

# Intensive care hospitalization: ethical aspects of decision-making

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## Abstract

Scarcity of resources in healthcare – an extremely relevant issue in universal healthcare systems – has motivated the emergence of several situations where one needs to establish prioritization criteria, especially within the scope of regulation. Based on a bioethical perspective, this article discusses the decision-making process of coordinating physicians in a situation involving scarcity of resources – in this case, intensive care unit beds. This is a reflective theoretical study, based on the ethical analysis of a hypothetical problem-situation involving the choice of patient for admission in this unit, in a context of a limited vacancies. The situation presented was assessed based on the principlist and utilitarian bioethical perspectives. The reflection emphasized that decisions of this nature must be based on a deep articulation between technical and ethical criteria. After the analysis, we concluded that random selection would be the most feasible and fairest from a bioethical point of view.

**Keywords:** Bioethics. Decision making. Intensive care units.

## Resumo

### Internação em terapia intensiva: aspectos éticos da tomada de decisão

A escassez de recursos para ações de cuidado – questão extremamente relevante nos sistemas de saúde de acesso universal – tem motivado diversas situações em que é necessário estabelecer critérios de priorização, mormente no âmbito da regulação. Partindo de perspectiva bioética, este artigo visa discutir o processo decisório de médicos reguladores em situação envolvendo escassez de recurso – no caso, leitos de centro de tratamento intensivo. Trata-se de estudo teórico-reflexivo, empreendido a partir da análise ética de situação-problema fictícia envolvendo a escolha de paciente para tratamento intensivo em contexto de limitado número de vagas. O caso fictício apresentado foi apreciado a partir dos referenciais das correntes bioéticas principlista e utilitarista. A reflexão ressaltou que as decisões dessa natureza devem ser baseadas na profunda articulação entre critérios técnicos e éticos. Foi possível concluir que, na situação-problema analisada, a seleção aleatória seria a mais viável e mais justa do ponto de vista bioético.

**Palavras-chave:** Bioética. Tomada de decisões. Unidades de terapia intensiva.

## Resumen

### Hospitalización en cuidados intensivos: aspectos éticos de la toma de decisiones

La escasez de recursos para las acciones de atención –tema de extrema relevancia en los sistemas de salud con acceso universal– ha motivado varias situaciones en las que es necesario establecer criterios de priorización, especialmente en el ámbito de la regulación médica de las urgencias. Desde una perspectiva bioética, este artículo tiene como objetivo discutir el proceso de toma de decisiones de los médicos reguladores en situaciones de escasez de recursos (en este caso, camas de unidades de cuidados intensivos). Se trata de un estudio teórico-reflexivo, realizado a partir del análisis ético de una situación-problema ficticia que implica la elección de un paciente para tratamiento intensivo en el contexto de un número limitado de vacantes. Se apreció el caso ficticio a partir de los referenciales de las corrientes bioética principlista y utilitarista. La reflexión destacó que las decisiones de esta naturaleza deben basarse en la articulación profunda entre criterios técnicos y éticos. Se pudo concluir que, en la situación-problema analizada, la selección aleatoria sería la más viable y justa desde el punto de vista bioético.

**Palabras clave:** Bioética. Toma de decisiones. Unidades de cuidados intensivos.

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Health professionals face a difficult situation when deciding on resource allocation in a scarcity context since their ethical obligations include: 1) acting correctly for the well-being of the patient, doing no harm or injury (the principle of non-maleficence, accepted since Hippocrates); and 2) respecting the patient's autonomy<sup>1</sup>.

In this scenario, the medical staff from medical regulation centers plays a key role, as they must ensure the constitutional rights of universal, comprehensive, and equitable access to healthcare, through the best adequacy of supply. These professionals deal with resource scarcity daily, a distressing situation, especially when deciding, among critically ill patients, who will have access to an Intensive Care Unit (ICU) bed. On this issue, Fortes<sup>2</sup> highlights that decision-making processes are also ethical (and not only related to the technical sphere), for they are established between people and affect individuals, institutions, and the community. For the author, ethical issues interfere in decision-making especially in contexts where "technical knowledge" reaches its limit, that is, when it no longer contributes to the decision<sup>2</sup>.

In a specific case, technical knowledge would allow assessing the severity of the patient's condition through clinical-laboratory analysis, being up to the ethical elements to define, among critically ill patients, which one should be given priority in case of scarce resources. In fact, the relevance of the technical-ethical binomial becomes more evident in these threshold situations. At the same time, from an Aristotelian perspective, the idea that every healthcare action – in the domain of *praxis* – necessarily covers both elements is fully defensible<sup>3</sup>.

To reach consensus on the most appropriate decision, just applying ethical theories is not enough. A more practical – rather than dogmatic – approach is necessary to analyze facts and arguments, helping to build rational justifications for the solution of resolving conflicts. In this sense, bioethics and its different perspectives are essential tools to improve the decision-making process. As such, this article discusses aspects of decision-making by coordinating doctors in a context of scarcity, in this case, intensive care beds.

## Methods

This theoretical-reflective essay analyzes a hypothetical situation not strictly related to any real case, but gathers relevant information for the problem at hand based on the perspective of the authors, who have experienced similar circumstances in their academic and professional life. The case was proposed as a starting point to discuss bioethical criteria that can inform clinical decision-making in the work of coordinating physicians, as well as to compare the right to universal access to the health system and the conflict arising from the scarcity of resources.

To develop the problem situation, we considered dilemmas and relevant circumstances inspired by authentic cases experienced in the work routine of a medical regulator complex. A similar method was used in the book *Bioética para profissionais da saúde* [Bioethics for health professionals]<sup>4</sup> and the article "Bioethics in decision-making in primary health"<sup>5</sup>.

We base our discussion on two of the main bioethical perspectives: principlism and utilitarianism, as they represent the most discussed approaches in decision-making<sup>6</sup>. The first model has a common denominator between particular judgments and general moral theory, comprising mid-level principles not subject to a pre-established lexical order, capable of guiding deliberation in cases of conflicts in the biomedical field in secular and pluralistic societies. The utilitarian model, in turn, is guided by debates on justice, evaluating the moral acts of humanity based on the maximization of well-being, that is, the consequences of actions, which should provide the greatest possible well-being to the greatest possible number of people<sup>7,8</sup>.

## Context of the problem situation

The problem situation illustrates the routine of a medical regulation center. Note that the name of the municipality, the physician, and the patients were inspired by the literary works *The Alienist*, by Machado de Assis<sup>9</sup>, and *One Hundred Years of Solitude*, by Gabriel García Márquez<sup>10</sup>.

Simão Bacamarte is an experienced coordinating physician and head of the on-duty physician team at the regulation center in the municipality of Macondo. On a Thursday morning, he plans the tasks to be carried out by fellow on-duty colleagues and leaves it up to him to organize the queue of patients waiting for ICU beds. The daily supply is lower than the demand and, as an experienced physician, Simão likes to read the medical reports at the beginning of the shift to establish criteria for prioritizing clinical conditions and speed up the hospitalization and referral of patients, if an ICU bed is available.

In general, patients are critically ill and in units without adequate support. That morning, even before reading the reports, Dr. Simão receives the information that a ICU bed is available. But among the severe cases, two in particular, according to his assessment, need more attention. Both have the same level of severity, from a technical point of view, and need to be referred to an intensive care bed as soon as possible.

The first patient is José Arcadio Buendía, 80 years old, previously healthy and without comorbidities, admitted to an emergency room (UPA) with severe community-acquired pneumonia. Clinically, he presents a drop in oxygen saturation, decreased level of consciousness, fever, pale mucous membranes, and dehydration. Respiratory auscultation indicates lungs with snores and crackles in both bases. There are no other noteworthy changes.

The second patient is Nicanor Ulloa, 50 years old, merchant, hypertensive, on regular use of amlodipine, admitted to the UPA near his residence for complaining of severe discomfort in the retrosternal region, without irradiation, associated with fatigue. The patient is very anxious and tachypneic, denies smoking and drinking, and has a history of stroke two years ago, without sequelae. After examinations, Nicanor was diagnosed with acute myocardial infarction (AMI), Killip II.

The Killip (or Killip-Kimball) classification is used to assess AMI prognosis<sup>11</sup>. Migration from the lowest to the highest class is associated with increased lethality in many studies, while patients who evolve with low scores are less likely to die in the first 30 days. AMI patients

are classified as follows: class I, no evidence of heart failure; class II, findings consistent with mild to moderate heart failure (B3, rales in less than half of the lung fields or jugular vein distention); class III, pulmonary edema; and class IV, cardiogenic shock. Mortality rates are as follows: class I, 6%; class II, 17%; class III, 38%; and class IV, 81%<sup>12</sup>.

After analyzing the two reports, Dr. Simão is faced with the need to choose between them, and the fact that he is distant from the patients makes the task of establishing the severity criterion even more difficult. In this context, what is the limit of “technical knowledge” for decision-making? Even if one could choose the most severe patient, would this be, in fact, a perfectly ethical criterion? Is this a purely technical choice?

## Perspectives, analyzes, and choices

### Principlist perspective

*Principles of biomedical ethics*, by Beauchamp and Childress<sup>1</sup>, recommends the principles of beneficence, non-maleficence, autonomy, and justice to underline ethically appropriate actions. Beneficence – any human action for the benefit of another person – refers to the tradition started with Hippocrates and is related to the practice of “benevolence”: the character trait or virtue of acting beneficially. Non-maleficence is the obligation not to cause harm intentionally – principle commonly related to the idea of “*primum non nocere*,” also from Hippocrates.

Autonomy, in turn, refers to the individual's capacity for self-determination, as the exercise of making authentically free choices. Autonomous individuals are free to act according to their action plan and in what concerns them. Justice, finally, concerns what is deserved by people, that is, what is in some way appropriate to them or corresponds to them. Fair situations are those in which one receives what one is due to; situations in which, by denial or omission, the benefits that, by right, correspond to people are not equitably distributed, is unfair.

Since these are *prima facie* principles, there is no hierarchy in their application, that is,

the principles are not absolute<sup>1</sup>. So how could these principles be used to assist Dr. Simão Bacamarte's decision-making?

Applied to the specific case, the third principle – respect for autonomy – would not contribute to decision-making, as the referral of patients must be quick, for immediate start of treatment in the unit with adequate technical support. The emergency nature of the situation, the patients' inability to fully exercise their autonomy, and the inability to consult a legal guardian – for example, a family member of the patient – prevent the application of this principle.

If it were possible to talk to both patients or their families about their respective diagnoses and prognosis, perhaps there would be more support for the evaluation. If Mr. Nicanor – or his family – evaluated and decided to not receive thrombolytic medication (due to bleeding risks, for example), or if Mr. José Arcádio or his family chose to not authorize invasive procedures that may occur in the ICU (such as orotracheal intubation) for not wanting to run the risk of sequelae, the physician's choice could be based on respect for the autonomy of those who could manifest themselves clearly, either by themselves (in real-time or by advance healthcare directives) or a representative.

Listening to patients is, whenever possible, of paramount importance to know their preferences, their desires, choices, and, especially, how they think their own life deserves to be lived. In the problem situation, however, it is not possible to listen to any of the patients, and therefore the coordinating physician cannot use the principle of autonomy in the decision-making process.

Next, we have the principles of beneficence and non-maleficence, which differ in the following aspect: beneficence provides for positive actions (doing good), while non-maleficence proposes that actions that cause harm must not be carried out<sup>1</sup>. These principles from Hippocratic framework, however, are related, insofar as it is not possible to specify when the proscription of harm ends and when the benefit begins. In fact, to what extent do beneficence actions generate non-maleficence, and to what extent not causing maleficence is not providing beneficence?<sup>1</sup>

Bringing the reflection to Dr. Simão's dilemma, we can state that the balance between risks and benefits presented by proportionality – or by isonomy – suggests that hospitalizing patients in ICU beds would bring more benefits, while not hospitalizing could sentence one of them to death in a short time since both are in places with limited resources to meet their needs, and the wait can further increase the severity of their condition.

The most appropriate, considering the principle of beneficence, would be to have vacancies for both patients, which is not possible as there is only one bed available. Another possibility would be to consider the risks of applying thrombolytics to patients with AMI outside the ICU bed and evaluate whether the risk of bleeding is less than the waiting time for adequate care.

From a non-maleficence standpoint, Dr. Simão has a moral obligation not to harm any of the patients; but choosing one of them, by itself, would already cause harm to the other. Besides, this choice would transgress, according to Beauchamp and Childress<sup>1</sup>, one of the norms of the principle of non-maleficence – to not deprive others of the good of life – considering that if one of them is left unattended, he will be at risk of death. Therefore, there are serious limitations to the use of beneficence and non-maleficence in the analyzed situation:

*Moral dilemmas in clinical practice (...) are conflicts difficult to solve (if not impossible to resolve without some arbitrariness). (...) In particular, moral dilemmas can pose a serious challenge for any conscientious clinician, since a dilemma does not have a solution due to logical reasoning, and the solutions found will always be partially arbitrary (indicated by the image "Sophie's choice"). Thus, decision making in a morally "dilemma-prone" situation always seems to be in the realm of the "tragedy" between life and death, since it implies having to choose between solutions about which is often hard to decide which is more right or wrong (as in the case of having to choose who should live and who should not, who "deserves" care and who "deserves" less or none)<sup>13</sup>.*

The principle of justice in this context – particularly distributive justice – provides that health resources should be distributed as equitably and fairly as possible<sup>14</sup>. From this perspective, the fact that Dr. Simão must choose between patients who are candidates for an ICU bed is seen as totally unfair, because fair would be to have beds for both patients<sup>15</sup>.

In this sense, the formal principle of justice states that “equals must be treated equally, and unequal must be treated unequally.” While it seems fair that equals deserve the same treatment while each person has different characteristics that cannot be ignored, this postulate raises significant concerns. What characteristics define equality and what characteristics do not? In other words, what is the extent of the meaning of “equal”?<sup>16</sup>.

Mannelli<sup>16</sup> considers that, when patients have the same medical condition, factors such as age, gender, comorbidities, and disease severity affect the specific protocols followed by doctors. Thus, prioritizing does not mean that one life is more valuable than another, for all are equally valuable. But when resources are insufficient, we must allocate them to save as many lives as possible. This method allows for priority treatment of those who are most likely to benefit from the scarce resource – admission to an ICU bed, in this case – and recover quickly, allowing the next in line to benefit from the treatment in question.

A key concept in health is the prevention of suffering and harm. In the analyzed problem situation, however, as in other circumstances where resources are scarce, it is not possible to avoid harm unfortunately. Thus, efforts should aim to reduce them<sup>17</sup>.

To analyze this dilemma, one must also consider the argument of ageism, provided by the theory of justice<sup>1</sup>. According to this perspective, the younger patient (Nicanor, 50 years old) would have a greater chance of recovering than the older, who in theory has received lifelong care and at 80 years old should be treated only to relieve suffering, and not to prolong his existence. This position, however, does not consider the general health status of older adults and therefore runs the risk of leading to a deeply unfair and discriminatory decision, based only on the age parameter.

In this sense, it is worth warning against the injustice that can result from excluding patients by age criteria, since the reasoning is only statistical, without considering individuality. This age argument is based on the highly controversial assumption that it would be more useful to invest in younger people, since people between 75 and 85 years old would have lived long enough<sup>15,17</sup>. Besides violating constitutional principles – equality of all before the law and universal right of access to health –, age-based criteria would be an unacceptable devaluation of older adults<sup>17</sup>.

Scarce resources need to be allocated without discrimination of any kind – be it age, gender, nationality, geographic origin, social or economic status, religion, political or sexual orientation, or disability. None of these parameters – often generally referred to as “social criteria” – should justify different resource allocations<sup>18</sup>.

As Fortes<sup>18</sup> points out, there is no consensus between bioethicists and health professionals regarding the use of social criteria in contexts of scarcity. Proponents of such parameters believe that this option is better than choosing randomly or refusing to decide – which would still be a choice. Opponents, however, argue that these criteria reinforce inequalities that already exist in society, reaffirming behaviors such as racism, sexism, and discrimination against minority groups.

Ribeiro and Schramm<sup>19</sup> also report that it would be unfair to limit resources to older adults and reallocate them to young adults to achieve the greatest benefit for the greatest number of people, as predicted by the utilitarian calculation, for older adults should be treated like anyone else. Therefore, the “survival lottery” proposal defended, for example, by John Harris<sup>20</sup> seems to be only option.

Randomness would be an alternative to deciding fairly who will occupy the ICU bed and, in the case in question, could be put into practice by drawing lots among those involved<sup>1</sup>. Such a perspective can be morally justified in situations involving urgent and emergency care, indication for admission in intensive care units, and organ transplants. In fact, according to Fortes<sup>2</sup>, it is not always possible to make decisions based only on technical-scientific objective criteria, which, contrary to popular belief, are neither neutral nor devoid of ethical values.

According to this author, in such cases it would be better to resort to randomness, which in choosing the beneficiaries of scarce resources is based on the premise that human lives are equally valuable, and that people should have equal opportunities. It is said that the “ethical lottery” would not affect the trust established between health professionals and their patients and would eliminate the need for committees for decision-making (...). However, as a disadvantage, a draw would not include other relevant factors in decision-making and could bring distress to people, as they are unsure if at some point they would benefit from scarce resources, as with queues or waiting lists<sup>21</sup>.

The hypothetical case illustrates a situation in which priority should be established among the bioethical principles. Between these principles, however, there is no hierarchy, and, having exhausted the considerations on who should be prioritized, we can conclude that the method of choice based on chance would be the least unfair decision and most capable of bringing comfort to the coordinating physician responsible for decision making.

### Utilitarian model

Proposed by Stuart Mill<sup>22</sup>, utilitarianism establishes that utility concerns all actions that can bring happiness and pleasure. Thus, the “useful” could be understood as everything that contributes to the general well-being. The greatest concern, here, is the consequence of the acts and the potential benefit to the greatest number of people. According to this perspective, the best action is the one that can produce maximum well-being, from which results the following concepts: consequentialism, maximum well-being, and aggregationism<sup>23</sup>.

While principlism is based on the precepts that ethically guide decision-making, utilitarianism reflects on the consequence of actions to justify choices<sup>4</sup> – as posed by consequentialism. Rego, Palácios and Siqueira-Batista<sup>4</sup> warn that it is necessary to properly define the concept of action, because it is from action that events change. We can conclude, then, that if there was a change, there was action, which implies that omission – or “non-action” – is also understood as an action, as it alters the course of events<sup>4</sup>.

The concept of maximum well-being, for utilitarianism, refers to the increase in benefits arising from actions. It is considered the highest degree of quality of life as desired by the person who suffers the action and not by the person who performs it<sup>24</sup>.

Finally, aggregationism states that, when it is necessary to choose actions (decision-making process), the sum of interests must be considered. The best consequence is bringing the greatest well-being to the greatest number of people, that is, the interests of all beings capable of feeling pain must always be considered<sup>14</sup>.

In the case at hand, the consequence is what defines whether the action was correct or not. To calculate the action – given the greatest sum of benefits –, Dr. Simão Bacamarte should keep in mind that the two patients would like to live and be cured, and that the clinical status of both imposes the need for special care in an ICU environment. That said, Dr. Simão could take as a criterion patients' age, considering that the youngest patient, if cured, will have more time to live and, therefore, more time to contribute to his family and to society itself.

Another way of analyzing the issue would be to indicate hospitalization for the oldest patient – in this case, Mr. José Arcádio –, given the greater likelihood that, without hospitalization, the condition will worsen and the risk of sequelae increase (with negative consequences for the patient, the family, society, and the health system itself, given the greater likelihood of expenditure needed to monitor the patient). One must consider, however, that the waiting time may also aggravate the condition of the youngest patient, causing sequelae and more costs to the health system.

The preliminary utilitarian appraisal points to the impossibility of strictly applying this model to the situation experienced by Dr. Simão Bacamarte. Both decisions – transferring Mr. José Arcádio Buendía or Mr. Nicanor Ulloa to the ICU – are ethically defensible, depending on the estimate of consequences.

### Final considerations

The necessary rationalization in resources distribution – including those that require

greater technological complexity – in the face of increased demand has become one of the most relevant problems for a universal healthcare system. This situation represents a great challenge for managers, as well as for health professionals, who daily face dilemmas in their workplaces (among them the medical regulation centers), which in theory should ensure full and equal access to users.

The perspectives discussed here show the serious difficulties in defining which would be the most correct decision in the problem situation, whose dilemma, by definition, represents an impasse from the ethical point of view. Importantly, the discussion on principlism concerns the possibility, in such a situation, of employing a “method” of choice based on chance – that is, random selection. Still, it seems that none of the proposed theories alone could support the decision and relieve the anguish of the decision-making

process. Subjective aspects, connected to the subject who acts, even if subliminally, must be considered in this process.

We highlight the relevance of conducting research that addresses the bioethical aspects raised here, discussing the decision making of health professionals and managers – a process that can be undertaken from different approaches –, considering the acceleration of biomedical innovations and global changes in the population’s living and health standards. Such scenario has inevitably produced dilemmas, especially regarding the increasingly scarce resources to provide the population with access to health services. In this context, it is essential to consider all those involved – valuing them in their existential conditions – and to adopt rational and reasonable positions, even if, due to the limits of the choices, it is necessary to consider the potency of chance.

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Fabiana Pires Pereira conducted the bibliographic research. Rodrigo Siqueira-Batista supervised the research and, with Fermin Roland Schramm, contributed to the discussion and critical review of the text. All authors wrote the article.

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