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Postgraduate Medical Education in Ukraine

George (Jurij) B. Kuzycz

Fulbright Scholar 2018-2019

Discussion of observations and interviews as to the state of postgraduate medical education in Ukraine during an informal discussion of author's time as a U.S. Fulbright Scholar for the 2018-2019 academic years for the project titled Postgraduate Medical Education In Ukraine. The interviews with interns (85); attendings, program directors, hospital administrators (75), several medical students and others were recorded during numerous author's visits and observations (50) to various Ukrainian hospitals.

The conclusions made herein are my own and serve to report my observations on the state and quality of postgraduate medical training in Ukraine, reference to that in the United States and the author's over 45-year practice as a surgeon in Illinois.

This mainly concerns internships in the surgical specialties and subspecialties. Some suggestions as to how to change the system are presented.

Key words: Postgraduate medical education; internship, the Fulbright program, surgery

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Післядипломна медична освіта в Україні

Юрій Б. Кузич

Фулбрайт дослідник 2018-2019

Обговорення спостережень та інтерв'ю щодо стану післядипломної медичної освіти в Україні під час неформальної дискусії про час, яке провів автор зі США як стипендіат програми Fulbright у 2018-2019 навчальному році в межах проекту під назвою «Післядипломна медична освіта в Україні». Під час численних візитів і спостережень автора (50) у різних українських лікарнях було записано інтерв'ю з інтернами (85), штатним персоналом, директорами програм, керівництвом лікарень (75), кількома студентами-медиками тощо.

Автор зробив власні висновки, що слугують звітом про спостереження щодо стану та якості післядипломної медичної освіти в Україні, згадується аналогічна освіта в США та понад 45-річна практика автора як хірурга в Іллінойсі.

Здебільшого це стосується інтернатури для хірургічних спеціальностей. Наведено пропозиції щодо можливих змін системи.

Ключові слова: післядипломна медична освіта, інтернатура, програма Fulbright, хірургія.

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Introduction

The following serves as an informal discussion of my time as a U.S. Fulbright Scholar for the 2018-2019 academic year for the project titled *Postgraduate Medical Education In Ukraine*. The conclusions made herein are my own, and serve to report my observations on the state and quality of postgraduate medical training in Ukraine, referenced to that in the United States and my over 45 year practice as a surgeon in Illinois.

Disclosure

My program was funded by the Fulbright Program. Neither the Fulbright Program nor the United States government has endorsed the conclusions or approved the contents of my report. I have no conflict of interest.

Materials and Methods

I conducted interviews with interns (85); attendings, program directors, hospital administrators (75); several medical students and others. I made numerous visits and observations (50) to various hospitals. Some I visited once or twice and some on numerous occasions. My research generally included, among other things, review of the following:

- Internship regulations (i.e., an internship is equivalent to a U.S. residency, which term is used in this context throughout).
- Articles and directives of the Ukrainian Ministry of Health.
- Requirements of the various internships.
- Requirements as to the types and numbers of manipulations/procedures required during all years of the internship.

I did not give out formal questionnaires but conducted my discussions on the topics mentioned in my paper. They were on the basis of postgraduate medical education as a whole in Ukraine and not a particular region. These were all conducted in a strict confidential manner and therefore I have not listed the institutions or persons involved.

General

Education in Ukraine consists of eleven years of primary and secondary education, after which students can apply to medical school (this has been recently changed in that children entering first grade this year are now required to attend twelve years of schooling). Entrance into medical school requires an entrance exam, and the grade for entrance has been recently raised (150 балів). Medical school is six years. Applicants may include those that are government sponsored (which requires application for aid) and those that can self-pay. It is interesting that it seems that a lot of the government sponsored medical students and interns are the well-connected ones. There are much less government sponsored students than self-paying students.

There is a government testing sequence called Steps I,II and III. The Step I exam is taken after the first year of medical school, the Step II exam is taken at the end of the sixth year of medical school and the Step III exam is taken after completion of the internship program. If a student successfully passes the Step II exam, he/ she receives a medical degree and, in the case of government sponsored students, are assigned a position or, in the case of self-paid students, look for an internship. Internship varies from specialty to specialty but generally includes three years of training for General Surgery and Obstetrics and Gynecology, two years of training for Orthopedics (called Orthopedics and Traumatology in Ukraine), Ophthalmology, ENT and others. Other specialties may include a year or a year and a half of training.

Internship

After medical school, the newly graduated doctor (i.e., those that are not government sponsored and have not been assigned a position) must first secure a hospital (and a surgeon) willing to accept them for an internship and then apply separately to the

university. This they do on an individual basis. The hospitals can be local, in the city where the university is located, or in a remote city away from the university, depending on where one can find a place willing to accept the intern. To my knowledge there is no matching program for the internships, and the surgical programs are harder to get into.

The internship is divided into a so-called university cycle and a home hospital cycle (in Ukrainian, «очна і заочна»). You may even call this a theoretical part and a practical part. These can be in the same hospital or in two different hospitals. The home hospital can be in a remote area in another city. Apparently there are certain requirements to these hospitals and they are to be approved by the university, although, not all hospitals have this approval. Initially, for example, the General Surgery interns rotate to the university cycle for six months and then to the home hospital for five months. The rotations thereafter decrease the length of the university hospital cycle, and at the same time increase the home hospital cycle. During the university cycle, the interns are to receive a lecture in the morning on a certain topic and then either examine patients having the specific condition being discussed or can attend an operation related to the same topic, or go to the operating room and observe some other procedure that the operating surgeon is willing to show the intern. These lectures are given by the university based physicians. Some interns complain that this is a waste of time as some of the lecturers have them sit in a room and read from a text book for the allotted period of time, and then they are free to do what they want in the afternoon, and thus have a very short working day. Generally, larger hospitals with interns have both university- based physicians and hospital-based physicians and often times there is rivalry between the two groups. Universities make special arrangements with the hospital directors to have their university-based physicians practice in a given hospital.

Conferences are held in the various hospitals, but when I asked one of the head doctors if the interns attend I was told that they do not. Once a year, the interns have a conference where each intern gives a presentation on a given

topic. The interns take call twice a month but if they want they can sign up for more.

Interns have a list as to the type and amount of cases to be performed by them throughout the course of their residency. They are required to keep a log of the cases performed and a daily log of their activities, which are to be signed by their proctors. In General Surgery, the interns rotate to the various subspecialties in groups of ten or less. They are assigned one proctor per five students.

I heard various responses as to the number of interns allowed per specialty. On the one hand, I was told that this number is controlled by the Ministry of Health, on the other, I was told that it could almost be an unlimited number of interns depending on the number of applicants, and that only the government sponsored number is limited. There is a whole system of control measures with various committees doing what they call «attestation» of the interns. Some of this is done by computerized testing, a practical part and mostly (I was told by the interns 75%) by verbal testing (in Ukrainian, «співбесіда»). After completion of the internship, the Step III exam is taken and if passed, the search for a job begins.

After being in practice for five years, a physician is required to go thru a pre-attestation cycle. In the past, this was done by taking courses in a «Medical Academy of Postgraduate Studies». Recently this was waived in favor of 50 yearly credit hours of continuing medical education (CME) courses, which allows the specialist to increase their qualification category. After five years, a physician becomes a second grade qualified specialist, after seven years, a first grade qualified specialist, and after ten years, a higher grade qualified specialist. Non-surgical specialties have shorter amount of years of practice required to raise their category. Physicians also have various academic degrees and titles and some do dissertations and research for advancement of their academic titles and for PhD programs. One reviewer of a number of these papers told me that, in his opinion, out of twenty dissertations, maybe only one is any good.

Discussion

This brings me to the main part of my report. In the above paragraphs, I tried to briefly outline

the theoretical basis of the postgraduate medical training, and put this into a general context. Here, I will try to discuss the findings of my various interviews and in general put them all together, as they have a relation to one another, and later in my comments, I will give some examples of the various specialties separately. This, I believe is the main and most important part of my research. The interviews I conducted were sometimes in groups, and sometimes on a one-on-one basis. In certain situations, while interviewing interns a faculty member was present and thus, discussion included only generalities. Thereafter, I attempted to meet with the interns privately to hear the «real story». On all occasions I assured the interns being interviewed that I would not use their names, or places of employment, to allay any fears they might have of later repercussion. Most interns were very willing to meet and be interviewed. I also spent some time in operating rooms, observing procedures and involvement of the interns therewith.

The process for application for an internship is cumbersome. Physicians must apply to two places, separately. First, physicians have to secure and contract with the hospital and then apply and contract separately with the university. Once in a while, physicians have to pay a bribe in order to obtain a position in a hospital. This, however, does not seem to be the case in most instances since most physicians are self-pay anyway and the hospital receives this revenue. The government sponsored students may be placed in a position that is available and not necessarily in their choice of specialty (which, I believe, is to be changed with new legislation). The home hospital can be in a remote area in a city separated from the university. Such a hospital may not do the more complicated operative procedures (due too, among other things, lack of equipment, facilities and/or training of the attending physicians) but instead send patients to a more specialized hospital. This, in turn, does not provide for adequate exposure to such operations for interns, although the intern may spend a lot of actual time in the operating room doing lesser operations.

One physician informed me that when he was in a remote hospital, there were initially two interns in the first year, one of which left after the first year. Therefore, for the second

and third internship years, he was the only intern there as no additional interns arrived in that hospital for the first or second year of internship. He worked hard but was not allowed to operate much on his own, just mainly assist. The interns complain that they have to rotate between the hospitals (the so called "очна-заочна" rotations) since that breaks up their established contacts in the home or base hospital. Their duties consist of doing history and physicals, carrying papers "back and forth" and dressing changes (and that's mostly on the indigent patients not the private ones). Interns are not allowed to order lab tests on the patients they see. Thus, they claim they are merely glorified secretaries. They say that there is not much difference between the three years in what they do. In the operating room, they are mostly what's called "retractor holders" and they do not do much surgery. On the rotations to the various subspecialties they do not do much and mostly observe.

Out of the many interns I interviewed, only one or two interns said that they saw a lot, almost "everything." However, even these surgeons, as all the others, said that at the completion of their internship they could only independently perform basic operations such as cutaneous lesions, varicose veins, hernias, and appendectomies. On occasion, some said they can do part of a cholecystectomy and one said that he did an amputation. A few said that they could close a perforated peptic ulcer. This was corroborated by the attending surgeons. They say that they do not want to give their private patients to the interns as the patients do not want to be operated on by interns. An occasional intern said that he put a stitch or two into the bowel on a bowel resection. When asked then how they perform the required number of cases, they said that they put in their logs mostly the cases that they observe and not operate and that they are signed by their proctors (i.e., attending surgeons). None of the interns mentioned that they had any experience or learned how to do procedures laparoscopically. For this, after the completion of their internship, they had to take extra courses.

During the university cycle, some of the attendings have them read a chapter or so from a book instead of lecturing. A lot of times,

this rotation is for only a half day and the rest they do what they want. Call is required twice a month but interns can sign up for more days, or even give up their call to other interns. The more ambitious interns take more call as they say they can see and experience much more. A lot of the interns said that much depends on the individual intern and how aggressive he/she is in asking someone to show him/her a procedure and do surgery. On occasion, if they ask a certain surgeon that they are not assigned to, to show them something, he may request a bribe to do so. On several occasions I heard that the older surgeons or attendings in surgery (or other specialties) will say to an intern: "why should I teach you or show you something? Then you will take my place. Today you are my student and tomorrow my competitor".

The chief of a section (in Ukrainian, «за-відувач»), has the ultimate authority in what happens in his or her department. The authority even extends to the staff physicians in that he/she can even direct cases to himself/herself or his/her family members. A lot of the departments and medicine in general is controlled by families. There is much nepotism. It is much easier to get into medical school, get an internship or a job if you have family ties or you know someone. Otherwise, you may have to pay a bribe.

A case in point – a student finished medical school, finished an internship in general surgery, and then started looking for a job. No openings were available, but finally he was offered a job as a surgeon in a hospital but was told to pay a bribe in order to be accepted. The physician said that he was not willing to pay a bribe out of principle; so instead, he worked in the polyclinic for a year or two and then quit and started working in the IT sector. He mentioned that although the pay was better, he wanted to be a surgeon and wasted nine years of his life in that pursuit. Many interns said that unless you had family or other connections, the perspective for work in Ukraine was poor and a lot of them were looking to immigrate to other countries such as Poland, where they have to take their internships over again and for a longer period of time (e.g., five years), and then end up staying there. Interns also mentioned that it was easier to get jobs in the eastern part of Ukraine but the pay there was poor since people are much poorer

in that region. Since most physicians subsidize their salary by being paid by the patients on the side, they thus, did not want to go there. Some say that they do not demand this but it is a common practice and the general population complies. However, I heard of instances where physicians demand to be paid before doing an operation, or they say go to someone else, even in the case of emergencies such as appendicitis. Some physicians state that the government should legalize these payments and that they would be willing to pay taxes on them.

The Step exams are carried out with strict rules. The exams come from the Ministry of Health in Kyiv in sealed packages and are only opened on the day of the exam. The students, or interns, have to show their passports and are monitored by proctors from Kyiv. However, they claim that 60% of the exams have old questions, 20% are old questions just paraphrased differently, and only 20% of the questions are new. They say that the universities sell sets of questions maybe ten years back and that is how they prepare for these exams. As a consequence, many of the students are ill prepared for internship or later practice. I also was told that in the past, weaker students would pay the smarter students to take their exams for them or pay off a professor for a passing grade. I think that it may be much harder to do this in the present milieu.

My previous discussion pertained to all the specialties, especially general surgery, which I observed most frequently. Other specialties had their own nuances.

For instance, the interns in Obstetrics and Gynecology mentioned that there are too many interns and that later it is hard to find a job after their program. There are also too many attendings in this specialty. These interns stated that, in general, they are attached to one staff member and they follow him/her around. This can mean many hours of work and a lot of observation of procedures, but they cannot do much independently (e.g., they may be allowed to open and close the skin during operations). Moreover, some of the patients object to them being in the room during births, so some do not have much experience in deliveries. They only rotate to gynecologic oncology for one month. Moreover,

they cannot perform hysterectomies and when asked about ectopic pregnancies, they said that after the internship they had to take courses in laparoscopy. Again, however, they say that much depends on the «head doctor».

In Orthopedics and Traumatology, the internship lasts only two years. The chief of the department assigns them their attending doctor (proctor) with whom they stay for two years. On the university cycle, such interns are in lecture from 8:00am to 14:00pm, once a week. These interns also stated that they do not get to do much and can finish their two years and not have much practical experience. One stated that he was able to put in some screws. The other said that he had to travel to Austria for some courses to learn something. One was in an outlying hospital for his hospital based rotation and said he was able to do a little more. The interns claim that there is a lack of instrumentation (in Ukrainian, «обладнання»).

In Ophthalmology, interns are assigned where to go by the chairman of the department. They have operating days twice a week. In one of the major hospitals, the young ophthalmology staff show and teach the interns more than the older staff are willing to do. As with other specialties interns, and indeed young Ophthalmology specialists, have to travel to other cities and abroad and take courses to learn anything. One told me that upon finishing her internship, she was only able to do a chalazion on her own. When they are on call, some of the post internship young physicians, in emergencies, look at text-books or search videos on YouTube to figure out how to treat patients, since they did not get this experience during their training. Some of the older physicians use outdated techniques.

In Radiology, there are no technicians to operate equipment so the physicians do it themselves. They do not learn the whole scope of radiology, but merely concentrate on one facet such as ultrasonography, computerized tomography and the like.

Subspecialty training is another matter.

Cardiac surgery is separate from thoracic surgery. After three years of a general surgery internship and after getting a position in general surgery, the physician goes for a course to Kyiv

for four to six months (which they call «стражування на робочому місці») during which he/she has to ask to even scrub in for surgery. Most of this is on a theoretical basis learning from books. After four months, the surgeon receives a diploma recognizing him/her as a cardiac surgeon, without being able to perform one operation. Somehow he/she learns from another cardiac surgeon, for example, how to implant pacemakers, when he returns to his home institution, and seems to be the only «cardiac» procedure he does on his own. To learn anything, surgeons really need to go abroad to another country (e.g., Poland) for a protracted period of time to learn cardiac surgery. Otherwise, the only way that they learn is from another cardiac surgeon as in a preceptorship of old.

Thoracic surgery is the same. After a general surgery internship, a surgeon can take a course, again usually in Kyiv, for four to six months where they mostly learn theory and do not operate. The surgeon then receives a diploma recognizing him/her as a thoracic surgeon. Then, by hook or by crook, by luck, or again thru family contacts, lands a position somewhere where another thoracic surgeon is willing to teach them. Usually this other thoracic surgeon got his training abroad.

Vascular surgery is more of the same, except I believe that there are several vascular surgery centers in Ukraine, amongst them one in Lviv and also in Kyiv, Odessa and others. Again, after a course of four or so months, a surgeon is again recognized as a vascular surgeon, except now they have to again go to Poland or elsewhere to actually learn how to operate. One surgeon, after several months of such training in Ukraine, took an endovascular surgery course abroad for two weeks and now does only endovascular surgery, but no other vascular surgery. Another one stated that he took courses in Lviv and Kyiv during which he did not do any surgery, and finally had to go to Poland for a protracted period of time where he learned how to operate. When asked why the vascular surgeons in Lviv, for instance, not let him operate, I was told that they were too busy and training interns slows them down in their operations.

Cardiology is the same. One cardiologist told me that after a four month course, they get a diploma and then the studying begins. They

study books, the internet, but mostly go abroad for protracted periods of time. I have met doctors who do cardiac catheterizations and they can be general surgeons, radiologists, cardiac surgeons and the like and learned their craft from others in a particular hospital. In other words, one teaches another in a practice setting without a formal internship (fellowship) program. Some use the internet to advance their learning. They got there if there was an opening and they were willing to take the chance and learn.

Conclusions

The system of medicine in Ukraine is very hierarchical, which, I suppose, is a remnant of the old Soviet system. The chief of the hospital, a physician (in Ukrainian, «головний лікар»), is usually a political appointee or someone with family ties. If there is one that is not, often times he gets all kinds of obstacles put in his way in running the hospital, since, in the wings, there is some political or family operative willing to take his place. The chief has almost unlimited authority and answers to the city or regional bureaucrats.

The chiefs of a service (in Ukrainian, «завідувач») have ultimate power over their departments in that they distribute cases in an uneven manner and in some specialties it depends on them if one is able to do any surgery as the chief tends to propel cases to themselves or their family members. They are also responsible for organizing lectures, conferences and rounds. In many instances, there are whole dynasties of families controlling certain departments. The father, who often received his training in another country, teaches his sons or daughters and in turn, they are the beneficiaries of the cases that the chief distributes.

Many times, I was told that there were too many doctors, and that was the reason many of them were not busy. In one department, there were thirty university-based doctors and thirty hospital-based doctors in the same hospital, in the same specialty. Another sub specialist informed me that there were 6 specialists in his subspecialty in his hospital, but that only 3 operated and they did 100 cases a year. As one physician told me, instead of the patients going to find a doctor, doctors go to find patients. The physicians tend to be procedure oriented as in some specialties they may do

only a certain procedure. As an example, a cardiac surgeon may only do bypass grafting and when it comes to do a valve replacement another surgeon will come in and do it.

There also doesn't seem to be a very strict credentialing system. One general surgeon told me that he decided to do plastic surgery, so he took a course, for a week or so, in another country and is starting to perform plastic surgery. In general, most of the interns are not ready to do much independently after their internship. There are many rules, regulations, requirements for the number and kinds of cases. However, in practice, there is no adherence to this and, as a consequence, interns come out poorly trained. They must work under the tutelage of an older surgeon and that may take a very long time. When I asked one accomplished surgeon how he got to this point he stated that he worked for ten years after his internship with a professor and learned his craft from him.

One of the big problems is that the universities do not, generally, own their own hospitals, but are instead on a lease agreement. That makes for a double staff of university-based and of hospital-based physicians. All of the hospitals I visited complain of lack of funding, lack of instruments and lack of equipment. One surgeon said that during an operation he asked for sharper scissors and the nurse said that they were the only ones they had, so he went on using the same scissors. Somehow they get by with what they have. With the new reforms, some of this will hopefully get better. They are beholden to the civil authorities and even have to get permission for renovations and other hospital matters such as starting a new program. However, most of the hospitals try to do the best they can and are doing all kinds of repairs and upgrades. Many of the surgeons told me that Ukraine was about twenty-five years behind the developed world in medicine. To be sure, there are many accomplished and excellent physicians, but things seem to be tightly controlled and in the hands of a few.

There also seems to be too much corruption in the system and the method of reimbursement has to be changed. On numerous occasions many physicians reinforced that you have to bribe someone to get into medical school, bribe someone to get an internship, bribe

someone to get permission to do research for graduate school (in Ukrainian, «аспірантуру»), and bribe someone to get a job. As mentioned previously, it is much easier for one to do this if you have a family member or you know someone. A number of sources claim that it was worse in bigger cities as there is much more competition there.

I would be remiss if I would not touch a little on the universities and medical schools, as I had an opportunity to converse with some medical students and university professors. In general, the method of teaching with most professors is reciting their lectures directly from a book. Some show slides and expect a student to copy everything in their notebook. There is not much explanation or discussion in class. A lot of times, professors have the students read a topic at home and will quiz them the next day. The professors don't like to give written exams but rather oral ones. In some medical schools you have to bribe a professor to get a passing grade. There is much plagiarism in writing papers and research articles. Many of the students are in medical schools because they are forced to go there by their physician parents and really do not want to be in medicine. It should be noted that the mean grade of the International Foundations Of Medicine (IFOM) exam for Ukrainian medical students in the fourth year was 27% and for the third year 30.24%.

Conclusion

From my observations discussed above, I believe that it is painfully obvious that many changes need to be made in Postgraduate Medical Education in Ukraine, and I will briefly touch on some of these.

It is widely known to anyone following Ukrainian politics and society that one of the greatest problems, in Ukraine today, is corruption and, indeed, the medical system is one of the most corrupt institutions. This corruption starts with medical school, continues during internship and follows into medical practice. The system is pyramidal, parochial, nepotistic and dynastic. One of the basic problems is the system of remuneration which is not equitable, as the base pay for physicians is incompatible with a living wage, so they resort to payoffs in one form or another to subsidize their salaries.

It should be noted that the recent reform in the Primary Care sector is a step in the right direction.

Further, I believe that the internship programs in the primary specialties need to be restructured, as requirements are only on paper and are not adhered to in reality. Sub-specialty training is even worse and almost non-existent. As a consequence, trainees finish ill equipped for independent practice. I also believe that the length of most training programs must be increased, and requirements for hands on experience be demanded of the Interns and professors teaching them. Interns must have increasing responsibility in their later years of internship, and even be responsible for mentoring some of the younger interns. Interns should be salaried and not be required to pay for their training.

Additionally, the university and the home hospital cycles, («очна, заочна»), should be abolished for a more structured university-type setting. This would be facilitated by universities having their own hospitals, and hospitals that are not controlled by the city or regional politicians.

Moreover, the lack of proper credentialing is disturbing – some physicians perform procedures on their own without training after simply taking a «course» (mostly observing abroad for a week or two without any hands on experience). The system is based on the preceptorship system of old, on the basis of «see one do one and teach one», and lacks proper structure. I believe that this may be remedied by creating specialty and sub-specialty boards which would be responsible for accrediting programs and specialists after their training. Indeed, Ukraine is about 25 years behind the developed world in medicine. As Dr. Henry Marsh, a noted British neurosurgeon coming to Ukraine for many years, stated in an interview, «there is no proper system for training doctors once they leave medical school-what we call post graduate medical education». Further he said of Ukraine's medical education, «It's terrible, it's awful, it is a disaster, its nonexistent and the doctors themselves say so».

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7. Cabinet of Ministers of Ukraine. Resolution No. 302 dated March 28, 2018. On approval of the Provision on the system of continuous development of healthcare specialists.
8. Order of the Ministry of Health of Ukraine No. 446 dated February 22, 2019. A list of doctor specialties.
9. Order of the Cabinet of Ministers of Ukraine No. 95 dated February 27, 2019. On the approval of the Strategy for the development of medical education in Ukraine.
10. February 7, 2019, 16:53. Until Dr. Suprun became the Minister nobody seemed to be making any real attempt to change the organization of health care in Ukraine,- Henry Marsh. An interview with British neurosurgeon Henry Marsh.