

The Providers of Health Services in Lebanon: A Survey of Physicians

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Abstract

Background

Emerging from civil distress carries with it major challenges to reforming a health system. One such challenge is ensuring adequate supply of competent human resources. The objective of this study was to assess the supply of medical doctors in Lebanon in 1998 with an assessment of their practice patterns and capacity building.

Methods

Physician associations list were examined to determine the number of physicians and their geographic distribution. A self-administered survey targeted 388 physicians (5%) randomly stratified by the 5 regions of Lebanon. Three hundred and seventy seven providers reported information on their demographic profile, practice patterns and development. Further, information on continuing education activities was acquired.

Results

In Lebanon, the overall physician to population ratio was 248 per 100000 characterized by an evident mal-distribution at the intra-country regional level. Physicians worked 38 hours per week examining on average 21 patients per day with an average time of 30 minutes spent per visit. They also reported spending 11% of their time waiting for patients. Respondents reported a very wide range of income with 90% making less than \$2000 per month. Moreover, the continuing education profile revealed a total hour-sum of 43.7 hours per year similar to that required for board certification in many developed countries. Conference attendance was the dominant continuing education activity (95% of respondents) and consumed most of the time allotted for continuing education reported at 32 hours per year.

Discussion and Conclusion

Various economic indicators point to an oversupply of physicians in Lebanon and a poor allocation of their time for capacity building. Therefore, it is crucial for decision makers to closely monitor the increasing supply of providers and institute appropriate intervention strategies taking into consideration appropriate provision of quality services and ensuring that continuing education activities are well established, organized, and monitored.

Background

Human resources in the health care services field continue to play a crucial role in shaping the delivery of health care across the globe. Policies to discipline their practice, shape their jurisdictions, and decide their reimbursement schemes have never been simple and have always been faced with various political and economic barriers.

Lebanon is a small country situated on the south-eastern side of the Mediterranean Sea with close to 4 million residents. The country has recently emerged from 17 years of civil disturbance (1975-1992) that has left any surveillance statistics in the country struggling with a large margin of error. One such example is the reported physician to population ratio. In 1998, one source claimed that there is one physician for every 770 inhabitants (130 per 100,000 population) [1], while another indicated that there is one for every 420 residents (238 per 100,000 population) [2]. Both of these sources used the same database but with obviously different assumptions about how many are actually practicing and what number represents the actual size of the population.

In addition to lack in precise assessment of physician numbers, one economic observation and another geo-political fact complicate our understanding of the dynamics of physicians practice. From an economic perspective, the supply of physicians has increased significantly after the end of the civil disturbance for three main reasons: 1) physicians returning back to practice in their home country, 2) new medical schools opening in the country and 3) Lebanese students targeting East European universities to attain their medical degree (many East European medical schools were open to foreign students only after the breakdown of the Soviet Union). Reports show an annual increase of 500 to 700 medical doctors [2]. On the other

hand, the demand for medical services, especially tertiary care, has grown substantially resulting in an unsustainable level of expenses that are paid in their majority by the Ministry of Public Health (40%) and other public insurers.

From a geo-political angle, Lebanon is divided into 5 regions (muhafazat) with observed differences in their urban/rural mix of areas. Common observations elucidate that the small geographic area of the country (10,425 Km²) and the closeness of regions to each other and to Beirut, the capital, allow a lot of cross-practice between regions. However, physicians are unequally distributed between two orders (professional associations) that overview their practice although physicians have to pass the government licensure test that is unified for everyone. The two orders have slightly different rules for membership and benefits. The two orders advise physicians to seek continuing medical education, but do not require them to do so to maintain the license to practice medicine. One caters for the physicians of North Lebanon while the other 4 regions are under the jurisdiction of the second order (Lebanon order of physicians).

Lebanon is sometimes referred to as “the hospital of the Middle East” because of its good healthcare delivery. To continue to do so, sound policies for human resources in the healthcare field in Lebanon should be in place that takes into account all of the above complex picture. A 50-million-dollar health sector rehabilitation project was initiated in 1995. The project’s main focus was to unify the many non-private financing agencies and to restructure the payment system for health care providers (mainly private hospitals). To our knowledge, no special policies were developed to target physicians’ licensure, practice and reimbursement.

The cost attributable to human resources is convoluted by the product of two components: expenditures attributable to the providers, and the number of such

providers. Therefore, any reform related to supply would definitely have its impact on the magnitude of health care expenditures [3,4] From that perspective, it was crucial to examine the supply of physicians in Lebanon, to establish a baseline on the profile of providers of care, their practice, and respond to the need as well as their ways and means of improving their knowledge and skills, and hence, their practice. Therefore, this study aimed at examining the supply of physicians residing in Lebanon and assessing their practice patterns and tendency for capacity development.

Methods

Physicians Supply in 1998:

All physicians who had passed the colloquium test up till the year 1998 and were registered with one of the two orders were considered the universe for our analysis. The list for this study was acquired from the physicians' two orders and it included information about the specialty and subspecialty (where applicable) of the physician, practice address, and home and work phone numbers. The database was checked to ensure no duplicates in memberships. To calculate the physician to population ratio in 1998, we used the World Health Organization estimates of population size of 3.2 million. This figure represents the best available estimate of the population size as no national population census was done since 1932.

Practice patterns, reimbursement and continuing education

The sample for this study (n=388) represented 5% of the general population of the registered physicians stratified by the five major regions (muhafazat) in the country (Table 1). Following a phone appointment, data collectors provided the physician with a self-administered questionnaire that was filled during the appointment or picked up on a later convenient day.

The self-administered questionnaire was designed to include questions on demographic characteristics, educational background, specialty, job characteristics and activities, and practice setting. In addition, the physicians were asked about their workload: work hours, multiplicity of work sites, and proportion of time spent in clinical, managerial, educational, and scientific activities including literature appraisal and research, and time which was they spent for their private life away from their professional practice. Moreover, a subsection was devoted to inquiring about Continuing education (CE) activities. Continuing education included activities such as conferences, university CE, non-university CE, scientific societies meetings, reading scientific journals and audiovisual sessions.

To ensure clarity and comprehensiveness, the questionnaire was face validated within a group of health services researchers and it was pilot-tested among a sample of residents from the school of medicine at the American University of Beirut. As there is no official classification of the distribution as to rural or urban areas, a panel of experts was asked to classify the site of practice by districts (qazas) into urban or rural. The index was used to investigate if urbanization has an effect on practice style in a small country where areas are at close proximity.

Data were entered and analyzed using SPSS 11.5. Frequency distributions were first explored, and afterwards chi-square and student t-tests were utilized to test associations between variables.

Results

Physicians Supply in 1998:

This study validated that the supply of physicians according to the orders' lists was 7726 physicians who were registered with the two professional associations for the year 1998, thus yielding an average of 248 physicians per 100,000 population.

Furthermore, the density of practitioners ranged from as high as 625 physicians per 100,000 population in Beirut, the capital, to as low as 141 physicians per 100,000 population in the Bekaa –generally classified as a rural region (muhafaza) (table 1). Of the 388 physicians sought for the study, 377 physicians responded to the questionnaire. However, data were not complete on all items on the questionnaires, which explains the missing cases in some of the results.

Provider Characteristics

The demographic profile of the sample was characterized by a higher proportion of males (84%), with an average age of 42.5 years, and an average of 13 years of experience. Slightly above 75% of the respondents were between 30 and 49 years of age.

In general, 49% of physicians practiced in urban districts (qazas). Though of all the 44% who were general practitioners (which included general medicine, internal medicine, pediatrics, and obstetrics and gynecology), it was observed that a great proportion (57%) was practicing in rural areas ($X^2 = 4.71$, P-value = 0.029). In addition, most of the female physicians in our sample were general practitioners (table 2). On the other hand, 2.4% were not practicing medicine but rather they were holding administrative posts in health related fields.

Physicians residing in Lebanon form a mosaic of educational background and expertise graduating from different parts of the world. A greater proportion of physicians graduated from West Europe (31.5%), followed by Lebanese universities (29.6%), while only 2.6% graduated from the United States and Canada (table 3).

Practice Characteristics

Of the practicing physicians, 288 respondents mainly practiced in clinics while the rest practiced in hospital-based settings. Of the 288 physicians practicing in clinics, 91% reported that they owned their clinic while only 3.5% reported being staff at the practice.

Respondents worked on average 38 hours per week examining on average 21 patients, and spending an average time of 30 minutes per visit (table 4). Moreover, 189 physicians had contracts with hospitals spending, on average, over 26 hours per week in contracted hospitals. Physicians estimated that they spent 39% of their time at work examining patients. In addition, they spent almost 11% of their time waiting for patients, and only 3.3% was spent on administrative work (table 5). Gender differences were observed where female physicians spent significantly less time waiting for patients than did male physicians (7% for females vs. 12% for males; P-value = 0.038) and significantly more time is spent in their private life (42% for females vs. 34% for males; P-value = 0.007).

Financing Characteristics

With the presence of different financing agencies, physicians were reimbursed in 54% of their services from private patients (out of pocket) and 27% from privately insured patients, while the Ministry of Public Health contributed 4.8% to the physician's source of income (table 6). For those who volunteered information on their monthly income (78.2 %), the range was between 200,000 LL (\approx \$133) to 30 million LL (\approx \$19,900) with an average of 2.81 million LL (\approx \$1,873) and a median of 2 million LL (\approx \$1,300). Slightly above 90% of the respondents estimated their monthly income to be equal or less than 3 million LL (\approx \$2,000). Finally, those graduating from North America earned significantly higher incomes when compared

to graduates of other regions of the world (table 7). It is worth mentioning here that the difference in physicians' income between rural and urban settings did not reach statistical significance.

Continuing Education Activities

Close to 90% of the physicians sought CE activities during the year prior to the study. Apparently, most of the respondents reported that attending conferences was the main CE activity (97% of all those attending CE) while of lesser importance was reading scientific journals (22.4% of all those attending CE). Moreover, the respondents spent an average time of 43.7 hours/year on CE. Of those, 32 hours/year were spent in attending conferences while 3.15 hours/year were spent on reading scientific journals (Table 8). Furthermore, subjects perceived several barriers to attending CE programs. Lack of time was a major obstacle reported by 32% of the respondents while accessibility (16%) and high cost [5] were of less importance. In addition, private life was a barrier to 7% of the respondents. On the other hand, 47% were satisfied with their present activities and perceived no barriers to participating in CE activities.

Discussion

Human resources play a crucial role in the development and the successful implementation of a health services delivery system. Of importance is their dynamics as a labor force in the provision of health services, their education and continuing education in order to provide quality services, and the appropriate utilization of their services. In spite of its limitations, this descriptive study provides an assessment of physicians' practice patterns and continuing education activities on a national scale.

The Supply:

Currently the ratio of physicians to population in Lebanon is one of the highest in the Eastern Mediterranean region. A ratio of 248 physicians per 100,000 population is rather close to figures reported in the United States and OECD countries (table 9). A number of indicators suggest that the current physician/population ratio represents an oversupply of physicians in Lebanon.

A change in government regulations or a change in market conditions could lead to a surplus in human resources [6]. Stability in Lebanon after a long period of civil disturbance induced the return of physicians practicing abroad as well as the opening of new medical schools in the country. As a result of this change in market conditions, the supply of physicians grew in a manner that is, unproportionately, larger than market demand for their services.

This suspected surplus is further complicated by an uneven geographical distribution of practitioners. The physician per population ratio greatly varied between regions (muhafazat). The Capital, its suburbs, and Mount Lebanon region (the closest neighbour to the Capital) drained the bulk of physicians.

Practice Patterns:

One indication of surplus is when physicians are making a below-normal “rate of return” [6]. In reference to the study, with few exceptions, most of the respondents (90%) earned below \$2000 a month. For many of these providers, this monthly income is close to the average cost of living (\approx \$1100 per month) [5] and is intuitively below the expected rate of return on their investment in medical training. We also noticed a deviation in physicians’ practice patterns from general norms. Physicians in this study spent almost 11% of their time waiting for patients. This strongly suggests

that the physician market has surpassed its saturation point. This matter is further exacerbated by the overhead cost that a solo practice will endure to proper and effective functioning. As was indicated earlier, close to 90% are in solo practice and this has its major implications on the efficiency and productivity of the practice, which calls for further research to substantiate this impact.

Furthermore, in the early nineties, Kronfol et al. indicated that after the war ended, there was an influx of medical graduates from the Eastern conference resulting in a change in the ratio of graduates of the different parts of the world, and warned that those would greatly affect the quality of care in Lebanon [7]. It is commonly believed that providers who were trained in more educationally advanced schools were exposed to more technologically advanced medical practice and, hence, tend to comply with such practice standards. On the other hand, those coming from poorer schools are probably less exposed and may have selected themselves out of practicing in technologically competitive service delivery settings (i.e. urban settings). We expected that the diversity of providers would have lead to segmentation in the health services provided in terms of type and quality.

It was postulated that graduates of the Americas and Western Europe would be more concentrated in the urban areas and graduates from less developed, and developing countries would locate in less urbanized and rural areas. Contrary to expectations, graduates of the one region of the world were almost evenly distributed between urban and rural areas. The very few differences in practice patterns between rural and urban areas may be explained by the absence of any geographical barriers that would induce major differences in the practice patterns of physicians. The country's small geographic area and the relative ease of transportation make it accessible for physicians to maintain strong contacts with leading medical institutions

in the country and be able to refer their patients to these institutions, no matter how remotely they are located.

Gender differences in practice patterns

In this study, we found significant differences in the choice of specialty and practice patterns between men and women. Women in Lebanon still tend to avoid specialties that are technically and physically demanding in nature and culturally unfavorable. Most of the female physicians in this sample were GPs and very few (only 2) were surgeons. This finding is in accordance with the trends reported in the many European countries [8].

In terms of practice patterns, female physicians were similar to their male counterparts in most of the indicators we examined. Their involvement with their private life might force them to restrict their appointment schedule to certain hours of the days thus spending less time waiting for patients. Further research in this area will enhance our understanding of the role and effectiveness of women in medical practice in Lebanon and the Middle East, given the very few studies in this area.

Continuing education activities:

Continuing medical education forms an integrated activity in a health professional's career and for that it should be well structured and organized. In this study, the total number of hours for which the physicians sought CE per year is comparable to that in the USA and other developed countries. In other countries in the world where CE is not a requirement, studies showed that physicians pursued CE as a signalling strategy to attract patients [9]. As such, one would wonder if the providers were seeking CE for the sake of updating their knowledge or to compete for

patients in a situation of suspected surplus. Moreover, the mix of these activities is very different. Doctors seem to attend conferences much more than they do other CE activities (For example, physicians spent no more than 3.5 hours per year reading “any type” of scientific journals) while spending 32 hours in attending conferences.

The study findings raise concerns about medical CE activities in Lebanon. One concern is that this might support the earlier notion of oversupply of providers where a proportion of them have plenty of time to spend on conferences given their economic distress. The other concern is that conference activities are not monitored, which nurtures doubt about the quality of information disseminated in these conferences. For example, it is well known that the pharmaceutical industry has been very active worldwide in marketing its products to physicians and using CE activities (mostly conferences) as one of its marketing tools [10]. No one questions the importance of such activities but then they have to be assimilated with great caution as they tend to serve as a fertile medium for biased disseminations. Therefore, such events should be well organized, monitored and evaluated in order to reach an accredited level of scientific rigor, originality and contribution to the base of knowledge. Furthermore, there ought to be closely monitored to assess the real credit load.

One cannot but stop at the fact that other avenues to continuing education were poorly utilized. In an age where medicine is rapidly advancing, it is essential that physicians, and other human resources for health, keep abreast of the growing health literature in order to provide the best care. Medical curricula has been emphasizing evidence-based medicine as a process of lifelong, self-directed learning in which caring for patients creates the need for clinically important information about diagnosis, prognosis, and therapy [11]. To supplement that, the medical societies in

Lebanon should promote critical appraisal of the literature as a major source of knowledge especially among those who have been away from meetings and conferences. This can be done through workshops, seminars, and reading materials.

Conclusions

In conclusion, human resources for health are the key to proper functioning of any health care system depending on their adequacy and suitability [12]. They, in some way, shape the system by determining what services will be consumed, how, where, and in what quantity. Thereby, human resources structure the cost burden on payers, public or private.

Given this abundance of physicians in Lebanon, this study calls for reform. Limiting the number of physicians entering the market is a key control factor and can be achieved through many regulations, the most important of which is requiring a higher passing grade for the colloquium exam. Another strategy is to limit the number of students admitted to the Lebanese medical schools, thus restricting entry to the physicians' market. Providing incentives for individuals to seek and practice other health professions (e.g. nursing) may also be another key factor in resolving the problem.

Policy makers have to pay more attention to other health professionals, their supply and practice patterns. While physicians are key players in shaping the medical system, of equal importance is the availability and practice style of other health professionals such as nurses. They help deliver care at different levels within healthcare [13]. At present, around three thousand nurses are practicing in Lebanon. This number includes both registered and practical nurses. The shortage of nursing personnel, the absence of specialization in the nursing practice, and the lack of delegation of authority to nurses channels their supply mainly to hospital settings

where they are needed the most, further shifting most of the services, more specifically primary care, to the side of the physician. This calls for major intervention by all stakeholders but more so from decision makers and professional associations.

Countries recovering from civil distress have to be careful in monitoring and evaluating the influx of human resources as it might lead to new forms of social and economic distresses. This will definitely manipulate the supply side of healthcare delivery, which will affect and get affected by the country's economy. To minimize such distresses to the economy as well as to the individual physician, major policies aimed to restructure the provision of health services and the entry of the professionals into the system should be enacted, or else another migration will emerge but this time because of a different war, that with the economy and survivorship. Hand in hand with the reforming is the issue of licensing and practice standards. The medical profession has to critically evaluate its portals of entry and sustained memberships with appropriate quality checks. Continuing education has to be a must and not just an opportunity.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

KMK, HMKG, AMAO and HK have made substantial contributions to conception and design of questionnaire as well as analysis and interpretation of data. KMK, HMKG, and AMAO have been involved in drafting the manuscript and revising it critically for important intellectual content.

All listed authors read and approved the final manuscript.

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Tables

Table 1: Distribution of physicians among regions in Lebanon

Region	Population distribution	Physicians per 100,000 pop.	%	Sample Distribution	%
Beirut	2545	624.7	33%	133	35%
Mount Lebanon	2711	236.7	35%	129	34%
South	879	180.0	11%	45	12%
North	1027	153.1	13%	41	11%
Bekaa	564	141.0	7%	29	8%
National Density	7726	248.0	100%	377	100%

Table 2: Distribution of Specialties by Sex by Urbanization Degree (col %)

Sex		Urbanization Degree		Total
		Urban	Rural	
Male	GP	56 (34.4)	69 (44.5)	125
	Non-GPs	107 (65.6)	86 (55.5)	193
	Sub-Total	163	155	318 (84.4%)
Female	GP	15 (68.2)	26 (70.3)	41
	Non-GPs	7 (31.8)	11 (29.7)	18
	Sub-Total	22	37	59 (15.6%)
Total		185	192	377

Table 3: Distribution of physicians according to region of the world they graduated from

Region	Frequency	Percentage
East Europe	69	18.3
West Europe	119	31.5
North America	10	2.6
Lebanon	112	29.6
MENA Countries	11	2.9
Others	5	1.3
No response	51	13.8
Total	377	100

Table 4: Work Activity

	Mean	Std. Deviation
Days worked per week	5.35	0.71
Weeks worked per year	49.76	2.94
Hours worked per week	37.54	9.48
Patients seen per week	21.13	18.04
Time spent per patient examination (min)	30.68	20.29

Table 5: Time distribution at work

	Mean	Std. Deviation
% spent examining patients	39.11	17.41
% laboratory work	7.90	12.40
% administrative work	3.28	8.61
% waiting for patients	11.06	15.63
% cancelled appointments	3.55	4.70
% spent on other activities	34.09	20.74

Table 6: Sources of Financing medical care (physician services)

	Mean	Std. Deviation
% Out of pocket	53.52	29.78
% Private Insurance	26.60	26.99
% Public insurance excluding MOH	5.85	13.45
% Ministry of Health	4.83	14.66
% NSSF	8.88	12.61

Table 7: Average income of graduates of different regions of the world

	Mean	Std. Deviation
Lebanon	2,8107,14.3	3,795,014.68
West Europe	2,984,803.9	4,061,365.85
The Americas	5,625,000.0	8,602,882.27
East Europe	2,770,535.7	4,391,828.95
MENA countries	2,010,000.0	693,541.64
Total	2,933,620.7	4,192,710.64

Table 8: Time, in hours, annually spent on CE activities

	Mean	Std. Deviation
Conferences	32.31	21.99
University continuing education	2.41	17.86
Non-university continuing education	1.75	5.20
Scientific societies	2.02	7.39
Reading scientific journals	3.15	8.00
Audiovisuals	2.41	9.93
Other CE activities	0.22	2.05

Table 9: Supply of Physicians in Lebanon compared to other countries

Country	Physicians per 100,000 pop.
Turkey	61.0
Jordan	95.5
Saudi Arabia	166
Egypt	202
Lebanon	248
Japan	177
United States	245
France	280
Germany	319