



Special Feature

The Intensive care unit specialist: Report from the Task Force of World Federation of Societies of Intensive and Critical Care Medicine^{☆,☆☆}



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ABSTRACT

The role of the critical care specialist has been unequivocally established in the management of severely ill patients throughout the world. Data show that the presence of a critical care specialist in the intensive care unit (ICU) environment has reduced morbidity and mortality, improved patient safety, and reduced length of stay and costs. However, many ICUs across the world function as “open ICUs,” in which patients may be admitted under a primary physician who has not been trained in critical care medicine. Although the concept of the ICU has gained widespread acceptance amongst medical professionals, hospital administrators and the general public; recognition and the need for doctors specializing in intensive care medicine has lagged behind. The curriculum to ensure appropriate training around the world is diverse but should ideally meet some minimum standards. The World Federation of Societies of Intensive and Critical Care Medicine has set up a task force to address issues concerning the training, functions, roles, and responsibilities of an ICU specialist.

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1. Background

“It’s an opaque term, intensive care. Specialists in the field prefer to call what they do critical care, but that still doesn’t exactly clarify matters.”— Atul Gawande: The Checklist Manifesto.

The presence of a well-trained intensive care unit (ICU) specialist has been shown to improve outcomes in ICUs worldwide [1–3]. Nevertheless, the role an ICU specialist portrays has to be clearly defined. Training programs in intensive care medicine (ICM) are becoming established in some countries, yet there is no yardstick to determine the best modality, nor is there a stipulated duration of training or competencies in some countries. Needless to say that in addition to the presence of an ICU specialist in an ICU, a multidisciplinary approach is essential in the care of the critically ill. The debate for a presence of an ICU specialist round the clock and the excessive risk of burnout in this highly volatile environment is a reality. The ICU is truly a hospital within a hospital needing checklists and a high level of coordination with different specialties.

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2. Objectives and methods

The World Federation of Societies of Intensive and Critical Care Medicine (WFSICCM) represents more than 80 intensive and critical care medicine societies and has set up a task force to define an ICU specialist.

The WFSICCM communicated with member societies to designate experts from the field in their country to contribute to the task force. This document is the culmination of discussions occurring through e-mail, video conferences, and a satellite meeting during the 2015 World Congress of the WFSICCM in Seoul, where synopses of the responses of experts from the member societies were shown and deliberated.

2.1. Who is an ICU specialist?

Intensive care medicine involves the assessment, resuscitation, and ongoing management of critically ill patients with life-threatening single and multiple-organ system failure. An intensivist or an ICU specialist is a medical professional trained in intensive or critical care medicine usually according to the standards set by a certifying body. This physician ideally has no outpatient responsibilities and spends most of his/her professional time in the ICU, together with other intensivists. The intensivist should make all decisions regarding the care of the patients, including admissions and discharges, which physicians to consult, and daily care. This may also include protocol and procedure development and the extent of patient monitoring. The intensivist must ensure that all procedures are carried out safely and competently.

The optimum intensivist-to-patient ratio may vary [4], but should ideally be not be lower than 1:15 [5] and preferably not be lower than 1:8. The best outcomes in the ICU result when the intensivist leads a multidisciplinary team consisting of nonintensivist physicians or physician assistants as well as other allied health professionals including specially trained nurses, nutritionists, physiotherapists, pharmacists, and in some countries respiratory therapists [6]. In addition to the maintenance of the best-quality practice an important leadership roles of the intensivist include controlling potential situations of conflict and maintaining safety standards. The intensivist has a vital role in communicating both patients and their families the disease state, prognosis, and possible outcomes. Training and teaching junior colleagues will guarantee quality measures among the trainees. Research at any level should also be promoted. Finally, the ICU specialist must recognize that intensive care may be futile and is often responsible for initiating end-of-life discussions.

2.2. Does a presence of an ICU specialist make a difference to outcomes of critically ill patients?

Although most studies demonstrate positive impact of an intensivist-led ICU [7,8], a large observational study reported the opposite [9]. The possible reason for these contradictory reports may be due to organization and operational factors such as patient-mix, patient-nurse ratio, presence of other medical personnel, having and adhering to evidence-based protocols, which may also influence outcomes [10]. The most extensively studied ICU physician staffing models differ in the level to which intensivists are involved in patient management. High-intensity ICUs are those where a full-time or consulting intensivist manages most patients, or ICUs where there is a mandatory intensivist consult and rounds by the intensivist on all patients daily, whereas low-intensity ICUs either have no intensivist participation or offer elective intensivist consultations. A recent meta-analysis showed that having a high-intensity staffing compared with low-intensity staffing was associated with lower ICU mortality and hospital mortality, and a significant reduction in hospital length of stay [11].

Specialized training in critical care is currently unavailable in many countries, and the number of trained intensivists is inadequate to meet the increasing demand. The affluent countries also lack uniformity in the distribution of services of an ICU specialist [12,13]. Alternative

strategies such as telemedicine [14] and use of hospitalists and nonphysician providers [15] may be considered to overcome this shortage of ICU specialists. Whether the technology in use for tele-ICU can affect clinical and economic outcomes without inculcating additional cost benefits has still to be proved [16].

2.3. What training is required for an ICU specialist?

Although anesthesiologists took a leadership role in the initial development of critical care in many countries, they are not the only ICU specialists. Qualifications differ from one country to another. In Europe, anesthesiologists represent most intensive care physicians. It is recommended that anesthesiologists when practicing their time in ICM do so exclusively. Globally, most of the curriculum in anesthesia devotes only a brief period of ICM training.

Worldwide the training of an ICU specialist varies in route of entry, which specialist is permitted to become an intensivist, and the length of training. In some countries, critical care is a specialty with direct entry from medical school or after 1 year of internship/registrar, whereas in other countries, it is a subspecialty, with training beginning after completion of specialty training, usually in internal medicine, anesthesia, surgery, or pediatrics. An international survey of ICM training programs conducted between 2003 and 2005 demonstrated wide inequalities in the structures, content, processes, and outcomes of training in ICM confirming that standards vary worldwide [17].

Of the 54 different programs identified in 42 countries worldwide, 37 were within the European region; these varied in duration from 3 to 72 months [18]. Intensive care medicine as a primary specialty is a possible path in countries such as Spain, Australia, New Zealand, Portugal, and Switzerland.

In some European countries (eg, Spain), critical care training begins after medical school and is a 5- to 6-year program, whereas in others (eg, Italy), ICM is limited to anesthesiology. In the UK, as of 2012 the Faculty of ICM provides oversight for training, examinations, and maintenance of competence. Training begins after completing specialty training and generally takes 3 to 4 years.

The structure and oversight for programs in the United States is dependent on 1 of 4 boards or colleges, and the training within these boards varies depending on the specialty. The American Board of Anesthesiology oversees the training of anesthesiologists and emergency medicine (EM) specialists. Although this training is 1 year for the former after completion of anesthesiology training, for EM specialists it is 2 years after completion of EM training. Similar training is offered to interested surgeons through the American Board of Surgery after completion of surgery training.

In Canada, ICM is a subspecialty with standards and training requirements overseen by the Royal College of Physicians of Surgeons of Canada. The training is 2 years. One year of that training may overlap with a specialty. Trainees can enter into critical care from internal medicine and all its subspecialties, EM, general and cardiac surgery, or anesthesiology and with special consideration from other specialties such as neurosurgery.

In the Oceania region, the College of ICM of Australia and New Zealand is responsible for specialty training, which can occur after a year of post-MD graduate training or after completing another specialty. Training is generally 6 years in length. This is in contrast to the remainder of Oceania, which as recently described, is generally a 1- to 2-year subspecialty program [19].

In Asia, an intensivist usually obtains additional training after a primary specialty. That training may last from 6 months to more than 1 year. In India, there are 3 training options offered by the Indian Society of Critical Care Medicine, with the duration of training being 1 to 2 years depending on postgraduate qualifications. The National Boards offers a 2-year structured fellowship program. Some universities offer a 3-year doctorate in medicine curriculum as a postdoctorate program.

A survey revealed that ICM training is available in a large number of countries (Table 1) [17]. Several of these countries share training

Table 1
Summary of data. Reproduced with permissions from Barrett and Bion [17].

	Argentina	Austria	ANZ	Belgium	Brazil	Bulgaria	Canada	Croatia	Cyprus	Czech R	Egypt	Estonia	Finland	France	Germany	Greece	Hong Kong	Hungary	India	Indonesia
No. of formal ICM training programs	1	3	1	1	1	1	1	1	0	1	3	1	2 ^a	2	7	1	2	2 p	2	1
Models of training (Su/Si/Mu/Pr)	Su	Mu/Su	Pr	Su	Su	Si	Su	Su	-	Si	Mu	Si	Su/Si	Su/Si	Mu	Su	Pr	Su/Si	Su	Su
Multidisciplinary access to ICM training	Y	Y	Y	Y	Y	N	Y	Y	-	N	-	N	Y	Y	Y	Y	N	Y	Y	Y
No. of National ICM curricula	0	2	1	1	-	1	1	1	-	0	-	1	2	2	7	0	2	2	0	-
Competency-based training	N	N	N	N	N	N	Y	N	-	N	N	N	N	N	N	N	N	N	N	N
Training under review/dev	N	N	N	N	-	Y	N	N	Y	N	Y	Y	N	N	N	N	N	Y	Y	-
Type of accreditation (D/B/S/No)	S/D	D/B/No	S/D	D	D	B	D	D	-	B	B	B	D/B	D/B	D	D	S/D	D	D	D
Assessment of progress (F/I)	I	F	F	F	F; I	F	F	F	-	1	-	I	I	F	F	I	F	F	I	I
Exam (M/O/No)	M	M/No	M	M	M	M	No p	O	-	M	M	M	M	M	O	M	M	M	M	M
Named coordinator for training	Y	Y	Y	Y	Y	Y	Y	Y	-	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Unit approval/minimum standards teaching center	Y	Y	Y	Y	Y	Y	Y	Y	-	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Approval via external visit	N	Y	Y	Y	Y	N	Y	N	-	N	N	N	N	N	N	N	Y	N	Y	N
Inadequate trainers' time is a national challenge	Y	N	N	Y	Y	Y	N	Y	N	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
Inadequate trainees' time is a national challenge	Y	N	Y	Y	Y	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	N
Inadequate local educational resources/ internet access	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y
There is formal protected teaching time for trainees	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	N	N	Y	N	N	N	N	Y	N
Undergraduate ICM training (F/I/No)	No	No	I	F	F	F	F	I	-	1	F	F	F	F	F	I	F	F	No	I

Y indicates yes; N, no; Su, supraspecialty model; Si, single subspecialty model; Mu, multiple subspecialty model; Pr, primary specialty model; D, dual certification; B, base certification; S, specialty ICM certification; No, none; F, formal; I, informal; M, mandatory; O, optional; p, proposed, -, no data/not applicable.

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^a Shared training program.

^b Non-ICM training program.

Table 1 (continued)

	Ireland	Israel	Italy	Ivory Coast	Latvia	Lithuania	Malaysia	Netherlands	Poland	Portugal	Scandinavia	Slovakia	Slovenia	Spain	Switzerland	Turkey	UK	United States	Total
No. of formal ICM training programs	1	1	1	0	1	1	1	1	1	1	1 ^a	1 p	1 p	1	1	1 p	1	4	54
Models of training (Su/Si/Mu/Pr)	Su	Su	Si	Si ^b	Si	Si	Su	Su	Si	Su	Si	Si	Su	Pr/Si	Pr	Su	Su	Mu	-
Multidisciplinary access to ICM training	Y	Y	N	Y ^b	N	N	Y	Y	N	Y	N	N	Y	N	Y	Y	Y	Y	Y = 25
No. of National ICM curricula	1	1	1	1 ^b	1	1	1	1	0 (p)	1	1	1	1	1	1	1	1	4	42
Competency-based training	N	N	N	N ^b	N	N	N	N	N	N	N	N	N	N p	N	N	Y	Y	Y = 3
Training under review/dev	N	N	N	N	N	N	Y	N	N	Y	N	N	Y	N	N	Y	N	N	Y = 10
Type of accreditation (D/B/S/No)	D	D	B	-	B	B	No	D	D	D	No	B	D	S/B	D/S	D	D	D	-
Assessment of progress (F/I)	I	I	F	-	I	F	I	I	F	I	I	I	F	F;I	F	I	F	F	F = 19
Exam (M/O/No)	M	M	M	M ^b	M	M	No	M	M	M	M	M	M	No	M	O	O	M	-
Named coordinator for training	Y	N	Y	Y ^b	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y = 33
Unit approval/minimum standards teaching center	Y	Y	Y	Y ^b	N	Y	Y	Y	Y	Y	Y	Y	Y	Y/N	Y	N	Y	Y	Y = 32
Approval via external visit	Y	Y	Y	N	N	N	N	Y	N	N p	Y/N	N	Y	N	Y	N	Y	Y	Y = 16
Inadequate trainers' time is a national challenge	Y	Y	N	Y	Y	Y	Y	N	Y	Y	Y	N	N	Y	N	Y	Y	Y	Y = 27
Inadequate trainees' time is a national challenge	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	Y	Y	Y	Y	Y = 13
Inadequate local educational resources/ internet access	N	N	N	Y	Y	Y	N	N	N	N	N	N	N	Y	N	N	N	N	Y = 8
There is formal protected teaching time for trainees	N	Y	Y	N	Y	Y	N	Y	N	N	N	N	N	Y	Y	N	Y	Y	Y = 19
Undergraduate ICM training (F/I/No)	F	F	F	F	F	F	No	No	No	I	F	I	I	I	F	I	I	I	F = 19

programs, demonstrating that collaboration across national borders is possible. Duration of training or a minimum period of clinical experience is a fundamental characteristic of all ICM training programs.

Given that the data for the international training programs are more than 10 years old, a new survey of training programs would be valuable to inform some standardization. It is also unclear of the impact specialty level training programs will have on physician burnout and academic productivity when compared with the subspecialty or supraspecialty routes [19].

2.4. What are the competencies required?

The Competency-Based Training in Intensive Care Medicine program in Europe (CoBaTrICE) is a Europe-based worldwide alliance of training organizations to develop a core competency for critical care medicine using consensus policies to ascertain standardization. It is a continuous process under direct or indirect supervision [20]. It is based on workplace-based assessment, which may include mini-clinical examination (Mini-CEX) and direct observation of procedures (DOPS). CoBaTrICE program in Europe identifies the minimum criterion to test knowledge, skills, and attitudes required for a physician. European training programs to set the expectation of competence for an intensivist use this program.

In Canada, Australia, and New Zealand, the CanMEDS competencies of Medical Expert [21], Scholar, Communicator, Collaborator, Health Advocate, Professional and Manager (now Leader) set the frame work for intensivists in training and practice. A similar framework of competencies is used in the United States.

The ANZICs group has defined competencies for training that must be met at entry and expert stages. These competencies are tested either in written examination format, through direct observation, or structured orals.

Training in Canada has been traditionally defined within a time-based framework and specific objectives of training. Beginning in 2016, critical care training in Canada will be redefined using a competency framework that defines a specific number of Entrustable Professional Acts, still within the CanMEDS structure. It is unclear at the subspecialty training level whether this will alter the length of training. The assessment of this training, similar to programs in UK, Europe, and Australia/New Zealand, will be multimodal and consist of both an examination as well as learning portfolio and self-evaluation.

The authors would like to reiterate that the aim of this document is to describe systems functioning in some countries, as other countries have not been fully represented. Needless to say, competencies, sometimes specialties and sometimes both, are possible in the same country. It is not the aim of this document to make recommendations that could be applied worldwide.

2.5. What is the minimum duration of training to obtain competence?

It is unclear what the ideal training length is for a critical care medicine trainee to become competent. As programs in competency-based education develop, the exact skills of a competent intensivist needs to be defined. This is particularly important because new skills such as ultrasound and echocardiography or extracorporeal support are added to the routine ICU care.

Subspecialty programs generally run from 24 to 48 months, but specialty programs last as long as 5 years where the fundamentals of medicine, surgery, EM, and anesthesia are also included in the training. For those intensivists who care for patients in subspecialty units such as neuro-ICU or cardiac-surgical ICU, an additional year or more of training may be required.

2.6. Do we need a 24-hour presence of the ICU specialist in the unit?

In the ICU environment, appropriate decisions need to be taken based on inputs from diagnostic and monitoring tools; hence, it would

seem logical to have an intensivist available onsite at all times [22]. The only randomized clinical trial of nighttime intensivist staffing revealed no mortality benefit compared with nighttime staffing by medical trainees with telephone access to an intensivist [23]. A large retrospective cohort study found no mortality benefit from the presence of an intensivist at night in ICUs with high-intensity daytime staff, but did identify a significant reduction in mortality in those with low-intensity daytime staffing [24]. The largest retrospective cohort study using the Project IMPACT database established that nighttime physician staffing models did not affect patient outcomes. However, nighttime staffing without any physician was associated with reduced odds of hospital mortality possibly attributed to differences in end-of-life care practices. Furthermore, the study demonstrated that nighttime staffing with an attending nonintensivist was associated with a slightly longer duration of mechanical ventilation [25]. A similar study carried out in a surgical ICU population did not improve surgical ICU morbidity or mortality but was associated with decreased blood product use and fewer radiologic imaging studies [26]. In a cluster randomized trial conducted in North America involving intensivist staffing, the outcomes in medical ICU patients were not worse despite a lower continuity of care by the intensivist, and work schedules of intensivists receiving weekend breaks were better for the physicians [27]. A pilot study from Canada used an alternating crossover design in 2 types of ICUs comparing 2 models of intensivist staffing: standard and shift work. Compared with a standard model of intensivist ICU staffing, 24-hour intensivist presence, implemented by shift work, was better for intensivists and had no detrimental effect on outcomes for patients, families, or ICU nurses [28]. However, the worsening shortage of intensivists makes 24/7 staffing a problem because it requires more intensivists [29,30].

2.7. The interaction and relationship of the ICU specialist with the primary physician

In the dual consultant model (primary physician and intensivist in the ICU), there must be harmony and all measures need to be taken to avoid conflicts. An effective means of cooperation is a common daily round involving the intensivist and the primary physician where they mutually define and review the treatment goals for the patient [31]. The intensivist makes all final decisions about the care of all ICU patients ensuring leadership; some have argued that it marginalizes the patient's primary care physician. To avoid confusion, only the ICU team usually carries out order entries in a closed unit. Clearly, this pattern requires a great deal of communication with all concerned [32]. It is the task of the hospital administrators to implement organizational and financial structures to avoid conflict [33].

There are some duties in the ICU that are outside direct patient care yet are important for the efficient and effective care of the critically ill:

- Coordination of different consultants necessary to treat a specific patient
- Definition and update of treatment protocols, guidelines, and standard operating procedures
- Coordination of admissions, discharges, and bed allocation
- Surveillance of hygiene and infection control standards
- Adherence to legal rules
- Engagement with hospital leaders in the purchase and maintenance of equipment
- Documentation
- Quality assurance
- Continuous training of the interprofessional team
- Promotion of clinical research (at any level of sophistication)
- Information and updating family members and friends of patients
- Public relation work

One possible shortcoming to all of the studies showing intensivist-lead ICUs were beneficial is that they were performed and published

by intensivists. Some have contended that this introduces a possible publication bias [32].

2.8. In what way can services of the ICU specialist be best used for improved patient outcomes?

The intensivist must be present in the ICU during daytime working hours. Although not mandatory for an intensivist to be present in the ICU at night, accessibility to trained personnel is essential. The intensivist should train and teach junior medical staff and roster them so that the ICU is staffed by competent personnel, especially outside routine hours. Written protocols may help in patient management, including but not limited to patient assessment, procedures, management of common emergencies, and transport. An intensivist must be continuously available for consultation on telephone and come into the ICU if needed. The need for research activities to be carried out in the ICU must be encouraged.

2.9. Burnout in ICU specialists

Working with critical patients presents a high emotional burden, causing high rates of stress among workers in the ICU. Burnout syndrome was first defined in 1974 and has been shown to have a high prevalence among health care workers [34].

Burnout usually results from too much work and responsibility with little interim periods for recovery. The symptoms may vary from fatigue, headaches, irregular eating, and sleeping patterns to emotional and communicational problems with patients and colleagues. It may also present as absenteeism, poor performance at work, and decreased quality of care and willingness to change job.

Burnout syndrome is a 3-dimensional phenomenon comprising low degree of personal accomplishment, high degree of emotional exhaustion, and depersonalization. Maslach Burnout Inventory has been devised to measure and study burnout syndrome while evaluating subjects in all 3 dimensions [35]. Despite controversies in interpretation of the results, it is currently the standard measurement tool. Many factors determine the development of burnout syndrome in the ICU, namely, sex, marital status, working environment, and personal inability to handle stress. A random sample of a mailed survey of the Society of Critical Care Medicine was carried out in 1996 revealed that burnout was related not only to patient care issues but also to a poor support system [36].

More recently, 1-day national survey to evaluate prevalence and factors associated with burnout syndrome in French ICU's doctors [37] identified a high level of burnout in 46.5% of the respondents. Being female was independently associated with the syndrome, as well as organizational factors such as workload (night shifts per month, night shift before survey), and impaired relationships with colleagues and the nursing staff. However, factors related to patients (Simplified Acute Physiology Score II, mortality rate, end-of-life decisions) were not associated with the burnout syndrome. Fifty percent of intensivists and 60% of intensive care nurses who exhibited a high level of burnout wished to leave their jobs [37].

A prospective, multicenter, observational survey of all caregivers from 74 of the 92 Swiss ICUs showed that about 30% of ICU workers had burnout syndrome. In German-speaking centers, higher mortality rate was associated with higher burnout. Interestingly, in this study, being a male intensivist was a risk factor for burnout syndrome, a finding different from the prior studies. Being young and having no children were other risk factors [38].

Burnout syndrome is a serious concern among health care workers in the ICU environment clearly related to ICU organization, duration of working hours, conflicts within the ICU, communication among health care workers, and the management of end-of-life care. Hospital administration should address burnout syndrome as an outcome measure

and a quality indicator thus should take necessary steps to prevent or limit it.

2.10. ICU without walls' and the role and responsibility of ICU specialists

It is necessary to improve activity through innovation in management procedures that facilitate the work of the intensivist, in collaboration with other specialists, throughout the hospital. Shortage of available ICU beds occasionally leads to denial of ICU admission or delays in access to the ICU, and early discharge can lead to patients needing readmission. Both these situations can increase patient morbidity and mortality. Teams of critical care specialists can be dispatched to the bedside of potentially critical patients before they are brought to the ICU to determine what kind of care they really need and where in the hospital this can best be provided. An "ICU Without Walls" system can provide ICU-level care anywhere if no beds are immediately available in the ICU.

The intensivist may also provide additional services such as but not limited to:

- Management of patients in other high-dependency units
- Medical emergency or Critical Care Response Teams
- Management of patients in the emergency department
- Trauma team
- Cardiopulmonary resuscitation team
- Some invasive procedures outside the ICU (e.g., insertion of central catheters)

3. Follow-up of patients after discharge from ICU

Several patients have long-term problems after discharge from ICU [39]. This so-called post-intensive care syndrome adversely affects recovery of physical strength and activity, reduces quality of life, adds to the burden for families, and increases costs. Psychological sequelae such as anxiety, depression, and posttraumatic stress disorder in patients can occur in up to 50% survivors of critical illness as well as in their family members. Follow-up clinics have been developed to minimize sequelae and improve outcomes [40]. A recent systematic review of 5 trials with 855 patients found that follow-up consultations might reduce symptoms of posttraumatic stress disorder at 3 to 6 months after ICU discharge in ICU survivors, but could not demonstrate a similar effect in other outcomes including quality of life [41].

4. Conclusion

The role of intensivist in the current practice of modern acute care is of paramount importance. Patient care needs to be at the center of all decisions and actions. The intensivist should promote the culture of competent, compassionate, and cost-effective care of the critically ill. The intensivist must demonstrate ethical values, expertise, and professionalism in day-to-day work. The intensivist should evolve a work culture that promotes collaborative relationships with members of the health care team so as to avoid and manage conflicts. The need for constant upgrading skills and knowledge is essential.

The challenges faced by the specialty for developed countries and for developing countries are different and need to be addressed at local levels. The intensivists need to promote high standards of efficient care with the available resources to the patient and the community in general.

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