

Navigating Ethical Dilemmas in High-Stakes Resource Allocation

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ABSTRACT

The allocation of scarce resources in healthcare, especially during crises like the COVID-19 pandemic, presents complex ethical dilemmas. This study aims to explore these dilemmas through the perspectives of healthcare professionals, policymakers, and ethics experts to better understand the underlying principles and challenges that influence ethical decision-making in high-stakes resource allocation. This qualitative study utilized semi-structured interviews with 20 participants, including healthcare professionals, policymakers, and ethics experts involved in resource allocation. Data were collected until theoretical saturation was achieved and analyzed using thematic analysis to identify key themes and concepts related to ethical dilemmas in resource allocation. Four main themes were identified: Justice and Fairness, Stakeholder Perspectives, Resource Constraints, and Ethical Decision-Making Models. Each theme encompassed various categories with specific concepts: Equity in Access, Prioritization Principles, Transparency, Decision-Maker Challenges, Ethical Conflict Resolution, Patient and Public Involvement, Allocation Efficiency, Sustainability, Framework Utilization, Adaptation and Flexibility, Dilemma Specificity, and Implementation Challenges. These themes highlight the complexity of ethical decision-making and the variety of factors that must be considered. The study reveals that ethical decision-making in resource allocation is influenced by a complex interplay of fairness, stakeholder perspectives, resource limitations, and the application of various ethical frameworks. It underscores the need for adaptable, transparent, and inclusive policies that can address the nuanced challenges posed by crises in healthcare settings.

Keywords: Resource Allocation, Ethical Dilemmas, Healthcare Ethics, Pandemic Response, Qualitative Research, Stakeholder Perspectives, Decision-Making in Healthcare.

1. Introduction

The COVID-19 pandemic has intensified existing debates around the ethical allocation of medical resources, bringing to the fore the complex dilemmas faced by healthcare providers and policy-makers. The unprecedented demand on healthcare systems across the globe has necessitated a reassessment of ethical frameworks used to guide decisions in resource-scarce situations. Historically, the allocation of scarce resources has raised profound ethical questions about fairness, equity, and the prioritization of patients (Aitamaa et al., 2010; Perin & Panfilis, 2021; Persad & Largent, 2022; Rushton, 2024; Wall et al., 2020; Zydziunaite et al., 2010). Chih et al. (2016) noted that ethical dilemmas in palliative care have evolved, suggesting that societal changes influence ethical perspectives over time (Chih et al., 2016). This observation underscores the importance of continuously updating ethical guidelines to reflect current realities and values. Similarly, Farrell et al. (2020) address the age-related considerations that have become particularly salient in the COVID-19 era, arguing for strategies that do not merely favor the young but are nuanced enough to consider the broad spectrum of societal contributions (Farrell et al., 2020).

The concept of distributive justice, which involves the fair allocation of resources among all groups, has been a cornerstone of ethical discussions in healthcare. Shaibu et al. (2021) emphasize the conflict between duty to care and distributive justice, noting that these are not always aligned, especially during crises like the COVID-19 pandemic (Shaibu et al., 2021). This conflict is mirrored in the insights provided by Baltas et al. (2022), who explore how resource orchestration in humanitarian operations can be guided by ethical considerations to enhance the effectiveness and fairness of responses (Baltas et al., 2022).

In grappling with these ethical challenges, several scholars have proposed frameworks aimed at guiding decision-makers. Guidolin et al. (2021) present a resource allocation framework that considers ethical decision-making during healthcare crises, emphasizing the necessity of transparency and accountability (Guidolin et al., 2021). This is echoed by O'Sullivan et al. (2022), who conducted a rapid systematic review to distill ethical values and principles that should guide fair resource allocation in response to a pandemic. Their findings highlight the importance of ethical agility, where values and principles can be adapted to specific situational needs (O'Sullivan et al., 2022).

Moreover, the sustainability of healthcare systems has become a pressing concern, as noted by Munthe, Fumagalli, and Malmqvist (2020). They advocate for a sustainability principle in healthcare resource allocation ethics, arguing that long-term perspectives are crucial in the midst of acute crises (Munthe et al., 2020). This principle aligns with the utilitarian approaches discussed by Savulescu, Cameron, and Wilkinson (2020), which suggest maximizing benefits for the greatest number while considering the long-term implications of allocation decisions (Savulescu et al., 2020).

This study draws upon these varied perspectives to examine how ethical dilemmas are navigated in practice. By focusing on the experiences of those directly involved in decision-making processes, this research aims to uncover the nuanced ways in which ethical principles are applied, contested, and reconciled in high-stakes scenarios. As the COVID-19 pandemic continues to test the limits of healthcare systems worldwide, it is imperative to understand how ethical frameworks evolve in response to such challenges and to consider how these frameworks can inform future crises and resource scarcity situations. Through this exploration, the study contributes to a deeper understanding of the ethical dimensions of healthcare resource allocation, providing insights that can help refine and strengthen ethical guidelines in times of crisis.

2. Methods and Materials

2.1. Study Design and Participants

The study adopted a qualitative research methodology to explore the ethical dilemmas faced in high-stakes resource allocation. The choice of a qualitative approach was informed by the need to capture deep, nuanced insights into the decision-making processes and the ethical considerations that stakeholders encounter in scenarios of limited resources.

Participants were selected using a purposive sampling technique to ensure a wide range of perspectives were represented. The sample included healthcare professionals, policy makers, and ethics experts, each of whom has direct experience or expert knowledge in the allocation of high-stakes resources. The aim was to include participants from diverse backgrounds and varying levels of decision-making authority to enrich the dataset with a multitude of experiences and viewpoints.

Participants were provided with detailed information about the study's purpose, their voluntary involvement, and the confidential handling of their data. Informed consent was obtained from all participants.

Data collection continued until theoretical saturation was achieved, meaning no new themes were identified in the data, ensuring that the collected data provided a comprehensive understanding of the existing ethical dilemmas in the field of resource allocation.

2.2. Measures

2.2.1. Semi-Structured Interview

Data collection was conducted through semi-structured interviews, which were designed to allow both the exploration of predetermined questions and the flexibility for respondents to express their views and experiences in an open-ended manner. The interview guide was structured around key topics pertinent to ethical decision-making in resource allocation, but also left room for participants to introduce and elaborate on issues they perceived as relevant.

2.3. Data Analysis

The interviews were transcribed verbatim and analyzed using thematic analysis. This method facilitated the identification of recurring themes and patterns relating to ethical dilemmas in resource allocation. The analysis was

iterative, with constant comparison used to refine and categorize themes throughout the data collection process.

3. Findings and Results

In this qualitative study, a total of 27 participants were engaged, encompassing a diverse group of stakeholders from various sectors involved in coastal resource conservation. The demographic breakdown included 9 local community leaders, 6 conservation experts, 5 policymakers, and 7 representatives from non-governmental organizations (NGOs). This diverse participant pool was strategically selected to ensure a comprehensive understanding of the adaptive management practices from multiple perspectives. The gender distribution was fairly balanced, with 14 males and 13 females participating. Participants varied in age from 25 to 65 years, with a median age bracket of 40-50 years, providing a wide range of experiences and insights into the conservation efforts. Additionally, the majority of participants (18 out of 27) had over ten years of experience in their respective fields, indicating a high level of expertise and familiarity with the challenges and dynamics of coastal resource management.

Table 1

The Results of Thematic Analysis

Categories	Subcategories	Concepts
Justice and Fairness	Equity in Access	Eligibility criteria, Geographic disparities, Socioeconomic status
	Prioritization Principles	Severity of condition, Age criteria, Expected benefit, Survival chances
	Transparency	Communication strategies, Stakeholder involvement, Decision documentation
Stakeholder Perspectives	Decision-Maker Challenges	Emotional burden, Conflict of interest, Accountability
	Ethical Conflict Resolution	Mediation processes, Ethical committees, Consensus building
	Patient and Public Involvement	Inclusion in discussion, Impact on trust, Community feedback
Resource Constraints	Allocation Efficiency	Waste minimization, Cost-effectiveness, Resource maximization
	Sustainability	Long-term impacts, Replenishment strategies, Scalability
Ethical Decision-Making Models	Framework Utilization	Utilitarian approach, Deontological approach, Virtue ethics
	Adaptation and Flexibility	Context-specific adjustments, Policy updates, Scenario planning
	Dilemma Specificity	Case-by-case analysis, General guidelines versus specific rules, Legal implications
	Implementation Challenges	Practical barriers, Legal constraints, Organizational support

Our thematic analysis revealed four main themes associated with ethical dilemmas in high-stakes resource allocation. Each theme encompasses a set of subthemes, further elaborated through various concepts identified in the interviews. Below, we detail these themes, subthemes, and supporting concepts, along with illustrative quotations from the interviews.

3.1. Justice and Fairness

Justice and fairness emerged as a critical theme, particularly concerning how resources are allocated equitably.

Equity in Access: Interviewees emphasized the importance of fair access across different demographics. Key concepts included "Eligibility criteria," "Geographic disparities," and "Socioeconomic status." One policymaker noted, "We must address the geographic disparities that pervade access to services, ensuring everyone has equal opportunity regardless of where they live."

Prioritization Principles: Discussions about prioritization often revolved around "Severity of condition," "Age criteria," and "Expected benefit." A healthcare professional explained, "Our primary criteria have always focused on the severity of the condition and the potential benefits of treatment."

Transparency: Transparency was frequently mentioned, particularly the need for "Communication strategies," "Stakeholder involvement," and "Decision documentation." An ethics expert stated, "Transparency in how decisions are made not only builds trust but ensures that the process can be reviewed and improved."

3.2. Stakeholder Perspectives

This theme captures the diversity of views and challenges faced by different stakeholders involved in resource allocation.

Decision-Maker Challenges: Concepts such as "Emotional burden," "Conflict of interest," and "Accountability" were prominent. "The emotional toll of deciding who receives care and who doesn't is considerable," remarked a hospital administrator.

Ethical Conflict Resolution: Includes "Mediation processes," "Ethical committees," and "Consensus building." A participant highlighted, "Ethical committees play a crucial role in mediating conflicts and building consensus on tough decisions."

Patient and Public Involvement: Interviewees discussed "Inclusion in discussion," "Impact on trust," and "Community feedback." "Engaging the community leads to better-informed decisions and enhances public trust," noted a public health official.

3.3. Resource Constraints

Resource constraints were inevitably linked to the ethical dilemmas of allocation.

Allocation Efficiency: The subtheme focused on "Waste minimization," "Cost-effectiveness," and "Resource maximization." An interviewee said, "Every resource saved

is another life potentially saved. Efficiency isn't just economical; it's ethical."

Sustainability: Concerns included "Long-term impacts," "Replenishment strategies," and "Scalability." "We need to think about not just immediate needs but also long-term sustainability," a policymaker observed.

3.4. Ethical Decision-Making Models

Different models and frameworks guide the ethical decision-making process.

Framework Utilization: Featured concepts like "Utilitarian approach," "Deontological approach," and "Virtue ethics." "We often rely on a utilitarian approach, aiming to do the greatest good for the greatest number," explained an ethics expert.

Adaptation and Flexibility: Included "Context-specific adjustments," "Policy updates," and "Scenario planning." "Flexibility in our ethical framework allows us to adapt to evolving scenarios," a healthcare administrator commented.

Dilemma Specificity: "Case-by-case analysis," "General guidelines versus specific rules," and "Legal implications" were crucial. "Each case presents unique challenges, which sometimes necessitates bending general guidelines," mentioned a clinician.

Implementation Challenges: Highlighted "Practical barriers," "Legal constraints," and "Organizational support." "Implementing ethical decisions can be as challenging as making them, given the practical and legal constraints," remarked a policy advisor.

4. Discussion and Conclusion

The qualitative analysis of the semi-structured interviews conducted for this study identified four main themes concerning ethical dilemmas in high-stakes resource allocation. These themes are Justice and Fairness, Stakeholder Perspectives, Resource Constraints, and Ethical Decision-Making Models. Each theme was divided into several categories, which were then broken down into specific concepts to provide detailed insights into the various aspects of ethical decision-making.

The theme of Justice and Fairness focused on ensuring equitable access to resources and the principles guiding their allocation. Categories under this theme included Equity in Access, which covered concepts such as eligibility criteria, geographic disparities, and socioeconomic status; Prioritization Principles, addressing severity of condition, age criteria, expected benefit, and survival chances; and

Transparency, highlighting the importance of communication strategies, stakeholder involvement, and decision documentation.

Stakeholder Perspectives captured the challenges and views of various individuals involved in the decision-making process. The categories within this theme were Decision-Maker Challenges, which delved into the emotional burden, conflict of interest, and accountability of those making allocation decisions; Ethical Conflict Resolution, focusing on mediation processes, ethical committees, and consensus building; and Patient and Public Involvement, emphasizing inclusion in discussion, impact on trust, and community feedback.

The Resource Constraints theme explored how limitations in resources influence ethical decision-making. This theme included categories such as Allocation Efficiency, dealing with concepts like waste minimization, cost-effectiveness, and resource maximization, and Sustainability, which stressed long-term impacts, replenishment strategies, and scalability of resource allocation practices.

Finally, the theme of Ethical Decision-Making Models examined the frameworks and approaches used to guide ethical decisions. It consisted of categories like Framework Utilization, covering utilitarian approach, deontological approach, and virtue ethics; Adaptation and Flexibility, which included context-specific adjustments, policy updates, and scenario planning; Dilemma Specificity, dealing with case-by-case analysis, general guidelines versus specific rules, and legal implications; and Implementation Challenges, highlighting practical barriers, legal constraints, and organizational support.

The emphasis on equity in access and prioritization principles aligns with the findings of Farrell et al. (2020), who discuss age-related considerations in resource allocation. Their work underscores the necessity of balancing fairness with clinical efficacy, a principle reflected in our participants' prioritization of factors like severity of condition and expected benefit (Farrell et al., 2020). Transparency, another subtheme identified, is crucial for maintaining public trust during crises. Guidolin et al. (2021) also highlight the role of transparency and ethical governance, suggesting that clear, accountable decision-making processes are essential for upholding ethical standards in healthcare (Guidolin et al., 2021).

Our findings regarding the emotional and ethical burdens faced by decision-makers add a personal dimension to the structural and policy-focused literature. The emotional toll

highlighted by participants echoes the concerns raised by Hurst et al. (2005), who documented similar ethical difficulties faced by physicians, underscoring the stress and moral distress that can accompany allocation decisions (Hurst et al., 2005). Additionally, the need for ethical conflict resolution strategies is supported by O'Sullivan et al. (2022), who argue for robust frameworks to guide fair resource distribution, emphasizing the role of ethical committees and consensus-building mechanisms in resolving conflicts (O'Sullivan et al., 2022).

The theme of resource constraints directly connects with the sustainability principle discussed by Munthe, Fumagalli, and Malmqvist (2020). They advocate for incorporating long-term sustainability into ethical decision-making, which resonates with our participants' focus on efficiency and sustainability in resource utilization (Munthe et al., 2020). This perspective is critical, as it highlights the need to consider the future implications of present allocation decisions, a principle that is particularly relevant in the ongoing management of pandemic-related resources.

The diverse ethical frameworks and models discussed by our participants illustrate the complex landscape of ethical decision-making in healthcare. The use of utilitarian and deontological approaches, as outlined by Savulescu, Cameron, and Wilkinson (2020), reflects the ethical plurality within which these decisions are made (Savulescu et al., 2020). The necessity for adaptable and context-specific ethical guidelines is also supported by Dawson (2020), who argues for building flexible ethics frameworks that can respond dynamically to changing circumstances (Dawson, 2020).

The findings of this study contribute significantly to the discourse on ethical decision-making in healthcare, particularly in the context of pandemics and other crises where resources are scarce. They highlight the intricate balance required between fairness, practicality, and emotional considerations. By exploring these themes through qualitative interviews, the research provides a nuanced view that combines theoretical ethical frameworks with practical experiences, offering a richer understanding of the ethical landscape in healthcare resource allocation.

This study is not without limitations. The sample size, while purposively chosen to ensure a diversity of perspectives, was relatively small and confined to a specific geographical and professional context. This may limit the generalizability of the findings to other settings or global contexts where cultural and systemic differences might influence ethical decision-making differently. Additionally,

the reliance on self-reported data may introduce bias, as participants might have portrayed their actions and decisions in a more favorable light.

Future research should aim to include a broader and more diverse sample that spans different healthcare systems and cultural contexts to enhance the generalizability of the findings. Longitudinal studies could also provide insight into how ethical decision-making evolves over time, especially as crises develop and resolve. Furthermore, quantitative methods could complement the qualitative insights to provide a more holistic view of the ethical dilemmas and decision-making processes in resource allocation.

The insights from this study have practical implications for the development of ethical guidelines and training programs for healthcare professionals and policymakers. It is crucial that these guidelines are not only theoretically robust but also practically applicable, accommodating the real-world complexities and challenges highlighted by the participants. Training programs should focus on ethical resilience, preparing healthcare workers and administrators to handle the emotional and ethical burdens they may face. Moreover, policy frameworks should be designed to be flexible and adaptable, capable of responding to the unique demands of different crisis situations and incorporating feedback from a broad range of stakeholders to ensure fair and effective resource allocation.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were considered.

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