Perceived healthcare workforce needs in Lebanon: a step towards informed human resources planning and professional development

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Abstract

Background: Research in various countries has previously investigated the competencies required for effective management of health care organizations. Yet, limited information is available on the skills and knowledge areas, which are currently lacking among the healthcare workforce employed in environments with limited resources.

Aims: The aim of this study was to assess the perceived healthcare workforce needs at the management and clinical/practice levels in Lebanon.

Methods: We conducted an exploratory Delphi study involving two panels of health care professionals and a nationwide survey of hospital directors to assess the skills needed and the healthcare occupations and specialties that are limited.

Results: Based on the Delphi study, the top five needed skills/knowledge areas were: professionalism, ethics, quality management and improvement, strategic planning, and communication. The need for information management and technology skills was reported by more than 50% of urban hospitals, and highlighted by the two panels in the Delphi study. Healthcare professionals reported willingness to take continuing education courses. Hospitals further indicated the availability of financial support and willingness to collaborate with educational institutions for employee training and continuing education.

Conclusions: Our findings set the ground for future research investigating healthcare workforce issues in Lebanon and support evidence-based planning for health human resources. They may inform the development of national and local policies in the country, which address the human resources needs of the health care system to meet regional and national demands. Universities, professional syndicates, and nongovernmental organizations may leverage these findings to develop continuing education training and diplomas incorporating the competencies critical for the healthcare workforce.

Keywords: Delphi; survey; hospitals; human resources; planning

Introduction

Previous research has investigated the competencies required for effective health care workers and managers (*1–5*). Although authors varied in their definition of competency (*1*), they agreed that it represents the level of skills and knowledge that can be measured against standards and improved by training and development for optimal job performance (*6–8*).

Competencies are referred to as knowledge, skills and abilities necessary for meeting the changing business and health care needs, and for successful management of health care organizations (*1,3*). They are context-dependent and should be assessed taking into consideration the critical issues in a health care system and the cultural characteristics of that environment (*1,8*). It is expected that managers and health professionals combine business practices with clinical and health care knowledge to lead their organizations and contribute to the improvement of their health care system (*3,8,9*).

Understanding the health care workforce needs is essential for professional development, and for aligning the development at the individual level with the needs of a specific organization or profession (*10*). In 2005, the World Health Organization (WHO) recommended that future training of the health care workforce incorporate a new set of competencies (e.g., quality improvement, information and communication technology, etc.) to support health workers in managing the most prevalent problems of the 21st century (*2*). More recently, WHO called health professionals' education and training institutions to implement continuous development programmes and use adapted training curricula that address timely challenges and the evolving needs of their communities (*11*). Yet, knowledge about the specific needs of the health care workforce in various health care systems in resource-constrained environments, including Lebanon, remains limited.

The health care system in Lebanon has been facing challenges and uncertainties (*12*), which have put significant pressure on health care professionals and organizations. Lebanon has 28 public and 134 private

hospitals (13), various nongovernmental organizations and dispensaries targeting primary health care in underprivileged regions (14), and other entities catering mostly towards the provision of curative care (15). As of 2013, the distribution of health professionals per 10 000 citizens was 31.9 physicians, 33.1 nurses and midwives, and 16.8 dentists (16). Although the health care sector is partly funded by 7 public schemes (13,17), services are mostly paid for out-of-pocket or through private health insurance. The system is largely dominated by the private sector (13,18), which remains highly unregulated (19).

A major concern in Lebanon is the absence of a national health policy on human resources and the lack of a long-term strategy regulating the recruitment and distribution of health care professionals. A significant brain drain has been observed historically, especially for the nursing profession, with the migration of nurses for better conditions and pay (20). The main challenges facing the health care workforce in Lebanon include imbalanced professional and geographic distribution of providers/ institutions, lack of relicensing of health professionals or accreditation of curricula, and limited continuing education programmes and career development (21).

A quick search of the literature and online resources shows very limited resources available for continuing education in Lebanon. With the exception of information available online on continuing education centres and divisions in various universities in the country, only two studies discussed continuing education and professional development in relation to the health care workforce. One study showed that nurses in Lebanon attend insufficient continuing education sessions per year (22). More recently, Alameddine et al. investigated factors associated with staff retention at primary health care centres in Lebanon, and reported that among the top three reasons behind the likelihood to quit is the lack of professional development, reported by around one-third of surveyed providers (23).

This article contributes to this under-researched area and explores the perceived health care workforce needs

(at the management and clinical/practice levels), which may inform future efforts for professional development and human resources planning. Specifically, a 2-stage project, including a Delphi exploratory survey of health care professionals and a nationwide survey of hospitals, was conducted to identify the skills needed by the health care workforce in Lebanon today and the health care occupations and medical specialties that are in short supply in the country.

Methods

Exploratory stage: a qualitative Delphi evaluation

We conducted an exploratory Delphi survey to uncover the health care professionals' perspectives of the workforce skills needs in Lebanon (Table 1). Since no prior research has been done in this area, it was necessary to start with an exploratory assessment. The Delphi method is a valuable data-driven approach that is often used in exploratory studies when evidence on a topic or question is scarce (24). It usually consists of a 3-phase data collection approach (brainstorming, narrowing down, and ranking), which employs a set of linked questionnaires eliciting the opinion of panels of experts in a certain field through iterative feedback (25).

In order to ensure the representativeness of different groups of practitioners, two panels of experts were invited to participate in the Delphi part of the project; one panel included allied health care professionals (i.e., non-medical health professionals) and the second panel consisted of physicians. A convenient sample of panellists within each group was recruited with the intention to have as much representation as possible of various stakeholders within each group (e.g. area of specialization, employment).

At the beginning of the project, we intended to recruit 18 participants in each group in order to account for potential attrition over the three rounds. Hence, we attempted to reach out to 18 physicians and 18 allied professionals in the community. However, we were not

Table 1 Delphi study phases

Phase 1. Brainstorming

Five most important skills/knowledge areas in the field of health care administration/management were solicited from practicing health care professionals

Two panels of respondents recruited: physicians & allied health care professionals

11 physicians and 11 allied professionals completed Phase 1

A total of 80 skills/knowledge areas were identified by the 2 panels

Final combined list consisted of 21 unique skills/knowledge areas after removing duplicates and merging similar issues

Phase 2. Narrowing down

The two panels (nine physicians and 10 allied professionals) pared the list down

Panellists selected 10 skills/knowledge areas that they perceived as most needed

Issues identified by at least half of each panel were retained

Total of 16 skills/knowledge areas were retained by both panels

Phase 3. Ranking

The two panels separately produced a ranked list of needed skills/knowledge areas (9 physicians and 9 allied professionals)

Degree of consensus was calculated using Kendall's coefficient of concordance (W)

Fair level of consensus was reached within each panel (W = 0.37 for the physicians panel; W = 0.33 for the allied professionals panel)

able to reach some of them despite multiple attempts. Subsequently, we successfully communicated with 15 allied professionals and 14 physicians who were invited to participate in the Delphi project; details about the three rounds were shared with them. 14 allied professionals and 13 physicians agreed to participate. Among these, 11 participants in each panel answered the first round, representing an 81% response rate.

Data collection from the two panels was conducted over a period of five months by e-mail, which is an approach that has been used in Delphi surveys as it allows flexibility and supports timely responses. In Phase 1, brainstorming, the panellists received the first questionnaire asking them to identify five most critical skills and/or knowledge areas that are needed, and expected to be in need, over the next three years. They were also asked to provide a brief definition of the skills that they presented. Responses were reconciled after removing duplicates and grouping similar answers.

In Phase 2, narrowing down, the consolidated list of skills/knowledge areas generated in Phase 1 was randomly ordered and sent back to the panellists for validation. The respondents were asked to select from this list the 10 skills/knowledge areas that they consider most needed. General questions related to the profile of the participants were also included.

In Phase 3, the experts received the random list of skills/knowledge areas that were retained by at least 50% of the two panels in Phase 2, and were asked to order them from the most to the least needed. Kendall coefficient of concordance (W) was calculated to determine the level of consensus between participants in each panel.

Hospital administrators' survey

The survey component aimed to provide an overview of the perspectives of hospital administrators/chief executive officers regarding the current health care workforce needs in Lebanon. Given the relatively small number of public hospitals in Lebanon and the limited information available on them, the survey targeted private hospitals, which are considered the "backbone" of the healthcare system in Lebanon (13). The Syndicate of Private Hospitals in Lebanon, which represent more than 75% of hospitals endorsed the survey; the questionnaire was reviewed by its board, and the centralized list of hospitals available at the syndicate was used for data collection.

The results of the exploratory stage of the project were used for the development of the questionnaire, combined with evidence from similar studies in the literature in other contexts. The questionnaire included closed-ended questions that assessed the need for 15 management skills and 9 clinical/practice skills among the health care workforce in hospitals. It also investigated the extent to which 12 health care professions and 10 medical specialties are currently needed in hospitals, and examined the training resources that would best meet the skill needs of the health care workforce.

The questionnaire was distributed to 134 hospitals in Lebanon; copies were both e-mailed and faxed as per common practice/procedure for surveys involving hospitals with the Syndicate. Data collection took place over a period of three months, July–September 2014, and a reminder was sent half-way through. A total of 33 hospitals completed the survey, a 25% response rate. Descriptive data through analyses were performed to provide an overview of the health care workforce skills and occupations needed by hospitals in Lebanon, the available training resources and options, and the financial support for continuing education.

Results

Exploratory Delphi evaluation

The participants in the Delphi component of the project were mostly women aged 30–50 years, who had considerable years of experience (Table 2). The majority of allied professionals held a Master's degree in various areas of specialization, including nursing, osteopathy, pharmacy and management. The panel of physicians was also diverse and included various specialties. More than 50% of the panellists were employed in private hospitals and all participants reported having taken continuing education courses and would consider doing so in the future.

In total, 80 skills/knowledge areas were identified by the two panels in Phase 1. The responses were consolidated, producing a final list of 21 unique skills/knowledge areas (Table 3). Eleven of these were overlapping between the two panels (Table 4).

The consolidated list was randomly ordered and sent back to the two panels for narrowing down (Phase 2). Overall, 16 skills were retained as they were selected by at least 50% of either of panel. Eleven out of the 16 were identified by more than 50% of participants in both panels (Table 4), of which 7 were also identified by both panels in Phase 1: information and communication technology; ethics in health care delivery; quality management and improvement in health care; financial health care management; inter-professional collaboration and teamwork; communication skills; and professionalism.

In Phase 3, the panellists were asked to rank the random list of 16 skills/knowledge areas retained from phase 2. The level of agreement was "fair" for both panels: W = 0.37 for the physicians; W = 0.33 for the allied professionals. The ranking further confirmed the similarities between the panels with respect to the most needed skills relevant to the health care practice environment today (Table 5): ethics in health care delivery (ranked no. 1 by both panels), professionalism, quality management and improvement in health care, evidence-based health care management and strategic planning and management.

Hospital administrators' survey: perceived needs

Surveyed hospitals were mostly urban (70%) and general, nonspecialized hospitals (75%). The average number of staffed beds was 174 (range 24–1000). The top three

Table 2 Demographic characteristics of the physicians and allied professionals in the two panels for the Delphi project

Characteristic	Physicians		Allied professionals[a]		Overall sample	
	No.	%	No.	%	No.	%
Sex						
Male	3	33	–	–	3	16
Female	6	67	10	100	16	84
Age (years)						
30–39	2	22	2	20	4	21
40–49	6	67	7	70	13	68
50–59	1	11	–	–	1	5
≥ 60	–	–	1	10	1	5
Highest education						
Undergraduate	–	–	2	20	2	11
Masters	–	–	7	70	7	37
Doctorate (PhD)	–	–	1	10	1	5
Medicine (MD)	9	100	–	–	9	47
Area of specialization						
Pharmacy	–	–	1	10	1	5
Management	–	–	4	40	4	21
Nursing	–	–	3	30	3	16
Osteopathy	–	–	110	–	1	5
General/family medicine	3	33	–	–	3	16
Paediatrics	2	22	–	–	2	11
Surgery	2	22	–	–	2	11
Dermatology	1	11	–	–	1	5
Missing	1	11	1	10	2	11
Previously taking continuing education courses						
Yes	9	–	10	100	19	100
Consider taking continuing education courses						
Yes	9	–	10	100	19	100
Main location/type of employment						
Private hospital	5	56	6	60	11	58
Private clinic	2	22	1	10	3	16
Nongovernmental organization	2	22	2	20	4	21
University	–	–	1	10	1	5
Years of experience						
Mean (standard deviation)	13.4 (5.4)		19.3 (10.4)		16.7 (9.0)	
Min–max	5–20		1–38		1–38	

[a]*One of the 10 allied professionals who completed phase 2 (including questions about profile of the respondents) did not answer Phase 3.*

management skills reported as needed by more than half of the sample were: communication and interpersonal skills (72.7%), critical thinking and problem solving (57.6%), and strategic planning (54.5%) (Table 6). Almost half of the sample (48.5% of the responding hospitals) reported needs in health information technology/systems. The need for certain skills varied based on the urban/rural status. For example, more than 50% of urban hospitals reported the need for skills in quality management and improvement (52.2%), whereas rural hospitals identified a need for human resources management skills (50.0%).

Three clinical/practice skills were identified as needed by more than half the surveyed hospitals: professional behaviour (72.7%), patient education (69.7%) and evidence-based care (51.5%). Urban hospitals also noted a need for clinical information management and sharing (52.2%), while rural hospitals identified a need in geriatric care (60%).

The health care occupations and medical specialties reported as needed on a 1–5 scale (1 = not needed at all; 5 = strongly needed) were: registered nurses (mean 4.4), nurse practitioners (mean 3.2), information technology

Table 3 Description of skills/knowledge areas identified in the consolidated list from Phase 1 of the Delphi evaluation

Skills/knowledge area	Description based on participants' responses
Information and communication technology	Skills related to innovation and technology including information search, the Internet, communication technology and implementation of unified charting systems and electronic medical records
Ethics in health care delivery	Knowledge and application of moral conduct in the delivery of patient care taking into consideration the legal, cultural and humane dimensions
Paramedic training	Basic life support training and first aid administration skills for paramedics and overall health care professional population
Geriatric and chronic care	Understanding, education and training in geriatric and chronic patient care
Quality management and improvement in health care	Knowledge about quality management and control and the application of patient cantered, standardized and evidence based care
Health systems and policies	Knowledge of the health care environment and global health systems as well as health policy formulation, implementation and interaction with policy-makers
Strategic planning and management	Skills related to the strategic planning process, implementation of strategic plans, and organizational development
Financial health care management	Knowledge of health care management areas, including dealing with third party payers, insurance arrangements, reimbursement to payers, budget planning and cost effectiveness
Inter-professional collaboration and teamwork	Inter-professional education development, shared decision-making and responsibilities, and communication between teams and clinical departments (anaesthesia, radiology etc.)
Trauma and critical care	Knowledge of updated clinical steps and procedures for trauma and critical care.
Methodology and approaches for workshop development	Ability to organize and develop workshops addressing emergent health care issues in society and encourage lifelong learning
Communication skills	Communication skills applied to clinical and non-clinical areas, including: oral skills, e.g. inter-professional communication or communication with patients, and writing skills, e.g. memos, articles, charting, clinical reports, and care plans
Leadership	Leadership skills and practices, showing class, character, and the ability to manage change in health care sector
Professionalism	Maintaining professional conduct and avoiding preferential treatment related to health care professionals, as well as patient care.
Home-based health care delivery	Knowledge of the components and resources needed for home-based care and the arrangements necessary to support its delivery
Efficiency and streamlining of health care processes	Developing efficient practices in delivering care and streamlining health care processes
Evidence-based health care management	Applying existing evidence to support and improve decision-making in health care organizations
Conflict resolution	Knowledge of group dynamics and conflict resolution abilities
Patient safety	Empowerment and engagement of employees to promote a culture of safety and support reporting adverse events
Critical analysis and problem solving	Knowledge of the research process, and the steps in conducting a research project, including data collection and analysis to support decision-making
Human resources strategies and management	Knowledge of motivation principles and practices, as well as strategies for staff retention and satisfaction, e.g. understanding health care workers jobs and responsibilities, providing relief sessions against burnout and organizational behaviour skills

specialists (mean 3.1), physician assistants (mean 2.6), laboratory technicians (mean 2.5) and general practitioners (mean 2.5) (Table 7). The top four health care professions that are most needed were common to urban and rural hospitals; only laboratory technicians and general practitioners were more needed in urban and rural hospitals, respectively, compared to their counterparts.

The medical specialties reported as needed by the surveyed hospitals were: emergency medicine (mean 3.7) and radiology (mean 3.1) (Table 7). Urban hospitals

reported a greater need for anaesthesiologists (mean 2.9 vs 2.3 in the rural group) whereas rural hospitals had a shortage in numerous specialties such as surgery (mean 3.7), obstetrics/gynaecology (mean 2.9), paediatrics (mean 2.8) and internal medicine (mean 2.6).

The great majority of responding hospitals identified continuing education courses (91%), collaboration with educational institutions for training (88%), seminars (82%) and in-house/on-the-job training (73%) as opportunities to meet the skills needs of their workforce. A smaller number indicated that they would consider on-line

Table 4 Common skills/management areas between the two panels (physicians and allied professionals) in Phase 1 and Phase 2 of the Delphi evaluation

Phase 1: Common skills/management areas identified by both panels
Information and communication technology
Ethics in health care delivery
Quality management and improvement in health care
Health systems and policies
Financial health care management
Interprofessional collaboration and teamwork
Methodologies and approaches for workshop development
Communication skills
Leadership
Professionalism
Human resources strategies and management
Phase 2: Common skills/management areas retained by at least 50% of both panels
Information and communication technology
Ethics in health care delivery
Quality management and improvement in health care
Strategic planning and management
Financial health care management
Inter-professional collaboration and teamwork
Communication skills
Professionalism
Evidence-based health care management
Conflict resolution
Patient safety

Table 5 Final ranking of the needed skills/knowledge areas identified by the two panels of health care professionals (physicians and allied professionals) in phase 3 of the Delphi evaluation

Ranking			Needed skills/knowledge areas
O	P	AP	
1	1	1	Ethics in health care delivery
2	2	3	Professionalism
3	4	2	Quality management and improvement in health care
4	3	7	Evidence-based health care management
5	6	4	Strategic planning and management
6	8	6	Leadership
7	4	8	Inter-professional collaboration and teamwork
8	5	9	Communication skills
9	10	5	Information and communication technology
10	7	11	Paramedic training
11	6	13	Patient safety
12	11	14	Efficiency and streamlining of health care processes
13	13	12	Conflict resolution
14	14	10	Financial health care management
15	12	15	Critical analysis and problem solving
16	9	16	Home-based health care delivery

O = overall rank.

P = physicians panel.

AP = allied professionals panel.

Table 6 Proportion of hospitals reporting a need for specific management and clinical skills

Skill	Urban (n = 23)		Rural (n = 10)		Total (n = 33)
	% of total	% of urban	% of total	% of rural	% of total
Management					
Communication and interpersonal skills	48.5	69.6	24.2	80.0	72.7
Critical thinking and problem solving	39.4	56.5	18.2	60.0	57.6
Strategic planning	42.4	60.9	12.1	40.0	54.5
Health information technology/systems	36.4	52.2	12.1	40.0	48.5
Quality management and improvement	36.4	52.2	9.1	30.0	45.5
Human resources management	30.3	43.5	15.2	50.0	45.5
Patient safety	33.3	47.8	9.1	30.0	42.4
Financial management	30.3	43.5	12.1	40.0	42.4
Leadership	30.3	43.5	12.1	40.0	42.4
Report writing	33.3	47.8	9.1	30.0	42.4
Ethics	30.3	43.5	9.1	30.0	39.4
Research design and implementation	24.2	34.8	12.1	40.0	36.4
Health programmes/interventions evaluation	24.2	34.8	9.1	30.0	33.3
Health programmes/interventions planning	12.1	17.4	12.1	40.0	24.2
Presentation skills	12.1	17.4	3.0	10.0	15.2
Clinical/practice					
Professional behaviour (communicating with patients)	48.5	69.6	24.2	80.0	72.7
Patient education	42.4	60.9	27.3	90.0	69.7
Evidence-based care (using research evidence)	39.4	56.5	12.1	40.0	51.5
Clinical information management and sharing	36.4	52.2	9.1	30.0	45.5
Adoption of clinical guidelines	30.3	43.5	12.1	40.0	42.4
Nursing documentation (e.g., patient condition assessment, vitals, nursing interventions)	24.2	34.8	15.2	50.0	39.4
Geriatric (elderly) care	18.2	26.1	18.2	60.0	36.4
Critical care and trauma	18.2	26.1	9.1	30.0	27.3
Technical skills (e.g. procedures, tests)	21.2	30.4	6.1	20.0	27.3

courses (24%) or private consultants (40%). A majority of hospitals offered financial support for continuing education (96%), and had an annual budget (83%) for it.

Discussion

This project combined qualitative and quantitative methods to address an under-researched area and identify the perceived health care workforce needs in Lebanon. It is particularly relevant today in light of the growing pressure on the health care system in Lebanon with an increasing number of refugees, chronic internal challenges (e.g. brain drain, population aging and chronic diseases, limited resources) and the potential active role of the country in medical tourism.

This project faced some limitations that are important to highlight. We encountered challenges in recruiting men for the Delphi panels, which is reflective of the current workforce demographics in the country. This confirms evidence from recent reports that discussed out-migration of young men in search of work (19,21) and

the cultural reputation surrounding some professions as being labelled for women. The survey response rate was 25%, though there was a good representation of both rural and urban hospitals in the sample. We were not able to pilot test the instrument, however it was reviewed by the Board of the Syndicate of Hospitals. The available list of hospitals from the syndicate turned out not be fully updated: some hospitals on the list were not functional, or not reachable at the time of the project due to outdated information. Hence, we believe that the response rate was more on the conservative side. The fact that the surveyed hospitals were all private, although the majority of hospitals in Lebanon are private, may affect the generalizability of the results to public hospitals. It is important to note that, given the nature of the project, self-reporting bias may have occurred. Since this project is the first to investigate the health care workforce needs, it is not possible to compare or benchmark the results against other similar studies in this area.

The findings of the two parts of this project reveal consistency in the top 5 skills/knowledge areas

Table 7 Health care professions and medical specialties needed by hospitals on a 1–5 scale (1 = not needed at all; 5 = strongly needed)

Profession/specialty	Urban hospitals			Rural hospitals			Total		
	No.	Mean (SD)	Range	No.	Mean (SD)	Range	No.	Mean (SD)	Range
Health care professions									
Registered nurse	22	4.3 (1.1)	2–5	10	4.6 (0.8)	3–5	32	4.4 (1.0)	2–5
Nurse practitioner	22	3.1 (1.6)	0–5	10	3.6 (1.7)	0–5	32	3.2 (1.6)	0–5
Information technology specialist	21	3.1 (1.6)	0–5	10	2.9 (1.5)	0–5	31	3.1 (1.6)	0–5
Physician assistant	21	2.5 (1.9)	0–5	8	2.8 (1.4)	0–5	29	2.6 (1.8)	0–5
Laboratory technician	22	2.6 (1.6)	0–5	9	2.2 (1.4)	0–4	31	2.5 (1.5)	0–5
General practitioner	22	2.4 (1.7)	0–5	9	2.9 (1.6)	0–5	31	2.5 (1.6)	0–5
Social care worker	21	2.0 (1.9)	0–5	8	2.1 (2.0)	0–5	29	2.0 (1.9)	0–5
Radiation therapist/technician	21	2.1 (1.5)	0–5	9	1.7 (1.6)	0–4	30	2.0 (1.5)	0–5
Dietician	22	2.0 (1.5)	0–5	9	1.9 (1.2)	0–4	31	2.0 (1.4)	0–5
Clinical psychologist	22	1.7 (1.8)	0–5	9	1.1 (1.4)	0–4	31	1.6 (1.7)	0–5
Physiotherapist	21	1.6 (1.3)	0–5	9	1.4 (1.3)	0–4	30	1.5 (1.3)	0–5
Speech therapist	21	1.5 (1.6)	0–5	8	0.9 (1.5)	0–4	29	1.3 (1.6)	0–5
Medical specialties									
Emergency medicine	21	3.5 (1.8)	0–5	10	4.2 (1.2)	2–5	31	3.7 (1.7)	0–5
Radiology	21	2.8 (1.8)	0–5	9	3.8 (1.5)	1–5	30	3.1 (1.7)	0–5
Surgery	21	2.6 (1.9)	0–5	9	3.7 (1.2)	2–5	30	2.9 (1.7)	0–5
Anaesthesiology	21	2.9 (1.1)	1–5	9	2.3 (1.8)	0–5	30	2.7 (1.7)	0–5
Internal medicine	21	2.5 (1.7)	0–5	8	2.6 (1.4)	1–5	29	2.5 (1.6)	0–5
Obstetrics/ gynaecology	21	2.3 (1.9)	0–5	9	2.9 (1.5)	1–5	30	2.5 (1.7)	0–5
Paediatrics	21	2.4 (1.7)	0–5	9	2.8 (1.4)	1–5	30	2.5 (1.6)	0–5
Pathology	20	2.4 (2.0)	0–5	9	2.3 (1.2)	1–5	29	2.35 (1.7)	0–5
Palliative care	21	2.4 (1.8)	0–5	8	2.1 (2.0)	0–5	29	2.3 (1.8)	0–5

SD = standard deviation.

identified as needed: professionalism, evidence-based management, strategic planning, quality management and improvement, and communication skills. Interestingly, ethics ranked first in terms of need in the Delphi results; yet, it was reported as needed by only 40% of hospitals. Leadership ranked sixth by the two panels and was reported as needed by only 42% of hospitals. This may be explained by the nature of the work of health professionals (i.e. direct contact with patients and providers), which allows them to better capture the ethics and leadership dimensions.

The findings of this project show consistency with other studies (*3,9,26*) and with the recommendations of WHO in relation to quality improvement, partnering, and information and communication technology. These competencies have been identified by WHO as basic for continuing professional development and effective delivery of care for patients, especially in developing countries (*2,11*). It called for a shift in training to incorporate these competencies and for sustained educational reform (*2,11,27*). Ten years later, these skills are still not addressed in Lebanon: quality improvement, communication, and information management and technology were identified as being in need. This

indicates that the health care workforce is still not ready and equipped to cope with the changes and pressures observed at the population and health system levels.

Although clinical skills (e.g. trauma and critical care, geriatric and chronic care) appeared in the responses of the two panels, these were not retained in the final stages of the Delphi study results. Clinical skills were also referred to by hospital administrators (e.g. geriatric care, adoption of clinical guidelines etc.), but were not considered among the most needed. This emphasizes the fact that areas beyond clinical expertise are pressing today, and should be addressed. Traditional health care professionals' curricula tend to emphasize mostly the clinical aspects of training, with educational programmes for health providers being focused on preparing the workforce for the hospital environment (*23*). A recent article on health system research priorities in the Middle East and North Africa region emphasized the need for research on the health workforce (*21*). It identified gaps in existing education and training programmes, accurate estimates and needs (numbers and specialties) and ways for enabling education and training programmes based on population needs as being among the top five research areas in health human resources. Hence, this project

contributes to this research agenda and highlights priorities that set the stage for future research in this area and professional development of health professionals.

In addition to the contribution of this project to the relevant research priorities in human health resources identified earlier (*21*), it also has implications at the practice and policy level by supporting effective health care workforce planning at the organizational and national level. The results may inform the development of national and local policies in the context of Lebanon, which establish guidelines for a desired level of skills mix in the health care workforce in rural and urban settings. They also outline areas of continuing education and professional development and present evidence that can be used by hospitals to compare and benchmark their needs to other similar organizations. The results may also be used as a starting point to open the dialogue between academic institutions and health care organizations, and unveil potential opportunities of collaboration and partnership between them to address the training needs of the healthcare workforce.

The two panels of physicians and allied professionals reported a willingness to take continuing education courses, and most hospitals indicated available financial support for this (100% of rural hospitals and 80% of urban hospitals). This is an interesting finding considering the culture in Lebanon that may not be conducive to supporting continuing education efforts (e.g., limited resources and incentives, lack of structured organized efforts for continuing education – credits and certificates, limited evidence on association between continuing education and progression through rank and position etc.). Hence, the results of this study should motivate dialogue and collaboration between hospitals, professional syndicates and universities for the development of continuing education courses and programmes addressing the identified needs. This is in line with recent calls by the WHO (2013) for more alignment between educational institutions and the systems delivering health services (*11*).

Competency-based education has been advocated as essential for educational reform and for aligning educational programmes with actual health systems priorities, especially in environments with limited resources (*8*). It allows the integration of the health needs of the population with the priority areas of the health profession. Competence in certain domains can be very dependent on the context of the country and the resources available. Therefore, instead of adapting existing foreign educational standards from resource-rich settings, which may not be compatible with the actual needs of Lebanon, one can build on the findings of this project to develop relevant programmes that target the skill needs of health workers in the country. In conclusion, the findings from this project present a first step towards informing human resources planning and professional development, and set the stage for future studies to build further evidence in this area.

Acknowledgements

La perception des besoins par les personnels de soins de santé au Liban : un pas en avant vers une planification éclairée des ressources humaines et du développement professionnel

Résumé

Contexte : Des recherches ont déjà été menées dans plusieurs pays au regard des compétences requises pour gérer de façon efficace les organismes de soins de santé. Pourtant, peu de données sont disponibles concernant les compétences et les domaines de connaissances qui font actuellement défaut parmi les personnels de soins de santé travaillant dans des environnements disposant de ressources limitées.

Objectif : L'objectif de la présente étude était d'évaluer la perception des besoins par les personnels de soins de santé au Liban.

Méthodes : Nous avons mené une étude exploratoire suivant la méthode de Delphi, faisant intervenir deux groupes de professionnels de soins de santé et comportant une enquête nationale menée auprès de directeurs d'établissements hospitaliers afin d'évaluer les compétences nécessaires et les métiers et spécialités faisant défaut dans le secteur des soins de santé.

Résultats : Sur la base de l'étude Delphi, les cinq principaux domaines où se fait sentir le besoin en compétences et en connaissances sont les suivants : le professionnalisme, l'éthique, la gestion et l'amélioration de la qualité, la planification stratégique, la gestion et l'amélioration de la qualité et la communication. Le besoin en matière de gestion de l'information et de compétences technologiques a été mentionné par plus de 50 % des hôpitaux urbains et a été mis en avant par les deux groupes de professionnels de l'étude Delphi. Les professionnels de soins de santé se sont déclarés prêts à suivre des cours de formation continue. Les hôpitaux ont par aileurs indiqué la disponibilité de moyens financiers et leur volonté de collaborer avec les établissements d'enseignement afin de faire bénéficier leur personnel de formations et de sessions de formation continue.

Conclusion : Nos résultats préparent le terrain pour des recherches futures portant sur les problèmes des personnels de soins de santé au Liban et viennent étayer une planification des ressources humaines fondée sur des données probantes. Ils pourraient éclairer l'élaboration de politiques nationales et locales dans le pays, capables de répondre aux besoins du système de soins de santé en matière de ressources humaines en vue de satisfaire la demande aux niveaux régional et national. Les universités, les syndicats de professionnels et les organisations non gouvernementales pourraient exploiter ces résultats afin d'élaborer des programmes de formation continue et des programmes diplômants intégrant les compétences essentielles requises pour les personnels de soins de santé.

الاحتياجات المُدرَكَة للقوى العاملة في الرعاية الصحية في لبنان: خطوة نحو تخطيط مستنير للموارد البشرية ولتطوير أصحاب المهن الصحية [العاملين في مجال الصحة]

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الخلاصة

الخلفية: لقد تناولت البحوث في مختلف البلدان سابقًا دراسة الكفاءات اللازمة للإدارة الفعالة لمؤسسات الرعاية الصحية. إلا أن هناك معلومات محدودة في الوقت الحاضر حول المهارات وحول مجالات المعرفة التي تفتقدها القوى العاملة في الرعاية الصحية في البيئات ذات الموارد المحدودة.

الهدف: كان الهدف من هذه الدراسة تقييم الاحتياجات المدركة للقوى العاملة في الرعاية الصحية في لبنان.

طرق البحث: أجرينا دراسة دلفي استكشافية شملت مجموعتين من المهنيين العاملين في مجال الرعاية الصحية، وكما أجرينا مسحاً على الصعيد الوطني بكامله لمديري المستشفيات لتقييم المهارات ومهن الرعاية الصحية والتخصصات المحدودة اللازمة فيها.

النتائج: اتضح لنا أن أهم ٥ مجالات من المهارات/ المعلومات المطلوبة هي: المهنية، والإدارة المستندة إلى الأدلة، والتخطيط الاستراتيجي، وإدارة وتحسين الجودة ومهارات الاتصال. وقد ركزت مجموعتا الخبراء كما ركزت المستشفيات الحضرية على إدارة المعلومات وتكنولوجيا المعلومات. وأفاد العاملون في الرعاية الصحية باستعدادهم للاستفادة من دورات التعليم المستمر. بينما أشارت المستشفيات إلى توافر الدعم المالي والاستعداد للتعاون مع المؤسسات التعليمية للتعليم المستمر ولتدريب العاملين فيها.

الاستنتاجات: تمهد النتائج التي توصلنا إليها للأبحاث المستقبلية لدراسة قضايا القوى العاملة في الرعاية الصحية في لبنان، وتدعم التخطيط القائم على الأدلة للموارد البشرية الصحية. وقد يُسترْشَد بهذه النتائج في رسم السياسات الوطنية والمحلية في البلد، والتي تلبي احتياجات الموارد البشرية في نظام الرعاية الصحية لتلبية الاحتياجات الإقليمية والوطنية. وقد تستفيد الجامعات والنقابات المهنية والمنظمات غير الحكومية من هذه النتائج لتطوير التعليم المستمر والتدريب والشهادات المهنية (الدبلومات) بإدماج الكفاءات البالغة الأهمية للقوى العاملة الصحية.

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