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An Interview with Prof. Marko Noc on Management in Intensive Care

Interviewee

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As a teacher, researcher and manager in intensive care, Professor Noc promotes international training of his personnel, analyses treatment outcome continuously, promotes evidence based treatments and develops clinical pathways for the most common causes of admissions.

Introduction

Professor Marko Noc has worked in intensive care for 16 years and was appointed the Director of the Centre for Intensive Internal Medicine at the University Medical Centre of Ljubljana, Slovenia in 2001. This Medical Centre is by far the largest tertiary hospital in Slovenia, with around 2500 beds, 6400 employees and over 730 attending physicians. Professor Noc's specific area of expertise is cardiac care and in particular acute coronary syndrome, sudden cardiac death/cardiopulmonary resuscitation and interventional cardiology. With 8 attending physicians and 38 nurses, his department for Intensive Internal Medicine has 14 beds and a turnover of 1300 to 1350 patients per year. The nurse to patient ratio is 1 nurse to 1.7 patients during the mornings and slightly less afternoons and evenings. The intensive care mortality rate is 15-20%.

What are the Main Directives of Your Role?

I'm responsible for medical, research and education issues. I have very limited or no influence on budgeting, financial management or negotiation with insurance organizations. I would say that 70% of my time is devoted to clinical issues, 25% to personnel issues and only 5% to financial issues. I continue with routine clinical work, being on call for the intensive care unit, emergency department, interventional cardiology procedures for acute cardiac patients, and for interhospital helicopter transport of critically ill patients.

At a strategic level, I'm responsible for the development of clinical pathways for the most common causes of admission. We have developed pathways for acute coronary syndrome, massive pulmonary thromboses and guidelines for emergency bedside echocardiography. Our greatest success is probably a network for treatment of acute STelevation myocardial infarction with primary percutaneous coronary intervention (PCI) for the whole Ljubljana region (1.3 million people). I'm also involved with plans to develop more contemporary concepts and to design a new

Department of adult intensive care in our hospital.

Before I was appointed Director, I presented a plan of work targets against which my performance is now appraised. We continuously assess the quality of routine clinical work in our everyday meetings, and we participate actively in Slovenian and international scientific meetings and peer review publications.

How Would a Typical Day Proceed?

(See table 1) Attending physicians work from 0800 to 1600 hours. Our attending physicians also take regular calls for the emergency department and for the interhospital helicopter transport of critically ill patients. Interns and residents work in 3 shifts (7:00-14:00, 14:00- 21:00 and 21:00-7:00) during the week and 2 shifts (8:00-21:00 and 21:00-8:00) during weekends and holidays. Nurses work in 3 shifts (7:00-14:00; 14:00- 21:00; 21:00-7:00) during the week and 2 shifts (8:00- 21:00 and 21:00-8:00) during weekends and holidays.

Give an Example of Two Extremes in the Types of Tasks You have to Fulfil

There's an enormous contrast between attending a meeting of directors from different departments of medicine and performing primary PCI in a patient with evolving ST elevation acute myocardial infarction. I don't have any problems with these extremes; it's just a matter of switching my approach as appropriate and it makes my professional life very dynamic and interesting.

What is the Hardest Decision You've had to Make as an ICU Manager?

Having to say "no" to a young, smart and enthusiastic physician, who wanted to become part of our ICU team, because I could not get a position for him.

What has been the Most Satisfying Experience as an ICU Manager?

We manage to bring many very sick ICU patients back to normal life, by implementing contemporary evidence based medicine. We have excellent facilities for management of acute cardiac patients: 24-hour echocardiography (TTE-TEE), 24-hour interventional cardiology, extensive experience with intraaortic counterpulsation, mechanical ventilation and haemodynamic monitoring. Our results in treatment of acute cardiac patients and in particular of acute coronary syndromes are therefore very good. Our department is, however, significantly restrained by the architecture. We have two rooms for five patients, and two further rooms, each for two patients, and a continuous lack of free beds. Because we can't isolate patients appropriately, nosocomial infections represent a significant problem, which increases morbidity and mortality of chronic ICU patients. The main problem within the hospital is that there are toomany separate adult medical intensive care units, for infectious disease, neurology and our department, and these should be centralized into two units, medical and acute cardiac ICU.

What Kind of Training and Support have You been Given for These Tasks?

For management, I had no special training. I had the standard national medical and research training and extensive training in the US for almost four years. My department is supported by the complete university hospital with all its clinical departments. I have regular contact with heads responsible for medicine and staff. I also have medical contacts and support by e-mail and phone with my good friends and former colleagues in Europe and the US. To direct an intensive care department well, you need to have a general and critical overview of intensive medicine, and to stay involved in routine clinical work with the critically ill. It is important to continuously analyse the outcome of treatment and identify problems as early as possible. We need continuous outcome analysis, not only for the short term, but also for long term survival and quality of life in order to justify the hard work of intensive care personnel and the high financial costs of intensive care. We also need to use evidence based interventions rather than interventions which have no true scientific founding.

What Sorts of Medical/Clinical Management Issues are You Currently Dealing with?

We're currently refining the system for primary PCI for ST elevation acute myocardial infarction for transfer-in patients (for regional non-PCI hospitals or directly from the field). We're also defining a protocol for management of patients after resuscitated cardiac arrest including indications for immediate coronary angiography/ PCI and induced hypothermia. However, most of my time is currently occupied with clinical pathways for the most common causes of admission. For protocol development, we allocate different fields of adult intensive medicine to different attending physicians. Each is responsible to present one or more protocols regarding diagnosis/treatment. The protocol is discussed and approved at a meeting with all the attending physicians and I confirm the final protocol. I discuss the options for equipment at the meeting of attending physicians, and again I have the final decision to submit our selection to administration. At this level, however, a special committee comprising physicians and economists analyses the cost-effectiveness and selects what they consider to be the best option. True measures of cost-effectiveness are unfortunately practically non-existent in my hospital and in Slovenia in general.

What Personnel Issues are You Dealing with?

I'm trying to get an additional position for an attending physician in our department For recruitment, I interview a candidate and analyse their education starting from medical school. Personality is very important, because one "troublemaker" can destroy the whole team. I expect candidates to attend additional education (fellowship) for one to two years in a leading institution in Europe or the US, and I ask them to do part of a rotation (internship, residency) in our department. This allows me the opportunity to gather my colleagues' opinions before making a final decision. To help retain staff, I try to select members carefully and maintain a good atmosphere in the department. I always take great care to acknowledge good performance. Conflicts are resolved immediately through discussion and I discuss negative issues only to avoid repeat occurrences in the future. I stimulate everyone for career development, helping with scientific writing, international contacts, and by arranging invited lectures at scientific meetings. I stimulate training in well recognized institutions around the world. I invite the attending physician and head nurse once or twice a year for a two day meeting in a pleasant environment, where we can discuss our work and also have some fun. We also have one or two annual events to bring all the department staff together.

Each attending physician has several fields of interest, for example education, research, sepsis, COPD exacerbations etc. As an intensive care team we are analogous to a government with several ministers advising, and me as the prime minister, needing to make the final decisions and carry the responsibility. I try to be fully open and supportive with my colleagues, and they know that my response is never "mission impossible." Since I became the director in 2001, only one of my eight attending physicians has left, and two of my six research/clinical fellows. Unfortunately, turnover is much higher amongst the nurses.

Thank you, Professor Noc, for this insight into the management of your department

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