

Judicial reasoning in critical care allocation under scarcity in Brazil during COVID 19 based on an empirical analysis of 223 ICU related decisions

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Abstract

Background

The COVID-19 pandemic placed exceptional pressure on intensive care unit (ICU) capacity in Brazil and brought courts into direct contact with decisions about scarce life-sustaining resources. This study examines how constitutional rights, clinical evidence, regulatory procedures, and system-level allocation constraints were articulated in ICU-related litigation, and whether the composition and reasoning features of the judicial corpus changed over time.

Methods

We conducted an empirical legal study combining structured case-level reanalysis with qualitative documentary analysis of 223 ICU-related judicial decisions identified within a broader corpus of 585 COVID-19 health-litigation cases. Exact linkage between supplementary appendices recovered decision type and procedural class for 209 cases (93.7%) and decision date for 204. Headnotes were systematically coded using nine prespecified binary indicators capturing constitutional rights, clinical necessity, regulation or queue considerations, scarcity or capacity constraints, equality or priority among patients, executive competence or judicial deference, transfer or referral, private-sector cost or reimbursement, and structural capacity or governance. The adjudicated-stage disposition was coded when explicit in the headnote. Temporal comparisons used three periods (2020–2021, 2022, and 2023–2025), Pearson chi-square tests where assumptions were met, Bonferroni correction, and Cramer's V. Full-text qualitative analysis examined how these considerations interacted across four dispute domains.

Results

Among the 209 linked cases, 115 (55.0%) were appellate decisions, 48 (23.0%) single-judge decisions, and 46 (22.0%) judgments. The adjudicated-stage disposition was explicit in 96 headnotes (43.0%); this measure describes the instrument before the court and not ultimate ICU-claim success. Across all 223 headnotes, the most frequent structured indicators were private-sector cost or reimbursement (34.5%), scarcity or capacity constraint (34.1%), clinical severity or medical necessity (25.1%), central regulation or queue (18.8%), and transfer or referral (17.5%). Of the 34 headnotes explicitly invoking the constitutional right to health or life, 24 (70.6%) also contained at least one system-oriented indicator involving regulation, scarcity, equality, or executive competence. Decision type varied significantly across periods (chi-square(4) = 27.04, $p < 0.001$, Cramer's V = 0.257). After correction for multiple testing, transfer or referral content and private-sector cost or reimbursement varied across periods, whereas constitutional-rights, clinical, regulatory, scarcity, and structural indicators did not. Qualitative analysis identified recurrent interactions among rights-based urgency, clinical evidence, regulated access, referral capacity, and accountability.

Conclusions

Judicial reasoning in ICU-related litigation was not reducible to a conflict between an individual right to health and administrative scarcity. Rights claims frequently coexisted with clinical and system-level allocation considerations. The temporal analysis does not support a simple narrative of progressive judicial learning from individual urgency toward systemic regulation; instead, later-period decisions were more often appellate and more frequently concerned transfer or referral and private-sector costs. The study therefore identifies a stable core of rights, clinical, and allocation reasoning alongside a changing procedural and dispute composition. It does not establish implementation effects, socioeconomic equity, or causal consequences for other patients.

Contributions to the Literature

The study combines qualitative judicial analysis with a reproducible case-level reanalysis of procedural metadata, headnote-stage disposition, structured reasoning indicators, and temporal composition.

It quantifies the coexistence of rights-based and system-oriented reasoning, showing that explicit constitutional-rights references frequently appeared together with regulation, scarcity, equality, or executive-competence considerations rather than as isolated claims.

It formally examines temporal variation and shows that the principal statistically detectable changes concerned transfer or referral and private-sector cost or reimbursement, while core constitutional, clinical, regulatory, scarcity, and structural indicators remained comparatively stable.

It distinguishes the procedural outcome of the instrument before the court from substantive success of the underlying ICU-access claim and preserves implementation, representation, socioeconomic characteristics, and distributive effects as unresolved questions rather than inferred findings.

Background

Intensive care unit (ICU) capacity is a structurally limited resource in every health system, and its allocation under conditions of acute scarcity raises consequential ethical and operational dilemmas at the interface between law and intensive care ethics [1, 2, 3]. The COVID-19 pandemic exposed the fragility of ICU infrastructure across high-income, middle-income, and low-income countries alike, requiring rapid expansion of capacity, triage protocols, and regulatory mechanisms for allocating scarce beds [4, 5]. In Brazil, these dilemmas unfolded within a constitutional framework that recognizes health as a universal right and a duty of the State, generating litigation in which courts were called upon to adjudicate disputes over ICU access during periods of acute hospital saturation [6, 7]. This article focuses on the judicial reasoning produced when individual requests for ICU access encountered institutional allocation mechanisms under emergency scarcity. Public health allocation is used here to

designate the institutional processes through which scarce collective resources, such as ICU beds, are distributed among patients through clinical criteria, referral systems, and regulatory procedures.

The Brazilian Unified Health System (Sistema Único de Saúde, SUS), established under the 1988 Federal Constitution, operates through cooperative federalism in which municipal, state, and federal authorities share constitutional responsibility for health service provision. ICU regulation occurs through centralized bed allocation systems implemented at state and regional levels, designed to allocate available capacity according to clinical criteria, severity assessment, and waiting list management [8]. During the most acute phases of the pandemic, these systems operated under conditions of extreme demand, with documented capacity saturation in major Brazilian cities and regional disparities in resource availability that closely tracked pre existing inequalities in health infrastructure [9, 10].

The notion of scarcity employed in this study requires qualification. In Brazil, as in many low and middle income countries, the underlying problem is less an absolute absence of resources than a chronically underfunded system marked by unequal territorial distribution of beds, professionals, and services [7, 9]. The COVID-19 emergency converted this structural underfunding and maldistribution into episodes of acute, localized scarcity, in which demand for intensive care transiently exceeded the capacity available in specific regions and periods. References to scarcity throughout this article designate this emergency specific condition rather than a generalized absence of resources.

The litigation analyzed here is embedded in a broader phenomenon of health-rights adjudication that did not originate with COVID-19. In Brazil, judicialization of health developed over the decades following the 1988 Constitution and became a major national policy issue before the pandemic, shaped by the constitutional enforceability of the right to health, municipalization of service delivery, chronic underfunding, and recurrent disputes over responsibilities and resources [7, 8, 11, 14, 15, 20, 21, 24]. The pandemic is therefore treated here as a specific emergency manifestation of an established phenomenon, not as its starting point. ICU-access reasoning also intersects with the domestic debate on the efficacy of fundamental social rights and the *reserva do possível* (reservation of the possible), through which courts confront tensions between individual claims and administrative or budgetary capacity [14, 15].

During the pandemic, ICU-access claims were framed as urgent requests for judicial intervention in the setting of clinical deterioration and hospital saturation. The decisions were issued amid severe time pressure, scientific uncertainty, changing epidemiological conditions, and institutional strain. These circumstances are relevant to interpretation of the judicial texts, but they do not imply that transparent or fully structured allocation processes were always feasible during the most acute phases of the emergency.

A growing body of public health scholarship has examined the operational dimensions of ICU resource allocation during COVID-19. Studies have demonstrated that triage protocols grounded in transparent, evidence based criteria contribute to equitable allocation, mitigate clinician moral distress, and support institutional accountability [16, 17]. Comparative international experience indicates that the

implementation of structured allocation frameworks, supplemented by oversight mechanisms and public communication, sustains public trust in resource constrained health systems during emergencies [4, 18, 19]. The interface between these allocation frameworks and judicial intervention, however, has received insufficient systematic attention in the community health and public health literature, particularly in jurisdictions where constitutional health rights generate substantial litigation.

Prior Brazilian health-litigation scholarship has raised concerns that access to judicial remedies may vary according to legal representation, socioeconomic resources, and institutional knowledge [11, 12, 20], while institutional actors such as the Public Defender's Office and the Public Prosecutor's Office may broaden access for people who would otherwise face barriers to litigation [21]. Those questions are important context, but they are outside the empirical scope of the present study because representation type and plaintiff socioeconomic characteristics were not systematically extracted. The analysis therefore focuses on the content of judicial reasoning and on institutional features visible in the decisions, not on the social profile of litigants or distributive effects relative to non-litigants.

This study conducts an empirical legal analysis of ICU-related judicial decisions during the COVID-19 period in Brazil. Three questions structure the analysis. First, how did courts combine constitutional, clinical, procedural, and allocation-related considerations in ICU-related disputes? Second, what procedural and content characteristics can be recovered systematically at case level, including decision form, headnote-stage disposition, and recurring reasoning indicators? Third, did the composition or prevalence of selected reasoning and dispute features vary across decision periods?

The study contributes to the literature on health-rights adjudication and emergency resource allocation by integrating qualitative interpretation with structured case-level evidence. The objective is not to estimate national success rates or causal effects, but to determine what the corpus can establish about the architecture of judicial reasoning, its procedural setting, and its temporal composition.

Methods

Study design

This study employs an empirical legal design combining structured case-level quantitative reanalysis and qualitative documentary content analysis. Judicial decisions are treated as institutional texts in which constitutional rights, clinical evidence, regulatory procedures, and allocation constraints may be articulated together. Quantitative analysis is descriptive and comparative within the observed corpus; qualitative analysis examines how these considerations interact within and across dispute types. The study does not estimate national grant rates, implementation rates, socioeconomic effects, or causal consequences of judicial intervention.

Data sources and case identification

Primary sources consisted of publicly available judicial decisions retrieved through the Brazilian Lawyers Association of São Paulo (AASP) jurisprudence database in combination with the JUIT interface. These platforms aggregate published decisions from multiple Brazilian courts, including State Courts of Justice, Federal Regional Courts, the Superior Court of Justice, and the Federal Supreme Court. JUIT is a proprietary legal-technology platform that indexes decisions originating in official court repositories, and access in this study was obtained through its institutional partnership with AASP. AASP/JUIT was selected because it enabled a single standardized Boolean search across multiple jurisdictions and reduced the technical heterogeneity that would arise from separately querying numerous court websites. The trade-off is reduced reproducibility for readers without subscription or institutional access. To mitigate this limitation, the search string is reported in full and case identifiers are supplied in the Supplementary Material so that published decisions may be sought in the courts' official repositories where available. Coverage still depends on publication and indexing by the courts of origin, and inadequately published or indexed decisions may not be retrievable.

The source search covered 2019 to 2025 because the parent project was designed to identify COVID-19 health litigation across a broad temporal window encompassing the emergency and subsequent adjudication of disputes generated during that period. Decision dates in the ICU subset ranged from 2020 to 2025. For temporal analysis, dated cases were grouped into 2020–2021, 2022, and 2023–2025 to distinguish the acute emergency, the initial transition, and later adjudication. These periods are analytical groupings and are not treated as direct measures of epidemiological intensity. The Portuguese search strategy employed Boolean operators combining epidemiological and health-litigation descriptors as follows: (COVID OR pandemia OR COVID19 OR COVID-19 OR “COVID-19”) AND (Leito OR UTI OR Vacinação OR Medicamento OR Medicamentos) AND (“Saúde Pública” OR SUS).

Sampling strategy

The initial search identified 17,537 potentially relevant records. For the broader research project, 1,002 decisions were selected through systematic sampling using an interval of $k = 18$ in order to create a manageable parent corpus for screening and analysis. After deduplication and eligibility assessment, 585 decisions remained across four thematic axes: ICU access and resource scarcity, federative conflicts and SUS governance, medication provision, and vaccination and individual autonomy. The present article does not rely on a confidence level, expected proportion, margin of error, or other survey-sampling parameter to justify qualitative inference. The systematic procedure is reported only to document how the parent corpus from which the ICU subset arose was assembled. Of the 1,002 sampled decisions, 417 were excluded: 69 duplicate records and 348 decisions that did not meet the predefined eligibility criteria, including 331 not directly related to COVID-19, 6 addressing themes peripheral to the scope of the study, and 11 otherwise not fitting the eligibility criteria. Case-level exclusion reasons are reported in the Supplementary Material (Appendix F), the included corpus is listed in Appendix A, and the full selection process is summarized in Fig. 1.

The ICU-access axis comprised 223 decisions. Rather than constituting a separately sampled qualitative sample, these 223 decisions represent the complete set of ICU-access cases identified within the eligible parent corpus. All 223 were retained for the present documentary analysis. The study therefore seeks analytic description of reasoning patterns within this corpus, not statistical generalization to the universe of Brazilian ICU-access litigation. The analytical scope encompasses disputes over immediate ICU admission, inter-facility transfer, review of regulatory denial or delay, and procedural or structural questions concerning allocation systems.

Relationship to the authors' previous work

The broader research project based on the same parent corpus previously generated a distinct empirical bioethics publication by the same authors [30]. That publication used the 585-decision corpus as empirical input for the derivation of a normative framework for judicial reasoning across four thematic axes. The present study addresses a different research question and is restricted to the 223 ICU-related decisions, adding structured case-level reanalysis, exact procedural linkage, headnote-stage disposition coding, nine prespecified content indicators, and formal temporal comparisons. These structured reanalyses and statistical results were not reported in the earlier publication.

The supplementary workbook records decision date, decision type, and procedural class for the included corpus in Appendix A and identifies the 223 ICU-related cases in Appendix B. Exact case-number linkage recovered Appendix A metadata for 209 cases (93.7%); 14 had no exact cross-sheet identifier match, and decision date was unavailable for five of the linked cases. A separate headnote-stage disposition variable was coded for all 223 cases when the outcome of the instrument before the court was explicit, using the categories granted, denied, partially granted, dismissed or moot, not heard or admitted, and not ascertainable. Because an appeal may be filed by either the public authority or the claimant, this variable describes the procedural result of the adjudicated instrument and is not interpreted as substantive success of the underlying ICU-access claim.

Structured case-level coding and statistical analysis

All 223 Appendix B headnotes were subjected to a prespecified structured coding step. Nine binary indicators were operationalized conservatively: constitutional right to health or life; clinical severity or medical necessity; central regulation or queue; scarcity or capacity constraint; equality or priority among patients; executive competence or judicial deference; transfer or referral pathway; private-sector cost or reimbursement; and structural capacity or governance. Multiple indicators could co-occur in the same case. Case-level classifications are provided in Supplementary Appendix G, and the coding dictionary with operational markers and interpretive boundaries is provided in Supplementary Appendix H to make the reanalysis auditable and reproducible.

Temporal comparisons used the 204 exactly linked cases with decision dates. Pearson chi-square tests were applied to indicators with adequate expected cell counts; equality or priority and executive competence or deference were reported descriptively because of sparse expected cells. Bonferroni correction was applied across the seven formally tested content indicators. Cramer's V was used as an effect-size measure. The distribution of decision type across periods was also compared using Pearson chi-square. Statistical significance was assessed at adjusted $p < 0.05$. These tests evaluate differences within the observed corpus and are not used to claim population-level temporal trends in all Brazilian ICU litigation.

Analytical framework

The structured headnote analysis was complemented by full-text qualitative analysis. First, decisions were organized by principal dispute configuration: immediate ICU admission; inter-facility transfer; contestation of regulatory denial or delay; and procedural or structural relief concerning allocation systems. Second, texts were compared across institutional dimensions including clinical severity, available alternatives, centralized regulation, referral pathways, systemic consequences, administrative capacity, and procedural reviewability. The qualitative stage was used to examine relationships among considerations that binary indicators cannot capture, including whether rights language was operationalized through clinical evidence, whether judicial review preserved or displaced regulatory processes, and how system-level concerns entered individual disputes.

The original coding protocol used the label proportionality reasoning for allocation-related balancing. In this article, that term does not imply formal application of the doctrinal three-stage proportionality test associated with Alexy's theory of constitutional rights [29]. References are therefore made to allocation-related balancing unless formal doctrinal proportionality is specifically at issue. Qualitative coding was iterative and based on repeated reading of the decisions in dialogue with literature on resource allocation, distributive justice, and public health ethics [16, 22, 23]. Primary qualitative coding was conducted by the first author, and classifications and interpretive themes were reviewed collectively by all authors and resolved by consensus. The qualitative corpus was not independently double-coded, so no inter-coder agreement coefficient was calculated.

Ethical considerations

The study relied exclusively on publicly available judicial decisions and did not involve direct interaction with human participants, personal data collection, or biological material. Under Brazilian regulations, documentary research of this nature is exempt from review by a Research Ethics Committee. Cases protected by judicial secrecy were excluded from the analytical corpus. Contextual anonymization was applied to illustrative case references to ensure responsible interpretation.

Results

Distribution of cases and recoverable procedural metadata

The 223 ICU-related decisions originated from 20 state and federal courts, as distributed in Table 1. Exact linkage to Appendix A recovered procedural metadata for 209 cases and decision dates for 204. Structured content indicators and temporal comparisons are reported separately from the qualitative dispute-domain analysis.

Table 1 presents the distribution of the ICU-access decisions by court of origin.

Table 1
Distribution of ICU access decisions by court of origin

Court of origin	<i>n</i>	%
Court of Justice of São Paulo (TJSP)	71	31.8
Court of Justice of the Federal District (TJDFT)	23	10.3
Court of Justice of Paraná (TJPR)	23	10.3
Court of Justice of Tocantins (TJTO)	22	9.9
Court of Justice of Pará (TJPA)	13	5.8
Court of Justice of Rio de Janeiro (TJRJ)	12	5.4
Federal Regional Court, 1st Region (TRF1)	11	4.9
Court of Justice of Santa Catarina (TJSC)	8	3.6
Federal Regional Court, 2nd Region (TRF2)	6	2.7
Court of Justice of Mato Grosso (TJMT)	5	2.2
Court of Justice of Pernambuco (TJPE)	5	2.2
Court of Justice of Sergipe (TJSE)	5	2.2
Federal Regional Court, 4th Region (TRF4)	5	2.2
Court of Justice of Minas Gerais (TJMG)	3	1.3
Court of Justice of Rio Grande do Norte (TJRN)	3	1.3
Federal Regional Court, 3rd Region (TRF3)	3	1.3
Court of Justice of Rio Grande do Sul (TJRS)	2	0.9
Court of Justice of Bahia (TJBA)	1	0.4
Court of Justice of Mato Grosso do Sul (TJMS)	1	0.4
Court of Justice of Rondônia (TJRO)	1	0.4

Percentages are calculated over the total number of ICU access decisions analyzed (n = 223) and may not sum to 100.0 owing to rounding. The table reports the ICU access axis only, not the full corpus of 585 decisions. Court abbreviations follow the Brazilian judiciary: TJ, state court of justice; TRF, federal regional court.

Procedural and temporal profile of linked cases

Exact cross-sheet linkage recovered procedural metadata for 209 of the 223 cases (93.7%). Among these, 115 (55.0%) were appellate decisions, 48 (23.0%) single-judge decisions, and 46 (22.0%) judgments. Civil Appeal (n = 51, 24.4%) and Interlocutory Appeal (n = 36, 17.2%) were the most frequent reported procedural classes, while procedural class was not reported for 43 cases (20.6%). Decision date was available for 204 cases. The headnote-stage disposition was explicit in 96 of 223 cases (43.0%): 52 were denied, 19 partially granted, 18 granted, 6 dismissed or moot, and 1 not heard or admitted; in 127 cases the disposition was not reliably ascertainable from the headnote. Among the 96 ascertainable cases, denial represented 54.2%, partial grant 19.8%, grant 18.8%, dismissal or mootness 6.3%, and non-admission 1.0%. These are outcomes of the instrument before the court, not substantive ICU-access success rates.

Table 2
Procedural, temporal, and headnote-stage disposition profile

Variable	Category	n	%
Decision type (n = 209)	Appellate decision	115	55.0
	Single-judge decision	48	23.0
	Judgment	46	22.0
Procedural class (n = 209)	Civil Appeal	51	24.4
	Interlocutory Appeal	36	17.2
	Ordinary Civil Procedure	20	9.6
	Appeal	12	5.7
	Other reported procedural classes	47	22.5
	Not reported	43	20.6
Decision year (n = 204)	2020	22	10.8
	2021	63	30.9
	2022	45	22.1
	2023	30	14.7
	2024	32	15.7
	2025	12	5.9
Headnote-stage disposition (n = 223)	Denied	52	23.3
	Partially granted	19	8.5
	Granted	18	8.1
	Dismissed or moot	6	2.7
	Not heard or admitted	1	0.4
	Not ascertainable from headnote	127	57.0

Decision type and procedural class percentages use the 209 cases exactly linked between Appendices A and B as the denominator. Decision-year percentages use the 204 linked cases with a recorded decision date. Headnote-stage disposition uses all 223 cases as the denominator and describes the outcome of the adjudicated instrument only when explicit in the headnote. Fourteen cases had no exact identifier match across appendix sheets, and five linked cases lacked a recorded decision date.

Decision form changed materially across periods. Among the 204 dated linked cases, appellate decisions increased from 35.3% in 2020–2021 to 64.4% in 2022 and 70.3% in 2023–2025, while single-

judge decisions decreased from 38.8% to 11.1% and 12.2%, respectively. The association between period and decision type was statistically significant ($\chi^2(4) = 27.04$, $p < 0.001$, Cramer's $V = 0.257$). This procedural shift is important when interpreting apparent temporal differences in substantive reasoning because later decisions more often reflect appellate or retrospective litigation rather than contemporaneous bedside adjudication.

Structured content indicators and temporal comparison

Across all 223 headnotes, the most frequent structured indicators were private-sector cost or reimbursement (77, 34.5%), scarcity or capacity constraint (76, 34.1%), clinical severity or medical necessity (56, 25.1%), central regulation or queue (42, 18.8%), transfer or referral pathway (39, 17.5%), structural capacity or governance (36, 16.1%), constitutional right to health or life (34, 15.2%), equality or priority among patients (17, 7.6%), and executive competence or judicial deference (16, 7.2%). The indicators were non-exclusive. Importantly, 24 of the 34 headnotes that explicitly invoked the constitutional right to health or life (70.6%) also contained at least one system-oriented indicator involving central regulation, scarcity or capacity, equality or priority, or executive competence. This co-occurrence provides quantitative support for the qualitative observation that rights reasoning was frequently embedded in institutional allocation considerations rather than appearing in isolation.

Formal temporal comparison did not support a generalized shift in the core reasoning indicators. After Bonferroni correction, constitutional-rights, clinical-necessity, central-regulation, scarcity-capacity, and structural-governance indicators did not differ significantly across periods. Two features did vary: transfer or referral increased from 11.8% in 2020–2021 and 8.9% in 2022 to 32.4% in 2023–2025 ($\chi^2(2) = 14.76$, adjusted $p = 0.004$, Cramer's $V = 0.269$), while private-sector cost or reimbursement increased from 20.0% to 35.6% and 48.6%, respectively ($\chi^2(2) = 14.58$, adjusted $p = 0.005$, Cramer's $V = 0.267$). Together with the shift toward appellate decisions, these results indicate changing case composition rather than a simple monotonic evolution from individual-rights reasoning toward systemic reasoning.

Table 3
Structured headnote indicators overall and across decision periods

Indicator	Overall n (%) (n = 223)	2020–2021 n (%) (n = 85)	2022 n (%) (n = 45)	2023–2025 n (%) (n = 74)	Bonferroni- p
Constitutional right to health/life	34 (15.2)	13 (15.3)	6 (13.3)	13 (17.6)	1.000
Clinical severity/ necessity	56 (25.1)	18 (21.2)	9 (20.0)	24 (32.4)	1.000
Central regulation/queue	42 (18.8)	17 (20.0)	10 (22.2)	12 (16.2)	1.000
Scarcity/capacity constraint	76 (34.1)	32 (37.6)	18 (40.0)	21 (28.4)	1.000
Equality/priority among patients	17 (7.6)	9 (10.6)	5 (11.1)	3 (4.1)	Not tested*
Executive competence/deference	16 (7.2)	9 (10.6)	4 (8.9)	3 (4.1)	Not tested*
Transfer/referral pathway	39 (17.5)	10 (11.8)	4 (8.9)	24 (32.4)	0.004
Private-sector cost/reimbursement	77 (34.5)	17 (20.0)	16 (35.6)	36 (48.6)	0.005
Structural capacity/governance	36 (16.1)	14 (16.5)	11 (24.4)	10 (13.5)	1.000

Overall percentages use all 223 headnotes. Period-specific columns use the 204 exactly linked cases with decision dates; therefore, period counts need not sum to the overall count. Indicators are non-exclusive. Pearson chi-square was used when expected cell counts were adequate. Seven content indicators were formally tested and Bonferroni-adjusted; equality or priority and executive competence or deference were reported descriptively because of sparse expected cells. *Not formally tested.

Immediate ICU admission: rights-based urgency and clinical evidence

In immediate-admission disputes, the qualitative analysis showed that rights-based urgency was commonly operationalized through medical evidence rather than treated as a self-executing claim. Judicial texts invoked constitutional protection of life and health, including Articles 5, 6, and 196 of the Federal Constitution [6], alongside severity, imminent deterioration, absence of an equivalent alternative, and risk of irreversible harm. The structured headnote analysis independently detected explicit constitutional-rights references in 15.2% of cases and clinical severity or medical necessity in 25.1%, but

these conservative indicators should be understood as minimum textual prevalence rather than exhaustive full-text frequencies.

At the same time, the qualitative corpus showed direct engagement with centralized bed regulation, waiting-list criteria, competing priorities, and finite capacity. This is consistent with the structured finding that 70.6% of headnotes explicitly invoking health or life rights also contained at least one system-oriented indicator. The operative legal tension was therefore often internal to rights adjudication itself: whether an urgent individual claim could be accommodated without bypassing a regulatory mechanism intended to order competing needs. Judicial intervention was more readily framed as corrective where the text identified a concrete failure such as absence of referral, unexplained delay, or disregard of clinical evidence, whereas other decisions emphasized preservation of queue integrity and administrative competence.

Inter-facility transfer: clinical eligibility, referral capacity, and territorial organization

Inter-facility transfer disputes concerned patients whose local facility lacked the required intensive-care capacity and who depended on referral or transport to another institution. The full-text analysis linked these disputes to clinical eligibility, availability of equivalent local care, transport, and regional coordination. The structured headnote indicator for transfer or referral was present in 17.5% of all cases and increased substantially in the 2023–2025 decision period, showing that transfer-related issues became more prominent in the later documentary corpus even though this cannot be interpreted as a population trend in incidence.

Where transfer was ordered, the judicial text commonly linked the need for referral to documented clinical eligibility and the absence of equivalent local capacity. These decisions brought together the constitutional commitment to integrated access within the SUS, concrete medical need, and the operational capacity of inter-municipal or regional networks. The corpus therefore identifies referral failure and uneven local capacity as recurring institutional contexts for ICU-access litigation. It does not establish how often transfer claims succeeded or whether changes in referral infrastructure would reduce litigation.

Regulatory denial or delay: technical review, reassessment, and explanation

Claims contesting regulatory denial or delay placed the technical basis and institutional process of centralized allocation under direct judicial scrutiny. The qualitative texts included allegations of erroneous clinical classification, delay beyond a clinically meaningful period, or inconsistency with stated criteria. Rather than treating every dispute as an invitation to substitute judicial judgment for clinical judgment, some decisions focused on whether the regulatory process had an intelligible basis and a route to reassessment. The structured headnote analysis identified explicit central-regulation or queue content in 18.8% of cases, with no significant period difference after correction.

This pattern shows an interaction between clinical and procedural reasoning. Clinical severity and eligibility supplied the substantive basis for review, while explanation, reassessment, and communication supplied procedural safeguards. These features correspond to public health ethics frameworks that treat procedural fairness as relevant to legitimate allocation under scarcity [23, 25]. The study identifies their presence as judicial concerns but does not estimate their frequency or effect on outcomes.

Procedural and structural claims: transparency and accountability

The procedural and structural category comprised claims directed at the operation of allocation systems rather than solely at a single bedside request, including capacity expansion, maintenance or deactivation of emergency infrastructure, regulatory governance, and accountability. Structural capacity or governance content was identified in 16.1% of headnotes and did not vary significantly across the three periods. Qualitative review further showed that transparency, explanation, reassessment, and accountability could function as conditions of reviewability, even when those more granular procedural features were not consistently stated in headnotes and therefore were not treated as quantitative indicators.

Across these texts, transparency and accountability functioned as conditions for reviewability: a regulator that documents criteria, reasons, available capacity, and reassessment pathways creates a record against which alleged failure can be assessed. The corpus supports the narrower conclusion that procedural design itself became an object of judicial review during the emergency. It does not establish whether structural orders were implemented or whether they improved allocation outcomes.

Cross-cutting interaction of reasoning dimensions

Across the dispute domains, quantitative co-occurrence and qualitative reading converged on the same central finding: constitutional rights, clinical facts, and allocation institutions were frequently intertwined. Among rights-explicit headnotes, 70.6% also contained a system-oriented indicator. Among the 42 headnotes containing central regulation or queue language, 19 (45.2%) also contained scarcity or capacity content and 13 (31.0%) explicitly referred to equality or priority among patients. The qualitative analysis explains the legal meaning of these co-occurrences: rights claims were often evaluated through clinical documentation, queue integrity, feasible alternatives, referral capacity, and the reviewability of administrative decisions. Table 4 summarizes these relationships.

Table 4
Qualitative synthesis of reasoning dimensions across ICU-related dispute types

Dispute type	Rights and clinical basis	Procedural or regulatory focus	Allocation or systemic implication
Immediate ICU admission	Protection of life and health was linked to documented severity, imminent deterioration, and absence of an equivalent alternative.	Urgency of response and, where documented, regulatory delay or lack of an effective pathway.	The individual claim was assessed against centralized queues, competing priorities, and finite ICU capacity.
Inter-facility transfer	Integrated SUS access was linked to clinical eligibility for ICU care and absence of equivalent local capacity.	Functioning of referral and transport pathways between facilities and municipalities.	The dispute depended on regional capacity and inter-municipal coordination rather than bedside need alone.
Regulatory denial or delay	Health protection was examined through clinical classification, severity, and the need for reassessment.	Reasons, timeliness, consistency with criteria, communication, and a route to contest the determination.	Judicial review could examine process adequacy while preserving centralized allocation rather than replacing clinical judgment outright.
Procedural or structural relief	The rights concern shifted from a single bedside claim toward accountability in public service provision.	Transparency, reporting, audit, and reassessment rules.	Judicial scrutiny addressed system-wide allocation governance and the reviewability of regulatory decisions.

The table is an interpretive synthesis of the full-text qualitative corpus. It complements, rather than duplicates, the structured headnote indicators reported in Table 3.

Discussion

Scope of the empirical contribution

The empirical contribution is no longer limited to thematic description. The study integrates four evidence layers: court distribution for all 223 cases, recoverable procedural metadata for 209 cases, structured headnote-stage disposition and content indicators, and full-text qualitative analysis of how legal and allocation considerations interacted. This layered design directly narrows the inferential boundaries of each finding. It shows, for example, that the corpus contains a substantial appellate component and that the outcome of the adjudicated instrument can be recovered from only 43.0% of headnotes, preventing its misuse as an ICU-claim success rate.

Within those boundaries, the strongest substantive finding is that judicial reasoning was not organized as a binary opposition between enforceable individual rights and collective scarcity. The co-occurrence analysis shows that explicit rights language frequently appeared together with regulation, scarcity,

equality, or executive-competence considerations. Full-text analysis then shows how these elements were related: clinical evidence could justify intervention, queue integrity could constrain it, and concrete procedural failure could shift the court's focus from allocation outcome to the adequacy of the decision-making process. The observed pattern is therefore one of conditional rights adjudication within an allocation system, not rights reasoning detached from public health governance.

Judicial engagement with public health allocation frameworks

The cross-cutting analysis shows that courts did not reason exclusively through abstract constitutional rights. Clinical necessity, centralized regulation, scarcity, patient priority, referral pathways, and executive competence were identifiable across the corpus. The quantitative results add an important constraint to interpretation: constitutional-rights, clinical, regulatory, scarcity, and structural indicators did not exhibit statistically significant period differences after correction. This continuity argues against describing the corpus as evidence of a linear judicial transition from individual-rights reasoning toward public-health reasoning.

From an institutional perspective, this matters because judicial review is more capable of examining a regulatory decision when the underlying process produces an intelligible record: documented clinical criteria, a stated reason for prioritization or denial, information on available alternatives, and a clinically timely route to reassessment. The corpus does not show that these arrangements reduce litigation or improve outcomes, but it identifies them as recurring points at which legal review and health-system regulation interacted.

Temporal variation and changing case composition

The formal temporal analysis changes the interpretation of the earlier qualitative impression of different emphases across pandemic phases. Decision type varied substantially over time, with appellate decisions representing 35.3% of dated cases in 2020–2021, 64.4% in 2022, and 70.3% in 2023–2025. At the same time, only transfer or referral and private-sector cost or reimbursement showed significant period variation after correction. Core constitutional-rights, clinical, regulation, scarcity, and structural indicators remained statistically stable. The later documentary corpus therefore appears different primarily because the procedural and substantive mix of cases changed, including more appellate and retrospective disputes, rather than because the data demonstrate a coherent normative learning trajectory by courts.

This distinction is analytically important. A later appellate decision about reimbursement for private ICU care and an acute-period single-judge order addressing immediate admission arise from different procedural positions and may emphasize different facts even if the underlying legal principles remain stable. Temporal interpretation of health litigation should therefore control, at minimum descriptively, for adjudicative posture and dispute type before attributing change to judicial doctrine or institutional learning.

Territorial organization and referral capacity

Inter-facility transfer disputes make territorial organization one of the clearest system-level issues visible in the corpus. The structured analysis identified transfer or referral content in 17.5% of headnotes, with a significant increase in the 2023–2025 period, while qualitative reading showed that these disputes turned on ICU capacity, referral pathways, transport connectivity, and access to regional reference centers. During the pandemic, Brazilian regions experienced marked heterogeneity in ICU infrastructure and hospital saturation [9, 10]. The judicial texts cannot quantify population-level territorial inequality, but they do show how territorial organization became legally relevant when equivalent local care was unavailable.

These cases support treating referral capacity as part of the legal and operational context of ICU access, particularly in a decentralized health system in which patients may depend on inter-municipal or regional coordination. Strengthening referral and transport networks is a plausible institutional response to the type of problem observed, but the study did not evaluate such an intervention and does not infer a quantified effect on access, litigation, or distributive outcomes.

Procedural fairness in allocation systems

The regulatory-denial cases show that procedural questions were not peripheral to ICU-access disputes. Judicial texts addressed the basis for clinical classification, the timing of reassessment, communication of reasons, and the availability of a route to challenge a regulatory determination. These themes correspond to established accounts of procedural fairness in resource allocation [23, 25]. In an emergency context, any reassessment mechanism must also be clinically timely; the corpus supports identifying timeliness and explanation as relevant procedural issues, but it does not establish their effect on allocation outcomes.

These observations support considering documented criteria, rapid reassessment, communication with affected families, and accountability mechanisms as components of allocation design. They do not eliminate the role of judicial review where substantial procedural failure is alleged, and the present data do not allow causal conclusions about whether particular procedural arrangements reduce litigation or improve allocation.

Implications for public health allocation in future emergencies

The implications of the study should remain tied to institutional features directly observed in the corpus. The evidence supports three points for emergency allocation design: clinically grounded documentation of need and priority, functional referral pathways across facilities and jurisdictions, and regulatory processes capable of producing reviewable reasons when access is delayed or denied. The study also shows that private-sector financing and reimbursement become increasingly prominent in later litigation, indicating that emergency allocation generates not only bedside access disputes but also downstream

fiscal and contractual consequences. These observations identify governance interfaces that merit prospective design; they do not establish that any specific reform will reduce litigation or improve clinical outcomes.

Contextual relevance beyond Brazil

This study is not a cross-national comparison and does not establish that the Brazilian findings recur in other countries. Its possible relevance beyond Brazil is limited to a conceptual question: how individually enforceable health rights interact with scarce-resource allocation institutions during emergencies. Comparative literature shows that the institutional form and distributive effects of health-rights litigation vary substantially across jurisdictions [11, 28]. Any application of the present analytical framework elsewhere would therefore require separate examination of local constitutional rules, access-to-justice mechanisms, health-governance structures, and allocation procedures.

No specific Brazilian distributive outcome is assumed to be transferable. At most, the categories used here, individual admission, transfer, review of regulatory denial, and procedural or structural relief, offer a framework that may be tested in other settings. Cross-national generalization of outcomes, litigant profiles, or judicial behavior would require comparative empirical data not provided by this study.

Limitations

Several limitations define the boundaries of this analysis. First, the 223 ICU-related cases arose from a parent corpus created by systematic sampling rather than a complete national census, so court and content frequencies describe this corpus and are not national prevalence estimates. Second, exact appendix linkage failed for 14 cases and five linked cases lacked decision dates. Third, the headnote-stage disposition was ascertainable in only 96 cases and records the outcome of the instrument before the court, not substantive success of the underlying ICU-access claim. Fourth, the structured content indicators are conservative headnote-based textual measures and may under-detect concepts developed only in the full decision; the accompanying qualitative analysis adds semantic depth but was not independently double-coded, and no inter-coder agreement coefficient was calculated. Fifth, the period comparisons are affected by changing case composition, particularly the increasing share of appellate decisions, and therefore cannot be interpreted as causal evidence of doctrinal evolution. Multiple-testing correction reduces but does not eliminate the exploratory character of those comparisons. Sixth, implementation status, time to implementation, legal representation, plaintiff socioeconomic characteristics, and linked health-system outcomes were not systematically available, preventing evaluation of judicial effectiveness, access-to-justice inequality, or effects on other patients competing for ICU resources. Seventh, the AASP/JUIT system requires subscription or institutional access and depends on court publication and indexing, which may limit independent replication despite the provision of identifiers and case-level recoding. Finally, the study relies on judicial records and does not include interviews or administrative clinical records capable of reconstructing bedside implementation.

Conclusions

Analysis of 223 ICU-related decisions shows that Brazilian courts processed critical-care scarcity through a recurrent combination of constitutional rights, clinical evidence, regulatory order, referral capacity, and institutional competence. The quantitative reanalysis strengthens this conclusion: 70.6% of headnotes explicitly invoking health or life rights also contained at least one system-oriented consideration involving regulation, scarcity, equality, or executive competence.

The temporal results also refine the interpretation of judicial change. Core constitutional-rights, clinical, regulatory, scarcity, and structural indicators did not differ significantly across periods after correction. What changed was the composition of the litigation: later cases were more often appellate and more frequently concerned transfer or referral and private-sector cost or reimbursement. The corpus therefore supports a conclusion of procedural and dispute evolution without demonstrating a linear normative shift in judicial reasoning.

The study does not establish implementation effects, socioeconomic equity, or causal consequences for patients outside the litigation. Those questions require linkage of judicial records to substantive claim outcomes, implementation timing, representation, plaintiff characteristics, local ICU capacity, waiting-list data, and independent duplicate coding. Within its supported scope, however, the study provides a reproducible empirical account of how legal rights and public-health allocation institutions interacted under conditions of critical-care scarcity.

Abbreviations

AASP

Associação dos Advogados de São Paulo (Brazilian Lawyers Association of São Paulo)

COVID-19

Coronavirus disease 2019

ICU

Intensive care unit

JUIT

proprietary Brazilian jurisprudence research and aggregation platform, accessed through its institutional partnership with AASP

SUS

Sistema Único de Saúde (Brazilian Unified Health System).

Declarations

Ethics approval and consent to participate

Not applicable. This study exclusively analyzed publicly accessible judicial decisions and did not involve human participants, personal data collection, or biological material. Under Brazilian regulations

governing research with human subjects (Resolução CNS 510/2016), documentary research of this nature is exempt from review by a Research Ethics Committee. Cases protected by judicial secrecy were excluded from the analytical corpus.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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Author Contribution

FGBO and DBG conceived and designed the study. FGBO acquired and curated the data. FGBO, SLFO and ALF conducted formal analysis and investigation. FGBO drafted the original manuscript. SLFO, ALF and DBG critically reviewed and edited the manuscript. DBG supervised the research. All authors read and approved the final manuscript.

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Availability of data and materials

All data generated or analysed during this study are included in this article and its Supplementary Material, which is provided as a single workbook containing Appendices A to H. Appendix A lists the 585 included cases and records decision date, court, case number, decision type, and procedural class; Appendix B lists the 223 cases classified under ICU access and health resource scarcity together with their headnotes; Appendices C to E contain the other thematic axes; Appendix F lists screened and excluded cases with reasons for exclusion; Appendix G provides the case level linkage, headnote stage

disposition, and structured content indicators used in the strengthened reanalysis; and Appendix H provides the coding dictionary, textual markers, and interpretive boundaries for those variables. The underlying published judicial decisions originate in official court repositories, and the case identifiers supplied in the Supplementary Material may be used to locate those decisions in the relevant public repositories, subject to each court's publication, indexing, and URL retention practices. The AASP/JUIT search interface used for standardized retrieval requires institutional or subscription access.

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Figures

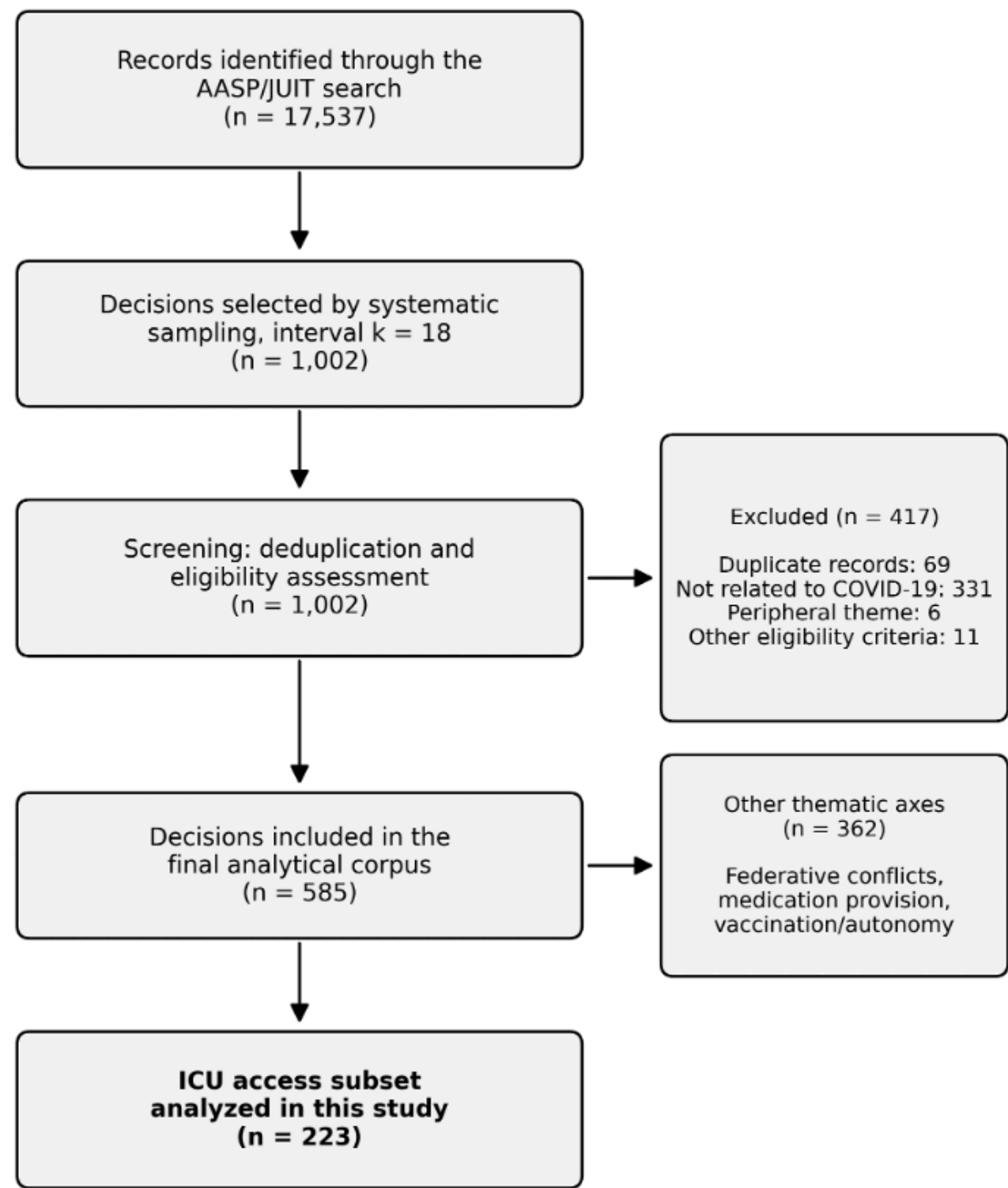


Figure 1

Flow diagram of case identification, sampling, screening, and inclusion. Of 17,537 records identified through the AASP/JUIT search, 1,002 decisions were selected by systematic sampling ($k=18$); 417 were excluded (69 duplicate records; 348 not meeting eligibility criteria, of which 331 were not directly related to COVID-19, 6 addressed peripheral themes, and 11 did not fit other predefined criteria), yielding a final corpus of 585 decisions, of which 223 composed the complete ICU-related subset analyzed in this study.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [SupplementaryMaterial.xlsx](#)