RESEARCH ARTICLE

The Determinants of Abroad-Based Practice among UPCM Alumni

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ABSTRACT

Background: The country's health system is confronted with the potential threats of mass overseas migration and non-equitable distribution of health professionals including physicians. The UP College of Medicine (UPCM), despite being subsidized by the state, has its own share of this problem regarding its graduates.

Objectives: The objectives of this study were to look into the geographic distribution of practices among the alumni of UPCM and to identify the predictors of abroad-based practice. The period involved was entirely covered by the Regionalization Program (RP) and partially by the Return Service Obligation Program (RSOP).

Methodology: The geographic practice base among the UPCM graduates was determined and correlated through logistic regression with their pre-admission academic profile, namely Pre-Med General Weighted Average Grades (PGWAGs), National Medical Admissions Tests (NMATs), interview scores, entry rank, pre-med courses, admissions categories, Medicine General Weighted Average Grades (MGWAG), class rank, and board rating.

Results: Majority (51.3%) of the UPCM graduates practiced at the National Capital Region (NCR), around a quarter (26.1%) practiced in the province, and approximately one out of ten (11.4%) was based overseas. Associated with higher odds of practicing abroad were those with higher board rating, entry rank, NMAT, %MGWAG, %PMGWAG, class rank, and those admitted through the UP Medical Alumni Association in America (UPMASA) category. Other special categories such as high interview scores and BS Psychology graduates in pre-med lowered the chances of overseas migration and practice.

Conclusion and Recommendation: UPCM graduates with superb academic performance both in their pre-med course and in medicine would most likely establish their geographic practice abroad. In order to minimize the brain drain and overseas migration of UPCM graduates, the admissions policy must be revised towards shifting the focus from purely academic criteria to the non-academic attributes of the applicants.

Keywords: *medical college admission, medical education, academic performance, geographic practice base*

Introduction

The University of the Philippines College of Medicine (UPCM) is the most sought-after institution of higher learning in medicine. Its high standard of medical education and impressive list of highly competent educators make it the country's premier medical school. Its collaboration with the Philippine General Hospital as its teaching arm, provides an ideal setup for an extensive clinical learning experience. This, in addition to the substantial subsidy allocated by the government on the cost of education [1], makes this college very attractive to would-be physicians.

Getting into this college is extremely competitive as its admission policy is rigid and exacting. Because of the limited annual slots, the admissions committee must select only the best and the most deserving students from a large pool of qualified aspirants with superb academic credentials. The competition is so stiff that being honor students upon graduation is no guarantee of acceptance [2].

Annually, almost a thousand graduates of four-year baccalaureate courses aspire for admission as lateral entrants to the medical education program of UPCM [3]. After a thorough documentary record and credential review, only the top (300) will qualify for an interview and subsequently, the best 140 will be accepted. The lateral entrants constitute 75% of the 180 yearly admission to

medicine [4]. The 25% or the 40 slots are allotted to the direct entrants (Intar-med: 7-year medicine program course) who are selected two years prior. These direct entrants coming directly from high school are selected from the top 50 males and 50 females based on the University of the Philippines College Admissions Test (UPCAT) scores and University Predicted Grade (UPG). Their selection is based on a different set of admissions criteria and processes [5].

In the most recent data from the Admissions Committee, the cut-off for Pre-Med General Weighted Average Grades (PMGWAG) in order to be accepted was around 1.600 for males and 1.400 for females, with a modal National Medical Admission Test (NMAT) of 99 percentile [6]. This demonstrates the high level of competition among the aspirants, that many of them who graduated with honors did not make it to the list. This competitiveness in the application process is truly indicative that UPCM remains to be the most sought-after medical school.

It is irrefutable that UPCM has the lowest cost of medical education as much of it is subsidized by the government. More recently, an PhP 8 billion cash grant has been appropriated yearly to fund the free tuition fee of all medical students in all state universities and colleges [7]. UPCM students can avail of this grant or opt to pay their matriculation.. Currently, no medical school can match or go lower than the UPCM annual matriculation of 100,000 Php [5]. Other medical schools currently and on the average charge from PhP 150,000 to 300,000 per annum.

In a cost analysis study done in 2018, it was established that the total subsidy for each medical student (including internship) of UPCM is pegged at 2.3 million pesos [8]. This is how much the Filipino people, as taxpayers, contribute and invest in producing a doctor at UPCM. Thus, the Filipino people no less must be the first and foremost in reaping the benefits from educating them [9,10].

However, despite the above, many UPCM alumni still opt to go abroad to seek employment and stay there for good. From whatever perspective viewed, it is quite glaring and obvious that the subsidy bestowed by the government to these UPCM alumni was simply put into waste. It is, indeed, a losing venture or a lost investment in our country's human and financial resources.

Review of Literature

The Philippines has been a major source of health professionals to many countries and is acknowledged as a major exporter of nurses and physicians, only second to India [11,12]. Nurses, in particular, are in such demand globally that in some countries in the late 1990s and early 21st century, doctors and other professionals were retraining as nurses in order to secure jobs overseas. Certain countries, the Philippines included, are also now producing more nurses than they are willing or able to employ in their own systems [13].

A survey done by the Health Alliance for Democracy (HEAD) in 2006 found out that 80% of doctors working in the Filipino public sector had applied or intended to apply to work overseas and 90% of municipal health officers were set to leave to work abroad. They were planning to leave not as doctors but as nurses because major recruiting countries — USA, UK, Ireland, Saudi Arabia, and Singapore — were seeking and luring nurses with promises of pay well above a Filipino public doctor's salary [13].

Historically, in the '70s and early '80s, numerous Filipino physicians were enticed to practice abroad because of better remunerations. In fact, during that period, there was an observed massive exodus of medical practitioners, a significant portion of whom were alumni of UPCM. During the mid-seventies, 68% of Filipino doctors were working outside the Philippines [14].

In the US alone, the Philippines is the second largest source of foreign-trained physicians [15]. Out of a quarter million foreign-trained physicians currently in the US, 13,500 are from the Philippines [16]. The Department of Health projected in 2007 that if this trend of migration is allowed to continue unabated, the country would have a deficit of 7,401 doctors by 2030 [17]. It is unfortunate that this migration of health professionals to developed countries is presently taking place even though the Philippines still suffers from a high burden of disease and an inequitable distribution of health workers [18,19].

There are myriads of reasons why health professionals migrate and seek employment overseas. The reasons are primarily to pursue better economic opportunities, and secondarily for professional growth and peaceful socio-political situation [20]. The substantial difference in real incomes remains to be the most enticing and motivating factor [21]. Currently, an average physician in the US earns close to $313,000 annually [22], while a government hospital physician in the Philippines cannot expect to earn more than around $12,000 yearly [23] which is even less than the minimum wage of a US menial worker of $13,920 per annum [24].

The economic gains our country can obtain from this health workers migration are mainly in terms of remittance of billions of dollars annually and these have proven to be an effective way to keep our economy afloat. However, this economic gain is negated by a multitude of unfavorable consequences. For instance, excessive loss of domestic labor can lead to the "brain drain" of young, highly skilled labor, a depletion of the workforce, and a severe reduction in the availability, equitable distribution, and quality of services. With the migration of highly skilled professionals like physicians and having the less-skilled workers remain in the country can lead to a reduction in productivity which might restrict economic development. Furthermore, a diminishing supply of workers in the source country may push wages up, further adding pressure on its economy [25-27].

Likewise, the migration, especially of the highly skilled professionals, equates to a tremendous investment loss to the country's economy. This is because to produce a competent physician entails a big expenditure financially and in terms of time. More so, if the cost of its medical education is subsidized by the state or by the taxpayers' money.

Thus, in response to the potential threats of the health worker exodus and brain drain, the Return Service Obligation Program (RSOP) was created and first implemented in 2005. The RSOP was conceptualized and subsequently adopted for the purpose of providing a temporary stopgap measure to abate and retard the mass departure of the UPCM graduates. As a mandatory requirement for admission to UPCM, the Return Service Agreement (RSA) imposes upon the UPCM graduates to render health care services as physicians in the Philippines for three years, within five years upon graduation. Failure to comply with such provision would entail payment of a renegading penalty of PhP 4.6 million [28]. This amount is twice the recently computed estimation of the entire cost of medical education in UPCM as subsidized by the government [8].

Hand in hand with the RSOP in the pursuit of UPCM's mission and vision, was the Regionalization Program. The Regionalization Program (RP) was created and implemented in 1985 to address the inequitable distribution of physicians in the country especially in the poor and remote rural areas [10]. The scheme obligates the program participants to return and render medical services to specific underserved communities for five years [29]. Failure to comply would likewise entail the imposition of a renegading penalty of PhP 4.6 million.

Study Objectives

Offhand and pending any formative and summative evaluation of the RSOP and RP, one can easily surmise that the two programs could seemingly and temporarily provide some relief on the problem of manpower maldistribution and scarcity in the health sector. However, these measures were meant to be just temporary and only temporizing. The RSOP was formulated to partially recover the government resources that have been invested through subsidies and granted to UPCM students. Partial return of government investments may be realized by deferring for three years the UPCM alumni's final plan as to where to practice for good. Likewise, the RP could merely impose to the graduates to temporarily render service to the underserved rural communities for only five years. Thereafter and eventually, in both programs, the graduates could still decide on their own without any legal liabilities and social impediments, their geographic practice base of choice.

As it is very relevant for policymakers, the main objective of the study was to determine the geographic distribution of practices among the alumni of UPCM and identify specifically the predictors of geographic practice base. It is essential to ascertain what factor/s would probably entice an alumnus of a state university to work overseas and be of service to other nationalities. It will be of utmost importance to know the factor/s and indicator/s that contribute/s or predict/s the likelihood of going abroad and practicing offshores.

This research work primarily looked into the geographic distribution of practices among the alumni of UPCM for the past twenty-four years (1990 to 2013). The study described how many of these alumni went back to the province or remained in the NCR to practice. It also accounted for those who went abroad to establish practice and domicile. The time frame, from 1990 to 2013, was covered entirely by the Regionalization Program which started in 1985, and partially by the implementation of the Return Service Obligation Program which started in 2005.

Through logistic regression analysis, this study also probed into the factors that stand as determinants of having a practice that is based abroad. The same analysis approximated the probable odds of an alumnus of going and establishing practice abroad.

The information derived from this research work can be utilized as basis for revisions and amendments of the admissions policy as well as an evaluation of the Return

Service Obligation Program (RSOP) and the Regionalization Program (RP). The data obtained by this study may also serve as an impetus in the development of other institutional policy and a grounded reference in future decision-making.

Methodology

Study Design

This study is part of an extensive research work commissioned and funded by the Dean's Office of UPCM [30]. The said research work was a retrospective study that was both descriptive and inferential that looked into and went over a wide scope of information, data, parameters, and variables relevant to the reformulation or revision of the admission policy. Different study components covered specific areas of interest, inquiries, focus, and objectives.

Data and information were mainly obtained from archival documents compiled, kept, and preserved by the Admissions Office from 1985 to 2013. Included in the data were the demographic profile of the applicants during the given time frame which contained the age, sex, economic status (income bracket), pre-med course, and the school graduated from. Also included in data collection were the academic profile of the applicants who had been successfully accepted into the college namely the PMGWAG, NMAT, and structured interview scores.

The target population was the entire population of lateral entrant students at the UP College of Medicine who had enrolled and graduated from 1990 to 2013. The records of the study subjects from the Admissions Office and Student Records Office were retrieved, reviewed, and processed relevant to the necessary statistical analysis. The study covered twenty-four years and probed into at least 2,900 student records and data.

Information pertaining to the alumni practice base was retrieved and collected from the office of the UP Medical Alumni Society (UPMAS), encoded together with their individual academic and pre-admissions records. Geographic practice base distribution was established and described by frequency, count, and percentage.

Encoding was done through alpha-numeric encryptions of names and other identifying information. Data were stored in the hard drive of the computer of the Office of Admissions which was solely accessible to the research assistant.

Multiple Univariate Logistic Regression Analysis was done using SPSS version 20 to establish the likelihood/odds/risks relationship between the predicting variables (PMGWAG, MGWAG, NMAT, board rating, interview score, pre-med course, school, admissions category, and entry rank) and of practicing abroad as the outcome variable.

Confidentiality of retrieved records and documents to be reviewed as well the anonymity of the students' identities relative to these records and documents were strictly maintained. Privacy of the individuals to whom these records and documents pertain was protected at all times.

The research assistant who did the encoding was not from the medical community or UP System and is unfamiliar with any of the record owners. The research assistant was required to sign a confidentiality agreement. Likewise, the principal investigator was always blinded on the ownership of the record and data.

Lastly, as a mandatory requirement for all research studies in this institution and for the purpose of future publication, the author of this undertaking personally worked for and had obtained a waiver of consent and a technical and ethical approval from the Research Implementation and Development Office (RIDO) and the University of the Philippines Manila Review Ethics Board (UPMREB).

Operational Definition of Terms:

Geographic Practice Base: The place and the locality of professional practice as physicians. For simplicity, it was comprehensively categorized as NCR, Provincial, and Abroad. The NCR (National Capital Regional) Practice Base pertains to the medical practice in Metropolitan Manila that covers the 16 cities of Manila, Quezon City, Caloocan, Las Piñas, Makati, Malabon, Mandaluyong, Marikina, Muntinlupa, Navotas, Parañaque, Pasay, Pasig, San Juan, Taguig, and Valenzuela, as well as the municipality of Pateros. Provincial Practice Base pertains to the locality of professional practice outside NCR but within the country, regardless of the degree of urbanity or socio-economic class whether rural or urban areas. Abroad-based Practice refers to the overseas practice of medicine.

Pre-medical General Weighted Average Grade (PMGWAG): The overall grade computed from all grades obtained from the academic subjects taken in the undergraduate or pre-medical course weighted according to their corresponding units. These are prepared by the

University Registrar's office and submitted by the applicants to the UPCM Admissions Office. This grade covers the three and a half years (7 semesters) of academic performance of the student as an undergraduate. The grading scale follows that of the UP System wherein the highest grade is 1.0 while the lowest is 5.0 (Failed). The %PMGWAG is computed by converting the PMGWAG to percentage using the equation %PMGWAG = 25 x (5-PMGWAG).

National Medical Admission Test (NMAT) Score: The overall score in the nationally administered aptitude test required for admission to the medical school. This test covers the following domains [29]: Verbal and Quantitative Aptitude, Inductive Reasoning, Perceptual Acuity, Biology, Physics, Chemistry, and Social Science. The overall score, which is called the General Performance Score, is given in terms of a composite score and percentile rank.

Entry Rank: The percentile rank among the successful applicants based on the entryscore. The entry score is computed from 60% %PMGWAG, 30% NMAT, and 10% interview score in percentage.

Class Rank or Graduation Rank: The student's percentile ranking out of the total number of students in the graduating class. This is based on the student's MGWAG (Medical General Weighted Average Grade) and is determined prior to graduation. Like the MGWAG, these are computed by the Office of Students Records of UPCM and kept as part of the student's permanent archival record. For uniformity of the scales in the linear regression analysis, this ranking is also converted to percentile.

Medical General Weighted Average Grade (MGWAG): The overall grade computed from the grades of the subjects taken during the medicine proper program, weighted according to their corresponding unit-hours. These are computed prior to graduation by the Office of Students Records of UPCM and kept as part of the student's permanent archival record. The scale follows the UP grading scale with 1.0 being the highest and 5.0 the lowest (failed). The %MGWAG is likewise computed by converting the MGWAG into a percentage by the equation: %MGWAG = 25 x (5 – MGWAG)

Medical Board Rating: The overall score (in percentage) of the medical graduate in the nationally administered Physician Licensure Examination conducted by the Philippine Regulatory Commission. This is the average of the individual scores in the areas covered by this board examination namely: Anatomy, Biochemistry, Physiology, Pharmacology, Surgery, Internal Medicine, Pediatrics, Obstetrics and Gynecology, Legal Medicine, and Medical Jurisprudence.

Admissions Categories: The category through which the applicants are accepted into UPCM [4] as freshmen in medicine proper, Learning Unit 3 (Lu3). These are as follows:

1. **Academic Category:** The main category of admissions to UPCM, applicants are ranked based on the composite and weighted sum of 60% PMGWAG, 30% NMAT, and 10% Interview Score (60-30-10 rule). It accepts 91 applicants (46 Female, 45 Male) under this category.
2. **Special Categories:** The category, where slots are allotted for particular purpose/s, recognition/s, and consideration/s. It accepts a total of 39 candidates.

A. **Regionalization and Indigenous People Program:** The category that accepts candidates based on their regional roots, culture, and desire/commitment to serve the said regions upon graduation. Prioritization is based on the dire needs of a particular region. The priority shall be the regions with underserved communities. The program aims to address the maldistribution of physicians in the country. This special category accepts 17 freshmen (LU3) annually [10].

B. **UP Faculty and Employee Category:** This category allows 12 slots (6 females and 6 males) for children of active UP faculty members and UP employees [31]. This category is created for the recognition of the faculty and employees for their service and dedication to the University.

C. **UPMAS and UPMASA Category:** The category that recognizes the contributions of UPCM alumni to the medical community, society, and the university. Six slots (3 females, 3 males) are allotted to this category yearly, 4 slots for UPMAS and 2 slots for UPMASA [32].

D. **Non-UP Graduates Category:** The category which allots 4 admissions slots to the applicants who are non-UP graduates but with exemplary academic credentials.

Results

Table 1 is the demographic profile of the target population of the study covering Class 1990 to Class 2013 of UPCM with a total of 2,943 students. There was an almost equal number of males (49.8%) and females (50.2%), mostly single (98.8%) with an average age of 21 years old. Majority of them were accepted through the academic category (77.6%).

Table 1. *Demographic Profile (N=2,943)*

	Frequency	Percentage
Sex		
Male	1466	49.8
Female	1477	50.2
Total	**2943**	**100.0**
Age		
Mean 20.87		
Median 21.00		
Mode 21.00		
Minimum 18.00		
Maximum 29.00		
Civil Status		
Single	2910	98.8
Married	26	0.9
No Data	7	0.3
Total	**2943**	**100**
Admissions Category		
Academic	2283	77.6
Faculty/Employee	215	7.3
Regionalization Program/IP	324	11.0
UPMAS	96	3.3
UPMASA	16	0.5
No Data	9	0.3
Total	**2943**	**100**

Table 2. *Geographic Base Practice Profile*

Geographic Practice Base	Frequency	Percentage
NCR	1510	51.3
Provincial	773	26.3
Abroad	336	11.4
No Data	324	11.0
Total	2943	100.0

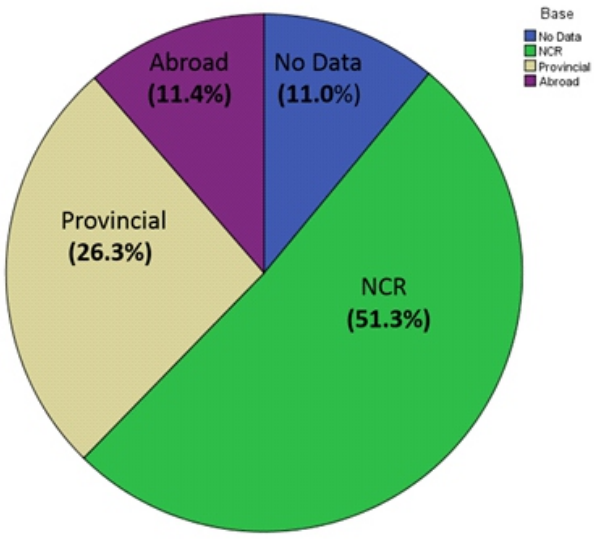

Figure 1. *Geographic Practice Base Profile (n=2,943)*

The Geographic Practice Base distribution of the graduates of UPCM Class 1990 to 2013 shows that majority (51.3%) had their professional practice base in the National Capital Region (NCR) and around a fourth (26.3%) were provincial practitioners (Table 2, Fig. 1). Only 1 out 10 ended up practicing abroad. The study cannot account for 324 subjects (11%) of which the UPMAS had no record of.

Figure 2 shows the distribution of Geographic Practice Base per batch or per UPCM Class from 1990 to 2013. It can be observed that in the first half of the graph, from Class 1990 to Class 2002, majority (57.0%) of the graduates pursued practice in the NCR, while on the average (22.1%) decided to practice abroad. During the same period, fewer graduates went to the province to practice (20.9%). From Class 2003 to Class 2013, those who practiced in the NCR remained to be the majority (60.2%) whereas those who migrated to practice drastically went down to 1.6% (fourteen-fold decrease) on the average, while those who had ventured on provincial practice dramatically went up to 38.2% (almost double increase). As reference, the RSOP officially started in 2005 while the RP was implemented in 1985.

The Likelihood of a Geographic Practice Base Abroad:

Through logistic regression, the odds of working abroad were established within statistical significance. Table 3 shows the effect of different variables on the likelihood of a geographic practice abroad. Both the pre-admissions parameters (NMAT, %PMGWAG, interview scores, entry rank) and academic performance parameters as variables exerted positive effects on the odds of a base practice abroad. Any increase in these variables resulted in a corresponding increase in the said odds. The greatest effect on these odds was observed in the board rating, followed by the entry rank, then by the NMAT. Moderate effects were manifested by %MGWAG and %PMGWAG, and the least effect was seen with the Graduation Rank.

Table 3. *Multiple Univariate Logistic Regression Analysis of the effects of Admission Characteristics on Geographic Practice Abroad*

Characteristics	Odds Ratio	P-Value
NMAT	6.2	0.002
%PMGWAG	3.1	0.002
Interview Score	2.5	0.001
Entry Rank	7	0.001
%MGWAG	4.1	0.001
Board Rating	22	0.001
Graduation Rank	1.2	0.001

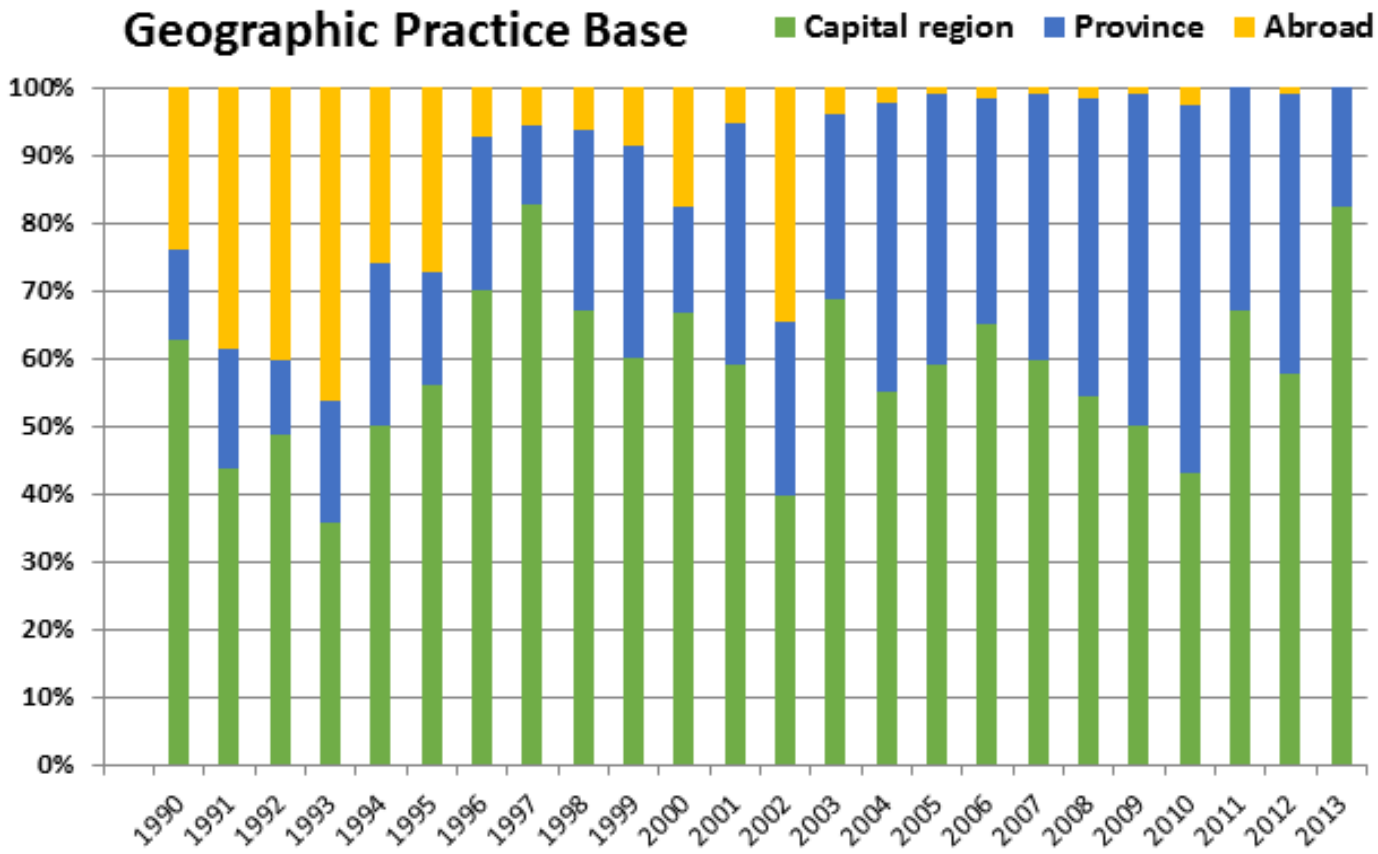

Figure 2. *Geographic Practice Base Distribution per Batch*

Table 4. *Multiple Univariate Logistic Regression Analysis of the effects of Admission Categories on Geographic Practice Abroad*

Admissions Categories	Odds Ratio	P-Value
Special Category	1.7 x Lesser than Academic Category	<0.001
Faculty/ Employee Category	1.75 x Lesser than Academic Category	0.033
RP/IP Category	2.1 x Lesser than Non-RP/IP	0.002
UPMASA	13 x Higher than non-UPMASA	<0.001

Table 4 shows the effects of the different admissions categories on the likelihood of an overseas practice. Generally, those accepted under the special categories had lesser odds of practicing abroad by 1.7 times compared to those admitted under the academic category. The same odds (1.75 times lesser) were seen with those under the faculty/employee category. The Regionalization Program and indigenous people category also showed a lesser likelihood for overseas practice by 2.1 times. Those students accepted under the UPMASA category manifested the highest risk for practicing abroad by 13 times. This category is for the children of UPCM alumni based in the United States.

In terms of pre-med courses, BS Zoology graduates had 2.5 times higher risks of practicing abroad while graduates of BS Psychology showed a lower likelihood by 1.7 times. The rest of the other pre-med courses failed to establish a statistically significant risk relationship with geographic practice base through logistic regression.

Lastly, the study was not able to establish within statistical significance the correlations or association between the (non-criteria, non-academic) variables (age, sex, income bracket) with any predisposition to any geographic practice base. Thus, the said variables cannot inferentially establish the odds or likelihood of practicing abroad. Likewise, the demographic variables (age, sex, income) and academic performance variables (%PMGWAG, %MGWAG, NMAT, board rating, entry, and graduation rank) did not show any significant predictive association with NCR and provincial practice base.

Discussion

The general trend in geographic practice of the graduates was toward practicing in the National Capital Region (NCR) as in seen half (51.3%) of the UPCM alumni (Table 2, Figures 1, 2). Around a quarter (26.3%) were provincial practitioners while only a little above ten percent (11.4%) went abroad to practice. This covered the graduates of UPCM from the period 1990 to 2013. A portion of this time frame was covered by the implementation of the Return Service Agreement, which started in 2005. The entire period also falls within the implementation of the Regionalization Program which took effect in 1985.

Figure 2 reveals that in the entire 1990s despite the implementation of the Regionalization Program, only a fifth (20.1%) of the UPCM graduates pursued provincial practice. A slightly higher percentage average (22.1%) went abroad to practice, while more than majority (57.0%) practiced in the NCR. During the same time frame, it was Class 1991 and Class 1992 that registered the highest mean percentage of abroad base practice, 38% and 40% respectively, almost all in the United States. This could have probably coincided with the peak of admittance of foreign medical graduates into the US health care system. The openness and the better access of Filipino medical graduates during that time to the United States Medical Licensure Examination (USMLE) afforded better opportunities to pursue their practice in the US.

The Class 1990 and Class 1993 had the lowest provincial practitioners, barely a tenth of its graduates, at 13% and 11% respectively. The early 1990s also heralded the start of overseas employment of medical graduates globally aside from the US. This exodus of doctors was mainly due to the pursuit of better economic opportunities or greener pastures. The rise in the overseas employment of UPCM graduates apparently took its toll on the provincial deployment of its alumni. This occurred notwithstanding the ongoing implementation of the Regionalization Program, which is supposed to augment and encourage provincial-based practice.

The Classes of 2000s somehow manifested significant changes and shifting in the distribution of geographic practices (Figure 2). Since Class 2002 and onward, there was a significant increase in the number of provincial practitioners, the highest being in Class 2009 and Class 2010 at 49% and 54%, respectively. The Classes of the 2000s showed dramatically an increase to 38.2% in provincial practice. In the same period, the abroad-based practice went down drastically to 1.6%. These coincided with the start of the Return Service Obligation Program, which was made a mandatory, non-negotiable requisite for admission at the UPCM.

The observation was contrary to the perceived notion, and perhaps to the anxiety among our university officials and policymakers, about the possibility of another wave of exodus and brain drain among the UPCM graduates as observed in the '70s and '80s [14]. Such perception and fear gave rise to the formulation and implementation of the Return Service Obligation Program (RSOP) as a reaction. Notwithstanding that starting seven years (Class 2003) prior to the adoption of the RSOP, the migration and practicing abroad were noted to dwindle. Since then, it could be safely presumed that a great majority of the graduates remain here and practice locally. Thus, the vision and mission of the college of serving and maintaining the health of the Philippine society, especially the underserved, remain fulfilled and realized.

On the other hand, the odds of establishing a practice base abroad were observed to be higher among those who had obtained better academic credentials in their pre-med courses and manifested exemplary academic performance during medical education. Excellent pre-admission performance namely higher %PMGWAG, higher NMAT, and higher entry rank all pointed to a higher likelihood of working abroad. Likewise, impressive academic performance in medicine such as higher %MGWAG, higher board rating, and higher graduation rank all significantly increase the likelihood of UPCM graduates to go abroad for practice. Among these, the highest odds were conferred by board rating and NMAT. For every increase of 1 percent on these two variables, there is a corresponding increase of the said odds by 22% and 6.2% respectively. These odds and associations could probably be explained by the fact that application and admission for overseas training and employment for doctors, especially in the developed countries like in USA and Canada, are contingent on the individual outstanding academic credentials. The more impressive the academic records, like high %MGWAG and board rating, the more likely the individual would be accepted. Furthermore, the better one's performance in the medical college, the better the individual's chances of passing and hurdling all the required screening procedures and evaluations in the pursuit of this overseas opportunity.

It is worth mentioning that the USMLE (United States Medical Licensure Examination), a three-step examination [33] required for foreign doctors to train and practice in the USA is more or less similar to that of our Physician Licensure Examination. Both licensure examinations have similar basic

and clinical coverage [34]. Thus, the strong odds association between board rating and practice base in the US is quite logical and expected. In other words, if one would prepare well and score very high in the medical board, he/she would most likely pass the USMLE too. Having passed the USMLE, he/she would most probably pursue training in the US and eventually would permanently reside and practice there.

But then again it was observed that the said odds are likely to decrease in those accepted through the special categories, specifically in the Faculty/Employee category and Regionalization Program. The reasons for the decrease in the likelihood of establishing a practice abroad, among those in the said categories are probably as follows:

1. Those in the special categories generally did not possess the exemplary academic credentials (i.e., High %MGWAG, High Class Ranking, Impressive Board Rating), these were shown in the previous studies [35];
2. Those in the Regionalization Program are socially committed and legally bound to practice and serve their respective regions in the country; and,
3. Children of UPCM faculty members probably would have practice and logistics (Practicing Shares, Equipment and Clinics) to inherit from their physician-parent/s, who are locally practicing.

An increase in interview score lessens the likelihood of overseas practice base. The possible explanation for this observation could be probably imputed to the sensitivity of interview instrument to detect nationalistic and altruistic attributes. During the interview those who have manifested sincere intention of staying and serving our countrymen, if expressed clearly and eloquently, would most likely impress the interviewer more and would garner high scores. Furthermore, the interview instruments elicit and give high points to attributes related to nationalism and altruism.

Those accepted through the UPMASA category would as expected have the highest likelihood to practice abroad (US). All of them were US citizens and US-based and would not and could not practice locally.

Conclusion and Recommendations:

In view of the foregoing, with due consideration on the descriptive findings as well as the inferential implications of this study, the following conclusions can be drawn:

From the logistic regression analysis, it can be concluded that an LU3 student who holds superb academic credentials would most likely go, practice, and settle abroad. These credentials include high %PMGWAG, NMAT, %MGWAG, Board Rating, Entry, and Graduation Rank. Each of these academic parameters was directly and incrementally correlated with the odds or the likelihood of having a practice base abroad. Among these parameters, the board rating increases the odds the most. In terms of admission category, those accepted under the UPMASA category (13X), as expected, had the highest likelihood of going, practicing, and settling abroad.

Apparently, those who were at the top of their class, those who were considered the brightest and the smartest of the batch, were those who would probably be less imbued with the social and moral commitment of serving back the Filipino. Unfortunately, it seems that the cream of the crop of the batch had the most tendency of migrating and contributing most to the brain drain in the health profession. It appears that these academic achievers are those who would most probably turn their back on those who had paid for their medical education. Most likely, they would be the abandoners of their subsidizers.

On the other hand, those who entered the college through the Special category (1.7X), specifically through Faculty/Employee (1.75X) and Regionalization Program (2.1X) had a lower chance of leaving the country after graduation. Likewise, being a graduate of BS Psychology or having a high score in the admission interview lessens the likelihood of establishing practice abroad. They were those with less sterling academic performance in the college of medicine [35]. However, they were also those who probably would not renegade on their commitments, remain dedicated in the pursuit of the vision and mission of the college, and would stay and serve their fellow Filipino especially the marginalized. They were never remiss with their obligation of paying back what they owe to the taxpayers.

The aforementioned findings are predictors, as such, they are merely statistically derived inferences from the past that measure the likelihood of an event/events happening in the future. These findings will aid us to draw logical, reasonable conclusion/s and judgment on the basis of circumstantial evidence and previous observations. This study provides the readers with an estimate of the chances as to where alumni would geographically base their practice based on their academic profile and performance. But this information is not absolute, as the choice made by students after graduation is very much individualized and could be altered, gradually or drastically by external, evolving influences, and experiences.

Nonetheless, the reformulation of a new admission policy and the amendments thereof should also be directed toward the full realization of the UPCM vision and mission of serving the underserved. As such, policy and amendments should be crafted towards the avoidance of the furtherance of overseas employment and migration of our graduates. Admission policy and amendments should also be crafted towards the promotion of an equitable distribution of our graduates throughout the country and the avoidance of the urban concentration of practitioners.

As the findings would indicate, the admission process must be less focused on the traditional criteria of purely academic credentials. Added considerations must be extended to those applicants who have shown sincere intention and very high potential for a permanent rural practice. But this should not in any way lower the bar of scholastic standards for admissions and academic performance of our students. A balance must be set between selecting the best medical students and producing good, competent doctors with nationalistic exuberance and willingness to serve the underserved. Policy direction must be geared towards meeting this goal. In a way, the RSOP and the Regionalization Program are both moving toward in the right direction.

Much must be done, policy-wise to pursue the above goal. As a pragmatic approach to problem resolution and inequity remediation is often confronted with new emerging problems and disparities, nevertheless, the process of policy change must commence. This policy change, no matter how incremental, must be initiated with dispatch.

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