2000	Nationality	Filipino
Age	21	Civil Status	Single
Sex	Male	Religion	Roman Catholic

EDUCATION

Tertiary

Bachelor of Science in Pharmacy 2018 - present
 De La Salle Medical and Health Sciences Institute
 Dasmariñas City, Cavite

Secondary

STEM - Biology 2016 - 2018
 De La Salle University - Dasmariñas
 Dasmariñas City, Cavite

ACHIEVEMENTS/AWARDS/RECOGNITIONS

2nd Honors, Gawad Dekana for the A.Y. 2019 - 2020
 8th Honors, Gawad Dekana for the Academic Year (A.Y.) 2018 - 2019
 College Honors for the 1st Semesters of Academic Year (A.Y.) 2019 - 2020 and 2020 - 2021
 University Honors for the 1st Semester of A.Y. 2018-2019, and 2nd Semesters of A.Y. 2019 - 2020 and 2020 - 2021
 DLSMHSI Health Assembly of Lasallian Scholars (HeALS) College of Pharmacy Representative, A.Y. 2018 - 2019