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NURSE-LED COMPETENCY MODEL FOR ED PHYSICIANS

by
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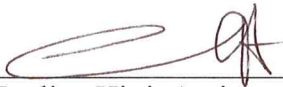
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AN ABSTRACT OF THE PROJECT OF

Maya Mohammad Khalil   for   Master of Human Resources Management
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Title: Nurse-Led Competency Model For ED Physicians.

Traditional models of doctor-nurse relations emphasized professional dominance and subordination. However, the healthcare system is evolving rapidly witnessing a major shift in the traditional view of nurse-physician relations. Such changes in the healthcare system are pressuring healthcare institutions to provide more efficient, safe, fast-paced, and accessible patient-centered care, calling therefore for teamwork and inter-professional collaboration. The emergency medicine (EM) field in specific has been at the center of many studies on inter-professional interactions considering its complex and challenging environment, which is characterized by high workload, time-pressured type of care, and the need for collaboration between multiple care providers. Knowing that nurses work closely with EM physicians and that the provision of high quality care has always been a shared goal for them, their feedback on physician competencies in patient-centered and systems-based care are of great value. In this paper, we aim to contribute to better integration between physicians and nurses by breaking the norms of subordination and attempting to develop a competency model for emergency medicine physicians from the perspective of their strategic partner, emergency medicine nurses. The study is conducted at the Emergency Department at the American University of Beirut Medical Center (AUBMC), analyzing qualitative data about nurses' assessment of EM physicians. Based on their perspective, we intend to develop a competency model that would help us in the first place to identify the key competencies of EM physicians from the nurses' perspective. It also helps us define measurable behavioral indicators in order to assess these competencies and better select, develop, and evaluate EM physicians' performance. We will then juxtapose the resulting competencies against those identified by the Accrediting Council of Graduate Medical Education (ACGME). By taking the nurses' perspective, we aim to identify competencies traditionally unaccounted for and to provide a more contextual, accurate, and measurable behaviors necessary for exceptional EM physicians' performance.

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To

My Beloved Family

CHAPTER I

INTRODUCTION

Traditional models of doctor-nurse relations emphasize professional dominance and subordination (Hughes, 2000). The differences in pay, status, education, and gender– to name a few – between the two professions have played a major role in shaping the dynamics of this relationship (Salvage & Smith, 2000). Additionally, the medical field traditionally focused on independence, responsibility, knowledge, and experience, which diverted from fostering collaboration between physicians and nurses (Stein-Parbury & Liaschenko, 2007). However, the healthcare system is evolving rapidly and so should traditional views and practices within it. For example the Government Accounting Office (GAO) reported that emergency department visits increased by 26% in one decade, from 90.3 million in 1993 to 113.9 million by 2003 (Hooker, Cipher, Cawley, Herrmann & Melson, 2008). Such changes in today's healthcare system and the reform of the medical practice environment are pressuring healthcare institutions to provide more efficient, safe, fast-paced, and accessible patient-centered care, calling therefore for teamwork and inter-professional collaboration (Liston, Wagner & Miller, 2013). More so, the provision of high quality care has always been a shared goal for doctors and nurses, and inter-professional work is progressively becoming the norm due to evidence supporting its positive impact on patient outcomes (McCallin, 2001). Consequently, many efforts are being channeled towards creating better integration and synergies between the two professions particularly in medical subfields like ED where collaboration is fundamental.

The Emergency Department: Calling for Teamwork and Collaboration

The medical field has witnessed a major shift in the traditional view of nurse-physician relations whereby nurses merely executing doctors' orders is now perceived as detrimental to their contribution to problem solving and decision making around patient care (El Sayed & Sleem, 2011). The emergency medicine (EM) field in specific has been at the center of many studies on inter-professional interactions considering its complex and challenging environment, which is characterized by high workload, time-pressured type of care, and the need for collaboration between multiple care providers (Hooker *et al.*, 2008; Rosen, Salas, Wu, Silvestri, Lazzara, Lyons, & King, 2008; Kilner & Sheppard, 2010; Ajeigbe, McNeese-Smith, Leach & Phillips, 2013).

A systematic review by Kilner & Sheppard (2010) highlighted the pivotal role of both, teamwork and communication in emergency medicine departments, for enhancing patient safety and reducing medical errors and waiting times. For example, a retrospective review of 636 morbidity and mortality cases, investigated over a period of 15 years at the emergency department of an urban public teaching hospital, has identified that ineffective teamwork commonly contributed to patient care management problems (Clark, Spence & Sheehan, 1996; Catchpole, Giddings, Wilkinson, Hirst, Dale & de Leval, 2007). Similarly, an examination of teamwork and its association with patient safety and quality of care in emergency departments clearly highlighted the impact of teamwork on preventing adverse events and critical incidents (Manser, 2009).

Competency Model Based On Multisource Feedback

Multidimensional competency models in EM specialty have recently become the focus of medical education, making learning and evaluation more measureable based on concrete behavioral indicators (Sherbino, Bandiera & Frank, 2008).

Understanding the nontechnical skills specifically applicable to the EM field is essential for prioritizing training needs, delivering constructive feedback and more broadly considering interventions to reduce error (Flowerdew *et al.*, 2012).

It has been argued that multisource feedback is among the best techniques for assessing nontechnical skills (Flin *et al.*, 2008; Flowerdew *et al.*, 2012) and have been used- though with reservations- for evaluating physicians across a broad range of competencies including some of the ACGME competency domains such as patient care, interpersonal and communication skills, professionalism, and system-based practice (Lockyer, 2003). However, the multiple sources have been mainly restricted to peers and patients (Sherbino *et al.*, 2008), thus leaving an important stakeholder group unaccounted for that is, nurses. Considering that nurses work closely with EM physicians, they can provide valuable data about physician competencies in patient-centered and systems-based care (Lockyer, 2003). Therefore, in this study, we intend to develop a competency model for EM physicians from the perspective of nurses and map it onto the extensively adopted model by the Accrediting Council of Graduate Medical Education (ACGME) to identify potential gaps between nurses' impressions on physicians' performance and the widely relied upon competencies.

Study Objective

The aim of this paper is contribute to better integration between physicians and nurses by breaking the norms of subordination and attempting to develop a competency model for emergency medicine physicians from the perspective of their strategic partner, emergency medicine nurses. This will be conducted at the Emergency Department at the American University of Beirut Medical Center (AUBMC) by analyzing qualitative data collected in April 2012 and then April 2013 about nurses'

assessment of EM physicians. Based on their perspective, we intend to develop a

competency model that would help us in the first place to identify the key competencies

of EM physicians from the nurses' perspective. It also helps us define measurable

behavioral indicators in order to assess these competencies and better select, develop,

and evaluate EM physicians' performance. We will then juxtapose the resulting

competencies against those identified by the Accrediting Council of Graduate Medical

Education (ACGME). By taking the nurses' perspective, we aim to identify

competencies traditionally unaccounted for and to provide a more contextual, accurate,

and measurable behaviors necessary for exceptional EM physicians' performance.

CHAPTER II

METHOD

This study was based on the analysis of qualitative secondary data collected anonymously from registered nurses (RNs) in the Emergency Medicine Department (DEM) at the American University of Beirut, and which involved evaluating EM physicians' non-clinical performance from the nurses' perspective. The data was collected by the institution using a cross-sectional design and as part of the DEM's commitment to strengthening inter-professional team-based working between nurses and physicians. The study was exempt from the review by the institutional review board.

Participants

The targeted participants were RNs who had worked for at least two years at the hospital's DEM. Those who worked less than two shifts per month with the evaluated physician were excluded from participation. In year 2012, 27 nurses were asked to evaluate EM physicians, out of which 21 RNs responded (response rate 77.7%). In 2013, 33 nurses were invited to participate in the study, and only 15 RNs filled the survey (response rate 46.3%). It's worth mentioning that 17 physicians were assessed in both rounds of evaluation. The individual nurse responses were completely anonymous with no possibility of tracing back answers to the individual respondent.

Materials

The survey instrument was designed based on questions primarily guided by:

- ACGME's non-technical requirements for graduate medical education,

- A selective review of similar tools documented in literature,

- Complaints received from patients and health care workers,

- ED management's knowledge and awareness of existing problems within

the institution/organization.

An expert panel revised the questionnaire to ensure content validity and context applicability as well as alignment with ACGME competencies. Upon reaching a group consensus, a short two-part survey was adopted, a quantitative and a qualitative part. The data analyzed in this study is the qualitative part, which includes one open-ended question for nurses to provide their suggestions with respect to the evaluated physicians.

Procedure

Surveys were administered electronically to ED nurses using a web-based surveying system as part of the department's newly introduced formal evaluation system. The evaluations were performed in May 2012 and January 2013 and nurses were given up to four weeks to complete the questionnaire, during which two email reminders were sent.

CHAPTER III

ANALYSIS

The qualitative data collected from the participating RNs in the ED was analysed using content analysis (Stempler, 2001). First, all quotes that referred to descriptions or behaviours of physicians, a total of 349 (first cycle) and 255 (second cycle) quotes, were extracted. After removing similarities, they were further condensed into 231 unique quotes/exemplars. These were then clustered into 29 codes, which in turn were classified under 8 core themes or competencies as described below.

Data Coding and Categorization

Two of the researchers with experience in qualitative analysis worked independently on coding the data and formulating a coding scheme. This entailed reading the nurses' comments multiple times to familiarize oneself with the data and actively searching for patterns. The 2012 and 2013 datasets were analyzed separately.

Coding

Quotes (comprised of single words or more) emphasizing characteristics such as knowledge, skills, abilities or other behaviors of EM physicians were highlighted. A total of 604 quotes were identified then reduced to 231 by removing similarities. For example, if a quote "*caring*" was mentioned multiple times, it was counted only once; and quotes such as "*loves his career*" and "*loves his job*" were considered as the same quote. We refer to these as exemplars since they act as examples of the behavior or skill or ability that an exemplary EM physician ought to exhibit as perceived by the nurses. The researchers consolidated their findings at this stage and reconciled differences by

engaging the rest of the authors in the discussion.

Unifying Code Label

As a next step, the two researchers collaboratively agreed on the naming of each of the 231 quotes. They also converted the negative quotes into positive or neutral terms. For instance, the term "*we never find him at the ED*" was coded as "*always available at the ED*", and the phrase "*not good management skills*" was coded as "*proper management skills*".

Categorization

The 231 quotes were then clustered into 29 codes based on the characteristics and the set of behaviors they reflect. For example, the quotes "*proper delegation of tasks*", "*gives the right order*" and "*follows up with staff*" were assembled under a code that we named "*Tasks delegation*". Following this, the 29 codes were then grouped under themes or competencies based on similarity of their meaning. As an example, the codes "*communicates in a calm voice*", "*delivers the message properly*", and "*use professional vocabulary*" were grouped under a theme that we labeled "*communication skills*". As another example, "*professional image*", "*availability*", "*respect*" and "*ethics*" were classified under the theme "*professionalism*".

In summary, the content analysis resulted in a template that includes three layers: a) a core competency/ theme, b) a code and c) and an exemplar/quote directly driven from the raw data. The result was a total number of eight core competency themes.

Expert Vetting and Reconciliation

In order to validate the categorization and ensure that the collated codes are consistently and coherently mapped against their themes, we formed an expert vetting panel which included the two authors who conducted the analysis as well as a third

author and an ED physician who was not involved in the first part of the analysis. Throughout this process, new themes were created, renamed, merged or even diluted if needed. For example, a new competency "*operations management*", which was originally a code that fell under "team leadership", emerged since it was deemed substantial enough to encompass two other codes namely, "*personnel management*" and "*management of patient flow/throughput*". As a second example, "*patient focus*" also emerged as a standalone competency encompassing the following codes "follow up personally", "concern with patient wellbeing" and "patient interaction". Additionally, two themes were diluted and categorized under existing sub-themes taking into consideration their content and meaning. All suggested and necessary amendments were thoroughly discussed and reconciled in the panel of experts to reach eventual agreement and approved the 8 competencies presented in Table 1.

Table 1

Nurse-led Competency Model for ED Physicians

Competency	Definition	Specific Code	Exemplars
Emotional Intelligence	Possesses intrapersonal skills that help a person manage his/her emotional state and tolerate stress while maintaining a high level of motivation towards the job as well as interpersonal skills that refer to building rapport with people through social skills, and expressing empathy and sensitivity towards them.	Self-awareness	• Trust his capacities and abilities • Trusts his potentials • Believes in his capacities and competencies
		Emotional regulation	• Controls temper • Doesn't get easily frustrated • Does not panic quickly • Coping with Pressure • Controls response and attitude while communicating • Not defensive • Anger management skills • Balanced not moody • Calm • Patient

Table 1

Continued

Competency	Definition	Specific Code	Exemplars
		Empathy and sensitivity	- Supportive - Supports staff in front of patients - Cares for nurses personal issues - Caring - Cares for the patient wellbeing - Compassionate with patients and family members - Highly concerned to help staff - Highly concerned to help patients - Shows empathy - Shows empathy to patients and their families (as if dealing with a relative)
		Social skills	- Sociable at work - Ability to gain people's love - Ability to gain the trust of others - Supports staff in front of patients - Never accuses staff in front of patients - Warm - Approachable
		Motivation	- Always focused - Devoted - Loves his career - Motivated
Communication	Able to use active communication techniques in a respectful and calm tone while also communicating technical information clearly and accurately.	Tone of communication	- Communicates in a kind and respectful way - Communicates in a calm way at all times (especially in front of patients and in stressful situations) - Delivers the message using a calm voice
		Active communication	- Always ready to communicate with patients and their families - Communicates fluently with patients - Communicates effectively with patients and family members - Conveys medical information accurately

Table 1

Continued

Competency	Definition	Specific Code	Exemplars
			• Proper communication skills with patients and their families • Delivers the message properly • Provides proper education to patients • Does not avoid patients and families' questions and inquiries • Straight forward • Use professional vocabulary • Performs proper eye contact • Active listener • Clear • Easy to communicate with • Able to influence and persuade others • Follows up with staff • Follows up with patients
		Technical communication	• Communicates fluently with RNs • Communicates orders clearly • Communicates the plan of care with the RNs • Gives proper instructions • Actively communicates with coworkers • Provides simple instructions • Provides clear instructions
Clinical Knowledge and Expertise	Performs the appropriate physical exams and collect compete information in order to achieve accurate patient assessment. Able to resuscitate and/or monitor critically ill patient.	Patient assessment	• Performs the appropriate physical exams to patients • Knowledge of required exam for each patient • Does not miss tests • Utilization (Requests the proper number of tests/does not over utilize) • Takes patient history properly • Follows safety measures • Clinically skilled • Good clinical sense (practical: not only hypothesis)
		Critically ill patients and resuscitation	• Follows codes • Meets expectations in codes management • Skilled in codes management • Has experience on how to deal

Table 1

Continued

Competency	Definition	Specific Code	Exemplars
			with arrested patients • Proper application of BLS and ACLS protocols
Problem Solving and Decision Making Skills	Able to make decisions and solve problems at various levels of complexity, ambiguity, and risk	Problem solving	• Logical • Critical thinking • Recognizes the problem when it arises) • Problem solving skills (recognizes the problem when it arises) • Always aware of problems occurring at ED (problem sensitivity and being very involved) • Problem sensitivity
		Decision making	• Proper judgment skills • Critical thinking • A decision maker • Fast in decision making • Courageous but rational decision maker • Proper decision making related to patient discharge
Team Leadership	Fosters a team environment and work collaboratively and cooperatively within teams to achieve results while leading by example and taking initiative. Empowers and motivates others, and manages conflicts while promoting a high performance culture.	Leading by example	• Takes initiatives • Takes initiatives to solve problems • Skills to lead • Skills to lead (especially during emergency situations) • Leader in codes • Excellent leadership skills • Proper leadership skills • Always in control of the situations • Role model
		Conflict resolution	• Conflict resolution skills • Quickly resolves issues • Avoid conflicts • Resolves all conflicts • Assist the team members in sensitive situations
		Fostering a healthy work environment	• Creates a safe working environment • Creates a very good smooth and calm working environment • Trustworthy

Table 1

Continued

Competency	Definition	Specific Code	Exemplars
			• Ability to gain trust of others • Conveys trust worthiness and confidence • Easy going with his team • Friendly with the staff • Makes his team members like working with him • Close from team members • Fun to work with • Good relationship with RNs • Approachable team member • Interacts with RNs • Cares about team work • Team player • Team spirit
		Tasks delegation	• Proper delegation of tasks • Gives the right order • Follows up with staff
		Motivating others	• Appreciative • Praise RNs rather than criticizing them or belittling them (motivation) • Respects competent nurses in team • Appreciate competent nurses in the team • Appreciate the work and efforts of her/his team
		Cooperation	• Responds to team members • Cooperates with team members (not bossy) • Cooperative (helps RNs in carrying out the order) • Cooperative with nursing team re the patient plan of care • Chips in beyond what is in the JD (Works by his hands: suture & draws blood and initiates IV) • Cooperates with team members • Helpful
		Ability to empower	• Trust RNs and their experience • Trust his team members • Include RNs in medical decisions • Engages RNs in the patient

Table 1

Continued

Competency	Definition	Specific Code	Exemplars
			plan of care
			• Engages all team members in all phases of patient care (Mng)
			• Takes team's suggestion into consideration
			• Stands by staff
		Organizational skills	• Organized
			• Proper administrative skills
Professionalism	Maintains a professional image, accountability, and respect towards others while upholding high levels of ethical standards	Professional image	• Professional
			• Professional approach with patients
			• Does not avoid patients and families' questions and inquiries
			• Deals professionally with patients
			• Punctual
			• Deals professionally with nurses
			• Projects positive personal image
			• Presentable
			• Cares for reputation of the hospital
			• Classy
			• Respects the decision of nurse in charge
			• Gentleman
			• Never accuses staff in front of patients
			• Supports staff in front of patients
		Availability	• Always available
			• Informs team members before leaving ED
			• Always available in ED during his shift
			• Never minds calling him/her at any time to help solve a problem
			• Doesn't leave ED for a long time
			• Never leaves ED when he is needed
			• Reachable
		Respect	• Respectful

Table 1

Continued

Competency	Definition	Specific Code	Exemplars
			• Courteous with staff (even in tough times) • Respects residents and RNs and never humiliates anyone (especially in front of patients) • Respects competent nurses in team • Supports staff in front of patients • Never accuses staff in front of patients
		Ethics	• Does not work on personal issues during the shift • Concerned about patient safety • Secure patient confidentiality • Non-commercial physician (not materialistic) • Takes responsibility and doesn't blame others • Equal opportunity provider (provides the same care to all types of patients: VIP, non-VIP, low/high acuity, wealthy, poor, etc)
Patient Focus	Makes patients and their needs a primary focus while developing and sustaining a high quality of patient outcome and service excellence	Follow up personally	• Examines all and evaluates patients personally • Personally check test results • Takes care of patients from sign in to sign out • Follows up with patients • Concerned about patient safety • Makes sure to provide best healthcare services to patients • Satisfies patients • Always ready to communicates with patients and their families • Smoothen patient flow • Adequate management of patients (doesn't allow delays or unnecessary transfers) • Deals professionally with patients
		Concern with patient wellbeing	• Deals properly with low acuity patients • Never refuses to see a high acuity patient when ED1 is crowded

Table 1

Continued

Competency	Definition	Specific Code	Exemplars
			• Patient focus concern • Cares for the patient wellbeing • Shows empathy to patients and their families (as if dealing with a relative) • Tolerates difficult patients (psychologically ill) • Never refuses to see a patient • Compassionate with patients and family members • Highly concerned to help patients
		Patient interaction	• Communicates effectively with patients and family members • Provides proper education to patients • Does not avoid patients and families' questions and inquiries • Quickly responds to patients concerns
Operations Management	Able to develop and monitor processes and to organize people and activities in order to effectively and efficiently achieve desired results	Management of patient flow/throughput	• Efficient (especially when ED is crowded) • Fast • Fast in follow-ups • Quickly responds to calls & paging • Quickly responds to patients concerns • Quickly responds to coworkers concerns • Quickly responds to codes • Quickly resolves issues • Very active on duty • Energetic • Hard worker • Time management skills • Efficient in finalizing a case for discharge • Effective in management ED beds • Multitasker • Proper planning of ED flow • Proper planning of patient flow • Smooth • Smoothen work flow

Table 1

Continued

Competency	Definition	Specific Code	Exemplars
			• Smoothen patient flow
		Personnel management	• Skills to manage
			• Proper management skills
			• Proper management of students
			• Proper management of patient flow
			• Proper management of patients in codes
			• Properly handles ED and patient flow
			• Adequate management of patients (doesn't allow delays or unnecessary transfers)
			• Proper management of ED flow
			• Proper delegation of tasks
			• Gives the right order
			• Follows up with staff
			• Knowledgeable of patient plan of care
			• Knowledge in ED policies and procedures

CHAPTER IV

RESULTS

Clinical Knowledge and Expertise

Clinical Knowledge and Expertise relates to performing the appropriate physical exams and collecting complete information in order to achieve accurate patient assessment. It also refers to the ability to resuscitate and/or monitor critically ill patient. Two codes fall under this theme: "patient assessment" and "critically ill patients and resuscitation".

Communication

Communication is defined as the ability to use active communication techniques in a respectful and calm tone while also communicating technical information clearly and accurately. Three codes were classified under communication: "tone of communication", "active communication", and "technical communication". Whilst communication is typically defined as the ability to express one's ideas and relay the message in a clear and comprehensible manner to diverse audiences, our data highlighted the importance of the tonality as a core aspect of proper communication skills among ED physicians.

Professionalism

Professionalism pertains to maintaining a professional image, accountability, and respect towards others while upholding high levels of ethical standards. It includes four codes: "professional image", "availability", "respect" and "ethics". All these codes

reflect professional behavior in the context of this hospital in specific.

Emotional Intelligence

Emotional Intelligence refers to possessing, on one hand, intrapersonal skills necessary for better management of emotions and tolerance of stress while maintaining a high level of motivation towards the job; and on the other hand, interpersonal skills required for building rapport with people through social skills, and expressing empathy and sensitivity towards them. This competency emerged from the exemplars that lead to the emergence of codes parallel to Baron's five elements of Emotional Intelligence: self-awareness, emotional regulation, empathy and sensitivity, social skills, and motivation (Baron, 2006). For instance, the three exemplars "trust his capacities and abilities", "trusts his potentials", and "believes in his capacities and competencies" were grouped together to form the code "self-awareness". Similarly, "approachable, sociable at work" and "ability to gain trust of others" were grouped together (among other exemplars) to lead to the code "social skills". The Emotional Intelligence competency included the following codes: "stress tolerance", "emotional regulation", "empathy and sensitivity", "social skills", and "motivation".

Team Leadership

Team Leadership is related to fostering a team environment and working collaboratively and cooperatively within teams to achieve results while leading by example and taking initiative. It also entails empowering and motivating others, and managing conflicts while promoting a high performance culture. Based on the exemplars collected from nurses' suggestions, eight codes emerged as potentially very valuable in effectively managing system and caregiver imperfection: "leading by

example", "conflict resolution", "fostering a healthy work environment", "tasks

delegation", "motivating others", "cooperation", "ability to empower", and

"organizational skills". These behaviors are known to play a key role in preventing and

mitigating the effect of clinical errors as well as enhancing the quality of emergency

care in ED setting (Shapiro, Morey, Small, Langford, Kaylor, Jagminas & Jay, 2004).

The significance of the mentioned teamwork behaviors led us to develop a new core

competency "Team Leadership", based on which physicians' performance should be

evaluated.

Patient Focus

Patient Focus is concerned about making patients and their needs a primary

focus while developing and sustaining a high quality of patient outcome and service

excellence.

The importance of patient-oriented approach in both research, as well as design

and operational management of health care systems has been widely recognized (Tarte

& Bogiages, 1992; Vissers & Beech, 2005; Lillrank *et al*., 2003). The patient-oriented

approach is a relevant starting point for analyzing healthcare service production

processes, because the value generated by any given situation in healthcare is directly

related to the changes in patient's condition. As the patient is advocated a more active

and autonomous role, that involves increased patient control, reduced physician

dominance, and more mutual participation (Szasz & Hollender, 1956), the patient-

centered approach has become the predominant model in clinical practice today. As

such, it is imperative that physicians maintain a healthy and effective patient-physician

relationship, which in turn affirms therapeutic effectiveness (Di Blasi, Harkness, Ernst,

Georgiou & Kleijnen, 2001). A study has argued that a physician's sensitivity to

concerns, reassurance and support, and patient centeredness are positively related to the patient–physician relationship. Accordingly, the physician is assumed to be a key figure in facilitating and managing the patient–physician relationship by influencing the way patients perceive and feel about their treatment and illness (Berrios-Rivera et al., 2006). In our study, three patient-centered codes were derived from the nurse-led exemplars: "follow up personally", "concern with patient wellbeing", and "patient interaction". Shedding the light on the significance and impact of patient-centered approach on the health care systems in general and ED in particular, we reached a consensus that a core competency "Patient Focus" should be included in our model reflecting the corresponding codes mentioned above.

Problem Solving and Decision Making Skills

Problem Solving and Decision Making Skills refers to making decisions and solving problems at various levels of complexity, ambiguity, and risk. Emergency medicine physicians often make complex clinical decisions with limited information when faced with a vast number of competing demands and distractions. Clinical reasoning, medical problem solving, diagnostic reasoning, and decision analysis are all terms used in a growing body of literature that examines how physicians make clinical decisions (Kovacs & Croskerry, 1999). Perhaps the most useful reason for examining clinical decision making and problem solving is the insight that can be provided regarding clinical decision errors particularly in ED environment, a fertile ground for such errors. The proper use of critical decision making and problem solving processes will definitely contribute to a decrease in diagnosis uncertainty, preventing inappropriate premature diagnostic closure and errors. From nurses' perception, these skills were found to be vital in assessing ED physicians' performance. As such, we were

convinced that "Decision Making and Problem Solving" should stand by itself as a core competency in our model.

Operations Management

Operations Management is defined as the ability to develop and monitor processes and to organize people and activities in order to effectively and efficiently achieve desired results. This competency is very relevant to today's emergency medicine context considering that overcrowding in EDs is becoming increasingly problematic for hospitals and better management of patient flow is becoming a necessity (Holroyd, Bullard, Latoszek, Gordon, Allen, Tam & Rowe, 2007; Asplin, Magid, Rhodes, Solberg, Lurie & Camargo, 2003). The codes that fall under this competency are: "*management of patient flow and throughput*" and "*personnel management*" all of which are necessary for better management of processes, staff, patient flow, and consequently overcrowding.

Compared to ACGME six core competencies presented in table 2 ("*Patient Care and Procedural Skills*", "*Medical Knowledge*", "*Practice-based Learning and Improvement*", "*Interpersonal and Communication Skills*", "*Professionalism*" and "*Systems-based Practice*"), our nurse-led competency model revealed a number of similarities and distinctions between them. As an illustration, we identified a common competency named "*professionalism*", and we also mapped "*clinical knowledge and expertise*" to two of ACGME competencies ("*Patient Care and Procedural Skills*", "*Medical Knowledge*") for sharing a common definition and content. Upon looking for potential differences, two competencies of ACGME were not included in our data: "*Practice-based Learning and Improvement*" and "*Systems-based Practice*". However, the nurse-led competency model resulted in five core competencies that were not

highlighted by ACGME.

Table 2

Mapping the nurse-led competency model on ACGME

ACGME Competencies	Nurse-led Competencies
Patient Care and Procedural Skills *Definition*: Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health, and they must be able to competently perform all medical, diagnostic and surgical procedures considered essential for the area of practice	**Clinical Knowledge and Expertise**
Medical Knowledge *Definition*: Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care	**Clinical Knowledge and Expertise**
Practice-based Learning and Improvement *Definition*: Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning.	**Not reported by nurses**
Interpersonal and Communication Skills *Definition*: Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.	**Communication**
Professionalism *Definition*: Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles	**Professionalism**
Systems-based Practice *Definition*: Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care	**Not reported by nurses**
Not identified by ACGME	**Emotional Intelligence** **Team Leadership** **Patient Focus** **Problem Solving & Decision Making Skills** **Operations Management**

CHAPTER V

DISCUSSION

In this paper, we built a competency model for EM physicians from a very unique angle namely, the nurse's perspective. Although there are many existing competency models that are widely adopted and relied upon such as ACGME, ABMS, CanMeds, and IOM, building such a model from the nurses' perspective offered us distinctive insights for understanding the competencies needed for physicians in an ED environment.

Nurses' Perspective: A Unique Lens

Upon studying and analyzing the qualitative data collected from nurses, a competency model was developed covering 8 core competencies with their corresponding internal set of behavioral indicators: "*emotional intelligence*", "*communication*", "*clinical knowledge and expertise*", "*problem solving and decision making skills*", "*team leadership*", "*professionalism*", "*patient focus*", and "*operations management*". In reference to the six core competencies identified by ACGME, we find quite a number of resemblance and correspondence upon mapping both set of competencies to clinical indicators of outcome and performance. However, they also have many vital distinctions between them. What's interesting about the data, based on nurses' perception, is that it includes operational-specific knowledge and skills rather than strategic ones. As an example, we found that two core competencies identified by ACGME, "*Practice-based Learning and Improvement*" and "*Systems-based Practice*", did not emerge in our model. Given the nature of the nurses' role and their involvement

in the day- to-day operation, it is not surprising for nurses to highlight operational

related skills and behaviors rather than strategic ones. Taking into consideration the

major role that doctors play in healing people, we definitely need to emphasize the

operational side of their role to understand what and how the physicians perform on a

day-to-day basis. As such, it was evident that the nurse-led model resulted in

competencies with operational characteristics such as "*operations management*" and

"*problem-solving and decision making*".

Another point of discussion that's worth mentioning is the emergence of "team

leadership" competency and the nurses' emphasis that revolves around all the

components of a person who fosters a healthy work environment, motivates and

empowers teams, and cooperates with others. Given the shift in the view of nurse-

physician relations from dominance and subordination to teamwork and collaboration

(Liston *et al*., 2013), we clearly see that this competency supports the arguments of

moving towards a direction whereby inter-professional collaboration is at the core

within health care settings. Speaking of teamwork and collaboration, communication is

an essential competency that lies within them. Looking at ACGME competencies, we

noticed that the interpersonal and communication skills are included as one competency.

However, our results based on the nurses' perception identified Barons' 5 elements of

emotional intelligence, which in turn led us to place "emotional intelligence" as a core

competency that stands by itself. As for communication, our data provided us with a

unique definition of communication that includes tonality such as "Delivers the message

using a calm voice", reflecting specificity to the context that nurses are working in. The

relevance of this specificity is that it can allow hospitals and residency programs to

better assess and train for these competencies while taking into consideration how they

are manifested in their particular organizational context.

Practical Use of Nurse-Led Competency Model

The resulting nurse-led model serves as a tool to support healthcare institutions in identifying and attracting competent ED physicians through highlighting the skills and behaviors essential for providing an exceptional quality of patient care. Given the competencies accuracy and specificity to the ED context, this model – if incorporated with that of ACGME – better allows hospitals to define benchmark and consistent competency standards based on which fair performance management system is adopted and implemented. Furthermore, the proposed competency model provides practical insights for HR managers to identify the type of training and development programs needed for physicians based on their competency gaps.

Finally, by linking the hospitals' vision and standards of service excellence to these measurable competencies, health care institutions would be able to form a solid foundation of human resource systems that result in retaining competitive employees who contribute to enhancing the quality of service in general and patient care in specific.

CHAPTER VI

LIMITATIONS AND FUTURE RESEARCH

The qualitative data analyzed in this survey derives from a two part survey, the first of which includes a set of predesigned questions aimed at soliciting input from nurses about particular competencies that define successful EM physicians. The qualitative part follows these questions, and while nurses were encouraged to freely express their opinion, the content of the quantitative part (the predesigned questions) might have contaminated nurses' thoughts with its content. Nevertheless, the analysis led to the emergence of competencies that were not covered in the quantitative part of the survey, hence indicating that while nurses might have been influenced by the content of the questions, they still expressed ideas independently from the previous data.

Another limitation of this study is that the survey was not originally designed for competency modeling purposes. That is, the data was used for a different aim than its original one, and therefore different methodological approaches might have addressed the aim more conductively. However, the data is still extremely valuable and proved to be rich enough to have included ACGME competencies as well as additional ones unique to the nurses' perspective.

Finally, we acknowledge the weakness in the generalizability of this competency model given the fact that the performance of ED physicians is studied based merely on nurses' perception within one medical center. Whilst this limits the generalizability of the model itself, it does not limit the generalizability of the methodology employed in this study. Multisource feedback provides a unique angle that

can help healthcare institutions further contextualize and refine ACGME competency requirements by identifying how each competency translates within its unique organizational setting. An interesting direction for future research is to focus on incorporating multi source feedback in different settings in order to capture a holistic view of competence of ED physicians such as peer physicians, medical students, patients and their families as well. Another interesting future direction would be to build a competency for the various departments within hospitals. It would be interesting to address these competencies from multiple perspectives within healthcare to see the differences between different specialties and how training and selection practices may be influenced by the criteria needed in every job.

CHAPTER VII

CONCLUSION

With the growing prevalence of the holistic philosophy of medicine, a doctors now needs to be a psychologist, a health advocate, a professional, a communicator, a collaborator, a manager, and a medical expert all at once (Frank & Danoff, 2007).. Indeed, *knowing* is no longer seen as the final destination but rather as a first step on a long path towards *doing* (Lurie, 2011; Express Healthcare, 2012). *Doing*, however, is no longer restricted to providing clinical care efficiently, but it now includes aspects that affect the healthcare system as a whole as opposed to individual patients. ED physicians' are playing an increasingly important role in securing adequate resources and managing them, as well as planning and controlling the processes that the patient experiences, in order to provide satisfactory patient care.

In an attempt to cultivate physicians with a broad range of skills that will eventually enable them to provide clinically sound and emotionally responsive patient care, we need to define and assess the core characteristics of professional competence in ED settings. Adopting a multisource assessment approach will certainly help us understand the underlying attributes of EM physicians' competencies, and hence define measurable behavioral indicators in order to better select, develop and evaluate EM physicians'' performance. By doing so, we would be fostering educational strategies that will promote physicians' development and thus enhance patient care.

APPENDIX I

OCCURRENCE PERCENTAGE

Competency Percentage	Code	Exemplars Percentage
Emotional Intelligence (**14.71 %**)	Self-awareness	• 1.29 %
	Emotional regulation	• 4.33 %
	Empathy and sensitivity	• 4.33 %
	Social skills	• 3.03 %
	Motivation	• 1.73 %
Communication (**11.68 %**)	Tone of communication	• 1.29 %
	Active communication	• 7.36 %
	Technical communication	• 3.03 %
Clinical Knowledge and Expertise (**5.62 %**)	Patient assessment	• 3.46 %
	Critically ill patients and resuscitation	• 2.16 %
Problem Solving and Decision Making (**5.18 %**)	Problem solving	• 2.59 %
	Decision making	• 2.59 %
Team Leadership (**23.34 %**)	Leading by example	• 3.89 %
	Conflict resolution	• 2.16 %
	Fostering a healthy work environment	• 6.92 %
	Tasks delegation	• 1.29 %
	Motivating others	• 2.16 %
	Cooperation	• 3.03 %
	Ability to empower	• 3.03 %
	Organizational skills	• 0.86 %
Professionalism (**14.27 %**)	Professional image	• 6.06 %
	Availability	• 3.03 %
	Respect	• 2.59 %
	Ethics	• 2.59 %
Patient Focus (**10.38 %**)	Follow up personally	• 4.76 %
	Concern with patient wellbeing	• 3.89 %
	Patient interaction	• 1.73 %
Operations Management (**14.29 %**)	Management of patient flow/throughput	• 8.66 %
	Personnel management	• 5.63 %

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