

# Promoting racial equity in COVID-19 resource allocation

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## ABSTRACT

Due to COVID-19's strain on health systems across the globe, triage protocols determine how to allocate scarce medical resources with the worthy goal of maximising the number of lives saved. However, due to racial biases and long-standing health inequities, the common method of ranking patients based on impersonal numeric representations of their morbidity is associated with disproportionately pronounced racial disparities. In response, policymakers have issued statements of solidarity. However, translating support into responsive COVID-19 policy is rife with complexity. Triage does not easily lend itself to race-based exceptions. Reordering triage queues based on an individual patient's racial affiliation has been considered but may be divisive and difficult to implement. And while COVID-19 hospital policies may be presented as rigidly focused on saving the most lives, many make exceptions for those deemed worthy by policymakers such as front-line healthcare workers, older physicians, pregnant women and patients with disabilities. These exceptions demonstrate creativity and ingenuity—hallmarks of policymakers' abilities to flexibly respond to urgent societal concerns—which should also be extended to patients of colour. This paper dismantles common arguments against the confrontation of racial inequity within COVID-19 triage protocols, highlights concerns related to existing proposals and proposes a new paradigm to increase equity when allocating scarce COVID-19 resources.

## INTRODUCTION

History demonstrates the need to carefully plan for public health emergencies, and such plans include protocols to govern how to allocate scarce medical resources when demand exceeds supply. In a pandemic, the wishes of individual patients may be over-ridden to protect the best interests of the population. But what is in the best interests of the population? It is often presumed to be saving the most number of lives, yet protocols should also safeguard public trust and seek to uphold societal values such as compassionate and equitable care for all persons. However, responses to recent global health threats, from Ebola to HIV, have disregarded equity or merely considered it 'an afterthought'.<sup>1</sup>

COVID-19 is a long-lasting pandemic marked by persistent patterns of disproportionately harming racial minorities compared with white ethnic groups. Due to complex factors including social determinants of health and racial bias, these groups already experience poorer quality of care and increased barriers to medical treatment compared with white people.<sup>2</sup> COVID-19 is evidenced by certain racial minorities' higher rates of acquisition, increased likelihood of hospitalisation, exceptionally poorer outcomes, and higher death rates. These trends are seen across the globe, in Black, Asian and

minority ethnic groups in the UK,<sup>3</sup> African immigrants in France,<sup>4</sup> Black and mixed-race persons in Brazil,<sup>5</sup> and indigenous, Black and Latinx persons in the USA.<sup>6</sup> In response, some policymakers stalled the timely disclosure of racial disparity reports<sup>7</sup> while many others have declared themselves allies for racial equity during COVID-19, as evidenced by recent antidiscrimination statements within policy briefs and association statements.<sup>8,9</sup> Translating support into responsive COVID-19 policy, however, is rife with complexity, and most COVID-19 triage protocols and policies still fail to outline specific actions to mitigate racial inequities.

While triage is not a resolution to racial disparities, and other short-term and long-term measures must be bolstered to remedy inequities, a racially equitable triage protocol should be considered in racially diverse regions because it signals a fair and just response to the overwhelmingly disproportionate and tragic burden COVID-19 is placing on certain groups. And while many forms of inequity may worsen outcomes during COVID-19, such as those pertaining to patients with disabilities and patients who are lower on the socioeconomic scale, each form of inequity is distinct and therefore requires a separate analysis related to its unique determinants and related solutions.

Pandemic triage protocols generally attempt to save the most number of lives, but their focus on utility maximisation tends to disproportionately favour white lives whose increased access to healthcare and other socioeconomic factors correlates with more favourable triage scores. A 'most lives saved' (MLS) protocol is predisposed to save the most white lives at the expense of racial minorities, further exacerbating the disproportionate suffering by—and deaths of—the most vulnerable communities and thereby failing to provide an ethical response to the global COVID-19 pandemic.<sup>1</sup>

Others have also recently voiced the importance of 'balancing justice and outcomes in [COVID-19] emergency triage' and demonstrate how values pluralism is already embedded within accepted clinical practice.<sup>10</sup> We agree and we shun a "single principle" distributive view<sup>11</sup> in favour of one that can account for both MLS and racial equity. This paper dismantles the arguments against the confrontation of racial inequity within COVID-19 triage protocols, highlights concerns related to existing proposals and proposes a new paradigm to grant more patients of colour access to scarce COVID-19 resources.

<sup>1</sup>It is widely known that racial inequity contributes to a reduction in expected life-years within affected populations, therefore the arguments in this paper apply to protocols that maximise life-years saved as well as those which maximise MLS.



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## ARGUMENTS AGAINST CONFRONTING RACIAL INEQUITY WITHIN A COVID-19 RESPONSE

A number of arguments prompt policymakers to avoid confronting racial inequity within a triage protocol. During COVID-19, some argue that disproportionate deaths by people of colour are an unintended consequence. However, unintended consequences refer to *unanticipated* effects of a policy whereas racial disparities during COVID-19 are so well known they have become central to the dialogue.<sup>12</sup> A strict MLS approach, while maximising total numbers saved, may also cause harms by disproportionately amplifying grief and mourning by communities of colour, and rightly justify increased distrust in medicine by people of colour. These consequences could not be classified as unintended; they would be known and anticipated.

Others may argue against direct confrontation of racial inequity within MLS because any such approach would disrupt the seemingly neutral lines of their protocol. However, this argument suffers from inconsistencies: hospitals have already established exceptions for other groups during COVID-19. After the assignment of a Sequential Organ Failure Assessment (SOFA) score or other triage scoring system, many triage protocols (such as those based on White and Lo's framework) fine-tune patient scores based on various factors of importance.<sup>13</sup> Some protocols give advantage to pregnant patients<sup>14</sup> or first responders,<sup>13</sup> demonstrating a willingness to sacrifice the strict MLS typical of triage protocols in the name of other competing values. Hospital policy may also disallow physicians over a certain age from direct clinician duties during COVID-19 to protect them from infection, resulting in a decrease of on-site physicians available to treat patients. Some hospitals also give accommodation to people with disabilities. For instance, a hospital may allow patients with disabilities more time on a ventilator<sup>15</sup> or may follow the US Department of Health and Human Service's suggestion to permit a personal care assistant to visit the patient at the hospital when others are not permitted guests,<sup>16</sup> recognising the dignity and unique needs of patients with disabilities. Therefore, across the globe, policymakers are creatively providing exceptions when they deem certain groups worthy of special protections—granting lenience based on their values and impressions. In other words, as much as policymakers wish to save the most lives, they also recognise the importance of prioritising other factors of moral significance.

Policymakers may also discourage the inclusion of equity within protocols because they believe it is more appropriate to address racial disparities through 'broader social change' such as universal healthcare.<sup>17</sup> Triage cannot resolve the underlying causes of racial inequity, and long-term measures must be taken to confront the root causes of health disparities. However, these efforts by definition are unachievable in any foreseeable future, tied up in deep-rooted political quagmire—and even if they were enacted with haste, their impact on long-term health outcomes would have no effect on today's sizeable generation of marginalised patients with COVID-19.

Additionally, when views are solicited from non-white community members and scholars, their preferences notably advocate against utility-maximising protocols and in favour of more equitable approaches. For instance, when queried in 2018 by Biddison about MLS versus 'first come, first served' (FCFS) methods during public health emergencies, racial minorities stated a strong preference for FCFS distribution of scarce resources.<sup>18</sup> Sederstrom also raised concerns about the unsuitability of MLS when stating, 'For people of color in America, in particular Black Americans, we are born with points stacked

against us. As we grow and the burden of Blackness weighs us down more, our "points" continue to stack up in our proverbial backpacks so they are already brimming with points by the time resource allocations decisions are made in the hospital.'<sup>19</sup>

Despite these salient reflections—along with an awareness of the extreme disproportionality in COVID-19 outcomes by racial minorities and aforementioned commitments by policymakers to combat racial inequity during COVID-19—highly lauded COVID-19 triage protocols still fail to offset racial disparities. For instance, White and Lo's widely replicated framework claims to be 'based on Biddison's intensive engagement with diverse citizens' groups' yet their manuscript makes no mention of measures to combat racial disparities.<sup>13</sup> When policymakers look like those who are disproportionately likely to receive—and be saved by—scarce treatment, and they advocate for MLS while racial minorities do not, it is a call for reflection, inclusive collaboration and revision.

These arguments are also misrepresentative because medicine is rife with institutional policies which seek to lessen (while acknowledging that they do not fully mitigate) other social challenges. For example, hospitals create robust decision-making paradigms for unrepresented patients at end of life, since laws in many jurisdictions fail to provide these patients with adequate protections.<sup>20</sup> Similarly, hospitals create policies to limit inappropriate life-sustaining treatment at end of life in the absence of legal clarity.<sup>21</sup> These institutional policies are not comprehensive solutions, nor do they root out underlying causes, but they contribute to important societal goals and thoughtfully address a pressing ethical challenge. Similarly, hospital triage protocols can creatively confront racial inequity while knowing that it is only within their power to address the issue as it pertains to the policy at hand. No single measure will ever 'solve' racial inequity but many such efforts can unite to produce meaningful change.

## CURRENT ALTERNATIVES TO ADDRESS RACIAL INEQUITIES DURING RESOURCE ALLOCATION

A number of options have been proposed to offset racial inequities during COVID-19 resource allocation. One proposal suggests adjusting triage scores for certain racial groups, especially those who reside within low-income communities.<sup>19</sup> However, it may be difficult for some patients to prove membership to their racial group, and others may falsely claim membership in an effort to increase their chances of receiving scarce treatment. These logistical challenges would place an extra burden on triage teams whose resources are already strained during a pandemic and may cause distress to members of the triage team when pressed to make in-the-moment decisions about specific patients. Additionally, explicit favouritism of one individual patient over another could spark controversy at a time when community cohesion may already be strained.

Area Deprivation Index (ADI) is a method of ranking neighbourhoods by socioeconomic conditions. One policy uses ADI to distribute scarce medications during COVID-19, giving favour to patients from socioeconomically disadvantaged communities in a weighted lottery system.<sup>22</sup> While ADI can be a helpful tool to screen patients for health concerns related to social determinants of health, applying ADI to specific patients during allocation of scarce resources is problematic because racial minorities suffering from health disparities do not always live in disadvantaged communities; this plan would exclude them from any advantage. This proposed offset is also not based on a direct measure of health disparities, such as diagnosis, therefore it lacks specificity.

Others simply state, ‘for COVID-19, it is too late [for a] society-wide conversation’ about preferred goals of triage protocols, and these scholars find uncertain but possible value in FCFS’s ability to possibly avert disadvantaging vulnerable groups.<sup>23</sup> However, FCFS is likely to further marginalise racial groups since it ‘privileges those who are quicker to access medical resources—often those with the greatest power, knowledge and social connections’.<sup>17</sup>

## DUAL-PRINCIPLED SYSTEM

Triage protocols have long focused on MLS. This is reasonable, as public health emergencies are often short-term conditions which rarely allow for nuanced consideration of multiple competing, and often incommensurable values. By contrast, COVID-19’s unfortunate longevity presents us with a duty to develop a more responsive system.

MLS is likely to remain the primary goal of any community’s triage protocol, but a more just system will mitigate the overwhelmingly disproportionate and tragic burden COVID-19 takes on certain racial groups. Whitehead, in her classic discussion, defines health inequity as ‘differences in health which are not only unnecessary and avoidable, but, in addition, are considered unfair and unjust’.<sup>24</sup> We argue that allocation protocols should look beyond MLS and consider health equity factors such as inclusion, respect and dignity. Therefore, the focus of this proposal is to outline a protocol that embodies both MLS and racial equity.

MLS has been championed as ‘fair’ because it does not factor in any particulars of the patients under consideration other than projected health outcomes based on clinical criteria. We are now in a position to recognise how this system may disproportionately save white lives. While we cannot fault our predecessors for failing to see this consequence, as new protocols are built, we should make equity adjustments accordingly.

If MLS results in unacceptably inequitable outcomes, what system ought we use? We hold the prioritarian view that ‘welfare gains matter more, morally, the worse off you are’,<sup>25</sup> and agree with O’Neill’s stance that it is ‘fanciful to think that any “single principle” distributive view...could capture the full truth about the ethics of distribution’.<sup>11</sup> As MLS and equity are both worthy factors for a COVID-19 allocation scheme, we find value in pluralist prioritarianism’s allowance for ‘holding that more than one thing matters morally’.<sup>25</sup> In the interest of prioritising equity alongside saving the most lives, we reject a singular focus on utility maximisation, preferring a system that balances the value of saving the most lives with the value of equity.

Instead of accepting MLS’s racial disparities as unresolvable, a hospital or region could identify within its patient population a certain number of major diseases with the greatest regional racial disparity—trends already well known within the community. Each hospital or region could then choose to adjust the triage score of patients with the identified diseases, thoughtfully choosing a number of diseases subject to adjustment. For instance, one region may choose a single disease and others may choose two or three. All patients with the identified diseases—regardless of racial affiliation—would then receive less penalty during triage. This approach would therefore reduce racial disparities without the need to pit individual patients against each other. It would also allow for regional specificity: increased attention to whichever racial groups are disproportionately affected by COVID-19 within that geographic area.

As an example, we imagine a hospital serving a patient population comprising 35% Black people, 25% Latinx people and 40%

non-Latinx white people. A look at regional census data reveals predicted regional death rates by heart disease to be respectively 200, 180 and 135 deaths per 100 000, identifying heart failure as a regional (and already well-known) racial disparity. Regional health authorities choose to remove some number of points from all patients with advanced heart disease (regardless of their racial affiliation).

In our example population, racial minorities are more likely to contract COVID-19 and be admitted to the hospital. From a sample of 100 patients in their triage queue, 55 are Black, 35 are Latinx and 10 are white. Of those, the numbers with heart failure are respectively 10, 7 and 2. These 19 patients would receive an adjustment to their triage score.

## DISCUSSION

Other approaches to the confrontation of racial inequities fall short of their intentions. The White and Angus model favours patients by ADI to the detriment of minorities who live elsewhere.<sup>22</sup> The Sederstrom model thoughtfully shines a light on potential bias of SOFA scoring and the moral obligations of medicine, and proposes an innovative ‘give back’ plan.<sup>19</sup> However, this approach may be difficult to implement and provoke community division. FCFS models seem to hold some promise, but could very likely increase harm to marginalised populations.

By contrast, this paper’s approach is centred on patients impacted by a defined, regional disparity. This model does not require a verification of patient’s racial affiliation (which can be time consuming and subject to debate), nor does it pit one racial group against the other, since all patients with a certain disease would receive the same adjustment. No triage protocol can resolve racial disparities, but this approach finds a way for hospitals to plan for and offset significant regional health disparities.

And while our proposal rebalances a traditional MLS protocol, we do not fear a significant drop in the number of lives saved. After all, every one of the patients competing for the scarce resource is medically eligible for treatment and stands a chance to benefit. Had it not been for the pandemic, they all would have received the resource because it is medically indicated. And since patients affected by this proposal differ by a relatively small margin, it is not unreasonable to assume that overall lives saved in this proposal may be quite similar to a utility-maximising protocol. However, because of the redistribution, more patients of colour are granted access.

Further, even when patients do not survive (and a good number of patients with COVID-19 do not), access and inclusion signify being valued. This protocol’s increased access for patients of colour thereby demonstrates how *even the act of access* to resources—a common theme raised by vulnerable populations—is a powerful consideration. When triage plans reflect community priorities, they ‘enhance communities’ capacity to heal in the wake of a once-in-a-century pandemic’.<sup>15</sup>

Policies can, therefore, seek to produce the ‘most good’ and to avoid societal harms such as fears and disappointments by marginalised racial groups. Other common carve-outs within COVID-19 protocols similarly seek to prevent downstream societal harms. For instance, exceptions for healthcare workers bolster their trust that the system will not abandon them after their dedicated service to the public good. Safeguarding the trust of our most marginalised patients is as worthy as safeguarding the trust of our healthcare workers.

Finally, logistical factors are essential considerations. The proposed reweighting mechanism is intended for institutions

similar to the one highlighted in our example, which serve distinct patient populations and anticipate marked racial inequity during triage. It is not intended for communities primarily comprising vulnerable minorities (who would not likely observe the concerning and bifurcated trend we seek to remediate). And while the proposed reweighting mechanism requires some additional up-front planning, institutions are ethically obligated to invest time on initiatives that reflect critical societal values. Some hospitals may wish for guidance to thoughtfully implement this approach within their resource-constrained institution. Policy-makers from well-resourced institutions could provide support to less resourced institutions; a natural extension of existing COVID-related support networks.

## NEXT STEPS

Whenever possible, policymakers should partner directly with community representatives and community advisory councils to build trusting relationships, provide public health education on ethically fraught issues and acquire informed feedback on health policy. A few robust community ethics committees exist to support these goals.<sup>26</sup> For several years, these groups have been led by ethicists to carefully examine a wide range of health policies. As part of a broad community engagement initiative on COVID-19 crisis standards of care, the paradigm outlined in this article—along with MLS, egalitarian and prioritarian models—will be presented to a community ethics committee. Scholars will also conduct large-scale surveys on these alternatives to more broadly garner the views of the general public across the globe. This two-pronged approach to community inclusion will provide valuable insights to policymakers.

Policymakers are ethically obligated to examine whether their proposed protocols are likely to yield intended outcomes. Interdisciplinary teams should therefore conduct feasibility studies of triage protocols and test the paradigm proposed in this paper to assess its impact in relation to that of a traditional utility-maximising model both in terms of total lives saved and increased equity. Paradigm testing, in conjunction with community inclusion, will provide the necessary groundwork to fine-tune the paradigm's ability to meet its stated objectives.

## CONCLUSION

Racial disparities in health are a part of bioethics' birth story, and remain troubling today. Recent media coverage has raised the profile of racial inequity, and eyes are on policymakers to demonstrate, through action, a COVID-19 policy response that thoughtfully responds to burdens disproportionately affecting our most marginalised community members. Policymakers have demonstrated creativity for several groups when responding to the COVID-19 pandemic, and they now have an opportunity to extend their attention to reduce further racial inequity. While MLS is rightly emphasised during any pandemic, a triage protocol can also aim to safeguard public trust and maximise societal benefits. More simply stated, the worth of a protocol should be assessed by a broader lens than merely the simplistic measure of the number of lives saved. This proposal seeks to encourage creative dialogue across disciplines to identify viable alternatives to combat racial inequity during resource allocation by acknowledging that all community members are interwoven—and how our shared moral fabric is only as strong as our willingness to systematically confront our imperfections. Policymakers must be cognisant of the narratives they invariably create through their policies. Will families remember being

denied treatment, or being included? Will COVID-19 be remembered within their communities as another example of marginalisation by the system, or the time when the system honoured their voices?

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## REFERENCES

- Binagwaho A, Mathewos K, Kadetz P. A call for equitable distribution of covid-19 vaccines. *BMJ*, 2020. Available: <https://blogs.bmj.com/bmj/2020/12/02/a-call-for-equitable-distribution-of-covid-19-vaccines/> [Accessed Dec 2020].
- Agency for Healthcare Research and Quality, US Department of Health and Human Services. National healthcare disparities report, 2005. Available: <https://archive.ahrq.gov/qual/nhdr05/fullreport/Index.htm> [Accessed Jul 2020].
- Public Health England. Disparities in the risk and outcomes of COVID-19. *Epi cell, Surveillance cell and Health Intelligence team*, 2020. Available: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/908434/Disparities\\_in\\_the\\_risk\\_and\\_outcomes\\_of\\_COVID\\_August\\_2020\\_update.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908434/Disparities_in_the_risk_and_outcomes_of_COVID_August_2020_update.pdf) [Accessed Dec 2020].
- Papon S, Robert-Bobée I. The number of deaths rose twice as high for people born abroad as for those born in France during the Covid-19 health crisis. *Institut National de la Statistique et des Études Économiques*, 2020. Available: <https://www.insee.fr/en/statistiques/4656588> [Accessed Dec 2020].
- Batista A, Antunes B, Favaret G. *Análise socioeconômica da taxa de letalidade da COVID-19 no Brasil. Nucleo de Operacoes e Inteligencia em Saude (NOIS)*, 2020.
- Tai DBG, Shah A, Doubeni CA. The disproportionate impact of COVID-19 on racial and ethnic minorities in the United States. *Clin Infect Dis* 2020. doi:10.1093/cid/ciaa815
- Khunti K, Platt L, Routen A, et al. Covid-19 and ethnic minorities: an urgent agenda for overdue action. *BMJ* 2020;369:m2503.
- Nuffield Council on Bioethics. *Rapid policy Briefing: fair and equitable access to COVID-19 treatments and vaccines*. London: Nuffield Council on Bioethics, 2020. <https://www.nuffieldbioethics.org/assets/pdfs/Fair-and-equitable-access-to-COVID-19-treatments-and-vaccines.pdf>
- Association of Bioethics Program Directors. *Association of Bioethics Program Directors' Statement on Violence, COVID, and Structural Racism in American Society*. USA: Association of Bioethics Program Directors, 2020. <https://www.bioethicsdirectors.net/abpd-statement-on-violence-covid-and-structural-racism-in-american-society/>
- Reid L. Triage of critical care resources in COVID-19: a stronger role for justice. *J Med Ethics* 2020;46(8):526–30.
- O'Neill M. Preference and value. *Utilitas* 2012;24(3):322.
- Chowkwanyun M, Reed AL. Racial health disparities and Covid-19 — caution and context. *N Engl J Med Overseas Ed* 2020;383(3):201–3.
- White DB, Lo B. A framework for rationing ventilators and critical care beds during the COVID-19 pandemic. *JAMA* 2020;323(18):1773–4.
- Daugherty-Biddison L, Gwon H, Regenber A. Maryland Framework for the Allocation of Scarce Life-Sustaining Medical Resources in a Catastrophic Public Health Emergency. University of Maryland Francis King Carey School of Law [Internet], 2017. Available: [https://www.law.umaryland.edu/media/SOL/pdfs/Programs/Health-Law/MHECN/ASR%20Framework\\_Final.pdf](https://www.law.umaryland.edu/media/SOL/pdfs/Programs/Health-Law/MHECN/ASR%20Framework_Final.pdf)
- Solomon MZ, Wynia MK, Gostin LO. Covid-19 Crisis Triage - Optimizing Health Outcomes and Disability Rights. *N Engl J Med* 2020;383(5).
- Center for Public Representation. Applying HHS's Guidance for states and health care providers on avoiding disability-based discrimination in treatment rationing, 2020. Available: [https://www.centerforpublicrep.org/wp-content/uploads/2020/04/Guidance-to-States-Hospitals\\_FINAL.pdf](https://www.centerforpublicrep.org/wp-content/uploads/2020/04/Guidance-to-States-Hospitals_FINAL.pdf)

- 17 Tolchin B, Hull SC, Kraschel K. Triage and justice in an unjust pandemic: ethical allocation of scarce medical resources in the setting of racial and socioeconomic disparities. *J Med Ethics* 2020. doi:10.1136/medethics-2020-106457. [Epub ahead of print: 16 Oct 2020].
- 18 Biddison ELD, Gwon HS, Schoch-Spana M, *et al.* Scarce resource allocation during disasters: a mixed-method community engagement study. *Chest* 2018;153(1):187–95.
- 19 Sederstrom NO. The “give back.” is there room for it?. *Am J Bioeth*, 2020. Available: <http://www.bioethics.net/2020/07/the-give-back-is-there-room-for-it/> [Accessed Aug 2020].
- 20 Pope TM. Making medical decisions for patients without surrogates. *N Engl J Med* 2013;369(21):1976–8.
- 21 Pope TM. Medical futility statutes: no safe harbor to unilaterally refuse life-sustaining treatment. *Tenn L Rev* 2007;75.
- 22 White DB, Angus DC. A proposed lottery system to allocate scarce COVID-19 medications: promoting Fairness and generating knowledge. *JAMA* 2020;324(4).
- 23 Pagel C, Utley M, Ray S. Covid-19: how to triage effectively in a pandemic. *BMJ*, 2020. Available: <https://blogs.bmj.com/bmj/2020/03/09/covid-19-triage-in-a-pandemic-is-even-thornier-than-you-might-think/>
- 24 Whitehead M. The concepts and principles of equity and health. *Health Promot Int* 1991;6(3):217–28.
- 25 Agmon S, Hitchens M. Prioritarianism: a (Pluralist) defense. *J Ethics Soc Phil* 2019;15.
- 26 Powers CL, McLean PC. The community speaks: continuous deep sedation as caregiving versus physician-assisted suicide as killing. *Am J Bioeth* 2011;11(6):65–6.