What is common and what is different: recommendations from European scientific societies for triage in the first outbreak of COVID-19

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ABSTRACT
A public health emergency, as the COVID-19 pandemic, may lead to shortages of potentially life-saving treatments. In this situation, it is necessary, justifiable and proportionate to have decision tools in place to enable healthcare professionals to triage and prioritise access to those resources. An ethically sound framework should consider the principles of beneficence and fair allocation. Scientific Societies across Europe were concerned with this problem early in the pandemic and published guidelines to support their professionals and institutions. This article aims to compare triage policies from medical bodies across Europe, to characterise the process of triage and the ethical values, principles and theories that were proposed in different countries during the first outbreak of COVID-19.

INTRODUCTION
Since the WHO designated the unfolding COVID-19 pandemic a Public Health Emergency of International Concern, 30 January 2020, COVID-19 has significantly disrupted clinical care decision-making in affected countries.1

Allocation of increasingly scarce resources necessary for highly demanded medical interventions during a pandemic is a persistent ethical challenge. When clinical demands exceed the ability to provide crucial resources triage, based in one of the existing ethical theories, should be established. Over the last decades, a significant evolution in crisis planning has occurred with the development of theories and ethical grounds to support them,2 taking into account the need to eliminate unethical discrimination and promote equal opportunities in health access.3

It is important to state that triage allocation for intensive care unit (ICU) resources is a well-established process of medical sorting. In a pandemic scenario, these recognised clinical decision-making criteria should be used as the first step of any decision.

The question of who benefits from a scarce resource, on what grounds and who is denied, touches on people’s basic rights and raises fundamental issues of distributive justice.4 In this situation, it is necessary, justifiable and proportional to have decision instruments that allow health professionals to screen and prioritise access to these resources.5 An ethically sound structure must balance the duty to care for individual patients and the duties centred on the public, to promote equality and maximise total benefit.6

There are mainly four different theories that can support the ethical decision-making process of triage with the utilitarian approach being the most widely accepted during a public health emergency. Nevertheless, ethical analysis is required to determine why to prefer a utilitarian triage that aims at maximising the number of lives or/and life-years saved, over an egalitarian approach that favours treating people equally using lottery or first come-first criteria. Some authors consider that no single allocation principle is capable of addressing all the moral questions that arise.8 The authors believe that every human life has a value in itself, that does not depend on any utility value. In fact, the choices that must be made in these situations are always difficult and ethically wounded.

Scientific medical societies in different European countries were concerned with this problem early on and published guidelines to support their professionals and institutions. These documents go beyond theoretical analysis and propose practical orientations for action, prioritisation algorithms and decision-making tools.

This article aims to compare the first triage policies from medical bodies across Europe, to characterise the process of triage and the ethical values, principles and theories that have been used to sustain them in different countries. It is not our purpose to make specific recommendations but to provide some of the existing guidance and evidence-based principles for clinical emergencies as pandemics.
Several consensus meetings were held between the reviewers, in order to find a consensus.

RESULTS

Why?
The *why* is traditionally the first question of the Golden Circle approach. In the five documents analysed, the context is common to all countries and is summarised below.

Because of the COVID-19 pandemic and a steep rise in severely ill patients in a short period of time, health services can be placed under great pressure. Under such circumstances, some countries may be forced to redefine triage criteria for admission to critical care. These constitute exceptionality criteria, not used in other circumstances. It is implicit that the application of such criteria is justifiable only after all possible efforts to increase the availability of resources and other actions to treat all patients have taken place. It is fundamental to delineate ethical recommendations early, to avoid clinicians having to take difficult decisions without ethical guidance, and avoid any arbitrary decisions, within and between institutions. There are two major goals for the recommendations: (1) to assist physicians in their decision-making responsibilities and (2) to specify the criteria for the allocation of health resources in conditions of extraordinary scarcity.

The *how?* and *what?* of the Golden Circle analysis was undertaken separately for each country and the final results are presented in tables 1–5. Seven ethical concerns were identified to describe these practical approaches: Planning ahead, Proportionate care, Distributive Justice and triage procedures, Protection of the professionals, Precaution, Respect for patient Autonomy, Transparency.

DISCUSSION

Points in common in European recommendations

All scientific societies have shown a common concern with many issues. Some examples are the centrality that all place in the timely planning and proportionate care, in the precautionary measures with the main clinical decisions being made by experienced professionals (preferably in a multidisciplinary team), and with the concern given to transparency throughout the process (see table 6). All societies advocate that an early and shared decision on how to treat the patient should be taken, namely whether there is an indication for admission to the ICU, as well as informing and dialoguing with patients/family members whenever possible. Proportionate care is recommended according to the patient stage of the disease and prognosis, avoiding unnecessary and irrational treatments that increase suffering and delay adequate palliative treatment. All advocate taking clinical records at all stages.

The principle of responsibility permeates all documents and cannot be separated from the other principles mentioned. The duty of care is articulated with the principle of reciprocity with protection of professionals being safeguarded; all documents highlighting stress among health workers.

Are clinical criteria enough?
The clinical criteria generally used in daily practice tend to be both egalitarian and utilitarian in nature, which means focusing on maximising the health-related well-being of each patient, while trying to treat without discrimination. In a pandemic context, two different forms of utility become more evident: the medical utility, which focuses on maximising the patient’s health and is person-centred, and the social utility, which focuses on maximising the well-being of society at large.

In such a situation, it can be difficult to decide only on the basis of each patient’s clinical standards, although they should always be applied as far as possible. Prioritisation occurs when it is not possible to treat all patients as they could clinically benefit, and it is necessary to decide which ones are to be prioritised.

However, some authors think differently. McCullough, for example, considers that the criteria for allocating scarce resources should be given in order of medical utility, which focuses on maximising the patient’s health and is person-centred, and the social utility, which focuses on maximising the well-being of society at large.

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resources in the ICU are well established and new ones are not needed during a pandemic. For this author, ethics in intensive care is a management trial for the initiation/discontinuation of treatment based on justified criteria of beneficence, and where biological criteria are the most important for clinical decision and sufficient even in very scarce scenarios.

The biological screening criteria, indeed, would ensure that the patient’s morally irrelevant characteristics, such as race, gender or social value, were not considered in the decisions. On the other hand, the standard approach is based on the order of arrival and it is possible that a patient most likely to benefit from the ICU would be denied treatment if arriving later.

We think that, although clinical criteria are fundamental, when capacity is forced to the maximum even experienced professionals will face decisions that differ exponentially from the ICU, establish, at admission, whether or not the patient is subject to invasive measures and cardiopulmonary resuscitation. Anticipate the need for family attention and the possibility of professional burnout.

Is it necessary to forgo respect for patient autonomy?

The documents included in our analysis argue otherwise. An ethical framework for healthcare during public emergencies must balance the duty of patient-centred care with duties focused on public health. This can make respect for the patient’s autonomy a sensitive issue to be addressed. The tension created in clinicians by this shift can be alleviated by promoting respect for the patient’s autonomy as far as the resources available allow. Decisions should be discussed and shared by the clinical team and, as far as possible, in dialogue with the patient and family. Respect for the patient’s previously expressed will was considered important and was repeatedly underlined. The Spanish recommendations advise professionals to contact the Ethics Committee to help prevent and resolve conflicts in decision-making. The Swiss stress the importance of discussing in advance with all patients capable of doing so their wishes in case of

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**Table 2** Recommendations from the *Spanish* Society of Intensive Medicine, Critical and Coronary Unities—published on March 2020

<table>
<thead>
<tr>
<th>How</th>
<th>What</th>
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<tbody>
<tr>
<td>Planning ahead</td>
<td>Establish, in all patients admitted to hospital for COVID-19 or other reasons, advance planning with a clear definition of whether or not there is an indication for invasive mechanical ventilation (IMV) or admission to ICU and communicate it to the team. In the ICU, establish, at admission, whether or not the patient is subject to invasive measures and cardiopulmonary resuscitation. Anticipate the need for family attention and the possibility of professional burnout.</td>
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<tr>
<td>Proportionate care</td>
<td>Respiratory insufficiency is a high mortality and morbidity situation and so only some patients will benefit from IMV treatment. There should always be an expected benefit and possibility of reversibility.</td>
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<tr>
<td>Distributive justice and triage procedures</td>
<td>Establish an admission triage based on the principle of distributive justice, avoiding the use of the ‘first to arrive is the first to receive assistance’.</td>
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<td>Maximising the global benefits</td>
<td>Apply strict ICU admission criteria based on maximising the benefit of the common good. Priority should be given to admitting those who may benefit most or have the highest life expectancy, at the time of admission. For two similar patients, priority should be given to the person with the most quality-adjusted life years saved. Admit the patient in a conditional manner in the first 48 hours, valuing the organic failure measured by the SOFA, if the benefit is not clear. Have in mind other facts, such as people dependent of the patient, to make decisions maximising the benefit of all; consider the social value of the sick person. Specific recommendations: only patients’ priority 1 or 2 (1—need IC and follow-up, 2—need intensive follow-up and may need immediate intervention) should be admitted. Patients over 80 years with comorbidities will preferably receive a high concentration oxygen mask, high flow oxygen therapy and non-invasive mechanical ventilation (NIMV). Patients between 70 and 80 years with acute respiratory insufficiency without important pathology are indicated for IMV. Patients between 70 and 80 years, who present moderate-severe comorbidities, will be preferably treated with NIMV or similar. Any patient with cognitive impairment, due to dementia or other degenerative diseases, will not be subsidiary to IMV.</td>
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<tr>
<td>Protection of professionals</td>
<td>The safety of health professionals is a priority in order to avoid diminishing human resources. Make efforts to prevent situations of burnout, including contributions of moral stress.</td>
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<td>Precaution</td>
<td>The temporary and exceptional modification of admission criteria to the ICU should be shared by all intervening parties. Contact the Ethics Committee to help prevent and resolve conflicts between participants in decision-making (professional, patients, family and institution). It should be verified if the patient has anticipated treatment provision.</td>
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<tr>
<td>Respect for patient autonomy</td>
<td>The patients, to whom these criteria are applied, should be informed about the extraordinary nature of the situation and the decisions made, in order to maintain transparency and trust in the health system.</td>
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IC, intensive care; ICU, intensive care unit; SOFA, Sequential Organ Failure Assessment Score.

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**Table 3** Recommendations from the *Belgian* Society of Intensive Care Medicine—published on 18 March 2020

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<th>How</th>
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<tr>
<td>Planning ahead</td>
<td>IC medicine should be reserved for patients with a good or at least acceptable outcome expected. Early on, patients for whom IC would be disproportionate should be identified to avoid sending them to the hospital unnecessarily. This implies knowledge of an advanced care plan, the medical condition, the antecedents, the acute evolution, and a well-funded estimate of the prognosis of the patients with and without IC.</td>
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<tr>
<td>Proportionate care</td>
<td>Priorities should be decided based on medical urgency—in case of comparable medical urgency, the ‘first come first serve’ principle, and the ‘random’ criteria, are the most useful and fair criteria. Age in isolation cannot be used for triage decisions, but should be integrated with other clinical parameters. Frailty and reduced cognition are independent predictors of outcome and should be evaluated (eg, Clinical Frailty Scale). An advanced care plan should be discussed with residents of retirement homes, or their relatives, in advance. Patients with non-COVID-19 should be evaluated according to the same criteria.</td>
</tr>
<tr>
<td>Distributive justice and triage procedures</td>
<td>Patients with non-IC, at the time of admission.</td>
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<td>Protection of professionals</td>
<td>Physicians involved in triage should be offered psychological support.</td>
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<td>Precaution</td>
<td>Decisions to deny or prioritise care should always be discussed by at least 2, but preferably three physicians with experience in the treatment of respiratory failure in the ICU (by teleconsultation if needed).</td>
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<tr>
<td>Respect for patient autonomy</td>
<td>A registry of triage decisions is kept for transparency and evaluation and decisions should be openly discussed with patients, or their relatives.</td>
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IC, intensive care; ICU, intensive care unit.
possible complications. And, in general, this is a concern present in all the guidelines analysed.

**In what way can Distributive justice be applied?**
The principle of Distributive justice holds that any unjustified influence on allocation for resources should be excluded as far as possible. Parameters such as sex, race, age, disability, social status, nationality must be discarded. It is impossible to avoid discrimination entirely, as the existing inequalities in health tend to worsen with the crisis. These limitations need to be recognised to reduce the possibility of injustice, and this perception can help improve future access for underprivileged populations. This is fully in line with the principle of equality and non-discrimination, which is fundamental to the constitutional traditions of European Member States, the legal framework of the European Commission and human rights law. The age parameter is discussed below on a specific issue due to the special debate that has arisen.

Fair and legal prioritisation to access scarce assets in a crisis is an important and pragmatic attempt to apply the principle of distributive justice. It means trying to distribute the benefits and risks equally among the population, avoiding leaving it to chance without reflection.

### Table 4 Recommendations from the Swiss Academy of Medical Science and Swiss Society of Intensive Medicine—published on 20 March 2020

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<td>Planning ahead</td>
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<td>Proportionate care</td>
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<td>Distributive justice and triage procedures:</td>
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<tr>
<td>Preserving as many lives as possible</td>
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<td>Protection of professionals</td>
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<td>Precaution</td>
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<td>Respect for patient autonomy</td>
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<td>Transparency</td>
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IC, intensive care; ICU, intensive care unit.

### Table 5 Recommendations from the German Interdisciplinary Association for Intensive and Emergency Medicine—published on 25 March 2020

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<td>Planning ahead</td>
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<td>Proportionate care</td>
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<td>Distributive justice and triage procedures:</td>
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IC, intensive care; ICU, intensive care unit; SOFA, Sequential Organ Failure Assessment.
To create an ethical framework for resource allocation reflecting society’s priorities, focus groups were led in Maryland, USA, to discuss community preferences. Participants valued the rescue of people with a greater chance of short-term survival, followed by those with a greater chance of long-term survival. In addition, it was recognised that, although age should not be the only allocation criterion, in some circumstances it would be appropriate to consider the stage of life in decision-making.

Persad et al identify four ethical frameworks, that can be used in triage decisions when the clinical criteria are found to be insufficient: treating people equally (egalitarian), favouring those who are worse off (priority), maximising total benefits (utilitarian) and random allocation (or lottery), is considered traditionally an egalitarian approach, since access to care is worse for low-income people, minorities and the elderly who live alone. In addition, a seriously ill patient waiting for a bed in the ICU may be better able to benefit from the resource than a patient already in the ICU whose condition is not improving.

Various authors argue that FCFS cannot be considered an egalitarian approach, since access to care is worse for low-income people, minorities and the elderly who live alone. In addition, a seriously ill patient waiting for a bed in the ICU may be better able to benefit from the resource than a patient already in the ICU whose condition is not improving.

No single principle allocates interventions fairly and a scheme with several principles should be built to better manage triage issues. The five guidelines discussed here favoured different approaches.

### Egalitarian principles in European recommendations

Most countries, except Belgium, refuse to include the first come, first served (FCFS) allocation principle. This approach, as well as random allocation (or lottery), is considered traditionally an egalitarian principle that aims to increase people’s equitable access to missing goods.

However, some authors argue that FCFS cannot be considered an egalitarian approach, since access to care is worse for low-income people, minorities and the elderly who live alone. In addition, a seriously ill patient waiting for a bed in the ICU may be better able to benefit from the resource than a patient already in the ICU whose condition is not improving.

Random allocation gives equal opportunities to everyone. However, by being totally blind, it leaves out relevant factors, for instance it does not differentiate a patient who can gain 2 months of life from a person who can gain 40 years, for example.

### Utilitarian principles in European recommendations

All countries, except Belgium, have chosen a utilitarian criterion, with maximising global benefits as a priority. Belgium prioritised clinical urgency, maintaining the attitude that is generally used in ordinary times. For this medical society, the clinical judgement and established criteria for assessing the ICU were enough. They preferred to establish an early identification of patients without criteria for ICU before their arrival to the hospital, which implies a major effort of the local teams. This decision is acceptable when resources are available and a plan well established. Clinical urgency, on the other hand, seems insufficient in a situation where serious failure in resources might occur.

The utilitarian perspective is an influential moral consequentialist theory traditionally used in severe crisis situations. It aims to maximise the overall benefits for everyone, although there is some discrepancy as to which assets to maximise.

In these documents, the clinical focus is to reduce mortality while preserving at least some interactive capacity in a population of patients. There are two major approaches within this utilitarian category: save as many lives as possible and save people with better prognosis or more years of life ahead.

The Italian and Spanish Societies both prioritised the greater probability of survival and better prognosis or longer life-years. The Swiss and German Societies advocate for preservation of as many lives as possible.

### Utilitarian triage in Spanish and Italian recommendations

The better prognosis or longer life-years criterion aims to save the lives of the people that have more years-of-life ahead of them. This means valuing not only the short-term but also the long-term prognosis. Both Spanish and Italian documents value it, but with some differences. The Italians defend the longer life expectancy determined by clinical factors such as the severity of the disease, the presence of comorbidities, the reversibility of the lesions and so on. The Spanish also defend the longest life expectancy but introduce the quality-adjusted life years (QALY), between two similar patients.

Some argue that placing a high priority on the long-term prognosis criterion can further harm people who already face several disadvantages, such as poor people or ethnic minorities, who are more likely to have multiple and severe comorbidities due to more precariously access to medical care and health effects of poverty. In this sense, it might be beneficial to establish a double scoring system that would recognise patients whose comorbidities were so severe that they would not be expected to live long (more than a year) and exclude them from the ICU, in case of scarcity.

QALY is a projection calculated by multiplying years-of-life by quality-of-life. This approach raises serious ethical concerns and it is highly impractical when facing quick decisions, in triage situations.

### Utility triage in Swiss and German recommendations

Preserving as many lives as possible aims to save lives independently of other characteristics. This means valuing mostly the...
Positioning towards age as a criterion

European recommendations do not directly advocate ‘the youngest first’, but take age into account. Italian recommendations say that it may be necessary to set an age limit for admission to the ICU. Empirical reports from doctors on the Italian front line suggest that, in practice, the age limit was set at between 60 and 65. The Spanish recommendations give specific orientations according to age and the presence of comorbidities, complementing age with prognosis. However, age-related criteria have been considered ethically and legally unacceptable by both the Comitato Nazionale per la Bioetica of Italy and the Spanish Comité de Bioética de España. For Belgians and Germans age in isolation cannot be used for triage decisions, but should be integrated with other clinical parameters. The Swiss claim that, in extreme situations people over 85 should not have access to the ICU. Since it has been also underlined by Swiss recommendations that each life is valuable, the coherence of this may need to be discussed.

CONCLUSIONS

The sort of crisis that triggers the need for resource allocation will result in many patients arriving in a continuous stream, with shortages of equipment and trained personnel. This emphasises the need for a suitable framework to allow health professionals to anticipate and adapt to the coming complexities and challenges. In most of the recommendations, when scarcity cannot be averted, the utilitarian criterion prevails, putting all efforts into trying to save as many lives as possible or saving the most life years possible. The clinical criterion will always remain fundamental, but for practical necessity other decision systems will have to be ready.

All the recommendations that were analysed represent important contributions made in a very challenging context. However, as we have seen throughout the text, and as is reinforced by the opinions of the National Ethics Councils of some of the countries, the ethical complexity of an orientation such as this must incorporate relevant values and principles, in addition to biological criteria, and, therefore, other interested parties, in addition to medical staff, should be involved.

In addition, and in line with the recommendations on the European response to the coronavirus pandemic, it would be beneficial, in our opinion, for the European Union (EU) to provide criteria for allocating, within Member States, limited resources essential to managing a pandemic and to mitigate the damage, taking due account of the moral equality of all people. This framework needs to be flexible and adaptable, possibly with different levels of scarcity predicted and be periodically reviewed as the situation evolves.

We expect that this paper will stimulate a broad debate on how to ethically allocate scarce life-sustaining resources, during a pandemic emergency. Future discussions with the communities involved would be a desirable direction.

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**REFERENCES**