

Strong second COVID-19 wave calls for a second look at ICU triage guidelines

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The COVID-19 pandemic hitting the European continent in early spring produced an unprecedented stress on our health system, economy and society. This autumn a stronger second wave of infections by the virus caused again a potential scarcity of beds in hospitals and intensive care units (ICUs), despite a significant effort to increase infrastructural and technical means such as ICU beds, respirators, infusion pumps and protective clothing during the past months. The most important limiting factor remains the availability of skilled healthcare professionals, trained to take care of critically ill COVID-19 patients. The fear of insufficient capacity calls for additional reflection and measures to make the best possible use of existing resources, including good rules for triage decisions for admission to the ICU and also for those cared for in the ICU, to continue or limit intensive treatment in the case of bed shortage.

The first wave of the pandemic caught many medical professionals on the wrong foot. Nobody was really expecting situations where our ICU capacities would not meet the needs, and anxious questions came up. What will happen when the resources are insufficient? Who will decide whether a patient will receive intensive care, or not and most probably will die? A whisper became louder from day to day: we must have rules for how to take and support these decisions.

Especially in a pandemic such as COVID-19, ethical directives are essential to provide a framework to guide the team for deciding on appropriateness of ICU care in an individual situation. National guidelines for the triage of COVID-19 patients were elaborated early during the first wave of the pandemic by the Swiss Academy of Medical Sciences (SAMS) together with the Swiss Society of Intensive Care Medicine (SSICM) [1]. In several neighbouring and more distant countries, such rules for triage to intensive care were also defined recently, for a pandemic potentially leading to resource scarcity [2–8]. These texts are not identical, reflecting certain cultural differences, but the major points and issues are similar. In our opinion, such a country-based strategy is preferable to an international or European-wide approach [9, 10]. Time for elaboration is shorter and good adherence of the bedside actors as well as the institutions are probably easier in the context of “their society”, where they feel that they belong to a similar pop-

ulation in terms of culture and daily living. Unequivocal support by hospital and political authorities for such guidelines is essential to back up the medical team in charge of applying the rules in these emotionally demanding situations. Methods using artificial intelligence-based ethical decisions schemes cannot be trusted at the moment [11]. In our country, the directives defined by the Academy with the specialist society were well received by professionals and institutions involved in health care, as well as by the lay press, and accepted by the ICU teams. They appreciated the support and felt less alone in difficult triage decisions.

Why is a revision of these guidelines indicated, a few months after the first version? Several elements have evolved since the first wave of COVID-19 in Europe 8 or 9 months ago: the ways of transmission are better known, the general management and intensive care of severe conditions have somewhat improved, reflected in better outcomes [12, 13]. Despite scientific advances leading to a better understanding of the disease, no real therapeutic breakthrough has been achieved, except for beneficial effects of anticoagulation, or administration of dexamethasone in later stages to limit an overshooting inflammatory reaction. Survival in severe COVID-19 is still mainly a result of the high standard of intensive care in our country.

With the vast second wave submerging Europe and its ICUs during the months of autumn, the need for specific and precise ethical triage guidelines was felt strongly – to help in the management of the massive arrival of critically ill COVID-19 patients in the hospitals. A timely revision of the first Swiss edition was made [14], based on the practical experience of health professionals with the first set of directives defined during the first wave, and considering some criticisms and proposals received by interested partners in health care. Needless to say, the core criteria for admission to the ICU or continuation of intensive therapy remained unchanged, in particular the central place for a higher expected benefit for the patient than possible harm by intensive care, in the light of known factors influencing prognosis in the COVID-19 disease.

What are the important changes in the revised guidelines [14]?

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1. The *essential short-term prognosis* criterion and anticipated beneficial effects are made more stringent: “*if, in spite of additional external beds, ICU capacity is no longer sufficient to allow all patients requiring intensive care to be treated ... The aim is to maximise benefits for the individual patient and for patients collectively – i.e. to make decisions in such a way as to save the largest possible number of lives. In a persistent mass influx situation, only patients who require mechanical ventilation (or another specific intensive-care intervention, such as hemodynamic support with vasoactive agents or continuous renal replacement therapy) are to be admitted to the ICU, in accordance with the criteria defined ...*”
2. The revised directives confirm that “*Age, disability or dementia in themselves are not to be applied as criteria, as this would be to accord less value to older or disabled people, thus infringing the constitutional prohibition on discrimination. These factors are, however, indirectly taken into account under the main criterion ‘short-term prognosis’, since older people more frequently suffer from comorbidity, and the short-term prognosis may also be adversely affected by dementia and certain disabilities. In connection with COVID-19, age, disability and dementia are risk factors for mortality and must be taken into account like all the other independent risk factors identified since March 2020.*”
3. In addition, a new prognostic factor is included in the evaluation, which has been shown to influence outcome in this disease markedly [15]: “*Frailty, an important criterion to consider in a situation of resource scarcity. Of the various tools proposed for the evaluation of frailty, the best validated is the Clinical Frailty Scale.*” This is an important addition, because frailty and its severity define with accuracy the autonomy or the degree of dependence (e.g., on other persons), and thereby the health status of a person, specifically in older age groups.
4. The list of triage criteria has been revised, considering some new insights in the disease including risk factors for an unfavourable outcome. For instance, for deciding non-admission to the ICU: first, a significant frailty must be present in patients over 65, *with a score of 6 or higher* on the specific scale [15]; second, the Charlson Comorbidity Index, which can predict the chance of survival in patients with multiple comorbidities, must be considered [16]. For a decision of non-continuation of intensive treatments, the failing of two organ functions in addition to the lung is a criterion.
5. Finally, a “*National coordination of patient transfers*” is proposed, with a “*central coordination body to ensure that optimum use is made of all ICU treatment capacity available across Switzerland.*” However, it is specified that “*responsibility for patient triage lies with the individual hospital/ICU. It is proposed that the national coordination body should be responsible for determining at what point the situation in Switzerland is such that triage decisions – in accordance with the criteria set out here – are unavoidable. This would ensure that the best possible use is made of resources across Switzerland before triage decisions are required at individual hospitals. The coordination*

body should also be responsible for deciding on the threshold at which the application of these guidelines is to be triggered at the national level.”

Rules to be followed by medical teams in difficult clinical situations are most helpful when they can also be used for discussions on therapeutic options with the patients and their families. To be adequate, the main elements of guidelines must be medically sound, understandable by lay persons and justified by current ethical and societal standards. Most importantly, individual preferences and advanced directives must always be taken into account. These should be discussed as early in the disease process as possible. The publication in the lay press of the essential points of ethical guidelines such as those applicable in a pandemic causing resource scarcity is also a good opportunity to motivate all citizens to think about their personal values and preferences, to be respected should they be confronted with a serious health problem – due to a pandemic or another cause. This is important for all of us, but especially for those of retirement age, when advanced directives should be defined and revised regularly. In an emergency situation, not only the family, but also the medical team needs to know what the patient’s choices are when an indication for interventions such as intubation, intensive care treatment or reanimation in the case of a cardiac arrest arises. Experiences during the first and the second wave of COVID-19 reinforce the importance of these reflections, independently of the necessity of triage [17].

In conclusion, the revised Swiss guidelines bring not only a useful framework for delicate discussions and decisions at the bedside, but hopefully also progress in public awareness of some limits of the best health systems in the world, appearing much faster in a time of scarcity of resources. Based on what we learned from the crisis of this year, several aspects of our and other health systems could benefit from a revision or an update, in line with a recognised truism [18].

The COVID-19 pandemic recalls once more the old truism attributed to Winston Churchill: “one should never let a crisis go to waste.”

Disclosure statement

No financial support and no other potential conflict of interest relevant to this article was reported.

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