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Who Gets the Last Ventilator?
A German-French Discussion About the Allocation of Intensive Care Resources in Times of COVID-19

Interview with Professor Christian Jung and Professor Bertrand Guidet

by Katja Gelinsky

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At a Glance

Intensive care medicine is not normally an issue which raises much public attention. However, that has changed with the COVID-19 pandemic. The outbreak has put healthcare systems in general and intensive care units (ICU) in particular under enormous pressure. Conflicts of decision-making in so-called triage situations raise crucial questions: What should be done if the number of critically ill COVID 19-patients exceeds the available intensive care capacity? Which criteria should apply to decide who gets admitted to the intensive care unit – and who does not? What kind of guidance do physicians, patients and their family members need and receive?

Two intensive care specialists, German Professor Christian Jung and French Professor Bertrand Guidet, talk about their experiences with COVID-19 and lessons we should learn from the pandemic in the field of intensive care medicine. Their provisional conclusion is: criteria for the prioritisation of patients need broad public discussion and ultimately democratic endorsement.

Furthermore, confidence in a legal system that guides and supports decision-making in this extreme situation, appears to be crucial for physicians as well as for patients and their family members. A broad public debate about issues such as individual patients' rights, solidarity, distributive justice and efficiency in the health care system as well as about the tension between an egalitarian and a utilitarian approach to intensive care medicine should start as soon as possible." These questions are too important for our society to be left solely to the medical professional."

As specialists in intensive care, you are confronted with critical decisions every day. What impact has the COVID-19-pandemic had on your work so far?

Prof. Jung: There was an enormous increase in public interest in the decision-making process in intensive care caused by the outbreak of COVID-19. All of a sudden it was an issue for the media. Also, when the pandemic started, it caused a dramatic increase in organisational work for the hospitals. Under the watchful eyes of the media we had to make adjustments to acute care. At the same time elective admissions stopped and distribution of the clinical workload changed.

Prof. Guidet: I would like to add three observations. First, most people, including journalists, don't really know what intensive care is. It is not just about serious medical conditions, but it also includes complex technical and ethical issues. So we had an issue with communication. Explaining the different aspects of intensive care was not always easy. My second point is, in intensive care we are used to discussing admission criteria but here we were making decisions during a pandemic. In France we were confronted with a greater demand for intensive care resources than we could offer. So we had to make decisions about the admission of a large number of new patients whilst under substantial pressure. If we have to deal with a new COVID-19 wave, the issue of prioritisation for ICU admission will need to be urgently discussed.

No guarantee of survival

My third comment relates to life and death. On the one hand if you admit somebody to intensive care it does not necessarily guarantee survival. On the other hand, if you don't admit a patient to the intensive care unit but to the regular ward, it does not mean that the patient will definitely die. It is a question of probability and uncertainty. We don't know exactly whether an individual patient will indeed benefit from intensive care. And sometimes when the physician has to take the decision, he or she does not have all the necessary medical information available. This causes a lot of pressure when a decision has to be made in a situation where only a few intensive care beds are available.

Media reports about hospitals in European countries overwhelmed by the numbers of COVID-19 patients were shocking news to the general public. Did the surge in patients and the overloading of some hospitals come as a surprise to you?

Prof. Guidet: In the beginning, we had to rely on information coming from China and there was reasonable doubt how much we could trust the data. Then we saw what happened in Northern Italy. They were clearly overwhelmed by the number of patients, as we learnt from Italian colleagues. So, at the end of February, beginning of March we realised a wave was coming. We had a big cluster of patients in the Eastern areas of France and our colleagues from that region told us the situation was terrible. In most countries, even in parts of Western Europe, intensive care resources are very limited at baseline. For example, there are only four beds per 100 000 inhabitants in Portugal and 11 beds in France. This is in contrast to 25 beds in Germany. So the conditions for many hospitals faced with high numbers of COVID-19 patients were difficult from the start of the pandemic. We were also reminded that there are large regional differences. The situation in the Paris area, for example, was completely different to that in other, more remote parts of France. We have not improved ICU bed capacity since this spring. So we might be confronted with a disparity between supply and demand should there be a second COVID-19 wave.

Large regional differences

Prof. Jung: In Germany, we were lucky not to be hit right at the beginning of the COVID-19 pandemic. That gave us time to take the necessary steps to enhance intensive care capacity. Some months ago, I would have been surprised that such a pandemic would occur in Europe. However, after we saw what happened in Italy we were warned and this information enabled us to get prepared for the possible challenges ahead. In addition, German hospitals are pretty well equipped. Germany has by far the highest number of intensive care beds per capita in Europe. However, our health care system was not well prepared to allocate medical resources in an efficient way. The measures taken to cope with potentially large numbers of COVID-19 patients resulted in empty beds in intensive care units. Non-acute patients were no longer admitted to hospital for elective procedures, such as hip replacements, based on a directive of the Federal Ministry of Health.

Prof. Guidet: I would like to add that while we are talking about intensive care, we also need to talk about regular wards and about the role of palliative care. In my hospital there was no palliative care unit. So we created one during the pandemic to ensure that patients in a critical condition, but not eligible for intensive care admission – even under normal circumstances – would not suffer but would receive palliative medication and oxygen if needed. In addition, they could see family members and also had the support of a team of psychologists. This is important to emphasise as we received criticism about patients dying in nursing homes where the quality of palliative care was suboptimal. About one third of COVID-19 related deaths in France occurred in nursing homes. There are lawsuits because people in the final phase of their life were not referred to hospitals and did not receive the necessary support during the end of their life. We need to take a more holistic approach when dealing with severely ill patients, not merely focusing on those requiring critical care.

Significance of palliative care

"We need to take a more holistic approach when dealing with patients in a severe condition, not merely focusing on those requiring critical care."

Another issue we have to discuss is the allocation of intensive care beds to different groups of patients. In the Paris region, the number of ICU beds was expanded from 1100 to 2700 at the peak of the first COVID-19 wave. However, only 250 beds were provided to non-COVID patients in a critical condition. Some hospitals no longer offered intensive care to non-COVID patients at all, which is terrible since there were definitely patients with other severe illnesses in need

Questions of distributive justice

of intensive care. So the COVID crisis raises serious ethical questions of distributive justice in the health care system.

Prof. Jung: I fully agree. The dynamics of this pandemic make it conceivable that, even in Germany with a large capacity of intensive care beds, we could reach a point where there are not enough ICU beds available for COVID patients and patients with other diagnoses.

A very sensitive topic is how to make decisions on the prioritisation of patients in need of intensive care when medical resources are scarce. Professor Guidet, you were involved in drawing up triage guidelines. Could you provide us with some insight into this process?

Prof. Guidet: We developed guidelines or, rather, recommendations at the regional level for the Paris area and at the national level to assist physicians in the decision-making process for ICU-admission. The authors were a group of medical intensivists, anaesthetists and emergency physicians. We did our best. However, a great limitation is that the recommendations are heavily physician-oriented rather than society-oriented. Neither health care personnel nor patient representatives or government officials were involved. There was also no formal validation involving a consensus panel. What we need is a shared guideline document for triage with input from civil society.

Necessary input from civil society

Prof. Jung: In Germany, physicians played a leading role in writing triage guidelines. Several medical societies issued a joint recommendation for triage. The German Medical Association (Bundesärztekammer) also published a guidance paper. However, the German Ethics Council provided a slightly different opinion on how to deal with triage situations in its ad hoc statement. The situation becomes even more complicated by the uncertainties regarding the legal position. In my opinion, the problem with all these guidelines is the lack of adequate democratic endorsement. This is a burning issue.

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So what are the key elements of the ICU admission decision-making process?

Prof. Guidet: There are three threads of information that should guide the decision. The first one is about the patient's wishes. We have to start with the patient's autonomy. Do we have documents stating the patient's will in this regard? The second part of information we need is the baseline condition of the patient. Here we use biological age, comorbidities, frailty and other parameters of functioning, active cancer etc. All of these characteristics are necessary to assess whether an individual has a reasonable chance of surviving intensive care, even under normal circumstances. However, this needs to be adjusted in periods of high demand. I would like to emphasise that we did not introduce age limits in our guidelines. So we didn't say, for example, that age 75 or 85 marks a threshold.

The third piece of information guiding the admission process is acute severity, in other words the probability of death. We also said that the decision-making should be collective, involving at least two physicians and, if possible, a third one not directly involved in the treatment of the patient. The whole decision-making process should be transparent and documented in the medical notes.

Importance of transparency

Professor Jung, do intensive care specialists in Germany follow a similar concept?

Prof. Jung: Yes, we do. Of course it is important to assess the patient's condition, to respect the patient's wishes and to understand the severity of the acute illness. We also want to make sure that the

decision regarding ICU admission is not made by only one person. We also include other healthcare professionals and, if possible, other stakeholders such as members of ethics committees. I would also like to stress that the criteria we use in the admission process do not have any kind of cut-off, e.g. a limit for age. This would be ethically and legally inappropriate.

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Prof. Guidet: I would like to add that we have to look at each patient individually. We should absolutely avoid scoring that is based on thresholds and cut-offs. Admission to ICU is not an exam like in school, so you don't award points. That would be bad medicine from our point of view. You have to take a comprehensive look and, putting all the criteria together – with some uncertainty –, we take a shared decision as to whether to admit a patient to ICU or not.

You mentioned age as one criterion. How is age incorporated in the admission process of COVID-19 patients?

Prof. Guidet: Patients of 80 years or more, have a much higher mortality rate than, for example, patients below 50 years. We also know that these patients need to stay in intensive care for a very long time compared to younger patients. The evidence regarding saved life-years is very sensitive, but it cannot be ignored. If you have only one empty bed left in ICU and you have to make a choice between a 40 year old and an 85 year old patient, for sure the young patient will be chosen. Admittedly, this is a kind of utilitarian approach, and it is considered unacceptable by some people. But here is the dilemma: the fundamental ethos of intensive care medicine is egalitarian. However, in a surge situation, when hospitals are overwhelmed by the sheer number of patients, what would you do? This is also a matter of distributive justice. We want to save as many lives as possible.

Saved life-years

"The fundamental ethos of intensive care medicine is egalitarian. Yet we want to save as many lives as possible."

Prof. Jung: Age has undoubtedly an important influence on the prognosis. Let me illustrate this by an image: If a patient is admitted to ICU, this causes substantial physical and psychological stress, like running a marathon. The challenge for a 32 year old runner is different than for an 82 year old runner. However, we also need to take into consideration that people don't age at the same pace. While chronological age is an easy-to-determine number, biological age depends on a combination of modifiable and non-modifiable variables such as genetics, diet, and habits. This should illustrate why it is so crucial to look at each patient individually. But, even if you do so, if there are not enough ventilators or intensive care beds left, you still have to make a choice.

Crucial to look at each patient individually

Prof. Guidet: Setting priorities in this "ugly" situation should not be a medical decision. The responsibility should be shared with society and with politicians.

Prof. Jung: I fully agree. Of course, on the one hand, we want to save as many lives as possible but, on the other hand, we do not want to infringe the rights of patients who present with a clear indication for intensive care. If a physician has to take a decision in this life-or-death situation, it is important that the decision is sufficiently democratically endorsed. This is, as far as I can tell, not the case in Germany.

You both emphasise the requirement for communication and transparency. What does that mean with regard to patients or their relatives in triage situations? What kind of information should be shared in a situation of limited ICU resources, for example, in a case where younger and older patients compete for a ventilator?

Prof. Jung: In cases where there is insufficient capacity you would never inform, for example, an elderly patient or their family that there is a younger patient in need of an ICU bed. This would be unacceptable, putting inappropriate pressure on the older patient or their family to feel responsible for treatment resources of other patients. However, this pandemic is a reminder that we, as individuals, would be well-advised to consider and make decisions about the kind of medical care that we would like to receive or that we find acceptable to keep us alive. Thinking about and discussing advance directives with our families should be promoted since it can be extremely helpful to know a patient's wishes in advance of a potential admission to ICU.

Benefit of advanced directives

Prof. Guidet: I fully agree that a shortage of intensive care resources is not a matter for discussion with patients or family members. Rather, I would suggest that the health authorities present the situation to the general public, indicating the shortage of ICU beds, in order to promote a discussion within families at home about their preferences for a situation where they might require intensive care. However, it is inappropriate to discuss such fundamental matters in an emergency situation.

Another highly sensitive topic is the scenario of discontinuing intensive care treatment of patients already in ICU to save somebody else with a potentially better prognosis. How should this situation be handled?

Prof. Guidet: We discussed this matter in the process of developing recommendations for triage situations. However, we never published the document that we prepared because we were advised that it would be very badly received. This issue is just too difficult. In fact, during the COVID-19 surge we didn't disconnect a ventilator from anyone to give it to a new patient. We don't do that.

Prof. Jung: The joint guidelines by the medical societies allow re-evaluation of patients already receiving intensive care and the possibility of discontinuing treatment in case where a new patient with a potentially better prognosis requires the ventilator. However, this procedure could be in conflict with German law and is also not in line with the recommendations of the German Ethics Council. So this is an unresolved issue. This uncertainty is to the detriment of stakeholders in triage situations, who are already being placed in an extremely stressful situation. As I have mentioned above, what we need is a democratically endorsed multidisciplinary approach to clarify the controversial issue of withdrawing life-support to help other patients. Ultimately, we need action by lawmakers, because it is unacceptable to put physicians in a position where they are required to take a life-and-death decision that is potentially not in full compliance with the existing legal framework.

Legal uncertainties

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Prof. Guidet: I would like to draw a parallel with the process of organ donation from brain-dead patients. In France the medical team taking care of the patient is different from the team looking after the potential recipient. Maybe, in a triage situation, where the question of interrupting intensive care treatment arises, a second team could similarly help to decide if organ support for an ICU patient could be interrupted. Again, discontinuing life-supporting treatment is a very complex question that can't be answered just by physicians as there are also difficult ethical and legal aspects that need to be addressed.

So what should be done to answer the many crucial questions in the context of triage situations?

Prof. Guidet: I guess it is important to keep in mind that we are dealing with a multidimensional and multidisciplinary issue that needs to be considered from different perspectives. One could perhaps produce a general document explaining the rationale behind various triage aspects, maybe even at the European level. However, the decision regarding implementation of general recommendations should be taken locally. It would certainly be a challenge to decide who should be on the panel developing such a framework. From my experience with the French document I would suggest a very broad approach, because in my country the fact that only physicians were involved was heavily criticised.

Local and European level

Prof. Jung: Although this would be very ambitious, it would be desirable to have a European consensus on an overall triage framework, including ethical and legal principles and criteria for triage decisions and their implementation. Responsibility for each individual case, however, should only be taken locally.

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Talking about future tasks: What needs to be done to prevent another scenario like the one during the COVID-19 pandemic where the demand for intensive care exceeded the resources?

Prof. Jung: I guess, before we address future tasks, that it is important to realise what has already been done. We have witnessed an enormous recruitment of resources in terms of money, staffing levels and research efforts to cope with the COVID-19 pandemic. However, many problems still remain unsolved. We face a lot of controversy and even denial, as well as defiance, to meet the challenges. In addition, we are also confronted with a lot of fake news undermining confidence that stakeholders are doing their best to overcome this crisis. This is definitely a learning process, but we probably need to communicate better and also make difficult conflict situations, such as the frightening issue of triage more transparent.

Prof. Guidet: One of the things that our previous experience with the pandemic has taught us, is that we need better prediction models and planning processes when it comes to ICU bed capacity. The number of critical care beds across European countries varies widely, for example, it is six times higher in Germany than in Portugal. However, some of these beds in Germany –those without available ventilators – would not count as ICU but rather as intermediate care beds in other countries. We should promote these intermediate care units that offer a level of care between the regular wards and intensive care units. This staged approach is an important way to lessen the impact of this crisis and prepare for the next one in a more sustainable way.

Insufficient prediction models and planning processes

When the pandemic hit us in spring 2020, we realised that a substantial number of COVID-19 patients needed medical care that is difficult to provide on regular wards, such as the provision of high-flow nasal oxygen. However, the treatment of these patients did not require the advanced and expensive resources of intensive care units, such as invasive ventilation. Thus, setting up intermediate care units would enable us to treat more critically-ill patients in hospital. This especially applies to elderly patients who may not wish to have more invasive treatment but expect to get better with some support.

Nevertheless, in a considerable number of European countries, the number of ICU beds needs to be increased. We probably have to get prepared to open more new ICUs. The main issue here is the recruitment of personnel with experience in intensive care. I am quite confident that we will be able to source a sufficient number of ventilators and enough medication for patients in a critical condition. However, the bottleneck is healthcare professionals who are trained to work in intensive care.

"Setting up intermediate care units would enable us to treat more critically-ill patients in hospital."

Prof. Jung: Staffing shortages in our current health care system and, in particular, in ICUs is also a common problem in Germany. We do not have enough time to discuss this complex matter here in detail, but salaries, working conditions and the working environment, as well as morale and professional esteem are certainly issues that need to be addressed with more emphasis to be better prepared for rising numbers of COVID-19 patients. What the Coronavirus outbreak has also taught us, more generally, about our health care systems is that Europe should be less dependent on imports of drugs and equipment from other countries around the world.

Staffing shortages

Looking at the ability of European countries to cooperate during the COVID-19 pandemic: What is your assessment regarding joint efforts to allocate medical resources?

Prof. Guidet: During the patient surge in spring 2020, European collaboration in terms of providing medical care to critically-ill patients was, overall, pretty poor, even though some COVID-19 patients from Eastern areas of France were transferred to hospitals in Luxembourg, Switzerland and Germany. We have also witnessed a kind of national reflex regarding the distribution of medication and medical equipment such as protective face masks for medical and nursing staff. In addition, we need greater European scientific cooperation in the battle against COVID-19 to make efficient use of all available resources in clinical research and to exchange and combine expertise so that faster results in the fight against the pandemic can be achieved.

Poor European collaboration

Prof. Jung: I fully agree that there is a lot of room for improvement in terms of cooperation. However, we also have to keep in mind the decentralised structure of the health care system in countries like Germany. Therefore, it is noteworthy that on a regional level hospitals cooperated that had never cooperated before, for example, by establishing a network to share resources. With regard to the transnational level, we saw selective cooperation during the crisis. For example, Germany took over the care of patients not only from France but also from Italy and the Netherlands.

network to share resources

To sum up, what is your most important message in terms of meeting the challenges of the COVID-19 pandemic in the pivotal field of intensive care medicine?

Prof. Guidet: I would like to stress that we need a broad multidisciplinary debate about handling crisis situations when the number of patients requiring intensive care exceeds available resources. We, as intensive care specialists, need to explain the challenges that we are facing to the general public better. Yet we are not used to doing this. We do our best to treat critically-ill patients, but our generation has never faced such a pandemic crisis. To find sustainable solutions, we need to involve multiple stakeholders from all walks of life.

Prof. Jung: Additionaly, I would like to underscore that it is pivotal to address the legal uncertainties and liability issues surrounding triage decisions. We need criteria for the prioritisation of patients in times of scarce resources. Furthermore, we need legal certainty in this extremely stressful and demanding situation for the professionals in intensive care and also

Extremely stressful situation

for the patients and their loved ones. These criteria should be the consensual result of a democratic process. It cannot reasonably be expected of physicians to take decisions on life-and-death issues that expose them to the risk of acting unlawfully. A social and political debate about these crucial questions is already overdue.

"A social and political debate about these crucial questions is already overdue."

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