

MAHMOUD MOAWAD, MD, MPH, FACP, from the King Faisal Specialist Hospital in Saudi Arabia: an interview by F. David Winter Jr., MD

Mahmoud Moawad, MD, MPH, and F. David Winter Jr., MD, MSc

Mahmoud Moawad (*Figure 1*) is the head of the Section of General Internal Medicine at the King Faisal Specialist Hospital and Research Centre in Riyadh, Saudi Arabia. He is a recognized leader who established the first committee to study and disseminate information on evidence-based medicine in the hospital, as well as a consultant for complicated medical cases, an administrator, and a dedicated family man. He shared time with me during a recent visit to Saudi Arabia.



Figure 1. Dr. Mahmoud Moawad in the King Faisal Hospital just after the interview.

Dr. Moawad was born in Minuf, Egypt, and lived there for 18 years. He excelled in soccer and at the same time graduated first in his class. Encouraged to go into medicine because of his high marks, he enrolled in medical school, which began there immediately after high school, in Alexandria, Egypt. Several years later he obtained a master's degree in public health at the University of Pittsburgh in Pennsylvania. Thereafter, he received his residency training in internal medicine at Rutgers, New Jersey, followed by a general internal medicine fellowship at Stony Brook and Columbia University, New York.

Dr. Moawad then began his career at the King Faisal Hospital, where he has been for the past 15 years, rising to the rank of section head of the Department of Internal Medicine. He is an active staff member of this tertiary care center that treats patients previously cared for in Europe and America. The hospital also provides primary care for the royal family and other high government officials. He also participated in the establishment and was the principal investigator of the thromboembolic disorders registry in Saudi Arabia, which has led to a number of international publications.

F. David Winter Jr., MD (hereafter, Winter): *Dr. Moawad, thank you for agreeing to talk to me and to the readers of Baylor University Medical Center Proceedings. Could you discuss your early upbringing and your family?*

Mahmoud Moawad, MD (hereafter, Moawad): I was born in Minuf, Egypt, which lies in the delta of the Nile

River, and lived there through high school. This city is part of El-Menoufia Governorate, which happens to also be the birthplace of the current president of Egypt, Hosni Mubarak, and the former president, Anwar Sadat. I was accepted into medical school and moved to Alexandria, the largest port in Egypt, located on the Mediterranean Sea. I have five siblings, four brothers and a sister; I was number three. My oldest brother, Mohamed, is an agricultural engineer; Abdelmonem is a civil engineer in Germany; my sister, Fayza, has a bachelor's degree in social work; Mostafa is an architect; and Ahmed, a pharmacist. I was 18 years old when I moved to Alexandria to attend medical school at the University of Alexandria, and I lived there with my older brother, who was studying civil engineering at the time.

Winter: *Tell me about your parents.*

Moawad: My father, a businessman, traveled extensively. My mother, a serious woman, was with us all the time and read the holy Koran daily. She taught us how to learn and how to be competitive, but in a fair and nice way.

Winter: *What was dinner like in your home growing up?*

Moawad: My dad was usually not home. He traveled, trading and manufacturing certain things in the linen industry. It was usually us kids with our mother, an uncle, and an aunt. My father's youngest brother, Najeeb, was married to my mother's youngest sister, Amina, and we all lived in a multistory house. We used to have lots of stories. Almost all my mother's stories were from the holy book that taught essential moral values. We all read a lot and were taught to do so early in life. I knew how to read before I went to school.

Winter: *What did you talk about at the dinner table?*

Moawad: What we had done during the day, whether we had finished our homework, and whether or not we had gotten into trouble. If there was something I did not understand, we would discuss that topic.

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Figure 2. Practicing soccer at age 15.

Winter: *Were there teachers in your high school who influenced you to go to medical school?*

Moawad: No. In school I focused on soccer more than on studies (Figure 2). Although I was not really a good student, I got high grades. I believe that I was born with some degree of smartness. I got high marks just by listening well in class. By secondary school, however, I had to work hard. In Egypt, the final year of secondary school education, to a great extent, shapes your future. The graduation marks would determine which college you matched with. Because of my good grades, I felt that I had to go into medicine. Everybody told me: “Are you crazy? Anybody with your scores should go into medicine.” So, I said, I am on my way to medical school.

Winter: *How difficult is it to get accepted into medical school in Egypt?*

Moawad: It was and is still the most difficult school to get into. You have to make the highest scores in secondary school to go into medicine. The system is not the best. I didn’t like medical school very much. I actually applied minimal effort. My medical school did not allow group learning imagination. Most professors were dogmatic and taught with their own booklet, like their own bible, which students had to memorize, whether it was right or wrong. Students were not allowed to mention that standard textbooks, such as *Harrison’s Principles of Internal Medicine*, said something different; they were graded on what the teachers had in their lectures, which were not necessarily up to date. Students were not allowed to question the professors.

Winter: *After graduating from medical school, what did you do?*

Moawad: I worked as a rural health unit director because inadequate medical care was being delivered to these areas. The chance came to go to the USA—a chance few individuals had—to obtain advanced training in public health, which Egypt needed. I qualified for a US-sponsored scholarship by writing a report about maternal and child health in rural Egypt. I completed the report in 18 hours, to make the deadline, and got an interview with an American physician working with the US Agency for International Development in Cairo. He liked my report, found my English to be adequate, and selected me as one of only a few in the entire country. I obtained a master’s



Figure 3. Receiving his residency training completion certificate from Dr. Frank Griffin, residency program director, and Dr. Paul Johnson, chief of medicine.



Figure 4. Farewell party after completing his fellowship training at the State University of New York Stony Brook with Dr. Larry Smith and Dr. Steven Jones.

degree at the University of Pittsburgh in 1981. I had A’s in all required courses, including the dissertation, and only one B in an elective course. After finishing the master’s program, I trained in medicine in the USA.

Winter: *How was the US residency training different from that in Egypt?*

Moawad: First, in Egypt they teach the symptoms and signs of a disease, and then you try to fit the patient into this framework. The information is given in such a rigid way that there is no chance for analysis, no chance of looking at the whole picture. In the USA, the approach is problem based. Clinical relevance and application are emphasized. In Egypt, when studying central nervous system anatomy, the teachers try to trick you into memorizing minor details, things that you are never going to use unless you go into subspecialized fields such as neurosurgery. I took the examination of the Educational Commission for Foreign Medical Graduates and passed it. Later, I audited some courses and did some clerkships at the University of Pittsburgh School of Medicine. As an alumnus of the University of Pittsburgh and later as a PhD student in epidemiology, I had access to the medical school library and spent long hours there studying and enjoying the practical and applied approach of American medical education (Figures 3 and 4).

Winter: *What is it like to practice medicine in the King Faisal Hospital of Saudi Arabia?*



Figure 5. On the wards of the King Faisal Hospital.

Moawad: In general this hospital functions according to North American standards and has been accredited by the Joint Commission International. Our practice here is of two facets: first is as a tertiary care hospital for conditions that traditionally used to be sent to Europe or the USA; second is to take care of the VIPs, the royal family and the high government officials. From other Middle Eastern countries, we also often see high government officials as well as patients with complicated tertiary care problems. For the VIP group, we provide primary, secondary, and tertiary care. Our care is continuous, comprehensive, and coordinated as in the USA.

As a section, our main duties are to cover the general internal medicine wards and to consult in medicine and thromboembolic diseases for other departments and sections (Figure 5). We work as a group practice. Each of us covers the ward service, the consult service, the main hospital inpatient service, and the anticoagulation service, each in 1-month rotations. We also have a large thromboembolic service, probably the largest in the Middle East. We have four weekly clinics, which have nearly 2500 patients. We have a large population of younger patients who have prosthetic heart valves because of rheumatic heart disease. We also see clotting disorders in pregnant women and patients with various thromboembolic diseases, e.g., hypercoagulable states such as antiphospholipid syndrome.

Winter: *Are problems in your hospital similar to problems in US hospitals?*

Moawad: As a tertiary care hospital, each section has a specific number of beds. Because occupancy rates for general internal medicine often exceed our allotted beds, extra beds are borrowed from tertiary care services. It is difficult in our environment to send patients back to their local hospital or provider. As a result, a significant proportion of our beds are occupied by patients who need only skilled nursing care. Until these issues are resolved, and that will take long-term planning, providers in the section of internal medicine and the numbers of beds available will need to increase to 3 to 4 times their current size.

Winter: *Are there adequate numbers of primary care physicians in your country?*



Figure 6. Wedding celebration with his wife, Iman.

Moawad: No. Furthermore, they are not as reliable as at the Ministry of Health primary health care centers and private dispensaries. Local primary care physicians see 50 to 60 patients per day! Good care, of course, cannot be provided with such volume. After patients see the kind of care we deliver here, they do not want to go back to their local physicians. We have patients who stay in the hospital for months and even years, and we do not have enough manpower to take care of all these patients.

Winter: *Do you have hospitalists to care for the patients in the hospital?*

Moawad: No. It is a concept, however, that we are trying to adopt.

Winter: *How do you go about discharging patients from the hospital?*

Moawad: The administrators (discharge planners) are in charge of the beds. Sometimes it is difficult to discharge patients. Since our care is totally free, we often encounter a situation where the family refuses to take their fully dependent patient home or the patients themselves refuse to be discharged, and there is nothing we as physicians can do about that. We find ourselves too often in the situation where the administration is telling us to discharge a lot of patients and we do not have the authority to do so most of the time.

The patients seen in our clinics receive much better care than in most hospitals in the country. As a tertiary care hospital, however, we are supposed to diagnose and outline a plan of care and then discharge these patients back to their local providers for continuous follow-up. We are supposed to dictate a medical report including the diagnoses, medications, and plan of care and tell the patients to find themselves another physician or go back to their local provider. Of course, these recommendations are faced with great resistance by most patients. I cannot blame the patients, because the care in our institution is much better than locally, yet our resources are limited.

Winter: *What are your hours in the hospital?*

Moawad: Typically, I finish every day at the hospital around 5:00 PM and am in my office every morning around 7:00 AM. I live only 5 minutes walking distance from the hospital, and



Figure 7. His family: Ahmed (12), Iman, Sarah (19), and Iman (23).

driving distance is a minute and a half. Many nice housing compounds are located around the hospital.

Winter: *How many children do you have?*

Moawad: I have three children (*Figures 6 and 7*), two of whom are in the States. The oldest is a daughter who studied pharmacy and graduated in April 2008.

Winter: *She is following in her mother's footsteps?*

Moawad: Yes, in many ways, more than you can imagine. Iman is studying in the same school where her mother received her PhD many years ago. Her name is the same as her mother's. The dean of the school of pharmacy used to be her mother's classmate. Our second daughter, Sarah, is now a freshman in pharmacy school. Our only son, Ahmed, who is 12 years old, is attending the American school in Riyadh.

Winter: *Do you have dinner with your wife and son each evening?*

Moawad: Most of the time I do. Sometimes I have patients to see or administrative work to finish.

Winter: *At night when a patient becomes ill, are you called?*

Moawad: Usually not. We have senior and junior residents and also an assistant physician who are called first, so I am usually third on call. I am called periodically. I encourage them to call any time they have a question about a case. Also, I am often called from the emergency department for a VIP patient with an acute problem.

Winter: *What about on the weekends?*

Moawad: On average, every fourth weekend I am on call, and even when I am not on call I spend 4 to 5 hours in my office working.

Winter: *What are your ward rounds like?*



Figure 8. With Iman (daughter) and Iman (wife) in Epcot Center, Disneyland.

Moawad: Here is my list of patients for tomorrow: 1) stable to be discharged but patient refused; 2) stable to be discharged but administration asked us to keep in the hospital; 3) stable to be discharged but a VIP who wants to stay in the hospital. Thus, these three patients are not here for medical reasons but for long-term nursing care. We change these patients to "long-term charting," i.e., the team will see them only once or twice a week. My list includes 30 inpatients: several with diabetes mellitus or chronic obstructive pulmonary disease (we have lots of smokers), a patient with osteogenesis imperfecta, another with cellulitis of a leg, two with aspiration pneumonia, one with heart failure, and one with decubitus ulcers.

Winter: *Do you have many diabetic patients?*

Moawad: Yes, more than in the USA. Around 25% of the people here have diabetes mellitus or impaired glucose tolerance.

Winter: *How much time do you take off each year?*

Moawad: I have 30 days of annual vacation, 10 days for continuing medical education, 7 days for Ramadan, our big religious festival, and 10 days for Hajj. On average, I take off about 2 months each year.

Winter: *Have you traveled to Mecca for the annual pilgrimage?*

Moawad: Yes, probably more than 20 times, and also to Medina with my kids. Most of these visits were for Umrahs. We went on pilgrimage only three times.

Winter: *Where do you go on vacation?*

Moawad: Usually Egypt or the USA. We consider Pittsburgh our second home. My son loves Pittsburgh. We also own a timeshare in Orlando, Florida, which is another place the children like to visit (*Figure 8*). Less frequently, we go to Europe.

Winter: *Do you still have family in Egypt?*

Moawad: Yes, my sister and the youngest of two brothers. Both of my parents and my older brother have died. I have another brother in Germany and see him every couple of years. We have been to Germany several times.

Winter: *I am told that you chair a committee on evidence-based medicine.*

Moawad: Yes. I chair the multidisciplinary evidence-based practice committee to promote patient safety.

Winter: *How much resistance to change have you encountered in your evidence-based medicine committee?*

Moawad: A good deal. Things here are deep rooted and difficult to change. Some clinicians, usually the older ones, resent change in their paradigm of how to practice medicine. The younger generations, especially residents and fellows, are very receptive and eager to learn. Our main problem at this point is the higher administration's true commitment to the vision of adopting evidence-based practice in this institution. No institution in the world needs such commitment more than our hospital, with health care employees of diversified backgrounds and training.

Winter: *Do the Saudi patients listen to and trust foreign physicians? Do they take advice from you?*

Moawad: Yes. Once they feel that I really care about them and show them respect, especially when they are involved in their decision making, all respond favorably. I will give you an example. I have a middle-aged VIP lady who has recently had a liver transplant for cryptogenic liver cirrhosis. She also has multiple problems including obesity, hypertension, diabetes, chronic kidney disease, depression, osteoporosis with compression fractures, chronic pain syndrome, and significant anxiety. She came to my clinic for the first time 5 years ago. She was being followed by eight subspecialists and had been seeing them for years. Her diabetes and hypothyroidism were being handled by an endocrinologist, her hypertension by a cardiologist, her liver disease by a hepatologist, and so on. I listened to her, got a list of her medications (to make sure there were no drug interactions), and with time became her chief physician to explain to her what all of the other physicians were doing. She wants me as her patient advocate. In our tertiary care hospital, specialists often look only at their own organ system. Patients, however, don't like that and want a generalist to bring things together.

Winter: *Do you have a shortage of primary care physicians like we do in the United States?*

Moawad: Yes. We have very solid specialists, but most of our primary care physicians are weak. We have a relatively small number of students who graduate from medical school each year, and those who do rarely choose primary care or family medicine. They choose more glamorous careers such as brain surgery or heart surgery. Thus, there is a huge shortage, which is being filled by very low quality expatriate general practice physicians, mainly from Egypt, Syria, Pakistan, or India. Many come right out of medical school and practice who knows what kind of medicine, and yet their practices are full. Patients who are costing hundreds of thousands of dollars in sophisticated tertiary care treatments and procedures are sent back to these

physicians for follow-up! Oftentimes, they end up in the section of general internal medicine. We follow many of these patients despite a severe shortage of resources.

Winter: *There is the perception that because of the profits from oil, money is not a problem in Saudi Arabia or in the King Faisal Hospital.*

Moawad: True, the equipment, expansion, and cutting-edge technology are available here, but you cannot get everything. There are lots of constraints. Manpower shortage in different departments due to noncompetitive hiring packages is a problem. This hospital was built in 1973, and the payment for professional leave for continuing medical education and the educational allowance rates for our children were set that year and have not been adjusted in more than 3 decades despite significant inflation.

Winter: *You obviously are respected here as a physician and as an administrator. Are you limited in your upward mobility? Could you become the chief of medicine or the chief executive officer (CEO)?*

Moawad: Chief of medicine maybe, but CEO, no. Since this hospital opened in the early 1970s, the CEO position has been occupied by either a Saudi or an American. Professional growth of expatriates in general is different from that of the nationals. I knew that when I came and accepted it.

Winter: *How is the quality of medical care in Saudi Arabia?*

Moawad: Medical education both at the graduate and undergraduate level here has made giant steps. The graduates, at least the ones I interact with through the King Faisal Specialist Hospital residency and fellowship programs, are of very high caliber. They benefit from the strong clinical influence of the British medical system as well as the problem-based, evidence-based, high-tech North American influence. Some physicians here are comparable to the best in the world.

The medical system here, however, has some unusual problems. The totally free national system leads to some abuse. Many patients come here from other hospitals where they have already had tests done. The same tests are done again. Patients may have their medical files in many places. There is no control. Patients may have magnetic resonance imaging here and then repeat it there. If a patient does not like the first diagnosis, he or she may seek a second, third, or even fourth opinion. Some of our patients stay in the hospital for several years. One patient died here after staying 17 years as an inpatient! Presently, the longest inpatient stay on our service is about 5 years for a patient in a persistent vegetative state.

The Saudi system has several major issues to address. The first is a centralized medical record system to avoid duplication and abuse of service. The second is a strong primary and secondary health care system to complement the solid tertiary care system without concentrating on making the tertiary system even stronger. Our tertiary care hospital needs significant expansion of the general internal medicine sections and hospitalists to meet the increasing demands. Third, with the aging population and medical advances, a true geriatric service with skilled nursing facilities or nursing homes is urgently needed.



Figure 9. Riyadh, Saudi Arabia, and the surrounding area.

Many of the expensive beds in our hospital are being occupied for extended periods merely for nursing care.

Winter: *Are these long-term patients from the royal family?*

Moawad: No, they are usually average people. They come to be like wards of the state. They may come in with an infection or dehydration, but when they are cured and are suitable for discharge, the family refuses to take them and simply leaves without them. The patient may be in the hospital for months. Free care is partially to blame, but we cannot always blame the families for their refusal. Most of these patients are bedridden and totally dependent on others, and their care at home can be a significant strain on the family. We have an urgent need for nursing home facilities here, since many of these families are able and willing to pay for such a service.

Winter: *Do you have hospice programs?*

Moawad: No, and that is another major problem here. We have a palliative care section that cares for terminally ill patients in the hospital and also through a home health care program. The largest number of patients in our home health care program belongs to internal medicine, followed by palliative care and then neurology. Despite having all the high-tech interventions, the patients may end up with inadequate care after discharge. Because we do not have hospice care or nursing homes, the King Faisal Hospital serves as a primary care and secondary care hospital in addition to serving as a tertiary care hospital.

We have an open door policy in the emergency room, and once the patients come in we have to put them somewhere. I am sad to say that many of our emergency physicians practice very defensive medicine. If a patient does not look good, they just call an internal medicine physician. They cannot send a VIP patient home if hospital admission is requested.

Winter: *Are there malpractice charges in this country?*

Moawad: A physician here can end up in court if a patient or his or her family files an official complaint, but this scenario is infrequent compared with the USA. We have our own quality control through very vigorous morbidity/mortality review, especially in the department of medicine, but that is not the reason that defensive medicine is practiced here. If there is any question about a patient, the physician refers that patient to another physician. Suppose an elderly patient with chest pain and dyspnea presents to the emergency room. The emergency physician will refer that patient early on to a cardiologist, who

will perform an electrocardiogram and check cardiac enzymes. If there is no evidence of an acute coronary syndrome, that is the end of the cardiologist's role. The patient will be referred back to the emergency consultant to refer to someone else. If a pulmonary physician is called, a chest radiograph and maybe a spiral computed tomographic examination is performed. If pneumonia and pulmonary embolism are not detected, that is the end of the pulmonologist's role. Thus, the patients are not looked at as a whole. One by one the various specialists rule out their particular disease, and then the generalists are left with figuring out the patient's problem. The physicians are all on salary, so there is no incentive to take on more responsibility or admit more patients.

Winter: *What challenges are posed by the 55 different nationalities who work in this hospital?*

Moawad: We have cases where the history from many different sources is totally different because of the language barrier and the use of translators. The training and backgrounds of employees from almost every continent are different. Extra effort is needed to ensure that minimum requirements are met. For that, we had the clinical pathways/clinical practice guideline unit address high-volume and high-cost conditions. That unit has become the umbrella of the evidence-based practice committee.

Winter: *What do you like most about working in the King Faisal Hospital?*

Moawad: The hospital is operating according to North American standards, and the supporting services are excellent. The patients are courteous and the diseases we see are amazing. The collegial spirit is good. What I like most is the culture, especially for my family. Our children are growing up in a Muslim and Arabic society with easy access to the holy places in Mecca and Medina and to their family in Egypt. We live in a nice hospital housing compound with people who have similar backgrounds, where we know almost everyone. Our spouses and children seem like they are having a continuous slumber party. We have a good life in our community. We know who our children are playing with. Our community is very safe and very friendly (Figure 9).

The hospital has great potential, though less so than in the past. Every year I think we will be able to do more. The evidence-based practice group within the department of medicine

has been together for almost 10 years. Today, with the recently formed multidisciplinary, hospitalwide evidence-based practice committee, we have lots of potential with very talented people who can make a difference. The objectives of this committee are to ensure patient safety, create a standardized process for translation of evidence into practice, establish an organization-wide education and awareness system, monitor performance indicators, and collaborate with centers of excellence.

The administrators have been slow to approve the process even though they approve the idea and the direction. The CEO recently supported the committee's objectives and strategic plans. He agreed that this is exactly what the King Faisal Hospital should be doing and that it should lead and set the example. After much planning and deliberation, I feel that we are finally on the right track. It took a lot of convincing and, with the 55 different nationalities practicing 55 different ways, such a committee is a must. Our committee is not only concentrating on teaching but is aiming at the bigger challenges of implementation of evidence-based health care and its impact on the outcomes.

Winter: *What do you not like about working at the King Faisal Hospital?*

Moawad: Having two parallel systems of staff accountability, one for the Saudi nationals and one for expatriates, is very serious. Regardless of the nationality, everyone has a 1-year contract that is renewable. For a Saudi employee, it is more like a tenured position, i.e., it is extremely difficult to terminate or not to renew his or her contract even when performance is inadequate. This is not the case for the expatriates. Although nonrenewal or termination is very rare, the feeling that your future or promotion could depend on a nonobjective evaluation is demoralizing. I believe that having two systems of hiring, promoting, and firing is not healthy. Addressing these issues by a unified system of employee relations could lead to better performance by expatriates since it will improve their morale and make them feel that they truly belong to the institution.

Winter: *Dr. Moawad, thank you for your time and for your candor. I have learned a lot from this discussion and am sure our readers will as well.*

Moawad: It has been a pleasure to talk to you.