

Pharmacy Practice in Central and South America

The Ohio State University College of Pharmacy

Jorge Ng Zheng

International Pharmacy Independent Study

Dr. Ken Hale, PhD.

February 8th, 2015

Introduction

The field of pharmacy has grown tremendously in the United States over the past decades. Historically, pharmacy is considered to be a behind-the-scenes profession mainly focused on the dispensing of medications. Furthermore, students did not choose pharmacy as a profession so there were great incentives to pursue a career in the field. Simply put it, there were not enough pharmacists in the past. This has changed today. With the increasing number of schools and new graduates, the supply and demand for pharmacists are matched. Advocacy efforts and positive rapport with patients has also furthered the profession in terms of scope of practice. Pharmacists today are slowly shedding the image of a dispenser to that of a healthcare professional centered on direct patient care. The evolution of the profession has been a long and arduous process. Although there is more to accomplish in the United States, pharmacy practice has taken great strides forward.

The rest of the world is on its different stages in the path towards advancement of the profession. Every country falls somewhere in this spectrum. The practice of pharmacy varies depending on factors unique to each country. Central and South America in particular are interesting regions with diverse cultures, growing economies, but similar challenges in terms of pharmacy practice.

The following paper will provide an overview of the range of practice and advancement for the profession of pharmacy in the regions of Central and South America. Pharmacy practice examples from Nicaragua, Panama, Costa Rica, Brazil, and Argentina will serve to illustrate the various stages in the process with the goal of providing contrasting perspectives between the United States and the regions of Central and South America.



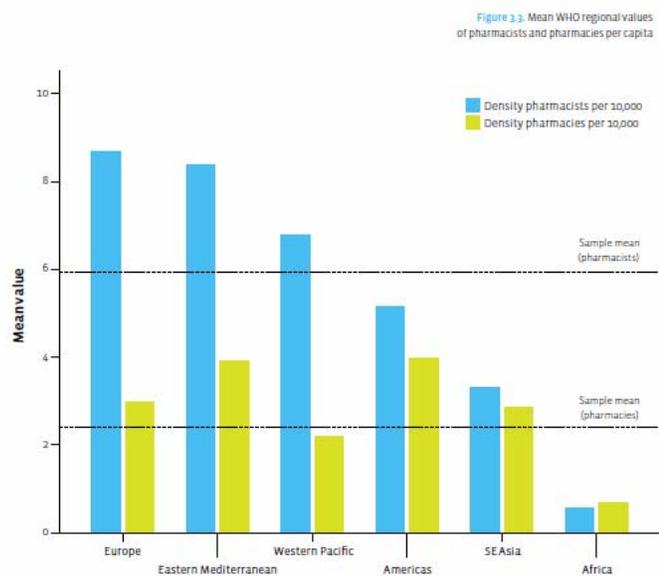
Overview of the Region

Pharmacy practice in the United States is vastly different than that of the rest of the world. The advancement in the profession of pharmacy in the United States is demonstrated by the focus on advocacy and push for recognition for provider status among other topics. The road to achieve such gains the terms of recognition by other healthcare professionals and patients and increased scope of practice has allowed pharmacists in the United States to transform from the conventional dispensing role. The following figure was created from data from the World Bank¹ and compares the countries that will be discussed.

| Country | <i>Argentina</i> | <i>Brazil</i> | <i>Costa Rica</i> | <i>Nicaragua</i> | <i>Panama</i> |
|---------------------------------|--------------------------------------|--|---------------------------|--|--------------------------------|
| Population | 42.700.000 | 204.008.513 | 4.954.370 | 6.146.492 | 3.931.783 |
| GDP | 609,888,971,018 | 2,245,673,032,354 | 49,621,089,476 | 11,255,642,565 | 42,648,100,000 |
| Land Size (km ²) | 2.78 million | 8.516 million | 51,100 | 129.494 | 75,416 |
| Gov Type | Democratic Rep. | Federal Republic | Republic | Republic under the Socialist Party | Constitutional Democracy |
| Economic Status | Developing | Developing | Developing | Developing | Developing |
| # pharmacy schools | 16 | 24 | 4 | 1 | 1 |
| Information Primary Pulled from | Universidad Nacional de Buenos Aires | Universidade Federal do Rio de Janeiro | Universidad de Costa Rica | Universidad Nacional Autónoma de Nicaragua | Universidad Nacional de Panama |

Central and South America provide a vast array of cultures, economies, and patient populations. Several countries in the regions will be used to highlight the unique priorities that affect the practice and what is needed to elevate the profession. The regions are still developing economically and so is the healthcare system for most of the countries. Along with economic development, the profession of pharmacy sees a spectrum of social regard from the Public¹. In some countries such as Nicaragua, the pharmacist is seen as a prestigious profession while in others the profession is more dispensing based. The cost of medications adds another layer of complexity to the practice of pharmacy and the public's opinion for the profession.

In terms of economy, every country in the regions is considered to be developing as compared to more developed nations in Europe and North America. There seems to be a positive correlation between the GDP of each of the countries highlighted and the number of pharmacy schools and subsequent pharmacy professionals. This is partly due to the economic and social development. What seems somewhat archaic and limited compared to the model of pharmacy practice in the United States is considered progressive in these countries. One example to highlight is the possibility of new private pharmacy schools opening up in Nicaragua which will increase the access to education but potentially increase the competitiveness and saturation in the field of pharmacy. Furthermore, advocacy efforts for the profession continue to be limited due to the sheer number of pharmacists, although Costa Rica with 7.5 pharmacists per 10,000 people is higher than the global mean of 6, struggles for adequate representation compared to physicians, nurses, and other healthcare professionals².



The reality is similar among the other countries adding another potential barrier to the advancement and momentum gained for the field of pharmacy.

Furthermore, it is important to recognize that economic and social environments in these regions dictate the patient's priorities. In developing countries, oftentimes, priorities may be placed on public health issues such as malnutrition, lack of roads and transportation, and limited access to education. In contrast, developed countries such as the United States can dedicate resources specifically aimed at promoting the profession of pharmacy and impact on patient care. Whereas in developing countries such as these, the general public may focus their energy on securing food and safety instead of focusing on prevention or even management of chronic diseases such as high blood pressure and diabetes¹. Understanding the patient's sociocultural background allows better perception of patient care and pharmacist's role in their healthcare.

The cultural environment in Central and South America differs from that of the United States. There are strong ethnic and cultural influences when it comes to approaching healthcare and treatments utilized. Patients often self-diagnose and self-treat ailments through folk medicine and traditional herbal concoctions. Also, culture influences the manner in which patients seek care and the trust that they place in the healthcare team. In this region, it is common for patients to not see the doctor until the home remedies have failed and the disease has progressed. The convenience, familiarity of use, lower cost, and strong tie to traditions boost natural remedies and folk medicine's reputation among patients and delays adequate access to care.

The availability of medications at grocery stores and the lax regulations make it a common practice to self-diagnose and self-treat ailments with over the counter products, some of which require a prescription in the United States^{3,4}. There are positives to this practice that enable patients to be actively involved in the treatment and prevention of disease. This practice, however, directly clashes with the notion that people should seek professional medical advice and trust in the healthcare team. Furthermore, the ease of access for medications has contributed to the public's unawareness of the benefit and knowledge capacity of healthcare providers such as physicians. It can be argued that this practice has had a somewhat positive impact on the role and perception of the pharmacist. In Costa Rica, Nicaragua, and Argentina, the pharmacist is viewed on a positive light due to the direct access to medical advice and the increasing freedom in scope of practice for the pharmacist^{3,5,9}. Nicaragua stands out due to the pharmacist's ability to diagnose and prescribe². The profession is held in such high regard by the society that patients often see the pharmacist before seeing the physician. On the other hand, some countries have more limited scope of practice for the pharmacists; often serving as a dispenser of medications, much like a regular store clerk or salesman. Medication counseling is often given by the physician and pharmacists are not encourage nor asked for advice⁴.

Education

Education is a key aspect to discuss in order to evaluate the quality of professionals in the field pharmacy and current practice guidelines in the regions. Education varies among all the countries in terms of duration and the requirements needed to practice pharmacy. Unlike

the United States, graduates are not required to have a PharmD to practice. Curriculums and requirements vary vastly and will be highlighted for several of the countries to provide a broader scope of pharmacy in terms of education.

Pharmacy education in Panama earns students a Bachelor Degree in Pharmacy. There is currently one university (University of Panama) and students typically complete 4 years of didactic work and a 1 year internship. The first 2 years of the program consist mainly to the equivalent of prerequisite courses such as organic chemistry, analytical chemistry, calculations, compounding, toxicology, and microbiology. The 3rd and 4th year provide a focused education on pharmacognosy, pharmacology, medicinal chemistry, and biopharmacy among others. Some courses in the curriculum that differ from those in the typical PharmD curriculum in the United States include public health, pharmaceutical industry, pharmacy administration, and bromatology⁸. After successfully completing the coursework, students are placed on a 1 year rotation consisting of two 6-month rotational experiences in community and hospital settings. After earning the bachelor degree, graduates can continue on to pursue a 2-year Masters degree suitable for pharmaceutical industry or management of a pharmacy³. There are no opportunities for pursuing PhD degrees in the realm of pharmacy at the moment.

Costa Rica offers more opportunities regarding pharmacy education. There are several schools that offer a degree in pharmacy such as the Universidad Iberoamericana (UNIBE), Universidad de Ciencias Médicas (UCIMED), Universidad Latina de Costa Rica, and Universidad de Costa Rica (UCR). Each of these universities carries a different curriculum and the length of duration for the programs range from 3.3 to 5.5 years on average⁹. In addition, only the University of Costa Rica (UCR) offers minors and specializations in the humanities and non-degree related courses, contributing to its duration of 5 years compared to other institutions. Furthermore, the number of required experiential and community service hours vary as well. Enrollment in the programs is also limited (figure 5.2.2) as the profession continues to be community driven and students do not find particular niches of their interest.

Table 5.2.2. Registrants in the Colegio de Farmacéuticos de Costa Rica, by university of origin and year of registration, from 2001 to 2011

| Year | | | | | | | | | | | | |
|--------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|
| University | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | Total |
| UIA | 16 | 58 | 114 | 73 | 22 | 42 | 35 | 54 | 58 | 42 | 77 | 591 |
| UNIBE | 33 | 33 | 42 | 40 | 54 | 56 | 74 | 89 | 43 | 75 | 113 | 652 |
| UCIMED | 0 | 11 | 7 | 46 | 13 | 18 | 8 | 33 | 10 | 21 | 19 | 186 |
| UCR | 77 | 94 | 75 | 77 | 50 | 34 | 56 | 43 | 55 | 44 | 58 | 663 |
| Total | 126 | 196 | 238 | 236 | 139 | 150 | 173 | 219 | 166 | 182 | 267 | 2092 |

Source: Data obtained from, and used with the permission of, Colegio de Farmacéuticos de Costa Rica. 2012

In terms of schooling, Nicaragua currently has only one university that prepares pharmacists, Universidad Nacional Autónoma de Nicaragua (UNAN-León). This university is public so it is at no cost to students. However, admission into the pharmacy program is extremely competitive³. The positive opinion of the profession encourages young people to consider a career in pharmacy. Although the profession is thought of as a vocational one, one involving service to others more than lucrative or personal gains, the program is very selective in its candidates. Interest in the profession continues to increase as pharmacists are given increase scope of practice, governmental benefits and discounts which along with a decent salary make the profession very appealing³. Admission into the program typically involves an

entrance exam and a competence exam after the first year to ensure that only top candidates remain in the program and become professionals.

Argentina and Brazil are considered more developed countries in the region and therefore have a higher number of schools preparing pharmacists. Some schools in Argentina are Universidad Nacional de Córdoba, Universidad Nacional de Misiones, Universidad Nacional de San Luis, Universidad Nacional de Rosario, and Universidad de Buenos Aires among others⁵. Similarly, Brazil has 8 state universities, 16 federal, and many private institutions offering the Bachelor in Pharmacy degree^{6,7}.

Education provides the adequate foundation for pharmacists. There are vast differences in terms of length of duration of programs and the number of graduates for each of the countries. The variations in education and quality of the programs potentially affect the priorities of the graduates and the emphasis through which they practice and approach patient care.

National Organizations for Pharmacy Involvement

The practice of pharmacy is not possible without proper leadership and guidance through national organizations. In the United States there are several organizations that oversee the practice of pharmacy and provide recommendations for best practices and advancement. Similarly, in Central and South America there are organizations that function to provide principles to practicing pharmacists, updates in terms of medications, and current issues affecting the profession locally.

In Panama, the Colegio Nacional de Farmacéuticos was founded in 1963 to provide guidance to the professionals in the field. This organization provides updates on the profession, licensure protocols and direction for the practice of pharmacy¹⁰. Pharmacy graduates practice in a variety of settings such as community, small private/ independent pharmacies, state institutions, hospitals, and industry. The majority work in community or independent settings and focus mainly on the dispensing of medications. Pharmacy in the hospital setting is practiced similar to that of retail unlike in the United States. Physicians prescribe the orders and medications are dispensed by the pharmacists with little to no intervention. Industry on the other hand, is also available for graduates with interests in business and sales. The disparity of salaries also contributes to significant portion of graduates option for careers in industry. Pharmacists often take on the role of medical liaisons for pharmaceutical companies or work labs as quality control supervisors.

Similar to the Colegio Nacional de Farmacéuticos in Panama, Argentina has several organizations that serve the profession of pharmacy. One of which is the Asociación Argentina de Farmacéuticos de Hospital, Argentina's equivalent of the American Society of Health-Systems Pharmacists (ASHP), which provide links to medication resources, pharmacy journals, international pharmacy organizations, and a directory for graduates seeking residency programs in hospitals nationwide¹¹. Furthermore, it is important to note that unlike pharmacy residencies in the United States, residencies in Argentina can become available at any time during the year hence checking the directory and keeping in contact with the organization is particularly important for graduates seeking post-graduate training and education.

Other equivalent organizations include: Asociación de Química y Farmacia de Uruguay, Asociación Colombiana de Químicos Farmacéuticos Hospitalarios, Sociedad Chilena de Farmacia Asistencial, Sociedad Brasileira de Farmacia Hospitalaria y servicios de salud, Sociedad Peruana de Farmacia Hospitalaria. Argentina's promotion for the profession extends to publications such the Correo Farmacéutico, which advertises opportunities for continuing education credits, education to the general public about the role and scope of practice of the pharmacist, and advocates for the profession through leadership and international involvement¹².

Involvement in national organizations is key for continued success and communication within the field of pharmacy. Promotion of interests and advancement of the profession will only be possible through continued commitment and collaboration through these organizations. Although membership and involvement appears to be in the early stages for some of these countries, the progress in the United States give hope that new graduates will take the lead in these organizations and move the profession forward.

Pharmacy Practice in Central and South America

Pharmacy practice involves the scope of practice bestowed upon pharmacists by legislation, other healthcare providers, and the patients. The profession exists to serve society and to provide adequate expertise on medications to patients and other healthcare providers¹³. Pharmacy practice in Nicaragua may be considered the most forward in terms of advancement and social role of the pharmacist. In Nicaragua, the pharmacist is a well respected and recognized healthcare provider. Patients typically go to the pharmacist when seeking care and advice on minor ailments. Pharmacists are legally allowed to diagnose, order labs, and prescribe for minor ailments³. It is the pharmacist who often decides whether or not to refer the patient to the physician for more in depth evaluation³. Socially, the pharmacist is a very well regarded because of their ease of access, medical expertise, and competitive schooling.

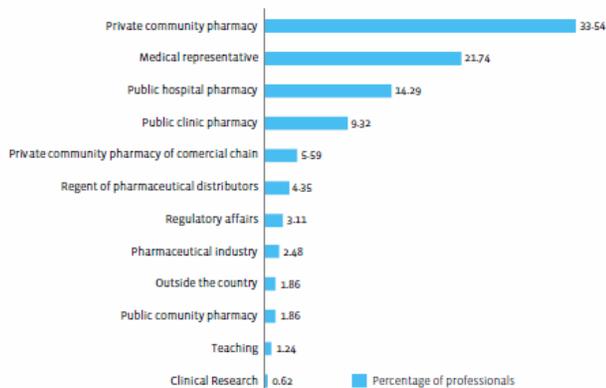
In contrast, pharmacy practice in Argentina shares the most similarities with that of the United States. There are several national organizations that promote the profession of pharmacy. The progressive nature of policies and advocacy movements in Argentina illustrate the potential for growth and promotion of the profession of pharmacy. In Argentina, the focus has shifted from dispensing to a more patient centered one- "el paciente es el principal beneficiario de las acciones del farmacéutico"¹². Moreover, there are more developed roles for the pharmacists as part of a multidisciplinary team through post-graduate residencies in hospital pharmacy. These opportunities are similar to those offered in the United States and indicate the forward thinking nature of leaders in the field of pharmacy in Argentina. The presence of national organizations that recognize, promote, and protect pharmacy interests further supports the advancement of pharmacy practice.

In Argentina, graduates have a wider variety of settings to practice in. Aside from the traditional community and hospital settings, pharmacists are specialized in unique settings such as bromatology, botany, and technology⁵. Bromatology focuses on the study of food so this can be considered similar to pharmacists with a specialty in nutrition sciences and those determining hospital TPN (total parenteral nutrition) support. Botany involves the study of plants and natural products which is still prevalent among patients. Lastly, technological

sciences involve the study and developments of modern technology improve patient care and safety equivalent to the growing field of pharmacy bioinformatics.

A case study posted by the International Pharmaceutical Federation (FIP) highlights the scope of practice in Costa Rica. At the time, the country totaled approximately 3,400 pharmacists of which 65% were practicing in the healthcare setting while 32% in industry, and 2% in education⁹. Figure 2.1 provides a detailed breakdown of the pharmacy settings in Costa Rica. The study shows the evident gap between working professionals and those dedicated to the advancement of the profession. The study concluded that Costa Rica, as most countries in the region lacks a strong organizational structure to lead the practicing pharmacists and find new ways to expand the profession⁹.

Figure 5.2.1. Distribution of pharmacy practice areas



Although the study pointed pharmacy leadership as a weakness in Costa Rica’s practice model for pharmacy, professionals do have a greater scope of practice than in previous years. Today, they can provide written information about injections to patients, and facilitate point of care testing of blood glucose and blood pressure at the pharmacy⁹. In addition, pharmacists can provide advice on medications and are required participate in pharmacovigilance- which is the post-marketing monitoring of medications and potential for side effects and safety concerns¹³. The government has gone one step further and has required a pharmacist to be present at all pharmaceutical companies and medicine distribution companies to extend the scope of pharmacovigilance.

Pharmacy practice in Panama appears to be in its early stage. Currently, pharmacists are only allowed to be dispensers of medications and do not participate actively in patient care compared to the other countries discussed. It is culturally, socially, and legally acceptable for the pharmacist take on a passive role with respect to patient care. The physician drives the patient care process⁴. Also, continuing education for practicing pharmacists is not required and is hardly available. Society’s expectations of the pharmacists play an important role in the limited educational opportunities currently available for pharmacists in Panama as there are no expectations from the pharmacists to be asked and answer questions from patients⁴. Advancements in the profession continue to be the topic of discussion of pharmacy advocates in Panama. A shift to a more clinical and patient-centered role is required for pharmacy practice in Panama to step from behind the scenes.

Public and Social Regard for the Profession

The role of the pharmacist in the region varies vastly. The spectrum through which pharmacists practice in Central and South America directly influences the manner in which patients perceive the importance and need for the pharmacist. As in the United States,

pharmacists are the most accessible healthcare providers to patients. The practice of asking questions to the pharmacists, however, sometimes poses a challenge for patients. This results in mistrust and lack of awareness of the pharmacist's skill set and contribution to patient care.

On one extreme, we have Nicaragua, where 20% of the population is unemployed³; pharmacists play a key role in providing accessible care and education. As previously mentioned, the government provides healthcare to all the citizens but this can lead to long waiting times. Pharmacists have effectively filled this gap by serving as healthcare providers and diagnosing and treating minor ailments creating a sense of trust among patients. In addition, pharmacists are allowed to follow patients on chronic conditions such as diabetes or high blood pressure³. Patients see the pharmacist more often than the physician creating good rapport with patients and making the profession to be highly regarded.

With respects to the other countries highlighted, the appreciation and knowledge for the pharmacist varies widely. In Argentina, Costa, and Brazil, where the practice of pharmacy is progressing and pharmacists can be seen in variety of settings, patients are starting to be more receptive to pharmacists. Panama resides on the other side of the spectrum. Pharmacists in Panama are limited to a dispensing role⁴. Physicians are the ones that determine patient care and patients are encouraged by the system to seek help from other healthcare professionals besides the pharmacist. Increased exposure and interactions with patients are needed in order to evolve the role from a dispensing one to a patient care one. Although the practice and advocacy for the profession shows promise, more needs to be changed in terms of legislation and responsibilities for the pharmacist moving forward.

Pharmacy Regulations in the Central and South America

Regulations in the scope of practice for pharmacists are specific to each country. Legislation is the result of a combination of pharmacy education, need for the profession in the healthcare field, advocacy efforts, and the public's perception. The national regulating body for medications in the United States is the Food and Drug Administration (FDA). Similarly, each of the countries has a national governmental body that oversees the manufacturing and dispensing of medications. In Argentina there is the Agencia Nacional de Medicamentos, Alimentos, y Tecnología Médica (ANMAT), Brazil has the Agência Nacional de Vigilância Sanitária (ANVISA); Chile, the Instituto de Salud Pública (ISP); Bolivia, the Dirección de Medicamentos y Tecnología en Salud (DINAMED); Colombia, the Instituto Nacional de Vigilancia de Medicamentos y Alimentos (INVIMA); and Perú has the Dirección General de Medicamentos, Insumos y Drogas (DIGEMID). All of these organizations develop standards for good manufacturing practices for medications and influence the manner in which pharmacy is practiced in the region.

In Panama, legislation has required pharmacists to maintain accurate documentation of medications¹⁴. In addition, as a cost containment strategy, there has been a recent push for the national use of generic medications. The government has created legislation to provide guidelines as to how to proceed and dispense generic medications. The legislation directs pharmacists, physicians, and patients as to how to best utilize generic medications. Pharmacists are required to identify and promote the use of generic medications when therapeutic substitution for generic is appropriate. In addition, both the pharmacist and patient must sign

an agreement stating that the generic medication was dispensed. An 81-page list of generic medications must be available at each pharmacy. Furthermore, doctors are required to write the generic name of the medications and inform the patients of the generic alternative. Lastly, manufacturing of generics is highly regulated and must comply with quality, safety, and efficacy standards¹⁴.

It is also important to note that the government determines the type of coverage and medication benefits that patients qualify for. For example, as a socialist country, Nicaragua provides access to healthcare and medications to all of its citizens³. Citizens are encouraged to utilize this service but the increase in demand can lead to long waiting periods to see physicians. Supplemental insurance is also available for citizens in Nicaragua³. This type of healthcare coverage adds cost to the citizens but allows them to see a wider network of providers and avoid long waits. On the other hand, countries like Panama, Argentina, and Brazil do not have universal healthcare as a result of the democratic government and sometimes struggle with adequate and fair access to healthcare and medications for all of its citizens.

Argentina's scope of practice and regulations is the most similar to that of the United States. Tremendous progress in terms of pharmacy education and opportunities for pharmacists to be involved in direct patient care has been achieved. However, with the increasing scope of practice come limitations with the current legislations so leaders in the profession continue to advocate for change and progress¹¹.

Brazil's regulation on pharmacy practice is unique with regards to the Popular Pharmacy Program. Through the program, patients are able to obtain medications at up to 90% discounted prices compared to regular, non-preferred, stores. With the goal of encouraging patients to obtain their medications from a single designated store, the program aims to reduce medication errors and potential costs of healthcare associated with medication adverse effects¹⁵.

Challenges to the Practice of Pharmacy

The various stages in which pharmacy is developing in each of these countries carry several challenges. A common challenge faced by all countries in the region is that research and advancement for the profession of pharmacy is limited by the social, economical, and political instability. In most of Central and South America, society and governments are in the early phases of development and thus the focus for the profession of pharmacy remains halted. Several of the countries will be used as examples to illustrate unique challenges to the practice of pharmacy.

In Nicaragua, for example, the high regard for the profession brings the unintended consequence of a highly competitive process for admission and education for future pharmacists. In addition, the fact that currently there is only 1 school that provides pharmacy education limits the number of opportunities for interested candidates. As a result, 2 new private schools will be opening in the near future. In principle this seems like a good idea but will eventually lead to saturation in the field³. The increased number of graduates each year will also lead to potentially uneven quality of care as previously unqualified candidates are admitted into the other institutions. In addition, as the new institutions are private, students

will have to pay for their education, increasing the pressure for finding jobs in more lucrative settings shifting the nature of the profession away from its intended vocational nature³.

In Brazil, the major challenge is due to the disparity between salaries for graduates^{6,7}. Positions in the pharmaceutical industry are more lucrative than those in community and hospital settings. This in turn decreases the number of pharmacists caring for patients and the potential need for increased scope of practice for pharmacists as a significant portion of the professionals are uninvolved with patients^{6,7}. The lack of presence from competent and patient-oriented pharmacists has resulted in the profession being negatively regarded by the public too. The solution, although simple, is complex in nature. Pharmacists must be present and engage with patients care in order to promote the profession positively^{6,7}. In order to achieve this, salaries must become competitive among all pharmacy settings so that graduates are able to choose what field to pursue based on their professional rather than financial interests. .

Another interesting challenge that affects pharmacy education in the region involves the duration of schooling for pharmacists, similar to what is experienced in the United States. Costa Rica serves to illustrate the challenge through the various programs offered ranging from 3 to 5 years to become a pharmacist⁹. In addition, each of the schools has a unique curriculum and distinctive requirements for graduation. The disparity in requirements makes it difficult for students to choose a program and become adequately prepared leading to professionals with a wide range of competencies and experiences. This is similar in the United States as some programs can be completed in as early as 6 years. Moreover, accreditation has become a challenge in some countries as it is not a requirement for programs⁹. The solution to this challenge can be to create a more uniform set of courses and competencies that students must complete. In addition, incorporating additional post-graduate training such as residencies will allow the graduate to gain competency in a variety of areas before working independently.

Pharmacy continues to be a profession that deeply focuses on providing care to others and effectively providing medication knowledge to patients and other professionals. The practice of pharmacy in the region of South America continues to evolve and progress along with economic and social advancements. As discussed, there is no uniform status for the field of pharmacy in the region but rather a spectrum.

Conclusion

The regions of Central and South America practice pharmacy slightly differently. At the core, however, every country wants to promote the profession and care for patients. FIP's manual of pharmacy practice presents the career with very key roles- caretaker, decision-maker, communicator, gesturer, constant student/learner, professor, leader, and investigator¹³. I believe that pharmacists in the region are excellent at some of these roles but not all of them. Examples from Costa Rica, Panama, Nicaragua, Brazil, and Argentina served to showcase the state of the profession in various pockets of the region. The common thread involves a need for leaders in the profession to help with advocacy, promotion, and focus on helping patients. Pharmacy practice in Central and South America resembles early stages of development similar to those of the United States. The history and progress evidenced in the practice model, regulations, and public regard in the United States provides hope that the region will continue to move forward and evolve the current pharmacist into the ideal healthcare professional.

References

1. Country GDP Database. *World Bank*. Accessed Nov 3, 2014.
<http://data.worldbank.org/indicator/NY.GDP.MKTP.CD>
2. 2012 Global Pharmacy Workforce Report. *International Pharmaceutical Federation (FIP)*. Published in 2012. Accessed Oct 15, 2014.
http://www.fip.org/files/members/library/FIP_workforce_Report_2012.pdf
3. Dr. Esperanza Carcache de Blanco, PhD.
4. Dr. Angela Calderon, PhD
5. Dr. Mario Simirgiotis, PhD
6. Capelatti da Silva, Leonardo. University of São Paulo, School of Pharmaceutical Sciences of Ribeirão Preto, Brazil (FCFRP/USP)
7. Ogava, Michelle. State University of Goiás, Brazil (UEG)
8. Manual de Matrícula- Facultad de Farmacia. *Universidad de Panama*. Accessed Dec 10, 2014. <http://www.up.ac.pa/PortalUp/FacFarmacia.aspx?submenu=788>
9. Pharmacy Workforce Planning, Management and Development Case Studies- Costa Rica. 2012 Global Pharmacy Workforce Report. *International Pharmaceutical Federation*. Published in 2012. Accessed Oct 15, 2014.
http://www.fip.org/files/members/library/FIP_workforce_Report_2012.pdf
10. Colegio Nacional de Farmacéuticos de Panama. Accessed Nov 15, 2014.
<http://www.conalfarm-panama.com/>
11. Asociación Argentina de Farmacéuticos de Hospital (AAFH). Accessed Nov 20, 2014.
<http://aafhospitallaria.org.ar/>
12. Reciba sus medicamentos de manos seguras. *Correo Farmacéutico*. Published Feb 2007. Accessed Nov 3, 2014.
<http://servicios.cofa.org.ar/CorreoFarmaceutico/CORREO%20FARMACEUTICO%2067.pdf>
13. Developing Pharmacy Practice. *International Pharmaceutical Federation (FIP)*. Published in 2006. Accessed Nov 1, 2014. http://www.fip.org/good_pharmacy_practice
14. Dirección Nacional de Farmacia y Drogas. *Ministerio de Salud de Panama*. Accessed Oct 4, 2014. <http://www.minsa.gob.pa/direccion/direccion-nacional-de-farmacia-y-drogas>
15. Batista Moreira Saboya R, Ruano Casado L. El programa farmacia popular de Brasil: el acceso de las personas a los medicamentos genéricos. Accessed Oct 10, 2014.
http://www.alass.org/cont/priv/calass/docs/2014/sesion22/05-09_sesion22_4.pdf

Images obtained from

1. <http://www.transitionsabroad.com/listings/work/esl/articles/workinlatinamerica.shtml>
2. World Bank Data
3. 2012 Global Pharmacy Workforce Report. *International Pharmaceutical Federation (FIP)*. Published in 2012. Accessed Oct 15, 2014.
http://www.fip.org/files/members/library/FIP_workforce_Report_2012.pdf
4. Pharmacy Workforce Planning, Management and Development Case Studies- Costa Rica. 2012 Global Pharmacy Workforce Report. *International Pharmaceutical Federation*. Published in 2012. Accessed Oct 15, 2014.
http://www.fip.org/files/members/library/FIP_workforce_Report_2012.pdf