Research Article
Korean J Med Ethics 2026;29(1): 1-14
https://doi.org/10.35301/ksme.2026.29.1.1

KJME
Korean Journal of Medical Ethics
pISSN 2005-8284 eISSN 2234-3598

When Public Health Overrides Private Healing: Ethical Dilemmas in Pandemic-Era Isolation and the Right to Treatment

Minsoo Jung*

Professor, Department of Health Science, Dongduk Women's University, Seoul, Korea

Received: Nov 24, 2025
Revised: Jan 31, 2026
Accepted: Feb 19, 2026

***Corresponding author**
Minsoo Jung
Professor, Department of Health Science, Dongduk Women's University, Seoul, Korea
Tel: +82-2-940-4483
E-mail: mj748@dongduk.ac.kr

Conflict of interests
No potential conflict of interest relevant to this article was reported.

Acknowledgements
Not applicable.

Funding information
Not applicable.

Data availability
Upon reasonable request, the datasets of this study can be available from the corresponding author.

ORCID
Minsoo Jung
https://orcid.org/0000-0003-3317-6507

Author contributions
The article is prepared by a single author.

Ethics approval
Not applicable.

Abstract

This paper examines the ethical and constitutional limits of public health authority when infection control measures restrict access to essential medical treatment during infectious disease crises. Drawing on legal and bioethical scholarship and the case of MERS patient #80 in South Korea, we assess whether the prolonged isolation that suspended life-sustaining cancer therapy met standards of scientific justification and proportionality. The case underscores a key distinction between measures aimed at preventing transmission and measures that result in the denial of treatment for serious, unrelated conditions. Using the Siracusa Principles and the requirement of least restrictive means as a normative framework, we argue that restrictions on liberty must be lawful, necessary, and grounded in clear evidence of public health benefit. We also invoke H. L. A. Hart's principle of fairness as a complementary lens for evaluating how the burdens of public health measures are distributed. Although individuals may have a moral duty to comply with infection control policies, such a duty presupposes that no group bears disproportionate, avoidable harm. We conclude that, even during public health emergencies, suspending non-deferrable, life-preserving treatment demands especially strong justification. Ethical and constitutional legitimacy depends not only on effective disease control but also on safeguarding access to essential medical care.

Keywords: quarantine; ethics; public health; patient rights; communicable disease control; human rights

I. Introduction

In infectious disease emergencies, tension often arises between the protection of population health and the obligation to provide appropriate medical care to individual patients. While public health law permits temporary restrictions on liberty to prevent transmission, far less attention has been paid to situations in which infection control measures interfere with access to essential, non-deferrable treatment for serious unrelated illnesses. This paper addresses that narrower but ethically critical question through analysis of the 2015 Middle East Respiratory

Syndrome (MERS) outbreak in South Korea and the case of patient #80.

Patient #80, who had malignant lymphoma, was confirmed to have MERS in June 2015 and remained in a negative-pressure isolation unit for approximately six months. Initial treatment addressed both the infection and the underlying cancer. However, as isolation continued, chemotherapy was suspended amid concerns about infection control, institutional burden, and uncertainty surrounding ongoing polymerase chain reaction (PCR) positivity. According to media reports, following his confirmation on June 24, 2015, he remained isolated at Seoul National University Hospital under strict infection control protocols [1]. Although he and his family repeatedly requested the resumption of cancer treatment and appealed to hospital authorities and the Ministry of Health and Welfare, these requests were denied. The official policy upheld that isolation could not be lifted or transfer to another hospital permitted until the infection was conclusively resolved. He ultimately died without further oncologic treatment, prompting debate over whether infection control policies, though intended to protect others, resulted in the effective denial of life-sustaining care.

A key scientific issue underlying this ethical conflict concerns the interpretation of reverse transcription polymerase chain reaction (RT-PCR) testing. RT-PCR is a highly sensitive diagnostic technique capable of detecting viral RNA even at minimal concentrations. However, it cannot differentiate between infectious, live virus and non-viable viral RNA remnants [2,3]. Indeed, guidelines from the World Health Organization (WHO), the United States (U.S.) Centers for Disease Control and Prevention, and the Infectious Diseases Society of America emphasize that a positive PCR result alone does not confirm infectivity [4]. Rather, interpretation must integrate cycle threshold values, clinical presentation, and elapsed time since infection. Notably, although PCR positivity may persist for weeks or months following infection, the virus is typically no longer contagious during this period [5]. Prolonged PCR positivity therefore raises complex questions about how to balance precaution with proportionality when decisions carry life-altering consequences for patients with serious comorbid conditions.

Although similar tensions resurfaced globally during the COVID-19 pandemic, this paper treats the MERS patient #80 case as its primary normative focal point. References to COVID-19 serve only as comparative context illustrating that the ethical problem is not unique to a single pathogen but recurs when uncertainty about infectivity intersects with restrictive institutional policies. The central question is not whether quarantine can ever be justified, but under what conditions infection control measures may permissibly delay or suspend non-deferrable, life-preserving treatment.

To address this question, the paper develops a constitutional and ethical analysis grounded in established public health limitation frameworks, including the Siracusa Principles and the requirement of least restrictive means, and

supplements these with H. L. A. Hart's principle of fairness. We argue that while public health measures may impose shared burdens, ethical and legal legitimacy depends on whether those burdens are distributed in a way that avoids imposing extreme, avoidable harm on already vulnerable individuals. On this basis, we propose evaluative criteria to guide future decision-making when infection control obligations and the right to essential medical treatment come into direct conflict. This article examines that when infectious disease control measures effectively deny access to essential, non-deferrable medical treatment—particularly under conditions of uncertain infectivity—such measures exceed the ethical limits of legitimate public health intervention. In these circumstances, proportionality, reciprocity, and fairness converge to require continued access to life-preserving care.

II. Characteristics of the New Infectious Disease and Emergency Measures

On March 11, 2020, the WHO declared COVID-19 a "pandemic," highlighting concerns about its rapid spread and severity and urging countries to implement immediate and robust measures to contain transmission [6]. This declaration reaffirmed both the fundamental right to the highest attainable standard of physical and mental health and the corresponding state obligation to prevent public health threats and ensure access to medical care, as articulated in the International Covenant on Economic, Social and Cultural Rights [7]. International human rights law permits certain restrictions on rights for the sake of public health, but the Siracusa Principles—adopted by the United Nations (UN) Economic and Social Council in 1984—require that such restrictions be lawful, necessary, proportionate, and minimally intrusive [8]. A 2020 commentary by UN human rights experts further cautioned that the declaration of a COVID-19 emergency must not serve as a pretext for targeting specific groups or suppressing dissent [9]. The UN Secretary-General similarly emphasized that emergency measures must be legally justified and proportionate, clearly defined in scope and duration, nondiscriminatory, and implemented in the least intrusive manner necessary to protect public health [10].

These international standards are especially relevant when infection control measures affect not only liberty but also access to essential health services. The ethical and legal challenge is therefore not limited to whether states may restrict movement or association, but whether such restrictions may permissibly interfere with timely treatment for serious medical conditions unrelated to the infectious disease itself. The present paper approaches emergency powers from this narrower perspective, asking how limitation principles should operate when isolation or

quarantine has the secondary effect of delaying or suspending non-deferrable medical care.

The justification for state regulatory authority in the context of infectious disease is often framed in terms of the harm principle, which permits intervention when individual conduct poses a risk of harm to others [11]. This principle helps explain why infectious disease control may warrant temporary constraints on liberty. However, the ethical force of such intervention depends not only on public health benefit but also on how burdens are distributed and whether restrictions remain tied to demonstrable risk. Even under emergency conditions, the protection of human dignity and autonomy requires that limitations be carefully tailored, evidence-informed, and subject to ongoing review. The question is therefore not simply whether quarantine is permissible in principle, but whether specific applications satisfy the requirement of least intrusive means and whether public health objectives could be achieved through less restrictive alternatives.

During the COVID-19 pandemic, contact tracing and interruption of transmission chains became central components of quarantine strategy. Accordingly, legal frameworks such as the Quarantine Act and the Infectious Disease Prevention Act broadened the scope of quarantine and isolation to include individuals defined as "contacts." This expansion may be justified insofar as it seeks preventive benefit by regulating individuals exposed prior to symptom onset. However, international public health guidelines, including those of the WHO and Centers for Disease Control and Prevention (CDC), define quarantine as the restriction of movement for asymptomatic individuals suspected of infection, specifically targeting "contacts confirmed or reasonably suspected to have been exposed" [12,13]. Extending identical legal restrictions to individuals based solely on attenuated or poorly defined forms of contact risks diluting the medical and legal clarity of the category of "quarantine subjects," thereby raising concerns under principles of proportionality and minimal infringement. Clear differentiation among levels of exposure risk, along with transparent legal criteria, is therefore essential both for effective disease control and for the protection of individual rights.

Ⅲ. Quarantine Measures and Restrictions on Basic Rights

Asymptomatic COVID-19 infections have contributed substantially to viral transmission, particularly in the context of global mobility [14]. Preventive measures such as mask-wearing and temporary limits on in-person gatherings therefore became common components of public health responses [15]. In some settings, broader measures—such as lockdowns or digital tracing initiatives—prompted debate about constitutional legitimacy and the protection of privacy

and liberty. For example, Germany's proposal to introduce a system for disclosing citizens' movement data was withdrawn amid concerns about potential human rights violations [16,17]. In South Korea, movement data are categorized as sensitive "health information" under the Personal Information Protection Act, creating potential tension with privacy protections [18]. Although legal exceptions permit disclosure during public health emergencies, constitutional commitments to the protection of fundamental rights under Article 10 suggest that such disclosures should be limited to generalized temporal and spatial information and should avoid unnecessary identification of individuals [19].

International human rights law affirms the right to freedom of movement, including the right to enter and leave one's country, while also permitting restrictions justified by legitimate aims such as public health. Under the International Covenant on Civil and Political Rights, limitations must satisfy principles of legality, necessity, proportionality, non-discrimination, non-arbitrariness, temporal clarity, and respect for human dignity [20,21]. Thus, measures such as mandatory quarantine of symptomatic individuals may be justified when grounded in law and scientific evidence and implemented using the least restrictive means necessary to achieve public health objectives. National responses to COVID-19 varied in how they balanced these considerations, illustrating the continuing challenge of aligning disease control with rights protection [22,23]. These comparative examples underscore that the legitimacy of quarantine policies depends not only on effectiveness but also on careful calibration of scope and intrusiveness.

Hospitalization and isolation are among the most restrictive legally sanctioned quarantine measures, serving both therapeutic and preventive purposes in the control of infectious diseases. In South Korea, the Infectious Disease Prevention Act requires hospitalization of individuals diagnosed with Class 1 infectious diseases and permits quarantine or involuntary hospitalization of individuals suspected of infection (Article 41, Paragraph 1; Article 49, Paragraph 1, Subparagraph 14). Such measures inevitably limit personal freedoms, including bodily autonomy, movement, and self-determination. While involuntary hospitalization of confirmed infectious disease patients may be justified under the principle of minimal infringement in high-risk scenarios, the legal category of "suspected patients" is broadly defined, encompassing individuals identified through contact history or geographic exposure. The blanket application of highly restrictive measures to all individuals within this category raises concerns regarding proportionality and the risk of unjustified infringement of basic rights. Careful differentiation among levels of risk is therefore essential to ensure that coercive measures remain legally and ethically defensible.

Quarantine is widely recognized as an important public health intervention, yet it also imposes substantial burdens on individuals. Because such measures

restrict fundamental rights—including freedom of movement, personal autonomy, privacy, and livelihood—they must be grounded in scientific evidence, legal legitimacy, and proportionality [24]. In addition, quarantine and involuntary hospitalization may produce significant psychological distress, including elevated risks of depression, anxiety, and post-traumatic stress disorder [25]. These effects are ethically relevant, as they bear on the assessment of proportionality and the duty of authorities to mitigate foreseeable harms. Accordingly, ethical quarantine practice requires clear legal authorization, the use of least restrictive alternatives where feasible, non-discriminatory application, provision of material and medical support, and transparent communication to sustain public trust. These safeguards are not only instrumental to compliance but also integral to the moral legitimacy of public health interventions.

In addition to hospitalization and quarantine, the Korea Disease Control and Prevention Agency is authorized to order health examinations or vaccinations for individuals suspected of infection under the Infectious Disease Prevention Act (Article 46; Article 49, Paragraph 1, Subparagraph 3). Such measures significantly affect personal autonomy and the right to self-determination. Individuals who refuse a mandated health examination may face legal penalties (Article 81, Subparagraph 10). A foundational precedent in the constitutional justification of compulsory public health measures is Jacobson v. Massachusetts, 197 U.S. 11 (1905), in which the U.S. Supreme Court upheld the legality of mandatory smallpox vaccination. The Court affirmed that individual liberty is not absolute and may be subject to reasonable regulations established by competent authority to protect public health and safety. At the same time, the Court emphasized that such regulations must bear a "real or substantial relation" to the protection of public health and must not constitute arbitrary or oppressive exercises of power. This dual emphasis on state authority and limiting principles continues to shape legal and ethical analysis of contemporary public health measures [26].

The Jacobson decision has been repeatedly cited in subsequent rulings, including Zucht v. King (1922) and Prince v. Massachusetts (1944), to affirm the legal legitimacy of state-imposed health measures [27]. During the COVID-19 pandemic, Jacobson was also invoked in discussions of mask mandates and stay-at-home orders [28]. Legal and public health scholarship continues to treat Jacobson as a key articulation of the constitutional balance between state police powers and individual liberties [29]. At the same time, modern debate has increasingly emphasized that deference to public health authority is not unlimited and must remain consistent with proportionality, scientific evidence, and respect for fundamental rights. In the Korean context, this balance is reflected in the distinction between compulsory health examinations for suspected cases, which are enforceable, and vaccination, where refusal does not carry criminal sanctions. This differentiated approach illustrates an effort to calibrate public health necessity

and individual autonomy within a contemporary legal framework.

Ⅳ. Human Rights in Public Health Crises

Scientific expertise is indispensable in shaping quarantine and infection control policy. However, measures that restrict fundamental rights cannot be justified solely by technical effectiveness if they lack democratic legitimacy. Decisions that involve trade-offs between public health goals and individual rights require public justification, transparency, and institutional accountability. South Korea's COVID-19 response, often described as a "track-test-treat" model, sought to avoid sweeping lockdowns while relying on intensive testing and tracing. Although this approach preserved certain forms of everyday mobility, it entailed significant intrusions into privacy and informational self-determination. The experience illustrates that different societies may prioritize public health protection and privacy differently, but in all contexts, the legitimacy of intrusive measures depends on publicly accessible reasoning and democratic oversight rather than expert authority alone.

The public interest invoked during infectious disease crises can appear abstract in ordinary times but becomes more tangible when widespread risk is evident. In the early stages of an outbreak, when uncertainty is high and medical countermeasures are limited, restrictions on individual rights are more readily viewed as necessary to prevent serious harm. Because infectious disease control aims to protect the population as a whole rather than a discrete subgroup, courts often afford governments a wider margin of discretion in emergency contexts [30]. Even so, deference does not eliminate the requirement that measures remain legally grounded, proportionate, and subject to ongoing review. Emergency conditions may influence the intensity of review, but they do not nullify constitutional commitments to human dignity and basic rights.

Some legal scholars have argued that restrictions on fundamental rights during emergencies should be understood through a liability-rule framework, under which infringements may be permissible if accompanied by compensation [31]. Drawing on the distinction between property rules and liability rules, this approach suggests that rights may be overridden without prior consent provided that affected individuals receive objectively determined compensation [32]. In the context of public health emergencies, such reasoning has been used to frame economic relief measures as partial offsets for restrictions associated with quarantine, business closures, or limits on public gatherings [33]. However, the applicability of this framework is limited in constitutional systems that treat many fundamental rights—including bodily integrity and personal liberty—as not readily reducible to compensable interests. In the Korean constitutional tradition, even

property rights are not treated as fully substitutable by monetary compensation, and the protection of existence value occupies a central role. Accordingly, reliance on compensation alone is insufficient to justify significant infringements on non-property fundamental rights. Rather than substituting ex post compensation for rights protection, stronger judicial oversight remains essential to ensuring that emergency measures do not exceed constitutional limits.

Calls to relax the standard of judicial review during public health emergencies often stem from concern that courts may obstruct timely and effective responses. Yet the principle of proportionality, embedded in Korean constitutional doctrine, is itself a flexible balancing framework. It already allows courts to consider contextual factors, including scientific uncertainty and the urgency of crisis conditions, without formally lowering the threshold of review. Maintaining the ordinary structure of proportionality review—while allowing sensitivity to context—helps prevent the normalization of overly broad or indiscriminate restrictions. Judicial review in this sense does not undermine public health; it strengthens the legitimacy of interventions by requiring governments to articulate evidence-based justifications and demonstrate that less restrictive alternatives were considered.

Social fundamental rights, including the right to health, impose affirmative duties on the state and are closely linked to the state's obligation to protect individuals from serious harm. The Korean Constitutional Court has framed review of the right to health in terms of whether the state has fulfilled its duty to establish and implement appropriate public health policies [34]. At the same time, the principle of prohibition of underprotection sets a relatively high threshold for constitutional violation, typically requiring either a complete failure to legislate or a manifestly unreasonable policy [35]. This deferential structure can limit judicial scrutiny of the adequacy of rights protection in practice. Nevertheless, the Court has acknowledged that the intensity of review may vary depending on the importance of the legal interest at stake, the severity and likelihood of harm, and the coherence of the state's protective scheme.

These considerations are particularly salient in the context of serious infectious diseases. When risks involve life or bodily integrity and are direct, severe, and potentially irreversible, the state's duty to protect the right to health takes on heightened significance. In such circumstances, the obligation is not merely programmatic but requires concrete and effective measures. At the same time, fulfilling the duty to protect cannot justify unlimited encroachment on other fundamental rights. The central constitutional task is therefore to ensure that protective measures remain closely connected to demonstrable health risks and do not impose disproportionate burdens on particular individuals—especially those already facing serious medical vulnerability. This framework provides an essential bridge to the later analysis of how infection control measures may conflict with the right to essential medical treatment.

V. Applying the Principle of Fairness to Restrictions on Basic Rights in Public Health Crises

H. L. A. Hart, one of the most influential legal philosophers of the twentieth century, articulated the "principle of fairness" (or "fair play") as part of his account of moral and political obligation. In Are There Any Natural Rights? [36], Hart argues that when individuals participate in and benefit from a cooperative scheme that depends on mutual compliance, they incur an obligation to do their fair share in sustaining it. This obligation rests on reciprocity: those who benefit from the restraint and contributions of others must not take advantage of the system by refusing comparable burdens.

Several features of Hart's theory are especially relevant to public health ethics. First, the principle explains why individuals may have moral reasons to comply with measures—such as vaccination, testing, or temporary isolation—that contribute to the protection of others. Public health can be understood as a cooperative enterprise in which individuals both contribute to and benefit from collective efforts to reduce disease transmission [37]. When most members of society accept certain constraints for mutual protection, those who benefit from reduced risk may be seen as having an obligation not to free ride on others' sacrifices.

At the same time, Hart's framework does not imply that any burden imposed in the name of public health is automatically justified. A cooperative scheme remains fair only if the burdens it generates are distributed in a manner that is not arbitrary or excessively unequal. A central concern, therefore, is whether particular individuals are required to bear costs that are qualitatively or quantitatively disproportionate to those borne by others. This question is especially pressing for people who are already medically vulnerable or socially disadvantaged.

A potential difficulty in applying Hart's theory concerns voluntariness. Hart's account emphasizes the acceptance of benefits, whereas many public health measures are imposed through legal or administrative authority. Even without explicit consent, however, individuals may be understood as benefiting from and relying upon shared public health institutions—such as hospitals, vaccination programs, and disease surveillance systems. This background reliance has been invoked as a basis for reciprocal obligations under a fairness framework [38]. Nevertheless, the absence of fully voluntary participation strengthens the need to ensure that imposed burdens remain limited, justified, and equitably shared.

The principle of fairness is particularly illuminating when examining cases in which public health measures have secondary effects that extend beyond infection control. For example, when isolation policies prevent a patient with a serious, unrelated illness from receiving timely treatment, the individual may be required to bear a level of risk and suffering that far exceeds the ordinary burdens of

civic cooperation. In such circumstances, the issue is not simply whether some restriction is justified, but whether the structure of the cooperative scheme has shifted from shared sacrifice to the concentration of severe costs on a single person or small group [39]. In Patient #80's case, fairness is implicated because the patient was required to bear a prolonged and medically catastrophic burden—loss of timely cancer treatment—for the sake of a public health benefit that was uncertain and widely distributed across society. Hart's framework highlights the injustice of concentrating severe sacrifice on a single individual without adequate reciprocal protection.

Hart's principle therefore helps clarify the limits of acceptable public health burdens. Restrictions must be not only necessary and proportionate in relation to disease control, but also consistent with a fair distribution of risk and hardship. Measures grounded in uncertain or weak evidence—such as prolonged isolation based solely on persistent PCR positivity without clear indication of infectivity—raise serious fairness concerns when they result in the suspension of non-deferrable, life-preserving treatment. A system that fails to account for individual vulnerability, or that effectively trades one person's essential health interests for diffuse and uncertain public benefit, risks undermining the very reciprocity that justifies collective action in the first place [40].

From this perspective, the principle of fairness does not replace established public health limitation frameworks such as proportionality or the Siracusa Principles. Rather, it complements them by focusing attention on how burdens are distributed within otherwise permissible measures. Even where a restriction might satisfy general criteria of legality and public health purpose, it may still be ethically problematic if it imposes extreme and avoidable harm on particular individuals. Fairness thus serves as an additional evaluative lens, ensuring that public health policies remain grounded in reciprocity and do not erode the moral foundations of social cooperation.

Ⅵ. Conclusion

Public health emergencies place extraordinary strain on legal and ethical systems, but they do not suspend the foundational commitments to human dignity, proportionality, and the rule of law. The case of MERS patient #80 illustrates how infection control policies, when applied without sufficient attention to individual medical circumstances, can result in the effective denial of essential, life-preserving treatment. Prolonged isolation based primarily on persistent PCR positivity, in the absence of clear evidence of ongoing infectivity and without adequate consideration of alternative protective arrangements, raises serious concerns under principles of scientific justification, proportionality, and minimal

infringement.

This paper has argued that established limitation frameworks—such as the Siracusa Principles and the requirement of least restrictive means—remain indispensable in evaluating the legality of restrictive measures. At the same time, H. L. A. Hart's principle of fairness provides an additional ethical lens by highlighting how the burdens of public health measures are distributed. While individuals may have moral obligations to comply with reasonable infection control policies, these obligations presuppose a system of reciprocity in which no person is required to bear extreme, avoidable, and individualized harm for the sake of diffuse collective benefit. Applying the proportionality framework outlined above, the continued suspension of chemotherapy fails the necessity and least-restrictive-means tests because infectivity remained scientifically uncertain.

The denial or prolonged suspension of non-deferrable, life-preserving treatment represents a qualitatively different kind of burden from the temporary inconveniences typically associated with quarantine or distancing measures. When public health policies risk crossing that threshold, the justification required must be correspondingly stronger, more transparent, and grounded in the best available scientific and clinical evidence. Safeguards must also ensure that decision-making processes account for individual vulnerability and explore less restrictive alternatives wherever feasible.

Future infectious disease preparedness and response frameworks should therefore integrate not only epidemiological effectiveness but also clear procedural protections, ongoing proportionality review, and explicit attention to fairness in burden distribution. By doing so, public health systems can better protect both community safety and the basic rights of individuals, sustaining public trust and preserving legal and ethical legitimacy even in times of crisis.

REFERENCES

1. Korea Broadcasting System (KBS). The family of the last MERS patient in Korea lost their lawsuit against the government and hospital in the second trial [Internet]. KBS; 2020 [cited 2025 Jul 25]. https://news.kbs.co.kr/news/view.do?ncd=5057411
2. Osman AA, Al Daajani MM, Alsahafi AJ. Re-positive coronavirus disease 2019 PCR test: could it be a reinfection? New Microbes New Infect 2020;37:100748. https://doi.org/10.1016/j.nmni.2020.100748
3. Puhach O, Meyer B, Eckerle I. SARS-CoV-2 viral load and shedding kinetics. Nat Rev Microbiol 2023;21(3):147-161. https://doi.org/10.1038/s41579-022-00822-w
4. Infectious Diseases Society of America (IDSA). IDSA guidelines on the diagnosis of COVID-19: molecular diagnostic testing [Internet]. IDSA; 2023 [cited 2025 Jul 25]. https://www.idsociety.org/practice-guideline/covid-19-guideline-diagnostics/?utm_source=chatgpt.com
5. Coffey KC, Diekema DJ, Morgan DJ. Interpreting SARS-CoV-2 test results. JAMA

2021;326(15):1528-1529. Erratum in: JAMA. 2021 Nov 2;326(17):1749.
https://doi.org/10.1001/jama.2021.16146
6. Cucinotta D, Vanelli M. WHO declares COVID-19 a pandemic. Acta Biomed 2020;91(1):157-160.
https://doi.org/10.23750/abm.v91i1.9397
7. United Nations (UN). International covenant on economic, social and cultural rights [Internet]. UN; 2026 [cited 2025 Jul 25].
https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-economic-social-and-cultural-rights?utm_source=chatgpt.com
8. American Association for the International Commission of Jurists. Siracusa principles on the limitation and derogation provisions in the International Covenant on Civil and Political Rights [Internet]. AAICJ; 1985 [cited 2025 Jul 25].
https://www.icj.org/wp-content/uploads/1984/07/Siracusa-principles-ICCPR-legal-submission-1985-eng.pdf?utm_source=chatgpt.com
9. Human Rights Watch. Human rights dimensions of COVID-19 response [Internet]. HRW; 2020 [cited 2025 Jul 25].
https://www.hrw.org/news/2020/03/19/human-rights-dimensions-covid-19-response
10. UN OHCHR. We all in this together: UNSG delivers policy brief on COVID-19 and human rights [Internet]. UN OHCHR; 2020 [cited 2025 Jul 25].
https://www.ohchr.org/en/video/2021/we-are-all-together
11. Folland A. The harm principle and the nature of harm. Utilitas 2021;34(2):139-153.
https://doi.org/10.1017/S0953820821000352
12. Wilder-Smith A, Freedman DO. Isolation, quarantine, social distancing and community containment: pivotal role for old-style public health measures in the novel coronavirus (2019-nCoV) outbreak. J Travel Med 2020;27(2):taaa020.
https://doi.org/10.1093/jtm/taaa020
13. Cetron M, Maloney S, Koppaka R, et al. Isolation and quarantine: containment strategies for SARS 2003. In: Institute of Medicine (US) Forum on Microbial Threats, Knobler S, Mahmoud A, et al., editors. Learning from SARS: preparing for the next disease outbreak: workshop summary. The National Academies Press; 2004.
14. Zhang C, Zhou C, Xu W, et al. Transmission risk of asymptomatic SARS-CoV-2 infection: a systematic review and meta-analysis. Infect Med 2023;2(1):11-18.
https://doi.org/10.1016/j.imj.2022.12.001
15. Sorinmade OA. Highlighting some of the challenges COVID-19 has posed to the European Convention on Human Rights. BJPsych Bull 2020;44(4):177-178.
https://doi.org/10.1192/bjb.2020.64
16. Jung G, Lee H, Kim A, et al. Too much information: assessing privacy risks of contact trace data disclosure on people with COVID-19 in South Korea. Front Public Health 2020;8:305.
https://doi.org/10.3389/fpubh.2020.00305
17. Jovičić S. COVID-19 restrictions on human rights in the light of the case-law of the European Court of Human Rights. ERA Forum 2021;21(4):545-560.
https://doi.org/10.1007/s12027-020-00630-w
18. Bardus M, Al Daccache M, Maalouf N, et al. Data management and privacy policy of COVID-19 contact-tracing apps: systematic review and content analysis. JMIR mHealth uHealth 2022;10(7):e35195.
https://doi.org/10.2196/35195
19. Zahar JR, Allaouchiche B. Even vaccinated against COVID-19, we must continue to wear a mask. Anaesth Crit Care Pain Med 2021;40(2):100849.
https://doi.org/10.1016/j.accpm.2021.100849
20. Sun N, Christie E, Cabal L, et al. Human rights in pandemics: criminal and punitive

approaches to COVID-19. BMJ Glob Health 2022;7(2):e008232.
https://doi.org/10.1136/bmjgh-2021-008232
21. Spadaro A. COVID-19: testing the limits of human rights. Eur J Risk Regul 2020;11(2):317-325.
https://doi.org/10.1017/err.2020.27
22. Aperio Bella F, Lauri C, Capra G. The role of COVID-19 soft law measures in Italy: much ado about nothing? Eur J Risk Regul 2021;12(1):93-110.
https://doi.org/10.1017/err.2020.116
23. Huang Z, Guo H, Lee YM, et al. Performance of digital contact tracing tools for COVID-19 response in Singapore: cross-sectional study. JMIR mHealth uHealth 2020;8(10):e23148.
https://doi.org/10.2196/23148
24. Downey A, Brown L, et al. Evidence-based practice for public health emergency preparedness and response. In: Implementing quarantine to reduce or stop the spread of a contagious disease. The National Academies Press; 2020.
25. Hossain MM, Sultana A, Purohit N. Mental health outcomes of quarantine and isolation for infection prevention: a systematic umbrella review of the global evidence. Epidemiol Health 2020;42:e2020038.
https://doi.org/10.4178/epih.e2020038
26. Harvard Law Review Association (HLRW). Toward a twenty-first-century Jacobson v. Massachusetts [Internet]. HLRW; 2008 [cited 2025 Jul 25].
https://harvardlawreview.org/wp-content/uploads/2008/04/a_twenty-first-century_jacobson_v_massachusetts.pdf
27. Ballot Pedia. Federalism. Institute for Justice [Internet]. Ballot Pedia; 2020 [cited 2025 Jul 25].
https://ballotpedia.org/Jacobson_v._Massachusetts?utm_source=chatgpt.com
28. Cable News Network (CNN). The 115-year-old Supreme Court opinion tha t could determine rights during a pandemic [Internet]. CNN; 2020 [cited 2025 Jul 25].
https://edition.cnn.com/2020/04/10/politics/pandemic-coronavirus-jacobson-supreme-court-abortion-rights
29. Mariner WK, Annas GJ, Glantz LH. Jacobson v Massachusetts: it's not your great-great-grandfather's public health law. Am J Public Health 2005;95(4):581-590.
https://doi.org/10.2105/AJPH.2004.055160
30. Giubilini A. Freedom, diseases, and public health restrictions. Bioethics 2023;37(9):886-896.
https://doi.org/10.1111/bioe.13217
31. Kontorovich E. Liability rules for constitutional rights: the case of mass detentions. Stan Law Rev 2004;56(4):755-834.
https://doi.org/10.2139/ssrn.451582
32. Calabresi G, Melamed AD. Property rules, liability rules, and inalienability: one view of the cathedral. Harv Law Rev 1972;85(6):1089-1128.
https://doi.org/10.2307/1340059
33. Moazzen V, Shamsi Gooshki E. The extent of government intervention in the public health system and individual freedoms during the Covid-19 pandemic: a theoretical analysis. J Med Ethics Hist Med 2023;16:4.
https://doi.org/10.18502/jmehm.v16i4.13232
34. Korea Health Rights Working Group. Statement on health rights in the new constitution. J Prev Med Public Health 2019;52(3):145-146.
https://doi.org/10.3961/jpmph.19.051
35. Jung M. Constitution and legal basis of health rights: lessons from cancer survivors in South Korea. Asian Pac J Cancer Prev 2020;21(10):2823-2826.
https://doi.org/10.31557/APJCP.2020.21.10.2823
36. Hart HLA. Are there any natural rights? Philos Rev 1955;64(2):175-191.

https://doi.org/10.2307/2182586
37. Childress JF, Faden RR, Gaare RD, et al. Public health ethics: mapping the terrain. J Law Med Ethics 2002;30(2):170-178. https://doi.org/10.1111/j.1748-720X.2002.tb00384.x
38. Simmons AJ. Moral principles and political obligations. Princeton University Press; 1979.
39. Gostin LO, Wiley LF. Public health law: power, duty, restraint. 3rd ed. University of California Press; 2016.
40. Upshur REG. Principles for the justification of public health intervention. Can J Pub Health 2002;93(2):101-103. https://doi.org/10.1007/BF03404547