

believe our health professions colleagues, societies, and systems need to go beyond declarations — that each must review its own history, structures, workforces, and policies in an approach dedicated to truth and reconciliation and that we must all proactively engage in the battle against structural racism and health inequities to bring about a new era of antiracism in medicine.

Specifically, we urge individuals and institutions throughout the health professions to follow and support the recommendations of the American Public Health Association and others who call for a reimagining and reallocation of police and policing resources. Without this action, the tragedies that sparked this time of reflection will continue.

More broadly, we believe a new understanding and embrace of diversity are needed, up to the highest levels of medicine and public health — diversity that goes beyond representation to em-

powerment of the identities, ideas, and lived experiences that can deepen our collective consciousness and prevent the willful ignorance of the past.

National and institutional funding is needed for efforts aimed at actively ending health inequities — funding that matches support for traditional disciplines and consistently embeds consideration of the perpetuation or creation of inequities into all health care, education, and research.

The health professions must continue to engage with the complex social and structural determinants of health that intersect with politics and law. Addressing the health effects of structural racism cannot be accomplished through clinical, educational, or research activities alone; social advocacy and activism are required to employ antiracist policies targeting specific health inequities. For this reckoning to be more than a moment, we must confront our history, embrace discomfort,

evolve, transform, and commit to a new era of antiracism in medicine.

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## Improving Clinical Trial Enrollment — In the Covid-19 Era and Beyond

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More than 3 million people in the United States are known to have been infected with SARS-CoV-2.<sup>1</sup> If every study registered on [clinicaltrials.gov](https://clinicaltrials.gov) as of mid-June meets its target enrollment, less than 4% of those diagnosed with Covid-19 will have been enrolled in a randomized, controlled trial. In the face of a new disease in dire need of proven treatments, every patient not offered enrollment in a well-designed, well-conducted study represents a missed opportunity to advance scientific knowledge,

develop therapeutic strategies, and ultimately improve care for everyone who will come next.

Evaluating the many unknowns inherent in a novel infection emerging on this scale requires a broad national (and international) trial infrastructure. Without it, clinical gestalt and idiosyncratic practice variation become the foundation for so-called standards of care. In Covid-19, this approach has led to the widespread, off-trial, off-label use of medications — from hydroxychloroquine to statins to tocilizumab, among

many others — that may have a plausible scientific rationale but have no demonstrated benefit in this disease.<sup>2,3</sup> Instead of answering questions systematically by enrolling the smallest number of participants required to power definitive trials, such practice patterns expose thousands of patients to the potential risks of untested interventions with no reliable way of drawing conclusions about efficacy and safety.

The formidable barriers to designing, implementing, and completing clinical trials, especially

in the midst of a pandemic, are clear. Well-conducted studies require resources — dollars, trained investigators, research staff, and oversight teams — at the same time that hospitals throughout the country have redeployed every available asset to increase clinical capacity for patient care. Developing trial protocols, recruiting collaborators, securing funding, obtaining regulatory approval, and launching a randomized trial usually takes a year or more. In this pandemic, the critical volume of patients compressed that time frame, in some cases to a matter of weeks. With hundreds of proposed interventions, medical centers faced choices about how to prioritize potential trials.

To meet these challenges, our hospital, Massachusetts General Hospital, established a centralized scientific review committee, in addition to the ethical oversight of the institutional review board, to determine the portfolio of Covid-19–related trials that would be launched and to continuously evaluate newly proposed studies. This committee based decisions on scientific priority (How important and answerable is this research question?), the number of participating sites (Will this be a multisite trial that would be able to continue enrolling if case numbers fell here?), and logistic considerations (How much scarce personal protective equipment will be required to complete the study?). Such a process ensures that selected trials are diverse in approach, targeted at multiple viral and host pathways, and structured to maximize the chance that the research question will be definitively answered.

Centralizing key elements shared among trials is an important mechanism for overcoming resource constraints and prevent-

ing prioritization of the best-funded trial over those with the greatest potential impact. For example, rather than requiring each study team to provide personnel to draw blood for laboratory tests, administer study drugs, and organize data entry, a core group coordinated these procedures across trials. Especially in the context of a disease that is disproportionately affecting vulnerable communities, centrally committing resources to have the ability to obtain informed consent in every needed language is critical to ensuring access and inclusion for patients with limited English proficiency.

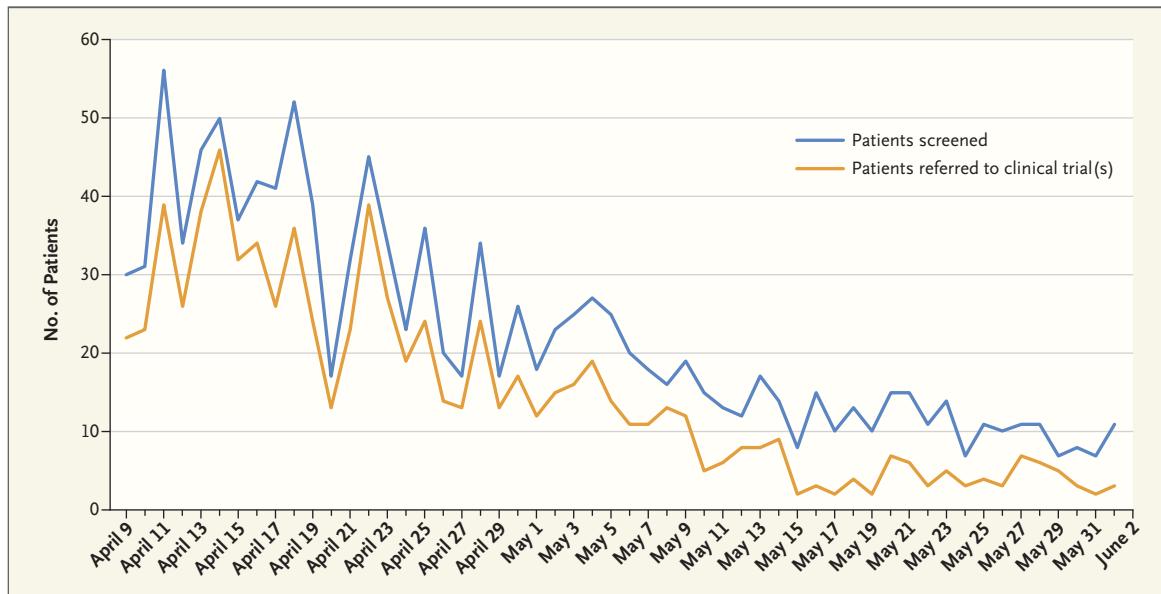
Having eight or more trials seeking to enroll patients on a given day crystallizes the logistic challenges of simultaneously conducting studies that broadly target the same patient population. Without a coordinated central effort, the default would be to have study teams each create their own independent processes for identifying and approaching patients. Such a system would advantage teams with the largest staffs that could identify and recruit patients at all hours of the day or night, and it could create confusion and chaos for patients, families, and care teams.

Alternatively, inpatient care teams could have the primary responsibility for referring their patients to specific trials. However, in addition to adding another task to busy clinicians' workflow, this approach could lead to referrals based on arbitrary factors such as which trial a particular clinician happened to have heard about — and it would risk missing eligible participants altogether. A rotating schedule could give each trial priority on a specific day of the week, but given the variation in

daily admissions (Sunday mornings, we noticed, often had the fewest new admissions), this approach could introduce unpredictable, systematic bias into the selection process.

We therefore developed a process for centrally identifying and screening, according to each trial's inclusion and exclusion criteria, every patient newly admitted to the hospital or newly diagnosed with Covid-19, and for organizing the way they would be approached for enrollment. We also regularly rescreened all previously admitted patients to identify anyone who might newly meet eligibility criteria as their clinical syndrome evolved. Our process is similar to those implemented by other hospital systems<sup>4</sup> and was developed with the goal of offering access to clinical trials equitably to as many patients as possible.

As we continue to improve this approach, involving patients and families as central stakeholders is critical. Many questions require further work and rigorous evaluation: In a rapidly changing landscape with multiple potential trials, what is the right amount of information to provide to study participants that enhances rather than obfuscates informed consent? Does the physical separation forced by Covid-19 that prevents family members from being at the bedside affect patients' understanding of the risks and benefits of proposed interventions during the consent process? How does the intense media scrutiny of potential treatments for Covid-19 affect patients' interest in clinical trials? Improving our understanding of these — and many other — questions will be important as we work to further develop the infrastructure to support clinical trials.



Number of Patients Screened at Massachusetts General Hospital for Covid-19 Clinical Trials, April 9 to June 1, 2020.

So far, we have screened more than 1300 patients for 11 trials (the graph shows the number of patients screened and referred to clinical trials each day between April 9 and June 1, when our cases peaked and then declined). In total since the beginning of the pandemic, more than 350 patients have been enrolled, the majority of them after establishment of this centralized screening system. A rapidly evolving trial landscape has to build on new data as they emerge. For example, after it was announced that the remdesivir trial had met its primary end point,<sup>5</sup> all currently enrolling studies either had to allow patients to receive remdesivir or could approach patients only after they were evaluated for remdesivir as part of standard care under the emergency use authorization.

Local case numbers have come down, yet Covid-19 continues to surge around the country. How these trends will evolve remains to be seen, but some ebb and flow seems likely over the summer and into the fall. As we move

through this pandemic, three future directions are critical. First, we must maximize trial access and enrollment to answer the many open questions regarding the best possible care for patients with Covid-19. Second, we must improve national platforms to promote collaboration in clinical trials. A trial infrastructure fixed in a single location is inadequate for targeting a virus that is moving through geographic hot spots. Third, we should adapt this research infrastructure to answer questions beyond Covid-19. Every day in clinical practice, we apply so-called standards of care that are based not on good data but on expert opinion that is ripe for a challenge in the form of a randomized trial. A commitment to approaching such questions rigorously by sustaining a broad inpatient clinical trial network will improve the care we can provide to all patients — in the Covid era and beyond.

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