

Rationing Limited Healthcare Resources in the COVID-19 Era and Beyond: Ethical Considerations Regarding Older Adults

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See related paper by Farrell et al.

DOI: 10.1111/jgs.16539

Coronavirus disease 2019 (COVID-19) continues to impact older adults disproportionately with respect to serious consequences ranging from severe illness and hospitalization to increased mortality risk. Concurrently, concerns about potential shortages of healthcare professionals and health supplies to address these issues have focused attention on how these resources are ultimately allocated and used. Some strategies, for example, misguidedly use age as an arbitrary criterion that disfavors older adults in resource allocation decisions. This is a companion article to the American Geriatrics Society (AGS) position statement, “Resource Allocation Strategies and Age-Related Considerations in the COVID-19 Era and Beyond.” It is intended to inform stakeholders including hospitals, health systems, and policymakers about ethical considerations that should be considered when developing strategies for allocation of scarce resources during an emergency involving older adults. This review presents the legal and ethical background for the position statement and discusses these issues that informed the development of the AGS positions: (1) age as a determining factor, (2) age as a tiebreaker, (3) criteria with a differential impact on older adults, (4) individual choices and advance directives, (5) racial/ethnic disparities and resource allocation, and (6) scoring systems and their impact on older adults. It also considers the role of advance directives as expressions of individual preferences in pandemics. *J Am Geriatr Soc* 68:1143-1149, 2020.

Keywords: COVID-19; ethics; older adult; rationing; triage

INTRODUCTION

Although the data regarding coronavirus disease 2019 (COVID-19) are rapidly evolving, early reports

indicate that older adults and those with chronic medical conditions are disproportionately affected with respect to both morbidity and mortality. Among those aged 80 years and older, case fatality rates are well over 10%.^{1,2} According to the Centers for Disease Control and Prevention, 80% of COVID-19 deaths have been among older adults.³ Long-term care facilities, which are comprised largely of frail older adults with multiple chronic conditions living in close quarters, have been especially and disproportionately impacted by COVID-19.⁴ In addition to the urgent threat of viral infection and critical illness, older adults are also more likely to experience detrimental effects of physical distancing, such as social isolation, that further hamper their recovery.

In some geographic areas, COVID-19 is overwhelming intensive care unit (ICU) beds, mechanical ventilator capacity, and the ability of hospital personnel to care for patients. Frameworks have been developed to guide the allocation of limited resources during this public health emergency.⁵⁻⁷ Some strategies adopted by states and professional societies explicitly mention advanced age as a categorical exclusion to be applied when prioritization decisions are imperative.^{8,9} Other strategies use factors such as predicted life-years saved that may disproportionately impact older adults. Coupled with evidence that stereotypes and discrimination may disproportionately affect prioritization decisions,^{10,11} these strategies raise concerns that older adults may be treated unjustly in such pandemic emergencies.

This article is a companion to the American Geriatrics Society (AGS) position statement, "Resource Allocation Strategies and Age-Related Considerations in the COVID-19 Era and Beyond."¹² In this companion piece, we do not attempt to provide an exhaustive review of resource allocation strategies, but we instead focus on resource allocation strategies that use age as a factor and explain the legal and ethical problems raised by these approaches. The AGS is a nationwide not-for-profit society of geriatrics healthcare professionals dedicated to improving the health, independence, and quality of life of older people. Our more than 6,000 members include geriatricians, geriatric nurses, nurse practitioners, social workers, family physicians, physician assistants, pharmacists, internists, and specialty physicians who are pioneers in advanced-illness care for older individuals.

OVERALL FRAMING

Members of the AGS Ethics Committee collaborated with an interprofessional team of experts in ethics, law, nursing, and medicine (including geriatrics, palliative care, emergency medicine, and pulmonology/critical care) to conduct a structured literature review and examine relevant reports. The authors developed the AGS position statement, "Resource Allocation Strategies and Age-Related Considerations in the COVID-19 Era and Beyond"¹² and this companion article within the context of a society where too few adults have engaged in meaningful advance care planning discussions with their families and loved ones and, as a result, have not completed an advance directive.¹³ We also considered the overall framework of a just society with a specific focus on healthcare systems, and we reviewed legal

considerations. We determined that it is important to include these considerations in both the AGS position statement and this companion piece.

Urgent Need for Advance Care Planning

The COVID-19 pandemic further highlights the widespread and urgent need for all adults to engage in advance care planning discussions and create an advance directive. Advance care planning must be prioritized both now and after COVID-19. The rate of advance directive completion is unacceptably low at about 50% of adults aged 60 years and older.¹³ The Age-Friendly Health Systems movement, as well as Medicare reimbursement for advance care planning discussions, present opportunities to increase goals of care discussions, advance directive completion, and Physician Orders for Life-Sustaining Treatment/Medical Orders for Life-Sustaining Treatment completion. Completion of advance directives is necessary but insufficient without meaningful goals of care discussions focusing on what matters most to the patient and without also ensuring patient understanding by accounting for cultural factors, limited health literacy, and sensory deficits that may impede communication.

Advance care planning discussions are of paramount importance in reducing the need to ration limited healthcare resources during an emergency because they will identify people who do not wish to receive intensive care including mechanical ventilation. A critical point in the discussion of advance care planning is that these discussions are not rationing and should not be confused with triage allocation decisions. Advance care planning discussions should occur before patients are in crisis and should be part of every patient's individualized care plan.^{14,15} A conversation with older patients about what matters most to them¹⁶ and their goals of care should not lead healthcare providers to infer incorrectly that simply having had a goals of care discussion signals a clear preference for limited interventions. Also, providers should be aware that care plans developed for anticipated longer term declines in health may not be applicable to sudden emergencies such as COVID-19, and it is inappropriate to infer from a do not resuscitate (DNR) order that a particular patient would necessarily refuse mechanical ventilation.¹⁷

Achieving Justice in Resource Allocation

A just healthcare system should treat similarly situated people equally, as much as possible.¹⁸⁻²⁰ There is something particularly unjust about membership in a class, such as an age group, determining whether a person receives health care. Not only is membership in a class defined by characteristics such as race, sex, or age, beyond the individual's control, but the use of these criteria might conceal implicit biases and other social inequities. Health care may be distinct in terms of requiring equal access because it is critically important to many other goods in life across the life span. These factors suggest that basing resource allocation decisions on advanced age may violate the ethical principle of justice.

Resource allocation strategies, such as those proposed in response to COVID-19, rely on different notions of distributive justice. There are many contested theories, and each theory claims to represent justice in the priority given certain factors or values when goods are distributed to society. In this position statement, we seek to defend a particular view of distributive justice that maximizes relevant clinical factors and either deemphasizes or eliminates factors that place an arbitrary and disproportionate weight on advanced age.

Legal Considerations

The nondiscrimination section of the Affordable Care Act (ACA), § 1557, prohibits discrimination in federally funded healthcare programs on the grounds prohibited by the Age Discrimination Act of 1975, 42 U.S.C. §§ 6101-6107. The Age Discrimination Act applies to discrimination on the basis of age and includes exclusion from participation in, or denial of the benefits of, any program or activity receiving federal financial assistance. Resource allocation strategies that use age as a categorical exclusion violate this provision of federal antidiscrimination law. Whether provisions of the Age Discrimination Act beyond identifying age as a category are also included by reference in § 1557 is an unsettled legal question, but if they are, they would permit age to be used as a proxy for some other characteristic, such as survivability, that is necessary to the statutory objective or to the business and that cannot practically be measured in an individualized way. The statute and implementing regulations would also permit use of reasonable factors other than age that have a disproportionate effect on persons of different ages, if the factor bears a direct and substantial relationship to the program's normal operation or statutory objective.²¹ The legal question then would be whether factors such as long-term survival or life-years lived are reasonable factors other than age that meet this standard.

RECENTLY PUBLISHED SCORING SYSTEMS AND FRAMEWORKS

In the COVID-19 pandemic, as in the H1N1 pandemic, the Sequential Organ Failure Assessment (SOFA) score was shown to be associated with in-hospital mortality,²² supporting its use as a measure of severity of illness and in-hospital mortality. Importantly, SOFA does not incorporate age, unlike other commonly used measures of severity of illness such as the Acute Physiology and Chronic Health Evaluation.

Several frameworks have been published to guide the allocation of scarce resources during a public health emergency.²³⁻²⁶ The multi-principle allocation framework recently endorsed by the Commonwealth of Pennsylvania²⁷ built on a decade-long effort^{5,28} that included community consultation.²⁴ The primary triage score is determined through equal weighting of the likelihood of in-hospital survival (via the SOFA score) and the presence of underlying medical conditions that limit prognosis for "near-term" survival (i.e., when the patient is very likely to die within 1 or 5 years of a condition unrelated to the acute illness).

A few points about this protocol deserve special mention. First, the authors emphasize, as they did in prior work,²⁸ that categorically excluding groups of patients is ethically and legally problematic. As such, no patient group is categorically excluded from entering the triage protocol, despite categorical exclusions still existing in other state protocols.⁸ Second, points are assigned for underlying medical conditions if the clinician is confident that death will occur within 1 year (4 points) or 5 years (2 points) from that condition(s) independent of the acute illness. Third, lifecycle considerations are not incorporated into the initial scoring algorithm but are considered in the event that a tiebreaker is needed. Age is suggested in this framework as the first tiebreaker and frontline worker status as a second tiebreaker, with subsequent tiebreakers including raw score comparison (if not previously used) and finally, a lottery.

ISSUES CONSIDERED IN DEVELOPING AGS RECOMMENDATIONS FOR RESOURCE ALLOCATION STRATEGIES IF EMERGENCY RATIONING IS REQUIRED

Age as a Determining Factor

Some proposed rationing strategies would use age cutoffs to categorically deny admission to an ICU or ventilator support.^{8,9} For example, Italy reportedly made decisions using age cutoffs.²⁹ In the United States, § 1557 of the Affordable Care Act prohibits age discrimination in all healthcare programs or activities receiving federal funds or administered by the executive branch of the U.S. government. The statute defines discrimination to include exclusion from participation in or the denial of benefits of any health program or activity.³⁰ Rationing strategies relying on age cutoffs would deny the benefits of a health program based on age and thus would be illegal discrimination under § 1557 unless they can be justified by other factors.

Age cutoffs are also ethically worrisome. Categorically excluding groups of patients from access to scarce resources ignores the enormous heterogeneity of functional status, cognitive status, and burden of comorbidities within the older adult population. A robust body of literature demonstrates that although age can contribute to models that are predictive of mortality and poor functional outcomes, other factors, such as functional trajectory,³¹ multimorbidity,^{32,33} and frailty,^{34,35} are more predictive. Thus, age alone is a poor proxy for projected outcomes. In particular, rationing strategies based in part on age cutoffs could lead to persistent beliefs that older adults' lives are less valuable than others' lives or are even expendable.²⁸

Age as a Tiebreaker

Other proposed rationing strategies rely on age as a factor, perhaps in a "tiebreaking" role after a primary allocation strategy using in-hospital survival and short-term survival has been used.³⁶ These strategies bring age into account after the patient has been individually assessed for the likelihood of benefit from ICU or ventilator care. One resource allocation framework developed with community input recommended that prognosis for short-term and long-term survival should be considered initially, and if a tie occurs, life stage could be used as a secondary

criterion.³⁶ This reported framework gave highest priority to children and to adults aged 49 years or younger.

Whether strategies that use age only as a tiebreaker violate nondiscrimination criteria raises difficult legal and ethical questions that have not been resolved. On the one hand, use of age as a tiebreaker does mean that in some cases age will be the final factor used in determining which patient receives care. Such categorical use could be considered discriminatory. However, § 1557 incorporates the criteria for nondiscrimination in the Age Discrimination Act by reference.^{30,37} These questions are also raised by criteria that will predictably have a differential impact on older adults.

Criteria with a Differential Impact on Older Adults

Nearly all prioritization recommendations reject taking so-called quality-of-life measures into account. These are frequently biased and value-laden with judgments about what makes a life “worthwhile” or “worth living.” They may also be based on implicit assumptions about the moral status of individuals based on classifications such as age or disabilities.

Criteria such as “life-years saved,” “long-term predicted life expectancy,” or “life-years lived,” although not referencing age directly, nonetheless will predictably disadvantage older people relative to younger people. The use of such factors correlated with age, but not explicitly relying on age as a class, does not violate federal law so long as the factors are reasonable when disconnected from their relationship to age. Based on a Westlaw search of all reported federal court decisions by one of the authors, it appears that no reported decisions have considered whether factors such as that an older person’s life expectancy might be shorter than a younger person’s are “reasonable factors other than age” that would be permitted under § 1557 of the ACA and the Age Discrimination Act. The permissibility of using these factors may depend on whether they are based on validated data or represent the best available measures under the circumstances.

Predicted life expectancy is based on assessments of individual patients. Some versions of this approach would consider only near-term prospects of death from comorbid conditions, for example whether a patient has widely metastatic cancer or a massive intracranial hemorrhage that is likely to result in death within a short period of time. This approach can be justified on the basis that even if the patient survives the episode of care for COVID-19, the benefit will be very limited given these comorbidities. One concern about the predicted life expectancy approach is that it may amplify implicit bias and ignore social drivers of health associated with reduced life expectancy in underresourced populations.³⁸

“Long-term predicted life expectancy” is more likely than near-term survival to incorporate ageist considerations. Age has traditionally been used as *the* proxy for life expectancy. And although it does play some role, older adults of the same age can have very heterogeneous health status and trajectories.³⁹ One ethical concern about this approach is that long-term predictions of life expectancy are notoriously unreliable.⁴⁰ Unfortunately, even when clinicians aim for accurate life expectancy predictions for cancer screenings, diabetes mellitus treatment, or joint replacement surgery, age continues to play a more powerful role than expected.⁴¹ Like many statistical models, models

that aim to predict long-term life expectancy in older adults are designed based on population norms and available samples, and they are subject to bias from unmeasured or partially measured variables. Although invaluable for population health planning and informing choice in medicine, these models for older adults often have wide confidence intervals surrounding most point estimates and are often imprecise at the individual patient level. Although other measures, such as gait speed, might predict mortality and life expectancy in those aged 75 years and older, this is not routinely measured in primary care⁴² and could not be realistically applied in the setting of acute illness. Given that few validated measures can precisely predict long-term life expectancy at the individual level for each older adult, the concern here too is that older adults will have their life expectancy predicted based on their age alone, rather than factoring in their individual characteristics.

The “life-years saved” measure was proposed as a justification for some prioritization frameworks that use age as a factor.⁶ It is based on a utilitarian idea of resource stewardship that resources should be used to do the most societal “good.” This approach is based on the expected outcome overall and assumes that if age is used as a tiebreaker, then more years of life will be saved. The AGS finds this approach problematic because it is not based on an individualized assessment and therefore might disfavor older patients.

“Life-years lived” includes the so-called fair innings argument that people who have had the opportunity to live through more life stages should receive lower priority than those who have not.⁴³ According to this argument, people who are older have had more of a chance to experience the goods of life: they have gone through early adulthood, perhaps had families and enjoyed careers, and maybe even reached retirement and the joy of becoming grandparents or great-grandparents. Younger people have not had these chances, and so, the argument goes, they should receive higher priority. This argument assumes that innings are fair based on the number of years that people have lived. However, this argument can be criticized on the basis that some older people, especially women or people in poverty, may not have had the advantages that others experienced at earlier stages in life. Another criticism of this fair innings argument is that the goods of life matter at any stage of life and that comparative judgments about what counts as having had more of the goods of life simply cannot be made. It also ignores that we are all continually changing, and this dynamic process includes positive aspects at every stage. Further, older adults may have just begun to appreciate the social, emotional, and cognitive growth that comes with age, and neither they nor the community at large should be denied the ultimate benefit of these insights and perspectives.⁴⁴

Individual Choices and Advance Directives

Some commentators have suggested that older individuals may choose to forgo opportunities for ventilator support or intensive care based on an absolute age cutoff.⁴³ Although some patients may choose to use this criterion for their care planning, this should not be universally imposed on all

older adults to determine rationing decisions or be expected to alleviate shortages.

Respect for autonomy is an important moral consideration, and patient choice should be honored. People should be strongly encouraged to make their wishes known through a carefully considered advance directive. In emergency situations, such as COVID-19 infection, identification of the patient's chosen surrogate decision maker may be especially important. However, the AGS urges two critical cautions about advance directives in the COVID-19 pandemic.

First, patients who are severely ill with COVID-19 may not have advance directives and may not be in an appropriate position to make their wishes known in a thoughtful manner. They may be afraid, short of breath, hypoxicemic, or have a rapidly deteriorating clinical status. In such circumstances, they should not be even subtly pressured to make care decisions on the basis of conserving resources. Second, physicians should also not engage in preemptive rationing, where pressure is placed only on older adults or their families to reconsider their advance care planning and to elect Do Not Resuscitate/Do Not Intubate (DNR/DNI) status. The lack of reliable information about fatality rates among patients with COVID-19 might encourage decision making that is based too much on fear or on unreliable media portrayals.

Advance identification of patients' chosen decision makers may be especially important in the COVID-19 pandemic. These decision makers will be able to respond flexibly to changes in the patient's condition and survival prospects. Patients with existing advance directives should still be asked about their wishes if they are able to respond in addition to reaching out to surrogate decision makers when appropriate. Finally, physicians should not interpret patients' DNR orders to assume that they would also reject a completely different intervention such as mechanical ventilation. A DNR order should also not be interpreted as a reason to avoid providing other types of care, whether curative or palliative.

Racial/Ethnic Disparities and Resource Allocation

Emerging data indicate that members of underrepresented minority groups are being disproportionately affected by COVID-19. In Michigan, 41% of persons who have died from COVID-19 are black or African American.⁴⁵ In Louisiana, African Americans account for 58% of COVID-19 related deaths.⁴⁶ In New York City alone, Hispanics make up 29.7% and African Americans 30.5% of COVID-19-related deaths while making up 29% and 24% of the city's population, respectively.^{47,48} It stands to reason that older adults in these underrepresented minority racial and ethnic groups are also experiencing increased morbidity and mortality related to COVID-19, and the striking disparities that are being amplified with this pandemic are related to racial and ethnic differences in social determinants of health including socioeconomic status, education, neighborhood, physical environment, and access to health care. Disparities in health are often multifactorial, with explicit and implicit biases serving as contributors. Injustices related to resource allocation based on age may be compounded by biases related to race, ethnicity, or sociodemographic status,

thereby further potentiating disparities in health for underrepresented minority older adults. For example, assessment of comorbidities in resource allocation strategies may be inherently biased against underrepresented minority groups, as inadequate access to primary care, and the development of chronic illness that is more severe than a patient with adequate access to primary care, may result in worse overall scores in these strategies.

SUMMARY

Front-line providers should not be expected to make rationing decisions in isolation, and therefore they must have guidance from clear, consistent, transparent, and uniformly applied ethical resource allocation strategies, triage officers and committees, and updated information about the availability of healthcare resources so that resource allocation strategies are not activated inappropriately. In this article, we reviewed a number of ethical frameworks that include age as a criterion for emergency resource allocation strategies during the era of COVID-19. Ethical multifactor resource allocation strategies exist that rely on in-hospital survival and severe comorbidities contributing to short-term (<6 months) mortality. Extreme care must be taken to consider the disparate impact on older adults of assessing comorbidities as part of resource allocation strategies because older adults are heterogeneous with respect to burden of comorbidities and functional status. Racial and ethnic minorities are at even greater risk of the disparate impacts of assessing comorbidities in resource allocation strategies. We concluded that when developing and implementing such strategies, key stakeholders including ethics committees, healthcare systems, and policymakers must not apply categorical age exclusions because such exclusions are unethical and violate antidiscrimination law. Ideally, ethical resource allocation strategies will be developed and integrated into institutional policies when an institution is not in crisis. We believe that now and in the future, intensive efforts to provide meaningful advance care planning must occur to ensure that patients' wishes are respected. Older adults would be well served by an intensive post-pandemic review of resource allocation strategies.

ACKNOWLEDGMENTS

We wish to acknowledge Nancy Lundebjerg, MPA, CEO of the American Geriatrics Society (AGS), for her editing and input during manuscript preparation. The authors also wish to acknowledge Mary Jordan Samuel, associate director for governance and operations, Dan Trucil, MA, MPH, associate director, communication, and Aimee Cegelka, MA, senior manager of education and special projects, of the AGS, for their assistance with manuscript formatting and submission. The AGS Executive Committee (on behalf of the AGS board), the AGS Ethics Committee, and the chairs of the AGS Ethnogeriatrics and Clinical Practice and Models of Care Committees provided feedback on the manuscript. The following expert reviewers provided feedback on the manuscript: Mary Mulcare, MD, FACEP, and Michael Stern, MD, from the Department of Emergency Medicine, Weill Cornell Medicine/New York-Presbyterian Hospital; Chakravarthy Reddy, MD, from the University of Utah School of Medicine and

Huntsman Cancer Institute; and Douglas B. White, MD, MAS, from the Department of Critical Care Medicine, University of Pittsburgh, and Program on Ethics and Decision Making in Critical Illness. Tony Rosen, MD, MPH, appreciates the generosity of the Razak family in allowing him to live in their home during the COVID-19 pandemic. Timothy W. Farrell, MD, AGSF, dedicates this manuscript to the memory of Bernard Gert, PhD.

Financial Disclosure: Participation by Lauren E. Ferrante (K76AGS057023), Tony Rosen (K76AG054866), and Caroline Stephens (K76AG054862) was supported by Paul B. Beeson Emerging Leaders in Aging Career Development Awards from the National Institute on Aging. Leah J. Witt's (K01HP33446) participation was supported by a Geriatrics Academic Career Award from the Health Resources and Services Administration (HRSA), an operating division of the U.S. Department of Health and Human Services.

Conflict of Interest: The authors have declared no conflicts of interest for this article.

Author Contributions: *Concept and design:* Farrell, Francis, Brown, Ferrante, Widera, Rhodes, Vitale, and Saliba. *Analysis and interpretation of data:* All authors. *Manuscript preparation:* Farrell, Francis, Brown, Ferrante, and Saliba.

Sponsor's Role: None.

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