Review Article

What are the ethical dimensions in the profession of intensive care specialist?

Jean-Pierre Quenot[1,2,3], Fiona Ecarnot[4], Nicolas Meunier-Beillard[1,5], Auguste Dargent[1,2], Jean-Pierre Eraldi[6], François Bougerol[6], Audrey Large[1], Pascal Andreu[1], Jean-Philippe Rigaud[6]

[1]Department of Intensive Care, François Mitterrand University Hospital, Dijon, France; [2]Lipness Team, INSERM Research Center LNC-UMR1231 and LabExLipSTIC, University of Burgundy, Dijon, France; [3]INSERM CIC 1432, Clinical Epidemiology, University of Burgundy, Dijon, France; [4]EA3920, Department of Cardiology, University Hospital Besancon, Besancon, France; [5]Département de sociologie, Centre Georges Chevrier UMR 7366 CNRS-Université de Bourgogne, Dijon, France; [6]Department of Intensive Care, Dieppe General Hospital, Dieppe, France

Contributions: (I) Conception and design: JP Quenot, JP Rigaud; (II) Administrative support: None; (III) Provision of study material or patients: None; (IV) Collection and assembly of data: N Meunier-Beillard, A Dargent, JP Eraldi, F Bougerol, A Large, P Andreu; (V) Data analysis and interpretation: N Meunier-Beillard, A Dargent, JP Eraldi, F Bougerol, A Large, P Andreu; (VI) Manuscript writing: All authors; (VII) Final approval of manuscript: All authors.

Correspondence to: Jean-Pierre Quenot. Department of Intensive Care, François Mitterrand University Hospital, 14 rue Paul Gaffarel, 21079 Dijon, France. Email: jean-pierre.quenot@chu-dijon.fr.

Abstract: Two essential components of the profession of a medical doctor are the constant review of the patient's therapeutic project, and collaboration between healthcare professionals. The profession of intensive care unit (ICU) physician goes further in terms of responsibility, vis-à-vis the intensive treatments dispensed to the patients, and the physician's responsibilities towards the patient's family and the caregiving team, also bearing in mind that ICU care is costly in terms of human and financial resources. In this review, we address the profession of ICU physician from the perspective of the ethical questions that arise constantly, focusing on the timeframe of the reflection process. Firstly, admission to the ICU must be anticipated. The concept of advance care planning is a suitable tool for this, and in case of non-admission to the ICU, does not by any means constitute an abandonment of the patient, because palliative care can also be anticipated, with a view to avoiding suffering for the patient and their family. Next, during an ICU stay, while the technical aspects undoubtedly characterise the ICU best at the start of the patient's stay, the process of reflection rapidly becomes preponderant, and involves the analysis of often complex situations with a view to defining the level of therapeutic engagement and optimizing the care dispensed to the patient. Last, a further ethical issue concerns the decision to re-admit (or not) a patient to the ICU. This decision can be made, for example, in the framework of a systematic, formalised, structured, multidisciplinary meeting at the end of an ICU stay, using a similar procedure to that implemented for decisions relating to withholding or withdrawal of life-sustaining therapies. The profession of ICU physician is not simply a question of prolonging or sustaining life, but is also fraught with ethical questions about how best to employ their competences. In this regard, it is essential to foster interdisciplinary collaboration, and emphasise the need for ICU physicians to be involved in the development of therapeutic projects, particularly when the disease in question is likely to be complicated by acute situations that may require admission of the patient to the ICU.

Keywords: Intensive care unit (ICU); intensive care specialist; ethics

Submitted Sep 07, 2017. Accepted for publication Sep 20, 2017.
doi: 10.21037/atm.2017.09.34
View this article at: http://dx.doi.org/10.21037/atm.2017.09.34

Introduction

Two essential components of the profession of a medical doctor are the constant review of the patient's therapeutic project, and collaboration between healthcare professionals. Although not exclusive to the discipline of intensive care, these two components are so pervasive in intensive care medicine that have become defining features of the profession of the intensive care unit (ICU) physician. It is likely that the acute and unstable nature of the clinical situations, as well as the uncertainty that surrounds the course of disease of each patient all contribute to this phenomenon. In addition, the time constraints and the complexity of the clinical situations also explain the specificity of the ICU. Indeed, how best can an ICU physician reduce the risk of error and potential adverse outcome for the patient when one or several vital organs fail in a short space of time, if not by sharing their questions and doubts, and by asking their peers for their expert view? Colleagues from the discipline of emergency medicine often experience the same situations, but without the possibility to engage in interdisciplinary consultation, given the extremely short time windows for decision and intervention.

French legislation relating to the end of life (1,2) has rendered legitimate the procedure of questioning and consulting, by formalising the collegial decision-making procedure [(see article in this issue by Quenot *et al.* (3)]. The principle that aims to protect the patient from unreasonable therapeutic obstination or a reprehensible loss of opportunity, by the same token also protects the physician from a major error of judgement that might be made for the "wrong" reasons.

While reflection on the patient's course and consulting with other physicians and disciplines are now established as routine practice during the management of patients in the ICU, these aspects remain relatively poorly developed before or after the ICU stay. Anticipating an ICU stay and defining its conditions through a collegial decision-making procedure involving the patient, their family and referring physicians as well as an ICU physician, likely represents a major development in the specialty of ICU care. Yet raising the subject, whenever possible, of management that would be closely adapted to the wishes of the patient and their family remains challenging. It necessarily involves more detailed and specific information to be given to the patient, family and non-ICU physicians. Obviously, not all clinical situations will require ICU admission, but it is essential that non-admission be anticipated where possible, and if necessary, non-ICU management options should then be envisaged in advance. These ethical aspects regarding the admission, or non-admission, of a patient to the ICU are in line with the recent recommendations from the Task Force of World Federation of Societies of Intensive and Critical Care Medicine (4,5), namely, stipulating the need for coordination between consulting physicians for the management of the patient, implementation and updating of protocols with regular training for healthcare staff, clearly defined criteria for admission and non-admission to the ICU, taking account of the legislative framework, the continued improvement of the quality and safety of care, participation in teaching and research activities, transparency vis-à-vis the patient, their families, and society as a whole. Accordingly, the ICU physician rises above the environment in which he/she generally practices, to become a pivotal organiser of the patient's healthcare pathway and therapeutic project.

In this review, we will address the profession of the physician working in the ICU from the perspective of the ethical dilemmas that the ICU physician faces on a daily basis, focusing particularly on the timing of the contemplation.

Ethical questions upstream of the ICU

The ICU physician is very often contacted outside of the context of day to day work in the ICU, and most often in emergency situations, to give an opinion on critical clinical situations that require a decision to be made rapidly about whether or not to admit the patient to the ICU. The criteria at play in making this decision have previously been discussed in the literature, and are also addressed at length in a specific chapter in this issue [see article by Rigaud *et al.* in this issue (6)]. Current consensus acknowledges that patients should not be admitted to the ICU if the patient himself/herself does not wish to be admitted, or if the therapeutic resources are no longer able to keep pace with the progression of the disease. However, even in relatively clear-cut situations, it is not easy to address the question of what is the "right" choice for the patient and their family when the need for ICU admission is being discussed. In the context of out-of-hospital emergencies, as in the majority of in-hospital acute situations, "aggressive" management is justified simply because the patient must always be given the benefit of the doubt. Conversely, when the patient, the family and the physicians are all well aware

of the clinical situation, unjustified admissions should be avoided. Formalisation of the patient's wishes and desires in the form of advance directives [see article on advance care planning by Quenot *et al.* in this issue (7)] are fundamental to ensuring appropriate management that integrates the patient's wishes and aspirations, and predefined therapeutic objectives.

The ICU physician now has an obligation, not to say a responsibility, to give careful consideration to the dispensation of intensive care, for the sake of the patient, their family and the healthcare workers. In addition, it must also be borne in mind that intensive care is costly in terms of both human and financial resources (8). Within a healthcare system that suffers from financial constraints as well as limits on access to ICU beds, it is the ICU physician's responsibility to define the objectives and conditions of ICU care for a given patient, in parallel to any ethical reflection. It is important to avoid admissions that could afterwards be considered "unjustified" or failing to respect ethical principles, including the principle of distributive justice. Admission to the ICU should not be influenced by arguments other than the legitimacy and relevance of ICU care, as appreciated jointly by the patient, their family, and the physicians. Therefore, it is clear that this ideal situation can only be reached if it is anticipated in advance.

In an emergency, the decisions made by the ICU physician may be influenced by pressure from the patient and their family, who understandably want everything possible to be attempted, without knowing or imagining what can be offered or what ICU care may involve. This pressure stems from the fear of death, and the failure to anticipate this finality, which may sometimes be expected, if not logical, given the patient's clinical situation.

In such situations, the reflection of the ICU physician on the issue must sufficiently well inform the patient and family, but also the physicians proposing the patient for ICU management. Naturally, in emergency situations, it is extremely difficult to do nothing while awaiting a detailed analysis of the patient's medical history. Ideally, this analysis should be done before the acute situation arises by the patient's referring physician (be it a general practitioner or a specialist), with regular updates in the patient's medical file. To ensure coherence across the pathway of care, these annotations should include the perspectives for care, the level of therapeutic engagement desired in case of acute life-threatening situations, and possibly also notes regarding the justification for admission (or not) to the ICU. This is precisely the type of situation where the ICU physician can provide expertise. The concept of advance care planning, discussed in a specific chapter in this issue, is well suited to this type of contemplation, and does not by any means imply that the patient is being abandoned in case of non-admission to the ICU, because palliative care options, which can also be adequately anticipated, can suitably relieve the suffering of both the patient and their family (9). ICU physicians have now become accustomed to looking beyond the patient's medical history, to get a feel for the patient's life course, including their personal and family history, level of physical and cognitive autonomy, as well as estimated or actual quality of life. Indeed, it has been shown that functional trajectories estimated prior to ICU admission can influence in-ICU and in-hospital outcomes among elderly subjects (10).

Anticipating the possibility of ICU admission could make it possible to envisage the conditions of the ICU stay with the patient and their family. Accordingly, implementation of one or other life-sustaining therapy could be envisaged, discussed and explained to the patient and their family. Deciding to accept non-invasive ventilation but not intubation is one example of what could be jointly decided by the patient and physicians. However, there must be overall coherence with the therapeutic project. ICU care could thus be included in the patient's overall healthcare project, with the guarantee that care in respect of their wishes and desires will be dispensed, regardless of the level of therapeutic engagement that is defined. This could help the ICU physician avoid being confronted with a predictable but unanticipated clinical situation that could lead to care being administered that was unwanted by the patient and/or family. For the future, the ICU physician should have a role as a consultant physician. Their expertise makes it possible to provide the information that patients need to make an informed choice regarding potential ICU admission (11) [see also the article on admission to the ICU by Rigaud *et al.* in this issue (6)].

Any limits on access to the ICU should take account of both the legitimacy and relevance of intensive care, as well as local health policy and legislation. For example, in France, the so-called Claeys-Leonetti law (2) lays down the framework for decisions relating to limitations on access to healthcare when the patient is at the end-of-life, focusing on two key points, namely rejection of unreasonable therapeutic obstinacy, and collegial decision-making informing the patient (if competent), surrogate and/or family, while also respecting any existing advance directives.

Ethical questions during the ICU stay

The initial stages of a patient's stay in the ICU are characterised by technical aspects of management. However, this rapidly gives way to a more contemplative approach, reflecting on these often complex situations in order to define the most suitable level of therapeutic engagement to optimize the care being dispensed. The ICU physician must therefore widen his/her field of competence in terms of scientific knowledge to include other surgical and medical disciplines. While multidisciplinarity makes sense in the context of intensive care, transdisciplinarity that reaches out to human and social sciences in the field of care through the numerous ethical questions that arise, gives a new legitimacy to ICU physicians [see article by N Meunier-Beillard on qualitative research in this issue (12)]. This can be expressed through daily reflection and regular communication among healthcare professionals regarding the legitimacy of care, and the conditions in which that care is given, with objectives that are clearly defined by the patients, their family and the caregiving team. For the ICU physician, this means regularly revisiting—sometimes several times in the same day—whether the initiation or pursuit of life-support therapies can improve the patient's clinical status. This approach could best be regarded as "reasoned therapeutic investment", as opposed to its antithesis, "unreasonable therapeutic obstinacy", whereby artificially maintaining the patient alive will in no way improve survival or future quality of life for the patient.

This begs the question of how to envisage the non-pursuit or non-initiation of life-support therapies, when the ICU physician has all the necessary human, technical and financial resources available? How can such a decision be structured within the caregiving environment? How should the patient and their family be informed of this decision that is fraught with such important repercussions? And how can the decision-making be shared between the patient's different physicians?

This undoubtedly brings us to the point that cuts closest to the bone of the profession of ICU physician. Indeed, since the advent of intensive care medicine, the pioneers of our discipline have been warning the medical community about the power and the might of life-support machines over the humane reflection that should be the guiding principle of management in the ICU (13). The ability to dispose of reliable techniques for life-support therapy in patients with failure of vital organs is a heavy responsibility for the ICU physician. Accordingly, the ICU physician must exercise that profession with discernment and moderation as regards the engagement of resources destined to prolong life. Indeed, it is one of the particularities of the discipline of intensive care that physicians have at their disposal techniques and procedures that can be proposed to the patient, from emergency initiation of life-support therapy for one or more failed organs, through to the possibility to limit and withdraw those same therapies when the patient approaches the end-of-life. The progression, sometimes within only a few hours, from maximum therapeutic engagement to the withdrawal of life-sustaining therapies is rarely seen in other disciplines, except perhaps emergency medicine. It is therefore essential not to stray from the meaning of the care dispensed, while at the same time standardizing practices and ensuring a maximum of transparency through controlled communication. In any case, the patient should be involved, when competent, or otherwise the family, from the outset, and the ICU physician must make every effort to explain, in a fair and transparent manner, what it is possible to do, what it is reasonable to do, and what remains uncertain.

The context of intensive care is conducive to an increased state of vulnerability among all those who are directly or indirectly involved in the patient's care. Stress, anxiety, anguish, burnout, and even post-traumatic stress disorder can be a part of daily life in the ICU, which renders this environment both unique and unsettling. The publication of standardized procedures as well as the introduction of legislation concerning end-of-life situations in particular, has made it possible for ICU physicians to feel more comfortable in their decision-making, particularly concerning limitation or withdrawal of life-support (13-15). These texts clearly advocate for collegiality in the sense of shared, multidisciplinary reflection for end-of-life decision-making. This has led to improved transparency, thereby reducing the risk of individual decisions that would burden a single ICU physician with moral weight that is too heavy to bear due to the risk of making the wrong decision [see article by JP Quenot on collegial decision making in this issue (3)]. Conflicts within the ICU, either between healthcare workers, or between the healthcare team and the patient or family, often stem from poor, not to say absent communication (16,17). The time devoted to communication, to explain care procedures, prognosis and likely outcome, probably represents a much larger proportion than the time allocated to actual therapeutic care, which is shared out between the different healthcare professionals in the unit. It is therefore vital that, within

each ICU, specific time be devoted to communication, in a dedicated environment, without time limits, noise or interruptions, where everyone can speak freely (18-20).

This activity is essential in the delivery of healthcare within an ICU, but is unfortunately not taken into account when quantifying or billing the activity carried out in the ICU and by the healthcare team, although the initiation of life-sustaining treatments is of course quantified for billing purposes. This is a major issue that needs to be addressed, relating to the wider problem of how to give credit for "indirect" care activities, not only in the ICU, but across all types of hospital ward.

The initial management of a patient in the ICU represents a hive of activity for the healthcare team in the first few hours after admission. However, it is customary to observe over the following few days, when the patient's status improves, a decline in the volume and intensity of treatment, for example, with discontinuation of sedation then of mechanical ventilation, weaning from catecholamines, discontinuation of antibiotic therapy, etc. This phase, which one might call "de-intensification of care", where all the ongoing treatments are reduced then stopped according to the patient's course, is particularly important, because it helps reduce the risk of infection related to the care procedures, which might aggravate morbidity and mortality. De-intensification of care does not occur only in the case of patients who improve and/or recover, but it should also be implemented to the same extent and with the same conviction for patients in whom therapy has failed, or who are at the end-of-life. In these situations, a collegial decision-making procedure is warranted, as it calls on those involved in the decision to reflect on the purpose of the care. It is legitimate to protect patients when there is an improvement in their health status, but it is just as important to protect them when their clinical situation has deteriorated.

Ethical questions at the end of an ICU stay and after discharge from the ICU

There is legitimate cause for the ICU physician to raise the question of possible re-admission, even when the patient is no longer on life-sustaining therapy, since there is always the possibility that the patient's condition may acutely deteriorate again after discharge. The ethical issues to be considered in this case are virtually the same as those that arise when considering initial admission to the ICU, apart from the fact that the patient's experience of the ICU stay, and the family's experience, as well as the ICU team's knowledge of the patient's medical history, can be of added value in the discussions [see article on admission to ICU in this issue (6)]. There is an abundant literature detailing the risk factors for readmission (21), and the incidence of readmission (22), whereas the decision not to readmit a patient to the ICU has only been addressed by a small number of publications (10,23). Yet, for some patients it may be decided during the ICU stay that they will not be considered for readmission, for example for patients with particularly severe disease, a complex medical history, numerous comorbidities likely to impair, or that have already severely impaired autonomy, or those whose ICU course is unfavourable. This is always a hard choice to make, because it implies, *de facto*, a limitation on access to therapeutic resources, with the caregivers' concern being to avoid unreasonable therapeutic obstinacy. The aim is to avoid certain types of readmission, often decided in emergency conditions, which may afterwards be considered inappropriate, while at the same time widening the indications to allow admission of patients who could then reap the benefits of appropriate care (11).

The decision to readmit a patient or not to the ICU during a single hospital stay could be made in the framework of systematic structured, formalized, pluridisciplinary meetings at the end of the patient's stay, along the same lines as those organized with a view to deciding to limit or withdraw life-sustaining therapies (2). If the question of readmission or non-readmission arises, the ICU physician may limit access to care that is likely to keep the patient alive or prolong survival. The ethical posture here is the same as when deciding on the level of therapeutic engagement for a patient in the ICU. However, it should be remembered that this latter situation does not necessarily lead to a decision to limit life-saving therapy, but rather, the outcome may sometimes be to pursue curative care at the maximum level possible. The decision to readmit or not to readmit a patient, taken at a pluridisciplinary meeting at the end of the ICU stay, could be accompanied, where necessary, by caveats or conditions related to the patient's outcome. Finally, a decision not to readmit should not be interpreted to mean that the healthcare team is abandoning the patient, but rather, should be taken as an opportunity to redefine, together with the patient, their family and the healthcare professionals involved in that patient's care (physicians, psychologists, social workers, etc.), a health project that best satisfies the patients' wishes and expectations.

Conclusions

The ICU physician has the possibility to maintain or prolong life, but must engage in the necessary ethical reflection about the purpose of care when using this "competence". The meaning of intensive care is represented by the possibility to use life-sustaining techniques and therapies in a reasonable manner, for the patient's benefit, without risking unreasonable obstinacy, or on the contrary, loss-of-opportunity. What does "for the patient's benefit" entail in this situation? It includes taking account of the patients' wishes and expectations when developing and implementing his/her healthcare project. This also means that the use of human and technical resources to keep the patient alive should not put the patient in circumstances that are unbearable and incompatible with her/her wishes.

People nowadays experience increasingly complex pathologies, and there are an ever-increasing number of therapeutic options available. Accordingly, our reflection and progress should focus on anticipating potentially critical clinical situations. In the majority of such situations, the decisions made by the ICU physician (regarding therapeutic engagement, or lack thereof; admission or non-admission to the ICU) must be made quickly, keeping in view the objective of protecting the patient and carers against a loss-of-opportunity, as well as against unreasonable obstinacy. For this reason, it appears essential to reduce the level of uncertainty associated with decisions that have weighty consequences before the question of admission to the ICU arises. Defining therapeutic possibilities and knowledge of the patient's choices are indispensable to constructing his/her healthcare project. Interdisciplinary collaboration must be developed further, with involvement of the ICU physician in the development of such healthcare projects, especially when the patient's disease is likely to involve acute episodes of decompensation that may require ICU care.

Acknowledgements

None.

Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

References

1. Law 2005-370 dated 22 April 2005 regarding patients rights and end-of-life. Available online: https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000000446240&categorieLien=id
2. Law 2016-87 dated 2 February 2016 introducing new rights for patients and persons at the end-of-life. Available online: https://www.legifrance.gouv.fr/affichTexte.do;jsessionid=46038F123BBBFC8DA2E8DE0EEE161860.tpdila19v_1?cidTexte=JORFTEXT000031970253&categorieLien=id
3. Quenot JP, Ecarnot F, Meunier-Beillard N, et al. What are the ethical aspects surrounding the collegial decisional process in limiting and withdrawing treatment in intensive care? Ann Transl Med 2017;5:S43.
4. Amin P, Fox-Robichaud A, Divatia JV, et al. The Intensive care unit specialist: Report from the Task Force of World Federation of Societies of Intensive and Critical Care Medicine. J Crit Care 2016;35:223-8.
5. Mark NM, Rayner SG, Lee NJ, et al. Global variability in withholding and withdrawal of life-sustaining treatment in the intensive care unit: a systematic review. Intensive Care Med 2015;41:1572-85.
6. Rigaud JP, Giabicani M, Beuzelin M, et al. Ethical aspects of admission or non-admission to the intensive care unit. Ann Transl Med 2017;5:S38.
7. Quenot JP, Ecarnot F, Meunier-Beillard N, et al. What are the ethical questions raised by the integration of intensive care into advance care planning? Ann Transl Med 2017;5:S46.
8. Wallace SK, Rathi NK, Waller DK, et al. Two Decades of ICU Utilization and Hospital Outcomes in a Comprehensive Cancer Center. Crit Care Med 2016;44:926-33.
9. Needham DM, Davidson J, Cohen H, et al. Improving long-term outcomes after discharge from intensive care unit: report from a stakeholders' conference. Crit Care Med 2012;40:502-9.
10. Ferrante LE, Pisani MA, Murphy TE, et al. Functional trajectories among older persons before and after critical illness. JAMA Intern Med 2015;175:523-9.
11. Hilton AK, Jones D, Bellomo R. Clinical review: the role of the intensivist and the rapid response team in nosocomial end-of-life care. Crit Care 2013;17:224.
12. Meunier-Beillard N, Ecarnot F, Rigaud JP, et al. Can qualitative research play a role in answering ethical questions in intensive care? Ann Transl Med 2017;5:S45.
13. Myburgh J, Abillama F, Chiumello D, et al. End-of-life care in the intensive care unit: Report from the Task Force of World Federation of Societies of Intensive and Critical

Care Medicine. J Crit Care 2016;34:125-30.
14. Limitation et arrêt des traitements en réanimation adulte. Actualisation des recommandations de la Société de réanimation de langue française. Réanimation 2010;19:679-98. Available online: https://www.srlf.org/wp-content/uploads/2015/11/1012-Reanimation-Vol19-N8-p679_698.pdf
15. Consensus report on the ethics of foregoing life-sustaining treatments in the critically ill. Task Force on Ethics of the Society of Critical Care Medicine. Crit Care Med 1990;18:1435-9.
16. Azoulay E, Timsit JF, Sprung CL, et al. Prevalence and factors of intensive care unit conflicts: the conflicus study. Am J Respir Crit Care Med 2009;180:853-60.
17. Van Keer RL, Deschepper R, Francke AL, et al. Conflicts between healthcare professionals and families of a multi-ethnic patient population during critical care: an ethnographic study. Crit Care 2015;19:441.
18. Lautrette A, Darmon M, Megarbane B, et al. A communication strategy and brochure for relatives of patients dying in the ICU. N Engl J Med 2007;356:469-78.
19. Quenot JP, Rigaud JP, Prin S, et al. Impact of an intensive communication strategy on end-of-life practices in the intensive care unit. Intensive Care Med 2012;38:145-52.
20. Quenot JP, Rigaud JP, Prin S, et al. Suffering among carers working in critical care can be reduced by an intensive communication strategy on end-of-life practices. Intensive Care Med 2012;38:55-61.
21. Vollam SA, Dutton SJ, Young D, et al. Out-of-hours discharge from intensive care, in-hospital mortality and intensive care readmission rates: a systematic review protocol. Syst Rev 2015;4:93.
22. Wong EG, Parker AM, Leung DG, et al. Association of severity of illness and intensive care unit readmission: A systematic review. Heart Lung 2016;45:3-9.e2.
23. Cremer R, Hubert P, Grandbastien B, et al. Prevalence of questioning regarding life-sustaining treatment and time utilisation by forgoing treatment in francophone PICUs. Intensive Care Med 2011;37:1648-55.

Cite this article as: Quenot JP, Ecarnot F, Meunier-Beillard N, Dargent A, Eraldi JP, Bougerol F, Large A, Andreu P, Rigaud JP. What are the ethical dimensions in the profession of intensive care specialist? Ann Transl Med 2017;5(Suppl 4):S47. doi: 10.21037/atm.2017.09.34

