Dædalus

Journal of the American Academy of Arts & Sciences
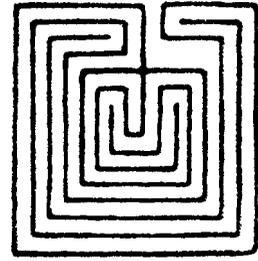
Fall 2023

Mental Health

Arthur Kleinman, guest editor

with Anne E. Becker · Giuseppe Raviola
Laura Sampson · Laura D. Kubzansky
Karestan C. Koenen · Jeffrey W. Swanson
Mark L. Rosenberg · Helena Hansen
Kevin J. Gutierrez · Saudi Garcia
Jonathan M. Metzl · Gary Belkin
Joseph P. Gone · Kay Redfield Jamison
Anne Harrington · Steven E. Hyman
Allan V. Horwitz · Jerome C. Wakefield
Isaac R. Galatzer-Levy · Gabriel J. Aranovich
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Atif Rahman · Caleb Gardner

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The images on the inside covers are meant to suggest the cultural, historical, and scientific contributions to the mental health field and to point to the significance of mental health in our society and globally.

Inside front cover : (top) Julia, a sixty-year-old woman with schizophrenia in Carabayllo District, Peru, receives follow-up care and support from Community Health Workers during the COVID-19 pandemic. This community support is part of the Partners In Health initiative Many Voices Collaborative in Community Mental Health. Photograph © 2022 by Joanna Arcos/Partners In Health.

(middle) Opponents of New York Mayor Eric Adams's plan to expand powers to involuntarily send mentally ill homeless people to psychiatric hospitals participate in a rally at City Hall on December 8, 2022, in New York City. Photograph © 2022 by Spencer Platt/Getty Images.

(bottom) The Kilkaari intervention was delivered by project workers as part of a cluster randomized trial in Haryana, India. The intervention was based on the WHO Nurturing Care Framework, which focuses on supporting early child development in the first one thousand days of life. Photograph © 2008 by E. Quesada.
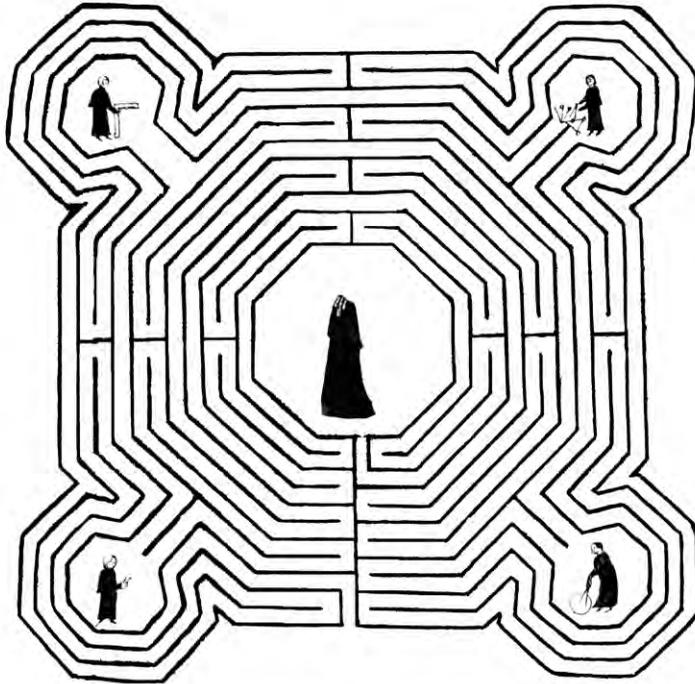
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The pavement labyrinth once in the nave of Reims Cathedral (1240), in a drawing, with figures of the architects, by Jacques Cellier (c. 1550–1620)

Dædalus was founded in 1955 and established as a quarterly in 1958. Its namesake was renowned in ancient Greece as an inventor, scientist, and unriddler of riddles. The journal's emblem, a labyrinth seen from above, symbolizes the aspiration of its founders to "lift each of us above his cell in the labyrinth of learning in order that he may see the entire structure as if from above, where each separate part loses its comfortable separateness."

The American Academy of Arts & Sciences, like its journal, brings together distinguished individuals from every field of human endeavor. It was chartered in 1780 as a forum "to cultivate every art and science which may tend to advance the interest, honour, dignity, and happiness of a free, independent, and virtuous people." Now in its third century, the Academy, with its more than five thousand members, continues to provide intellectual leadership to meet the critical challenges facing our world.

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Preface

Arthur Kleinman

I have been a participant in the mental health field for over half a century as a practitioner, researcher, educator, and advocate. When I presented the first *World Mental Health Report* to the United Nations in 1995, I nonetheless had too little an appreciation for just how huge and severe the mental health crisis would become. Nor did I understand that the stigma regarding common mental health problems would lessen under the pressure of the current mental health crisis, exacerbated by the COVID-19 pandemic and the escalating drug-use epidemic, such that ordinary public discourse about mental health would become mainstream. The time to engage deeply and actively with mental health has come. I thank the American Academy of Arts and Sciences for giving me the opportunity to organize this issue of *Dædalus* entirely around the subject of mental health, and the authors themselves for their important contributions.

As editor, I have brought a perspective to bear that places the burden of mental suffering in societal context, where history, economic forces, poverty and violence, race, gender, cultural norms, personal agency, and social experience are given prominence. And where tough questions also beg to be asked about the biomedical-research, institutional, and policy orientations and commercial considerations that have come to dominate the field and constrain the responses of clinicians and health agencies.

The contributors' engagement with mental health illustrates the profound suffering and the search for healing and relief confronting so many in our own society and in countries poor and rich across the globe. While this volume has fourteen essays, they are still insufficient to convey the breadth and reach of this vast subject. Collectively they offer timely illustrations of what much of mental health and care is, or should be, about. Yet they are only an introduction to the key issues that matter to ordinary people and professionals. They convey the extraordinary seriousness and scope of the mental health crisis, but they also describe approaches and interventions that have promise in quite different contexts. I trust that the wisdom and experience of the contributors will inspire, inform, and validate the efforts of so many who are working to find ways to relieve mental ill health and suffering in the most diverse of social and economic contexts.

We urgently need a political movement for mental health that is grounded in a moral purpose, similar to that for HIV/AIDS in the late 1980s and 1990s that produced such wide-ranging benefits for treatment, policy, research, teaching, and advocacy. In 2016, together with Jim Yong Kim, then president of the World Bank, and Margaret Chan, then head of World Health Organization, I organized a multi-day conference, Out of the Shadows. We hoped the international gathering would be one inflection point for building a global movement. The contributions to this volume of *Dædalus* are intended to orient and inspire conversations and action toward such a movement at global and local levels. It is my hope that these essays will provide encouragement to those living with mental health conditions and those working in the community and clinic, as well as researchers and teachers of coming generations, who are committed to the relief of mental and social suffering. If stakeholders ranging from major multilateral organizations to local communities can be supported to fight the most devastating of infectious diseases, so too could we see a global force for mental health in prevention, care, and treatment.

I wish to thank the contributors, especially Anne Becker and Giuseppe Raviola, as well as Phyllis Bendell, Key Bird, and Peter Walton of the *Dædalus* staff, and our readers for focusing on what is at stake for mental health and those who care deeply about it.

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Introduction:
How Mental Health Matters

Anne E. Becker, Giuseppe Raviola & Arthur Kleinman

The underpinnings of today's mental health crisis include both social structural inequities and neurobiological vulnerabilities. The COVID-19 pandemic has compounded and escalated a long-standing problem, rendering the mental health crisis and its dangerous consequences visible and exigent. We now possess a clearer and more nuanced understanding of the broken mental health care system and its serious inadequacies, as well as its potential for effective caregiving. The professional forms of knowledge and practice are paralleled by an even more substantial system of care involving families, networks, communities, and, of course, those living with mental health conditions themselves. Even when delivered by community care workers, psychotherapy can be as effective as somatic treatments for some mental health conditions. Harm reduction and other public health approaches offer means of preventing or mitigating the disastrous human toll of the substance use disorder epidemic. Social technology offers new opportunities for enhancing mental health and well-being. With these informal systems alongside standardized health care systems, the future could realize a mental health care system with much greater potential to avert the worst harms and offer effective care to many more.

Everyone finally seems to get it now. The COVID-19 pandemic has made it so very clear and convincing: we are all vulnerable to mental distress. The types may be diverse – depression, anxiety, panic, trauma, eating disorders, psychosis – but the choke, the sting, the fear, the psychic pain and chaos are terribly real and very disabling, and the residual effect of the pandemic on mental health has been enormous. For the time being, even the outright discrimination and subtler forms of stigma attached to mental illness have subsided enough to empower more and more of us to disclose our inner struggles and trace their connection to our highly stressed worlds. In turn, we learn that there are effective therapies and competent practitioners, only not enough of them. And the systems of care are just as problem-plagued, costly, and egregiously inadequate as the rest of health care.[1]

In high-, middle-, and low-income countries alike, half of the world's population will develop a mental illness over the course of their lives. Worldwide, de-

pression is among the most disabling health conditions.[2] Alzheimer's disease and schizophrenia are among the costliest health problems to treat.[3] War, migration, and the intersection of violence and poverty, especially as they affect women and children, create a huge toll of trauma. As does loneliness for both physical and psychic pain, as well as social media for adolescent anxieties. The epidemic of substance abuse killed more than one hundred thousand Americans in 2021 through overdose deaths, representing a nearly 29 percent increase from the prior year.[4] The intersecting epidemic of suicide may again be worsening.[5] The syndemic of domestic, street, and community violence also is neither controlled nor lessening. Climate change has brought with it the growth of climate anxiety – along with the traumatic consequences of extreme weather events – as yet another mental health consequence of the increasing recognition of how dangerous and uncertain our times are. Yet mental illness, which contributes significantly to suicide, has been repeatedly shown by researchers not to be a significant cause of the mass murders that also beset America. Guns are.[6]

So broken and failing are our health care services in the United States for the chronically mentally ill that, in actuality, it is on the streets of American cities, in our jails and prisons, in emergency rooms and primary care clinics where most of those with chronic psychosis are to be found. Deinstitutionalization has taken us from too many hospital beds for the mentally ill in the 1950s to far too few today, and it never was followed up with robust community services as intended and promised.

Globally, low- and middle-income nations spend less than 2 percent of their total health budgets on mental health care, despite epidemiological studies showing that mental health problems are among the largest contributors to the global burden of disease in their countries and among the top causes of disability.[7] Between 75 percent and 90 percent of people living with serious mental health problems in these underresourced countries do not receive a formal diagnosis or treatment.[8] For the past two decades, the World Health Organization (WHO) has recommended a range of components of formal and informal community mental health services that can be built within and outside of clinical facilities.[9] For example, the WHO encourages providing a spectrum of mental health services, including general hospital services, specialty clinical care and support, and psychosocial rehabilitation and residential services, that extend care delivery to homes and public spaces in the communities where people live.[10]

But what are the most useful ways of responding to the mental health crisis? Is it through medicalized mental health care systems? Or is it via the preventive and harm-reduction approaches of public health? Or do we need to separate out those problems that are better handled in families and communities from those requiring medical treatment? Indeed, is the medical model of psychiatry more availing for ordinary depression and anxiety disorder? Or is it more helpful to reimagine

these conditions as responses to loss and other types of social adversity that require a different kind of societal response? Will technologies that strengthen telepsychiatry remake the mental health care system? And as we seek to increase access to treatment – especially for the poor – what quality of care will they receive? Have the prioritization of commercial interests in health delivery and a solely economic language of mental health policy undermined quality care?

The essays in this issue of *Dædalus* do not provide definitive answers to these crucial questions. Rather, the authors seek to characterize the many facets of the contemporary reality of mental health in society. They present views of where we are, what works, what has failed, and what is most promising. They also draw on history to explain how we have gotten to where we are and to help us reimagine where we might head to create a more useful future state for mental health. We are told, in a variety of ways, how the basic science and clinical disciplines seeking to understand and respond to mental illness and its attendant suffering have fallen short. These deficits are apparent across the spaces of psychiatry, psychopharmacology, neuroscience, psychology, social work, public health, and a range of services in each of these areas. These essays direct our attention to where and how our current approaches have not gone far enough or have outright failed, what we can learn from these shortcomings, and how we can reenvisage paths toward improving mental health. With a particular focus on the social determinants of poor mental health, several of the authors make the important point that the clinical targets of intervention in mental health make up too narrow a scope to be effective in reducing the enormous burden of suffering. Across the essays in this issue, regardless of whether the authors examine the targets of intervention, therapeutic approaches and their mode of delivery, or focus on scale and location of delivery, they converge on the conclusion that mental health needs are urgent and will demand a more robust, extensive, and innovative range of responses than what is presently offered.

This collection is a serious rebuttal and rebuke to a great deal that is ineffective, myopic, and inadequate about the aspirationally allied fields dedicated to understanding mind, body, society, and their interface with mental health and well-being. Importantly, it also points to remedies and innovations that can retool these approaches and have potentially transformative impacts on mental health. Several of the essays contest the adequacy of biomedicine – and the scientists, other academics, and health professionals who operate within its logics – to frame the right questions and to respond to mental distress and suffering that are outcomes of historical and contemporary structural violence. They justifiably critique a narrow view of who is authorized to generate knowledge to respond to mental health needs, and ask whose perspectives, voices, and ways of knowing have been excluded. Among those who have been disregarded and historically marginalized are communities of those with relevant lived experience, whose exclusion not

only replicates the dynamics of structural inequities, but also misses opportunities to integrate cultural knowledge germane to the repair of historical injustices and to the healing of collective harms that continue to perpetuate distress, suffering, and all the injuries of adversity.

We are experiencing a true crisis of care. Psychiatrist Thomas Insel and others have described this crisis convincingly as stemming from, among other deficiencies, a lack of capacity of the current mental health system, access to quality care, and social safety nets. With deinstitutionalization over the past half-century, there has been a 95 percent reduction in state mental health beds in the United States. This sequence of events and its fallout paved an unfortunate path to what has been, in effect, the criminalization of mental illness and the transformation of the criminal justice system as the de facto mental health system.[11] People living with serious mental illness are, moreover, among the most vulnerable in our society; on average, they experience a reduction in life expectancy of more than ten years.[12] And yet, there are a variety of proven and effective treatments available for treating mental disorders. These include not only medications, but psychological treatments, newer biological and neuromodulatory treatments, and rehabilitative interventions, such as assertive community treatment, supportive employment and academics, supportive housing, family psychoeducation, and clubhouse models of care. And despite a collection of effective interventions in the United States, with 21 percent of Americans experiencing a mental illness, over half of people living with a mental illness are not receiving care.[13] This is in a country with more than 40,000 psychiatrists, well over 100,000 psychologists and other therapists, and more than 700,000 social workers. The crisis of care is therefore also clearly a crisis of care *delivery* that requires strategic solutions to restructure the workforce and the way health care providers work.

A human rights approach is a key foundation for further needed change. The United Nations Convention on the Rights of Persons with Disabilities, adopted in 2006, is an international human rights treaty that serves as a cornerstone for the contemporary disability movement.[14] It has given voice to those who are among the most unheard and most stigmatized, and it has insisted on the protection and advancement of their rights. A more recent movement to integrate concepts of neurodiversity and neurodivergence for describing conditions of human cognition, such as autism, attention-deficit hyperactivity disorder, and dyslexia, represents an ongoing evolution toward greater demedicalization of supports for those living with these conditions.[15]

It is notable that the structural barriers that exist to access safe, effective, quality mental health care are so much greater for people of color and other less advantaged communities, and that these barriers have been both compounded and revealed by COVID-19. And they remain unchanged in the transition to a postpandemic period. The essays in this volume speak to this reality and to the need

for new commitments to equity, cultural relevance, and structural competency in addressing it, and a future that will require placing a greater emphasis and priority on populations more at risk in the context of climate change and rapid social change. Mental health care needs to be reframed to better serve less advantaged communities. Mental health care delivery needs to be seen increasingly through the lens of diversity, social equity and justice, and decoloniality.

Taken together, these considerations are intended to inform our awareness, understanding, and attunement – our capacity to listen – to the emotional and social suffering of individuals living with a mental health condition. The COVID-19 pandemic has highlighted preexisting inequities in the availability of mental health services and raised awareness about the urgent need for functional and accessible systems of care delivery.[16] Global locations most affected by the pandemic also experienced the greatest increases in the prevalence of major depressive disorder and anxiety disorders, which disproportionally affect young people and women.[17] The United States saw increases in intimate partner violence, substance use, and the exacerbation and complications of preexisting medical and psychiatric problems – pandemics within the pandemic. COVID-19 ushered in a new era of "polycrisis," which has been described as a cross-cutting, cascading set of global challenges that spans the effects of the pandemic and climate change (for example, droughts, floods, mega-storms, wildfires, and extreme heat and cold) and that, by extension, drives human migration and growing refugee emergencies, conflict over resources, and political instability. It is now an era defined by growing complexity and uncertainty.[18] The manifestations of these inequities have been increasingly identified as requiring urgent attention at local and global levels.

The order of the contributions to this issue of *Dædalus* pivots around Kay Redfield Jamison's account of the *experience* of mental health problems by individuals suffering from depression and bipolar disorder.[19] Her essay brings the reader into lives lived with mental distress and illness, including her own. At the level of the individual human being, ordinary mental illness everywhere and at all times is anchored in inner pain and, in some cases, breakdown, and also places great pressure on the family, network, and entire community. The meanings and values associated with this core experience, including the experience of treatment, will, of course, represent cultural, class, caste, and community differences that affect the way symptoms (and healing) are expressed, and how their putative causes are understood.[20] Nonetheless, there is something abidingly noxious in the experience of mental illness that resists even greatly different historical eras and cultures from remaking these experiences any way their inhabitants might wish. This makes experiences of healing equally important in understanding how mental health is lived.

Anchored in such an appreciation of the emotional injury and breaking of the supports in the lives of real people, and how they experience healing, our contributors whose essays precede Jamison's offer population and societal examinations of mental health. These include the epidemiology of mental illness preceding, during, and following the earliest stages of the COVID-19 pandemic, and the mental health and social disparities associated with poverty, racism, coloniality, and indigeneity, as well as their contributions to society-wide, and even global, morbidity and mortality. Substance use, gun violence, suicide, and mental disorders from depression to psychosis are depicted as epidemics in America today. And the precarious condition of America's broken mental health care systems is illustrated, as are failures in their reform. That sad and saddening societal reality becomes the basis for rethinking and reimagining what mental health care systems might be if they emphasized public health prevention and continuity of care over conventional clinical models, well-being over pathology, and policies about controlling guns, funding affordable housing, and changing the criminal justice approach to substance use over what we have in place now.

More specifically, Laura Sampson, Laura D. Kubzansky, and Karestan C. Koenen document how COVID-19 catapulted mental health into a societal priority owing to the overwhelming evidence of its widespread and devastating effects.[21] They also demonstrate how a population-based public health approach responds to the mental health crisis in ways that can add to the public good. Jeffrey W. Swanson and Mark L. Rosenberg show in necessary detail that while mental illness is a significant contributor to suicide, serious mental illness is *not* a major cause of gun violence.[22] That the latter requires much better gun-control policies is not likely to alter the politics of gun ownership and rights in America. But it should make the truth about how gun violence and policies intersect more convincing and harder to deny.

Helena Hansen, Kevin J. Gutierrez, and Saudi Garcia contend that the medical model of American psychiatry has relatively little to offer the crisis of substance use and abuse.[23] They argue that an effective response to this worsening mental health epidemic requires an entirely different approach than what is offered by the dominant medical and prison industrial complexes and, moreover, that addressing upstream causes such as poverty, racism, coloniality, and other sources of health and social inequalities is greatly needed. Their blueprint for a more adequate approach centers on harm reduction as a social movement for health justice and augmenting and crosslinking mental health services with more community-based programs. Jonathan M. Metzl reinforces their perspective with the shocking story of how schizophrenia became medicalized into a disorder of Black men, and how the field of psychiatry turned its back on the racist underpinnings of this extraordinary perversion of clinical reality.[24] Not surprisingly, like Hansen, Gutierrez, and Garcia, Metzl calls for a more circumscribed place for psychiatry in

mental health care, as well as for much greater attention to the social structural (not just the cultural) forces that need to be addressed through societal change and greater public health engagement. Both essays show that a sociogenic model of mental health problems and solutions should play a much larger role in psychiatry and in the much broader mental health field.

Gary Belkin brings further support to this vision of repairing the inadequacies of prevailing practices for mental health care delivery with his dystopic account of the failure of a greatly ambitious mental health program in New York City despite its sponsorship by political leaders.[25] The problem here was not with the program's vision or its objective, which also aimed to address upstream causes, but rather with failed administration and governance, and the persistence of long-standing beliefs about the connection between violence and those experiencing serious mental illness. Sadly, this is not a one-off story in the mental health field.

Joseph P. Gone's essay is an account of why Indigenous historical trauma is a more effective and culturally congruent way of representing the devastating long-term effects of ethnocidal North American governmental policies toward Indigenous communities than is post-traumatic stress disorder (PTSD) – today's ubiquitous category for handling emotional and moral injury by the mental health professions.[26] Gone writes with outrage (that knowing readers may well share) about how PTSD, and the medicalized interventions it legitimates, pathologizes the individual victim and in doing so distracts from what Indigenous communities could do to produce fundamental change if provided with the necessary resources. He critiques this formulation for ignoring history and culture and for its lack of an interdisciplinary analysis. Turning away from pathologizing language to traditional idioms and methods for cultural revitalization and uplift hold, for him, a greater power for transformation.

All the essays that precede Jamison's regard mental health as a much wider and more multidisciplinary field than mental illness or psychiatry. For the authors, the problems of substance use, suicide, violence, and common mental disorders interdigitate with and result from the social world, history, and political economy, creating profound inequalities and destructive destinies. Theirs is also a population-based view. In contrast, the authors that follow Jamison pivot to address more highly focused questions about neurobiology, genetics, pharmacology, psychotherapy, social therapies, community-based health care delivery, and quality in mental health care.

Anne Harrington's history of the four decades of failure in biological research in psychiatry to come up with new and more effective medications (with fewer side effects) puts into question the very enterprise of psychopharmacological research.[27] With so much lack of success, why has academic psychiatry continued to prioritize biological research instead of research on psychotherapy, community care, social epidemiology, or caregiving more generally? Reading her trenchant account does

not lead to an antipsychiatry conclusion, but to a rationale for rebuilding psychiatry's social, psychological, and clinical research, training, and education as part of a reassessment of its place in the broader mental health care system. Steven E. Hyman examines the same history that Harrington reviews, but from the more optimistic perspective of a medical geneticist who seeks to improve and develop the potential of large-scale genetic studies to illuminate complex polygenic influences on psychological processes and vulnerability to social determinants of disease.[28] He argues that, hampered by a lack of mechanistic understandings of psychiatric illness, previous therapeutic advances have been largely serendipitous or incremental. In contrast, advancements in genomic technologies and computational tools have opened new avenues for understanding causal mechanisms underlying polygenic mental disorders such as schizophrenia. These innovations, in turn, are likely to lead to evidence that can direct treatments, as in the rest of medicine, to target specific biological processes involved in the pathophysiology of disease – a goal long sought in the biomedical quest for an understanding of mental illness and its treatment.

Allan V. Horwitz and Jerome C. Wakefield take yet another perspective on the social and biomedical aspects of mental health research and treatment. In their sociological reading of history, the third edition of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* abandoned the well-established distinction between normative experience and pathology in depression, which in the past had excluded bereavement for a close loved one and other significant losses in making the diagnosis of depressive disorders.[29] For the authors, episodes of depression owing to such serious social losses are acute, and naturally remit over time as precipitating circumstances resolve. In contrast, medically significant depressions may be more enduring and less responsive to changes in social circumstances. This then is a fundamental distinction between "normal" emotional variation, including depressed affect, in response to and even expected in the setting of social circumstances such as losses and other serious stressors, and pathological medical depressions, which require a very different kind of diagnostic formulation and approach to treatment. Intriguingly, social epidemiology in cardiology, oncology, and infectious disease seems to be moving in the reverse direction, implicating social context (and its structural sources) in health inequalities for biomedical disorders from tuberculosis and HIV/AIDS through diabetes, stroke, and heart failure.

Isaac R. Galatzer-Levy, Gabriel J. Aranovich, and Thomas R. Insel introduce the potentially very important role that digital technologies can play in mental health care.[30] They focus on three transformative applications: the use of sensors and artificial intelligence to provide more objective assessments of mental health problems, the development of telehealth services that increase access and convenience for patients and providers, and the creation of digital therapeutics from virtual reality to chatbots for delivering structured therapies. These technologies – these tech-savvy authors contend – can also improve quality and accountability,

perhaps paradoxically making care more human, while also leading to new concerns regarding trust, privacy, and equity. This suggests that a social technology framing – one that requires social science and engineering collaboration from planning, through design to implementation and evaluation – is essential to avoid the unintended consequences found so often in other areas of health technology.[31] Surely, going forward, this subject will be at the forefront of questions surrounding what mental health care can and cannot do, and should and should not do.

Vikram Patel and Atif Rahman draw upon their respective research in India and Pakistan to show that, globally, the majority of persons with mental health problems who now have no access to effective psychological treatments can feasibly receive effective treatments from lay counselors and community health workers.[32] This practice – known as "task-sharing" of psychological interventions for depression, anxiety, and stress-related conditions and their precursors – has been *the* seminal finding of the field of global mental health, informing much work in the field over the past fifteen years. They demonstrate a paradigm shift in mental health care systems by which even poor communities have the local resources to address mental health problems. The upshot, however, is a very different kind of system in which experts play a much more limited role, and local communities become the centerpiece of care. There is growing enthusiasm today for this model, not only in low- or middle-income societies, but in American mental health care as well, albeit not yet by the professional guilds and insurance companies that drive the political economy of mental health care delivery. Effective task-sharing depends on collaboration across provider cadres and systems; and highly competitive mental health markets within which community-based care has been starved of resources for decades may not yet be conducive to this approach.

In the final contribution, Arthur Kleinman and Caleb Gardner review the quality of mental health care.[33] They show that, as in the rest of health care, quality is not directly measured. Instead, measures of institutional efficiency are taken to represent quality of care. As a result, patient and provider assessments are devalued by health care institutions in favor of bureaucratic and commercial goals, reflecting prioritization of efficiency and financial profit. Will digital technologies, the engagement of community-care workers, or any of the other changes in mental health care envisaged across this volume create high quality mental health care? If not, and if an adequate quality of care cannot be sustained in mental health care delivery, what are the consequences for systems and societies? And is this situation any different from what is happening to health care in general in the United States and globally?

T here is resonance across the essays in this volume of *Dædalus* in calling for the inclusion of a broader range of perspectives to guide action. There are still more voices that could contribute invaluable insights. First, our colleagues from the Global South have much to add to this conversation.[34] By this,

we mean to underscore that it is essential to include not just insights that emanate from having engineered workarounds to resource constraints – and there is much to learn from these successes, as Patel and Rahman's essay suggests – but also perspectives about navigating inequities that apply to resources and opportunities alike. Unmet mental health needs require even more exigent action in the Global South. Moreover, although the most vulnerable suffer the most precarity, the most well-resourced regions are not necessarily in the vanguard of innovative treatment. It is incumbent upon us all to learn from, and then enable and amplify, these essential contributions to the mental health discourse to achieve mental health equity that draws upon the expertise of all stakeholders. In particular, those of us who populate academic institutions in the Global North can disrupt and begin to repair the legacy of colonialism and privilege that diminishes opportunities for academic participation and leadership.

When the mental health workforce is considered, the focus is largely on how to expand their numbers, extend their reach and capacities, and enhance their performance. These are all important questions, as are various strategies to compensate for these health workforce shortfalls. A community-based workforce will need more supports than exist today as accepted standards of practice. Learning from expertise in community health, broadly, will also be critical. Delivering care from community-based platforms, using peer-based supports and counseling, and drawing upon cultural resources are all promising avenues for expanding the capacity to promote mental well-being and to better respond to mental health problems. The essays in this volume also make a compelling argument for both a broader remit for mental health promotion as well as deeper and more thoughtful engagement by mental health professionals. These arguments ring true, and yet how can we square this with another truth: that there are too few health professionals to meet mental health needs – even in enviably high-resourced settings – and that many of these health providers are also under intensifying institutional pressures that compress the time spent in providing face-to-face clinical care.

The professional agency of mental health clinicians is not without its own social structural constraints. The challenges faced by clinicians in offering high-quality mental health care in high-income countries such as the United States are, of course, dwarfed by the kinds of constraints that undermine mental health clinicians in low-income regions beset by workforce shortfalls, drug stockouts, and inadequate public health infrastructure. But these constraints are also not inconsequential. For example, administrative actions designed to optimize clinical revenue through cost savings and greater throughput of patients, in turn, generate pressures that diminish clinician time to care for patients, or limit the therapeutic options they can offer. In some cases, moreover, shortfalls in ancillary health providers and administrative health staff shift low-value tasks to specialized health professionals. In an ironic twist, this circumstance reverses the intended direction

of task-sharing and undermines care when more highly skilled physicians absorb low-value tasks as ancillary health provider and clerical positions are eliminated or unfilled. Factors such as these contribute to health professional burnout, which is prevalent in the United States, may be associated with adverse impacts on clinician mental health as well as the quality of care they provide to their patients, and must be addressed in part at a systems level.[35]

There is an imperative to resocialize mental health training – that is, to make it more attentive to historical, socioeconomic, and cultural aspects of illness and care – so that we do a better job of providing education for trainees to work with communities. Across this collection of essays, there is agreement that meeting the needs of mental health and well-being will require a broader field of understanding, intervention, and response. It will further require that we educate and equip trainees so they can be effective and caring, but also that we better prepare them to integrate a more capacious set of aims that both encompass and vigorously redress the social determinants of poor mental health, and redesign mental health care to better emphasize the priorities and preferences of communities being served. To do this well, the trainees themselves will need robust support as they undertake careers with an expanded vision of mental health care delivery.

We have taught courses for undergraduates and medical and public health students at Harvard University on the foundations of global health, psychiatry, mental health, and the delivery of mental health care, in which we have integrated a social medicine perspective to critique and expand the scope of approaches to mental health.[36] It is important for all mental health professionals-in-training, early on, to see a world of experience outside the clinic, in order to incorporate a more encompassing model of practice that engages people beyond the formal health care system, and uses the concepts of well-being and preclinical distress on one hand, and recovery from illness on the other. A social medicine perspective also alerts us to other potential pitfalls in the field of mental health, as they relate to the unintended consequences of our interventions and treatments, and the various manifestations of biopower – from the history of white supremacy in the United States and its expression in policy, knowledge, and practice, to the role of psychiatric institutions and prisons in asserting social control, to the immense influence of global pharmaceutical firms, insurance companies, and governing professional bodies for each of the mental health professions in dictating the protocols and political economy of clinical practices as they are implemented and managed today.

The field of global mental health has evolved and learned from the experience of global health care delivery for infectious diseases such as HIV/AIDS and tuberculosis. We have personally learned much through our collaborations and long-standing relationships with implementers and academics from the world of global health, including our extraordinary colleague and friend, the late Paul Farmer, and colleagues at the organization he cofounded, Partners In Health.[37] The ben-

efits and lessons of a philosophy and practice of "accompaniment" that he elaborated stand to offer us much in addressing mental health through presence and partnership with those who are forgotten by society. Accompaniment is an essential theory of practice of engagement in addressing clinical and social problems together, over the long-term, and in developing interventions that are person- and context-centered.[38] Several additional aspects of Farmer's legacy can inform our thinking and practice as we consider the essays in this volume. From a values perspective, this includes the moral prioritization of the most vulnerable people for the highest quality of care, and their active engagement, where they live, through the deployment of community health workers and other community members to create layers of contextually informed care. From a clinical perspective, it means to confront social and clinical complexity and comorbidity head on, to not shy away from providing care for the sickest people, as well as to build effective care delivery systems for those people living with unremitting and severe forms of illness and under conditions of the most vexing social adversities. It also means prioritizing the actual care of those people, as well as research that studies that care, as a foundation for the strengthening of the health care delivery system. Additionally, from a systems perspective, the financial commitments need to be made for creating the opportunity for the delivery of humane, high-quality, and "person-centered" care.[39] That is to say, mental health care systems need to reject what Farmer decried as "socialization for scarcity" – a mindset in which health delivery is adjusted to make do with inadequate resources – and instead marshal resources that are both adequate to meet the full scope of health needs and also commensurate with health care delivery in well-resourced contexts.[40] Perhaps most important, as it relates to the challenges to mental health care delivery, is to place effective listening at the center of a moral praxis that prioritizes people who are suffering from mental health conditions, not only as a clinical condition but also due to and greatly exacerbated by well-documented social and structural constraints.

Among these, we especially view accompaniment as a conceptual framing that can work well to resocialize the conventional construct of health care and broaden it beyond clinical outcomes so, for example, basic needs are fulfilled alongside clinical needs. In this way, an expanded scope of care would also address structural determinants of poor mental health that undercut therapeutic interventions in situations of privation, social complexity, and comorbidity : situations that are not uncommon, but are, rather, the norm. In this respect, accompaniment animates an ethos of responsibility to deliver the right kinds of care – including prevention and health promotion, as well as clinical care – and to provide it via public health, social welfare, and community-wide systems that have the broadest scope and capacity to reduce social suffering and advance social justice.

We are living through a truly dangerous time, when conditions in the world are coming together to worsen mental health. Many more people are waking up to the

realization that mental health really matters and must be protected. The time has come to make mental health a global priority. The essays that follow demonstrate that we have the wherewithal to act. They also describe the realities, possibilities, limits, and major questions that must be dealt with if our actions are to have significant effects. We hope readers will join us in this still incipient but rapidly expanding movement for mental health. If not now, when ?

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The Missing Piece:
A Population Health Perspective to Address the U.S. Mental Health Crisis

*Laura Sampson, Laura D. Kubzansky &
Karestan C. Koenen*

The COVID-19 pandemic has enhanced our focus on mental health. Concerns about the high levels of mental disorders in the United States are not new, with rising trends – particularly among youth – observed prior to the pandemic. However, the pandemic may have exacerbated and accelerated these trends. The silver lining is that we can leverage this moment to reevaluate and reimagine not only how we treat mental health problems, but also how we promote emotional well-being throughout the life course. We argue that scholars, policymakers, and practitioners should broaden their view of mental health, and consider it as a full spectrum ranging from serious mental illness to robust emotional well-being. This perspective recognizes the importance of treatment access and quality, but also elevates the value of prevention, particularly at the population level. Greater attention to preventing problems before they occur will not only reduce manifest disorders but also encourage higher rates of psychological resilience and, ultimately, better physical health.

The COVID-19 pandemic has focused greater attention on mental health in the United States and has driven renewed interest in the effects of social and psychological experiences such as isolation, loneliness, stress, and uncertainty on emotional well-being. However, even before the pandemic began, the number of people in the United States experiencing mental health problems was high and on the rise, particularly among young people. In fact, the high prevalence – or overall proportion – of mental disorders in the general population of the United States has been recognized for decades, documented first in the Epidemiologic Catchment Area Survey carried out in the 1980s and confirmed in the 1990s with findings from the National Comorbidity Survey.[1] These studies and many others conducted prior to the pandemic demonstrated that at least one in five Americans suffers from a mental disorder during any given year and more than 50 percent of Americans will suffer in their lifetime, statistics that are cause

for serious concern.[2] Further, the most recent studies show these trends have been worsening. For example, over the past two decades (prior to the COVID-19 pandemic), suicide rates in the United States increased by 35 percent overall.[3] The prevalence of anxiety and depression has risen, with the most dramatic increases occurring in younger generations.[4] These numbers may even underestimate the scope of the issue, because mental health problems remain stigmatized, and populations that are likely to have a high burden of mental disorders, such as people who are incarcerated or homeless, are often not included in epidemiologic studies.[5] In addition, these studies largely assess clinically relevant levels of mental health disorders but do not capture levels of suffering from symptoms that do not meet criteria for clinical diagnosis. Such symptoms can still impose a significant burden, but they are obscured by the prevalence measures obtained within our scientific studies and surveys that typically query whether someone has a mental health disorder *diagnosis*. As a result, our current statistics likely fail to portray the full picture of mental health in the population. Most studies and surveillance activities also focus on manifest mental health disorders per se, not positive mental health at the other end of the spectrum. Among studies that do assess positive functioning, evidence suggests that emotional well-being (sometimes referred to as positive mental health, happiness, or flourishing) has also declined over time.[6]

The pandemic has made mental health a national priority.[7] If there is any silver lining to these pandemic years, it may be the spotlight they have shone on long-standing challenges with which population mental health researchers have been grappling for decades: While increasing access to and improving mental health services is critical, the scope of the mental health crisis we face as a country far exceeds what can be fully addressed within the traditional medical system. Population-level approaches that prioritize prevention and fostering capacity for healthy functioning are urgently needed. However, there are major gaps in our understanding. A core issue is a lack of comprehensive insight into upstream structural factors that affect mental health. We have also failed to appreciate fully that while some conditions clearly contribute to worsening mental health (for example, extreme poverty), the simple absence of these conditions may not guarantee good mental health. Indeed, other conditions may also need to be in place (such as socially cohesive communities) to make it possible for a greater share of the population to experience emotional well-being.

A substantial body of research has already identified a range of circumstances contributing to higher rates of mental health problems including, most recently, the high levels of uncertainty and loss caused or exacerbated by the pandemic.[8] Less work has identified strategies for addressing these conditions in ways that facilitate not only mitigation of harm in the moment but also sustained improvements for the long term. Thus, effort must be directed to identifying both harmful and health-promoting conditions as well as developing strategies for managing

the distribution of these conditions throughout society. Key questions include : What are the social and environmental factors that promote emotional well-being and prevent development of mental illness at a population level? What factors should policy and practitioners target to shift the distribution of population mental health to healthier levels in both adults and youth in ways that are sustainable? What factors must be in play to protect mental health in the context of significant societal challenges? Are there specific resources or assets that are particularly potent for promoting population mental health?

The deeply troubling trends of worsening mental health have increased calls for greater attention to translating research findings into practice. On the plus side, the maturation of social epidemiology, the discipline that focuses on how social structural factors affect the distribution of health and well-being, over recent decades has shepherded the development of a set of robust tools that can help address the questions posed above.[9] With sufficient investment of both human and financial capital, the scientific community and public health practitioners are well poised to address population mental health in meaningful and lasting ways.

In this essay, we review the mental health consequences of the pandemic in the context of prior trends, and discuss novel approaches for addressing gaps in our knowledge and practice. Among these approaches, we consider 1) different levels and timing of preventive strategies, 2) the often-overlooked connection between mental and physical health, 3) population-level interventions that address upstream social determinants of health, and 4) a greater focus on emotional well-being. While the terms "mental health" and "mental disorders" are broad, when considering mental health problems here, we are primarily focused on common mental disorders that include the categories of anxiety, depressive, and trauma-related disorders, according to the *Diagnostic and Statistical Manual of Mental Disorders* (DSM). Going forward, researchers will also want to consider a broad range of other disorders (for example, psychosis, eating disorders) as well.

The effects of the COVID-19 pandemic on mental health intensify troubling trends of declining emotional well-being that were already in play throughout the population before the pandemic. Multiple peer-reviewed studies have specifically demonstrated high rates of mental health problems that developed or were exacerbated with the onset of the pandemic, including depression and anxiety, in the United States and elsewhere. One meta-analysis of sixty-one longitudinal studies across the globe that compared mental health indicators before and during the pandemic found an overall increase in anxiety and depression in March–April 2020. Depression remained elevated in May–June 2020 while anxiety decreased on average.[10] Another review estimated an overall global increase of 53.2 million cases of depression and 76.2 million cases of anxiety attributable to the pandemic.[11]

As the pandemic evolved in the United States, mental health estimates continued to change alongside infection trends. For example, the Household Pulse Survey, a rapid online survey distributed jointly by the Centers for Disease Control and Prevention and the U.S. Census Bureau, estimated that the proportion of adults showing symptoms of anxiety or depression increased from 36.4 percent in August 2020 to 41.5 percent in February 2021, based on a widely used screening questionnaire.[12] Moreover, the proportion of adults reporting an unmet mental health care need increased from 9.2 percent to 11.7 percent during this time.[13]

Several subsets of the population have been particularly affected by mental health problems during the pandemic, including those who were already vulnerable, such as lower-income individuals more likely to lose employment during shutdowns, women who left the workforce to take on additional caregiving responsibilities at home, individuals with prepandemic mental and physical health problems, and those directly infected with COVID-19, particularly severe cases.[14] Other vulnerable subsets of the population included children, adolescents, and young adults, many of whom lost access to their primary social networks due to school closures, remote classrooms, and disruptions to their daily routines and predictable structures.[15] Importantly, mental health disparities may also have been exacerbated during this time. A recent report by the U.S. Surgeon General pointed out that Black, Latino, and Indigenous youth all had higher levels of mental health problems than white youth in 2020 and 2021, potentially due to their greater likelihood of losing a parent from COVID-19 and to the loss of crucial social networks in school.[16] LGBTQ+ youth and those with intellectual and developmental disabilities were also vulnerable, as many lost access to critical school-based services and support networks.[17] Rising mental health problems among younger people are of particular concern, given that such problems often persist across the life course and increase the risk of chronic disease and premature mortality in later years.

Psychiatric epidemiologist Bruce P. Dohrenwend and others have identified numerous characteristics of stressful and traumatic events that contribute to whether individuals will go on to develop high levels of distress and mental health problems.[18] The pandemic fits the profile of a stressor likely to lead to more mental health problems in the United States. It is widespread through the community and has multiple components that are toxic for mental health. Such factors include not only fear of being directly infected with COVID-19, but also increased social isolation and confinement, bereavement, rising levels of stigma and discrimination, caregiving stress, and economic disruption. In fact, the pandemic fits into every one of Dohrenwend's six posited characteristics of events that contribute to "uncontrollable negative changes" for most people.[19] Specifically, it is an external and negative circumstance that is unpredictable, affects many aspects of people's lives and functioning, has effects of high magnitude, and has the potential to exhaust individuals physically.[20]

Moreover, the COVID-19 pandemic affected populations worldwide. Few countries and individuals were untouched, limiting resources that could be made available to those in need. Further, unlike many other types of disasters, there were few places anyone, rich or poor, could go to feel safe. Thus, all people across the globe needed to manage a widespread sense of unsafety, which has long been recognized as a risk factor for poor mental health and, more recently, for poor physical health as well.[21] In addition, unlike many large-scale stressors that occur within a confined time period but then remit (for example, extreme weather events), the pandemic has been both acute and ongoing; we do not know when it will end or if there will be a time at which we can say it is truly over.

We are at an inflection point. The attention the COVID-19 pandemic has brought to the mental health crisis in the United States offers an opportunity to broaden our thinking about mental health and ways to improve the troubling trends. Across public health and medicine, in the face of calls to address the high burden of mental disorders in the population, the most common responses include discussing barriers to mental health care, ways to improve access to evidence-based treatments, and how to increase funding for developing new treatments. These proposed strategies and solutions stem from the reality that many individuals with mental disorders never receive appropriate treatment – or suffer for years before they get treatment – and even among those who are able to access care, many fail to receive effective treatment.[22] While it is critical to help those who are suffering, and indeed treatment has been transformed in important ways during the pandemic (for example, making telehealth much more accessible), such efforts are largely informed by the "medical model," wherein treatment providers seek to detect and improve disease states. From a population health perspective, however, addressing problems with mental health *treatment* – even if done most effectively – will not be sufficient to decelerate or disrupt rising rates of mental health problems and thereby shift the distribution of population mental health meaningfully. Addressing problems with treatment focuses primarily on high-risk or already-impaired individuals, but this approach does not help to prevent declines in emotional well-being across the population.[23]

Efforts to promote mental health and emotional well-being will require not only identifying factors that increase the likelihood of attaining emotional well-being in the first place but also considering if these factors promote capacity to maintain emotional well-being in the face of large-scale stressors (that is, resilience).[24] Moreover, we will need to go beyond considering factors at the individual level (for example, genetics or behaviors). To develop a comprehensive understanding of the forces that shape population mental health, we will need to examine the roles of community, social and physical environments, policy, and culture.[25] Thus, we call for applying a population health lens to identify effective solutions for protecting and maintaining emotional well-being. COVID-19 as an

infectious disease revealed that physical health is a public good (in other words, my health depends on the health of the people around me and on how they take care of their health). We must now recognize that mental health is also a public good. Moreover, addressing mental health at the population level will have downstream benefits for physical health.

A population health lens is not new by any means. In fact, many of the most dramatic public health improvements in the United States in the last century were achieved through population-level interventions. For example, decreases in vehicular deaths and lung cancer incidence were each largely driven by substantive changes in policies, laws, and improvements in technology, rather than by efforts to work with individuals one by one to change behaviors. However, for mental health, beyond issues of surveillance and treatment accessibility (that is, strategies focused on treatment of people with diagnosed disorders), a population-level approach to increasing the share of the population that attains and maintains emotional well-being has not been as widely implemented.[26] We call for mental health research and practice to take on this challenge.

In both scholarship and among practitioners, mental health is often framed with respect to diagnoses (for example, generalized anxiety disorder or major depression), which lead to a binary view of mental health states, separating individuals into "healthy" or "sick" categories. Such designations are useful in medicine to communicate with insurers, to include in medical records, to distinguish when and which individuals need treatment, and to draw attention to high-risk individuals and populations. However, mental health ranges across a large spectrum, and far less attention has been given to the antecedents and consequences of states of emotional well-being at the healthiest end of the mental health spectrum.[27] This perspective is highly congruent with the World Health Organization's definition of health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."[28]

To promote mental health effectively across the life course and in all segments of society, we must consider the full spectrum or distribution of mental health in a population when designing interventions, rather than focusing solely on those at highest risk. Such efforts would require monitoring, observing, and evaluating an inclusive range of mental health symptoms or states occurring in each population, from severe psychopathology at the unhealthiest end of the continuum to emotional well-being at the healthiest end. Greater appreciation of the full spectrum of mental health may suggest that a key goal for population mental health is not simply to reduce the number of people with psychopathology, but also to increase the number of those who have high levels of emotional well-being. This perspective may also provide an impetus for identifying novel targets for interventions and different approaches depending on whether one is aiming to reduce suffer-

ing at the bottom end of the spectrum or to improve functioning and well-being among all.

To improve overall population health and "shift the curve" of an entire population, different points of intervention are possible over time. We illustrate these potential points of intervention in Figure 1, showing a hypothetical trajectory or path of both mental and physical health over the life course for one person, for simplicity. In this case, the path includes both remission and relapse of mental health problems. But it is important to note that many different trajectories are possible.

The solid boxes depict different potential interventions, each of which can be implemented at either the individual or population level. We argue that, where feasible, 1) population-level interventions may be more effective for influencing overall population health than individual-level interventions, even when the latter are implemented at scale, and 2) intervening prior to the development of manifest disorder and earlier in the life course is more likely to promote greater prevalence of emotional well-being in the population over time. Another advantage of implementing population-level interventions relatively earlier in the life course is that they may promote increased resilience: populations and individuals with better initial mental health or emotional well-being may confront trauma and adversity (which will inevitably come up throughout the life course) more effectively. Shifting the overall distribution of mental health may result in a more resilient population overall.

Prior work has defined various types of prevention or intervention strategies depending on their primary targets within the trajectory of an individual's mental health experience. "Primordial" prevention strategies, which aim to prevent risk factors for disease from occurring, have been widely applied as a component of larger efforts to reduce the population burden of cardiovascular disease, but less so in relation to mental health disorders.[29] Considering whether (and which) primordial prevention strategies will improve population mental health may provide valuable insight when developing novel protocols and timelines for prevention and intervention activities. As depicted in Figure 1, primordial prevention in the context of mental health could correspond to efforts to prevent (or limit) exposure to adversity, a type of experience that has been shown to increase the risk of a range of mental disorders.[30] At the population level, an example could be climate-change initiatives that have the potential to prevent natural disasters from occurring, which in turn may reduce the levels of new-onset post-traumatic stress disorder (PTSD) across the population. In contrast, at the individual level, trauma prevention might include self-defense and safety training aimed at reducing the risk of assault, or parenting interventions aimed at reducing the risk of child abuse.

Despite applying primordial prevention strategies where possible, adversity in some form will inevitably occur for many people (for example, job loss or the death of a loved one).[31] Although we cannot reverse a past trauma or initial symptom reactions, we can intervene as early as possible after a traumatic or adverse event,

Figure 1
Example Trajectories of Mental and Physical Health Problems or Symptoms of a Hypothetical Individual across Time

MH = mental health   PH = physical health
Primordial prevention = preventing risk factors for disease from occurring
Primary prevention = addressing risk factors as they develop, intervening before health effects occur
Secondary prevention = identifying disease in the earliest stage to slow its progress/reduce its impact
Tertiary prevention = managing disease after diagnosis to slow or stop its progression

Source : Figure by the authors. Definitions below the chart from Donald M. Lloyd-Jones, Michelle A. Albert, and Mitchell Elkind, "The American Heart Association's Focus on Primordial Prevention," *Circulation* 144 (2021) : e233–e235, https://doi.org/10.1161/circulationaha .121.057125 ; and Centers for Disease Control and Prevention, "Prevention," in *Picture of America : Our Health and Environment* (Atlanta : Centers for Disease Control and Prevention, 2019).

which would be considered "primary prevention" of mental or physical health problems.[32] Examples at the individual level include initiatives like Psychological First Aid, which is a modular approach that can be administered to people immediately following traumatic events.[33] At the population level, primary prevention might involve administering a stepped care intervention approach delivered to communities as a whole that are affected by a mass shooting or natural disaster.[34] This type of approach includes both low- and high-intensity interventions in turn, and can be tailored across groups depending on the intervention response.[35]

"Secondary prevention" is defined by identifying disease in the earliest stage to slow its progress or reduce its impact. An example of individual-level secondary prevention in the context of mental health could be to initiate early treatment among individuals experiencing mental health problems, whereas a population-level secondary prevention strategy for improving mental health could be regular screenings for mental health problems for all primary care patients, as part

of routine medical care. This strategy may become more commonplace in the future, as the U.S. Preventive Services Task Force recently released draft guidance that all adults be regularly screened for depression and suicide risk, a promising step forward for population mental health.[36]

Finally, "tertiary prevention," which corresponds to managing disease after diagnosis to slow or stop its progression, applies to patients with manifest psychiatric disorders in the context of mental health. Tertiary prevention usually occurs at the individual level (that is, medical treatment in its most common form), but we can also conceive of this type of preventive activity as occurring at the population level. Examples might include application of the American Disability Act or medical leave policies that ensure that employees with mental disorders receive appropriate accommodations, such as being able to access treatment when they need it, without losing their jobs.

As demonstrated in painful detail throughout the pandemic, mental disorders and distress cause suffering in themselves. However, they also have a "long arm," as they are linked to long-term adverse physical health outcomes, including common chronic diseases that are leading causes of death.[37] For example, many mental health conditions are associated with an increased risk of cardiovascular disease, which remains the most common cause of death in the United States.[38] As highlighted in a recent statement by the American Heart Association, there is now a greater appreciation for the relationship between mental health and cardiovascular disease.[39] Multiple prospective studies, which follow individuals over time, have found that in women, PTSD increases the risk of later developing cardiovascular disease.[40] Other equally rigorous studies have shown similar findings in men. Importantly, more common disorders like depression and anxiety are also strongly associated with an increased risk of subsequently developing cardiovascular disease and other physical health outcomes, including autoimmune diseases, cancer, cognitive impairment, and frailty.[41] Even subclinical levels of psychological distress can increase the risk of adverse physical health outcomes, with numerous studies showing these effects on cardiovascular disease, arthritis, and diabetes, among others.[42] Thus, our hypothetical trajectory illustrated in Figure 1 further considers how interventions to improve population mental health may also affect subsequent physical health and even earlier mortality.

Emerging evidence suggests that if we effectively treat mental disorders, we may be able to mitigate physical health sequelae – as depicted in Figure 1 – although the findings to date remain somewhat limited. For example, one study from our group found the relationship between severe PTSD symptoms and the risk of developing cardiovascular disease in a large group of women was weaker among respondents whose PTSD symptoms had remitted or lessened over time.[43] Another study of

male veterans found that although there was a relationship between current PTSD severity and heart rate variability (a marker of cardiovascular disease risk), there was no relationship between remitted PTSD symptoms and heart rate variability.[44] Taken together, these findings suggest that at least some physical health sequelae associated with mental health problems may be mitigated when underlying mental health problems are alleviated or remit. At the same time, a recent systematic review of the literature concluded that while cardiovascular or metabolic risk markers and conditions may be improved with mental health treatment, some longer-term biological alterations underlying manifest cardiovascular disease may be too far along to reverse.[45] Therefore, it is important to consider earlier promotion of mental health (closer to the left side of the timeline in Figure 1) before mental health problems are established and treatment is necessary.

Given 1) the strong connection between mental and physical health and 2) the widespread mental health problems during the COVID-19 pandemic, it follows that many people in the United States and globally may experience adverse physical health sequelae in the next few decades. Once physical health conditions like heart disease begin, limiting their progression (that is, secondary prevention) can be challenging.[46] This cascade of events could impose an even higher societal cost than may now be evident in the evolution of the pandemic. Thus, the need to invest in strategies to improve population mental health is even more urgent than an examination of mental health statistics alone might suggest.

M oving beyond the theoretical, how do we apply our model of early prevention and intervention at the population level in practice? We will need to consider strategies that enable individuals to attain emotional well-being in the first place, as well as those that make it more likely that people can maintain emotional well-being in the context of significant challenges. How, then, might we address large-scale emergencies like pandemics in addition to everyday stressors and adversity? While preventing trauma from occurring in the first place is a laudable goal, the reality is that experiencing trauma will be unavoidable for many people in their lifetimes.[47] So, when adversity does occur, how do we disrupt the downstream consequences, including both mental and physical health problems, applying principles of primordial and primary prevention as illustrated in Figure 1?

To answer this, we can consider policies and practices developed in other disciplines and sectors – from education to transportation to finance – given clear evidence that these factors shape the capacity of individuals and communities to attain and maintain health. For example, economic policies, which have the potential to alter many aspects of people's lives while also narrowing economic inequalities, may provide promising directions for relevant population-level mental health interventions. The connection between income and health has long been

understood, and some rigorously designed studies have further demonstrated that economic interventions can lead to improved mental health specifically. As one illustration, many studies have shown the benefits of cash transfers for reducing mental health problems and increasing emotional well-being in a variety of contexts.[48] Importantly, several income policies put in place during the COVID-19 pandemic show promise for driving large-scale mental health improvements. For example, one study examined mental health in the wake of implementing income-support policies. Data on millions of calls to the National Suicide Prevention Lifeline were collected across nineteen different countries from 2019 through early 2021. The data showed that although calls initially increased at the beginning of the pandemic, they decreased in the United States after the income-support policies were administered, even accounting for changing COVID-19 infection rates.[49] Income-related interventions also have the potential to prevent new trauma or adversity from occurring, serving as a primordial prevention strategy according to our model. For instance, more income can prevent home foreclosure, and foreclosure has been shown to increase incidences of anxiety and depression.[50]

Other policies may also be considered as population-level primordial prevention strategies. Prior work points to the promise of family leave policies. For example, one large-scale European study of older women linked decades of maternity leave legislation data to self-reported mental health outcomes. The findings were striking, whereby women who were given more generous maternity leave during the critical period of their first child's birth reported fewer depression symptoms later in life, compared to those who were not given generous leave.[51] Workplace policies may also be relevant, given the substantial body of research suggesting the workplace is a critical determinant of population health and emotional well-being. In recent studies, specific work conditions that influence worker mental health have been identified, such as one's schedule and the level of control over one's work.[52] Based on these findings, researchers have proposed strategies employers and institutions can use not only to reduce mental health problems but also to promote greater emotional well-being.[53] Such strategies include increasing workers' control over their work schedules, giving workers more voice in their organizations, and providing training and support for employers to promote stronger social relations at work. This area of intervention may be especially relevant during and after the COVID-19 pandemic, which changed the face of work in many ways and led several types of organizations to view employee health as more critical.

Recent work has also suggested that engagement in the arts, and policies that make the arts more accessible, may be another primordial or primary prevention strategy. A recent scoping review showed that engagement in the arts can promote both mental and physical health.[54] Numerous studies demonstrate that art can affect mental health directly as well as indirectly through encouraging health-

promoting behaviors and supporting child development. For example, one study found that older adults who more frequently engaged in cultural activities, such as attending museums, theater, or cinema, had significantly less depression across ten years of follow-up than those with less frequent cultural engagement.[55]

For primary prevention (such as intervening after adversity occurs), we might consider ways to embed strategies that can disrupt potentially harmful effects of trauma or adversity into community (at schools, for instance), organizational (in the workplace or other institutions), and health care systems. For example, intervening with social support (both formal and informal) after trauma or adversity occurs appears to lead to better mental health, and perhaps to better subsequent physical health as well. Prior work suggests that such effects can even reach across generations. In a recent study, among women who reported high levels of adversity in childhood, different types of social support during pregnancy (such as receiving material aid or having companionship) buffered against potentially toxic effects of their early experiences of adversity on the fetal growth in their offspring.[56] Findings from the disaster literature have also illustrated potential benefits of related factors like social engagement for mental health. For example, a natural experiment study after the 2011 Tōhoku earthquake and tsunami found that higher community-level social engagement was associated with lower odds of PTSD among affected older adults.[57]

In addition to identifying broad determinants of health as targets for primordial or primary prevention and intervention, secondary prevention strategies that intervene more directly on mental health may also be valuable, with the potential to interrupt downstream effects of poor mental health (such as poor physical health, as shown in Figure 1, and even the prospect of earlier mortality). While it can often be difficult to intervene on individual mental health at scale, the Psychological Science Accelerator, a network of researchers that seek to facilitate crowdsourced research projects, has made it possible to implement and evaluate the use of evidence-based interventions at the population level.[58] As one example, a pandemic-specific online mental health intervention developed for large-scale implementation across multiple countries involved reappraisal, an emotion-regulation strategy aimed at modifying how individuals think about a given situation.[59] Through the Psychological Science Accelerator, researchers conducted an online randomized controlled trial to evaluate if a reappraisal intervention would lead to better mental health. Over twenty-one thousand participants were randomly assigned to one of two reappraisal interventions designed to change emotional responses to stressful situations. One reappraisal condition was "reconstrual," which involves trying to alter how a stressful situation (in this case, the pandemic) is mentally represented or construed. The second reappraisal condition was "repurposing," which involves trying to focus on positive outcomes that could arise from a stressful situation.[60] In addition to these two reapprais-

al interventions, participants could also be assigned to one of two control conditions: active or passive. The active control condition instructed participants simply to reflect on their thoughts and feelings. This study found that participants in both reappraisal conditions had less negative emotion and more positive emotion than their counterparts in the control conditions. This suggests the potential utility of scalable, low-cost digital interventions that could be applied across the globe among those willing to engage in this type of activity.

Another secondary prevention strategy was developed in the Laboratory for Youth Mental Health.[61] Targeted at younger individuals specifically, this protocol relies on brief digital interventions designed to help children with mild to moderate mental health concerns improve their coping mechanisms, including a recent one designed specifically for the pandemic.[62] These types of nonclinical interventions targeting populations who are not yet in the highest-risk groups can reduce the overall demand for more in-depth clinical or professional services, ideally making it easier for those who have a higher need of clinical services to access them. Such strategies may be particularly relevant during large-scale events like the pandemic, which affect the availability of care. Furthermore, increasing availability of technology in recent decades has made digital mental health interventions in general a promising avenue, reaching large numbers of people.[63]

Finally, a variety of psychological interventions have been demonstrated to support and improve states of emotional well-being before trauma or adversity even occurs, intervening directly on mental health well-being rather than on a risk factor like adversity. A recent systematic review and meta-analysis of over four hundred psychological interventions to improve emotional well-being in a range of populations found support for mindfulness-based and multicomponent positive psychological interventions both inside and outside of clinic settings: that is, among both healthy and sick populations.[64] Key elements of such strategies may be scalable if they were routinely included in various education or workplace settings in relatively healthy populations.

I t is promising that the importance of mental health has been more readily recognized and appreciated as part of the reaction to the COVID-19 pandemic. Illustrating this point, the U.S. Surgeon General recently declared mental health a national priority, particularly among youth.[65] However, many more steps can and should be taken to address our current mental health crisis more comprehensively, including making more funding available for research and practice. Research funding has historically skewed toward treatment, not prevention, and even within research focused on prevention, there is often an individual-level focus. We argue for the need to prioritize population-level work, including efforts to rigorously evaluate existing large-scale interventions (for example, the COVID-19 stimulus package).

Funding for this type of work will likely require political will and government support, which could be in the form of a national call for research and action toward mental health promotion, similar to past calls for action around topics like the health effects of climate change and the conflicts in Iraq and Afghanistan.[66] We need a similar large-scale investment to address current trends in population mental health, made more prominent by the COVID-19 pandemic. Ideally, such investment will include research that considers the full spectrum of mental health and leverages all we have learned about how the social and physical environment and circumstances in which people are born, live, and work alter the population distribution of mental health problems and emotional well-being. We have seen massive acceleration and success in other areas when the scientific community decides something is truly a priority worth investing in (such as the COVID-19 vaccines, genetics research, and the opioid epidemic). We believe the same can be done for mental health and well-being promotion.

Ultimately, a population health lens on mental health calls for an interdisciplinary approach, identifying how and when policies and practices from diverse sectors, including housing, education, urban design, economics, medicine, and law, might affect population mental health. Any new interventions we design must be both durable in their effects and scalable, with efficacy and reach across a variety of populations. Changes in exposures that may have small individual effects, but that ultimately affect a sizeable number of people (like economic policies), can have a very large impact on population health overall.[67] Interventions can also be targeted at the school, workplace, or other organizational levels to attain a wider reach.

In sum, we believe that a population-level, interdisciplinary approach focused on early prevention is needed in fields involved in mental health research and practice, including psychiatry, psychiatric epidemiology, psychology, social work, and medicine. These shifts in perspective may help address the near-term health effects of the COVID-19 pandemic, and improve population health, including both physical and mental health, for generations to come.

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American Gun Violence &
Mental Illness: Reducing Risk,
Restoring Health, Respecting Rights &
Reviving Communities

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Intentional injuries claimed nearly two hundred lives every day in the United States in 2020, about two-thirds of them suicides, each a story of irretrievable human loss. This essay addresses the complex intersection of injurious behavior with mental illness and access to firearms. It explores what more can be done to stop gun violence while respecting the rights of lawful gun owners, preserving the dignity of persons with mental illnesses, and promoting racial equity. Strategies to prevent firearm injury in the United States are uniquely conditioned by a constitutional right to bear arms, the cultural entrenchment and prevalence of private gun ownership, and strident political disagreement on regulatory solutions to stem gun violence. Broad implementation of a range of complementary policies is needed, including community-based programs to address the social and developmental determinants of violence, improved access to a continuum of mental health services, firearm restrictions based on behavioral indicators of risk (not mental illness, per se), licensing for firearm purchase or ownership, comprehensive background checks for firearm purchase, and supply-side approaches to interrupt illegal firearm markets.

In the summer of 2022, following a pair of highly publicized mass-casualty shootings in upstate New York and West Texas, a bitterly divided United States Congress responded to a groundswell of public outrage and forged a path to consensus on the first major piece of gun violence legislation in over twenty-five years.[1] After decades of federal dithering on gun violence, lawmakers enacted a statute that (among other things) promotes the temporary removal of firearms from people at high risk of suicide or violence against others, expands background checks with a waiting period for gun buyers under age twenty-one, and toughens penalties for illegal gun trafficking. But these provisions were wrapped in a bill that makes no mention of firearms in its title – the Bipartisan Safer Communities Act – and designates the large majority of its $13 billion in funding for expanding

mental health services in the community and in schools.[2] Why did lawmakers think gun violence and mental illness had to be addressed together in a bill about community safety, as if they were the same problem? And how did we get to that point?

This essay examines the prevailing assumption that mental illness and violence are strongly interconnected, and that the key to reducing gun violence is therefore to reinvigorate our nation's failing public behavioral health care system with new capacities to identify, confine, and treat mentally ill people who are potentially violent. There is no question that more effective and accessible mental health services are sorely needed, especially in schools and many neglected communities. If appropriately channeled, the new federal funding could be a welcome resource for that purpose. But while improvements in mental health services may prevent some gun suicides, we argue that such improvements will do little, by themselves, to stem the tide of firearm homicides. Mental illness and gun homicides are two different public health problems that intersect on their edges. Recognizing them as such allows us to see that a broad set of interventions, policies, and legal tools is needed to address the upstream social determinants as well as proximal causes of gun violence – to mitigate its devastating consequences for individuals and communities – but also, and separately, to improve outcomes for people with serious mental illnesses. We advocate and know that it is possible to use science to identify effective, equitable, and feasible ways to reduce gun violence while respecting the rights of lawful gun owners, and to do so without adding to the burden of stigma that people with mental illnesses often bear when others regard them with misplaced fear and scorn.

What is the nature of the problem, and why has it been so intractable to policy solutions? Despite increasing public concern over the nation's long-running epidemic of gun violence, federal officials have largely been unable to act effectively to limit the death toll. The rate of firearm-related mortality increased 45 percent between 2010 and 2021.[3] Efforts to prevent gun violence have been stymied by an intensely politicized disagreement over the very nature of the problem to be solved: Is gun violence mainly about "dangerous people" or "dangerous weapons"? How that definitional question is framed and answered tends to bifurcate policy choices into those that restrict access to firearms and those that restrain the behavior of people perceived to threaten public safety – including, importantly, people with mental illnesses who are so often stereotyped as prone to violence and scapegoated for mass shootings. We argue that policy options that force such a dichotomous choice are unnecessary and counterproductive. Rather, both approaches are important, and even politically feasible in combination, as the Safer Communities Act illustrates. In what follows, we examine dimensions of both problems: gun violence and inadequately treated men-

tal illness in the community. We discuss how these problems are related and not related, and highlight critical opportunities to implement a range of complementary, evidence-based solutions.

What are the dimensions of gun violence in the United States? More than 1.7 million people have been injured by firearms within the borders of the United States since the beginning of the twenty-first century, and more than 700,000 have died, a total surpassing the combined American military combat death toll of World War I and II combined.[4] Fifty-nine percent of those gun deaths were suicides, 37 percent were homicides, and the remaining 4 percent were attributable to law enforcement actions or injuries that were unintentional or of unknown intent. Mass shooting fatalities – incidents in which at least four people are murdered with a firearm – terrify the public and galvanize media attention, but they account for less than 1 percent of gun homicides. On the day of any mass shooting that claims four or more lives, an average of 124 others perish from firearm-related injuries in the United States.[5] Circumstances surrounding these deaths are diverse, ranging from suicides to gang shootings, domestic violence incidents, and arguments gone bad between impulsive, intoxicated, armed young men in the middle of the night. This is the drip, drip, drip of quotidian gun violence in America.

We do not mean, in any way, to trivialize mass shootings with this relative comparison of lives lost. Indeed, the impact of mass shootings goes far beyond their death toll. A 2019 national survey by the American Psychological Association found that 71 percent of U.S. adults reported experiencing fear of mass shootings as "a significant source of stress in their lives," causing one out of three people to avoid certain public places.[6]

Over the past two decades, while chronic disease mortality declined substantially, the gun suicide rate increased by 17 percent and the gun homicide rate by 57 percent.[7] What is different about firearm-related violence, and why does it seem so refractory to public health experts' efforts to solve the problem? Why are we not prioritizing public resources to address gun violence in any way commensurate with the fiscal and social costs that the problem represents? The aforementioned new legislation appropriates $13 billion – not trivial – to a public health problem that costs our society an estimated $557 billion each year.[8] This total includes costs to the health care system, the criminal legal system, lost productivity and opportunities, and an attempt to place a dollar value on the lingering distress and void that victims of gun violence leave in the emotional and social lives of their loved ones and communities. There are additional costs to a great number of other people who may not have personally known victims of violence but suffer psychological trauma and high levels of anxiety simply from living in a community marked by daily violence.

What are the dimensions of serious mental illness as a public health problem? Approximately fourteen million adults in the United States suffer from a serious mental illness that causes a functional disability in one or more important areas of life activity.[9] These are severe health conditions such as schizophrenia, bipolar disorder, and recurring major depression that impair the brain's capacity to reason and regulate mood. They tend to strike young people in their late teens or twenties, often curtailing their opportunities for educational attainment and employment, and wrecking their social relationships. To have some chance at recovery and achieving their human potential, people afflicted with these disorders typically need specialized interventions, treatment, and support over an extended period. For some, their needs require services across a continuum of care, from case management, intensive outpatient treatment, and pharmacotherapy to periodic but timely hospitalizations and longer-term psychosocial rehabilitation.

That one out of three people with a serious mental illness got no treatment at all in the past year – an estimated five million total – is a tragedy and nothing short of a national scandal.[10] These are some of the most marginalized and disadvantaged members of our society, often friendless and estranged from their families, left to navigate alone a public system of care that is fragmented and overburdened, where barriers to access loom large and the professional work force is far too thinly spread. How did this happen?

In the middle of the twentieth century, one-half million adults with serious mental illnesses were housed in large state mental hospitals throughout the United States, under generally dismal conditions. They were often confined against their will and for lengthy periods of time, many of them subdued by high-dose chemical regimens of major tranquilizers and neuroleptics. All that has changed. Today, less than one-half of 1 percent of adults with serious mental illness (about forty thousand people) are treated in state psychiatric hospitals.[11] The need for inpatient psychiatric beds far exceeds the supply.[12] Many adults who experience a serious mental health crisis spend days boarding in an emergency room with little treatment while they wait for an inpatient psychiatric bed to become available.[13] Approximately one hundred thousand are living in homeless shelters or on the streets.[14]

The majority of these unfortunate members of our human community are no more dangerous to others than anyone else. But they might as well be, because most adults in the United States believe that mentally ill individuals are violent, and people in general (along with the politicians they elect) tend to act on what they believe to be true.[15] This often means supporting policies that resort to coercive and punitive interventions to remove mentally ill individuals from society, without due regard for their dignity and basic humanity. An estimated 740,000 people with mental illnesses are incarcerated in state prisons and local jails.[16] On any given day, more people with disabling behavioral health conditions can

be found in our biggest city jails than ever inhabited the largest asylums in the mid-twentieth century.

The causes of the dramatic historical shift in the way our society has treated (or abandoned, more accurately stated) people with mental illnesses are numerous and complex.[17] Scholars have proposed several reasons, including the discoveries in the 1950s of new pharmacotherapies that promised (prematurely, as it turned out) definitive relief from psychiatric symptoms with minimal outpatient medical management; the withering sociological and humanitarian critiques of so-called "total institutions" in the 1960s;[18] the civil libertarian reforms of involuntary commitment laws in the 1970s – disqualifying all but the "imminently dangerous" from the hospital care that many still needed and leaving them to "rot with their rights on;"[19] the divestment and devolution of centralized public mental health authorities with the advent of managed care and privatization of behavioral health services in the 1980s;[20] the continuing disappearance of subsidized and low-cost housing in many of our biggest cities;[21] and epidemic waves of illicit drug use and a misbegotten policy of mass incarceration in the 1990s, 2000s, and beyond.[22] All of these factors together contributed, in complex and intertwining ways, to a phenomenon that is often referred to elliptically as "deinstitutionalization," but which amounted to a cruel betrayal of people with serious and disabling mental illnesses.

This is the sad state of affairs that many politicians and pundits presumably are referring to when they respond to mass shootings by saying, in essence, "Fix mental health." Texas Governor Gregg Abbott exemplified this view in his statement following the massacre of school children in Uvalde in 2022:

> We as a state, we as a society, need to do a better job with mental health. Anybody who shoots somebody else has a mental health challenge. Period. We as a government need to find a way to target that mental health challenge and to do something about it.[23]

Abbott's statement, while resonating with public opinion and widespread fear of the mentally ill, collides with empirical data. The vast majority of people with serious mental illness are not violent toward others. Only an estimated 3 percent of gun homicides are perpetrated by people with serious mental illness, and as we discuss in more detail later, 4 percent of all violent behavior risk is attributable to serious mental illness in multivariable analysis.[24] It is not that mental illness poses no relative increased risk of gun violence at all, but it is not the place one would start to reduce gun violence.

Still, it is noteworthy that Abbott's blanket statement about people who shoot others refers to "mental health challenges," not necessarily serious diagnosable mental disorders. It stands to reason that many, if not most people who shoot to kill another human being are experiencing, at the time, negative emotions antithetical to a state of mental well-being: feelings of anger, fear, anxiety, frustration,

resentment, isolation, hopelessness, or despair. These fall on the extreme end of the spectrum of normal human emotions that most people might experience at some points in their lives. Psychotherapy or pharmacotherapy may help some people who experience distressing and destructive feelings. In 2020, one in five adults received some mental health treatment in the past twelve months, including 17 percent who had taken medication for their mental health and 10 percent who received counseling or therapy from a mental health professional.[25] But we do not have a behavioral health care system that is designed, organized, and financed to deliver interventions to even a fraction of all the people who experience undesirable emotional states. Even if we did, it is far from clear that currently available interventions would work well enough, and for enough of the people at highest risk, to expect to make a dent in gun violence. Meanwhile, the types of psychopathologies that our mental health system is mostly designed to treat contribute very little to the problem of gun homicides.

What causes gun violence: dangerous people or dangerous guns? How does the answer to that question constrain policy solutions, and is it the right question? At its simplest level, gun violence requires two components: injurious behavior and access to a firearm. The perception that gun violence is caused primarily by one of these ingredients or the other creates an explanatory conflict that has come to characterize our nation's highly politicized cultural divide over private rights and public safety. But finding our way to real solutions requires us to move away from this either/or perspective. In our view, both ingredients are important and even complementary concerns. Unfortunately, discussion of gun policy in the public square has become so polarized that many see only a dichotomous choice. To the right of our political center, gun rights advocates tend to view even limited gun regulations as a slippery slope that will lead to all civilians losing their guns. To the left, public health law scholars argue that government should play a major role in regulating the public's access to firearms. This view underlies safe storage requirements, the restriction of guns in sensitive places, disqualification of people at risk of harming themselves or others from possessing guns, giving law enforcement officers and judges the clear legal authority to remove guns from people who behave dangerously, and the legal prohibition of certain types of guns and ammunition.

The argument for gun regulation assumes that there will always be some people in the community at risk of harming others at certain times, but we cannot predict or control that risk with any degree of precision. Therefore, the argument goes, we should try to minimize the catastrophic damage that such behavior can do when potentiated by a firearm, by restricting access to the most lethal technologies, for certain people, at certain times and places. But comprehensive regulatory strategies to prevent firearm injury in the United States are uniquely con-

strained by a constitutional right to bear arms, the fact that four out of ten Americans live in a household with a gun, and the degree to which the American public is strongly divided between those committed to gun rights and those committed to gun control.[26] Thus, while many other advanced countries have successfully avoided a more serious gun violence problem by broadly restricting legal access to firearms in their populations, U.S. policymakers have had to focus selectively on prohibiting certain groups of putatively dangerous people – such as those convicted of a felony or involuntarily committed to a mental hospital – from purchasing or possessing guns.[27] Having relied on this approach for more than fifty years, the United States still suffers with a per-capita firearm fatality rate that is more than five times higher than Canada's, eight times higher than Denmark's, twelve times higher than Australia's, fifty-three times higher than the United Kingdom's, and 203 times higher than Japan's gun death rate.[28]

Clearly, policies that rely on point-of-sale firearm prohibitions for people with a mental health adjudication or criminal record have not been enough to reduce gun violence in America. Moreover, the institutions responsible for determining whether someone has a gun-disqualifying record – mainly the criminal legal system and the public sector mental health care system – operate in the long shadow of America's legacy of racial discrimination. Unsurprisingly, gun restrictions fall disproportionately on communities of color, as does the burden of gun violence itself.[29] Thus, targeted categorical restrictions on who can purchase a gun from a licensed dealer have not only failed to solve America's gun violence problem, but arguably have perpetuated racial inequities.[30] Gun violence prevention policy in the United States faces the triple challenge of saving lives, respecting individuals' constitutional rights, and promoting racial justice – and must accomplish these goals despite stiff political headwinds.

An evidence-based approach to gun violence prevention is specifically limited by the U.S. Supreme Court's interpretation of the Second Amendment, and by the state of our knowledge about which policies, legislation, and programs are most effective in both protecting the rights of law-abiding gun owners and reducing gun violence. In *D.C. v. Heller* (2007), the Court held that individuals, not just standing militias, have a constitutional right to possess firearms for personal protection in the home.[31] In *Bruen v. New York Pistol and Rifle Association* (2022), the Court substantially expanded gun rights by declaring that it was unconstitutional for a state to require an applicant for a concealed-carry license to show they had a good reason to walk around with a handgun; rather, they have a right to do so, if they are not otherwise prohibited.[32] Justice Clarence Thomas's opinion for the majority thus limits states' ability to craft discretionary concealed-carry licensing schemes. It also requires lower appellate courts going forward to consider only constitutional "text, history, and tradition" as the criteria for deciding Second Amendment challenges to states' existing gun restrictions. This could limit op-

portunities for public health science to weigh in to help courts decide whether gun-related laws today are narrowly tailored or they serve a compelling government interest (such as saving lives).[33]

The Court's opinion aligns with libertarian values on the political right, marked by a general aversion to government infringement into private life and the belief that individual moral actors are solely responsible for the consequences of their bad choices. This view tends to bifurcate the population into "good people" (us) and "bad people" (them). The bad people cannot be expected to abide by gun laws, and the good people do not need such laws. According to this view, the main effect of gun control laws is to restrict good people's access to the protective weapons they need to defend themselves from the bad people. The corresponding policy solution is to have fewer laws restricting good people, and fewer bad people in the community.

The narrative that equates gun violence and mental illness is an important example of this approach. In his immediate response to a mass shooting in 2019, former President Donald Trump proposed to address gun violence by building more psychiatric hospitals in which to confine the "crazy people" that he assumed were always responsible for mass shootings: "I think we have to start building institutions again," he said, "because you know, if you look at the '60s and the '70s, so many of these institutions were closed, and the people were just allowed to go onto the streets. . . . We can't let these people be on the streets."[34]

In his view that America's gun violence problem is about mental illness, not guns, the former president has prominent company. In 2018, after seventeen people were shot to death in a high school in Florida, Republican Senator from Iowa Joni Ernst stated: "The root cause is not that we have the Second Amendment. It is that we're not adequately addressing mental illness across the United States. We need to focus on that."[35] The next year, after twenty-two people were shot to death at a Walmart in El Paso, Texas Governor Gregg Abbott again responded by saying, "Bottom line is mental health is a large contributor to any type of violence or shooting violence."[36] And putting this view in the most succinct and provocative way, author Ann Coulter stated, "Guns don't kill people, the mentally ill do."[37]

Are they right? And how would we know? If mental illness were a driving cause of gun violence, we might expect the firearm fatality rate to be higher in states with less public funding for mental health services, fewer psychiatric beds per capita, and a higher estimated prevalence of untreated mental illness in the community. It is not. Instead, gun-related homicide and suicide rates tend to be higher in states with more guns per capita and weaker gun laws.[38] At the same time, it would be a mistake to conclude that mental health in the population is totally unrelated to gun violence; as we have suggested, most people who intentionally use a firearm to injure another person or themselves are not paragons of mental well-being. But they probably have never been involuntarily committed

to a psychiatric hospital and would not be legally restricted from owning a firearm on the basis of a mental health–related adjudication record. We need better criteria.[39]

The case of the shooter in Parkland, Florida, illustrates this problem. It is clear that the shooter had concerning problems and risk factors for violence in his past, but it is far from clear that he would have qualified for a gun-disqualifying mental health adjudication.[40] That is because the federal and state criteria for denying a gun purchase are not only overbroad, but too narrow. While many people who cannot legally buy guns would pose little risk of harm even if they could, many who actually do pose a risk – people with impulsive and destructive anger traits, for example – have no record that would deny them a firearm.[41]

Analyses of mass shooters suggest that the perpetrators often suffer from social, emotional, and behavioral difficulties, but most have not been hospitalized against their will, nor have they been given a diagnosis of serious depression, bipolar disorder, or a thought disorder. Frequently, they have character disorders and a pattern of escalating risk marked by "changes in behavior, demeanor or appearance, uncharacteristic fights or arguments, and telling others of plans for violence, a phenomenon known as 'leakage.'"[42] They typically do not have the sorts of mental health diagnoses that tend to characterize involuntarily committed psychiatric patients who thereby lose their gun rights.[43]

Sometimes, legally mandated outpatient psychiatric treatment – either in the form of a civil court order or a condition of a criminal case diversion – can help to leverage access to intensive services for people whose mental illness has affected their ability to recognize their own need for treatment and to comply with recommended treatment, resulting in a deleterious pattern of repeated involuntary hospitalizations, arrests, or violent behavior.[44] Outpatient civil commitment and analogous legal dispositions also typically confer a firearm restriction under federal or state law. But in general, we do not have a system or procedures in place to identify high-risk individuals who have no record of a mental health adjudication or felony criminal conviction. We need criteria that are sensitive, specific, and comprehensive enough to help identify individuals at high risk of violence and ensure that they cannot purchase and possess firearms.

If we could develop the capacity to identify persons with escalating patterns of risk, and a fair and effective legal process to prevent such persons from acquiring guns, we would be better able to prevent gun homicides and suicides. Such a system requires public participation in gathering information about individuals at risk of harming themselves or others. While certain potential problems arise when enlisting the public in surveillance of their neighbors, there are also plenty of examples in which the public plays an important role in public health interventions.[45] This is the model underlying the implementation of extreme risk protection orders (also known as red flag laws), which have been shown to be effective in

preventing firearm-related suicides in Connecticut and Indiana, where laws have been instituted at the state level.[46] The effectiveness of widespread public participation in the Air Force suicide prevention program is another example. This intervention consisted of instructing every single person in a targeted unit – from officers, enlisted personnel, and their families to service providers like beauticians, barbers, and commissary staff – to be on the lookout for anyone who seemed depressed, despairing, or hopeless. All individuals who appeared to have these symptoms were referred to mental health professionals for screening and interventions where appropriate. This intervention in which "the public" was mobilized resulted in previously unheard of reductions of suicide of 25–40 percent.[47]

Negative and stigmatizing messages about the supposed dangerousness of mentally ill people are destructive and insidious, in part because they resonate with what a large proportion of the public already believes. Data from the 2006 General Social Survey suggest that Americans believe that people with schizophrenia are especially dangerous. After reading a vignette about an individual with common symptoms of schizophrenia, 60 percent of respondents reported that they viewed the described individual as likely or very likely to be dangerous toward others, even though the vignette description did not include any information about violent behavior or characteristics.[48]

Fear and social opprobrium directed toward "the mentally ill" are rooted in Western cultural-historical beliefs going back to ancient times. People who behave in extremely strange ways – for example, those who appear to see invisible visions and hear inaudible voices, who hold bizarre beliefs or succumb to extreme emotions incongruent with the shared experience of others – have often been treated with fear, have been socially ostracized, and thought to be in need of redemptive or miraculous healing. Biblical narratives about demonic possession converge with modern descriptions of psychotic illness. It stands to reason, then, that mental illnesses would serve as a convenient scapegoat for gun violence, perhaps especially for those people with more traditional and conservative habits of thought.

Alternatively, the perspective from the political left has maintained that gun violence prevention should focus mainly on guns, even while efforts to pass gun-related legislation at the federal level have been stymied by the political power of gun rights advocates, as led and mobilized by the National Rifle Association (NRA). As a single-issue lobbying group, the NRA has been most effective in mobilizing resistance by spreading the myth that any data collection, research, or policy discussions around gun control will lead to all civilians losing their guns. The NRA has also been effective in convincing gun owners that their identity as gun owners is closely linked to their identity as someone who cares about protecting their family and their country. The NRA conducted a campaign to stop all federal funding for gun violence prevention research for more than twenty years, with the

result that there remain large gaps in our scientific knowledge about what causes and how to prevent gun violence.[49]

What do we know about mental illness and gun suicides? Guns were used in over half the suicides in the United States in 2020 – 24,292 out of 45,979 suicide deaths – and suicides account for about six out of ten firearm-related fatalities.[50] Mental illness is a strong contributor to suicide, but suicide is caused by many other factors as well and often cannot be prevented by mental health treatment alone. Access to firearms is one of the most important modifiable determinants of suicide mortality in the United States. Evidence-based firearm restrictions and policies that limit gun access to people who pose a clear risk of intentional self-harm could prevent many suicides without infringing the rights of lawful gun owners.[51]

Epidemiological research has demonstrated that the relative risk of suicide is eight times higher in persons with serious psychiatric illnesses and substance-use disorders.[52] Conversely, populations with greater access to mental health care have much lower suicide rates.[53] These findings suggest that the most effective suicide prevention approaches will consist of finding high-risk persons with mental health problems and helping them to get appropriate treatment. This strategy would include protocols for screening and risk assessment for suicide in schools and clinical settings, educating the public to recognize very early signs of depression, hopelessness, or suicidal intent in others, and how to refer them to professionals for help. This approach has proven effective to a certain degree in certain settings, but behavioral health treatment is not always effective and it fails to prevent many suicides.[54] The suicide rate among patients recently discharged from psychiatric hospitals is one hundred times higher than the rate in the general population.[55] Analysis of data from the National Violent Death Reporting System finds that 27 percent of those who died from suicide were currently receiving treatment for a mental health or substance abuse condition at the time of their suicide.[56]

There are many risk factors for suicide that are not related to either mental illness or addiction problems and these are not within the purview of standard mental health treatment. Averaging many different studies, the proportion of suicide risk that is attributable to mental health disorders is about 57 percent for males and 77 percent for females; the remainder of the risk is attributable to social, economic, circumstantial, and other factors that are not directly connected to psychopathology.[57] Interventions that address access to lethal means have untapped potential to prevent a large number of suicide deaths.[58] Most people who try to end their own life get a second chance, but fatality rates vary dramatically by the method of intentional self-harm. People who use firearms rarely survive; almost nine out of ten die.[59] In the United States, even though men have lower rates of

depression, they are nearly four times more likely than women to die of suicide, and greater access to firearms is one reason for this.[60] Gun-safety and safe-storage practices can thus have a beneficial impact on suicide prevention, especially in the male population. The challenge is to keep guns out of the hands of people at highest risk of suicide, without unduly infringing the Second Amendment rights of many gun owners who are unlikely to harm anyone.

W hat do we know about mental illness and interpersonal violence? Are mental illness and interpersonal violence causally related, and if so, how? This is a simple-sounding question with a slippery answer, one that varies widely with the elastic definitions of its primary terms.[61] If we define mental illness broadly to include every pathologized pattern psychiatrists have ever characterized as conditions for which people might need their professional help – distorted thoughts, dysregulated moods, dysfunctional behavior, destructive relationships, deviant personalities, or debilitating substance use – then serious violent behavior itself can easily stand as a defining indicator of some form of mental illness. The argument goes, anyone who would shoot to kill another person must not be thinking clearly and must be mentally ill.

The most salient example of this definitional tautology is the common construal of any public mass-casualty shooting as the act of a sick mind. If we believe this to be literally true (in a clinical sense), we must ignore or deny scientific studies showing that most mass shooters do not, in fact, have a major diagnosable psychiatric disorder. Instead, they tend to be angry, alienated, resentful young men in the thrall of a deviant cultural script, and with easy access to an instrument designed to kill multiple people in seconds.[62]

A much different answer is obtained when our questions define mental illness and violence independently and more precisely. For example, by how much, if at all, do the symptoms of certain well-described psychiatric illnesses – schizophrenia, bipolar disorder, and major depression – statistically increase the likelihood that people with these illnesses will intentionally engage in violent behaviors toward others within a discrete period of time? Will they hit, push, shove, kick, choke, or throw something at another person, or use a weapon like a stick, knife, or gun to harm or threaten someone? And how much does risk of violence, defined in this way, statistically increase in the presence of excessive alcohol and illicit drug use, whether alone or in combination with serious psychiatric conditions?

The first empirical answers to these questions came more than three decades ago from the landmark National Institute of Mental Health (NIMH) Epidemiologic Catchment Area (ECA) study.[63] A careful understanding of the study's groundbreaking design and method is important to seeing why its powerful findings mattered then, and still matter now. Research teams conducted structured psychiatric diagnostic interviews with more than ten thousand randomly selected adults

living in Baltimore, St. Louis, and Los Angeles and surrounding areas. The ECA researchers conducted a lengthy confidential household interview with each selected participant, first gathering systematic information about the presence or absence of symptoms of specific behavioral health disorders as codified by the American Psychiatric Association's diagnostic manual.[64] After the data were assembled, a computer algorithm was used to analyze each respondent's symptom pattern and mimic a trained psychiatrist's diagnostic assessment; a putative lifetime diagnosis of one or more psychiatric disorders was assigned to those who had ever met the corresponding clinical criteria, a past-year diagnosis to those who qualified with active symptoms in the previous twelve months.

The ECA study's interview also included questions about whether the participant had ever engaged in specific violent behaviors, and how recently. The behaviors included getting into a physical fight while drinking, hitting or throwing things at a domestic partner, hitting a child hard enough to cause a bruise or require medical attention or bedrest, engaging in physical fights that came to swapping blows with other people (not a domestic partner or child, irrespective of drinking), and using a weapon such as a stick, knife, or gun in a fight.

Importantly, the study's community-representative random sampling design avoided the selection bias inherent in two kinds of previous research: retrospective studies of violence in psychiatric patients found in hospitals, secure forensic facilities, and intensive community treatment programs; and studies of psychopathology in people arrested or incarcerated for violent crimes.[65] These earlier studies tended to vastly overestimate the connection between interpersonal violence and mental illness in the community, and it is not difficult to see why. They only looked at the very small proportion of mentally ill individuals who had already been identified as violent, or who needed treatment in a confined or supervised setting to mitigate the risk of harm.

The ECA study found a modest but statistically significant association between having a serious mental illness alone (schizophrenia, bipolar disorder, or depression without co-occurring alcohol or drug-use disorder) and committing one or more acts of interpersonal violence in the previous year. Approximately 7 percent of adults with these disorders reported that they had engaged in some minor or serious violent behavior in the previous year, compared with 2 percent of the general population of adults without these illnesses.

To test whether the increased relative risk might be explained by other correlates of violence that could be more common in people with mental illnesses, the researchers conducted a multivariable analysis that accounted for the independent and covarying effects of age, sex, race, marital status, and socioeconomic status (the latter being a composite of information on income, educational attainment, and occupational prestige). The results held up in a controlled model. Stated in terms of relative risk, then, people with serious mental illnesses were about

three times more likely to be violent than those without those illnesses. When respondents with co-occurring substance use disorders were included among those with the aforementioned disorders, the prevalence of any violence went to 12 percent in the past year, and 25 percent ever in the person's lifetime.[66]

But the findings could be viewed another way. The absolute risk in people with serious mental illnesses was very low. While it was true these individuals were three times more likely to be violent than other people, it was equally true that the vast majority – 97 percent – did not engage in violent behavior. Moreover, the ECA data could be arrayed to answer yet another question, and perhaps even a policy-relevant question about violence and mental illness. If we were to succeed in curing all serious mental illnesses (or at least eliminating any excess violence-risk linked to them), how much less violence would we have in society? The ECA data's answer to that intriguing counterfactual question was that violence would go down by approximately 4 percent, and 96 percent of it would remain.

But if not mental illness, then what is the major driver of violence? The ECA project had an answer to that question, too – one that has been confirmed and elaborated in many other studies in the ensuing decades.[67] The analysis showed there is no one cause, no one explanation, and therefore no one solution to the problem. Rather, violence is caused by many factors that interact with each other in complex ways. Much of it is about demographics, resources, and position in social structure. Violence rates are by far the highest in young men with lower incomes, less education, and either no employment or poorly paid jobs with little prestige.[68] What role does hopelessness play in making violence a way to relieve anger and frustration, a way that does not seem to the shooters to come with a particularly high cost? Should our mental health "system" try to find and help people who are feeling angry and hopeless? What would it take to build the capacity for this?

Alcohol and illicit drug use disorders dramatically increase the risk of violent behavior, especially in combination with other risk factors. In the ECA study, approximately 34 percent of the population risk of violence was attributable to substance abuse; there are several reasons for this. Part of the correlation is due to the pharmacological effects of psychoactive substances. Alcohol, for example, is a central nervous system depressant that can alter mood, distort judgment, heighten perception of threat and malevolent intent from others, and disinhibit aggressive impulses. Intoxication may enable otherwise controlled negative affective states – such as feelings of anger, resentment, envy, or jealousy – to find expression in overtly injurious physical acts of violence directed at others. Psychoactive substances may also increase violence-risk in some individuals by exacerbating certain psychiatric symptoms, such as persecutory delusions, which can sometimes motivate instrumental acts of violence as retaliation for imagined victimization.

Problematic substance use can lead to violence by creating extreme conflict in social relationships, and by exposing affected individuals to social networks

such as those involved with illegal drug markets where violence might be normalized. Finally, the nexus of alcohol and drugs and violence can be self-perpetuating, through observed and learned behavior in early development, reinforcement of substance use and violence as a maladaptive response to conflict or economic deprivation, and exposure to environments where these are linked in socially toxic surroundings. We as a country do not have the capacity to treat all those suffering from addiction to alcohol or other drugs. There are, however, compelling arguments – social, economic, medical, and moral – why we should develop that capacity.

A range of effective public policies to prevent gun violence must address both lethal means and the behavior of people at risk – tailoring restrictions on access to guns, expanding access to behavioral health services, and mitigating the cultural, social-economic, and political determinants of using guns in harmful ways. The potential for developing and expanding a complementary, evidence-based approach to both improving mental health and reducing gun violence in the population gives us reason to hope we will one day live in a society with greater community well-being and far less gun violence. A general strategy to reduce the burden of gun violence without infringing on the rights of law-abiding gun owners is to keep guns away from people who should not have them. This is difficult, but not impossible.

There are several parts to the task. First, we need to identify all the people who are already legally prohibited from possessing firearms and ensure that, in fact, they do not have access to firearms, which could be done through comprehensive record reporting, expanded background checks, and tamping down illegal transfers on the secondary gun market. Second, we need to identify people who are at high risk of using guns to harm themselves or others but do not yet (for various reasons) have a gun-disqualifying record and could pass a background check to buy a gun from a licensed firearm dealer. These individuals, too, should be separated from firearms. Reforms are needed in our existing legal criteria for prohibiting guns – especially in some states – so that the restrictions would apply to high-risk individuals such as those convicted of violent misdemeanors, persons subject to temporary domestic violence orders of protection, and those with multiple drunk-driving convictions.[69]

The criteria of mental illness, when further specified and judiciously applied, may be one way to identify high-risk individuals, that is, to the extent that injurious behavior directed toward others or themselves is indeed related to some particular manifestations of mental illness. Examples include suicidal depression, paranoid delusions with homicidal command hallucinations, and posttraumatic stress rooted in violent victimization, especially when these states of compromised mental health are combined with alcohol or other drug intoxication. But we need ways to

focus on the highest risk subjects rather than trying to prevent violence by "fixing the mental health system." If violence-prevention is the primary goal, we should focus narrowly on ways to identify and deliver timely interventions to people at high risk of harming themselves or others, at limited times when they are at their highest risk. Interventions should both provide access to treatment services and remove access to lethal means. For people experiencing a dangerous mental health crisis, extreme risk protection orders (ERPOs) used in conjunction with short-term involuntary hospitalization illustrate how different legal tools can work together to address both the how and the why of a potential suicide.

There are certainly improvements to be made in our behavioral health care system that could reduce vectors of violence in the community, at least indirectly – for example, expanding drug-addiction treatment and certain criminal diversion programs, and fixing the psychiatric bed shortage (or misallocation, poor distribution of inpatient capacity). These efforts could help alleviate several aspects of the problem that are made worse by untreated psychiatric illness: homelessness, mass incarceration of people with serious mental illnesses, and emergency room boarding of acutely ill psychiatric patients. Each of these problems amounts to a domestic humanitarian crisis of its own, in a country that must do far better.

Involuntary commitment criteria may help to select a population at higher risk of gun violence; the existing criteria that include dangerousness to self or others are specific and make sense, as long as there are opportunities for restoration of rights after a suitable period of time has passed to allow risk to subside.[70] But involuntary commitment to a hospital has never been a very sensitive criterion for gun disqualification, and is even less so now, in a world after deinstitutionalization has run its course and we have very low rates of psychiatric hospitalization (whether involuntary or not). Thus, trying to disqualify only such people from purchasing guns will miss the largest group of persons with symptoms of mental illness who go on to commit violent acts. A longitudinal study of 23,292 previously hospitalized, public-sector patients with a diagnosis of serious mental illness in Connecticut reported that 96 percent of violent crimes in the study population were perpetrated by individuals who had never been involuntarily committed to a hospital, a group ostensibly receiving less inpatient treatment and who did not lose their gun rights through the mental health prohibitor.[71] A nationally representative psychiatric epidemiological study described a group of adults with impulsive anger problems and access to firearms, comprising an estimated 8.9 percent of the adult population of the United States. A substantial proportion of these individuals with destructive and uncontrolled anger combined with gun access met criteria for some type of psychopathology (including personality disorders and substance use disorders), but only one in ten had been admitted to a hospital for a mental health problem. The majority with this risky combination of impulsive anger and access to guns would not have lost their firearm rights through involuntary commitment.[72]

A clinical or judicial finding of dangerousness in conjunction with brief emergency psychiatric hospitalization for evaluation should be leveraged to at least temporarily limit a mentally ill person's ability to legally purchase a firearm, irrespective of whether a formal involuntary commitment occurs. Studies suggest that violence-risk in psychiatric patients is not necessarily inherent or persistent but rather a function of fluctuating risk factors that select people into different clinical settings at different moments in the course of their illness. Violence-risk tends to be elevated during times of crisis and is most likely to become apparent in periods immediately surrounding contact with the mental health care system during these crises. Involuntary commitment proceedings tend to occur at such times and result in a legal restriction of firearms. Short-term holds for a psychiatric examination also coincide with crises but, in twenty-eight states, do not affect firearms rights. This is an opportunity for reform.[73]

What reforms are most needed and would work best to prevent gun violence and improve outcomes for people with mental illnesses? The Safer Communities Act was an encouraging step, in that it incorporates interventions and policies that were scientifically investigated and found to be effective. Research can help to design and evaluate interventions that will simultaneously reduce gun violence and protect the rights of law-abiding citizens. Basically, this means keeping guns out of the hands of persons who cannot legally have them but allowing law-abiding citizens to have and use them. Examples of programs and policies that do this include gun licensing, safe storage regulations, enforcement of laws prohibiting gun ownership by persons convicted of domestic violence felonies or misdemeanors, ERPOs or red-flag laws, waiting periods, and uniform background checks without loopholes. Science can also help us find and evaluate more programs and interventions like these.[74]

There should not be a forced choice between suicide-prevention policies that increase the public's access to mental health treatment interventions and those that decrease at-risk individuals' access to firearms. Both approaches have their place and should be complementary. Both approaches should also be designed to target individuals at high risk for shooting themselves or another. Gun restrictions that apply to people with mental illnesses must be narrowly focused on behavioral indicators of suicide risk to avoid stigmatizing people in recovery and unduly restricting the rights of millions of people who pose no elevated risk of harming themselves or others.[75] But crisis-focused behavioral health care interventions are unlikely to substantially curtail the population-level prevalence of suicidal thoughts and self-injurious behaviors. In the interest of keeping more people alive who will inevitably experience the impulse to end their own life, policymakers in the United States should put more emphasis on expanding the use of tailored legal tools to reduce such individuals' access to firearms. The statutory re-

forms summarized below are targeted, achievable modifications to existing constitutionally tested policy templates that could save lives when enacted at the state or federal level.

First, state legislators should expand and sharpen gun-prohibiting legal criteria to better align with risk.[76] This would ensure that a greater proportion of individuals at risk of suicide would not have access to a gun during a season of hopelessness or a moment of intoxicated despair. States should prohibit purchase and possession of or access to firearms for a temporary period of time by persons with a record of a brief involuntary hold for a psychiatric examination. And they should prohibit purchase and possession of or access to firearms for persons with a record of repeated alcohol-impaired driving, because these individuals are very likely to suffer from alcohol-dependence disorder, which is an especially robust risk factor for lifetime suicide risk.[77] State legislators could institute a time-limited gun prohibition – five to ten years – applicable to anyone who acquires a second DUI conviction.[78] This would not prevent such a person from ever feeling suicidal, but it would reduce their access to the most lethal method of suicide and make any future suicide attempts much more survivable.

Second, state legislators should enact and widely implement ERPO laws that enable police officers or, in some states, concerned family members and health care providers to seek a civil restraining order to temporarily remove firearms from a person who is behaving dangerously.[79] The twenty-one states and the District of Columbia that have already enacted such laws could improve them, and those states that have not yet enacted such laws can design and implement them using funds made available from the Safer Communities Act. ERPOs should confer a purchase prohibition in the FBI's background-check database to prevent persons who are behaving dangerously from acquiring firearms. ERPOs should be applicable to persons under age eighteen who meet the risk-criteria specified in the statute. Clinicians should be authorized to petition for an ERPO for their patients who pose a significant risk of harming themselves or others. States should authorize ERPO petitioners to include physicians and other primary care and mental health care providers. States should adopt an innovative policy known as pre-commitment against suicide (PAS), or voluntary self-enrollment in the NICS.[80] The PAS amounts to a self-initiated, opt-in waiting period for buying a gun, and it could save many lives.[81]

To meaningfully reduce gun violence, more community-based work is needed that is focused neither on guns nor persons with mental illness. When we talk about firearm-injury prevention, we typically consider prevention strategies that are directly tied to individuals who possess firearms, such as safe storage, background checks, ERPOs, licensing, and carrying. From the legal design of gun restrictions to the mechanical design of guns themselves, these are

all clearly important, but we need more. The roots of our gun-violence problem run deeper, and so must our policies to contain and excise it. The roots that need to be examined include the social and economic determinants of gun violence like poverty, racism, discrimination, and lack of access to jobs, health care, and quality education.[82] Evidence-based policies for prevention of community violence include promoting family environments that support healthy development, providing quality education early in life, strengthening young people's skills, connecting youth to caring adults and activities, creating protective environments such as by changing the physical design of communities, intervening to lessen harms and prevent future risk, street outreach, and hospital-based programs for victims and survivors of gun violence. Many of these latter types of strategies have been emphasized by the White House and others as part of their efforts to address community violence.[83] Political strategies to develop bipartisan support for laws and policies such as the Safer Communities Act will, incrementally and over the long term, reduce the gun violence toll.

Ecologist Garrett Hardin first used the term "tragedy of the commons" to describe what happens when individuals have access to a community resource for which they do not have to pay.[84] They tend to take only their self-interest into account and deplete the public resource. For example, if there is a common pasture in a town where families can let their cows graze for free, there will soon be too many cows eating too little grass and the commons will be stripped bare. Alexandra Spiliakos, writing for Harvard Business School Online, aptly describes this phenomenon:

> [Individuals tend to] . . . make decisions based on their personal needs, regardless of the negative impact it may have on others. In some cases, an individual's belief that others won't act in the best interest of the group can lead them to justify selfish behavior. Potential overuse of a common-pool resource – hybrid between a public and private good – can also influence individuals to act with their short-term interest in mind, resulting in the use of an unsustainable product and disregard for the harm it could cause to the environment or general public.[85]

An individual's decision to purchase a firearm for personal protection is a self-interested act that carries little real cost – until the tragedy of the commons eventually follows. When many people in the community feel the same need to acquire their own guns, the purpose of the first individual's self-interested act is defeated. Everyone is less safe when all are armed. More guns will be stolen and resold illegally and used to commit crimes. In turn, more people will feel unsafe and perceive a need to acquire guns. Even more guns will be purchased, and more residents will feel threatened. The U.S. gun industry, the NRA, and a generation of politicians in their sway have capitalized on this phenomenon, to the ultimate detriment of our civil society and at the cost of many lives lost and families and communities damaged by fear and anxiety.

Consider another relevant example: imagine that a single unsheltered person with mental disability appears on a village green, asking for money to survive. Other citizens feel generous and open their wallets. But when many citizens in large urban centers encounter a growing mass of homeless people with untreated serious mental illnesses encamped on the streets and in city parks, everyone feels threatened; eventually, a whole community's sense of security erodes. In that social environment, imagine that a single act of violence occurs and is attributed to a "homeless mentally ill" subway denizen. Public fear escalates as public trust recedes. Media narratives amplify the story and accentuate its resemblance to a culturally entrenched urban myth about violent insanity. Is it any wonder, then, that a mass shooting prompts cries to "fix mental health"? Or that popular state laws authorizing mandatory outpatient mental health treatment – Kendra's Law in New York, Laura's Law in California, and Kevin's Law in Michigan – are named for victims of homicides committed by people with serious mental illness?

The tragedy of the commons helps us understand how the proliferation of guns can erode the social fabric. With this in mind, we must take the measure of gun violence not only on the dimension of public safety, but overall community well-being. For many individuals, guns provide pleasure, affinity with other gun owners, a sense of personal efficacy, and security. But at a certain point, as economist David Hemenway and his colleagues have shown, a large number of guns in a community is associated with increased levels of homicide, suicide, and unintentional injury.[86] These, in turn, bring increased anxiety, fear, and loss. A sense of danger from homeless persons with behavioral health disorders in the community also contributes to increased anxiety and diminished quality of life. The erosion of the social safety net imposes great burdens on many communities. In responding to all these actual and perceived threats, accurate and effectively delivered information can help individuals and communities reduce their risks and destigmatize mental illness.

In moving toward prevention, it will be important to address the social and economic determinants of health that so often result in infectious diseases and injuries taking a disproportionately large toll on the poor and marginalized communities. Lingering racial disparities and inequality in the functioning of our nation's health care organizations, human services and social welfare institutions, and (perhaps especially) in our criminal legal system all reflect our cultural habits of thought as well as political priorities. These are historically entrenched but can be dislodged to make way for serious reforms. To be sure, thoroughgoing change is needed both in social structures and attitudes that perpetuate racial inequality in communities most adversely affected by gun violence. But the very proposed solutions to the problem must also avoid reproducing and reinforcing the patterns of racial inequality already embedded in these systems, such as expanding draconian prison sentences for certain gun-related infractions that are likely to fall heavily on overpoliced and overincarcerated young Black men.

The social and economic determinants of gun violence are complex and long-standing, and they are intertwined with the abandonment of disempowered and marginalized communities. These include people of color and those with serious mental illnesses, but also the legions of traumatized veterans, and the unemployed or underemployed workers now marooned in economically moribund small towns and rural and agricultural communities left behind by global economic development. Urban gun homicide and rural gun suicide are very different problems with distinct causes, yet they echo from common canyons of human despair. We need a different way of approaching these long-standing and complex problems. They are all too often ignored because they have many causes, require multisectoral collaboration, and cannot be solved without a substantial appropriation of public resources. They also take far longer to solve than the length of a politician's term in office: most politicians want to support programs that are likely to yield easily measured and impressive results before they are next up for reelection. In this light, the Bipartisan Safer Communities Act provides a heartening exception to what has been a dismal norm in the bitterly divided politics of our day: that our existing democratic governance structures seem to have lost the capacity to deliver substantial, equitable, and evidence-based solutions to difficult social problems.

Critical policy opportunities are emerging to reduce gun violence and create safer communities with healthier people. To seize these opportunities, we must communicate effectively. How we communicate information about gun violence to legislators and the public is vitally important.[87] We have learned from our country's experience with COVID-19. We now have a range of interventions that might be thought of as "vaccines against violence": firearm licensing, universal background checks, ERPO laws, safe storage, and laws that prohibit persons with records as violent misdemeanants, habitual drunk drivers, or domestic abusers from purchasing firearms. Over time, research can help us identify and test more and more of these "immunizations" against firearm injuries. But we will still need to overcome our own version of vaccine hesitancy. We will have to overcome the myth that research and policy to prevent gun violence will lead to everyone losing all their guns. This is a myth that has polarized our citizens and politicians into two camps: gun rights and gun control. We must develop the evidence base for gun violence prevention, but that by itself will not be enough. With science, we can find those interventions that will both reduce the toll of gun violence and protect the rights of law-abiding gun owners. But vaccines don't prevent illness; vaccinations do. Laws like the Safer Communities Act provide an *opportunity* for effective prevention, but they must be implemented to have an impact. We must draw upon the important lessons from marketing and behavior change to design campaigns that will reach gun owners and gun violence prevention advo-

cates alike, to reinforce the notion that they share a common goal in wanting to reduce the toll of gun violence. We can find ways to do this by working in our homes and our communities.

We need to put the public back into an active role in public health, whether the prevalent affliction to be solved is COVID-19, serious mental illness, or gun violence. Government institutions – even operating at all levels – cannot by themselves do everything necessary for effective prevention. As we saw in the Air Force experiment for suicide prevention, a bigger impact than ever before was achieved by mobilizing and involving the whole community.[88] Solving big problems like gun violence and mental illness require ambitious policies. They also require individual people who care deeply for their families, friends, neighbors, and communities – people who learn to care, perhaps especially, for those they may disagree with. The golden rule provides a good guide. There is a way out of the morass of gun violence in which we currently find ourselves. We remain optimistic that we can solve this problem if we have the courage to act, the moral compass to steer us toward equity, and the wisdom to use science to find those solutions that both reduce gun violence and protect the gun rights provided by our Constitution.

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Rethinking Psychiatry:
Solutions for a Sociogenic Crisis

Helena Hansen, Kevin J. Gutierrez & Saudi Garcia

This essay draws on Frantz Fanon's insights about the sociogenesis of psychiatric disorders, and on the insights of feminist standpoint theory, to sketch a map toward sociogenic mental health. We argue that psychiatry should move away from iatrogenesis (the harms of our current individual-level and pathologizing approach) toward sociogenesis of mental health through robust collaboration with social movements of oppressed people, and their collective healing approaches, ranging from harm reduction centers to community gardens. The essay ends with the outlines of a reinvented, community collaborative psychiatry that supports sociogenesis.

> Our thinking is scarcely able to liberate itself from the anatomo-clinical. We think in terms of organs and focal lesions when we ought to be thinking in terms of functions and disintegration. Our medical view is spatial, where it ought to become more and more temporal.
>
> —Frantz Fanon, *The Psychiatric Writings from Alienation and Freedom*[1]

> Beside phylogeny and ontogeny stands sociogeny.
>
> —Frantz Fanon, *Black Skin, White Masks*[2]

Something is wrong with American psychiatry. Trauma, displacement, and political-economic instability are pervasive. Record rates of drug overdose are named "deaths of despair," the product of dislocation due to increasingly unaffordable housing and the outsourcing of employment. Taken together, these ongoing problems have unraveled our social fabric.[3] The U.S. Surgeon General declared a "youth mental health crisis" based on young Americans' hopelessness and suicide.[4] Racial inequalities across these patterns continue to worsen, with devastating effects on Native American, Black, and Latinx communities, even as white Americans also continue to suffer exponential increases in mental health–related harm and death. Yet U.S. psychiatry has little to offer for these ills. On the contrary, U.S. psychiatry is often a source of inequality and iatrogenic harm, operating within a profit-driven health care system that makes mental

health care inaccessible and low-quality even for the white middle class, while clinically supporting police surveillance and mass incarceration in low-income Black and Brown neighborhoods. Psychiatry anchors a medical-prison-industrial complex in which interlocking health care and criminal-legal systems privilege corporate profit-making, and in which the only place Americans are guaranteed mental health services is in jails and prisons.[5] An estimated ten times more people with serious psychiatric diagnoses are incarcerated in prisons than in the remaining state mental hospitals of the United States, making the carceral system the largest provider of public mental health care in the country.[6]

What is the way out of this debacle? Here we (an African American psychiatrist-anthropologist, a Filipino American psychiatrist-narrative medicine scholar, and an Afro-Dominican medical anthropologist-environmental justice activist) draw on Frantz Fanon's insights about the sociogenesis of psychiatric disorders. We also draw on the insights of feminist philosophers of science who developed standpoint theory, including Sandra Harding, Donna Haraway, and Nancy Hartsock, to sketch a map toward sociogenic mental health, supported by a reinvented psychiatry. We argue that psychiatry should move away from iatrogenesis toward sociogenesis of mental health through robust collaboration with social movements of oppressed people.

Though seventy years have passed since Black revolutionary psychiatrist Frantz Fanon published his first book, *Black Skin, White Masks,* his work is just as relevant today. Fanon wrote at a time when psychiatry had begun to differentiate itself from neurology, and during which he was involved in anticolonial liberation movements in Algeria and his native Martinique. Though Fanon has influenced social scholars broadly, his work began with a clinical and scientific interrogation of the differences between neurology and psychiatry. His thesis was a "critique of the biologism of colonial ethnopsychiatry and enabled him to revisit culture in its relation to the body and to history."[7] Fanon trained in an era when the psychiatric discourse oscillated between organogenesis (biological cause) and psychogenesis (psychological cause) of mental illness. His approach transcended these poles to establish the sociogenesis (social and institutional cause) of mental illness.

Fanon's sociogeny posited that the mind, the body, and illness develop in relation to historically produced consciousness and social contexts. Among Black people, these contextually shaped bodily schemas (or habitus) derive from enslavement and colonial racial typologies.[8] The contemporary version of Fanon's sociogenesis would explain the fact that Black men are diagnosed with schizophrenia two to eight times as often as white men by pointing to the severe and persistent educational, employment, and housing segregation of Black Americans, and the fact that Black men are five times as likely to be incarcerated as white men, not to mention that the diagnostic criteria for paranoid schizophrenia historically emerged from stereotypes of Black men as violently paranoid.[9] Critical theorist

Sylvia Wynter drew on Fanon's sociogenesis to conclude that "*what* the brain *does* is itself culturally determined through the mediation of the socialized *sense of self*."[10] Fanon predates and anticipates concepts of structural violence in medicine, yet his sociogeny is rarely cited in medicine, and psychiatry's inattention to sociogenesis persists today.[11]

According to standpoint theory, scientific knowledge emerges from the lived experiences of scientists. In scientific (white male) monocultures, only a narrow slice of human experience guides scientific inquiry and imagination, creating an impoverished scientific knowledge base that confirms the biases of the dominant group. Increasing the range of scientists from different social positions or standpoints (for example, women and people of color) enriches the wellspring of scientific inquiry and imagination, while enhancing the rigor and self-critical ability of the scientific enterprise.[12]

In this essay, we translate insights from Fanon and standpoint theory to recommend that U.S. psychiatry look to movements of socially and politically marginalized people for examples of sociogenic mental health. People who have survived oppression have embodied social-structural knowledge; they have had to resist the toxic ethos of social division and economic extraction. Their techniques redefine mental health away from individual fitness in a social Darwinist dystopia, toward a vision of collective healing through mutual aid.

The spatial and temporal implications of Fanon's sociogeny would, today, lead us to reexamine the fifteen-minute psychopharmacology management regime of contemporary U.S. psychiatry, a regime that reflects health insurance policies and a medication-over-psychotherapy focus of care that limit the contact that psychiatrists can have with patients. Fanon's theories would help us attend to the spatial confines of locked psychiatry units, and of the psychiatric wards of jails and prisons, as well as the lack of integration of clinical services with community organizations and activities. We would be reminded that Fanon himself, when working in an Algerian asylum, asked patients what they wanted, and in response, built a soccer field. The colonial apparatus of containment that Fanon encountered in the Algerian War currently takes the form of the U.S. drug war, in which psychiatry is complicit with mass incarceration by supporting mental health courts and drug courts that give judges and probation officers oversight of mental health care. Organized psychiatry also reinforces the idea that serious mental illness is the cause of widespread homelessness in U.S. cities when psychiatrists cite statistics on rates of serious mental illness among unhoused people while remaining silent on housing policies that allow developers to dislocate residents from their neighborhood networks of support.[13] For effective mental health promotion, we need time and space for sociogenic healing. We also need collective projects that nourish all participants and foster mutual aid rather than competition over scarce resources (for example, community gardening).

Here we offer descriptions of three sociogenic mental health movements that contrast with American psychiatry and are based on our collective participant-observation data. These movements work to restore justice rather than reinforce social inequality. They foreground the knowledge and techniques of people who have survived marginalization and existential threats, rather than pharmaceutical and health insurance company–generated treatment protocols. They honor historical memory and ancestral solutions to health problems rather than patented intellectual property as marketable "innovations." They prioritize ecological sustainability over expanding markets for mass-manufactured consumables. Last, they forgo pathology-focused disease in favor of hopeful structures of feeling – styles of affect that emerge at a historical juncture – generated by collective practices.[14]

One of the most significant mutual aid movements of the late twentieth century was harm reduction, which emerged in the 1980s in response to HIV/AIDS among low-income, largely Black and Brown people and people who inject drugs, as well as among men who have sex with men.[15] Founders of harm reduction identified the neglect of public health officials and the oppression of law enforcement agencies enacting drug policies as the primary drivers of HIV-transmission and deaths, rather than the behavior of individuals. Harm reductionists recognized their life-saving interventions as political acts because many, such as syringe exchange, were illegal at the time. These acts led to legalization of syringe exchange, and to government funding for safer sex education and supplies. Two decades later, in the setting of historic overdose deaths in a national "opioid crisis," harm-reduction organizations pioneered community-based distribution of naloxone overdose-reversal kits, test strips to check drug supplies for the ultrapotent opioid fentanyl, and ultimately safer drug consumption facilities, otherwise known as medically supervised overdose-prevention sites.[16]

As focused as harm-reduction organizations have been on public health practice, as well as policy advocacy and activism to legalize and fund these public health practices – they have also fostered the creation of safe, nonjudgmental social spaces for low-wage earners who use drugs. The ethos of the leading grassroots harm-reduction organizations is one of welcome to all, especially those engaged in drug use or sex work. It is one of participatory decision-making, in which people who use drugs are recognized for their expertise in survival, and are employed as public health practitioners and organizational leaders. It is one of community and mutual support, in which those subject to dehumanizing treatment can find refuge and comfort.

Advocates for a harm-reduction approach to opioid use recognize that drug criminalization and social oppression are stronger drivers of overdose and disease than drugs themselves. This approach has parallels in organizations that ac-

knowledge the social marginalization of people with psychiatric diagnoses as a stronger driver of their poor health outcomes than their psychic states. Rather than attempting to eradicate their psychiatric symptoms, these organizations address the social conditions that isolate and harm people with diagnoses. For example, the Hearing Voices Network of people with auditory hallucinations sees hallucinations as self-protective mechanisms that can guide hearers toward self-understanding, rather than as symptoms of disease to be suppressed with medication. A number of other organizations based on Mad Pride, disability rights, and neurodiversity redefine people with psychiatric diagnoses not as diseased and requiring compulsory medical treatment, but as people with alternative sensitivities and abilities to be supported through a restructuring of society, from accommodations in the workplace and peer-led support organizations to housing-first programs that do not require biomedical treatment as a condition for subsidized housing.[17] Such interventions stop the harms of societal marginalization, rather than striving to eliminate psychiatric symptoms in ways that can themselves cause harm.

To illustrate the ethos of harm reduction and its institutional significance, we draw on participant-observation data from three exemplary harm-reduction organizations: Boom! Health, Atira Women's Resource Society, and the Urban Survivors Union.

Boom! Health, one of New York City's oldest harm-reduction centers, is located in a former warehouse near elevated subway tracks in an industrial section of the South Bronx. Helena Hansen first visited Boom! in 2016 with two psychiatry residents and two pre-medical undergraduates. We were warmly greeted by a middle-aged Puerto Rican woman who wore a jean jacket, had hand tattoos, and identified herself as a peer – someone who uses drugs. She ushered us through the welcome lounge where peer workers handed out packs of sandwiches and naloxone overdose-reversal kits to clients who had come in from the cold. She connected us with our host, an assistant director with a public health degree who had grown up in the neighborhood. We followed the assistant director on a tour of the laundry room, where people who had been living in parks and subway cars could shower while running their clothes through the machines, a resting room where peer workers checked those who napped in lounge chairs for signs of overdose. We passed through a kitchen where peer workers prepared food for visitors, to a set of rooms that hosted support groups on different themes and in different formats: survival sex, intergenerational trauma, an LGBT group, a women's only group. We ended at the Boom! pharmacy, operated by a local pharmacist-training school, where prescriptions for medications including buprenorphine, a maintenance medication for opioid-use disorder, could be filled.

In 2019, Hansen toured Atira Women's Resource Society located on the downtown east side of Vancouver with a group of medical anthropologists.[18] Atira was

internationally known for its safer drug consumption facility reserved for women, Sister Space, which was in actuality a living room – like area on the first floor of an aging high rise, replete with stuffed couches, large windows, and plants that a peer worker meticulously watered. Lighted makeup mirrors that facilitated skin visibility and safer injection into veins – safer because they would not cause the skin breakdown and infection of missed vein injections – were tucked in the corners, making space for a large central table for group meetings. The founder of Atira explained that Sister Space was but one of their many programs, their largest program being hundreds of housing units for women experiencing housing instability and those leaving abusive relationships. Unlike many other low-income housing units, Atira's housing had no requirements for women to be abstinent from drugs, and their children were welcome. In fact, Atira had convinced the British Columbia Child Protective Services authority to allow residents who were using drugs to keep custody of their children by providing twenty-four-hour childcare and early childhood education programs. As the founder explained, many of these women are First Nations (Indigenous) people who had seen multiple generations of children taken from their family's custody due to parental drug and alcohol use. These children were placed in foster care, which elevated their own risk of illicit drug and alcohol use, and therefore also the removal of their own children later in life. For these women, the ability to keep their children enabled their cultural and political survival. Such an arrangement with child welfare agencies would be unthinkable in the United States, where the demonization of mothers who use drugs has justified racially targeted removal of Black American children from their families and communities, with over half of Black families having been subject to child welfare agency surveillance at some point in their lives.[19]

Harm-reduction organizations such as Boom! and Atira are in national and international networks that embed harm-reduction principles and the political voice of people who use drugs into health policy and health systems. The Urban Survivors Union is one such network. With a membership of people who use drugs based in grassroots harm-reduction organizations across the United States, the Urban Survivors Union has launched national and local lobbying efforts to legalize and fund syringe exchange programs and naloxone overdose-prevention kit distribution.[20] Member organizations have run their own trials of fentanyl test strip distribution, and when COVID-19 emerged, its members pioneered virtual safer consumption rooms in which people who were physically isolated and using drugs could monitor each other virtually for signs of overdose. Its members pioneered doorstep delivery of methadone and buprenorphine under COVID-restrictions, and they established computer stations in poor and isolated neighborhoods so that people without digital devices or internet service could attend telehealth visits with methadone or buprenorphine providers. Most recently, a re-

search group of people who use drugs hosted by the Urban Survivors Union conducted a national study of the methadone clinic restrictions that put poor, Black and Brown, disabled, and parenting methadone patients at risk of overdose. Their findings formed the basis for their "Methadone Manifesto," which was featured in the *American Journal of Public Health* and in a national symposium on methadone policy hosted by the Substance Abuse and Mental Health Services Administration, the Centers for Disease Control and Prevention, and the National Academy of Medicine.[21]

Central to the movement over the past decade to counteract the detrimental impact of systemic racism on mental health is the work of the Brooklyn-based collective Harriet's Apothecary. As several other scholars have noted, Harriet's Apothecary is an example of healing circles dedicated specifically to the trauma of racial oppression.[22] The collective began hosting healing spaces for Black, Indigenous, and queer and trans people in the spring of 2014, supporting the launch of the Movement for Black Lives (Black Lives Matter).[23] Organized as a Black healing collective by Nigerian-born community herbalist Adaku Utah, Harriet's Apothecary "envisions a world where Black, Indigenous, and People of color have the power, healing, and safety needed to live the lives we desire for ourselves and our communities."[24] Named after Underground Railroad conductor Harriet Tubman, the Apothecary remembers and honors Tubman's legacy as a nurse and herbalist who also used botany, geography, astronomy, herbal medicine, and wildlife biology to help lead enslaved people to freedom.[25] The Apothecary holds a plethora of events, including healing villages that train participants in herbal medicine and mindfulness techniques oriented to collective healing and reparations for Black people.[26]

Between 2015 and 2019, Saudi Garcia attended six of the Apothecary's healing villages, including one that was held at the Women's March on Washington in 2017 in partnership with the Movement for Black Lives. Harriet's Apothecary convened in multiple sites, including the Black Women's Blueprint in Crown Heights, a community arts center in East New York, the Brooklyn Museum of Art, and Soul Fire Farm in upstate New York. Its seasonal healing villages were structured as serene spaces where women and queer and trans Black people could feel safe, affirmed, and loved. Those entering these healing spaces were greeted by a small circular table with an altar decorated with a framed black and white portrait of Harriet Tubman sitting proud with her hands gently folded on her lap. Other Black feminist ancestors, such as Audre Lorde, Fannie Lou Hammer, and Toni Morrison, filled the space. Shells, feathers, incense, handwritten notes, candles, scattered earth, and a glass of water also sat alongside the altar beside a curtain quilted from colorful pieces of cloth. Over the years, the quilted curtain grew longer as guests of healing villages were invited to add panels with wishes for love, libera-

tion, and healing. Each apothecary was held in honor of the change of the season. The timing of the event itself invited participants to notice how their minds, bodies, and energy levels changed with the seasons.

Attendees described systemic racism's impact on community mental and physical well-being. They spoke of health not through the lens of biomedicine, but through the lens of ancient and contemporary plant medicine, food as medicine, and energy-based healing therapies. The events featured local healers who offered their services according to ability to pay, including art therapy, massage, somatic bodywork, nutritional counseling, acupressure, acupuncture, essential oil therapy, Thai yoga massage, reiki, arts-based herbalism, plant-based medicine making, spiritual practices, peer-to-peer counseling sessions, and healing justice workshops. These services were meant "to restore and expand our community's abilities to transform stress and heal trauma."[27] Healing villages offered plant-based meals catered by a local, often Black- or POC-owned restaurant or caterer. Guests would proceed to group sessions centered on processing collective trauma, or to individual therapies for emotional and mental health. Throughout the day, collective song and movement circles invited participants to become fully embodied and release tensions, stress, and feelings of disconnection.

The Apothecary's healing villages are vital because they provide a space for Black people to reconnect with the shreds of the land-based identities and practices that their ancestors, many of whom had lived off the land for generations, had left them. It is a space to acknowledge the harm continually done to their bodies as they survived and moved toward freedom, and to recognize their capacity to protect and heal themselves. In the words of author Carol Zou, "Harriet's Apothecary creates the space to produce multiple narratives about how these traumas [slavery, colonialism, capitalism] manifest and are perpetuated in a contemporary individual body."[28]

Through a decade of advocacy and narrative shift about the intersections of historical trauma and the medical industrial complex, Harriet's Apothecary has conspired with other Black feminist movement leaders in the United States to develop the political philosophy that has come to be known as healing justice.[29] In her participation in the healing villages, Garcia observed how the Apothecary's members and frequent guests were interpersonally linked to Black feminist movements and land-based healing hubs in other parts of the United States. These included the Audre Lorde Project; Soul Fire Farm, the most prominent Black farming hub in the Northeastern United States and a founding member of the Northeastern Farmers of Color Network; Southerners on New Ground; and the Detroit-based Allied Media Conference and Emergent Strategies Immersion Institute. As a 2020 conversation between Adaku Utah; Black, queer and trans, and people of color liberation movement leader Cara Page; and restorative justice and abolition movement leader Mariame Kaba revealed, Harriet's Apothecary is intertwined

with other Black feminist leaders seeking autonomous, community- and land-based solutions to historical trauma and racial and social injustice.[30] Their concerns with ecological preservation and connection to land are central, as reflected in the contributions of the Black farmers' movement through herbal healing and cultivation workshops, as well as farm schools to teach self-sustenance through cultivation and nutrition.

Over the past decade, public health discourse in the United States has focused on food deserts and the aggressive marketing of cheap, nutrient-poor, and calorie-dense processed and fast foods in low-income communities of color as an explanation for their disproportionate diabetes and cardiovascular disease. Environmental justice movements in those communities have further highlighted their lack of green spaces and canopy cover as mental and physical health risks in the era of climate change, as well as the emergence of urban farms and community gardening as a countermeasure.[31] Many U.S. cities and towns have launched local urban farming and community garden initiatives that produce food and increase social connectedness.[32] Studies of the impact of green space creation on abandoned lots and of desegregating city neighborhoods by removing highway overpasses and other race and class barriers by constructing parks and public green spaces demonstrate the mental and physical health benefits of greening the built environment.[33]

New Haven, Connecticut, is one of many U.S. cities that has supported urban farming as health promotion. New Haven Farms collaborates with a local federally qualified health center to serve Medicaid patients in a low-income, primarily Latinx neighborhood. Farm founders started a nonprofit compost collection and sales company that generated income to support the purchase of land and equipment, as well as a cooking school for area residents. Health center providers began writing prescriptions for farm participation to patients at risk for diabetes and other chronic conditions. They presented preliminary pre- and postparticipation data at a local medical school showing that participants' hemoglobin A1C levels, a measurement of blood sugar, went down. Urban farm and community garden organizers also noted the mental health impact of group cultivation, which became a way to build a sense of belonging and social support for local residents.[34]

In 2018–2019, Hansen participated in a community garden founded at the New Haven Armory, which hosted support groups on topics ranging from coping with depression to substance use, along with exercise classes as well as food and clothing drives to support local families in crisis. Psychiatry residents from a nearby training program volunteered as support group coleaders and provided mental health referrals when needed. A local farmer with formal horticultural and environmental training helped participants to label each plant bed with the medicinal and nutritional properties of the crops being harvested.[35]

Hansen had previously worked as a psychiatrist in the outpatient addiction clinic of Bellevue Hospital, which hosted a sobriety garden planted and cultivated by patients and staff. The sobriety garden, which operated for twenty-five years on a half-acre plot bordering the hospital and Franklin Delano Roosevelt Highway, was both a site for horticultural therapy and community-building for a socially disconnected patient population, often referred from the city's homeless shelter system or mandated to the clinic by drug courts. On any given weekday from March to November, patients would be found side by side with clinic staff tilling the soil, weeding, and watering or harvesting flowers, nectarines, pears, raspberries, melons, squash, beans, corn, tomatoes and greens, as well as building benches, trellises, or garden sculptures. Clinical staff saw gardening as uniquely therapeutic for patients who had extensive trauma histories that made them uncomfortable in traditional in-office talk therapy. The embodied nature of working in the soil led to forms of physical expression and conversation that would not have been possible within a clinical office. In addition, the seasonal cycles of communal planting, tending, and harvesting, as well as patients' cooking groups in which people who often had not prepared their own food in many years learned to feed themselves, held symbolic significance for those who were also cultivating their own recovery. On weekends, the garden served as a nidus of social connection, hosting holiday barbecues and musical events as well as sobriety anniversary and birthday parties over the years. People came to the garden when in emotional crisis or on the verge of relapse to recenter themselves and find a sense of refuge. The garden housed sculptures created by patients who used pieces of their family chinaware and jewelry as accents in lions, rams, and a huge serpent biting its tail (representing the circle of life) that framed the garden beds, forming an oasis in the midst of family and neighborhood violence. As the director of the clinic and founder of the sobriety garden, Annatina Miescher explained that she practiced psychiatry as "art with found objects: our job is to help people take the shards of their difficult lives and put them back together in new and beautiful ways."

Urban farms and community gardens in many other cities and towns have similarly taken on community building and health promotion functions. The Los Angeles Unified School District launched an initiative to create urban farms on all of its public school lots as part of a health and environment education program.[36] This initiative has the potential to significantly increase green space and canopy cover in Los Angeles County, where the school district is the single largest landholder, and where lack of green canopy has been identified as a major driver of unequal deaths by neighborhood, race, and class during heat waves, as well as a primary driver of deaths among people on psychiatric medications that compromise their auto-regulation of body temperature.

Urban farms are also a lever for racial justice in low-income communities of color that have been displaced from their lands and moved to food and canopy

deserts. This forced dislocation has affected Indigenous, Black, and Latinx farmers in agricultural areas as well as city residents forced out of their neighborhoods by high housing prices and gentrification. Urban farms and community gardens not only provide food; they also transmit cultural knowledge as a remedy for ruptured relationships among people and the land.[37] They remediate root causes of sociogenic mental health problems.[38]

These models of community-based mental health promotion address the deficits of American psychiatry on several levels. They foster collective wellness rather than rooting out personal pathology. They cultivate connection and belonging rather than individual treatment in psychiatric units that separate patients from community life. They embrace difference rather than conformation to "normal" behavior. They teach plant-based treatments, and body and mind training rather than relying on pharmaceuticals. Through community organizing and policy advocacy, they ultimately address the political drivers of mental distress, including structural oppression by race, ethnicity, class, migrant status, gender, and sexual orientation.

This begs the question: what is the role of psychiatrists in these models? First, biomedical practitioners have participated in community-based initiatives from their beginnings. Registered nurses were primary co-organizers, alongside people who use drugs, of the first harm-reduction sites in Vancouver in the 1980s and 1990s. In the United States, physicians, nurses, and other medical professionals were key collaborators in early syringe exchange sites, they conducted research on the effectiveness of syringe exchange that led to its legalization, and they staffed innovative medical service units, such as mobile harm-reduction vans offering clean syringes during the early years of the AIDS epidemic and, more recently, naloxone overdose-reversal kits, fentanyl test strips, buprenorphine prescriptions for opioid use disorder, and treatment referrals.[39] Their work demonstrates the value of biomedical clinics crosslinking with community-based care to offer trusted and timely treatment for those with acute and serious needs. Biomedical practitioners who prescribe farming and gardening as therapy, and who augment the mental health support and education provided at those sites, show how biomedical and holistic community-based health interventions can be joined.

Even the biological turn of contemporary psychiatry, which stems from the materialist, reductionist impulse of Western biomedicine to root psychic phenomena in the brain and body – currently in neurotransmitters and genes – can illuminate the mechanisms by which community-building, social justice initiatives, and green spaces are beneficial. Psychiatric research can foreground the biosocial turn in the life sciences – to neuroplasticity, epigenetics, and the microbiome in gut-brain interaction – to explain how social environments influence brain development and function. This would require an inversion of the received wisdom that

socially dysfunctional behaviors are driven by inherited biological traits. It would lead us to ask instead how social techniques have biological effects. In a Western cultural framework in which psychic phenomena are only "real" if they can literally be seen in the body – through neuroimaging and molecular markers – biological psychiatry can legitimize mental health-fostering social technologies.[40]

American psychiatry's own survival as a specialty is at stake. Even before the COVID-19 pandemic, over the backdrop of critical shortages of psychiatrists in public clinics and hospitals, U.S. physicians were reporting record levels of burnout and leaving clinical practice.[41] The leading reasons offered for burnout involved providers' inability to address the social and systemic drivers of their patients' health outcomes. For psychiatry to survive as a profession, to attract and retain practitioners, psychiatrists must be enabled to intervene on social and systemic drivers of their patients' health.[42]

What would it take to promote such a paradigm shift? It would require clinical practitioners to elevate the status of community organizations and nonpharmaceutical interventions at all levels of psychiatric training, practice, and institutions, as well as to directly address the institutional and policy drivers of poor health outcomes through collaboration with community organizations, other public sectors such as schools, parks and recreation, and legal aid organizations, not to mention policy advocacy. A growing chorus of academic medicine leaders are calling for such a shift, with terms ranging from "upstream healthcare" to "structural competency."[43] Medical schools in the United States are adding curricula in social determinants of health and health justice. Medical students and residents are calling for faculty who are cross-trained in critical social science and humanities scholarship to teach these topics.

The missing element in these efforts is a change in the balance of power. Change requires robust partnerships with low-income and marginalized communities that respect the expertise of those with lived experience. For instance, Yale University's Program for Recovery and Community Health is led by faculty with lived experience of serious psychiatric diagnoses, and employs community leaders with lived experience as instructors and researchers.[44] Charles Drew University in Los Angeles, founded in 1969 on the heels of the Watts riots to address long-standing medical neglect of Black and Latinx residents, has long hired community faculty who have expertise in community-organizing for health justice rather than biomedical degrees.[45] Ultimately, biomedically trained practitioners themselves must be intentionally recruited from the communities least served by, and historically exploited by, biomedicine. One successful model for this in psychiatry is the Minority Mentor Network of the University of Texas, a network of psychiatrists from groups underrepresented in medicine who organized themselves and secured institutional support to mentor and support each other at all levels. The mentoring starts with pre-medical students from communities under-

represented in medicine, and continues at each level of professional growth, as interns and residents mentor the medical students, junior faculty mentor residents and fellows, and senior faculty mentor junior faculty. In its first decade, the network significantly increased the diversity of faculty members and leaders in psychiatry departments in the University of Texas system.[46]

Ultimately, changing the psychiatric paradigm involves contending with the economic, as well as political, foundations of practice. Change will not come from the pharmaceutical and health insurance companies that currently drive professional practice, nor from health policymakers or regulators. Psychiatrists must organize this change, in recognition of Rudolph Virchow's famous observation in 1848 that "Medicine is a social science, and politics nothing but medicine at a larger scale," with the addition that medicine is also politics, on a community-partner and clinician-training scale.[47]

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The Protest Psychosis &
the Future of Equity & Diversity
Efforts in American Psychiatry

Jonathan M. Metzl

This essay chronicles the history of medical associations between schizophrenia and Blackness that emerged during the tumultuous decades of the 1960s and 1970s, when American psychiatrists overdiagnosed schizophrenia in Black men in ways that undermined brain science of the era. I provide data to show how racially disparate diagnostic outcomes resulted not solely from the attitudes or biases of clinicians, but from a series of larger political and social determinants, most notably changing frameworks surrounding mental illness and political protest. I conclude by highlighting how training clinicians to examine their own cultural biases also needs to include training in how structures and institutions produce symptoms and diseases, and how we can only build better structures to support health if we can individually and then communally imagine them.

A worrisome trend emerged in the pages of leading medical and psychiatric journals during the height of civil rights–era America: psychiatrists were overdiagnosing schizophrenia in Black Americans at alarming rates. An extensive 1969 review of diagnostic patterns by the National Institute of Mental Health found that "blacks have a 65% higher rate of schizophrenia than whites." Several years later, a series of articles published in the *Archives of General Psychiatry* uncovered how Black patients were "significantly more likely" than white patients to receive schizophrenia diagnoses and "significantly less likely" than white patients to receive depression diagnoses. Subsequent studies would find that Black men with schizophrenia were more likely to be hospitalized and receive higher doses of antipsychotic medications than were other persons with the illness.[1]

Were Black Americans prone to developing serious mental illness? Did psychosis spread among low-income populations like a virus, as sociologist R. E. L. Faris had shamefully argued?[2]

As is well known by anyone who trained as a psychiatrist after the 1960s, the psychiatric and medical establishments determined that race-based overdiagnosis was largely a social artifact brought to the clinical encounter by the arbiters of di-

agnosis: clinicians. Clinicians were applying "white norms" or outright racism, it was argued, onto their interpretations of Black minds.[3]

In response, any number of interventions emerged to teach health care providers to be less overtly or implicitly racist in their interactions with patients. By the time I trained in psychiatry some decades later, we learned to approach clinical encounters through frameworks of "cultural competency," "interviewer honesty," or through "standardized" diagnostic encounters that aimed to help clinicians better communicate with patients of diverse racial and ethnic backgrounds in ways that would improve communication and reduce disparities.

Mental health organizations then developed and promoted cultural "standards" for providers.[4] I vividly recall mandatory modules that imparted ways to better understand how persons of "different" backgrounds expressed symptoms differently. The psychiatry department of a nearby hospital meanwhile opened a Black Focus Unit, complete with clinicians of color, African art, and, as reported in *The Washington Post*, "pictures of Vanessa Williams, Maya Angelou and Oprah Winfrey" on the walls.[5]

Though debatable by present-day standards, these efforts filled a gap that today seems almost unconceivable: before the 1960s, race was rarely a category of comparative analysis in psychiatric research, let alone an accepted topic of clinical dialogue.[6]

However, strategies that aimed to address clinician bias suffered from an important limitation: they often didn't work. After decades of intervention, the overdiagnosis of schizophrenia in Black Americans, and related underdiagnosis of depression, anxiety, and a host of other conditions, remained largely unchanged. Nearly forty years after the National Institute of Mental Health study, an extensive 2005 analysis of psychiatric patient charts found that doctors diagnosed schizophrenia in African American patients, and particularly African American men, four times as often as in white patients, even though the research team uncovered no evidence that "black patients were any sicker than whites," or that patients in either group were more likely to suffer from drug addiction, poverty, depression, or a host of other variables.[7] A 2014 review of empirical literature on racial disparities in rates of psychotic disorder diagnoses found "a clear and pervasive pattern wherein African American/Black consumers show a rate of on average three to four higher than Euro-American/White consumers."[8] A 2018 meta-analysis found practically the same results.[9]

What had gone wrong?

As American medicine continues to grapple with the aftereffects of the murder of George Floyd, reckonings with unequal systems of justice, opportunity, and well-being that followed, and conservative backlash against "woke" education, I have been thinking anew about these civil rights–era findings, and the uneven psychiatric responses to them. Much like in the 1960s, 2020s-era protests led to

charged assumptions about race, violence, and insanity.[10] As in the 1960s, the implications of remonstrations about inequity reverberated through health care systems. And like the 1960s, after a series of machinations about seismic change, the response by these health systems focused centrally on changing clinicians' attitudes, beliefs, and practices by "increasing awareness of inequities and discourse on the experience of oppression." Psychologist Katherine Lingras and colleagues described a "reawakening to the importance of Diversity, Equity, and Inclusion (DEI)" happening at "Academic Health Centers…across the nation."[11]

Such work remains vital, in large part because progress in matters of health equity occurs in fits and starts. The very notion that medicine and psychiatry require "reawakening" to the effects of injustice highlights the amnesiac nature of progress when institutions and providers are pressured to change.

At the same time, if increasing "awareness" remains at the center of 2020s-era efforts to address bias in health care, we risk forgetting the lesson of race-based misdiagnosis in the 1960s and 1970s: that beliefs and attitudes of providers, though vital to clinical communication, are largely immaterial to addressing systemwide disparities in health outcomes. That is because clinical encounters are often indicative of a host of upstream economic, social, ideological, and political structures that produce and racialize inequalities in health long before patients and providers enter exam rooms.

Consider race-based misdiagnosis. Around the world, worrying trends that emerged in the 1960s appeared indicative of extraclinical bias brought to the exam room – and in many instances, this was surely the case. But often lost on efforts to address race-based misdiagnosis of schizophrenia was the larger, structural fact that, for decades, schizophrenia coded as a "white" illness before it became a "Black" one.

Schizophrenia was coined by Swiss psychiatrist Paul Eugen Bleuler in 1911. Bleuler had cast schizophrenia as a "loosening of associations," a process in which patients existed in the real world and at the same time turned away from reality ("autism") into the world of fantasy, wishes, fears, and symbols. An early proponent of Freud, Bleuler defined schizophrenia as a psychical splitting of the basic functions of the personality, and believed that emotional splitting was accompanied not by violence, but by symptoms such as indifference, creativity, and passion.[12]

Given these origins, it is far from surprising that schizophrenia was applied in popular and psychiatric literatures to docile white housewives or ethereal white men of genius when the term entered American popular and medical discourse in the 1920s, 1930s, and 1940s.[13] Publications like *The New York Times* described how white poets and novelists demonstrated a symptom called "grandiloquence," a propensity toward flowery prose believed to be one of "the telltale phrases of schizophrenia, the mild form of insanity known as split personality."[14] Popular

articles described middle-class women driven to insanity by the dual pressures of housework and motherhood. "Are we all going quietly mad?" asked an article in *Better Homes and Gardens* titled "Don't Tell Them We're All Going Crazy."[15] "Are you neurotic now? And if you are, does it mean that tomorrow you'll be psychotic or schizophrenic?" According to an article from *Ladies' Home Journal* titled "Are You Likely To Be A Happily Married Woman?" women suffered "schizophrenic mood swings" suggestive of "Doctor Jekyll and Mrs. Hyde."[16] Books like Mary Jane Ward's autobiographical novel *The Snake Pit* similarly told stories of married white women driven to schizophrenia by the pressures of matrimonial life.[17] Meanwhile, in clinical settings between the 1920s and 1950s, clinicians found schizophrenia disproportionally not in Black men, but in white women.[18]

The reasons schizophrenia coded as a white illness – and why it would later transform to a diagnosis that captured Black men – had relatively little to do with the actions of individual journalists, novelists, or psychiatrists. Rather, larger ideologies and economies undergirded these trends.

Frameworks of nosology were one important factor, inasmuch as for most of the first half of the twentieth century, psychoanalysis functioned as the dominant paradigm in American psychiatry. Psychoanalysis famously introduced American culture to neurosis, a set of symptoms that rendered white, middle-class women unable to fulfill their roles as mothers and as housewives. Schizophrenia was initially taken up by psychoanalytic authors who were more concerned with white minds than with Black bodies. Psychiatric journals, textbooks, and published abstracts frequently defined schizophrenia as a form of "emotional disharmony" that negatively impacted white people's abilities to "think and feel." Many psychiatric authors further assumed that "even the most regressed" patients with schizophrenia were nonthreatening and were therefore to be psychotherapeutically nurtured by their doctors, as if unruly children.[19]

Psychiatrists frequently highlighted Bleuler's insistence that schizophrenia was an illness of personality. For instance, in the 1927 edition of his influential *Textbook of Psychiatry*, psychiatrist Arthur P. Noyes described schizophrenia as a rupture in "the fundamental basis of personality" that resulted in a disorder of "feeling and thinking." Noyes wrote that persons prone to schizophrenia included "sensitive" persons who maintained "child-like facial expressions far past the usual age – an expression of vagueness and dreaminess."[20] The first and second editions of his textbook (1927/1936) used psychoanalytic language to explain how the ultimate cause of the illness was "intrapsychic conflict" that "weakened the forces of sublimation or of repression," leading to disorders of the "emotions."[21]

Similarly, the 1918 edition of the National Committee for Mental Hygiene's *Statistical Manual for the Use of Institutions for the Insane* detailed how schizophrenia "afflicts...the seclusive type of personality or one showing other evidences of abnormality in the development of instincts or feelings."[22] Similar language appeared

in many, though by no means all, scientific articles about schizophrenia throughout the 1920s, 1930s, and 1940s. Psychoanalyst Otto Fenichel, among others, described schizophrenia as a "special kind of neurosis" amenable to psychoanalytic talk therapies.[23] As late as 1952, the first postwar classification of psychopathology, *Diagnostic and Statistical Manual: Mental Disorders* (later known as DSM-I), similarly emphasized that schizophrenia was a "nonorganic" condition that represented underlying psychological conflicts or maladaptive reactions to life stressors.[24]

Clinicians were of course free to diagnose mental illness as they saw fit. But the framing of schizophrenia over the first half of the twentieth century clearly reflected existing ideas about white minds, relationships, and civilizations, and thereby marked schizophrenia as a disease of the white mainstream in ways that encouraged identification with certain groups of persons while rendering other groups invisible. The framing of the illness encouraged psychiatrists to locate the illness in the types of patients who could afford therapy, or the kinds of patients that hospitalists or researchers saw in America before desegregation on "whites-only" wards of psychiatric hospitals. Such strategies meanwhile occluded recognition of the countless men and women who resided in so-called Negro Hospitals and suffered well outside most realms of public awareness.[25]

I n my book *The Protest Psychosis*, I detail the totality of schizophrenia's racial shift between the late 1950s and the present day.[26] This racial transformation began, not coincidentally, as psychiatric hospital wards desegregated and as expanded community mental health clinics put mental health providers into contact with "community" patients.

During this time, a growing body of research emerged suggesting that, while shaped by developmental and environmental confounders, mental illnesses like schizophrenia ultimately resulted from aberrations of brain biology. The promise of biological psychiatry was that it would obviate the gender biases wrought by psychoanalysis. Moreover, because the potential biological substrate for the illness occurred far beneath the skin and its various pigmentations, the logic implied, schizophrenia should occur in all peoples and all places equally.

Of course, that's not what happened. Starting in the 1960s, not only was the diagnosis increasingly located in Black Americans in general, and Black men in specific, but the reframing of the illness cast many people previously seen as schizophrenic, such as white women, into diagnoses that included depression, anxiety, and various personality disorders.

My analysis in *The Protest Psychosis* focuses on how upstream factors reframed schizophrenia in ways that encouraged psychiatrists, the medical system, and white mainstream American society to "see" Black men as schizophrenic, and treat them as such. A key part of my argument focuses on how, in 1968, in the midst of a political climate marked by political protest, psychiatry published the

second edition of the *Diagnostic and Statistical Manual*. That text recast the paranoid subtype of schizophrenia as a disorder of masculinized belligerence. "The patient's attitude is frequently hostile and aggressive," DSM-II read, "and his behavior tends to be consistent with his delusions."[27]

I show how growing numbers of researchers used DSM-II criteria to conflate schizophrenia diagnoses in Black patients with Black political protests. The title of the book came from a 1968 article in the *Archives of General Psychiatry* by two psychiatrists, Walter Bromberg and Franck Simon, who described a condition in which the rhetoric of the Black Power movement drove "Negro men" to insanity marked by violent delusions, anger, hostility, and projection ("The delusions are clearly paranoid projections of racial antagonism of the Negroes to the Caucasian group").[28]

Similarly, in an article titled "Six Years of Sit-Ins: Psychodynamic Causes and Effects," psychiatrists Chester Pierce and Louis Jolyon West argued that "Negroes" developed delusions, grandiosity, magical thinking, and "dangerous aggressive feelings" when they participated in civil-rights sit-ins (Pierce was a distinguished African American psychiatrist).[29] Psychiatrists Allen Raskin, Thomas H. Crook, and Kenneth D. Herman wrote that "blacks" with schizophrenia rated higher than "whites" on a set of "hostility variables" due to delusional beliefs that "their civil rights were being compromised or violated."[30] In a series of high-profile articles titled "Social Conflict and Schizophrenic Behavior in Young Adult Negro Males," social psychiatrist Eugene B. Brody argued that "black culture" was itself a risk factor for schizophrenia. Here and elsewhere, civil rights–era themes of liberation were recast as symptoms of mental illness.[31]

I now realize that, if anything, I understated the problem. In the years since the publication of *The Protest Psychosis*, I have continued to track the shifting associations between schizophrenia and race to help explain why overdiagnosis of Black men persisted even after psychiatry changed the language in the DSM, implemented cultural-competency training, and put in place a host of other interventions meant to assure that all persons were diagnosed and treated equally. Through my continued work, I have begun to understand that changing the diagnostic codes and clinician attitudes was not enough because, in the 1960s, the structures undergirding language, observation, and clinical common sense, and the institutions we built to reflect them, also shifted.

For instance, with two colleagues – Sara McClelland and Erin Bergner – I have dug deeper into the racial assumptions surrounding ways that researchers described patients with schizophrenia in the decades leading up to and then following DSM-II. Over several years, we systematically pulled general/random articles about persons with schizophrenia published in leading psychiatric journals between 1949 and 1980 (that is, *American Journal of Psychiatry*, *Archives of General Psychiatry*, *American Journal of Orthopsychiatry*, and *Psychiatry*) against articles about schizophrenia from

the same period that specifically mentioned the race of patients with the illness. We first searched the databases OLDMEDLINE and MEDLINE for articles that included the term *schizophrenia* in their titles or abstracts, and then performed the same search for articles that mentioned *schizophrenia* in their titles or abstracts alongside terms that connoted racially, geographically, or ethnically distinct populations or forms of schizophrenic illness. These terms were culled from a larger, extensive survey of race and what were in the 1950s called "nativity" categories historically deployed in U.S. medical literature, including "Caucasian," "white," "Negro," "colored," "black," "African American," "Mexican," "Italian," "Jew/Jewish," and "Oriental."[32] These searches yielded thousands of articles, which we then reduced by stratified random sampling, followed by content coding.[33]

Our first realization from this simple analysis was that, even before random sampling, there were nowhere near enough race and ethnicity descriptors for comparison, with one notable exception. The terms "white" and "Caucasian" yielded inconsistent results (some of which referenced nonracial color; for example, "white blood cells"), and authors did not always specify the racial demographics of their samples, except in the cases when the samples were exceptional (but these terms lacked specificity, such as "non-white"), leaving only thirty-nine articles over a four-decade span that isolated white patients expressly. Only fourteen articles discussed schizophrenia in relation to non–African American "ethnic" populations (for example, "Mexican," "Irish," "Jews"). But 737 articles expressly described patients with schizophrenia as "Negro," "colored," "black," or "African American." This led us to surmise that many of the random/general articles about schizophrenia (n=1,468) assumed whiteness as a norm, while almost all test/race articles assumed deviance from that norm as Blackness.

Similar to the random/general sample, we next reduced the test/race dataset by stratified random sampling and began content coding. We first quantified the most frequently used descriptors in each time period.[34] The random/general articles described patients as being largely passive and withdrawn, as seen in Table 1. As expected, the test/race articles emphasized aggressive actions, as seen in Table 2.

Black men with schizophrenia were often described in clinical and scientific literature not as docile or wandering, but as threatening and in need of containment rather than enlightenment. These findings suggested that DSM-II indeed provided language to pathologize Black political protest and "aggression" in the 1960s. But it also showed that such associations gave way to other racially charged terms and observations even after much of the problematic terminology in DSM-II was removed from the subsequent DSM-III in 1974.

Relatedly, we found that while authors of random articles justified diagnoses through symptoms that altered emotions or personalities, writers of test/race articles increasingly justified illness by highlighting pathological behaviors (p=0.05). Figure 1 shows the split between four aspects these authors used as diagnostic tools.

Table 1
Descriptions of Non-Raced Schizophrenia Patients in Leading Psychiatric Publications by Decade

Random Sample		
1949–1960	**1961–1970**	**1971–1980**
Withdrawn	Apathetic	Anxious
Apathetic	Depressed	Delusional
Preoccupied	Withdrawn	Depressed
Paranoid	Uncooperative	Hallucinates
Shy/Non-assertive	Unkempt/Poor hygiene	Withdrawn

The five descriptors most frequently used to describe schizophrenia patients whose race was not mentioned in articles published between 1949 and 1980. Source: From the author's random sample of articles.

Table 2
Descriptions of Black Schizophrenia Patients in Leading Psychiatric Publications by Decade

Test Sample		
1949–1960	**1961–1970**	**1971–1980**
Aggressive	Aggressive	Aggressive
Fearful	Criminal	Angry
Depressed	Depressed	Hostile
Withdrawn	Hostile	Paranoid
Disturbed	Paranoid	Destructive

The five descriptors most frequently used to describe Black schizophrenia patients in articles in which patients' race was mentioned, among those published between 1949 and 1980. Source: From the author's test sample of articles.

Figure 1
Facets Cited as Evidence for Schizophrenia Diagnosis in
Test/Race Articles, 1949–1980

Test Sample: Evidence for Diagnosis
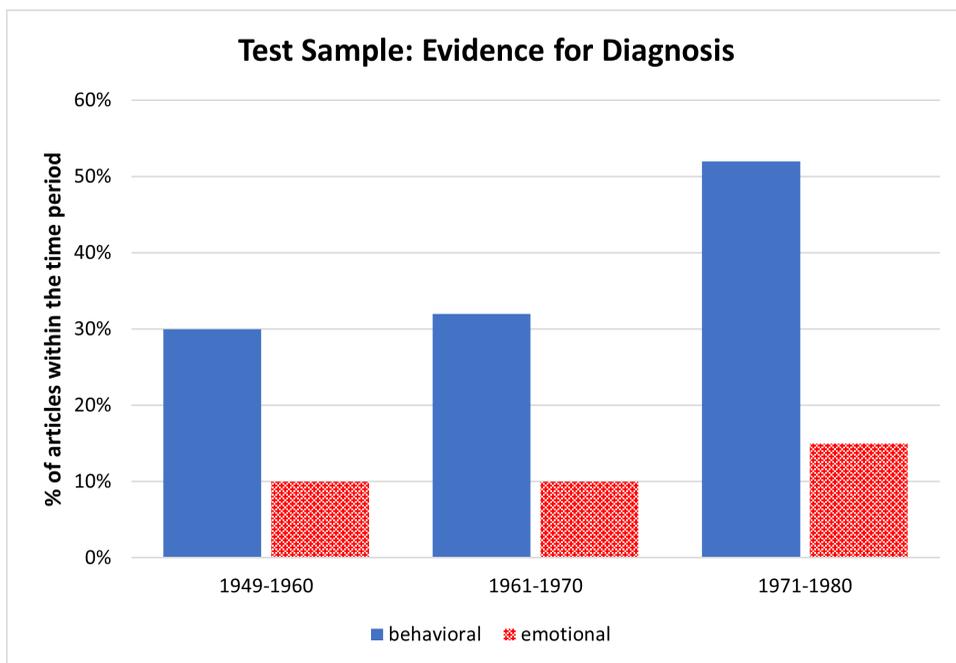
Source : The author's compilation of data from articles about persons with schizophrenia that explicitly mention patients' racial identities.

To be sure, 21 percent of the random/general articles mentioned behaviors, and often these behaviors were construed as aggressive. Even then, such actions were rarely if ever linked to deviance. By contrast, aggression by patients described in the test/race sample was routinely linked to criminal and illegal behavior, while authors of articles in the random sample made no such connections at all.

Examples from our growing database, which will serve as the foundation for a follow-up volume that extends the analysis from *The Protest Psychosis* to the present day, often connected family or developmental history to intellectual or cognitive decline. For instance, an article about schizophrenia from 1955 explained how "a patient with such a profile would be expected to have a *thinking disorder and to be anxious, apprehensive and dysphoric*."[35] Articles in the random sample also frequently emphasized social isolation, poor hygiene habits, and affective or emotional withdrawal in persons with schizophrenia. A study design from 1961 ex-

plained how "Each hospital prepared a list of 40 *apathetic*, *withdrawn*, but *physically healthy* schizophrenic men."[36] And from a 1978 article: "Severely disabled schizophrenic patients with little capacity for spontaneous communication were left to their own devices and spent a very large proportion of their waking day doing absolutely nothing. They became very much more *withdrawn* and *underactive* and *apathetic*."[37]

Again, hostility appeared in select articles in the random sample, but such articles never presented aggression in ways that implied threats to doctors or to society at large. Moreover, articles in this frequently race-neutral sample never connected aggression to larger group characteristics based on race, social class, or political orientation. For instance, a 1968 article described a male patient – "his behavior is unremarkable; affect is generally *apathetic*, but he displays flashes of *hostility*" – as being calmed by talk therapy, sedatives, and "simple gardening chores."[38] By contrast, authors described test-sample subjects as aggressive, hostile, and threatening in a number of more ominous ways. Terms and phrases that implied criminal intent appeared through the sample with increasing frequency over time. A 1972 article contended that Black patients with schizophrenia "were openly hostile and saw their hospitalization as representative of the treatment generally afforded blacks by the white society."[39] Researchers in 1969 asserted that "it is clear that rapid shifts in the social milieu of the Negro are shifting the concerns about adequacy in regard to power to an assertive posture."[40] Test sample articles also frequently used DSM-II language to emphasize behavioral symptoms over cognitive or intellectual ones. Authors of a 1975 study wrote that, "Black males rated themselves significantly higher than the other groups on the Outspokenness and Assault factors.... Both of these factors share in common the impulse to strike back, either verbally or physically, when an individual feels his rights are being violated."[41]

Shifting linguistic trends over four decades in mid-twentieth-century literature suggest that overdiagnosis was more than a problem of diagnosis: It was a problem that reflected broader associations built into observations and descriptions. Casting Black men as violent made "sense" in the context of an era of political unrest, and these associations remained embedded in the frameworks surrounding diagnostic observations after the moment of conflict passed and the diagnostic language changed.

Observations and descriptions in turn validated interventions – inasmuch as, if mental illness were seen as a disorder of bodily threat rather than of personality, it would follow that such bodies would be treated with ever-more-tranquilizing medications. In an endless feedback loop, bodily racial schizophrenia was seen as potentially criminal, which paved the way for institutions that justified bodily control, made manifest by growing associations between psychiatry and the pris-

on industrial complex. Mental hospitals closed, and prisons emerged as under-funded, understaffed "pseudo mental hospitals."[42]

Perhaps at the beginning of the process, associations between schizophrenia, race, and violence made sense to diagnosing clinicians. But after decades – and certainly by the early twenty-first century, when the number of persons diagnosed with schizophrenia who reside in prisons far surpasses those in psychiatric care facilities – we are left standing outside the walls of the institution wondering how in the world things got to be this way, and what on earth might be done to change them.[43]

What can be gleaned, then, by the racial transformation of a diagnosis?

Undoubtedly, some of the clinicians who diagnosed unjustly, much like authors of articles that described Black men with protest psychoses, were racist. And in this sense, this represents yet another case study in the annals of medical racism.

But a key lesson of history is that the race-based overdiagnosis of schizophrenia in Black men was as much a consequence as it was a symptom of larger structural ills. In a broader sense, overdiagnosis ultimately resulted not solely from the attitudes or biases of clinicians, but from a series of larger political and social determinants.[44] The official psychiatric diagnosis of schizophrenia changed. Antipsychotic medications altered the focus of psychiatric treatment from talk therapies that promoted insight to medication-induced sedation and corporeal control. The function of psychiatric institutions themselves then shifted ever closer to keeping patients deemed "dangerous to others" out of society. Even the most self-aware, empathic, and culturally competent clinicians functioned within a larger system that aligned Blackness with insanity. Black men *became* schizophrenic as a result of these transformations.

No doubt, the language in many of these articles I have cited would be deemed unacceptable in the present day, thanks in no small part to interventions like cultural competence and DEI training. But that is in part the point: if we better understand the mechanisms that allowed problematic assumptions of the past to be at the time so acceptable that they found audience in top tier journals, we must then consider which assumptions that seem sensical or commonplace today will yield disparities in the future.

Of course, *people* build structures and institutions. Structures and institutions in turn reflect amalgams of individual values and decisions. Calling bias "structural" in no way implies that individuals be given a free pass. To the contrary, we can only build better, more equitable structures if we can individually and then communally imagine them.

Many scholars, myself included, have thus begun to address racism through a framework of "structural competency" to highlight ways that training clinicians to examine their own cultural biases insufficiently addresses inequity without training them to also understand how structures and institutions produce symp-

toms and diseases. Structural competency builds on Stokely Carmichael's notion of "institutional racism" to promote reforms that push back against the increasing connectedness of psychiatry and the prison industrial complex, critically addressing multiple aspects of medical education, clinical practice, and health care delivery systems more broadly.[45]

Another lesson of history is that moments of racial reckoning and protest, from the civil rights era to the protests after George Floyd's murder, present and foreclose opportunities to address health justice. Protests raise the specter of new coalitions that confront seemingly intractable social problems. Solutions can in turn move people closer to building what economist Amartya Sen calls "better societies." Here, moments of peril or unrest spark appreciation of shared humanity and renew drives toward building shared and mutually beneficial infrastructures that persist well after the crisis has subsided. National health care systems, for instance. Or expanded and affordable mental health clinics. Or reformed police, protected climates, or effective infrastructures and food distribution networks. As Sen explains it, societies that react to moments of crisis by democratizing access to resources, health, and decision-making power come out ahead in the long run.[46]

We learn this lesson time and again: equity can improve life and livelihood for everyone. Better community mental health reduces the burden on overwhelmed mental health systems. Fair policing and safer neighborhoods improve the vitality of cities.[47] Addressing the inequities that rendered disadvantaged communities more vulnerable to COVID-19 better prepares states to face future pandemics.[48] Closing the racial wealth gap – and allowing more people to access education, employment, consumption, and investment – boosts the U.S. national GDP by 4 to 6 percent.[49] And on and on.

Then there is the inevitable *other* response to social justice movements, the one we see in misdiagnosis. The reflexively defensive response that frames the world through what political theorist Heather McGhee devastatingly describes as "zero-sum" thinking, in which there can be only winners or losers in fights for mental health.[50] Such responses provoke not solutions to complex problems, but structural reifications of their underlying pathogenic assumptions.[51]

Civil rights protests represented important points along that continuum. Calls for fair treatment and access – indeed, the era saw the rise of the community mental health movement and health clinics run by the Black Panthers – were met with support among many people and profound resentment among others. Resistance to change emerged in high-profile public sites like schools and lunch counters. And it occurred in countless other invisiblized places like private conversations, everyday interactions, and frameworks that guided diagnostic knowledge and common sense.

Ultimately, history leads us to ask: what enduring accomplishments will come from present efforts to address health equity and justice? And what will serve as

this moment's invisible, enduring obstructions? No doubt, language matters in all things, and particularly so in clinical interactions. Patients describe symptoms, clinicians listen and ask for elaboration, and together they make effective treatment decisions. Language also shapes the ways that clinicians understand, classify, and manage illnesses.

But a final lesson of history is that calling out and changing problematic language is not enough. When clinical language is found to be racist, replacing it with more acceptable phrasing does little to change outcomes if not combined with attention to the larger structures that produce its inequities in the first place. Including, it would seem, the very frameworks through which we diagnose illness and aim to restore health.

ABOUT THE AUTHOR

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ENDNOTES

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32 Metzl, *The Protest Psychosis*.

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Democracy Therapy:
Lessons from ThriveNYC

Gary Belkin

Despite massive unmet needs, U.S. mental health care systems and policy continue to aim too low. Laments about brittle foundations – including inadequate funding, fragmentation, stigma, lack of parity, ineffectiveness, unavailability, overmedicalization, and coercion – all share the same source. The mental health system is not working because it has been chasing the wrong goal: to treat illness, rather than to enable people to do nurturing things together. A focus on community nurturing and caring changes everything. It yields better treatment approaches while also engaging with the mutually reinforcing and desperately needed work of social cohesion, emotional well-being, participatory action, and communal learning and connection. In fact, the nurtured emotional health of individuals is fundamental to humane and resilient societies and to democracy itself. And in the face of environmental collapse and the related unraveling of core institutions, the stakes have never been higher. This essay makes the case for a paradigm shift in care and explores a recent effort to implement it at scale: ThriveNYC. The successes and especially the failures of ThriveNYC point to the possibilities and challenges of this essential mission.

T he U.S. mental health system and its core clinical sciences have failed to move the needle on measures of access to care, illness prevalence, and impact on population health. These failures are due to the omission of what largely drives mental illness and mental health: namely, society.[1]

This issue of *Dædalus* comes at a time of oligarchic politics, sanctioned political violence, growing economic disparities and immobility, waning social trust and mutual care, declines in the public's health, and a surreal fragility of democratic institutions. Hovering over and escalating these trends is accelerating environmental collapse. The Anthropocene is just warming up.

What does this have to do with the mental health system? These hits to our social backbone are treated as political or cultural crises, but they are more compellingly understood as mental health crises. In the United States, local and national public health surveys describe markedly increased levels of measured depression and anxiety – as high as fourfold – since the advent of COVID-19.[2] But the language of distress, trauma, anger, hatred, loss, and despondency are bubbling up everywhere.

They permeate how these political issues are explained.[3] Emotional unraveling seems to have a "common sense" as being part of these social and political failures.

There is no shortage of evidence confirming that perception. Bidirectional connections between social conditions and population mental health abound. Research on the social determinants of mental health, as well as the wide array of social conditions that elevate risk of mental illness and hobble recovery, has found social causes to be the leading driver of mental illness and distress.[4]

But research in economics and social epidemiology also indicates that those connections cut both ways. Mental health and other behavioral impacts are not just *effects* of circumstances of poverty, racism, violence, and disenfranchisement from political voice and public goods. Mental and behavioral health also contribute to these political and social failures. Grief and grievance, disrupted attachment, lost locus of control, psychological and epigenetic effects of toxic stress, depression, and habits of hate all play out at mass levels and across generations. They are fuel for how and why those circumstances persist : the stubbornness of economic immobility, the contagiousness of populist and prejudiced demonizing, the depths of community fragmentation, and the rise in premature death.[5]

The most recent United Nations Development Program Human Development Report focuses almost entirely on this point. It not only exhaustively details the degree "mental wellbeing is under assault" across the planet. It makes alarmingly clear what is at stake : escalated psychological *suffering* as well as the grave depletion of psychological strengths and *resources* essential for humanity to meet the demands of "shaping our future in a transforming world."[6]

In 2015, New York City launched ThriveNYC, an ambitious approach to mental health that broached the growing distance between mental health systems and people's mental health ; between individual emotional well-being and community-level well-being and collective strength and social cohesion. ThriveNYC represented an all-of-society response to the pervasive public health problem of mental illness and an antidote to the inadequacy of conventional clinical care.

COVID-19 would bust those gaps in care wide open and on a massive scale. But ThriveNYC was undermined even before the pandemic that underscored the need for it. The same limited political will to absorb the social and political nature of mental illness and health that ThriveNYC was intended to remedy stopped the program in its tracks. That initial ambition as well as the subsequent fragility of ThriveNYC are worth pondering if we are to navigate far more daunting national stress tests ahead. The need for an ambitious social-impact approach to mental health will only grow.

A treatment or care system largely centered around licensed mental health clinicians talking to and/or prescribing medications for people in punctuated visits will always fall short. This specialist-centered approach is not just inadequate

to meet the sheer volume of unmet need, it is simply not amenable to the task, regardless of capacity. It relies on a medical model of specialists treating illness. Most mental health care visits in the United States involve medication only or medication along with counseling.[7] But concerns about the "medical" model go beyond when or whether medications per se deserve that outsized emphasis.[8] Their centrality reinforces the individual diagnosis and procedure-based gate-keeping that shuts out other ways clinicians can have greater impact.[9]

Mental health clinicians and the work they do can be lifesaving, but the medical model overplays its hand, creating unrealistic expectations of mental health systems. It is revealing that a key piece of reform within the mental health establishment is to advance "parity" between traditional medical and mental health care. But recapitulating a socially isolated, nonholistic, reductionist medical gold standard is a step backward, not forward. Mental illnesses are stubbornly *not* like medical ones, despite efforts to try to make them so.[10]

Acting otherwise has individualized what is societal; objectified rather than empowered; fueled rather than unpacked the dynamics of stigma (which is ironically a reaction to other's *illness*, not other's suffering); papered over, not engaged with, sociopolitical consequences and causes of emotional and mental suffering; elevated select symptomatic targets over broader psychological capabilities, processes, and contexts as foundations for helping people; solidified the centrality of a clinician in isolation from other sources of healing; and diminished investments in prevention and promotion. Even the "recovery model," often touted as returning agency to individuals, is open to similar criticisms of centering experts and illness treatment.[11]

All told, what is left is a false zero-sum game in which mental health dollars and systems are sorted between the needs of those with more "serious" mental *illness* (SMI) first and those with more generalized or moderate mental health issues, who are treated separately, thereby further isolating those more impaired.[12] Conversely, anchoring a mental health system in population and upstream approaches would help with rather than hamper meeting these gaps in care. It would build foundations to capture the full spectrum of needs.[13]

ThriveNYC sought to shift momentum away from these limitations of the medical-model fantasy. The launch plan for ThriveNYC detailed where the existing system falls short. It is not equipped to shrink 1) the outsized morbidity burden attributable to mental illness compared with other health threats, 2) the wide impact of that burden across social outcomes and sectors, 3) the ways those impacts mutually reinforce multiple racial and place-based inequities, or to be 4) accessible on-demand across the *whole* spectrum of needs (from serious illness care to mental health promotion, which overlap more than they prove distinct).[14]

The core aims of ThriveNYC were therefore to construct key additional foundations for the mental health system that equipped it to shrink the widespread and

inequitably felt social and health burdens and gaps in access, and that at the same time was a direct force for challenging social determinants of mental illness and for propagating counteracting mental health strengths. Mental health care has not been tasked with or accountable to those aims. Mapping a strategy to meet them must *start* by asking : if mental illness and distress markedly and broadly impact and reflect societal health, what do neighborhoods, schools, social networks, and other institutions need to do to be engines for both recovery and nurture ? Only then is it coherent to ask how clinicians and other specialist practitioners of psychological care add value – how they fit into those engines. The limitations and fragmentation of our mental health system all lead in the opposite direction : starting with clinicians' particular capabilities and skills and adapting models of care to *them*.

What does this other path look like ? There will always be a need for specialist-directed forms of care. But can a focus on societal health liberate that expertise to do more, and thus be far more effective ? Can it work within, and therefore better contribute to, social benefits, contexts, and starting points ?

I developed and implemented ThriveNYC while serving as executive deputy commissioner of the New York City Department of Health and Mental Hygiene from 2014 to 2019. ThriveNYC essentially considered whole communities as the care system and engine of mental health promotion. From this position, it sought to empower and promote people and places as sources of care, prevention, and support, and, in parallel, target gaps in specialized care. And to do so with intentionality and with a dashboard and tools fit to that task. These were its key elements.

ThriveNYC's fifty-four initiatives reflected input from ten months of focused conversations with over two hundred organizations and in several town halls across New York City. A scientific advisory board included senior leaders in U.S. psychiatry and psychology, as well as leading experts on place-based and expansive strategies to scale up both treatment and prevention. All these inputs boiled down to the following principles of practice.[15]

Put community capacity for care and nurture at the center. "Caring" or "nurturing" should characterize what communities do, and should align the interests of communities, institutions, and those needing help. Care and nurture here refer to a diverse body of research that describes practices that enhance conditions known to promote health and well-being. Conditions that have this nurture effect promote prosociality, or the "values, attitudes, and behaviors that benefit individuals and those around them."[16] These include a library of tools and methods to prevent as well as bolster recovery from mental illness, including both hands-on practices and macro policy.

There is abundant research on the hands-on skills that generate this nurture effect and that equip schools, workplaces, families, and communal places to promote trauma-free, secure, and confident childhoods ; psychologically flexible,

socially curious, and generative adulthoods; and neighborhoods characterized by mutuality and well-being. Similarly, a range of high-level policies such as safeguarding income stability, childcare and early childhood education, equity, and racial justice can have similar impact.[17] To grow more of the former means changing the real estate where the work happens – and changing who does it. It means changing how government supports mental health work.

This purpose of nurture has rarely anchored mental health care in the United States, even in the heyday of the community mental health movement of the 1960s and 1970s. But doing so leads to a cascade of other key changes.

Change the real estate. The way to reimagine access and connect to the social contexts at stake is to literally *go there*. This central innovation grew from the insight of, and now impressive evidence base for, what is often referred to as *task-sharing*. Task-sharing describes how most of the skills needed to treat and prevent mental illness, and to promote mental health and the nurture effect, can be done by non–mental health clinicians and lay people.[18] Spreading care via the community is well captured by the groundbreaking work of Vikram Patel and Atif Rahman, whose work and wisdom informed much of ThriveNYC.[19] But that shift of responsibilities to community members can do more than grow capacity and access for care. It can and should at the same time anchor an ensemble of population and nurture-effect interventions and aims. Task-sharing is not just a clinical innovation, but a social one.

ThriveNYC put a whole range of skills in many hands and places outside the conventional care system, and connected that system to coach, empower, and back them up. That created an entirely new real estate for the work of mental health, in collaboration with clergy, teachers, daycare providers, local civic and human service agencies, community centers, homeless shelters, peer groups, parents, block fairs, and public housing courtyards. All were considered essential parts of the city's mental health ecosystem. This spread of skills and knowledge makes it possible not only to reach many more people, but to do so more accessibly, credibly, and familiarly, with a wider range of options.

Examples of how ThriveNYC applied this approach included: pop-up benches with fellow church members trained to counsel people in their congregation who are in crisis or navigating ongoing substance use or psychosis; mothers in the neighborhood leading group formats for coaching other mothers to overcome maternal depression and nurture life-changing infant-parent bonds and early attachment; and gun violence interrupters learning and, in the process, redesigning, reapplying, adding to, and rewording the counseling method known as motivational interviewing in their efforts to reduce the risk of gun violence by youth in gangs who are also navigating substance use, trauma, and other challenges.

Govern across sectors. This everyone-and-everywhere approach also breaks the isolation of mental health in governing. Governments should address mental

health in ways commensurate with what it actually is : essential to human capital and the humane functioning of society. ThriveNYC initiatives spread funding and the mission of community mental health across more than a dozen city agencies, affecting almost every setting of the corresponding city agencies' purview, including schools, prisons, police precincts, public housing, small businesses, senior centers, and health and public health agencies.

Bringing this range of government agencies and sectors together around tangible shared work created a cross-cutting cadre of mid- and senior-level management and ownership. They became versed in using the tools of mental health as a means for improving their agency's *other* primary ends. When job counselors learned depression counseling and screening, their clients reconnected to employment sooner. Police precincts credited mock incident simulation training in behavioral engagement skills (led by people with histories of serious mental illness) with reducing the risk of injury in real encounters. For each initiative that extended the capacity and reach of the mental health system in these ways, care and prevention got closer to the source – primarily in historically racially, economically, and health-resource segregated neighborhoods.

Local government is best suited to quarterbacking this ensemble of works : it knows its neighborhoods better and more commonly works across sectors than government at the state or federal levels. But new ways of collaborating, as well as new skill sets and organizational structures, are required to succeed in that role. ThriveNYC therefore also created by executive order the Mayor's Office of Community Mental Health to coordinate crossagency approaches, to be a forum for developing opportunities around shared aims, and to mobilize broader will around macropolicies addressing social determinants of mental health.

Use data and knowledge better. Among the new skill sets of government and its community partners and leaders are those centered on using and generating data. Benchmarked and tracked aims to align mental health work and purposes within and across systems have historically been limited. Broadening real estate puts a premium on implementing within, not around, local contingencies and the complexity of intersecting needs. Cookie-cutter adoption of interventions has to yield to ongoing learning feedback that both customizes locally and aligns toward shared goals across localities. Data should do more than monitor or drive post hoc evaluation. They should be dynamic connective tissue, binding and aligning policymakers, community members, and management around a nurture-effect purpose. ThriveNYC intentionally set up mechanisms for managing through aim-based but local-led learning cycles for realizing its objectives.

Most ThriveNYC initiatives were designed to connect with each other. For example, the goal of parity of graduation rates between high school students with and without "emotional disturbance" (a lamentable term) individualized educational plans required one initiative – creating the role of a mental health con-

sultant for every school – to lean progressively on another initiative – namely, the spread of proven socioemotional learning skills (skills shown to enhance prospects for a lifelong nurture effect) by teachers across the city's 1.1 million-pupil public school system.

Pairing these – a capacity for local problem-solving and another for a core shared skill set – was intentional. Each worked better in mutual interaction, modifying and informing the other. That dynamism, however, called for data in forms that fuel participatory hypothesis-testing, such as ground-up community-based evidence and citizen-science methods. Implementing should be knowledge generating, not just rote applying.

Quality-improvement tools and methods, in particular, fuse those qualities: the variation of context aligned toward but also adapted to overarching aims and tools. So, for example, ThriveNYC supported several city-wide learning collaboratives managed jointly with the Institute for Healthcare Improvement. These enabled a variety of community groups to generate their own theory of change to break down and identify root causes of mental illness to focus on. For instance, a coalition of organizations in the Brownsville neighborhood of Brooklyn identified parental stress as a contributor to child-school readiness. These groups then began to design, iterate, rapidly test, and generate and compare with others' local data about solutions.

Right-size clinical care to fuel and back-up this ecosystem. Working from the community toward the care system should not diminish or replace the role of clinicians, but rather enlarge and improve that role. This process not only develops opportunities for task-shared back-up and capacity-building by clinical providers. It also generates more-successful community options to connect people in need with formal treatment; adds street-level partners for clinicians caring for especially fragile community members and people with severe mental illness; and expands the reach of various specialized care needs, for example, perinatal and early-childhood and youth mental health.

The infrastructure to realize and mainstream these connections (including key items such as reliable funding, supervision, and quality improvement, as highlighted by Patel and Rahman in their contribution to this volume) requires innovations in governance and policies that: 1) bend the system toward these practices through redirecting existing streams of health financing to that purpose, 2) equip key institutions (such as universities, schools, city and trusted local human service agencies) to provide the training and technical assistance to sustain and grow these task-shared practices and roles, and 3) apply them through hyperlocal partnerships to work more nimbly as an ensemble for steering impact and iterating smarter ideas to spread.

All these kinds of mainstreaming were underway with ThriveNYC. These included making changes under the domain of state government, such as how New

York State Medicaid drew on ThriveNYC mechanisms to fund providers as task-shared partners, and converging different data systems to see and troubleshoot systemic gaps in care pathways, such as tightening efficacy of crisis responses, or optimizing commercial insurance capture of unmet needs for opioid care and maternal depression.

But the political will on which these structural changes depended collapsed. The problem was not a design flaw, but the core problem ThriveNYC intended to repair: thin political commitment to a social and population-wide approach to mental health.

ThriveNYC was designed to position city government to break through a static, overmedicalized, and undersocialized illness treatment paradigm. While it made significant inroads in that direction, it was eventually undermined by that paradigm and its grip on public and political imagination. This bears not just lessons for navigating the future of public mental health policy, but lessons for strengthening democracy as well.

A story published by Politico in February 2019 kicked things off. A reporter had found that the expenditures labeled as ThriveNYC in the mayor's executive budget added up to less than what the mayor's office had publicly announced. Responding to the reporter's questions prior to publication, the mayor's team illustrated how this was simply because many ThriveNYC initiatives were distributed across agencies, thus appearing as a line item on the executive budget under those agencies' names, rather than explicitly as a "Thrive" initiative.[20] Once you added those to the budget items listed as ThriveNYC, the total matched the stated budget. Despite that explanation, Politico suggested that the money may have been mismanaged. A few other New York City media outlets, acting out of a larger cynicism about the transparency of Mayor Bill de Blasio, who had entrusted this large initiative to his wife, Chirlane McCray, touted this "mismanagement" as proven.

But a more reality-based and telling complaint was nested within that false one: that the benefits of ThriveNYC's strategies weren't obvious. Despite a four-hundred-point data dashboard tracking performance, a gap in expectations was evident. Critics claimed the city was investing in questionable "fluff" (early childhood investments were commonly criticized as such) rather than in the needs of "seriously mentally ill" people, especially those viewed as disruptive or who were living on the street. Getting back to those basics of tackling "real" (aka biological) illness, went the complaint, was required before reaching for anything extra.

This attention led to widely covered city council hearings and a comptroller audit to make sure no money was mismanaged (it found none). But this rapid spiral reflected the power of the serious-illness narrative to narrow rather than grow a mental health agenda; to freeze debate in a recurring, and ultimately stigmatizing and option-limiting, dichotomy between the seriously ill and everyone else.

ThriveNYC actually included the largest investment in the city's history for supportive housing for homeless individuals with serious mental illness. It also designed innovative peer-led twenty-four seven mobile care teams for these New Yorkers. But it did so in ways aligned with ThriveNYC's core mission: to break *away* from the ineffective crisis model and high-intensity responses that function as revolving doors for mentally ill persons – because they are not grounded in transformative broadening of supports for *everyone*.

The shift toward whole-of-population solutions would actually markedly benefit recovery for the more-seriously mentally ill. And it would correct the egregious deficiency in mental health policy of not acting earlier in life. The person living on the street didn't get there yesterday. Much of ThriveNYC came from asking "What opportunities and interventions five, ten, twenty years ago was that person denied? And how can ThriveNYC bake them into its programs?"

The wave of critical scrutiny coincided with a planned shift for ThriveNYC. The just up-and-running initiatives were meant to become resources for tailored, collaborative, city-council district-based initiatives. That progression was internally described as Communities Thrive. The critical wave of media and political attention at the same time seemed an opportunity to better communicate and double down on this vision, to contrast it with business as usual, to make noise and draw publicity to the initiative, and to at the same time show ThriveNYC's responsiveness to the criticism by sharing its intentions more openly, proactively, regularly, and with more-relevant metrics moving forward.

Within the mayor's communications team, however, the political calculus was different. They considered this evolution into community-directed planning "just too complicated to explain." So more data weren't shared. More background and transparency of expectations weren't voiced. The strategy for responding to bad press was to share little and wait for it all to "die down."

And die it did. Two key initiatives crucial to this interconnected collection of efforts – the Mental Health Innovation Lab and the related health department technical and convening support to neighborhood partnerships and initiatives – were cut from the fiscal year 2020 budget to show that the mayor was responsive to criticism. Those cuts also included the largest and perhaps most critical ThriveNYC initiative, the Mental Health Services Corps (MHSC). In its initial phase, the Corps placed early career social workers and psychologists in several hundred primary care practices in neighborhoods across the city designated as mental health shortage areas.

Early on, data showed that the MHSC quickly outpaced a flailing New York State–level effort to integrate depression care in primary care. Corps sites were also starting, as planned, to do even more: to become community anchors for shared work with houses of worship, public housing resident councils, schools, and other neighborhood settings. They were poised to develop these places as

hubs for Communities Thrive. All these efforts ended with little warning. Historically underserved communities and threadbare organizations that took on these roles were left bitter and bewildered.

The legacy of ThriveNYC so far is mixed. In New York City, it has become expected that mental health is a mayor's responsibility to take on. A Mayor's Office for Community Mental Health, codified into the City Charter, is a direct result of ThriveNYC, as is the establishment of the Academy for Community Behavioral Health based at the City University of New York, which equips community organizations as well as city and state agency staff with task-shared skills. And Mayor de Blasio's successor, Eric Adams, published a seventy-plus page vision for mental health for the city near the outset of his second year in office.[21]

These reflect real momentum and the city's serious and earnest engagement with mental health. Many of the intentions described in the Adams plan were quite useful and wide-ranging, including more supportive housing, clubhouses for people experiencing serious mental illness, socioemotional learning, telehealth, and harm reduction. The same is true for tandem investments put forward by New York State Governor Kathy Hochul.[22]

But the plan in large part reflected familiar, existing solutions lacking the bandwidth needed for the aspired impact. Adams's plan, for example, was rhetorically framed as a "public health" approach in terms of setting priorities based on population impact and being more prevention-focused. The narrative underscored social-determinant gaps as well as treatment gaps. But despite this framing, the details of the plan didn't (yet?) add up to the important aspiration of addressing gaps in social causes, and were mostly centered around and more concrete about clinical practice, not community practice. Realizing the aim of nurture and well-being – a public health approach for mental health – needs more than program patchwork. It needs whole-of-government alignment, infrastructure, skills, ground presence, partners, policies, and leadership – and a reset of government's relationship with the communities it serves.

Take the alarming ongoing aftereffects of the COVID-19 pandemic on youth mental health. We do not have a youth mental health crisis because there are too few child psychiatrists or therapists accessible in schools or via Zoom. We have one because adult leaders have steered society toward and doubled down on beliefs and policies that make emotionally secure childhoods harder to have – exposing children to violence; social isolation and disconnection (accelerated by social media); threadbare health, food, housing, and economic safety nets; relative inaction on climate change; and demoralized and overwhelmed adults. Putting more mental health counselors in schools and increasing access to teletherapy are positive but limited changes that ultimately can distract from grounding a paradigmatic social shift. To equip schools to generate mental health, to be a hub

of trusted allies for parents in meeting and advocating for family's basic needs, calls for a very different plan.

The same is true for addressing community violence. Months before the release of his plan, Mayor Adams's most visible mental health response was to announce the expansion of involuntary hospitalization authority of people who appear to be mentally ill and a danger to others or themselves (including by being unable to meet their basic needs of housing and food), apparently in an effort to reduce violence.[23] But whether homeless people with serious mental illness get hospitalized or medicated does not determine community violence, despite the stubbornness of that assumption. Rates of violent crime among those with serious mental illness indicate that, like everyone else, their risk of violence is primarily a result of social conditions such as poverty, trauma, as well as substance misuse. Violence among those with serious mental illness is thus driven more by conditions otherwise associated with having serious mental illness than by the illness itself.[24]

Better solutions for violence prevention, for all of society, will not come from asking why people with serious mental illness are so violent, but why U.S. society is. Violence and mental health *are* connected, by all-too-common levels of depression, loss of hope, substance use, impairing grief and rage, racism, and misogyny – far more so than with serious mental illness. These common conditions fuel *everyone's* risk of violence.

Aiming at certain subsets of the mentally ill, rather than scrutinizing toxic social conditions, is a hard habit to break. Flipping the entrenched mindset of centering the clinic and maybe nurturing community as a side effect, to center instead the nurture of community and ask how mental health tools can contribute to it, is difficult, including politically, for a reason. Those entrenched mindsets reflect a failure of democracy, an inability, if not hostility, to see equitable well-being as the core purpose of government.

The U.S. mental health system is underresourced, stigmatized (reinforced by its own medicalized framings), and fragmented. Those are all real challenges, but they reflect rather than drive the fundamental flaw of tasking the system to make people patients, rather than being partners in community nurture and care. At stake in right-sizing that purpose is not just the failure to make dents in the overall health burden attributable to mental illness and distress, but also the ripple effects of that failure on the resilience, and value, of democracy.

The relative absence of concern about those connections within mental health providers and policymakers should worry us all. Debates over rising inequality, dizzying and marginalizing economic transitions and unfairness, the retreat from public goods (basic health care, education, subsistence), and the racist and economic segregations behind them fail to call out these issues as what the evidence shows they are. They are decisive drivers of death, trauma, violence, and shattered

opportunity that emotionally maim and by extension socially paralyze. By conceding them as "political" questions that are not their business, mental health providers, leaders, and professionals cede way too much ground in how our society narrates what is wrong with itself and what tools are available to be better. A social paradigm of mental health is crucial to disrupt that narrative and add to those tools.

Escalating emotional trauma, chronic anxiety and depression, self-destructive behavior, and addiction signal colossal failures of politics to prioritize the general welfare. A more socially grounded and accountable mental health system is needed not just to respond to these psychological consequences, but to interrupt the production of them. By isolating these as symptoms of illness to treat, mental health systems are complicit in hiding both where they come from and their costs in depleted social capital, trust, and optimism needed by individuals and whole communities to thrive.[25] Similarly, psychotherapy and psychopharmacology can reinforce neoliberal market values and aims as they adapt people to juggle – rather than to uncover and disrupt – extractive, transactional, commodified, market-determined valuation and purpose at the root of much of their emotional suffering.[26]

Those values and purposes are root causes of much else. As psychoanalyst Sally Weintrobe has argued, appropriation-maximizing norms at individual and mass levels stack the deck against norms and habits of care and nurture to shape people's regard for each other and, in turn, for nature. These are, she explains, the psychological roots of the climate crisis. Denuding the earth and many of its people and other forms of life was egged on by an also deeply rooted attitude of human exceptionalism from the constraints of the earth, each other, nonhumans, and the future.[27]

As the United States increasingly experiences droughts, rising waters, prolonged heat waves, and threats to the habitability of swaths of the country, these social and political failures (and drivers of mental illness) will likely only get worse. They will be more difficult to address, if not simply become out of reach. In parallel with tipping points for the unraveling of the earth's climate, look out for an accompanying dynamic of further socioemotional disintegration that will hijack the potential for humane and effective responses to it.

The sheer scale and implications of *social* climate change should grab the attention of leaders at all levels. The mission of nurturing people does not just improve mental health outcomes and capacity, but extends the ecopsychological and shared-fate mindsets and shifts needed to live as a sustainable, interdependent, and inter-committed society. Nurturing people and nurturing the planet mutually reciprocate.

Social welfare scholar and psychotherapist Paul Hoggett elocuted this point twenty years ago: "a society whose primary aim was to enhance the quality of social relations in order to facilitate the development of human powers and capacities" is a society more attuned to mutual benefit and sustainability. Cultures

of sustainability and deep commitment to care for others go hand in hand. The "same rationality which sees external nature as something to be mastered and controlled has been turned upon human nature, where it came to saturate medicine, psychiatry, education and other practices."[28]

Multinational data reflect this contentious relationship between violating earth-boundaries and socioemotional strength, cohesion, and well-being. Across countries and over time, increasing consumption and depletion of the earth's resource capacity (such as increased CO_2 emissions, raw material consumption, lost land use) correlates with increases in some material social improvements (access to energy, education, improved life expectancy), but those connections are inefficient. Social improvements plateau as consumption persists *and* growth in consumption is less relevant to improving a subset of social gains: namely, socioemotional resources, such as measured emotional well-being, social ties and support, and quality of democracy, which have largely stayed flat or declined.[29]

The connection between the state of emotional well-being and democracy adds to the plus column for investing in a social fabric that reinforces and relies on nurture effects. U.S. collective consciousness often (and especially recently) forgets that it has intellectual and political traditions of understanding democracy as a grand *social* project – as reliant on and an accelerator for people engaging hands-on with each other's challenges in ways that strengthen bonds and caring, tolerant habits. To thrive, democracy needs to regularly exercise its civic muscle.[30]

Deliberative and participatory democracy methods, for example, open paths and explore the elements for doing democracy that way. Methods like participatory budgeting and citizens' assemblies, juries, and panels get to robust, publicly accepted decisions, especially over issues that are otherwise driven by special interests or politically fraught or co-opted.[31] How these seem to work should get more attention – by elevating what in other contexts are labeled nurture effects such as prosociality: psychological flexibility, perspective taking, sharing vulnerability in reflection with others, rehearsing ways to broker conflict, and self-fulfillment within mutually regarding boundaries.

Similar anchors of nurture effects pop up everywhere. They appear not only in deliberative democracy methods,[32] but as foundations of emotional well-being and resilience;[33] as products of the role of empathy in human evolution;[34] in the elements of successful voluntary common resource sharing;[35] in the capabilities that drive the benefits of socioemotional learning;[36] as the building blocks of sustainable peace and postconflict resolution and capabilities-based human development;[37] and in multiple schools of psychotherapy, including critical consciousness–based approaches.[38]

The convergence of such core elements of psychological well-being repeating across this wide array of contexts should be put to work. Weintrobe's reverse stacking of the deck, toward rather than away from care as society's purpose, is

actually possible. Government can restructure resources and economies to tack in the same direction through applying strategies like "well-being budgets."[39]

Prioritizing nurture effects can progress from fodder for culture wars to building blocks for healthy, durable, democratic societies in the face of growing and existential challenges. We can have a democracy that grows care, well-being, and collective efficacy. We can aim for democracy as therapy.

Mental health systems and professionals have untapped potential to make that happen; to tangibly advocate and put in place and grow practices for democracy as therapy. Such a mission is not only a far better fit to the purpose of healing mental illness and diminishing psychological suffering. It may well help stack the deck to tackle humanely and effectively the many global stress tests ahead.

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ENDNOTES

[1] There is robust historical scholarship of this "disappearance of the social." A good first-stop intellectual history is John D. Greenwood, *The Disappearance of the Social in American Social Psychology* (Cambridge: Cambridge University Press, 2004). Note that throughout this essay I use the notion of a U.S. mental health system. That is intended as a placeholder term to capture the array of policies, providers, and modes of care and practices, acknowledging that part of the problem is that there is no clear "system" in place at local, let alone national, levels.

[2] Nirmita Panchal, Heather Saunders, Robin Rudowitz, and Cynthia Cox, "The Implications of COVID-19 for Mental Health and Substance Use," KFF, February 10, 2021, https://www.kff.org/coronavirus-covid-19/issue-brief/the-implications-of-covid-19-for-mental-health-and-substance-use; New York City Department of Health and Mental Hygiene, "Epi Data Brief: Impacts of COVID-19 on Mental Health in New York City, September 2021," Epi Data Brief No. 130, December 2021, https://www1.nyc.gov/assets/doh/downloads/pdf/epi/databrief130.pdf; Mark É. Czeisler, Rashon I. Lane, Emiko Petrosky, et al., "Mental Health, Substance Use, and Suicidal Ideation during the COVID-19 Pandemic," *Morbidity and Mortality Weekly Report* 69 (32) (2020): 1049–1057, https://doi.org/10.15585/MMWR.MM6932A1; and Sherry Everett Jones, Kathleen A. Ethier, Marci Hertz, et al., "Mental Health, Suicidality, and Connectedness among High School Students during the COVID-19 Pandemic–Adolescent Behaviors and Expe-

riences Survey, United States, January–June 2021," *Morbidity and Mortality Weekly Review Supplements* 71 (3) (2022) : 16–21.

3 A few examples : Charlie Warzel, "It's Not the Heat, It's the Existential Dread," *The Washington Post*, June 29, 2021, https://www.washingtonpost.com/opinions/2021/06/29/heat-wave-pacific-northwest-climate-anxiety-coping ; David Brooks, "America Is Falling Apart at the Seams," *The New York Times*, January 13, 2022, https://www.nytimes.com/2022/01/13/opinion/america-falling-apart.html ; Nicholas Nissen, "The Mental Toll of the Capitol Siege on the American Psyche," ABC News, January 8, 2021, https://abcnews.go.com/Health/psychological-impact-attempted-capitol-takeover/story?id=75124017 ; and Beyond Conflict, *America's Divided Mind : Understanding the Psychology That Drives Us Apart* (Boston : Beyond Conflict, 2020), https://beyondconflictint.org/wp-content/uploads/2020/06/Beyond-Conflict-America_s-Div-ided-Mind-JUNE-2020-FOR-WEB.pdf.

4 Michael T. Compton and Ruth S. Shim, *The Social Determinants of Mental Health* (Washington, D.C. : American Psychiatric Publishing, 2015).

5 Carol Graham, *Happiness for All?* (Princeton, N.J. : Princeton University Press, 2017) ; and Joseph P. Forgas, William D. Crano, and Klaus Fiedler, eds., *The Psychology of Populism : The Tribal Challenge to Liberal Democracy* (Abingdon-on-Thames : Routledge, 2021).

6 United Nations Development Program, *Unsettled Times, Unsettled Lives : Shaping Our Future in a Transforming World* (New York : United Nations Development Program, 2022), 13.

7 Hayley D. Germack, Coleman Drake, Julie M. Donohue, et al., "National Trends in Outpatient Mental Health Service Use Among Adults Between 2008 and 2015," *Psychiatric Services* 71 (11) (2020) : 1127–1135, https://doi.org/10.1176/appi.ps.201900576.

8 This debate is a complex one engaging clinical, historical, anthropological, and other perspectives. Some recent work capturing a flavor of critical clinical studies includes Pim Cuijpers, Clara Miguel, Mathias Harrer, et al., "Cognitive Behavior Therapy vs. Control Conditions, Other Psychotherapies, Pharmacotherapies and Combined Treatment for Depression : A Comprehensive Meta-Analysis Including 409 Trials with 52,702 Patients," *World Psychiatry* 22 (1) (2023), https://doi.org/10.1002/wps.21069 ; Jeffrey R. Vittengl, "Poorer Long-Term Outcomes among Persons with Major Depressive Disorder Treated with Medication," *Psychotherapy and Psychosomatics* 86 (5) (2017) : 302–304, https://doi.org/10.1159/000479162 ; Klaus Munkholm, Asger Sand Paludan-Müller, and Kim Boesen, "Considering the Methodological Limitations in the Evidence Base of Antidepressants for Depression : A Reanalysis of a Network Meta-Analysis," *BMJ Open* 9 (6) (2019), https://doi.org/10.1136/bmjopen-2018-024886 ; and Nikolai Albert, Lasse Randers, Kelly Allott, et al., "Cognitive Functioning Following Discontinuation of Antipsychotic Medication : A Naturalistic Sub-Group Analysis from the OPUS II Trial," *Psychological Medicine* 49 (7) (2019) : 1138–1147, https://doi.org/10.1017/S0033291718001836.

9 As will be discussed further, these other ways include having population impact through nonclinical settings, such as coaching care skills for use by nonlicensed community members who support people through promotion and recovery interventions irrespective of or without a diagnosis, ongoing care, or contact with the clinician. "Clinical" is often defined along the lines of "relating to, or conducted in or as if in a clinic : such as . . . involving direct observation of the patient," or "analytical or coolly dispassionate." Merriam Webster, "Clinical," https://www.merriam-webster.com/dictionary/clinical (accessed December 5, 2022). Betting primarily on clinics and dispassion has not delivered.

[10] This social-medical division of labor (that I see as overpromising what it can deliver) is distinct from being committed to a social-biological division of labor, with which it is too often conflated. To start to capture the syntheses of anthropology, evolutionary and social psychology, cultural group selection theory, and evolutionary biology and neuroscience that should be more foundational to mental health clinical practice, see Laurence J. Kirmayer, Carol M. Worthman, Shinobu Kitayama, et al., *Culture, Mind, and Brain : Emerging Concepts, Models, and Applications* (New York : Cambridge University Press, 2020).

[11] This critique of the retrograde aspects of a diagnostic-based practice is a dense and wide-ranging crossdisciplnary concern. I here pick representative examples of socio-logical, user, and clinical psychology and perspectives, respectively : Nikolas Rose, *Our Psychiatric Future : The Politics of Mental Health* (Cambridge : Polity, 2018); David Harp-er and Ewen Speed, "Uncovering Recovery : The Resistible Rise of Recovery and Re-silience," in *De-Medicalizing Misery II: Society, Politics and the Mental Health Industry*, ed. Ewen Speed, Joanna Moncrieff, and Mark Rapley (New York : Springer, 2014), 40–57; and Stefan G. Hofmann and Steven C. Hayes, "The Future of Intervention Science : Process-Based Therapy," *Clinical Psychological Science* 7 (1) (2019): 37–50, https://doi .org/10.1177/2167702618772296.

[12] This term "serious mental illness" is mostly used – by journalists, policymakers, and the public, but also within the treatment system – to mean people with chronic psychosis. Yet the Federal Substance Abuse and Mental Health Administration (SAMHSA) has defined it as a threshold level of significant impairment for activities of daily life and roles. It does not indicate a specific diagnosis. Therefore, it is a category that can wax and wane, and is not necessarily an enduring trait or state. A mother with perinatal depression can experience serious mental illness when a person with chronic schizo-phrenia doesn't. "Milder" conditions also yield substantial suffering. See, for example, Saundra Jain, Shaloo Gupta, Vicky W. Li, et al., "Humanistic and Economic Burden Associated with Depression in the United States : A Cross-Sectional Survey Analysis," *BMC Psychiatry* 22 (1) (2022), https://doi.org/10.1186/s12888-022-04165-x.

[13] This point is further explored in Laura Sampson, Laura D. Kubzansky, and Karestan C. Koenen, "The Missing Piece : A Population Health Perspective to Address the U.S. Mental Health Crisis," *Dædalus* 152 (4) (Fall 2023): 24–44, https://www.amacad.org/publication /missing-piece-population-health-perspective-address-us-mental-health-crisis.

[14] Measures of that wide burden, such as the relative degree mental illness contributes to overall disease impact on mortality and impairment, were specifically estimated for New York City, as was data on access barriers and disparities. Chirlane I. McCray, Richard R. Buery Jr., and Mary T Bassett, *ThriveNYC : A Roadmap for Mental Health for All* (New York : The Mayor's Office, 2015), 10, https://www.nyc.gov/assets/citiesthrive /downloads/pdf/thrive-nyc-road-map.pdf.

[15] Gary Belkin and Chirlane McCray, "ThriveNYC : Delivering on Mental Health," *American Journal of Public Health* 109 (S3) (2019): S156–S163, https://doi.org/10.2105/ajph.2019 .305040.

[16] Anthony Biglan, *The Nurture Effect : How the Science of Human Behavior Can Improve Our Lives and Our World* (Oakland : Harbinger, 2015), 16. See also John F. Dovidio, Jane Allyn Pil-iavin, David A. Schroeder, and Louis Penner, *The Social Psychology of Prosocial Behavior* (Mahwah, N.J. : Lawrence Erlbaum Associates, 2006).

[17] Anthony Biglan, Magnus Johansson, Mark Van Ryzin, and Dennis Embry, "Scaling Up and Scaling Out: Consilience and the Evolution of More Nurturing Societies," *Clinical Psychology Review* 81 (2020), https://doi.org/10.1016/j.cpr.2020.101893.

[18] The spread approach has been rightly cautioned against for potentially forcing medicalized values to replace cultural ones or putting the onus on those suffering to solve access problems of the system. See, for example, China Mills, *Decolonizing Global Mental Health: The Psychiatrization of the Majority World* (Abingdon-on-Thames: Routledge, 2014)–an important perspective but more as a call for constant vigilance, as it does not even-handedly capture the degree by which the field of global mental health (GMH) has progressed the tools for decolonizing mental health systems.

[19] Vikram Patel and Atif Rahman, "Empowering the (Extra)Ordinary," *Dædalus* 152 (4) (Fall 2023): 245–261, https://www.amacad.org/publication/empowering-extraordinary.

[20] Amanda Eisenberg, "With Opaque Budget and Elusive Metrics, $850M ThriveNYC Program Attempts a Reset," Politico, February 27, 2019, https://www.politico.com /states/new-york/city-hall/story/2019/02/27/with-opaque-budget-and-elusive-metrics -850m-thrivenyc-program-attempts-a-reset-873945.

[21] Office of the Mayor of New York, *Care, Community, Action: A Mental Health Plan for New York City* (New York: Office of the Mayor, 2023), https://www.nyc.gov/assets/doh/down loads/pdf/mh/care-community-action-mental-health-plan.pdf. For more information, see NYC Mayor's Office of Community Mental Health, "Our Approach," https://mental health.cityofnewyork.us/our-approach (accessed October 17, 2023); and for the Academy, see The Academy for Community Behavioral Health, "About the Academy," https:// www.academy4cbh.org/about (accessed October 17, 2023).

[22] The Governor's Office, "Governor Hochul Announces Details of $1 Billion Plan to Overhaul New York State's Continuum of Mental Health," February 2, 2023, https://www .governor.ny.gov/news/governor-hochul-announces-details-1-billion-plan-overhaul -new-york-states-continuum-mental.

[23] Andy Newman and Joseph Goldstein, "Can New York's Plan for Mentally Ill Homeless People Make a Difference?" *The New York Times*, December 15, 2022, https://www .nytimes.com/article/nyc-homeless-mental-health-plan.html.

[24] Jeffrey W. Swanson, E. Elizabeth McGinty, Seena Fazel, and Vickie M. Mays, "Mental Illness and Reduction of Gun Violence and Suicide: Bringing Epidemiologic Research to Policy," *Annals of Epidemiology* 25 (5) (2015): 366–376, https://doi.org/10.1016%2Fj .annepidem.2014.03.004.

[25] For examples of comprehensively linking health and well-being aims across a vast array of intersecting areas of activism, see Bobby Milstein, Monte Roulier, Christopher Kelleher, Elizabeth Hartig, and Stacy Wegley, eds., *Thriving Together: A Springboard for Equitable Recovery and Resilience in Communities Across America* (Cambridge, Mass., and Oakland: ReThinkHealth and Community Initiatives, 2020), https://thriving.us/explore -the-springboard; and Build Healthy Places Network and Shift Health Accelerator, *Healthy Neighborhood Investments: A Policy Scan & Strategy Map* (San Francisco: Build Healthy Places Network, 2021), https://buildhealthyplaces.org/content/uploads/2021/02/Healthy -Neighborhood-Investments_A-Policy-Scan-and-Strategy-Map.pdf.

[26] Anna Zeira, "Mental Health Challenges Related to Neoliberal Capitalism in the United States," *Community Mental Health Journal* 58 (2) (2022): 205, https://doi.org/10.1007%2

Fs10597-021-00840-7 ; and Farhad Dalal, *CBT : The Cognitive Behavioural Tsunami* (Abingdon-on-Thames : Routledge, 2019).

27 Sally Weintrobe, *The Psychological Roots of the Climate Crisis : Neoliberal Exceptionalism and the Culture of Uncare* (London : Bloomsbury Publishing, 2021).

28 Paul Hoggett, "Democracy, Social Relations and Ecowelfare," *Social Policy & Administration* 35 (5) (2001) : 608–626.

29 Andrew L. Fanning, Daniel W. O'Neill, Jason Hickel, and Nicolas Roux, "The Social Shortfall and Ecological Overshoot of Nations," *Nature Sustainability* 5 (1) (2022) : 26–36, https://doi.org/10.1038/s41893-021-00799-z ; and United Nations Development Program, *Unsettled Times, Unsettled Lives*.

30 Hoggett points to the philosophical school of pragmatism, especially as detailed by John Dewey, of a uniquely U.S.-grown path for mutually reinforcing democracy and a social culture of nurture and care in this way. Much of that is often credited to the influence of Nobel laureate and founder of the U.S. settlement house movement Jane Addams. The settlement movement posited that social problems could be mitigated through intentionally generating more social glue in the form of deep, ongoing, hands-on contact across all levels of society. For a sampling of this perspective, see Robert B. Westbrook, *John Dewey and American Democracy* (Ithaca, N.Y. : Cornell University Press, 1991) ; and Iain Wilkinson and Arthur Kleinman, *A Passion for Society : How We Think about Human Suffering* (Berkeley : University of California Press, 2016).

31 Citizens assemblies, juries, and panels usually involve a randomly invited but sociodemographically representative group of community, regional, or national residents to discuss and come to consensus on a given policy question. Participatory budgeting has become widespread globally, by which voters, usually in cities, rank preferences for how to spend some proportion of the municipal budget. New York City is one prominent example, where city council districts allow voting participation for all residents starting at age eleven. See New York City Civic Engagement Commission, "The People's Money (2023–2024)," https://www.participate.nyc.gov (accessed October 6, 2023).

32 Nicole Curato, John S. Dryzek, Selen A. Ercan, Carolyn M. Hendriks, and Simon Niemeyer, "Twelve Key Findings in Deliberative Democracy Research," *Dædalus* 146 (3) (Summer 2017), https://www.amacad.org/publication/twelve-key-findings-deliberative-democracy-research.

33 WIN Network, "Well-Being in the Nation (WIN) Measures," https://www.winmeasures.org (accessed October 6, 2023).

34 Brandon A. Kohrt, Katherine Ottman, Catherine Panter-Brick, et al., "Why We Heal : The Evolution of Psychological Healing and Implications for Global Mental Health," *Clinical Psychology Review* 82 (2020), https://doi.org/10.1016/j.cpr.2020.101920.

35 Elinor Ostrom, *The Governing of the Commons : The Evolution of Institutions for Collective Action* (Cambridge : Cambridge University Press, 1990).

36 Stephanie Jones, Rebecca Bailey, Katharine Brush, and Jennifer Kahn, *Kernels of Practice for SEL : Low-Cost, Low-Burden Strategies* (Cambridge, Mass. : Harvard Graduate School of Education, 2017), https://www.wallacefoundation.org/knowledge-center/Documents/Kernels-of-Practice-for-SEL.pdf.

37 Peter T. Coleman, *The Way Out : How to Overcome Toxic Polarization* (New York : Columbia University Press, 2021) ; and Martha C. Nussbaum, *Creating Capabilities : The Human Development Approach* (Cambridge, Mass. : Harvard University Press, 2011).

38 Ignacio Martin-Baró, *Writings for a Liberation Psychology*, ed. Adrianne Aron and Shawn Corne (Cambridge, Mass. : Harvard University Press, 1996); and Liliane Windsor, Rogério M. Pinto, Ellen Benoit, et al., "Community Wise : Development of a Model to Address Oppression in Order to Promote Individual and Community Health," *Journal of Social Work Practice in the Addictions* 14 (4) (2014): 405–420, https://doi.org/10.1080%2F 1533256X.2014.962141.

39 Wellbeing Economy Alliance, "For an Economy in Service of Life," https://weall.org (accessed October 6, 2023).

Indigenous Historical Trauma : Alter-Native Explanations for Mental Health Inequities

Joseph P. Gone

The well-being of American Indian and other Indigenous communities has long been compromised by ruthless processes of European colonial dispossession and subjugation. As a result, contemporary Indigenous communities contend with sometimes overwhelming degrees of demoralization, distress, and disability. The concept of Indigenous historical trauma has arisen during the past thirty years as an alternative mental health discourse that critically contests prevailing categories of psychological disability, psychiatric distress, and mental disorders (including addiction, trauma, and suicide). Indigenous adoption and promotion of historical trauma affords an explanatory account for community mental health inequities that designates the historical legacies of colonization as central for understanding contemporary Indigenous suffering. In so doing, Indigenous advocates of historical trauma creatively recast these problems as postcolonial pathologies, and ardently call for overdue advances in reconciliation, redress, and repair with respect to Indigenous Peoples. Ideally, such advances will be evidenced by societal transformations, structural reforms, and social justice that can enhance and ensure Indigenous futurity and well-being.

Opening[1]

American Indians and Alaska Natives in the United States descend from the original peoples of North America. Numbering 3.7 million according to the 2020 U.S. Census, this Indigenous population hails from more than 570 federally recognized Tribal Nations. Based on treaties signed with European nations and then the United States, Tribal Nations continue to exercise inherent powers of sovereignty, occupying a distinctive political status that exists for no other polity in America. Nevertheless, the well-being of Indigenous communities has long been compromised by ruthless processes of colonial dispossession and subjugation. As a result, contemporary Indigenous communities contend with sometimes overwhelming degrees of demoralization, distress, and disability. Indeed, mental health researchers have consistently identified substance use disorders, post-traumatic stress, and

suicidal behaviors as especially burdensome for these populations.[2] These inequities persist despite the federal obligation to organize and fund health care for citizens of Tribal Nations through the Indian Health Service (IHS). Although more than 80 percent of IHS-funded facilities offer some form of specialty mental health services, the IHS system is chronically underfunded and extant mental health care is demonstrably inadequate.[3] Moreover, even the application of prevailing professional expertise has been declared inadequate for remedying American Indian and Alaska Native mental health concerns. One consequence has been the rise of alter-Native Indigenous accounts of community mental health that contest and recast key components of reigning psychiatric discourse.[4] Chief among these is a shift away from focusing on mental disorders or mental illness and toward recognizing Indigenous historical trauma. Indeed, Indigenous adoption and promotion of historical trauma afford an explanatory account for community mental health inequities that designates the historical legacies of colonization as central for understanding contemporary Indigenous suffering.

Round One: Contours of Indigenous Suffering

The suffering of Indigenous peoples has become a trope of modern life, but rarely are the contours of its historical origins and quotidian manifestations in our lives made visible. My *Aaniiih*-Gros Ventre ancestors have resided on the northern Plains of this continent since European visitors first recorded details about our existence in the region beginning in the late eighteenth century.[5] Six generations ago, on behalf of our people, my ancestor Eagle-Chief (circa 1795–1865) signed the 1855 Treaty between the Blackfoot confederacy and the United States, which reserved roughly half of the territory of present-day Montana exclusively for American Indian use. As European-American settlers further encroached upon the western frontier, however, extensive portions of our treaty lands were repeatedly expropriated through coercive government action. The formal boundaries of the Fort Belknap Indian reservation – comprising less than seven hundred thousand acres – were established in 1888, though a small strip of land in the Little Rocky Mountains was further ceded in 1895 against the wishes of the vast majority of the Aaniiih community. Gold had been discovered in this area, and rather than protect our material resources or support our expressed interest in learning to mine, the U.S. federal government sent agents to ensure cession.[6] Over $100 million in wealth has been extracted from this area during the past century, yielding only intermittent employment for a couple dozen tribal members but toxic environmental hazards for many more.[7] The stark reality is that most reservation residents have long contended with orchestrated intergenerational poverty.

At the time of the Treaty of 1855, the Gros Ventre population was estimated to number just under three thousand people. As a comparatively small tribal group

sandwiched between larger Indigenous competitors for the crucial European-American trade in bison robes, our fortunes were tied to strategic intertribal alliances and significant ferocity in battle. A break with our Blackfeet allies in 1861 precipitated closer ties to former enemies, first with the *Apsaalooke*-Crow and then with the *Nakoda*-Assiniboine peoples. Despite our best efforts, we were no strangers to calamity. For example, in 1865, we lost 160 people to measles ; in 1867, we lost 300 to a massacre by our former allies ; and in 1869, we lost 741 people to smallpox. By 1870, our population was estimated to number 1,300 people, which further declined to under 1,000 in the 1870s, and to just 596 people in 1895. Montana was home to the last herds of bison, with the ensuing hunting competition occasioning further intertribal conflict, but by 1884, their annihilation was complete, catalyzing a disastrous transformation to our way of life. During this era, European-Americans sought to have us removed to Indian Territory in Oklahoma, but our alliance with a Jesuit missionary – an attributed marker of our propensity for "civilization" – secured our homeland in Montana. A mission church and boarding school were established on the reservation in 1886, and a government-operated industrial boarding school was founded in 1891. During these years, the reservation was administered by a succession of federally appointed Indian agents who possessed sweeping powers to control Aaniiih life, which they routinely used to outlaw our cultural practices and to plunder our scarce resources.

In this brief historical account, occurrences from long ago can seem esoteric and abstract. And yet these past realities continually condense in the lives of subsequent generations. Perhaps the greatest gift of American Indian life is one's relationship to an extensive family network. Indeed, we specialize in expansive kinship : cousins are counted as siblings, great uncles and aunts are counted as grandparents, and so on (I myself am fortunate to have three mothers). Concomitantly, perhaps the greatest vulnerability of American Indian life is one's intimacy with familial adversity and suffering. Any extended Aaniiih family is rife with examples, my own included : The Gone family descends from my great-grandfather, Many-Plumes (1886–1967), who at age five was sent to the industrial school at Fort Belknap Agency. Organized under the slogan, "Kill the Indian, Save the Man," these schools were funded by the U.S. government to assimilate Indigenous children into American society. There he was renamed Frederick Peter Gone (we owe our surname to the fact that his stepfather was named Gone-To-War). Fred Gone was enrolled in the government boarding school for ten years, never returning home during that time, according to my grandmother. When he emerged, his relatives were all dead, including his mother. Grandma explained that her father did not speak about his school days "because it was a real traumatic ordeal." Specifically, he was brutalized during his years in school, which explained why he "hated the United States government. He hated boarding school. He would rather see [his own children] dead than go to a boarding school."[8]

Fred Gone's descendants confronted adversity of their own. At the intersection of the warrior ethos and intransigent poverty, most of his sons served in the U.S. armed forces. My grandfather hopped across various Pacific Islands fighting the Japanese during World War II. He suffered from post-traumatic stress for the rest of his life, dying prematurely at age fifty-one. My grandmother, who against all odds successfully trained as a nurse, placed two of her newborn children for confidential legal adoption by white families through social services (they first met their reservation relatives as middle-aged adults). Sometime later, when forty-five years old, she and her new husband were murdered by a jealous ex-partner in front of her younger children. Pervasive anti-Indian racism in Montana frequently leaves criminal accountability for white-on-Indian crime in doubt, and so my adolescent uncle attempted retaliation on this white man. As a result, he was sent to prison for much of his early adulthood for burning down a telephone pole. When I was born, my mother could not care for me and so she placed me for confidential legal adoption by a white couple through social services (I first met my reservation relatives during my college years). Soon after, she moved to Dallas as part of a government-sponsored program to relocate American Indians away from reservations. There she and my father encountered the "rat race," and due to loneliness and grief, began to party too frequently, sometimes leaving my younger siblings to fend for themselves. After they returned to the reservation, her youngest brother was killed when twenty-seven years old while riding as a passenger in a single car accident involving alcohol.[9] Most of my siblings eventually grappled with addiction themselves. Five of my younger brothers are now dead, mostly from addiction (though one was murdered). In short, addiction, trauma, and violence concretely color the lives of nearly all American Indian families.

The foregoing description is, of course, a highly selective and incomplete account of my family and community history. By way of further context, it would be impossible to overstate the consequential impacts of both material deprivation and anti-Indian racism. Intergenerational poverty is invoked so frequently in consideration of rampant social problems that it scarcely bears mentioning except that, in this instance, our material deprivation arose from formal processes of state-sponsored dispossession and subjugation. Anti-Indian racism – especially near reservations in states such as Montana – extends well beyond ignorance to actual fear, loathing, and hatred. It is unambiguously evident when white police detain American Indian citizens without charges, or when white teachers refuse to enroll their own children in schools alongside American Indian students, or when white storekeepers shadow American Indian patrons with suspicion through the aisles. Thus, even beyond the structural and material consequences of white racism lies the caustic and corrosive signaling of inferiority that threatens to psychologically impair the self-image, self-worth, and well-being of American Indian people. In conveying these facts, I am conscious of a representational

predicament. I run the twin dangers of confirming so many ugly stereotypes about American Indian people or of airing the "dirty laundry" of my loved ones in public and in print. Indeed, these are potent reasons for almost never mentioning these matters in casual company. Nevertheless, in this instance, my goal is to ground the forthcoming consideration of historical trauma not in rarefied intellectual abstractions but rather in potent, personal, and painful realities that are entirely familiar to us across what we call Indian Country.

Round Two: Formulations of Indigenous Historical Trauma

Lakota social worker and researcher Maria Yellow Horse Brave Heart is credited with introducing the concept of historical trauma in the mental health literature in 1995.[10] Defined as "cumulative trauma – collective and compounding emotional and psychic wounding – both over the life span and across generations," Brave Heart's formulation of historical trauma invoked post-traumatic stress disorder (PTSD) and "massive generational group trauma such as has been identified for Jewish Holocaust descendants."[11] She applied this concept to the experiences of American Indians in the United States, explaining that "historical unresolved grief" for these populations "involves the profound, unsettled bereavement that results from generations of devastating losses."[12] Such disenfranchised grief remains consequential for Indigenous communities owing to long-standing disruptions of Indigenous ceremonial practices and to broad societal denial of its genocidal policies. Brave Heart distinguished between potentially traumatogenic historical events on one hand, and actual community manifestations of impaired grief and traumatized responses on the other. She developed her theory of historical trauma with reference to past experiences of colonial subjugation of her own Lakota community on the northern Plains, including the iconic massacre of hundreds of Lakota noncombatants by the U.S. Army at Wounded Knee in 1890. Moreover, historical trauma emerged from Brave Heart's consideration of cultural competence in the practice of psychotherapy. She therefore invoked numerous concepts from the mental health professions, including trauma, grief, loss, and various psychoanalytic constructs (such as denial, introjection, transposition, and transference/countertransference). She also acknowledged and embraced Indigenous traditional spirituality and ceremony as relevant for comprehending historical trauma in innovative and integrative fashion.[13] Importantly, Brave Heart's formulation of historical trauma for her doctoral dissertation at Columbia University was catalyzed by several salient societal trends at that time, which afford insight into the nuances of the concept.

First, there was the official (if unconventional and not uncontroversial) endorsement of PTSD as a bona fide psychiatric condition within the *Diagnostic and Statistical Manual of Mental Disorders, Third Edition* (DSM-III) in 1980.[14] Customari-

ly tied to an individual patient's maladaptive responses to combat, rape, or disaster, PTSD has long been criticized as ill-suited for capturing reactions to mass or chronic traumas, leading to a plethora of associated constructs such as complex trauma, collective trauma, racial trauma, cultural trauma, intergenerational trauma, and institutional betrayal trauma.[15] Second, Brave Heart was one of very few American Indians to pursue doctoral training in social work research, especially in an elite Ivy League program. Unsurprisingly, at that time, the relevance of conventional mental health concepts and categories for Lakota and other American Indian people was not always readily apparent, occasioning opportunities for Indigenous researchers to revise, recast, translate, and apply professional knowledge in innovative fashion. Third, Brave Heart's clinical training and supervision in New York City introduced her to psychoanalytic observations concerning processes of so-called secondary traumatization between Jewish Holocaust survivors and their offspring.[16] Specifically, adult children of survivor parents appeared at greater risk for their own psychological problems.[17] Clinical recognition of intergenerational transmission of vulnerability to mental health problems in the wake of genocide afforded an irresistible explanatory account for the raft of social problems that afflict most Indigenous communities. Finally, Brave Heart undertook this work shortly after the 1992 quincentennial commemoration of Columbus's arrival to the new world. Debate surrounding the Columbian legacy was especially salient for Indigenous communities.[18] Perhaps this led to her 1998 observation that "it is only recently that Native history has been understood as one of massive trauma, unresolved grief, and a legacy of genocide."[19]

Concurrent with Brave Heart's formulation of historical trauma, Indigenous psychologist Eduardo Duran proposed the concept of a "soul wound" to account for the intergenerational PTSD-like experiences of American Indians and other colonized peoples.[20] Eduardo Duran subsequently collaborated with Bonnie Duran, Brave Heart, and Susan Yellow Horse-Davis to publish a synthetic conceptual overview that explicitly identified *historical trauma*, *intergenerational PTSD*, *the American Indian holocaust*, and the *soul wound* as synonymous terms.[21] Nevertheless, among these terms, *historical trauma* has circulated most widely, its usage extending well beyond scholarly publications into the vocabulary of professionals, advocates, and service providers throughout Indian Country. Interestingly, as this construct has evolved, psychological trauma has come to predominate this conceptual terrain, while the importance of unresolved grief appears to have faded. Moreover, certain psychotherapeutic and psychodynamic features of these earlier descriptions (for example, introjection and transference) have nearly vanished today. Current formulations of historical trauma reflect a merger between two older, more familiar concepts: *historical oppression* and *psychological trauma*.[22] With respect to Indigenous communities, the form of historical oppression that is most salient is settler colonialism. Settler colonialism differs from classic colonialism

by virtue of the dynamics associated with permanent occupation by outsiders and their descendants, which necessitates the erasure of Indigenous peoples and presence, first, from actual lands and, ultimately, from public consciousness.[23] With respect to Indigenous communities, the form of psychological trauma that is most salient is both mass and chronic in character. This mass chronic trauma is repeated, enduring, and group-based in its impacts. As such, it may occasion PTSD-like symptoms, but more important, it encompasses many additional facets of collective distress and disability.

As with other expansive concepts of psychological trauma, formulations of historical trauma are neither unitary nor consistent.[24] Nevertheless, the most common and distinctive qualities of historical trauma have been summarized with reference to four attributes (the Four *C*'s of historical trauma).[25] First, historical trauma is *colonial* in origin. That is, historical trauma originates in Indigenous experiences of colonial subjugation by Europeans and European-Americans. This subjugation has taken many forms, including mass murder, military conquest, group captivity, death marches, dispossession, disease, enslavement, starvation, impoverishment, denigration, discrimination, and neglect. Although different Indigenous communities experienced various forms of colonial subjugation (for example, genocides in California, or the mass murder of Lakotas at Wounded Knee), nearly all have contended with land dispossession, resource theft, collective impoverishment, bureaucratic subordination, and coercive assimilation (such as treaty rights violations, involuntary child removal, and abusive industrial schools).[26] Indeed, it is common in overviews of historical trauma to canvas the history of U.S. federal Indian policy with respect to these oppressive actions. Second, historical trauma is *collective* in its impacts. That is, historical trauma is experienced not by this or that Indigenous individual but rather by the entire community. Such shared ordeals endanger the well-being of proportionately large numbers of people who identify with and live among one another. Although individuals may have reacted in various ways to these harrowing experiences, it is the communal repercussions – including a shared consciousness of group vulnerability and victimization, as well as accompanying distress and demoralization – that are emphasized in historical trauma.

Third, historical trauma is *cumulative* over time. That is, historical trauma cascades across events and activities of enduring oppression. Based on the history of my own Aaniiih people, for example, the slaughter of the bison circa 1884 ended our hunter-gatherer way of life. Although my people never directly engaged the U.S. Army in combat, our subsequent dependence on the federal government for food and agricultural technology to prevent starvation and to cultivate new livelihoods was formative. But successive instances of material resource theft, profound population loss, confinement to a dwindling reservation, and arbitrary rule by corrupt Indian agents undermined new opportunities for tribal prosperity.

Criminalization of our Indigenous religious traditions, removal of our children to abusive industrial schools, and establishment of an Indian police force to counter traditional leadership each represented intrusive instances of disruption and control that accumulated into ever more formidable legacies of disadvantage and demoralization. These instances, while specific to Fort Belknap, were commonplace across many American Indian communities. Finally, historical trauma is *cross-generational* in its consequences. That is, historical trauma is transmitted from ancestors to descendants in unremitting fashion. For example, Brave Heart identified the 1890 Wounded Knee massacre as detrimental for current Lakota well-being. As with the Holocaust survivor offspring literature, the precise mechanisms for transmission of ancestral suffering to contemporary risk for mental health problems are unknown, but postulated processes range from spiritual phenomena to epigenetics.[27] Certainly, the disruptions of abusive industrial schooling for Indigenous youth portended future limitations in their own parenting practices, whether stemming from psychosocial anomie, impaired communication styles, or possible "cycle of abuse" dynamics.

Round Three: Functions and Applications of Indigenous Historical Trauma

This reigning formulation of historical trauma serves several important and recognizable functions.[28] Historical trauma explains the persistence and pervasiveness of mental health inequities that have so deeply troubled Indigenous communities. In other words, it accounts for the overwhelming disruptions of addiction, trauma, and suicide to family and community life that seemingly eclipse what tidy medicalized mental health discourses would otherwise suggest. In sum, it captures the catastrophes, calamities, and chaos stemming from these disorders for extended Indigenous families.

Historical trauma resocializes Indigenous mental health problems with respect to history and context for the health professions in ways that counter the reductionisms of psychiatry. In other words, it accounts for Indigenous suffering in terms of colonial subjugation, violent dispossession, cultural eradication, and religious repression rather than in terms of genetic predispositions, aberrant brain chemistry, maladaptive psychodynamics, or dysfunctional family processes. In sum, it reframes addiction, trauma, and suicide as postcolonial pathologies attributable to systemic and structural inequities rather than to personal deficits.

Historical trauma destigmatizes Indigenous suffering by linking the personal mental health struggles of individuals to the shared pain and collective recovery of entire communities. In other words, it offers Indigenous individuals the opportunity to break through the paralyzing self-blame that isolates them from care, support, and mutual help toward beneficial therapeutic action. In sum, it facil-

itates individual connection to group efforts not just for personal rehabilitation but also for community revitalization.

Historical trauma legitimates Indigenous therapeutic traditions in the context of formal mental health services and health care. In other words, it facilitates recognition, reclamation, and inclusion of long-subjugated Indigenous cultural activities and healing practices (such as the sweat lodge ceremony) that address Indigenous suffering beyond the narrow confines of biomedical treatment toward more holistic outcomes (for example, a restoration of positive Indigenous identity). In sum, it expands the repertoire of therapeutic approaches deemed salient and relevant for remedying Indigenous suffering in anticolonial fashion.

Historical trauma harnesses the potency of trauma discourse for purposes of claims-making with respect to obtaining remedy and redress for past victimization. In other words, it is a powerful moral rhetoric that is deployed by Indigenous communities to marshal broader societal attention, acknowledgment of Indigenous suffering, and increased investment in Indigenous well-being. In sum, it mobilizes the language of psychological injury in service to more forceful calls on settler society for restitution and repair for historical injustices.

Historical trauma preserves an emphasis on population health, including inequities in Indigenous mental health status and services, even as it invokes and underscores legacies and histories of oppression. In other words, it rides the boundary of health discourse, enabling critical consideration of sweeping social injustices (such as colonial dispossession and subjugation) in the pursuit of additional societal capital that flows most readily in the domain of health care. In sum, it leverages public concerns and commitments to investing in better health for strategic access to scarce resources.

Historical trauma signifies a distinctive Indigenous contribution by American Indian and Alaska Native clinical investigators to new knowledge in the field of health. In other words, the adoption, formulation, refinement, and promotion of this widely circulating construct in the health sciences during the past three decades represents the prospects for integrating Indigenous expertise into biomedical research. In sum, it heralds the rise of Indigenous voices and perspectives in the study of Indigenous health and the shaping of professional activity in the health professions.

The variegated functions of historical trauma account for its extensive circulation and widespread resonance within Indigenous communities in the United States and beyond. The actual application of historical trauma in the activities of mental health researchers, providers, and services requires further study. Investigations of historical trauma by mental health researchers are comparably easy to track through scholarly publications. I and several coauthors conducted a systematic review of empirical studies that "statistically analyzed the relationship between a measure of historical trauma and a health outcome for Indigenous

samples from the United States and Canada."[29] Based on the resulting corpus of research articles, we identified two primary ways that historical trauma has been operationalized for scientific inquiry.

The first of these is a measure of historical trauma developed by sociologists Les Whitbeck, Gary W. Adams, Dan R. Hoyt, and Xiaojin Chen.[30] These researchers conducted focus groups with Indigenous elders to create their Historical Losses Scale and Historical Losses Associated Symptoms Scale. The former scale comprises twelve items keyed to salient Indigenous historical losses, such as loss of language, loss of land, loss of culture, loss of spirituality, and loss of community members to early death. Respondents are asked to indicate how frequently these losses come to mind (ranging from several times daily to never). The latter scale comprises twelve symptoms (among them, sadness, shame, anxiety, anger, and fear) in association with thoughts concerning these historical losses (ranging from never to always experienced).

In our systematic review, we identified nineteen studies that reported a statistical association between Indigenous scores on the Whitbeck scales and a deleterious health outcome (with substance use, depressive or anxiety symptoms, and suicidal behaviors being the most commonly assessed). But the pattern of findings across these studies was complex and even contradictory. Whitbeck, Adams, Hoyt, and Chen provided no scoring conventions for these scales, leading investigators to adopt, adapt, analyze, interpret, and report their findings in inconsistent ways that prevent the accumulation of scientific knowledge about historical trauma as operationalized in this fashion.

The second way that historical trauma has been operationalized for scientific research, as noted in our systematic review, was residential-school ancestry. This refers to responses to research queries concerning whether an Indigenous respondent's ancestors ever attended an industrial boarding or residential school intended to assimilate Indigenous children. Some studies incorporated residential-school ancestry for parents only, some for parents and grandparents, one for any older relatives, and one for any community members two to three generations ago. For these eleven studies, Indigenous respondents who endorsed such ancestry reported worse health outcomes (for example, depressive symptoms, suicidal behaviors, and sexual assault) than respondents who did not report such ancestry. Nevertheless, there was some inconsistency in the findings, and the direction of effects in these demonstrated associations is open to competing interpretations.

Since the appearance of our systematic review, Brave Heart and colleagues recently published findings from a pilot trial of group interpersonal psychotherapy for depression that had been modified with a Historical Trauma and Unresolved Grief module. This module attended to mass group trauma, historical grief, and a Lakota "wiping of the tears" exercise. No differences in symptom reduction for depression were found between groups, but the group receiving the historical

trauma module reported a nonsignificant *increase* in post-traumatic stress symptoms while the control group reported a reduction in such symptoms.[31]

Beyond research proper, applications of historical trauma in clinical activity and service provision for Indigenous clients with mental health problems are largely undocumented. Psychologist William E. Hartmann conducted a clinical ethnography with the mental health staff at a Midwestern urban American Indian health center.[32] Among this cadre of therapists and trainees – only some of whom identified as American Indian – historical trauma was at least recognized as synonymous with "colonization and genocide," and referenced with respect to understanding and enhancing patient care. Hartmann and I also explored familiarity and conceptualization of historical trauma among twenty-three Indigenous service providers on a northern Plains reservation.[33] These providers characterized historical trauma in eclectic fashion with reference to multiple categories of definition (as historical oppression, ongoing oppression, sociocultural change, spirit harm, brain injury, or some combination of these).

Ultimately, the most practical application of historical trauma may be the license it affords to Indigenous program developers, advocates, administrators, and service providers to invoke, incorporate, and recommend Indigenous cultural and ceremonial traditions as an important component of mental health service delivery. The incorporation of Indigenous traditional practices for therapeutic purposes has occurred as long as Indigenous communities have controlled their own treatment settings (such as inclusion of sweat lodge ceremonies in substance-abuse services).[34] More recently, historical trauma has helped to authorize and legitimate this harnessing of "culture as treatment" for Indigenous distress and disability in marked anticolonial fashion.[35] Such integrative efforts for the mental health enterprise have necessarily entailed close consultation with Indigenous traditional healers, ceremonial leaders, and other knowledge-keepers.[36] Indeed, the tribal-federal partnership to develop the 2016 National Tribal Behavioral Health Agenda for Indigenous Americans recognized the validity of these knowledges by including a Cultural Wisdom Declaration.[37] Of course, practical integration of Indigenous traditional practices and modern mental health services can take many forms.

For example, the leadership of Detroit's American Indian health center commissioned my students and I to develop an Indigenous traditional spirituality curriculum for novice community members that could inaugurate their participation in these practices toward improved well-being. Development of the curriculum entailed a year of delicate dialogue with a regional ritual leader who gifted the project with the requisite traditional knowledge.[38] I also partnered with the staff of the Blackfeet Nation's accredited residential addiction treatment center to collaboratively design a Blackfeet alternative to addiction treatment-as-usual.[39] The resulting Blackfeet Culture Camp aimed to provide Indigenous addiction treat-

ment clients with an orientation to the prereservation lifeways of their ancestors. Although largely unrecognizable as a form of psychosocial treatment, this cultural and spiritual intervention was premised on Blackfeet religious ideas concerning health.[40] Again, the postulated benefits of such integrative approaches for Indigenous well-being extend beyond narrow biomedical considerations to holistic interventions that not only address distress and disability but also buttress cultural identity and postcolonial meaning-making.[41]

Round Four: Appraisal of Indigenous Historical Trauma

The sweeping adoption of historical trauma within the field of Indigenous mental health – and, indeed, within colloquial discourses throughout Indian Country – attests to its remarkable capacity to illuminate, elucidate, and express the concerns of Indigenous communities. Certainly, in my own reservation setting at Fort Belknap, the reframing of psychiatric distress (or "mental disorders") as historical trauma better accounts for family and community legacies of suffering. Although epidemiological description is theoretically possible (if logistically formidable) for our population, what would be substantively gained from a diagnostic portrait confirming that we exhibit proportionately higher rates of major depressive disorder, PTSD, conduct disorder, or alcohol, cannabis, stimulant, and opioid use disorders? The existence of these problems is already obvious to our people, and any diagnostic snapshot in time provided by outside experts omits crucial context and threatens additional stigma.

Instead, attributions of historical trauma afford a more complete story of nearly 170 years of devastating epidemic diseases, violent commercial rivalries, massive land expropriations, pervasive treaty violations, recurrent resource theft, punishing government supervision, prejudicial religious repression, mandated educational indoctrination, and persistent racial antipathy that have systematically and purposefully undermined seven generations of Aaniiih well-being. On this account, the cruel appeal of routine substance intoxication – and the insensate state it affords – seems both intelligible and predictable, owing to the (temporary) escape it affords from abject misery and thwarted agency. Unfortunately, misery begets misery – there are no problems that addiction cannot worsen – and so intergenerational family disruptions follow too easily, including (as my own kin have experienced) mayhem and murder. Thus, the category of "mental health" is just too anodyne for capturing these realities in contrast to the more encompassing ascription of historical trauma.

This is not to deny that historical trauma as formulated and promoted suffers from certain worrisome limitations.[42] For example, historical trauma is usually attributed in essentialist fashion. In common usage, all Indigenous people and communities are described as afflicted by historical trauma, and distinctions in

the degree or kind of historical trauma that has impacted individuals, families, and communities throughout Indian Country are rarely noted. In this respect, to be Indigenous is to be traumatized by history (irrespective of whether your ancestors contended with sedentarization or genocide, or whether these events occurred three hundred thirty-five or one hundred thirty-five years ago). Moreover, trauma denotes psychological injury, and so the conceptual fusion of historical trauma with Indigeneity itself suggests that all American Indians and Alaska Natives are pathologically wounded, impaired, or damaged. This leaves little room for other agentic Indigenous responses to histories of colonization, including resolve, resilience, and resistance.

Relatedly, as with trauma discourse more generally, historical trauma typically functions through the rhetorical binary of perpetration and victimhood. Obviously, Indigenous communities have indeed been victimized through long histories of colonial subjugation, but it does not follow that identities so deeply entangled with victimhood are necessarily conducive to well-being. Indeed, Ojibwe intellectual Gerald Vizenor coined the neologism "survivance" – a portmanteau of *survival* and *resistance* – in rejection of Indigenous "victimry."[43] Beyond this, historical trauma owes much of its potency and appeal to processes of psychologization and medicalization. Psychologization highlights the intrapersonal and interior consequences of oppression, which in our increasingly globalized "empire of trauma" has become central to the effectiveness of modern claims-making.[44] Medicalization recasts social suffering as the personal problems of distinct patients in need of health services from the biomedical establishment. Although historical trauma depends on both moral claims-making and expansive access to health care resources, processes of psychologization and medicalization tend to distract from the material and structural origins of distress, thereby neutralizing campaigns against social injustice by transfiguring them into individual odysseys for therapeutic benefit.

Most important, recognition of historical trauma has become so pervasive within Indigenous communities that it, too, threatens to become overwhelmingly reductive. To illustrate historical trauma in less abstruse fashion, for example, I earlier offered a selective and incomplete representation of my community and family that accentuated adversity, deprivation, demoralization, and suffering. And yet such an account displaces and erases many other facets of life at Fort Belknap, such as the effective assertion of tribal sovereignty, litigation of land claims, modulation of mining interests, reclamation of our religious traditions, revitalization of our language, administration of tribal programs, and establishment of our accredited tribal college. More personally, despite the crushing weight of many losses, my family continues to care for one another, find solace in humor, overcome routine setbacks, preserve Indigenous traditions, pursue meaningful livelihoods, and envision robust futures for rising generations of our kin. In sum,

while historical trauma may explain some portion of our experience, it is far from the entire story.

With respect to an overarching appraisal of historical trauma, then, I offer these closing observations. In the context of mental health research, the construct of historical trauma remains heir to some of the limitations that have been observed about the construct of PTSD. For example, shortly after its inclusion in DSM-III, anthropologist Allan Young explored the diagnosis and treatment of PTSD in a veteran's clinic in critical ethnographic fashion.[45] He observed an interesting paradox. On one hand, the official diagnostic logic of PTSD endorsed the realization that traumatic experiences may prospectively produce disabling distress in patients (a recognition that horrific events can cause debilitating symptoms in individuals). On the other hand, the real-world initiation of treatment for PTSD required distressed patients and their therapists to retrospectively reconstruct the traumatic origins of their current distress (a recognition that individuals seek explanations in the past for their debilitating symptoms).

As a consequence, it can be difficult to determine whether any given instance of distress is in fact etiologically caused by past trauma (through prospective pathogenic processes in response to overwhelming stressors) or instead only reconstructively attributed to past trauma (through subsequent meaning-making in response to available narrative templates).[46] This same etiological/attributional ambiguity also applies to historical trauma. Given the long histories and intergenerational character of historical trauma, however, differentiation between literal historical causality and interpretive contemporary meaning-making is unlikely to be resolved empirically. As a result, historical trauma is perhaps less usefully construed as a generative scientific construct and more helpfully embraced as a health-related moral rhetoric that enables broad contextualization for Indigenous mental health problems in critical terms.

As a health-related moral rhetoric, historical trauma might benefit from a poetic rephrasing that abandons its central entanglement with psychological injury. In fact, I prefer Brave Heart's original descriptions of *historical unresolved grief* or *stunted mourning* to historical trauma, since grief and mourning are normative human experiences in the face of terrific loss.[47] These terms are therefore less pathologizing and stigmatizing. They also afford a wider range of possible agentic responses to colonial subjugation and historical oppression than woundedness, damage, and injury. Another possible alternative label might be *postcolonial distress*, which preserves a concurrent focus on both past colonial subjugation and contemporary realities without succumbing to the hazards of presuming psychic injury in sweeping fashion. Of course, the adoption of such alternatives might discursively sacrifice the claims-making potency of contemporary trauma discourse.

Finally, insofar as historical trauma functions to contest and recast prevalent mental disorders in Indigenous communities as postcolonial pathologies, an entire

Indigenous conceptual framework for mental health problems comes into view. In previous research, I have referred to this framework as an *alter-Native psy-ence*.[48] The term alter-Native designates the parallel yet distinctive perspectives that compose this Indigenous mental health framework. The term psy-ence denotes the culturally myopic and historically contingent authorization of professional knowledge in the psy-disciplines (that is, psychoanalysis, psychiatry, psychology, psychotherapy). For example, it has been observed for my own field of psychology that most disciplinary knowledge has been obtained from research with Western, educated, industrialized, rich, and democratic (or WEIRD) societies, which therefore represents the lived experiences of a tiny swath of humanity.[49]

Alter-Native psy-ence encompasses difference across four domains. Regarding the domain of distress, as I have already noted, I have observed an Indigenous preference for historical trauma rather than mental disorders. Regarding the domain of well-being, I have observed an Indigenous preference for normative forms of sociocentric selfhood rather than neoliberal individualism.[50] Regarding the domain of treatment, I have observed an Indigenous preference for traditional healing rather than evidence-based mental health interventions.[51] Regarding the domain of evaluation, I have observed an Indigenous preference for relying on Indigenous ways of knowing rather than scientific outcome assessment.[52] This alter-Native psy-ence, with historical trauma as its foundational component, attests to the profound anticolonial convictions that motivate sovereign and self-determining Indigenous approaches to the mental health enterprise.

Closing

The term Indigenous historical trauma has arisen during the past thirty years as an alter-Native concept that critically contests prevailing categories of psychological disability, psychiatric distress, and mental disorders (including addiction, trauma, and suicide) and creatively recasts these as postcolonial pathologies. In doing so, historical trauma calls for overdue advances in reconciliation, redress, and repair with respect to Indigenous affairs, ideally evidenced by societal transformations, structural reforms, and social justice that can advance and enhance Indigenous futurity and well-being. Given the devastating legacies of colonial subjugation that still haunt this nation, we as the Original Americans anxiously await the day when our descendants seven generations hence can expect and attain the fullness of life and livelihood that have been denied to far too many of us today.

ABOUT THE AUTHOR

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ENDNOTES

[1] One of the most widespread American Indian practices for healing and renewal is the sweat lodge ceremony. Such rituals are typically structured as four ceremonial rounds, set off from ordinary quotidian experiences with a ritual opening and closing. Given my concern in this essay with healing for Indigenous communities, I structure my contribution analogous to ceremonial practice with an Opening, four Rounds, and a Closing.

[2] For comprehensive reviews of these issues, see Joseph P. Gone, "Community Mental Health Services for American Indians and Alaska Natives: Reconciling Evidence-Based Practice and Alter-Native Psy-ence," *Annual Review of Clinical Psychology* 19 (2023): 23–49, https://doi.org/10.1146/annurev-clinpsy-080921-072950; and Joseph P. Gone and Joseph E. Trimble, "American Indian and Alaska Native Mental Health: Diverse Perspectives on Enduring Disparities," *Annual Review of Clinical Psychology* 8 (2012): 131–160, https://doi.org/10.1146/annurev-clinpsy-032511-143127.

[3] Daniel R. Levinson, *Access to Mental Health Services at Indian Health Service and Tribal Facilities* (Washington, D.C.: Department of Health and Human Services at the Office of Inspector General, 2011), https://oig.hhs.gov/oei/reports/oei-09-08-00580.pdf.

[4] Joseph P. Gone, "The (Post)Colonial Predicament in Community Mental Health Services for American Indians: Explorations in Alter-Native Psy-ence," *American Psychologist* 76 (9) (2021): 1514–1525, https://doi.org/10.1037/amp0000906.

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Disorders of Mood: The Experience of Those Who Have Them

Kay Redfield Jamison

Mood disorders are common, painful, and closely tied to suicide and alcohol and substance use. They are also treatable. Mania and depression, a part of the human record for as long as it has been kept, were well-recognized and described by physicians of antiquity. Our knowledge of mood disorders has broadened and deepened in the many centuries since those early times, and crosses many scientific and clinical fields, including genetics, neuropharmacology, neuroimaging, psychopathology, and neuropsychology. We have as well a rich history of personal narratives of depression and bipolar disorder that gives a different but essential perspective; I present several of these accounts here.

> The reader will excuse my frequent references to the poets for facts to illustrate the history of madness. They view the human mind in all its operations, whether natural or morbid, with a microscopic eye; and hence many things arrest their attention, which would escape the notice of physicians.
>
> —Benjamin Rush, *Diseases of the Mind* (1812)[1]

Disorders of mood, depression, and bipolar illness are common, painful, and destructive. But they are also tied to much that makes us human: our thinking, behavior, and vitality; our hopes and imagination; our ambitions. Depression and mania disproportionately first occur during adolescence or young adulthood and carry with them a high risk of suicide, interpersonal chaos, and alcohol and drug use.[2] They are treatable, but many go without care due to a lack of information, concerns about the reactions of others, professional and personal repercussions, or no access to treatment. Medication and psychotherapy, effective in treating most forms of depression and mania, are limited in their availability by cost and by the relatively small number of clinicians, clinics, and hospitals that provide reasonably priced and competent care.

The physicians of antiquity knew depression, mania, and psychosis well. Thousands of years ago, they described these conditions in their patients and instruct-

ed their students in how best to diagnose and treat them.[3] One medical historian states that manic and depressive psychoses are the "scarlet threads" most clearly discernable throughout the "twisted strands of history."[4] Long before the time of Hippocrates, five hundred years before Christ, physicians and priests in Egypt, China, India, and Persia described patients with melancholy, who slept poorly, ruminated ceaselessly on death, obsessed about their unworthiness, lacked will and the energy to act, were irritable, confused, and wished only to die. Their manic patients, on the other hand, needed little sleep and were grandiose and psychotic; in their exaltation, they believed themselves to be gods, kings, or prophets, and thought themselves to be invincible, at one with the universe. They were irrational and uninhibited; they talked, ran, approached others indiscriminately, and danced without restraint. They were indefatigable, quick to rage, impulsive, suspicious, and at times violent; their thoughts and words sped in all directions.

These early doctors observed that depression and mania kept close company : symptoms of mania often existed together with symptoms of depression.[5] Patients could be at once agitated and melancholic, despondent and excited, overflowing with ideas yet bleak and suicidal. Their moods were in flux more often than stable : depression switched into mania, and the exalted moods of mania switched often and precipitously into furor or violence. Mania and depression were conditions not unlike malaria and porphyria : they cycled, flared, and faded. More often than not, their cycles were beholden to the seasons.

Over the years, it became clear that understanding mania and depression – to diagnose them accurately and to treat them effectively – required clinicians to draw upon a variety of perspectives : those of physicians, both modern and ancient ; psychologists, psychopathologists, and basic and clinical scientists ; and, critically, the experiences of those who had been manic or depressed. These perspectives have proven productive in their own ways. Clinical and basic science research is progressing well, if haltingly. Many hundreds of studies have added immeasurably to our deep base of scientific knowledge about mood disorders.[6] We have acquired a more precise diagnostic language for depression and bipolar illness, necessary for good science and good clinical care. Few would argue, however, that scientific description alone conveys the full experience of mood disorders.

What we have gained from science allows us to treat patients more effectively and compassionately, but we need accounts from patients themselves. Otherwise, in our rush to precision, we risk losing an essential measure of human understanding. We need to understand how depression and mania feel to those who experience them ; how it feels to live with the unpredictability and pain of mood disorders ; and how it feels to be on the receiving end of cruel remarks and discrimination. We are a storytelling species ; we learn from hearing about individual

lives. If we hear the stories of those who have been depressed or manic, we get a more visceral sense of what psychological suffering means.[7]

Personal accounts of mental illness change not only personal understanding, but public attitudes: they influence medical practice, government policy, and research priorities, and affect philanthropy. Two narratives of mental illness, one written in the nineteenth century, the other in the twentieth, have had a lasting impact on public policy and mental health reform. In 1838, after his release from an insane asylum, John Perceval, a British army officer and son of a British prime minister, published *A Narrative of the Treatment Experienced by a Gentleman During a State of Mental Derangement.*[8] He campaigned to reform the English lunacy laws and sought to improve treatment and gain greater rights for those in asylums. His impact on the rights and the treatment of the mentally ill remains a significant landmark in the reform movement. Nearly a century later, Clifford Beers, who had had a manic breakdown after he graduated from Yale and had subsequently been confined to a series of private and public asylums, wrote a brutal account of the treatment he received. *A Mind That Found Itself*, published in 1908 with the support of William James, was critical in establishing the Henry Phipps Psychiatric Clinic at Johns Hopkins, helped reform the treatment of the mentally ill in America, and became the basis for the first major mental health advocacy movement in the United States.[9]

This essay focuses on accounts of mania and depression written by those who have suffered from them. These accounts describe what mania and depression feel like, the pain and shame that mental illness brings, and the distress that mania and depression bring into the lives of family, friends, and colleagues. This essay presents as well the observations of a few particularly astute clinicians. Personal accounts of mental illness have limitations. They are necessarily selective in what has been remembered and what has been forgotten. They tend to emphasize out-of-the-ordinary events, at times to the detriment of describing more typical experiences. The paucity of language available to describe extreme experiences, such as severe mood states, cognitive and perceptual distortions, and delusions and hallucinations, limits description. Those who are most able to articulate their experiences – writers, for example – may not represent the experiences of most patients. Further, variation in the clinical presentation of mood disorders is the rule rather than the exception. This is inevitable in illnesses that are genetically based, psychologically expressed, and environmentally influenced. Nevertheless, writers, who are particularly prone to mood disorders, have been exceptionally good at describing their experiences, and several of their accounts of depression and mania are given here.[10]

Benjamin Rush, the "father of American psychiatry," wrote in his 1812 textbook on mental disease that he went to the poets in order to understand madness. Poets, he believed, brought to attention things that "would escape the notice of

physicians."[11] This remains true, and writers are called upon in this essay for their portrayals of depression and bipolar illness. I have included descriptions from other individuals as well, and a few examples from my own experience of mania and depression.

Depression is more common than mania and tends to be more broadly understood and described. In the second century AD, Greek physician Aretaeus wrote about his melancholic patients whose moods, thinking, activity, sleep, and behavior were so profoundly disturbed :

> The patients are dull or stern, dejected or unreasonably torpid, without any manifest cause : such is the commencement of melancholy. And they also become peevish, dispirited, sleepless. . . . Unreasonable fear also seizes them [as well as] hatred, avoidance of the haunts of men, vain lamentations ; they complain of life, and desire to die.[12]

Emil Kraepelin, the preeminent psychopathologist of the nineteenth century, wrote extensively about the often debilitating changes in thinking during depression – confusion and the inability to pay attention or comprehend – changes that tend to be underemphasized :

> Thinking is difficult to the patient. . . . He cannot collect his thoughts or pull himself together ; his thoughts are as if paralyzed, they are immobile. . . . He is no longer able to perceive, or to follow the train of thought of a book or a conversation, he feels weary, enervated, inattentive, inwardly empty ; he has no memory, he has no longer command of knowledge formerly familiar to him, he must consider a long time about simple things . . . [he] does not find words.[13]

John Custance, who served as an officer in the Royal Navy in the First World War and as an intelligence officer in the Second, was hospitalized many times for mania and depression. He wrote about the mental stultification he experienced when he was depressed :

> I seem to be in perpetual fog and darkness. I cannot get my mind to work ; instead of associations "clicking into place" everything is inextricable jumble. . . . I could not feel more ignorant, undecided, or inefficient. It is appallingly difficult to concentrate, and writing is pain and grief to me.[14]

The "perpetual fog and darkness" of depression, deeply disturbing to those who experience it, is compounded by the hopelessness at the core of depression. Lord Byron described his fear, a not uncommon one, that his inability to think coherently when he was depressed was a sign of impending madness :

> I am growing nervous. . . . I can neither read, write, or amuse myself, or any one else. My days are listless, and my nights restless. . . . I don't know that I sha'n't end with insanity, for I find a want of method in arranging my thoughts that perplexes me strangely.[15]

Andrew Solomon, in *The Noonday Demon*, describes the gradual breakdown of all those things that he felt defined him : his thinking, his will and passion, his engagement in life, and his relationships with others. All were taken over by exhaustion, fear, and a terrifying hollowing out, a paralyzing anxiety :

> When I got home that night, I began to feel frightened. I lay in bed, not sleeping, hugging my pillow for comfort. Over the next two and a half weeks things got worse and worse. Shortly before my thirty-first birthday, I went to pieces. My whole system seemed to be caving in. . . . I lay very still and thought about speaking, trying to figure out how to do it. I moved my tongue but there were no sounds. I had forgotten how to talk. Then I began to cry, but there were no tears, only a heaving incoherence. I was on my back. I wanted to turn over, but I couldn't remember how to do that either. I tried to think about it, but the task seemed colossal.[16]

Sleep disturbances are pervasive in depression, and often a cause of severe distress. In her autobiographical novel *The Bell Jar*, Sylvia Plath described the desolation that accompanied her sleeplessness :

> I hadn't slept for seven nights.

> My mother told me I must have slept, it was impossible not to sleep in all that time, but if I slept, it was with my eyes wide open, for I had followed the green, luminous course of the second hand and the minute hand and the hour hand of the bedside clock through their circles and semicircles, every night for seven nights, without missing a second, or a minute, or an hour. . . .

> I saw the days of the year stretching ahead like a series of bright, white boxes, and separating one box from another was sleep, like a black shade. Only for me, the long perspective of shades that set off one box from the next had suddenly snapped up, and I could see day after day after day glaring ahead of me like a white, broad infinitely desolate avenue.[17]

Virginia Woolf also described the horror of sleepless, fitful nights : "Those interminable nights which do not end at twelve, but go on into the double figures – thirteen, fourteen, and so on until they reach the twenties, and then the thirties, and then the forties . . . there is nothing to prevent nights from doing this if they choose."[18]

There is a sharp contrast between the life manifest in the outer world and that experienced in the inner world of those who are severely depressed. The contrast can be devastating. Composer Hugo Wolf described how he felt when depressed, existing in the midst of the vitality in the world around him. It was an insurmountable divide :

> What I suffer from this continuous idleness I am quite unable to describe. I would like most to hang myself on the nearest branch of the cherry trees standing now in full

bloom. This wonderful spring with its secret life and movement troubles me unspeakably. These eternal blue skies, lasting for weeks, this continuous sprouting and budding in nature, these coaxing breezes impregnated with spring sunlight and fragrance of flowers . . . make me frantic. Everywhere this bewildering urge for life, fruitfulness, creation – and only I, although like the humblest grass of the fields one of God's creatures, may not take part in this festival of resurrection, at any rate not except as a spectator with grief and envy.[19]

Suicide comes to feel like the only tenable option for many people who are severely depressed; indeed, depression and bipolar illness have the highest rates of suicide of any condition. Agitation, when combined with depressed mood, is a particularly dangerous form of a mixed state, the simultaneous presence of depressive and manic symptoms. Composer Hector Berlioz described "two types of spleen; one mocking, active, passionate, malignant; the other morose and wholly passive, when one's only wish is for silence and solitude and the oblivion of sleep." The "malignant" type, he said, was unbearably painful: "The fit fell upon me with appalling force. I suffered agonies and lay groaning on the ground, stretching out abandoned arms, convulsively tearing up handfuls of grass and wide-eyed innocent daisies. . . . Yet such an attack is not to be compared with the tortures I have known since then in ever-increasing measure."[20]

Poet Anne Sexton, who suffered from bipolar disorder and died by suicide, described a similar convulsive state as "this almost terrible energy in me and nothing seems to help. . . . Then I walk up and down the room – back and forth – and I feel like a caged tiger."[21] Caged energy was an image called to mind by poet Robert Burns as well:

> Here I sit, altogether Novemberish, a damn'd mélange of Fretfulness & melancholy; not enough of the one to rouse me to passion; nor of the other to repose me in torpor; my soul flouncing & fluttering round her tenement, like a wild Finch caught amid the horrors of winter newly thrust into a cage.[22]

These agitated, mixed states can result in violent impulses or actual violence. Poet Sylvia Plath, who, like Anne Sexton, died by suicide, wrote about the rage set off as she watched a girl pick a flower in the park:

> I have a violence in me that is hot as death-blood. I can kill myself or – I know it now – even kill another: I could kill a woman, or wound a man. I think I could. I gritted to control my hands, but had a flash of bloody stars in my head as I stared that sassy girl down, and a blood-longing to [rush] at her and tear her to bloody beating bits.[23]

When pain and agitation become unbearable and the future unthinkable, suicide can become the only perceived option. Certainly this was true for me. I had stopped taking my medication and was in the middle of a prolonged suicidal depression:

I reaped a bitter harvest from my refusal to take lithium on a consistent basis. A floridly psychotic mania was followed, inevitably, by a long and lacerating, black suicidal depression; it lasted more than a year and a half. From the time I woke up in the morning until the time I went to bed at night, I was unbearably miserable and seemingly incapable of any kind of joy or enthusiasm. Everything – every thought, word, movement – was an effort. Everything that once was sparkling now was flat. I seemed to myself to be dull, boring, inadequate, thick brained, unlit, unresponsive, chill skinned, bloodless, and sparrow drab. I doubted, completely, my ability to do anything well. It seemed as though my mind had slowed down and burned out to the point of being useless. The wretched, convoluted, and confused mass of gray worked only well enough to torment me with a dreary litany of my inadequacies and shortcomings in character, and to taunt me with the total, the desperate, hopelessness of it all. What is the point in going on like this? I would ask myself. Others would say to me, "It is only temporary, it will pass, you will get over it," but of course they had no idea how I felt, although they were certain that they did. Over and over and over I would say to myself, if I can't feel, if I can't move, if I can't think, and I can't care, then what conceivable point is there in living?

The morbidity of my mind was astonishing: Death and its kin were constant companions. I saw Death everywhere, and I saw winding sheets and toe tags and body bags in my mind's eye. Everything was a reminder that everything ended at the charnel house. My memory always took the black line of the mind's underground system; thoughts would go from one tormented moment of my past to the next. Each stop along the way was worse than the preceding one. And, always, everything was an effort. Washing my hair took hours to do, and it drained me for hours afterward; filling the ice-cube tray was beyond my capacity, and I occasionally slept in the same clothes I had worn during the day because I was too exhausted to undress.

I simply wanted to die and be done with it. I resolved to kill myself, and nearly did.[24]

There is, as Kraepelin said, a terrible desperation in people who want to kill themselves. His patients, he said, "often try to starve themselves, to hang themselves, to cut their arteries; they beg that they may be burned, buried alive, driven out into the woods and there allowed to die. . . . One of my patients struck his neck so often on the edge of a chisel fixed on the ground that all the soft parts were cut through to the vertebrae."[25]

Mania, in most ways, is opposite to depression in mood, thinking, and behavior. Mood is elated, but irritable and unstable. Speech is pressured and rapid; behavior is uninhibited. Patients seem to have limitless energy and need little to no sleep. Mania is a high-voltage state: patients are restless, agitated, and "wired." Judgment is poor. Thinking shatters and the senses quicken. Grandiose thoughts and delusions are frequent, as is a sense of oneness with the universe. In severe

mania, religious delusions and hallucinations are common and patients often describe themselves as being on special journeys or adventures.

John Custance told his doctors about his sense of "intense well being" when he was manic, but the well-being was accompanied by extreme irritation and "paroxysm of anger." His thinking and speech became impossible to follow ; ideas branched out in all directions. He spoke of his "intimate personal relationship with God," and the sense of communion "that extend[ed] to all fellow creatures." In time, he moved beyond communicating with God to becoming God : "I see the future, plan the Universe, save mankind . . . create light, darkness, worlds, universes." All things were possible, he said ; all things came together, bound by ecstasy and the love of God. "All nature and life," he said, "are co-operating and connected with me."[26]

Ecstatic mania has an addictive power, one that many patients attempt to recapture once they have recovered from their psychosis. I tried to describe some of the glory and power of an early manic episode :

> People go mad in idiosyncratic ways. Perhaps it was not surprising that, as an Air Force pilot's daughter, I found myself, in that glorious illusion of high summer days, gliding, flying, now and again lurching through cloud banks and ethers, past stars, and across fields of ice crystals. Even now, I can see in my mind's rather peculiar eye an extraordinary shattering and shifting of light ; inconstant but ravishing colors laid out across miles of circling rings ; and the almost imperceptible, somehow surprisingly pallid, moons of this Catherine wheel of a planet. I saw and experienced that which had been only dreams, or fitful fragments of aspiration.

> Was it real ? Well, of course not, not in any meaningful sense of the word "real." But did it stay with me ? Absolutely. Long after my psychosis cleared, and the medications took hold, it became part of what one remembers forever, surrounded by an almost Proustian melancholy. Long since that extended voyage of my mind and soul, Saturn and its icy rings took on a painful beauty, and I don't see Saturn's image now without feeling an acute sadness at its being so far away from me, so unobtainable in so many ways. The intensity, glory, and absolute assuredness of my mind's flight made it very difficult for me to believe, once I was better, that the illness was one I should willingly give up.[27]

Moods are mutable and so are the thoughts and words that accompany them. The flight of ideas and the delusions so common in mania move quickly from exhilarating to terrifying. One patient wrote about this :

> The condition of my mind for many months is beyond all description. My thoughts ran with lightning-like rapidity from one subject to another. I had an exaggerated feeling of self importance. All the problems of the universe came crowding into my mind, demanding instant discussion and solution – mental telepathy, hypnotism, wireless

telegraphy, Christian science, women's rights, and all the problems of medical science, religion and politics. I even devised means of discovering the weight of a human soul, and had an apparatus constructed in my room for the purpose of weighing my own soul the minute it departed from my body. . . .

Thoughts chased one another through my mind with lightning rapidity. I felt like a person driving a wild horse with a weak rein, who dares not use force, but lets him run his course, following the line of least resistance. Mad impulses would rush through my brain, carrying me first in one direction then in another. To destroy myself or to escape often occurred to me, but my mind could not hold on to one subject long enough to formulate any definite plans.[28]

Leonard Woolf, Virginia Woolf's husband, described the deterioration in her speech as her mania progressed: "She talked almost without stopping for two or three days, paying no attention to anyone in the room or anything said to her. For about a day what she said was coherent; the sentences meant something, though it was nearly all wildly insane. Then gradually it became completely incoherent, a mere jumble of dissociated words."[29]

Patients with mania not only speak and think rapidly, they become involved in a frenzy of activities. British novelist Morag Coate, for example, wrote about her far-flung ideas and plans, and the intense significance they took on for her:

I must record everything and later I would write a book on mental hospitals. I would write books on psychiatric theory too, and on theology. I would write novels. I had the libretto of an opera in mind. Nothing was beyond me. My creative impulse had found full outlet and I had enough now to write to last me for the rest of my life.

I made notes of everything that happened, day and night. I made symbolic scrapbooks whose meaning only I could decipher. I wrote a fairy tale; I wrote the diary of a white witch; and again I noted down cryptically all that was said or done around me at the time, with special reference to relevant news bulletins and to jokes which were broadcast in radio programmes. The time, correct to the nearest minute, was recorded in the margin. It was all vitally important. . . . of profound significance.[30]

Elation and grandiosity prevent many manic patients from recognizing or caring about the consequences of their impulsive behavior. Rash spending, or "engaging in unrestrained buying sprees," as one of the diagnostic criteria for mania puts it, is a classic symptom of mania.[31] This, as I found out to considerable expense, can lead to fleeting delight, absurd purchases, and paralyzing debt:

Unfortunately, for manics anyway, mania is a natural extension of the economy. What with credit cards and bank accounts there is little beyond reach. So I bought twelve snakebite kits, with a sense of urgency and importance. I bought precious stones, elegant and unnecessary furniture, three watches within an hour of one another (in the

Rolex rather than Timex class : champagne tastes bubble to the surface, are the sur-face, in mania), and totally inappropriate sirenlike clothes. During one spree in Lon-don I spent several hundred pounds on books having titles or covers that somehow caught my fancy : books on the natural history of the mole, twenty sundry Penguin books because I thought it could be nice if the penguins could form a colony.…

But then back on lithium and rotating on the planet at the same pace as everyone else, you find your credit is decimated, your mortification complete : mania is not a luxury one can easily afford. It is devastating to have the illness and aggravating to have to pay for medications, blood tests, and psychotherapy. They, at least, are partially deduct-ible. But money spent while manic doesn't fit into the Internal Revenue Service con-cept of medical expense or business loss. So after mania, when most depressed, you're given excellent reason to be even more so.[32]

The flight of ideas so characteristic of mania, the thoughts leaping from sub-ject to subject, can lead to imaginative, if not altogether viable work. Russian poet Velimir Khlebnikov, while hospitalized for his psychotic behavior and volatile mood swings, wrote down the connections he made when he was manic and his mind psychotically expansive :

Working with number as his charcoal, he unites all previous human knowledge in his art. A single one of his lines provides an immediate lightninglike connection between a red corpuscle and Earth, a second precipitates into helium, a third shatters upon the unbending heavens and discovers the satellites of Jupiter. Velocity is infused with a new speed, the speed of thought, while the boundaries that separate different areas of knowledge will disappear before the procession of liberated numbers cast like orders into print throughout the whole of Planet Earth.…

The surface of Planet Earth is 510,051,300 square kilometers; the surface of a red cor-puscle – that citizen and star of man's Milky Way – 0.000,128 square millimeters. These citizens of the sky and the body have concluded a treaty, whose provision is this : the surface of the star Earth divided by the surface of the tiny corpuscular star equals 365 times 10 to the tenth power (365×10^{10}). A beautiful concordance of two worlds, one that establishes man's right to first place on Earth. This is the first article of the treaty between the government of blood cells and the government of heavenly bodies. A living walking Milky Way and his tiny star have concluded a 365-point agreement with the Milky Way in the sky and its great Earth Star. The dead Milky Way and the liv-ing one have affixed their signatures to it as two equal and legal entities.[33]

Recovery from mania and depression is usually difficult, slow, and erratic. "I have been out in the garden for 2 hours; and feel quite normal," Virgin-ia Woolf wrote from a mental hospital. "I feel my brains, like a pear, to see

if its ripe; it will be exquisite by September."[34] The blood, she added, "has really been getting into my brain at last. It is the oddest feeling, as though a dead part of me were coming to life."[35] All the voices were gone, she said, the ones that had driven her mad. The poet Robert Lowell also described this gradual, precarious reentry into sanity: "Today I feel certain that I am not going off the deep end," he wrote to his friend and fellow poet Elizabeth Bishop. "Gracelessly, like a standing child trying to sit down, like a cat or [rac]coon coming down a tree, I'm getting down my ladder to the moon."[36] Recovery for Lowell, like for most recovering from mania or depression, was marked not only by the slide in mood, but by becoming aware of the humiliating things done and left undone while ill, and by having to confront the toll that mental illness takes on others.

"Nothing! No oil / for the eye, nothing to pour / on those waters or flames," wrote Robert Lowell. "I am tired. Everyone's tired of my turmoil."[37] In a letter to T. S. Eliot, written as Lowell was recovering from a manic attack, he confided, "The whole business has been very bruising, and it is fierce facing the pain I have caused, and humiliating [to] think that it has all happened before and that control and self-knowledge come slowly, if at all."[37] Another patient wrote simply: "No one who has not had the experience can realize the mortification of having been insane."[38]

In addition to the psychological suffering, there are repercussions from illness: loss of jobs, medical costs, ruined marriages and friendships, debts incurred during mania, and the psychological aftermath of damage done to others through physical or verbal abuse. For most patients, the toll is cumulative. "I was only forty-five years old," wrote Joshua Logan, director and cowriter of *South Pacific*, *Mister Roberts*, and *Picnic*, after one of his bouts of mania. "But I felt exhausted by this last experience, hollowed out, as though I were a live fish disemboweled."[39] His wife, also at the end of her tether, expressed the fear of many spouses, that a hereditable psychosis will be passed on to their children:

I asked her if she wanted to have children with me.

She said no.

I asked why, but she refused to answer....

I looked at her blankly, and she added:

"I have no wish to bring insane children into this world."[40]

Depression is often recurrent, bipolar illness always. Fear of recurrence of mania or depression, like fear of a recurrence of cancer or a second heart attack, is a source of anxiety in those who have mood disorders. A physician writing anonymously in *The Lancet* expressed his fears that his mania would come back:

The most daunting problem is the prospect of further episodes of mania. The depression if it occurs is a more private feature of the syndrome. Mania is very public and is accompanied by a multitude of embarrassing excesses and, not infrequently, scandals. . . . Will there be future episodes; how frequently; and will they be as debilitating? What about my capacity to work, earn a living, to occupy myself, and fulfill my responsibilities? The qualities for a doctor are vastly different from those of a poet. A hospital consultant is nothing if not reliable. My unreliability is already manifest.[41]

In his last book of poetry, Robert Lowell, who had been hospitalized twenty times for mania, wrote lines that could stand in for his frequently expressed terror of going mad again: "If we see a light at the end of the tunnel," he wrote, "it's the light of an oncoming train."[42]

Treatment is much better now; public attitudes and education about mood disorders have improved. But the words of the writers and doctors presented here give insight into the experiences of those who suffered, or who died before effective treatment existed. They speak still for those whose treatment fails, and those for whom treatment is neither available nor affordable. The lack of basic health care for those with mental illness is not only unfair, it kills. Few patients, family members, or doctors would disagree.

ABOUT THE AUTHOR

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Mental Health's Stalled (Biological) Revolution: Its Origins, Aftermath & Future Opportunities

Anne Harrington

The 1980s, by common consensus, saw a big and remarkably rapid pivot away from previously dominant psychoanalytic and social science perspectives in American psychiatry and toward a so-called medical model foregrounding biology and the brain. The standard understanding is that this happened because, after years of wandering lost in a Freudian desert, the field had finally gained some fundamental new biological understandings of mental illness. The standard understanding is wrong. Nothing of sudden significance had happened on the biological front. There had been no major scientific or therapeutic breakthroughs. Why, then, did the field really pivot? This essay aims to explain. The answer is important, not least because choices made back then have directly shaped the fraught world of psychiatry with which we live today.

In the 1980s, the field of American psychiatry pivoted suddenly and decisively away from previously dominant psychotherapeutic, social scientific, and psychoanalytic approaches to mental disorder, and instead embraced biological, brain-based, and pharmaceutical approaches. Why did all this happen?

For decades, the answer seemed clear: Before the 1980s, American psychiatry was lost in a Freudian wilderness. It had turned its back on all the fundamental principles of medical practice. It had lost interest in rigorous scientific research. It was hobbled by an incredibly sloppy approach to diagnostics. It was in the thrall of fantastical theories, and interminable, ineffective treatment practices. Then, sometime in the early 1980s, just as things could hardly get worse, some heroes arrived: biochemistry and neuroscience researchers armed with new science and new treatments. They made clear that the Freudian dinosaurs had to go. And the Freudians, now outed as the charlatans they were, left. The world celebrated, and psychiatry has never looked back since. As journalist Jon Franklin put the matter in his Pulitzer Prize–winning series, "The Mind Fixers":

> Since the days of Sigmund Freud, the practice of psychiatry has been more art than science. Surrounded by an aura of witchcraft, proceeding on impression and hunch,

often ineffective, it was the bumbling and sometimes humorous stepchild of modern science. But for a decade and more, research psychiatrists have been working quietly in laboratories, dissecting the brains of mice and men and teasing out the chemical formulas that unlock the secrets of the mind. Now, in the 1980s, their work is paying off.[1]

In the years since Franklin's series, that basic story continued to make the rounds in both textbooks and popular writings for the public. With time, it took on new elements, such as an insistence that German anatomist and diagnostician Emil Kraepelin was the father of modern psychiatry, not Sigmund Freud. By way of example, Richard Noll's *The Encyclopedia of Schizophrenia and other Psychotic Disorders* told the updated story this way:

> It took major advances in medical technology, specifically the computer revolution and the rise of new techniques in neuroimaging, genetics research and psychopharmacology to swing the pendulum back to Kraepelin's search for the biological cases of psychotic disorders. Historians of science now regard psychoanalysis as a pseudoscience that inexplicably dominated a subfield of medicine – psychiatry.[2]

Let us start by conceding the obvious: we have here a great and bracing story, a story with a strong moral message, a story with clear heroes and villains. We also have a story with a purpose: to be inspiring to researchers and members of the general public alike. The only problem with the story is that it is wrong. And not just a little wrong, but wrong in almost all its particulars. And this matters beyond the obvious reason that we should do right by the facts of history. It also matters because it implies that psychiatry, having shaken off the errors of the past, must be today in a stable and upward-trending space, steadily harvesting the fruits of its investments in biological research.

Psychiatry, however, is not in such a space. It is instead in a place of stalemate and uncertainty. On April 1, 2021 – in his final essay prior to retiring from *The New York Times* – long-serving science journalist Benedict Carey told a different story about the state of the field, as he had experienced it over the decades. "When I joined the Science staff in 2004," he reflected, "reporters in the department had a saying, a reassuring mantra of sorts: 'People will always come to the science section, if only to read about progress.' I think about that a lot as I say goodbye to my job, covering psychiatry, psychology, brain biology and big-data social science, as if they were all somehow related." The truth was, he said, "during my tenure, the science informing mental health care did not proceed smoothly along any trajectory." It did chalk up the occasional significant discovery (for example, identifying levels of consciousness in brain-injured patients who appear unresponsive), but "almost every measure of our collective mental health – suicide rate, anxiety, depression, addiction – went in the wrong direction."[3] In his 2022 book *Healing*,

Thomas Insel, former director of the National Institute of Mental Health, told a similar story from the vantage point of a long-serving scientific leader in the field:

> The scientific progress in our field was stunning, but while we studied the risk factors for suicide, the death rate had climbed 33 percent. While we identified the neuroanatomy of addiction, overdose deaths had increased by threefold. While we mapped the genes for schizophrenia, people with this disease were still chronically unemployed and dying 20 years early.[4]

The conclusion is obvious: the field is being called to update its image of itself and to forge a path to a different future. To do that successfully, however, it also needs to begin by shedding its attachment to self-serving origin myths and start on a more honest path to understanding how it has arrived in its present state.

When the field declared its liberation from Freud and announced a biological revolution was at hand, nothing of sudden significance had happened on the biological front. There had been no new treatments. All the treatments that were extolled in those years, especially drugs, were thirty years old, products of the 1950s, when the field was supposedly stalled and in the thrall of the Freudians. There had also been no major scientific breakthroughs. The most significant scientific advances in the field, such as they were, had also happened more than a generation earlier, during the alleged Freudian dark ages. In the 1950s and early 1960s, scientists, largely working at the NIH, had shown that different drugs can act to raise or lower levels of various newly discovered neurochemicals, with names like dopamine, norepinephrine, and serotonin. At the time, no one had used that work as the basis for declaring a wholesale revolution in mental health care or treatment.

W hy then did the field really pivot? The short answer is: not because of science, but because of complacency, arrogance, and professional overreach that led to an internal revolt. The long answer, however, is more illuminating and worth taking time to understand.

In the decades just before World War II, American psychiatry was an eclectic patchwork of practices and perspectives, some biological and some more environmental. The biologically oriented psychiatrists worked mostly in state hospitals and looked after the severely and chronically mentally ill. While there had been a tendency since the early twentieth century to see hospital psychiatry as a backwater branch of medicine, the 1930s had also seen a modest rise in its public reputation, as new somatic interventions like shock and surgical treatments were introduced.[5] Even lobotomies, today remembered as one of the most barbaric and ill-considered technologies ever employed in the history of psychiatry, were back then often discussed by the press in relatively optimistic ways.[6]

The more environmentally oriented psychiatrists, working largely outside the hospital system, were meanwhile focused on a very different kind of mission: to

identify and treat people who were not yet truly mentally ill, but who were also not quite right: troubled people, nervous people, neurotic people, maladjusted people. Virtually everyone admitted that some of these people might be incorrigibly defective, and therefore best handled through institutionalization in a colony of the "feeble-minded" or through more radical measures like sterilization.[7]

Nevertheless, there was a general view that, for many others, the roots of their troubles lay not in some biological defect but in bad habits, bad neighborhoods, and bad families. This suggested that many might still be salvageable. To rescue them, this branch of psychiatry invented a wide range of new institutions and programs: new kinds of public education efforts, new forms of outreach into schools and communities, new professions like psychiatric social work, and new institutions like child-guidance centers and psychiatric outpatient clinics. By the 1930s, many of the psychiatrists involved in these programs had also discovered psychoanalysis and were incorporating Freudian ideas about unconscious conflict, fantasy, and early childhood trauma into the ways they thought about their patients.[8]

Through the 1920s and 1930s, the biological and environmental approaches to managing mental distress, disorder, and deficiency coexisted, more or less equitably if a bit uneasily. World War II changed that dynamic. When the war came, it was primarily the psychiatrists who were focused on "nearly normal" populations of patients who stepped up. Their tools and approaches seemed far better suited for treating the epidemic of traumatized soldiers, and patching them back together using techniques they had used on their neurotic and maladjusted patients back home, such as quick psychotherapy and suggestive therapy. They were sent into the fields, and many documented the impressive results of their techniques. "The stuporous become alert, the mute can talk, the deaf can hear, the paralyzed can move, and the terror-stricken psychotics become well-organized individuals."[9]

Widely seen as a team that had gotten the job done – even as it was quietly recognized internally that they had fallen short in many ways – the Freudian-leaning contingent of psychiatry next took the position that, because they had helped win the war in ways that their biological colleagues had not, it was they who were now best placed to maintain the peace.[10] The battle mentality that had served them so well during World War II now had to be applied to the urgent mental health needs of civilians in a dangerous postwar world, they said. In May 1948, William Menninger – who had served during the war as the Chief Psychiatric Consultant to the Surgeon General of the Army – met with President Harry Truman, and asked if he would be willing to send "a message of greeting" to be read at the upcoming annual meeting of the American Psychiatric Association. Truman approved the following statement – probably written by Menninger himself:

Never have we had a more pressing need for experts in human engineering. The greatest prerequisite for peace, which is uppermost in the minds and hearts of all of us, must be sanity – sanity in its broadest sense, which permits clear thinking on the part of all citizens. We must continue to look to the experts in the field of psychiatry and other mental sciences for guidance in the evaluation of our mental health resources.[11]

"The greatest prerequisite for peace . . . must be sanity." This hardly seems like a medical project in the ways that most people would understand the term – because it really wasn't. It was a political project. Building on the environmentalist thinking of the interwar years that had produced social workers and child-guidance clinics, Menninger and many of his colleagues had come to believe that most social problems had their origins in individual psychological deficits. For this reason, psychiatry in the postwar era was crucial for any and all efforts to tackle the great social and political threats of the age: the allure of authoritarian governments, the persistence of anti-Semitism, and the scourge of chronic poverty, social deviance, crime, and social unrest. In 1946, a group of bold psychiatrists headed by Menninger fashioned themselves into an organization called the Group for the Advancement of Psychiatry (GAP) to map out a new and expansive agenda for their field.[12]

As they shored up their authority, GAP's leadership also went to the trouble of explicitly attacking the treatments within biological psychiatry that had once won them some claims to respectability: shock and surgical treatments. Their very first white paper targeted electroshock treatment, warned against its "reported promiscuous and indiscriminate use," and insisted that it should never be seen as a primary treatment in its own right, but employed, if at all, only as an "adjuvant in a total psychiatric treatment program" that centered psychotherapy and other psychosocial interventions.[13]

That same year, Truman was persuaded to sign legislation that would establish the very first federal agency devoted to psychiatry. Tellingly, the decision was made to call the agency not the National Institute of Mental Illness or the National Institute for Insanity, but the National Institute of Mental Health (NIMH). The choice of name was intended to signal that the institute was charged to extend beyond a focus on disease, beyond a conventional medical agenda.[14] The first director of the NIMH, Robert Felix, had a primary background in public health and a keen interest in the psychosocial causes of drug addiction. As he explained, "I was interested in the stories I was getting from these people about why they relapsed to drugs or why they got on drugs in the first place. I'd get stories like bad companions, disappointment with life, I couldn't stand the pressure."[15]

Felix's disciplinary leanings helped ensure that, from the beginning, the new NIMH prioritized a community-minded, social science-inflected approach to mental health and illness above the somatic concerns of the old hospital-based psychi-

atry (though the older concerns were not wholly absent). In 1952, Felix asked a psychoanalyst named Robert Cohen to take charge of developing the NIMH intramural research portfolio. Cohen brought an expansive, interdisciplinary vision to the charge, with lots of space for social science, developmental, and psychoanalytic perspectives, including a laboratory of socioenvironmental studies.[16]

It was obvious which way the winds were blowing. Already, by 1947, more than half of all American psychiatrists (the elite half) worked in private practice or at outpatient clinics. By 1958, only about 16 percent of psychiatrists – many of them foreign nationals – were working in state hospitals.[17] Two years later, 95 percent of medical schools reported teaching psychoanalytic and psychodynamic methods, and virtually every departmental chairperson affirmed that psychodynamic approaches dominated the field.[18]

Contrary to what many of us today might suppose, the arrival of antipsychotics, anxiolytics, and antidepressants in the 1950s was not widely perceived as a threat to any of this. All products of clinical serendipity rather than biological research, the drugs were, to be sure, almost immediately embraced by clinicians (including general practitioners) for their practical benefits. Within psychiatry, hospital administrators welcomed especially the ability of the class of drugs then known as "major tranquilizers" to manage people with agitated psychoses, and speculated that their existence might even allow the hospitals to begin to discharge more patients.[19]

Nevertheless, the intellectual leadership within psychiatry was reluctant to pronounce the drugs to be some kind of game-changer for the field. Looking back in 1975, NIMH Director Robert Felix explained his own position at the time. Electroconvulsive treatment, insulin shock therapy, and lobotomy, he recalled, had also once been hyped as game-changers, only to fall short of expectations and cause more harm than good. What reason was there to think that the drugs would be any different?

> We had all been praying for the pill or a draught of medicine or whatnot which would cure the madman. Well, we would sit, and over and over again, something would come up, and it was the answer. Shock was. Insulin was. Lobotomy was another one. One thing after another was going to cure all kinds of ills. . . . [For this reason] I wanted to approach [the new drugs] a little more conservatively and I think I was wrong.[20]

Nevertheless, some mental health activists at the time (led by journalist-turned-lobbyist Michael Gorman) began to put pressure on Congress to allocate funds to the NIMH so its researchers could study these drugs more systematically. And, under pressure, Felix finally agreed in 1956 to create a new research unit within the NIMH: the Psychopharmacology Service Center (PSC). The purpose of this center was to figure out strategies for evaluating the efficacy of the drugs.

Did your study need drug-naive subjects? Did you need a placebo in your control group? How long would you look for possible improvement, and what measures would you use to assess it? All these questions needed to be answered, and a young psychiatrist named Jonathan Cole was hired to spearhead the effort.[21] The upshot was that not only was the staff at the PSC able to demonstrate that new drugs like chlorpromazine worked better than placebos, but along the way, they also largely invented the toolkit for a new field called clinical psychopharmacology.

By the mid-1950s, some of the new antidepressant drugs had begun to inspire new kinds of laboratory research. More specifically, physiologists at the National Heart Institute of the NIH (not the NIMH itself) had begun to experiment with the behavior and physiology of laboratory animals by first dosing the animals with reserpine (one of the new major tranquilizers), and then injecting them with one of the new antidepressants. They found that a protocol like this first sedated and then energized the animals, while simultaneously altering levels of newly discovered chemicals in their nervous systems (serotonin and norepinephrine). The ongoing efforts to figure out the mechanism responsible for these changes led to Julius Axelrod being awarded a Nobel Prize in 1970 for his work on the ways antidepressants act to inhibit the reuptake of certain neurotransmitters in the synapse.[22]

Even with these developments, Freudian and psychosocial ideas still dominated both research and practice. Few if any drew the conclusion, at least publicly, that psychopharmaceutical researchers' wins justified calling for a radical changing of the guard. Quite the contrary, in the years following President Johnson's declaration of a "war on poverty" in 1964, the NIMH itself doubled down on its commitment to psychosocial research, investing in projects like ongoing outreach for troubled children; understanding the effects of poverty, social isolation, and racism on mental health; and addressing social ills such as juvenile delinquency and violence.

Among their many projects in these years, however, none was more consequential than the so-called community mental health initiative. It envisioned a dramatic recentering of the nation's care of the severely mentally ill away from the century-old state hospital system and toward community-based care that would allow patients to live among ordinary people in the neighborhoods from which they came.

Discontent with the state mental hospital system went back to at least the immediate postwar years when conscientious objectors undertook a campaign to expose the hospitals' appalling conditions.[23] The most famous of the exposés was a *Life* magazine spread called "Bedlam 1946." The photographs in this spread had self-consciously aimed to remind people of other images recently seared in their imaginations: Nazi concentration camps.

Thousands spend their days – often for weeks at a stretch – locked in devices euphemistically called "restraints": thick leather handcuffs, great canvas camisoles, "muffs," "mitts," wristlets, locks and straps, and restraining sheets. Hundreds are confined in "lodges" – bare, bedless rooms reeking with filth and feces – by day lit only through half-inch holes in steel-plated windows, by night merely black tombs in which the cries of the insane echo unheard from the peeling plaster of the walls.[24]

The idea that mental health care was most successful when carried out in the community was also not new. It had its origins in so-called "first-aid" psychiatry: early-intervention care for soldiers during World War II carried out in settings that kept the men close to their platoons and friends. After the war, when psychiatry began to turn its attention to the mental health challenges found in the civilian population, many remembered these wartime experiences and wondered if there were lessons for the postwar era. Should psychiatry still privilege an approach to care that involved shipping mentally ill people away to remote hospitals, disconnecting them from familiar communities and neighborhoods? Was there possibly another way forward?

Even with all this restless desire for change, no one had been able to imagine a workable alternative to the mental hospital for the seriously or chronically mentally ill. For decades, it was simply assumed that such people either could not care for themselves outside of an institutional setting, that they would pose a risk to society if they lived in the community, or both.

What was different now? Drugs. Not because the leaders in the field believed that the drugs were key to a new biologically based approach to mental health care, but because they were persuaded that the drugs were critical managerial tools for realizing their bold policy goals. The argument was that even if the drugs did not cure any ailment, they might nevertheless be able to stabilize many patients to the point at which they could be discharged to the community. In the optimistic words of John F. Kennedy when he announced his hopes for a new community mental health care program in February 1963: "This approach relies primarily upon the new knowledge and new drugs acquired and developed in recent years which make it possible for most of the mentally ill to be successfully and quickly treated in their own communities and returned to a useful place in society.[25]

By October 1963, Kennedy had signed the relevant legislation, and the NIMH began to hand out grants for states to build community mental health centers. The centers started to get built, though not as many as had been expected, and with staffing levels that often fell far short of need. The states nevertheless began to release the patients from their hospitals in great numbers. To get a sense of the scale of the shift: In 1955, there were 350 state hospitals with a resident population of about 560,000. By 1977, there were 160,000 patients in public mental hospitals, a drop of 400,000 (71 percent) in just two decades. By 1994, there were only

about 70,000 patients being treated in mental hospitals around the country – and this during a time when the U.S. population as a whole nearly doubled (from 150 million to about 260 million). The state governors embraced these changes as an opportunity to slash budgets. The hospitals had always cost too much anyway.[26]

The drugs were supposed to stabilize all these people sufficiently to make it possible for them to be looked after in the community, but it soon became clear that the drugs achieved this imperfectly. Medicated patients were still often unwell on many levels: they lacked motivation, they still acted in ways that discomfited their neighbors, and they failed to keep appointments. Moreover, because the drugs also produced significant unpleasant side effects, many patients, once they were released from the hospital, stopped taking them. By the late 1970s, countless mentally ill people who had previously lived in hospitals were now living instead in dreary for-profit boarding houses with little health care, on the streets, or in jails. Or, if they were lucky, they were living with their aging parents, who felt betrayed by the system, were desperate for better care and resources, and were becoming increasingly angry.[27]

Trouble started to brew for the psychiatrists driving all of these programs, and the growing recognized failures of deinstitutionalization were only part of the reason. The 1970s brought a perfect storm of crises that increasingly shook the palace of their authority. Protests against the Vietnam War began to target not just the government but also psychiatry, as clinicians working in the VA hospitals found themselves accused of covering up for the government's failings by withholding the truth about what the war was doing to soldiers' mental health.[28] Feminism was on the rise, and in that context, psychoanalysts found themselves accused of covering up the scandalous truth of childhood sexual abuse.[29] Gay, lesbian, and bisexual activists began to picket outside meetings of the American Psychiatric Association, insisting that they were sick and tired of having their love interests made into a sign of disease.[30] Multiple critics associated with a movement sometimes called "antipsychiatry" began to notice that psychiatry did not seem to be very interested in conventional medical issues, and suggested the field only cared about managing social deviance.[31] As a recession hit the American economy in the mid-1970s, with all these critiques in the air, health insurance companies began to ask why they should reimburse clinicians who didn't seem to practice medicine, and didn't seem to know or care much about disease.

As the storms whipped around psychiatry, the out-of-power biological wing of the field sensed an opportunity and, perhaps, some responsibility to step up. Enough was enough. The field had gotten itself into the problems it had by being both unscientific and hubristic. It was time to pull back and get down to brass tacks – become "medical" once more. Or to put the matter more bluntly, it was

time for biologists to be in charge. As Samuel Guze, one of these biologists, mused in 1994: "One of the things we began to realize is that there were people around the country who felt that they wanted something different and were looking for someplace to take the lead."[32]

How did they make their case? Tellingly, while they gestured to the research from the 1950s and 1960s, their arguments were largely waged on a platform of common sense. *Of course* psychiatry is a branch of medicine! *Of course* mental illnesses are real diseases with real biology! *Of course* the field should respect scientific methods! *Of course* exact diagnosis is important! How could we have ever let the situation degenerate to the point where such things could be questioned?[33]

In 1978, Gerald Klerman, director of the Alcohol, Drug Abuse and Mental Health Administration (which at the time oversaw the NIMH and several related NIH institutes), appointed Herbert Pardes as director to the NIMH, and charged him to turn the institute around. The organization needed to shed its long-standing psychosocial activist mission, and align itself with the medical mission of the rest of the NIH. In pursuing this project, Pardes found an unexpected but ultimately very powerful ally: families of schizophrenic patients. Families who had lived through the traumas of deinstitutionalization and the chronic stresses of trying to navigate a community-based mental health system that generally failed to deliver adequate services. Families who, at the same time, had been told by psychoanalytic psychiatrists that they – and especially the mothers – were responsible for making their children sick in the first place.

In 1982, a young psychiatrist named E. Fuller Torrey published a book titled *Surviving Schizophrenia*. The audience for the book was not patients or doctors but families. They too needed a manual to help them "survive" the disorder, he said, especially in light of the enormous burden now being placed on them. *Surviving Schizophrenia* opened by making perfectly clear that these families were as much victims as their offspring. Schizophrenia, Torrey told them, was "now definitively known" to be a "brain disease," and they could best help both themselves and their children by working to persuade the government and the profession to acknowledge this fact and commit to biological solutions for a biological problem.[34]

They took this advice to heart. Taking the name of NAMI – the National Alliance for the Mentally Ill – these families embarked on a stunningly successful media, fundraising, and governmental pressure campaign to redirect psychiatry along biological lines. "Remedicalization is what we families want," declared one of them in 1979.[35] Pardes, who attended their first meeting that same year, marveled at their energy and effectiveness.[36] One anonymous NIMH official later called NAMI, ferocious as they were, "the barracuda that laid the golden egg."[37] It was perhaps an unlikely partnership, but it worked because both families and a profession in crisis had decided, for different reasons, that biology was a road to redemption for the profession and a fresh start for patients.

And so it went that biology won the day – partly with the help of those activists and partly because Freudian psychiatry proved unable to recover from all of the self-inflicted wounds of the 1970s. In 1980, an initially humdrum project to revise the profession's diagnostic and statistical manual turned into an opportunity to expunge virtually all psychoanalytic language and concepts from the universe of psychiatric diagnostic categories, and (in the eyes of many) to set the field up for a new era of rigorous, biological practice and research.[38] In 1997, Edward Shorter summed up the 1980s consensus (as well as his own at the time):

> The appearance of DSM-III was . . . an event of capital importance not just for American but for world psychiatry, a turning of the page on psychodynamics, a redirection of the discipline towards a scientific course, a reembrace of the positivistic principles of the 19th-century, a denial of the antipsychiatric doctrine of the myth of mental illness. . . . Freud's ideas, which dominated the history of psychiatry for the past half century, are now vanishing like the last snows of winter.[39]

The biological psychiatrists had declared victory, but had done so in the absence of any new radical breakthroughs in biological understanding or treatment. Their next task was to deliver on the promises that most people thought they had already kept. Reality needed to catch up with rhetoric. Initially, some felt that the 1990s would be the decade when it would all come together. Biological research would finally get the money it had been starved of for so many decades, and new insights and evidence-based treatments would follow in short order.[40]

Early on, the field was particularly bullish about the potential of new brain imaging technologies (both PET and fMRI) to be a game-changer. The hope was that, in due course, technologies like these would allow psychiatrists to look at the brains of their patients in the same way that a cardiologist looks at the heart of patients using an angiogram – in order to "see" what is wrong. Intensive investment in these technologies failed, however, to move knowledge of mental illness forward in the definitive ways that so many psychiatrists had hoped. There were plenty of findings, but they varied across studies and proved hard to replicate and interpret.[41] Above all, the new neuroimaging work failed to have any appreciable impact on how the overwhelming majority of patients were diagnosed and treated. As Thomas Insel, director of NIMH, soberly concluded in 2010: "During the so-called Decade of the Brain, there was neither a marked increase in the rate of recovery from mental illness, nor a detectable decrease in suicide or homelessness – each of which is associated with a failure to recover from mental illness."[42]

What about genetic research? In the late 1980s, it briefly looked like there had been a decisive breakthrough, when the claim was made that a certain segment of DNA on a particular chromosome was found in some 80 percent of people suffer-

ing from manic depression – at least, in a particular community of Amish people, where the work had been carried out.[43] But that turned out to be a false lead, and the original hope that there would be a "bipolar gene" was deemed naive, and gave way to a hunt for multiple genes.[44] This was followed by a recognition that genetic risk factors might be shared across disorders. And it all led to a growing reluctant understanding that research into the genetics of mental disorders was going to be very complicated, and it could be not years but decades before any of the work yielded practical results for patients. In 2001, David Dunner, a leading researcher on mood disorders, reflected wistfully on this period of recalibration:

> I am disappointed that we have never identified the "bipolar gene." . . . I realize now how complicated it is and how naïve we were. Very good people are now looking for the genes, not a single gene. I am not going to be the one to find them, but it would be nice to know that there really are genes when patients ask, "Is this a genetic disorder?" and I can only say, "Well, we think so."[45]

There were also no fundamental breakthroughs in drug development. New variants on older drugs – like the SSRI (selective serotonin reuptake inhibitor) antidepressants and the new antipsychotics like clozapine – were an improvement in the sense that they caused fewer acute side effects than their predecessors – no small thing. Their side-effects profile also meant they tended to be far more widely prescribed than their counterparts had been. But they generally did not work better than the older drugs, they did not work for everyone, and over time their own long-term health consequences began to become clearer.[46]

Nevertheless, and rather paradoxically, this was still the era when drugs began to dominate virtually all conversations about how to handle mental suffering, certainly among psychiatrists (as opposed to psychologists and social workers). This new consensus, however, did not happen simply because everyone now "believed" in the medical model, or because prescribing privileges were one of the few things that still allowed psychiatrists to assert their identity as physicians, or because in the 1990s, psychoanalysis continued to suffer an onslaught of steady blows to its reputation. All these factors were true and relevant, but by the late 1980s, they were dramatically amplified by a critical mass of clinicians and researchers who had aligned their professional interests with the commercial interests of the pharmaceutical industry. Feeling like the poor relations of the medical world – and financially pinched by the incursion of psychology and social work onto their turf – the siren call of consulting work was difficult to resist. In 2008, disclosure reports filed by 273 speakers at the annual meeting of the American Psychiatric Association revealed that, among them, the speakers had signed 888 consulting contracts and 483 contracts to serve on so-called speakers' bureaus for drug companies.[47]

None of these developments, though, changed the bottom line: there had been no significant scientific advances to guide drug development since the 1960s. In

spite of what the public believed, when drugs dominated conversations about mental health from the 1990s through 2010, that period was in fact, as one article from *Nature Review* admitted, "a barren time for the discovery of novel drugs for psychiatric disorders."[48] As their patents ran out, as they struggled with a growing and puzzling placebo-effect problem, and as nothing genuinely new seemed to be coming through the pipeline, the drug companies began to abandon the field. They just couldn't figure out any new ways to make big money anymore.[49]

And then came one final blow. Psychiatry's diagnostic manual, the so-called DSM, once hailed as a foundational text for a new, medically minded psychiatry, came under public attack – not just by disgruntled outsiders (that had been happening since the 1990s), but by informed insiders. More specifically, in 2013, Insel, director of the NIMH, declared that the DSM had not only failed to deliver on its promise to drive biological research but had actually impeded such research, adding: "Biology never read that book." He announced that the NIMH would no longer be using it as a basis for any of its research initiatives. It was an amazing slapdown. This, after all, was the book that was supposed to act as the foundation for psychiatry's biological mission.[50]

The DSM upset happened in 2013. Two years later, in 2015, Insel made another move that suggested the malaise within the field had now reached endemic levels. He declared that he was resigning from the directorship of the NIMH and abandoning biological research, because, despite billions of dollars in investment, it just hadn't been able to deliver on its promises. A year or two later, he told a journalist what had driven his thinking at the time.

> I spent 13 years at NIMH. . . . I succeeded at getting lots of really cool papers published by cool scientists at fairly large costs – I think $20 billion – I don't think we moved the needle in reducing suicide, reducing hospitalizations, improving recovery for the tens of millions of people who have mental illness. . . . I hold myself accountable for that.[51]

The conclusion seems clear. The "revolutionary" biological psychiatry that was born in the 1980s had, by 2017 or so, largely run into the sands. It just had not been able to advance at a pace needed to maintain its relevance in response to the urgent mental health needs of the times.

A year or two after that moment of confession, though, there were some signs that the story around drugs might be shifting for the first time in years. In 2019, the FDA approved Janssen Pharmaceuticals' request to market what some hailed as the first truly new kind of antidepressant in decades: esketamine, a reworked version of an old veterinary anesthetic drug, but better known to most as a trance-inducing party drug called Special K. Later that same year, in November, the FDA designated the psychedelic psilocybin (magic mushrooms) a breakthrough therapy for severe depression. The "breakthrough ther-

apy" category is used for drugs deemed to have so much promise that the FDA wants to expedite the process of bringing them to the market.[52] In July 2022, the U.S. Department of Health and Human Services under the Biden administration indicated that the FDA was also now on track to approve, within two years, not just psilocybin but also MDMA (ecstasy) as treatments for depression and post-traumatic stress disorder, respectively.

Both psilocybin and MDMA are currently classified as Schedule 1 drugs under the Controlled Substances Act, meaning they had previously been deemed to have both no recognized medical use and a high potential for abuse. The new drive to reframe them as promising psychotherapeutic tools is of course partly a response to the flight of the pharmaceutical industry from the mental health sector, and the sense that something has to be done.[53] But we also need to understand these developments as part of a larger political story: the growing backlash against the legacies of the 1970s and 1980s War on Drugs, a phenomenon that became shamefully racialized, especially in the United States. In that context, some have already begun to call attention to the ongoing if more quiet racial politics operating behind the partial rehabilitation of the psychedelics. Efforts to decriminalize psychedelics, in the absence of a more wholesale review of the relationship between currently illegal drug use and our carceral system, they say, represents a kind of "psychedelic exceptionalism" that implicitly privileges the experiences of the wealthy and the white.[54]

Both hope and hype seem to have returned, at least in this one modest sector of the field. For the first time in decades, we see newspapers announcing a new "revolution" in mental health care.[55] We see investors getting excited: the market for psychedelic substances has been projected to grow from $2 billion in 2020 to $10.75 billion by 2027.[56] We learn from a new generation of company websites that we are no longer dealing with the psychopharmaceutical industry of our parents' or grandparents' generation. This new version of pharma is no longer big but intimate. It is no longer run by middle-aged white men but by a new generation of diverse visionaries. It "thinks differently" than the industry that failed patients for so long, and is "redefining" the field so that "unmet needs" can finally be addressed.[57]

The story here is unfinished, but there is good reason to think that future scholars will go far if they focus on following the money. It is notable, for example, that Compass Pathways has recently (in 2021) come under scrutiny for its allegedly "scorched earth" approach to the filing of international patents for multiple aspects of its treatment protocols and target disorders.[58] Meanwhile, while the therapeutic benefits of these developments for patients remain unclear, the turn to psychedelics does not represent an obvious professional win for biological psychiatry, at least the kind of biological psychiatry that has dominated in the field for the past forty or more years. On the contrary, the psychedelic therapies together challenge a basic assumption of conventional biological psychiatry: namely, that the way to address symptoms of depression or anxiety is to take a pill and wait for one's symp-

toms to improve. The model here is different: to ingest a substance in order to create a mind-altering experience – supported by one or more trained psychotherapists – that is supposed to result in new and enduring insights and emotional recalibrations. At a 2017 conference held on the promise of psychedelics, Insel noted that he was struck by the way that people involved in this new work emphasized that it was "psychedelic-assisted *psychotherapy.*" In all his years as a psychiatrist and as director of the NIMH, he commented wryly, he had never heard anyone ever talk about "antidepressant-assisted psychotherapy."[59]

Back in the 1980s, biological psychiatry was largely successful in stepping in and setting the agenda and funding priorities for the field of mental health care as a whole. It could do so because the field was at risk of losing its medical identity, as well as its credibility, and there was little perceived room for compromise. But it is not the 1980s. The field no longer needs to protect itself from imagined powerful rivals. There is an opportunity now to do a reset, in which the field locates itself not at the top of the hierarchy but in a larger and more collaborative ecosystem of mental health research and care. Embedded in such an ecosystem, biological psychiatry will come to discern when its approaches will dominate that system and when they will play a smaller role.

Here is just one recent example of when its approaches should not dominate. In May 2021, responding to the nationwide reckonings with racial inequity triggered by the murder of George Floyd, the American Psychiatric Association declared that the theme of their annual meeting would be "Finding Equity through Advances in Mind and Brain in Unsettled Times." It was a remarkably unstable title, one that seemed to still be trying to hold onto a conventional medical research mission ("advances in mind and brain"), even as it acknowledged the "unsettled times" in which the field now had to pursue that mission.[60] There is little reason to suppose that a conventional research strategy focused on "advances in mind and brain" will help the field "find equity." Brain scientists and geneticists can be as committed to a social and political mission of reform as much as anyone else, but they do not possess the tools or expertise to lead the way. Something different is needed, and, if this point gets made more and more plainly, we are likely to see the emergence of new kinds of leaders who will insist on funding priorities, research questions, and forms of training for clinicians that will have little to do with advancing conventional biological research. And that is okay. Knowing when to step up and when to step back is arguably one of the most powerful acts of leadership that any discipline or field can offer. This is the kind of future I wish for the field of American psychiatry.

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The Biology of Mental Disorders: Progress at Last

Steven E. Hyman

Mental disorders are common, complex, highly morbid conditions for which basic underlying mechanisms are poorly understood. Despite the utility of many existing treatments, there remains vast unmet need for more effective and safer therapeutics. Most current medicines for mental disorders are based on chemical modifications of serendipitously discovered mid-twentieth-century prototypes, and widely used diagnostic manuals remain phenomenological and conceptually confused. After decades of stasis, research on mental disorders has reached an inflection point. Unbiased large-scale genetics provides information that, if interpreted circumspectly and integrated with neurobiology, provides "finding tools" for causal biological mechanisms that can advance discovery of biomarkers, preventive interventions, and better treatments. However, uncritically applied predictive genomic technologies can produce fatalism and exacerbate stigma. Moreover, polygenic risk scores for cognitive ability and risk of mental illness are already being offered commercially for embryo selection with in vitro fertilization, a worrisome resurgence of eugenics hiding in liberal (noncoercive) guise.

Mental disorders are highly prevalent, seriously distressing conditions that disrupt cognition, emotion, behavioral control, and physiologic functions such as sleep, appetite, and energy. Mental disorders are significant causes of disability worldwide, leading risk factors for suicide, and major contributors to other causes of premature death.[1] Mental disorders predominantly begin before age twenty. Thus, their damaging effects on cognition and behavior often interfere with education, social development, and adaptive transitions to adult independence.[2] The morbidity and suffering associated with mental disorders are often worsened by stigma and marginalization of sufferers, lack of services, exclusion from opportunities, and, for those with the most severe forms of mental illness, a high risk of homelessness and incarceration. Compelling social science research documenting costs and harms of mental illness has not convinced policymakers to implement cost-effective preventive and therapeutic interventions for mental disorders, as has been accomplished for some general medical disorders.[3]

A variety of psychotherapies, pharmacotherapies, and neuromodulatory interventions are effective for some people with mental disorders. However, even when marshaled appropriately, the efficacy of existing treatments often falls short of need and side effects may prove limiting. Further, the range of symptoms responsive to current therapeutics is too narrow, leaving many people without effective interventions.[4] The benefits and limitations of current drug treatments can usefully be considered through the lens of antipsychotic drugs and their use in treating schizophrenia. The prototype antipsychotic drug, chlorpromazine, was synthesized in 1951 in France for its antihistaminergic properties: it binds promiscuously to multiple neurotransmitter receptors, including H1 histamine receptors and dopamine D2 receptors. Chlorpromazine was first used clinically as a preanesthetic by surgeon Henri Laborit. He was impressed with its physiological and sedating properties and persuaded psychiatric colleagues at La Salpétrière Hospital to test the drug on their patients. The responses they observed – reduction of psychotic symptoms such as hallucinations and delusions – produced a seismic shift in the treatment of psychotic disorders. Within a few decades, these drugs facilitated the deinstitutionalization of people with severe mental illness. Unfortunately, underinvestment and significant policy failures undercut the promised benefits of deinstitutionalization.

The commercial success of chlorpromazine led pharmaceutical companies to develop many similar antipsychotic drugs, most often by screening for chlorpromazine-like effects on the motor behaviors of laboratory rats. These procedures identified new antipsychotic drugs by replicating in rats the Parkinson's-like side effects they also produced in humans.[5] During the 1950s, dopamine was not yet recognized as a neurotransmitter, and it was not until 1963 that neuropharmacologist Arvid Carlsson demonstrated that the effects of chlorpromazine resulted from the blockade of dopamine receptors.[6]

There are now scores of antipsychotic drugs that block D2 dopamine receptors, differing largely in their side effects. Clozapine, an antipsychotic drug discovered in 1959, turned out to be more effective than other antipsychotic drugs for reasons that have stubbornly withstood attempts at elucidation. Despite evidence of its efficacy, clozapine was initially abandoned because in a small percentage of patients it caused a potentially fatal decrement in counts of white blood cells that fight infection. Confirmation of its unusual benefits for many otherwise treatment-unresponsive patients was demonstrated in clinical trials in the 1980s, which facilitated restoration of clozapine to clinical use, combined with required weekly blood counts. Attempts to replicate the efficacy of clozapine without its side effects gave rise to "second generation" antipsychotic drugs, now in wide use, though none has approached the efficacy of clozapine.[7] Several antipsychotic drug candidates that block muscarinic receptors rather than D2 dopamine receptors are currently being considered for regulatory approval.

Antipsychotic drugs are not specific, mechanism-based treatments for schizophrenia ; rather, they effectively reduce psychotic symptoms associated with many conditions, including bipolar disorder, depression with psychotic features, Alzheimer's and Parkinson's diseases, and drug-induced psychoses. The blockade of D2 dopamine receptors by antipsychotic drugs represents their initial molecular interaction in the brain. Their full therapeutic mechanism – that is, the steps beyond D2 receptor binding by which they diminish psychotic symptoms – remains unknown. Without deeper understandings of the mechanisms underlying disorders and their symptoms, the pharmaceutical industry must rely on "black box" screens informed by the properties of existing drugs, a process not likely to identify novel treatments. This unfortunate situation contrasts with scientifically more mature fields, such as oncology, in which excisional biopsies have given investigators direct access to diseased tissue. Large collaborative projects have sequenced the genomes of many cancer cells (which are replete with acquired mutations) obtained from biopsies, yielding knowledge of "driver" mutations that play causal roles in many types of cancers.[8] This knowledge has made it increasingly possible to replace broadly cytotoxic chemotherapies with monoclonal antibodies targeted at protein products of the mutated genes. In contrast to studies of cancer and other organ pathologies, psychiatry lacks access to living brain tissue for both ethical and medical reasons.

For people with schizophrenia, antipsychotic drugs typically produce good responses when administered during a person's first few psychotic episodes, but over time, the benefits typically wane, leaving many individuals with chronic schizophrenia suffering residual psychotic symptoms and significant relapses despite treatment. Notwithstanding such limitations, there is good evidence that appropriately administered antipsychotic drugs improve outcomes.[9]

But the side effects of antipsychotic drugs are often severe. Motor side effects caused by blockade of dopamine D2 receptors are distressing and impairing ; tardive dyskinesia, a form of abnormal involuntary movements associated with longterm dopamine D2 receptor blockade, is persistent and may be irreversible. Other side effects, especially associated with second generation antipsychotic drugs, include significant weight gain and metabolic derangements including hyperglycemia and hyperlipidemia. Overall, the poor tolerability of antipsychotic drugs leads many people to stop taking them, often at the cost of relapse.[10]

Most important, antipsychotic drugs offer no benefit for the progressive cognitive impairments and negative (deficit) symptoms that represent the foremost causes of disability in schizophrenia. Cognitive and negative symptoms typically begin during teen years, generally antedate the onset of psychotic symptoms by months or years, progressively worsen over time, and are strongly associated with poor outcomes.[11] A highly compelling need exists for treatments that would prevent or at least significantly ameliorate the cognitive and negative symptoms

of schizophrenia, but to date, all attempts at discovery have failed. While such a hoped-for intervention would likely involve a medication or neuromodulatory therapy administered to the "right" patients identified by biomarkers, full efficacy might be expected to require a companion psychotherapy aimed at producing adaptive neural plasticity to support cognitive remediation.[12] A similarly pressing need exists for better treatments for bipolar disorder, depressive and anxiety disorders, obsessive-compulsive disorder, anorexia nervosa, and other mental disorders.

The pharmaceutical industry long profited by making incremental modifications to compounds descended from the serendipitously discovered prototype antipsychotic and antidepressant drugs. The resulting medications are often safer and more tolerable than earlier compounds or, in the case of antipsychotic drugs, offer different side effect profiles. However, the newer drugs do not deliver material improvements in efficacy.[13] Certainly, no second-generation antipsychotic drug matches the efficacy of clozapine. This incremental pattern is illustrated by the selective serotonin reuptake inhibitors (SSRIs), of which the first approved was fluoxetine (1987 in the United States). The SSRIs and related serotonin-norepinephrine reuptake inhibitors (SNRIs) rapidly displaced the older, more toxic, and less tolerable tricyclic antidepressants and monoamine oxidase inhibitors in high-income countries. However, the newer drugs offered no advance in efficacy or speed of onset.[14] Recently, an older anesthetic drug, ketamine, an NMDA (N-methyl-D-aspartate) glutamate receptor blocker, has been repurposed as a rapidly acting antidepressant and gained FDA approval. Over time, governments and insurers have begun to resist paying for new, expensive, and heavily marketed drugs that have no demonstrable advantages in effectiveness over less costly generic drugs. Unfortunately, a clear scientific path to discovery of more effective antidepressants has not been charted. Further, for lack of biomarkers and mechanistic insight, psychiatric drug candidates have the highest failure rates of any drugs in the large, expensive late-stage clinical trials that are required for regulatory approval. Thus, despite recognition of the high prevalence and vast unmet need for better treatments, the industry has, for the last two decades, deprioritized discovery efforts in psychiatry, investing instead in cancer, autoimmunity, and metabolism research, where more mature science affords greater opportunity for success.[15]

Given the pressing need for better therapies, we must ask why progress has been so slow. The most significant impediments are the staggering complexity of human brains, their profound heterogeneity, and their general inviolability with respect to obtaining tissue in life. Because of significant inter-individual differences at every level of brain organization – ranging from patterns of

gene expression in neurons and glial cells to synaptic networks to patterns of computation underlying cognition and behavior – identification of illness-associated pathology is often masked by normal background variation. The heterogeneity of human brains reflects the variability of human genomes, which contain tens of millions of differences in their nucleotide sequences, the diversity of environmental exposures, and the many stochastic events that affect brain development, maturation, and adaptation.[16] The resulting heterogeneity of brain structure and function underlies much of the rich temperamental, cognitive, and behavioral diversity of human beings – and differential susceptibilities to mental disorders. Because psychiatric diagnoses are based on phenomenology, such brain differences portend clinically significant differences among individuals who appear to be suffering from the same disorders. The lack of well-supported biomarkers means that patient-oriented studies, ranging from neuroimaging to clinical trials, unwittingly contain participants who are similar in surface characteristics but not in underlying causal mechanisms. As a result, even when large sample sizes are employed, many clinical studies yield modest effects that fail to translate to the clinic. Many studies simply fail to replicate.

While the complexity and heterogeneity of genomes, exposomes, and brains create high hurdles for research on mental disorders, human efforts at diagnostic classification have made a difficult situation worse. Diagnostic classification matters for research because disorder definitions determine who is included in study cohorts for genetics, imaging, and clinical research. Diagnoses matter for classification of biological samples, including brains used in postmortem studies, and even for assessment of putative animal models.[17]

The current, widely used diagnostic classification developed by the American Psychiatric Association, the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision* (DSM-5-TR), reflects historical decisions made in the paradigm-setting third edition, DSM-III.[18] DSM-III, published in 1980, prioritized inter-rater agreement (reliability) in diagnosis despite the contemporaneously understood impossibility of scientifically validating those diagnoses at the time.[19] Scientifically premature promulgation of a shared diagnostic language has had the perverse effect of guiding clinicians and researchers to rely on a classification grounded in the science of the 1960s and 1970s : that is, prior to the advent of molecular biology, modern human genetics, the coalescence of neurobiology as a field, or such technologies as magnetic resonance imaging (MRI).

Given a lack of objective diagnostic tests – unfortunately still the case – a reasonable, if necessary, choice was made by the "descriptive psychiatrists" of the 1960s to ground diagnosis in patient-reported symptoms, course of illness, and clinical observation. The diagnostic limitations inherent in phenomenology were unfortunately worsened by contingent decisions made in developing DSM-III. With scant evidence and breathtaking arrogance, the DSM-III task force divided

psychopathology into 265 narrowly defined categorical diagnoses – a number that increased in later editions – with each diagnosis conceptualized as being qualitatively discontinuous from health and from each other. The DSM-III developers rejected or ignored substantial contemporaneous evidence that mental disorders might be better understood as quantitative deviations from health in analogy with almost all other chronic noncommunicable diseases like hypertension, type 2 diabetes mellitus, or osteoarthritis. Instead, DSM-III is based on discontinuous categories, as if mental disorders were more like acute infectious diseases such as influenza.[20] As a result, in Procrustean fashion, the DSM imposes arbitrary boundaries between illness and health, and between its myriad different disorders. Oddly, the resulting categories are too narrow and too broad at the same time. They are too broad because they group heterogeneous patients together. They are too narrow because, in carving psychopathology into nearly three hundred slices, the DSM imposes unnatural categorical boundaries on broad symptom spectra. This problem is evidenced by the high frequency with which patients receive multiple successive or contemporaneous diagnoses (comorbidity) for the shifting manifestations of what is almost certainly a single underlying pathological process.[21] Symptoms change over the life course, reflecting brain development, aging, and the accrual of new exposures including life experience.[22] The pervasiveness of comorbidity, together with the recent discovery that many DNA sequence variants are shared among putatively distinct DSM disorders, provides evidence that the current nosology is substantially in error and that alternatives are needed.[23] It would be a fool's errand to attempt to discover or validate biological markers using today's fictive DSM categories as a gold standard.

Given limitations on invasive anatomic or physiological studies of human brains, noninvasive tools such as structural and functional magnetic resonance imagining, positron emission tomography, electrophysiology, and magnetoencephalography have been widely used to study mental disorders. The complexity and heterogeneity of brain structure and function, especially when parsed into the unnatural groupings introduced by DSM diagnoses, have defeated attempts to identify robust case-control differences that replicate across patient cohorts and laboratories. Except for excessive cerebral cortical thinning in schizophrenia spectrum disorders (with convergent confirmation from postmortem studies), few if any differences identified by imaging have replicated with adequate effect size to be clinically meaningful. Thus, except when ruling out a neurological disorder, noninvasive neuroimaging has no current role in psychiatric practice, whether for diagnosis or to follow treatment effects. These failures rest to some degree on limitations in the resolution of current technologies. To a greater degree, they reflect the difficulty of determining which differences observed in imaging studies are replicable characteristics of a meaningful patient group dis-

tinct from normal background variation. Task-dependent studies are complicated further by the normal diversity of cognitive and behavioral "strategies" implemented by different human brains.[24] Large international consortia have formed to share and meta-analyze imaging data on the premise that greater statistical power, especially with help from machine learning, might overcome multiple sources of heterogeneity.[25] Unfortunately, structural and functional brain heterogeneity are so pervasive and diagnoses so poor that even large consortial efforts might still fall short until armed with robust diagnostic biomarkers complementary to the imaging methods used.

Problems with heterogeneity are not limited to psychiatry. Across all areas of medicine, unacceptable variability in treatment response has given rise to an aspirational goal often denoted as "precision medicine." The goal is to match patients with the treatments that are most likely to help them based on predictive use of genetics and biomarkers. Early intimations of success have come from oncology. Traditional cancer diagnoses based on tissue of origin (such as lung cancer) are giving way to diagnoses based on "driver" somatic mutations and cell types. Large-scale longitudinal cohort studies are underway with the goal of producing knowledge for "precision" approaches across broad domains of medicine. For example, the UK Biobank links the electronic medical records of its half-million participants with their whole genome sequences, biochemical measures, cognitive tests, biological fluid and tissue samples stored in biorepositories, and, for a large subset of participants, imaging studies of their brains, hearts, and abdomens.[26] Data can be shared among scientists worldwide in a manner designed to protect individual privacy. Psychiatry shares the aspiration for more effective treatments targeted to appropriate individuals, but notwithstanding occasional overclaiming, meaningful "precision psychiatry" remains a distant goal.

Many basic discoveries about brain and behavior have suggestive relevance to the biology of mental disorders. However, twentieth-century biological psychiatry lacked the tools and technologies necessary to gain significant empirical traction on mental disorders. Thus, neurobiological hypotheses concerning psychiatric disorders were often based on plausibility and speculative inferential leaps rather than ground truth. In this context, intellectually weak constructs such as "face validity" – the extent to which a model plausibly *appears* to reflect characteristics of the disease – were used to justify many putative animal models, but these typically produced phenocopies that, despite appearances, did not capture the human mechanism of illness. Excessive reliance on face validity led psychiatric treatment development into an intellectual cul-de-sac.

Inspired by the discoveries of antipsychotic and antidepressant drugs, biological psychiatry embraced models of brain function and mental disorders based on the reverse engineering of drug actions.[27] Thus, many studies nominated mono-

amine or amino acid neurotransmitters, their receptors, or their postreceptor signaling pathways for central roles in pathogenesis of psychiatric disorders. The highly reductive models that resulted foundered on the unrecognized complexity and heterogeneity of human brains, and progress in discovering new treatment mechanisms or improving treatment efficacy stalled. To generate meaningful, testable hypotheses and disease models, what was needed was a transparent and principled method of associating neurobiological findings with mental illness phenotypes. This need was ultimately met by unbiased, large-scale genetics. Increasingly, results from psychiatric genetics can be interpreted in light of relevant multiomic datasets from the neural cells and postmortem brains of people who were affected or unaffected by particular psychiatric disorders. These include epigenomics (which captures the state of chromatin across the genome), transcriptomics (the full catalog of RNAs expressed in any cell type or brain region), and connectomics, among others. Such unbiased large-scale datasets provide insight into neurobiology at the genomic scale needed to interpret genetic associations.

In 1965, psychiatrist Joseph Schildkraut proposed a catecholamine hypothesis of mood disorders based on the pharmacology of noradrenergic antidepressants.[28] Schildkraut appropriately noted the absence of key data: evidence for altered catecholamine levels in drug-free individuals as they moved from healthy to depressive states and changes in levels associated with successful treatment. Multiple studies subsequently measured levels of catecholamines and their metabolites in blood, cerebrospinal fluid, and urine, but never found strong, reproducible evidence of changes that correlated with mood states. Following the introduction of SSRIs, a focus on serotonin, another monoamine, crowded out work on norepinephrine, but the evidence for serotonergic mechanisms of mood disorders was no better. Despite later recognition that the efficacy of monoaminergic antidepressants is rather modest, monoamine theories of mood disorders have retained currency in biological psychiatry.[29] Undeterred by the lack of evidence, pharmaceutical companies popularized the impoverished idea of depression as a chemical imbalance among neurotransmitters to be rectified by their products.

A similarly naive belief held that the molecular basis of mental disorders would rest on a handful of familiar genes – many inferred from pharmacology – although these represented only a small fraction of the human genome. This belief led many researchers in the 1990s to apply "candidate gene" approaches to psychiatric disorders. In this statistically infirm methodology, a single polymorphism within a candidate gene would be tested for association with a chosen phenotype. In the face of failure, related phenotypes were often exchanged for each other in a search for nominal statistical significance, typically without recognizing the need to correct for multiple testing procedures. This approach was thought by its proponents to be an efficient way to shortcut the large, unbiased genetic studies that ultimately proved necessary. Even though the candidate-gene and the close-

ly related candidate-gene-by-candidate-environment approaches have been thoroughly discredited, many of their false claims of discovery persist in psychiatry and psychology textbooks.[30]

By the late 1990s, clear-eyed observers recognized that for psychiatry, hypothesis-driven attempts to discover causal associations between mental disorders and biologically selected candidate genes had failed because we simply did not know enough. Psychiatry shared with all medical disciplines a need for a robust methodology to identify causal connections between disease phenotypes and biological mechanisms that did not rely on existing biological knowledge. As noted above, the answer lay in unbiased, large-scale genetics.

Genetics has a unique place in biology because it yields causal information. DNA sequences are fixed at fertilization, prior to any developmental processes or exposures. As a result, a statistically rigorous association of a trait with a specific DNA variant (an allele) can be inferred to be causal rather than caused. All other biological associations with a disease or other trait might represent causes, effects, adaptations, or, for diseases, treatment effects. However, it is important to interpret genetics results circumspectly. For example, an early study of lung cancer genetics found what appeared to be an association with the gene encoding the alpha5 subunit of nicotinic acetylcholine receptors. In this case, it was clear that confounding had occurred because of the high prevalence of nicotine dependent smokers in the lung cancer cohort. The alpha5 subunit gene did play a causal role, but for the risk of smoking, not molecular mechanisms of carcinogenesis.[31] Sources of confounding in human genetics are often far less obvious.

The genetic basis of almost all cognitive and behavioral traits, including the vast preponderance of risk for psychiatric disorders, reflects the additive effects of many alleles of small effect. Among affected individuals, the genetic component of risk results from the chance inheritance of a small subset from among the thousands of common risk-associated variants segregating in populations. For a tiny fraction of people with schizophrenia, bipolar disorder, and perhaps other psychiatric disorders (likely <1 percent), ultrarare variants of large effect, albeit not fully penetrant, significantly increase risk. To discover the genes that contribute to risk of psychiatric disorders, it was necessary to detect many small signals against the noisy background of human genomic variability. This only became possible with the arrival of technologies and computational tools developed in association with the Human Genome Project (1990–2003). These technologies permitted the efficient and financially affordable study of the very large samples (thousands to tens of thousands of affected and unaffected individuals) needed for the unfavorable signal-to-noise relationship of psychiatric genetics. The detection of ultrarare variants had to wait longer for improvement in the efficiency and cost of DNA sequencing. Since the second decade of the twenty-first century, human genetics researchers have discovered many thousands of DNA sequence variants associated

with diverse traits, including risk of psychiatric disorders using case-control association studies. These include genome-wide association studies (GWAS) calibrated to detect common variants of small effect, as well as whole-exome (sequencing of all protein-coding genes) and whole-genome sequencing studies needed to identify ultrarare variants. Genome-wide association studies have proven extremely successful for many diseases and traits across all medical and population genetics, including psychiatric genetics.[32] I will focus the discussion that follows on schizophrenia as an exemplary disorder seen through the lens of modern genetics and select areas of neurobiology.

In 2009, the International Schizophrenia Consortium (ISC), a forerunner of the Psychiatric Genomics Consortium (PGC), performed a genome-wide association study on what was thought to be a large genetic sample: 3,322 individuals affected by schizophrenia and 3,587 controls.[33] The sample turned out to be far too small to identify genome-wide significant associations, although it did implicate a locus on chromosome 6 in schizophrenia, a finding later confirmed by larger studies.[34] This locus was subsequently found to harbor a gene encoding complement factor 4A (C4A), with significant implications for the direction of schizophrenia research.[35] The ISC study reported that genetic risk for schizophrenia and bipolar disorder overlapped, which proved to be a harbinger of widespread sharing of risk alleles across psychiatric disorders.[36] The study also formally demonstrated that genetic risk for both schizophrenia and bipolar disorder is highly polygenic (resulting from the additive effects of many genetic variants), and introduced polygenic risk scores to human genetics.[37]

The most recent schizophrenia GWAS conducted by the PGC analyzed DNA samples from 76,755 individuals affected by schizophrenia and 243,649 unaffected control subjects. With more advanced technology, better computational resources, and the ability – based on collaboration – to study and meta-analyze data from multiple cohorts, this study found more than 250 independent genome-wide significant loci associated with schizophrenia, and presumptively implicated 120 genes in schizophrenia pathogenesis.[38] A significant fraction of the implicated genes indicates an important role in schizophrenia for the structure, development, and plasticity of synapses, albeit with many remaining unknowns that will require additional discoveries and advances in computational modeling across multiple scales in the brain.[39] Genome-wide association studies for bipolar disorder, major depressive disorder, autism spectrum disorders, and many other mental disorders are also yielding new biological insights.[40]

As noted, a small minority of people affected by schizophrenia and bipolar disorder have genetic loading not only for common variants of small effect but also for ultrarare variants within protein-coding regions of the genome. All the ultrarare variants associated with schizophrenia and bipolar disorder discovered

to date exert their large effects on disease risk by disrupting the synthesis of a vital protein. Whole exome sequencing of 24,248 individuals with schizophrenia and 97,322 unaffected individuals identified ten such ultrarare protein disrupting variants.[41] The ultrarare variants associated with schizophrenia cause loss of function (LoF) of one of the two copies of the affected gene that each person carries. An additional ultrarare LoF variant, AKAP11, was discovered in a large study of bipolar disorder.[42] Consistent with genetic sharing across disorder phenotypes, AKAP11 was found to be associated with schizophrenia in other individuals.

Many of the ultrarare variants discovered so far converge with small-effect common variants on the same biological processes.[43] The importance of such convergence for biological experiments can be illustrated by the schizophrenia-associated gene GRIN2A, which encodes a subunit NMDA glutamate receptor. Ultrarare LoF variants affecting GRIN2A increase the risk of schizophrenia by approximately twenty-fold, whereas a common variant affecting GRIN2A increases the risk of schizophrenia by only 1.07-fold. The ultrarare variant leads to a marked reduction in the amount of receptor subunit protein in the nervous system. The common variant is found within the noncoding genome, like approximately 90 percent of GWAS associations across all of biology. The best-known function of the noncoding genome is to regulate the expression of RNAs and proteins. Thus, the common variant presumably regulates expression of the GRIN2A gene and has a far more modest effect on NMDA receptors in the brain than the ultrarare LoF variant.

From an experimental point of view, ultrarare variants have the benefit of providing better tools or studying disease mechanisms than common variants that exert small effects on gene regulation. Effects of LoF variants can be modeled by knocking out one of the two copies of the gene in a mouse or other model organism or in genetically diverse human induced pluripotent stem cell (iPSC) lines. Alternatively, iPSC lines can be obtained from individuals with schizophrenia or unaffected individuals who carry ultrarare variants of interest. IPSCs can readily be reprogrammed into many different types of neurons, glial cells, or other cells. They can be grown alone or be mixed with other cells to study cell-cell interactions including synapse formation. Alternatively, they can be coaxed to develop over months into self-organizing brain organoids that contain hundreds of different neural cell types.[44] Human cellular models are scientifically critical because they permit genetic variants of interest to be studied against diverse human genetic backgrounds derived from individuals with and without the illness under study. This is important because single-variants – even high-impact LoF mutations – do not, by themselves, cause schizophrenia or bipolar disorder.

With appropriate informed consent procedures and privacy protections, pluripotent stem cell lines can be linked to a person's medical and other records and thus studied in the context of their disease status and treatment responses. Mod-

ern cohort studies like the UK Biobank permit participants to be recontacted, thus facilitating new rounds of phenotyping as new hypotheses are formulated.[45] Studies using iPSC cell lines from individuals in such cohorts can identify genetic variants that modify the effects of strong-effect alleles like the GRIN2A LoF variant, including alleles that are protective.

What have we learned about schizophrenia and other mental disorders in the fifteen years since the advent of modern psychiatric genetics and new, relevant technologies?[46] How might such discoveries lead to better diagnostics and better treatments? One illustrative place to begin is the discovery that the gene encoding complement factor C4A is associated with schizophrenia.[47] An important caveat is that schizophrenia, like all psychiatric disorders, is highly polygenic. This means that many alleles contribute to risk, along with nongenetic risk factors, and that no one gene is either necessary or sufficient for illness. That means no one gene can be diagnostic on its own. Thus, individuals may suffer from schizophrenia despite carrying low-risk alleles of C4A, while some others are unaffected despite carrying high-risk alleles. Such unaffected individuals may lack much additional loading for genetic risk or may have protective alleles or benefit from protective nongenetic factors. In the search for biological insight, genetics serves as an unbiased "finding tool" for causal associations of a disease (or other trait) with biology, such as certain molecules, molecular pathways, cell types, or mechanisms. When used as a tool to associate a trait with biology, the effect size of the allele on the ultimate phenotype does not matter. (As noted, however, effect size is important for the design of experiments, such as the construction of cellular or genetically engineered animal models.) Similarly, what makes a gene product a good drug target is not the effect size of the associated allele, but its overall role in biology. The importance of LDL cholesterol as a risk for coronary artery disease was initially learned epidemiologically from the Framingham heart study.[48] Genetic studies that implicated the LDL cholesterol receptor in atherosclerotic heart disease served to focus attention on the cholesterol biosynthetic pathway. Once a pathway is shown to play a causal role, it can be exploited for biomarkers (such as serum LDL cholesterol levels) and therapeutic targets for drugs, antibodies, or other modalities. The rate-limiting enzyme in the cholesterol biosynthetic pathway, HMG-CoA reductase, is the target of the highly effective statin drugs because of its biochemical role in the pathway. It does not matter that the gene that encodes HMG-CoA reductase is linked to a common SNP with a vanishingly small effect on overall risk of coronary artery disease. What matters is that convergent evidence from epidemiology and genetics identified a causal pathway that could be exploited for effective therapies.

C4A acts within the classical complement cascade, a component of the innate immune system, which is the body's first line of defense against infectious agents

and abnormal cells. Prior to the discovery of a genetic association with schizophrenia, the complement cascade was not suspected to play a role in mental illness. The association of the C4A gene with schizophrenia illustrates the benefit of unbiased discovery science in that it permits surprises and thus opens new avenues of investigation. Complement proteins were known to mark bacteria, virally infected cells, and cancer cells for destruction by cells such as macrophages, components of the immune system that remove unwanted cells and substances by engulfing them (phagocytosis). In the brain, the classical complement pathway has been shown to mark weak synapses for elimination (pruning) by microglia (the major phagocytic cells of the central nervous system) during brain development, experience-dependent plasticity, and neurodegenerative disorders.[49] Thus, the association of C4A with schizophrenia raised the possibility that synapse elimination might be involved in pathogenesis.

Inappropriate and excessive synaptic pruning had been hypothesized to be a potential mechanism of schizophrenia pathogenesis by Dr. Irwin Feinberg in 1982, but the idea gained little traction and his paper was rarely cited.[50] Feinberg noted that schizophrenia typically begins during adolescence, a period during which brain maturation produces a characteristic wave of synaptic reorganization and synapse elimination in the prefrontal and temporal cerebral cortex. Feinberg was aware of a postmortem study of infants and children in the 1970s that showed net synaptogenesis in the cerebral cortex in early childhood, reaching a maximum at about age ten, followed by net synapse loss.[51] Brain development involves such waves of experience-dependent synaptic plasticity that results in fewer, stronger synapses, and reorganized, more-efficient synaptic networks. The refinement of synaptic networks begins in the first years of life in occipital regions of the cerebral cortex, where it results in binocular vision, the process through which the brain combines the complex mix of input signals from both eyes to create one image of the world. A key mechanism of synapse elimination involves the marking of weak synapses by complement proteins, leading to engulfment by microglia and other glial cell types. Following the discovery that the C4A gene is associated with schizophrenia, researchers found that postmortem brain tissue from people diagnosed with schizophrenia have higher average levels of C4 messenger RNA than unaffected individuals.[52] In living people with schizophrenia, a subset has elevated levels of C4 protein in the cerebrospinal fluid compared with unaffected control subjects. It is hypothesized that in association with other risk factors such as variations in synaptic proteins, as suggested by schizophrenia genetics, elevated levels of complement proteins might contribute to excessive and inappropriate synaptic pruning.

Because normal brain maturation results in net synapse elimination, longitudinal studies of typically developing adolescents reveal reductions in cortical thickness. However, individuals who develop schizophrenia show more rapid

and severe patterns of cortical thinning.[53] Such findings from structural neuro-imaging, which have been corroborated by postmortem studies, converge on the conclusion that people affected by schizophrenia have greater net reductions in synapse numbers and the dendritic spines that bear them than unaffected individuals. The pattern of cognitive deficits observed in schizophrenia, such as prominent impairments of working memory and executive function, map to the prefrontal cortex where cortical thinning is most severe.[54] It is further hypothesized that psychosis is a downstream result of excessive synapse loss and synaptic dysfunction that leave the brain unable to process information and of abnormal reorganization of remaining synaptic networks. If this is correct, the psychotic symptoms of schizophrenia would have a similar basis to the psychotic symptoms that occur in Alzheimer's and other neurogenerative disorders, in which synapse loss is a proximate cause of cognitive decline that occurs well before the cell death that is characteristic of neurodegeneration but not schizophrenia.

The proposed cascade from genes to synapse elimination as a mechanism of schizophrenia pathogenesis is, of course, no more than a hypothesis with many outstanding questions. Grounded as it is in genetics and neurobiology, it is now being investigated and its predictions tested in patient samples, patient-derived iPSC lines, and transgenic animals carrying strong-effect variants associated with schizophrenia and bipolar disorder. Using new technologies, studies of gene expression (based on mRNA sequencing) and epigenomics are being performed by multiple laboratories using postmortem brains from affected and unaffected individuals.[55] Genetically informed attempts to discover biomarkers, critical for future clinical trials and early detection, are underway in young adults diagnosed with the clinical high-risk state for schizophrenia and in people recently diagnosed with a schizophrenia spectrum disorder. A critical goal of such investigations is to identify pathogenic mechanisms in detail and to precisely identify molecular pathways that can be modified to intervene in disease processes, with the goal of prevention and treatment. For all therapeutics development, mechanistic insights are also central to the discovery of biomarkers to match affected individuals with treatments, and to monitor disease progression, drug action, and treatment response. For schizophrenia prevention or early intervention, biomarkers are critical: the risks inherent in altering trajectories of brain development are such that accurate, contemporaneous biological monitoring will be very important.

Genetics plays a critical role in associating traits – here, schizophrenia – with biological hypotheses. Given associations based on well-powered and unbiased human genetics, funding agencies and laboratories, many outside of psychiatry departments, are willing to invest in substantial efforts at hypothesis testing. Genetics and neurobiological hypothesis testing are still in their early stages – any claims of scientifically durable findings would be premature. Yet, unlike the early decades of biological psychiatry, in which needed tools and knowledge did not yet

exist, this is not likely a false dawn. No longer a laggard, the strongest components of psychiatric research are collaborating closely with other fields of medicine and biology. Indeed, some of the cutting-edge technology in wide use was developed in laboratories focused on psychiatric disorders.

Genetics is not only a critical discovery tool for biology but also for risk prediction. Genetic risk prediction is widely familiar when it comes to fully dominant or recessive (Mendelian) traits such as Huntington's disease (dominant) or cystic fibrosis (recessive). However, even potentially harmful mutations of single genes often produce significant complexities for interpretation. For example, mutations in the cancer suppressor gene BRCA1 are associated with elevated risk of breast and ovarian cancer; however, the degree of risk, if any, for a particular person depends on the precise mutations in BRCA1 and on modifier genes in the person's polygenic background. Mental disorders are far more complex : they are polygenic, even when a person carries an ultrarare strong-effect variant. The causal relationship of individual common-risk variants to cognitive, behavioral, and psychopathology-related traits are, for the most part, indirect, dependent on complex gene networks, and still poorly understood. Complicating matters further, many alleles contribute to multiple different traits (pleiotropy) by acting within different gene networks in different cell types, although at least some apparent pleiotropy results from DSM-based diagnostic misclassification.

For polygenic traits such as mental disorders, genetic contribution to an individual's risk arises probabilistically from the person's genetic loading for risk alleles. These are a stochastic "grab bag" drawn from among the thousands of risk alleles segregating in the population and resulting from the shuffling and distribution of alleles from the genomes of both parents during meiosis. Ultimately, the genetic component of risk interacts with stochastic developmental effects and environmental exposures to determine phenotype. Risk prediction from individual alleles is not possible for mental disorders : the connections of alleles to traits are too complex and indirect, and the odds ratios conferred by individual variants do not add up to fate. It is, however, possible to make statistical predictions of risk based on the sum of all known trait-associated variants of small effects and calculated as polygenic scores (PGS). A PGS is derived from a person's genotypes across the entire genome and represents the sum of the effects of trait-associated SNPs, each weighted for its effect size.[56] A PGS is not only probabilistic, but as it is based on GWAS and thus, as now constructed, does not capture rare genetic variants, it is also at best a partial predictor of genetic contributions to a trait. In addition, for most traits and most human populations, the best available GWAS is still relatively small – if existent at all. As a result of these limitations, PGS are not accurate independent risk predictors for individuals. A PGS can be used to show where a person's risk for a trait – including a disease trait – stands with respect to an appro-

priate comparator population matched for ancestry. A person's relative risk in the population is often displayed as a percentile, which represents pseudoprecision at present. It is, however, possible to determine whether a person is at slightly or significantly greater or lower risk than average for their population. Because most studies of medical genetics have been performed in European populations based on convenient, well-documented registries, PGS for non-Europeans are currently less predictive than for Europeans.[57] Especially as clinical use of PGS is being proposed in some areas, such as coronary artery disease risk, the lack of population diversity in medical genetics represents a new source of health disparities that urgently needs to be addressed.[58]

Somatic gene therapy, including gene editing and base editing, are becoming a reality, with many gene therapies either approved by regulatory authorities (such as for spinal muscular atrophy) or in development. In contrast, heritable germ-line gene therapy is explicitly forbidden in most countries: its safety and effectiveness remain to be established and, more important, the ethical and policy concerns raised by making heritable changes in the human gene pool deserve extensive reflection and discussion. However, embryo selection based on pre-implantation genetic diagnosis (PGD) is already approved and widely practiced in association with *in vitro* fertilization. In vitro fertilization (IVF) generally produces multiple viable embryos; PGD can be used to avoid implanting an embryo with a severe genetic or chromosomal abnormality, including one that might have been introduced during the fertilization process. Families carrying mutations for severe monogenic disorders such as Huntington's disease or familial forms of amyotrophic lateral sclerosis (ALS) may use IVF with PGD precisely to avoid passing these severe lethal diseases to the next generation.

In addition to these generally accepted applications of PGD, several companies have begun to offer embryo selection for complex traits in collaboration with IVF clinics. This form of risk prediction relies on polygenic scores derived from GWAS of embryonic DNA sometimes supported by GWAS results from the parents.[59] Risk prediction has already been offered for a variety of genetically complex conditions, such as coronary artery disease, idiopathic short stature, type 2 diabetes, and schizophrenia. Through their websites, these companies have also offered to customers PGS-based selection for educational attainment (prediction of probable years of schooling) and cognitive ability, with the potentially disingenuous claim of preventing intellectual disability. Different services have appeared and disappeared on different company websites, but once GWAS results from an embryo are known, they can be used to derive a PGS for any traits for which a large enough GWAS has been performed in the relevant population. Several technical concerns limit the true (not advertised) utility of embryo selection based on polygenic scores.[60] These include the lower expected genetic diversity of embryos derived from two parents compared with broad population estimates, the important

problem of pleiotropy, and the dearth of information to guide choices currently in non-European populations. Because of poorly understood pleiotropy, selection against several mental disorders, such as bipolar disorder, obsessive compulsive disorder, anorexia nervosa, and autism spectrum conditions, may also select against creativity, cognitive abilities, academic attainment, and academic achievement (measured using grades in college).[61] Conversely, selecting for cognitive ability and academic attainment may also select for some of these conditions. What is important is that these traits share alleles ; the identity of the shared alleles is currently unknown ; and the possibility of getting results opposite to what is desired cannot be judged at present. Even if we imagine a time when such technical issues can be managed, familial and broader societal risk of embryo selections for complex traits remains. Most worrisome, perhaps, is the creeping normalization of eugenics in liberal (noncoercive) form. That risk warrants extensive discussion within civil society and among health care professionals and policymakers. What is the concern ? Advertised and actual selection against misunderstood or disfavored traits can worsen stigma and prejudice, for example, against autistic, ADHD-like, or certain depressive traits that can, for people with those traits, be associated not only with distress and some impairments, but also with some talents or other advantages and with a positive sense of individual or group identity. Some selections can also exacerbate racism, such as by selecting against certain appearances or skin tones (one of the "conditions" that has disappeared from one of the corporate websites, for now). I do not argue unequivocally against the use of polygenic scores in embryo selection for complex disease risks, but proceeding without far fuller consideration of the technical, ethical, and policy concerns would be a mistake.

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are best understood as variants or polymorphisms, not as mutations that diverge from an ideal DNA sequence. In aggregate, common SNPs contribute the largest fraction of heritability to risk of mental illnesses, to all common cognitive and behavioral traits, and indeed to most human traits.

Rare sequence variants that range in size from a single base to millions of bases also contribute to risk of mental illness. Rare variants are predominantly recent in origin and thus have been less subject to natural selection; some are not transmitted from the parents but occur *de novo*. Thus, rare variants can occasionally exert very large effects associated with disorders. Both common and rare DNA sequence variants have been well documented to be associated with autism, schizophrenia, and bipolar disorder. For discussion relevant to allele frequency, see Eugene J. Gardner, Matthew D. C. Neville, Kaitlin E. Samocha, et al., "Reduced Reproductive Success Is Associated with Selective Constraint on Human Genes," *Nature* 603 (7903) (2022): 858–863, https://doi.org/10.1038/s41586-022-04549-9.

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used to determine which SNPs on the microarray are associated with the trait. GWAS is
described as unbiased because instead of selecting one or several biological candidate
genes to test for disease association, the microarray contains SNPs that index segments
of DNA that tile the entire genome. To achieve statistical confidence in GWAS results,
very large numbers (often tens of thousands) of affected individuals and unaffected
control subjects are tested. Such large numbers are needed to yield statistically signif-
icant associations both because of the typically small effects of each of the common
SNPs examined–and because of the need to correct for the multiple independent tests
conducted in a GWAS reflecting the large number of loci on the microarray. Recogni-
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Two Sides of Depression: Medical & Social

Allan V. Horwitz & Jerome C. Wakefield

Two models have dominated portrayals of depression. The medical model views depression as a disease that has distinct symptoms with predictable courses and outcomes. It typically relies on brain-related explanations and responses, although many adherents also use social and psychological causes and treatments. A second model conceives of depression as the result of external stressors, loss events, and other problems of living that naturally subsides when these conditions improve. In this view, optimal responses lie in addressing the social conditions that underlie depressed states. In this essay, we examine how each edition of the Diagnostic and Statistical Manual of Mental Disorders *(DSM) since DSM-III in 1980 has blurred the medical and social approaches and conceived of all sorts of depressive symptoms as needing medicinal responses. Although the distinction between the social and medical types is often difficult to make, it is an essential first step in developing accurate conceptions of the two sides of depression.*

The question of whether it is most useful to treat depression as a medical or as a social problem has generated considerable discussion. On one side, most psychiatrists and many patient advocates view depression as a disease that has distinct symptoms with predictable courses and outcomes. They typically search for brain-related causes and apply somatic treatments to this condition. A variant of this approach, typically called biopsychosocial, sees some combination of biological, psychological, and social factors as responsible for depression and its treatment, but usually holds that medical diagnosis of depression is warranted.[1] On the other side, many social scientists and critics of psychiatry see depression as resulting from external stressors, loss events, and other problems of living, and as subsiding when these conditions improve. In their view, optimal responses lie in addressing the social conditions they believe lead to depressed states.

In this essay, we focus on how the criteria for major depressive disorder (MDD) in the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* since its third edition (DSM-III) in 1980 abandoned the well-established distinction between medical and social depressions.[2] Consequently,

social forms of depression have been seen as medical disorders, resulting in mistaken views of its prevalence, etiology, and treatment.

The medical view of depression dominates public discourse. According to this approach, we are in the midst of a tidal wave of depressive disorder that should be addressed with an equally forceful medical response. In contrast, just a few decades ago, prior to the use of current diagnostic criteria, depressive disorder was considered a serious but relatively uncommon disorder, affecting perhaps 2–3 percent of the population over a lifetime.[3] This situation drastically changed after 1980 when DSM-III inaugurated symptom-based criteria for MDD in order to improve the reliability of psychiatric diagnosis. This meant abandoning traditional standards for validity that required more subjective judgments, such as "with or without cause" or "unexpected duration" that had previously separated medical from social forms of depression.[4] The unintended result was to combine situational responses to external losses with long-standing individual dysfunctions without distinguishing these two very different conditions.

Population surveys using DSM measures soon found that huge proportions of people met MDD criteria. The major survey of mental disorder in the United States conducted after 1980 indicated that over 20 percent of community members had suffered from MDD.[5] MDD's Janus-faced nature allowed researchers to downplay its severity when explaining how it could afflict such a substantial portion of the population. For this purpose, it was the common cold of psychiatry. Yet when it was advantageous to emphasize its devastation, depression was labeled a major scourge of humankind. The World Health Organization (WHO) declared depression to be the world's most disabling condition after it combined the large group of people who met the MDD criteria and assumed their severity was comparable to paraplegia or blindness![6] While this might be justified for the relatively small number of serious cases of depression, the same can hardly be said for someone who was sad, fatigued, unable to concentrate, and had sleep and appetite problems for two weeks after facing a major loss event. Yet this situation was favorable for many groups with interests in promoting the widespread and severe nature of depression: practitioners, professional organizations, government agencies concerned with mental health, the WHO, drug companies, and patient advocacy groups, among others.

Remarkably, those initial studies *underestimated* DSM-defined depression rates because they relied on people's recollections of depressive symptoms from years before. Current estimates based on more methodologically sophisticated techniques that repeatedly interview individuals over time suggest that half or more of the entire population suffers from depressive disorder at some point in life.[7] A corresponding result is that a substantial proportion of the population now takes antidepressant medications. For example, from 2017 through 2018, about 14 per-

cent of all U.S. adults and 19 percent of all women used antidepressants within the past thirty days.[8] This is despite the facts that the average effects of antidepressant medication over a placebo are minimal and that the potential negative side effects are considerable.[9]

Against this medicalized approach, we will argue for a more nuanced view that is empirically better supported, conceptually more defensible, and more beneficial for patients and society than either pole of the medical-social dispute : both sides are partly right. There are genuine medical disorders of depressive emotion, as there are of almost any biological system. However, there are also much more frequent expectable, depressive reactions to perceived social conditions that trigger depressive feelings. Correspondingly, some depressive conditions are best approached and treated as medical conditions while others are better addressed as social, nonmedical problems. We will focus on how inadequately addressing the medical-social distinction has led to the massive medicalization, misdiagnosis, and pharmacological treatment of what are often externally triggered normal-range depressive responses that are best addressed through social interventions. Accordingly, because a disorder diagnosis presumes that something has gone wrong within the individual, little research addresses the social dynamics of depressive feelings and the way that social conditions might be altered to minimize them.

Importantly, we do *not* argue that people with normal-range, socially embedded sadness should not be able to get professional help and support. The U.S. medical insurance system often requires "medical necessity" for treatment to qualify for reimbursement, and thus pushes psychiatry to draw the boundaries of medical disorder as broadly as possible. The problem is that this approach influences the type of help that is offered based on incorrect attributions of medical disorder. Rather than falsely categorizing people as having depressive disorders, mental health treatment systems should be revised to allow appropriate support of and research into both social and medical sources of depression.

The emotions of sadness, grief, and depression – including feelings that can be quite intense – are often normal biologically designed features of human psychological functioning, and not inherent disorders. Evidence for this view includes the prevalence of such feelings in response to suitable triggers in our society. These responses persist across cultures (although the events that set off such responses vary enormously due to different cultural meaning-systems), in nonhuman primates (a point observed from facial expression and behavior by Darwin, and confirmed by modern hormonal and behavioral studies), in many other animals (as in recent stories in the popular press about lengthy grief in elephants and whales), and even in human infants prior to socialization when they are separated from their attachment figures.[10]

Whether depressive emotions are normal depends on the situation. Four specific qualities indicate that depressive reactions, like other emotions, are evolutionarily designed responses to particular circumstances.[11] First, these reactions are highly context-specific, emerging in response to losses and other stressors, including loss of relationships, status, resources, and meaning. This fits the evolutionary understanding that each emotion is biologically designed as an adaptive response to a particular kind of challenge and is thus triggered by specific types of events. Like many other clearly biologically designed features – for example, sleep – the adaptive purpose of sadness, grief, and depressive feelings remains disputed. Various explanations include disengagement from valued goals that have become hopeless, withdrawal when a loss of status or resources places us in danger if we continue in the fray, as well as warnings that things are not going well and need our attention and signs that we need to devote our mental processing toward rumination on complex problems in our social relationships.[12] Whatever the precise answer, for better or worse, sadness and grief are part of our natural humanity.[13]

The second indication that depressive reactions are evolutionarily designed is that the symptomatic intensity of the emotional response is roughly proportional to the magnitude of the loss that triggers it, subject to individual and cultural variability. From an evolutionary point of view, the greater the adaptive challenge, the greater the strength of the emotion that might be warranted. The third indication is that once triggered, symptoms persist in accordance with external contexts, but then naturally remit when the context changes for the better or as people reconstruct their lives and meaning-systems to adapt to their losses. Deviating from emotional neutrality has biological costs, and once the adaptive challenge subsides, so do emotions. And the fourth indication: for an emotional response to effectively deal with environmental challenges, many different physical and psychological mechanisms must be coordinated. The remarkable orchestration of psychological, physiological, and behavioral variables that occurs in emotional experiences implies the evolution of emotions as superordinate programs that coordinate multiple mechanisms.[14]

In contrast to normal depressive reactions, depressive disorders lack at least one basic quality of designed reactions, and thus qualify as true medical disorders. Typically, such failures involve reactions that are too intense or lengthy given the triggering context. Normal emotional reactions vary greatly both individually and culturally, so, given our ignorance of emotional mechanisms, in practice there will be fuzzy boundaries between medical and social types of depression. Nonetheless, the distinction still determines a range of clear cases on either side of the medical-social boundary, just like other useful distinctions with fuzzy boundaries (for example, night/day, child/adult, orange/red). However, this fuzziness also means there will be ample room for disagreement and controversy.[15]

Of course, emotions are often unwanted or distressing without being disordered. Given that our environment is so different from the environment in which the human species evolved, there will be mismatches between the way we have evolved to react and the transformed social environment in which we find ourselves. Such mismatched reactions can be normal but no longer useful, and we may want to treat them while recognizing that no medical disorder is present.[16]

We reject the common idea that when depressive feelings are reactive to some situation rather than unprovoked, they are normal. Social triggers can cause both normal and disordered depressions. The majority of cases of both kinds start with a stressor, so very few depressions are completely out of the blue. Most cases described since antiquity arise after hearing news of the death of a loved one or some other major loss. So, the medical or social distinction must lie elsewhere.

Instead, a crucial difference between medical and social depressions is whether symptoms respond to changing external conditions, as they are biologically designed to do. For example, cases that develop after people have lost jobs or romantic relationships should remit when they enter new jobs or new involvements. In other cases, such as grief reactions, symptoms should gradually dissipate with the passage of time and the construction of new meaning-systems. In contrast, depressive disorders are unresponsive to positive changes in the initiating circumstances and persist over long time periods regardless of the social environment.

There is a long history of medical recognition and treatment of depressive disorder, known in antiquity as "melancholia" or "black bile disease" after the most popular theory of its cause.[17] Classic medical texts also emphasized the distinction between melancholia and normal-range but symptomatically similar conditions, citing famous clinical cases in which depression due to stressful situations, such as unrequited love, were diagnostically distinguished from melancholia.

The modern concept of depressive disorder emerged most directly from the work of psychiatrist Emil Kraepelin (1856–1926), who was so influential on recent thinking that the present diagnostic system is commonly referred to as "neo-Kraepelinian."[18] His approach reflects an understanding of normal social sadness and medically disordered depression as described above. Like his medical predecessors since ancient times, Kraepelin believed in the necessity of taking context into account when diagnosing depressive disorder and differentiating it from normal sadness : "Morbid emotions are distinguished from healthy emotions chiefly through the lack of a sufficient cause, as well as by their intensity and persistence. . . . Again, morbid emotions sometimes attach themselves to some certain external occasions, but they do not vanish with the cause like normal feelings, and they acquire a certain independence."[19] Eminent twentieth-century psychopharmacologist Donald Klein echoed Kraepelin's last point, that a key

distinction between medical and social depressions is whether the condition responds to changing conditions: "Once the episode is underway, it is autonomous, that is unresponsive to changes in the initiating circumstances. If the patient with a depressive episode [as opposed to a depressive reaction] regains his job the illness continues."[20]

Kraepelin offered illustrations that emphasize the ambiguities diagnosticians face and the need for them to consider social context in discriminating disorder from normality:

> Several times patients have been brought to me, whose deep dejection, poverty of expression, and anxious tension tempt to the assumption of a circular [pathological] depression, while it came out afterwards, that they were cases of moodiness, which had for their cause serious delinquencies and threatened legal proceedings. As the slighter depressions of manic depressive insanity, as far as we are able to make a survey, may wholly resemble the well founded moodiness of health, with the essential difference that they arise without occasion, it will sometimes not be possible straightway to arrive at a correct interpretation without knowledge of the previous history in cases of the kind mentioned.[21]

Kraepelin was also careful to report how initial intuitions of social causes of a depressive condition can turn out to be misleading: "In another case the sale of a property, which was regarded as the cause of a depression, was successfully made null and void, but without any influence on the disease; later on there were further manic and depressive attacks."[22] Kraepelin approached the diagnosis of each case of depression as a matter of testing which hypothesis, a normal emotion or an emotional disorder, best explained the patient's suffering.

Sigmund Freud, Kraepelin's main contemporary rival, agreed with Kraepelin on this point. Although he recognized that grieving could become pathological, in his essay "Mourning and Melancholia," Freud strongly endorsed the normality of intense grief:

> Although grief involves grave departures from the normal attitude to life, it never occurs to us to regard it as a morbid condition and hand the mourner over to medical treatment. We rest assured that after a lapse of time it will be overcome, and we look upon any interference with it as inadvisable or even harmful.[23]

Freud emphasized that grief is not a medical disorder that represents the breakdown of a biologically normal response. Thus, it does not require medical treatment. Indeed, Freud indicated that it would never occur to us to provide medical treatment to the bereaved. In addition, he stressed that grief is naturally self-healing, so that with time, the mourner would return to a normal psychological state. Medical intervention, he suggested, could harm the grieving person through interfering with this natural process.

T
he current high prevalence rates of depressive disorder are not surprising once one understands the criteria being used for the identification of cases. DSM diagnosis of MDD requires the presence for at least a two-week period of symptoms from five (or more) of the following symptom groups, with at least one of the symptoms being either depressed mood or loss of interest or pleasure in usual activities : 1) depressed mood, 2) diminished interest or pleasure in activities, 3) weight gain or loss or change in appetite, 4) insomnia or hyper-somnia (excessive sleep), 5) psychomotor agitation or retardation (slowing down), 6) fatigue or loss of energy, 7) feelings of worthlessness or excessive guilt, 8) diminished ability to think or concentrate or indecisiveness, and 9) recurrent thoughts of death or suicidal ideation or suicide attempts. Additionally, the symptoms must cause distress or social role impairment – but this added requirement has been shown to be redundant because if one has five of the symptoms, one is sure to experience distress or a decrease in role functioning (for example, family, school, occupation).[24] Indeed, even those having normal grief or depressive feelings experience significant distress and decrements in role functioning.

These acontextual criteria disregard pre-DSM III understandings of the social circumstances that allow for an inference to depressive disorder : "A depression is judged to be pathological if there is insufficient specific cause for it in the patient's immediate past, if it lasts too long, or if its symptoms are too severe," one summary read.[25] In contrast, the DSM criteria ignore the context in which symptoms arise, require just a two-week period of duration, and do not mandate the presence of any especially severe symptoms. The result is to conflate depressive symptoms that are normal, proportionate responses to situations of loss with depressive disorders.

The original MDD criteria did recognize the importance of context in a single instance known as the "bereavement exclusion." They did not diagnose depressive symptoms arising from bereavement if they were not unduly severe or prolonged. This exclusion resulted from DSM Task Force member Paula Clayton's findings that normal grief often met the proposed criteria for depressive disorder, but naturally resolved over relatively short periods of time. Bereavement, however, was the sole exclusion : symptoms resulting from other kinds of loss were not proscribed. Yet Clayton had proposed that bereavement might be a model for other losses : "We believe that a specific, carefully defined model for a reactive depression can be delineated. . . . It is conceivable that there are situations other than bereavement caused by financial problems, problems with children, the death of a President, etc. which precipitate a similar reaction with similar mild symptoms and course."[26]

Rather than following up Clayton's proposal for an expanded exclusion, the DSM went in the other direction. DSM-5 eliminated the bereavement exclusion so that depressive feelings meeting MDD criteria during grief are categorized as

depressive disorders: "The DSM-5 Mood Disorders Work-group has recommended the elimination of the bereavement exclusion criteria from major depressive episodes in light of evidence that 'the similarities between bereavement related depression and depression related to other stressful life events substantially outweigh their differences.'"[27] This rationale begged the crucial question of whether other mild depressive reactions to stress (caused by losses and stressors other than bereavement) were different enough from other MDD conditions to suggest they are normal emotional responses to social events.

In response to intense criticism over eliminating the bereavement exclusion, the editors of DSM-5 added a note acknowledging that its criteria may invalidly diagnose normal-range social reactions as medical disorders: "Responses to a significant loss (e.g. bereavement, financial ruin, losses from a natural disaster, a serious medical illness or disability) may include the feelings of intense sadness, rumination about the loss, insomnia, poor appetite, and weight loss noted in [the symptom criteria], which may resemble a depressive episode."[28] The note advises the clinician to judge this issue using "clinical judgment based on the individual's history and the cultural norms for the expression of distress in the context of loss."[29] The problem is that the note contains no measures and is not part of the formal MDD diagnostic criteria; thus, it has no impact on scientific research and likely little effect on clinical diagnosis. That the DSM acknowledges that its criteria misclassify some normal-range social depressions as mental disorders is a useful starting point. The puzzle is why neither the DSM nor psychiatry more generally refuses to see this as the serious medical, scientific, social, and ethical issue that it is.

The problems with the MDD criteria can be traced to their origins. They emerged from studies aimed at formulating criteria to distinguish depressive disorders from physical medical problems in hospital settings.[30] However, the criteria were not designed for their current function of distinguishing depressive disorder from normal intense distress and grief in the community, and they fail to do so.

MDD symptom criteria are invalid for two basic reasons. First, they do not consider the context of the symptoms. Thus, one cannot judge whether an emotional response is more likely a normal-range proportional response to circumstances or an expression of an emotional disorder. Second, the DSM criteria include many symptoms that also occur in normal distress, from sadness, moderate role impairment, and insomnia to decreased appetite, difficulty concentrating, and fatigue. Diagnosis requires any five symptoms, and this threshold can be reached by symptoms that are all signs of normal distress and thus indicate a normal-range response. The five-symptom threshold thus fails to perform its basic function of validly indicating disorder.[31]

Yet another problem with the DSM criteria lies in the lifetime trajectories of people who qualify as disordered. When Kraepelin developed the notion of depressive disorder, the single feature that most convinced him that he was justified in attributing medical disorder was the actuality or expectation of an eventual recurrence. The research literature regularly describes depression as recurrent as a rationale for its being pathological. Eminent psychiatric researcher Kenneth Kendler explains : "For Kraepelin, the 'construct' of … manic-depressive insanity assumed a relapsing disorder without deterioration" and thus "course and outcome would be the most important validators."[32] Recurrence is interpreted as evidence of an ongoing internal dysfunction that disposes the individual to new episodes so recovery from depression is interpreted as "recovery from the episode, not from the illness per se."[33] Consequently, treatment should focus on preventing recurrence, often by extending services beyond recovery.

However, recent analyses of the literature reveal that over half – likely approaching 60 percent – of all depressive episodes are the only ones that the individual experiences during lengthy follow-up periods.[34] That means that most cases of what is diagnosed as depressive disorder do not satisfy the crucial criterion, recurrence, that persuaded Kraepelin to consider this condition a mental disorder, and that current researchers cite as justifying its pathological status.

As a result, many MDD diagnoses are questionable as medical pathologies. For example, a recent national epidemiological survey found that about 13 percent of individuals diagnosed with MDD had their depressive episodes only after the deaths of loved ones and these episodes lasted less than two months.[35] There is no rationale for diagnosing such individuals on that basis alone as having a mental disorder as opposed to a natural reaction to a social loss. And that figure stems from just acute grief and ignores transient normal-range reactions to other stressors. Note that some of the grief cases had more than one episode because the subject lost more than one close person. This indicates that even recurrence must be looked at carefully and not taken mechanically as an indicator of disorder because many people react with normal-range distress to repeated losses.

M uch of the data that is most relevant to evaluating whether current MDD criteria validly distinguish social from medical depressive episodes were generated during the debate over the bereavement exclusion. However, these results transcend that specific debate. According to the bereavement exclusion, depressive symptoms during bereavement are considered normal-range and only qualify as MDD if "after the loss of a loved one, the symptoms persist for longer than 2 months or are characterized by marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms, or psychomotor retardation."[36] These criteria – that is, having any one or more of the six specified more severe symptoms – were used to define

what became known in the literature as "complicated" depressive episodes, as opposed to "uncomplicated" episodes that did not have any of the six specified severe features. Note that instead of the specified duration threshold of longer than two months, the studies described below often used the more demanding longer than six months as the duration criterion for complicated depression on the assumption that many normal episodes of distress can last beyond two months.

Initially, studies examined whether uncomplicated depression during bereavement and reactions to other losses are similar or different. We conducted the first major study, along with fellow psychiatrists Michael First and Mark Schmitz, to examine whether depressive reactions to other stressors – such as loss of a valued job, marital dissolution, financial ruin, loss of possessions in a natural disaster, and negative medical diagnoses in oneself or a loved one – also could be divided into the same pattern of milder uncomplicated responses to social losses and more severe complicated and possibly disordered responses.[37] We found that all kinds of loss-triggered episodes of depression that were not especially severe or prolonged, and met the six requirements for being "uncomplicated," had similar symptoms, durations, treatment histories, and degree of impairment as bereavement and looked very different from complicated depressions. Several follow-up studies confirmed these results and suggested that all uncomplicated conditions formed one homogeneous category. However, they did not conclusively resolve which kind of category they found: mild depressive disorder or normal-range nonmedical depression.

The debate over possible problems with DSM depression criteria was transformed when studies used longitudinal data to evaluate the crucial feature of "predictive validity": whether later outcomes after a depressive episode confirm that it was likely a medical disorder. The most characteristic feature of depressive disorder – indeed, for many diagnostic theorists from Kraepelin onward, *the* defining feature – is recurrence of depression over time.

Ramin Mojtabai was the first researcher to take a predictive-validity approach to bereavement-related depression. Mojtabai used the two-wave National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), a survey of a nationally representative U.S. community sample that followed respondents three years after the initial interview. He divided the sample into five groups: those with a history of 1) a single uncomplicated bereavement-related depressive episode, 2) a single uncomplicated bereavement-unrelated episode, 3) a single longer depressive episode, 4) recurrent depressive episodes; as well as 5) those with no life history of depression. He then compared these groups for their experiences of depression during the three-year follow-up period between wave one and wave two. His most striking finding was that participants who at the initial interview had experienced a single lifetime uncomplicated bereavement-related depression were *not* significantly more likely to experience a depressive episode during the

follow-up period than those who had no lifetime history of depressive episodes (4.3 percent versus 7.5 percent, respectively). In contrast, all the other categories of depression history at baseline had significantly higher three-year recurrence rates, ranging from 14.7 percent to 27.2 percent. Mojtabai concluded that his findings supported the validity of the bereavement exclusion.[38]

To demonstrate that Mojtabai's remarkable findings were no fluke, Wakefield and Mark Schmitz replicated his analysis using a different dataset : the Epidemiological Catchment Area (ECA) study, which included a one-year follow-up period.[39] The same findings emerged. The recurrence rate in the uncomplicated depression group (3.7 percent) was not significantly different from the rate for the group with no history of depression (1.7 percent), and both were significantly and substantially lower than the other depression groups studied (14.4 percent and 16.2 percent). This was powerful evidence that eliminating the bereavement exclusion leads to misdiagnosing normal-range depressive feelings as depressive disorders.

Recall that our earlier study had established that other social-triggered uncomplicated depressive episodes are generally similar to uncomplicated bereavement-related episodes – so much so that they seem to form one uniform category – and are quite dissimilar to complicated episodes. This suggests that independent of issues concerning bereavement, the DSM criteria misdiagnosed intense social depressive reactions as medical disorders. Consequently, the studies of predictive validity were expanded beyond bereavement-related depression to examine all stress-triggered depressive episodes. The question became not just whether the bereavement exclusion itself is valid and should be retained, but whether the validity of DSM criteria requires that the exclusion be extended to all major social stressors.

In their studies using both the NESARC and ECA datasets, Wakefield and Schmitz addressed this broader question. They found that the results related to bereavement strongly generalize to all stressors. The NESARC data could examine the three most distinctive and problematic known outcomes of depressive disorder : recurrence, suicide attempt, and anxiety disorder. The results were that "for all validators, 3-year rates for single episode uncomplicated cases were not significantly different from no-MDD-history rates, but significantly lower" than the rates for the other groups studied.[40] Moreover, "mild" depression defined according to the APA's standards in terms of number of symptoms did not yield the same results. The quality of the uncomplicated symptoms mattered. For technical reasons, the NESARC study was limited to single-episode uncomplicated cases, but the ECA study indicated that a multiple-episode history of uncomplicated episodes does not significantly predict higher recurrence of depression than single-episode cases (3.7 percent versus 3.0 percent, respectively), which makes sense if these are basically normal-range reactions that do not indicate dysfunctions of emotional mechanisms. In sum, studies by Wakefield and his collaborators sup-

port the conclusion that people who develop uncomplicated depressions (that is, those with no prolonged duration or any especially serious symptoms), both during bereavement and after all kinds of losses and stressors, are more similar in outcome to those who were *never depressed* than those who had complicated depressive conditions (in other words, with either extended duration or at least one very severe symptom or both), which strongly suggests that most uncomplicated depressions are social conditions, rather than medical. These studies provide the most conclusive evidence we have so far that current DSM criteria misdiagnose social depression as a medical disorder.

These findings can be extended to further subsets of DSM-defined depressive disorders, but that research remains to be done. Meanwhile, by ignoring these results, psychiatry overlooks information that could allow some patients to avoid medication or go off medication sooner due to a lack of any raised likelihood of recurrence or other negative consequences given their symptom profile. In addition, it privileges medical over social responses, such as participation in self-help and support groups, referrals that enhance social resources, educational and relationship counseling, engagements with clergy and other spiritual advisors, and diet and exercise programs.[41] As a result, resources are misallocated and individuals inappropriately treated. This situation is especially true in non-Western societies that are less likely than Western cultures to medicalize depressive conditions and more likely to employ group modes of treatment.[42]

Some defenders of the medical approach argue that physicians diagnose a heart attack irrespective of whether its causal factors include poor diet or smoking.[43] But heart attacks are clear failures of cardiac functioning, whatever their cause. Unlike heart attacks, depressive feelings during grief and in response to other losses are naturally designed emotions that are generally self-limiting – but like all natural systems, they can go wrong. The diagnostician has the responsibility of distinguishing normal reactions from dysfunctions. A more appropriate cardiac analogy is that physicians do not diagnose rapid heart rate as an arrhythmia if it only occurs when the individual is vigorously exercising and stays within normal-range bounds for such cardiac adjustments to physiological demands. To routinely diagnose depressive episodes in reaction to stressful situations as depressive disorders makes no better sense than diagnosing increases in heart rate during exercise as heart disorders. Yet this is what American psychiatry has insisted on doing, resolutely confusing social and medical depressive conditions and muddying research, treatment, and epidemiology as a result.

DSM-5 perpetuates psychiatry's refusal since 1980 to take seriously the problem of distinguishing normal emotions from psychiatric disorders. Its criteria for depression do not separate medical disorders from natural responses to loss. The result of mixing normally distressed individuals with tru-

ly disordered ones is to preclude research from establishing the etiology, course, treatment effectiveness, and possible biomarkers of depression. Far more research is needed that explores questions such as when natural responses to social losses become medical disorders, the reasons for the high variability of depression rates across cultures, and the relative effectiveness of medical and social responses to depression. Although the distinction between social and medical forms of depression is often difficult to make, it is an essential first step in developing accurate conceptions of the two sides of depression.

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Can Mental Health Care Become More Human by Becoming More Digital?

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Over the past two decades, advances in digital technologies have begun to transform three aspects of mental health care. The use of sensors and artificial intelligence (AI) have provided new, objective measures of how we think, feel, and behave. The ease of connecting and communicating remotely has transformed the brick-and-mortar practice of mental health care into a telehealth service, increasing access and convenience for both patients and providers. And the advent of digital therapeutics, from virtual reality for treating phobias to conversational agents for delivering structured therapies, promises to alter how treatments will be delivered in the future. These digital transformations can help to solve many of the key challenges facing mental health care, including access, quality, and accountability. But digital technology introduces a new set of challenges around trust, privacy, and equity. Despite high levels of investment and promotion, there remain profound questions about efficacy and safety of digital mental health technologies. We share our experiences from the front lines creating digital innovations for mental health, with a focus on what a digital transformation of care could deliver for millions with a serious mental illness.

Anna was a high school history teacher arrested while buying heroin late one night in a rough part of town, not far from the school where she had been teaching. After a very difficult night of unrelenting withdrawal symptoms in a holding cell under the court, she was finally arraigned before the judge.

> I felt so ashamed and disgusted. I was standing before a judge, trying my best to look put-together at 9:30 am on no sleep and serious dope sickness setting in. I knew my principal and students would be wondering where I am. I knew my husband would be worried I was dead. I couldn't help having the morbid thought that he would be relieved to learn I was in jail and hadn't overdosed. I felt so ashamed. But most of all, I felt ashamed that my most constant thought was fixing.[1]

Anna was able to negotiate for court-mandated detox and outpatient treatment. As her husband drove her to the hospital to be admitted for detox, she resolved to

him and to herself that this was the time she was going to stick with it. But Anna had made similar resolutions in the past. Her addiction began as self-medication for the pain of depression. And her depression, with its deadening sense of dread and despair, had dogged her since childhood.

Anna grew up as a lonely kid with few friends and meager attention from her parents. As a teen, she gravitated toward alcohol to help her cope with her growing self-consciousness. When depression became a crushing problem in college, she found little relief from antidepressants. She found that opiates helped her relax and even make friends. By the time Anna got her first job, opiates had become a constant companion. She budgeted part of her salary for drugs. Over time, she transitioned from ingesting pain pills to injecting heroin, with its more rapid effects and lower price.

America faces a mental health crisis. This crisis was apparent before the COVID-19 pandemic, but the months of lockdown, job loss, and uncertainty exacerbated the trend, especially for young people. Outcomes for those with serious mental illness, like Anna, are dire, with high levels of incarceration, homelessness, addiction, and unemployment. Americans with serious mental illness (including schizophrenia, bipolar disorder, and severe depression) die twenty-three years earlier than those without, not just from the sorts of causes we associate with mental illness, such as suicide, but from untreated common medical illnesses like pulmonary disease and diabetes.[2] In fact, as of September 2022, more than ten times as many Americans under age thirty have died "deaths of despair" (suicide and overdose deaths) as have died from COVID-19 since January 2020.[3] If we consider the 14.2 million Americans with serious mental illness as a minority group, their rates of mortality, unemployment, homelessness, incarceration, and violent interactions with the criminal justice system would place them as our lowest caste, our "untouchables." Tragically, there has been little recognition or reckoning of their needs, leading one of us to call this the Jim Crow era for serious mental illness.[4]

A challenge in addressing this mental health crisis is the limited number of well-trained clinicians. The gap between the demand for services and the supply of clinicians is a global problem. Even in the developed world, where we are spending unprecedented sums of money for mental health care, less than half of those who would benefit from care are in treatment. And for those who are lucky enough to receive care, the treatments they receive are often of poor quality, yielding disappointing results. Of course, the combination of high costs and bad outcomes points to a profound injustice, but it also reveals space for innovation. The multimillion-dollar lifetime cost for treatment for a patient like Anna is merely one of many signs that improved care could unlock significant value for her, for society, and for those financially responsible for her care.[5] Other domains of

medicine are experiencing transformational trends in response to technological breakthroughs (such as the shift to personalized, or precision, medicine). Is there likewise an opportunity to innovate in mental health by leveraging technological advances to improve outcomes at lower costs? Where is the opportunity and what tools could make a difference for Anna?

There are no laboratory tests for bipolar disorder, schizophrenia, or depression. In contrast to other areas of medicine that rely on invasive diagnostics, mental health diagnosis mostly relies on pattern recognition by an experienced clinician based on communication and observation. The disorders are defined by canonical collections of psychological and behavioral signs and symptoms. The diagnostic process is subjective, and the diagnostic labels represent clinical consensus of how symptoms and signs clump together.

Just as the field lacks objective tests for diagnosis, the treatments have neither the surgical interventions nor the curative medications found in other areas of medicine. Mental health treatment typically aims for changes in behaviors and improvements in well-being via skill building, psychological insight, and, often, medication. Most clinicians believe the healing relationship is key to treatment, but relatively few psychiatric treatments require that the patient and the provider sit in the same room or even on the same continent. In that sense, mental health care should be the most scalable of health treatments.

The co-occurring revolutions in digital connectivity, data science, and mobile technology have provided fertile ground for innovation in mental health care. We are still in the early phases of this digital mental health revolution, but some of the promises and some of the challenges have already become apparent. The first major transformation has been the shift of mental health care from brick-and-mortar offices to an online service, where a "consumer" can purchase medication or psychotherapy with a click and receive timely treatment delivered right to their home. Some of the nation's largest providers of mental health care are online companies that did not exist five years ago. For people who live in remote areas or cannot take time off work to visit a clinic, this shift to remote care has democratized access, increased convenience, and often lowered costs and treatment delays compared with the traditional clinic-based model.

In a sense, the shift from brick-and-mortar to providing the same care via a tablet or laptop is hardly revolutionary. This shift, which might be considered Telehealth 1.0, introduces a realm of possibilities for transforming care by analyzing the audio and visual signals from sessions themselves. For example, artificial intelligence (AI) now allows for automated, real-time analysis of the most subtle aspects of facial expressions, speech, voice, and movement, enabling the sort of pattern recognition required to accurately assess anxiety and depressed mood, blunted emotional expression and impaired cognitive functioning, and even acute

suicidal risk.[6] These computational models provide the possibility of objective and precise measurements of the symptoms and signs that clinicians traditionally assessed subjectively by observation in an office. Given the economic advantages of software-based solutions over expensive clinician time, it is no surprise that the largest tech companies in the world, along with well-funded venture-backed tech start-ups, are building Telehealth 2.0.

But technology has also introduced a set of challenges for privacy, data protection, and quality of care. For people who were previously unable to access care or may have only received treatment while incarcerated or through emergency psychiatric services, these issues may seem to be acceptable costs of progress. But during this first phase of innovation and disruption, much more needs to be done to ensure trust in digital mental health care interventions, especially in the absence of a regulatory framework or widely accepted industry standards for privacy or data protection. A high-profile case or two of lax security (let alone deliberate malfeasance) may be all that it will take to derail the progress represented by so many well-intentioned efforts to leverage technological breakthroughs for the benefit of patients and health care providers.

Concerns about privacy and data protection may ultimately be addressed through better technology that can, for instance, encrypt communications with a therapist or analyze data within a device rather than sharing across a network.[7] But the third concern, quality, will require more than a technological fix. Improving quality, not just increasing access, will be essential if the digital mental health revolution is going to improve outcomes and resolve the mental health crisis.

There are then two steps to addressing the mental health crisis with technology. One step focuses on increasing quality by improving measurement. Better data can lead to better care. The second step innovates on treatment itself, using digital tools to create new interventions that improve quality and ensure better outcomes.

Existing measurements of psychiatric illnesses are designed both to capture broad trends in symptoms and functioning over weeks or months and to put people into diagnostic categories. There has historically been no mental health equivalent to continuous glucose monitoring for diabetes or arrhythmia detection in cardiovascular disease. Not only do we lack biological diagnostic tests for mental illness, but mental health clinicians have largely failed to use *existing* measures (such as validated clinical surveys) to assess mood, cognition, and behavior, the basic components of mental health that are adversely affected by mental disorders. One study found that fewer than 20 percent of clinicians measure treatment progress with validated rating scales of symptoms.[8] The lack of quality metrics reinforces a culture that has historically relied more on intuition than data.

One innovative approach to improving measurement has come to be known as *digital phenotyping,* a method that applies machine learning algorithms to data

obtained from connected devices, such as smartphones or "wearables" (like the Apple Watch or Oura Ring), to measure psychological health in a continuous, objective, ecologically valid manner.[9] In this framework, computational algorithms infer the signs and symptoms of mental illness, which a clinician would traditionally assess using patient self-report or direct observation in a clinical setting. For example, while a clinician may ask a patient about social isolation, data from a smartphone may reveal aspects of social activity directly through the record of calls, messages, or social media engagements. Likewise, smartphone and wearable data may serve as a more accurate and ecological measure of sleep or activity than a person's own recollections.

Other examples of digital measurement include analysis of speech from voice samples for evidence of depression and anxiety, facial recognition software that infers mental status, eye-tracking software that detects PTSD, pupillometry for stress measurement, and analysis of social media content for relapse detection in youth with psychotic disorders.[10]

Digital phenotyping even shows promise for patients with serious mental illness, which is associated with characteristic departures from the basic daily patterns of life.[11] For Anna, relapses were characterized by increasing social withdrawal and increased sleep, which lend themselves to the sort of pattern recognition for which machine learning algorithms have proven to be effective.[12] This pattern recognition suggests the potential for a mental health "check engine" light that can identify the earliest signs of decompensation or relapse.

The insights produced by digital phenotyping can be useful to patients like Anna who are trying to understand connections between their rapidly changing mental states and their self-destructive behaviors. Anna noticed, for example, that poor nights of sleep and reduced social interaction were often followed by worsening depression and an increased urge to use opiates. When used in this way, digital phenotyping data can increase patient agency and prevent relapses.

Telehealth, including the digital delivery of psychotherapy, was one of the first technological innovations in mental health care. And evidence-based psychotherapy, such as cognitive behavior therapy, delivered via videoconferencing technology as well as text messaging, has been shown to deliver results comparable to in-person treatment.[13] Although fully digitized versions of psychotherapy ("digital therapeutics"), in which a chatbot or video game delivers psychotherapy, represent a massively scalable opportunity to provide access to treatment in the remotest of areas, many studies have shown limited engagement unless there is a "human in the loop."[14]

Since the time of Sigmund Freud, psychotherapy has been delivered in hour-long sessions (the so-called fifty-minute hour), most often once or twice per week (or five times per week in classical psychoanalysis). However, there has been little

research to evaluate whether fifty minutes once a week is better than ten minutes five times a week or twenty-five minutes twice a week. A patient receives a course of treatment in fixed doses on a fixed frequency: you see your therapist on Thursday at 2 p.m. because that is the scheduled time, not because that is when you need help most or when an intervention is most likely to be of benefit. This is an example of a tradition-based, rather than an evidence-based, approach.

Digital mental health tools can in principle be deployed in any dose quantity and frequency, including on-demand. This presents the possibility that digital innovation might increase the efficiency of treatment: that is, the right treatment at the right time for every patient. For example, nightmares and restlessness are not only cardinal symptoms of post-traumatic stress disorder (PTSD), but are also thought to reinforce and exacerbate the disorder. Smartwatch technology that uses sensor algorithms to detect circadian disturbance in patients with PTSD has been developed. When a disruption in deep sleep is detected, such as during a nightmare, the watch gently vibrates to wake the patient, resulting in a reduction in PTSD symptoms and severity.[15]

In one recent study (coauthored by Aranovich), smartphone-based continuous measurement of mental health status powered a "precision digital therapeutic" for depression. That is, evidence-based psychotherapeutic content was sent to patients via a smartphone in response to real-time behavioral sensing in an attempt to match the therapeutic content to the patients' context at that moment. The same behavioral sensing was then used to measure the impact of each behavioral suggestion, such that this "closed-loop" digital therapeutic became better and more tailored to the individual user with time. This led to significant improvements in outcomes compared with treatment as usual in a randomized controlled trial.[16]

Other examples of effective digital interventions include conversation bots that deliver psychotherapy interactively, virtual reality software that enables exposure treatment for phobias such as acrophobia, and cognitive games that treat attention-deficit hyperactivity disorder (ADHD).[17]

The technology-driven transformations of how we communicate and interact enable more effective information sharing between all parties involved, including the patient, family members, and members of a patient's treatment team, leading to better integration of care. And for providers, better integration and tracking, when combined with better measurement, yield the feedback needed to improve the quality of care. The combination of mobile interventions, improved care management, and digital phenotyping can help create a learning health system in which care improves continuously based on outcomes.

While the potential is great, clinicians have historically been slow to adopt new technologies. In part, this may reflect the conservative guild culture of medicine, which is understandably wary of innovation that lacks adequate evidence of ben-

efit documented in reputable sources. But this is also a result of the technologist's inability to understand and adapt to the nature of the health care industry and their end users: patients and clinicians. As an example, when we first launched our text message–based clinical service, Anna's clinical team was quick to point out that they could not bill insurance companies for interactions with patients that are carried out via text message, rather than in person or even by telephone. Innovators who have worked to understand and adapt to the complexity of the health care industry, rather than attempt to supplant it, have generally been the most successful in integrating into the care of patients.

There are currently multiple digital mental health "unicorns," privately held companies worth over $1 billion. Investment in this space has grown rapidly, including more than $5.1 billion invested in 2021 alone. Technologies for remote digital measurement and care delivery are beginning to integrate into all levels of mental health care. Both patients and clinicians are beginning to expect convenient, tech-enabled care. The pandemic has led to a surge in both the prevalence of mental illness and demands for treatment. People are increasingly engaging in mental illness prevention and seeking care across the severity spectrum, from personal daily well-being via meditation apps to direct clinical care. In many cases, lay people rather than clinicians have found novel applications of new technology for mental health. The proliferation of online support groups offers one compelling example. Peer communities that traditionally have limited access to traditional mental health services have consistently harnessed technology to build networks of peer-to-peer support that traverse geographic boundaries that have traditionally left such individuals isolated and lonely.[18] The emergence of social virtual reality is a good example: this innovation has led to the proliferation of peer-to-peer virtual reality groups ranging from mindfulness meditation and LGBTQ meetups to Alcoholics/Narcotics Anonymous.

Has the hype and unprecedented investment in innovation had an impact on population health? Our answer: not yet. As detailed above, technological advances have led to a significant increase in access to mental health treatment via telehealth. And digital interventions represent a real opportunity to address the quality crisis via improved measurement. However, adoption has been limited, and very little of the enormous investment in mental health technology has targeted the treatment of severe mental illness.[19] There may be many reasons for this. The nature of venture-backed technology development may reward easy wins over solving large, entrenched problems. Automated guided meditation apps, sleep apps, or therapy chatbots have certainly received more support than clinical services that target people with serious mental illness. However, such innovations may have limited effect, even in relatively healthy people, without the integration of human relationships to create accountability and drive behavior change.

There has been both a wish and a worry that novel health care technologies will replace health care workers. Since labor is the most expensive and least scalable input to care, replacing clinicians with apps means more efficient, cheaper care, *ceteris paribus*. In certain areas of medicine, particularly those involving analysis of images (like radiology and pathology), for which advances in computer vision are naturally suited and machines may be more efficient than physicians, the concern among workers may be justified. But efficiency itself does not always lead to improved care or outcomes. Indeed, technological innovations that are introduced to clinical care to reduce costs and increase efficiency may negatively impact patient care rather than improve it.[20]

In the case of mental health, there is little chance of technology replacing humans in care delivery anytime soon. As detailed above, there are already hundreds of apps that deliver computerized versions of psychotherapies, such as cognitive behavior therapy, that have traditionally been delivered by humans. And there are chatbots and therapeutic video games that deliver care without another human in the loop. But digital therapeutics have yet to gain widespread adoption, and the demand for therapeutic apps has mostly been focused on filling gaps in the existing system, such as providing a care option for patients stuck on long waitlists. And though we view improved measurement as a promising use case for digital solutions, the accurate diagnosis of a complex mental illness is likely to remain the territory of trained clinicians with access to digital data.

Further, the rote, manualized parts of care that are most amenable to digitization may only account for a small portion of the variance in clinical outcomes. Across populations, numerous studies have shown that the factors that most influence outcomes are grounded in human relationships characterized by empathy, warmth, accountability, congruence, and therapeutic alliance, all of which are difficult to digitize.[21] Even simple but profound aspects of care like medication adherence are largely influenced by the quality of the relationship between the clinician and their patient.[22]

Some of the most exciting technological innovations of the early twenty-first century are attempts to facilitate new types of human connection by removing geographic barriers. Internet-based peer-to-peer support groups, for example, have been shown to provide meaningful clinical care for diverse populations that are limited in their mobility or resources, including patients with cancer, new parents, LGBTQ youth, and people with serious mental illness.[23] Which parts of the clinical interaction can be automated through improved conventional artificial intelligence and which require human interaction remains an open and important question.

While many of the digital mental health tools of the past decade have intentionally removed human therapeutic connections in favor of apps, many of the innovations that have emerged in areas as diverse as conversational AI, digital monetiza-

tion, video conferencing, virtual and augmented reality, and wearable sensors can be similarly utilized to *enhance* the human elements of therapy and connect the disparate groups and individuals involved in care. They need only be put in the right hands to improve human connections rather than attempt to supplant them.

Every surge in innovation introduces new risks as well as new opportunities. Entrepreneurs understand that start-ups are high-risk ventures, with most failing or pivoting from their original mission. But when a mental health start-up fails or changes course, the consequences can be dire: for patients like Anna who may be abandoned, for patients' privacy if data are breached, and for providers who may lose their livelihoods. While "move fast and break things" and youthful risk-taking have been endemic in tech culture, these features are unambiguous hazards for mental health tech culture, where trust and safety are essential.

Trust and safety may be difficult to bake into fully automated approaches, which usually lack the flexibility to manage the needs of a patient as complex as Anna. The relationship between the clinician and the patient is usually necessary for treatment engagement and improved outcomes, and as such, a bot-delivered treatment may never be as effective as a person-to-person connection, no matter how much the technology advances.[24] But even human-to-human connection over the internet introduces significant risks. Unregulated and unmoderated social platforms are as much, if not more, a risk for mental harm than an opportunity for mental health. As an example, the live social role-playing platform Second Life was both widely used for LGBTQ peer-to-peer support and simultaneously notorious for trolling and communities organized around self-harm. While telehealth stands in a separate class, in which bullying and harassment are lesser concerns, telehealth platforms that aim to connect patients to either medications or therapy have struggled to provide reliable services. The Department of Justice is currently investigating at least one telehealth company that allegedly overprescribed a controlled stimulant drug to adults with ADHD.

Another significant risk of mental health care technology is that there is no regulatory framework for defining safety and efficacy. The Food and Drug Administration oversees drug development, but there is no agency that regulates psychotherapy, whether administered remotely or face-to-face. As a result, neither the apps for therapy nor the telehealth companies have been reviewed by rigorous, widely accepted standards. This lack of regulation makes it hard to know the potential and pitfalls of emergent technologies. While technologies used by health care systems are usually vetted, there is no such requirement and no set of external standards for technologies sold directly to consumers, or those provided through employers as a "wellness benefit."

The COVID-19 pandemic revealed striking inequities in health care and health outcomes. Inequities are no less apparent in mental health: many communities

do not have access to high-quality mental health care. While telehealth ostensibly can overcome some of the barriers to access, many families who lack access to a clinic may also lack access to the internet and, thus, in the era of digital mental health, could find themselves on the wrong side of the digital divide. The dissemination of broadband access may erode this digital divide, but in the short run, the move to digital mental health care risks perpetuating inequities from the brick-and-mortar era.

Finally, we note one other risk in mental health care technology development. Many of the advances in diagnosis and treatment of mental disorders have traditionally come from academia, with high standards of rigor and vetting through peer-review processes. But the tools needed to meet the best ambitions of mental health care technology developers today live in the tech industry, not academia. While innovation certainly occurs in academic science, only industry is capable of the design, engineering, and scale needed to provide the kinds of solutions we need to resolve the mental health crisis. This fact pulled all three authors from traditional academic settings into the mental health care technology industry. This move afforded us the opportunity to build solutions beyond the limitations of academic research. It also forced us to see limitations and risks of the industry first-hand.

In 2019, we each departed the start-up that had brought us together, where we had met each other and met Anna. While we saw the opportunity for innovation and impact, we worried that our efforts to detect a relapse or define a change in mental status were building a smoke alarm when Anna needed a fire extinguisher. At that early phase of digital mental health innovation, we felt uncertain of the impact our technology had on Anna's or anyone else's treatment. Few digital mental health care innovations have been subject to the kind of randomized controlled trials or peer-review processes we expected, as academics, of novel diagnostics and therapeutics. Indeed, the iterative changes in digital tools, with algorithms changing every few weeks or months, might make these tools difficult to evaluate by traditional clinical trials. There is a risk that innovations are being scaled for dissemination without the kind of intensive testing of safety and efficacy we expect with a new biomarker or drug treatment. Despite this, we feel hopeful. While we are far from demonstrating any impact on population health, we believe that digital tools can and – with further development – will improve access and quality. Yes, there are risks, but these are early days; we are still learning both the benefits and the risks.

As noted at the outset, one of the most urgent aspects of the current mental health crisis is the workforce crisis: the gap between the demand for services and the supply of clinicians. Though mental health care technology is nascent, a divided response to this workforce crisis is already visible. On one side are those technologies that focus on improving the delivery of mental health care through automation. In this framework, effective components of treatment

such as guided meditation, psychoeducation, and medication management can be fully automated. The promise of this approach is that mental health care can be fully scaled for delivery anywhere at any time, at a greatly reduced cost. Indeed, mobile applications and virtual games have demonstrated efficacy for the treatment of psychiatric disorders including ADHD, PTSD, insomnia, and generalized anxiety disorder.[25] This approach to mental health care technology aims to digitize the components of structured therapies to eliminate the need for a human in the loop. In this model, scale comes by removing the most expensive and least scalable component: the human therapist. Access to treatment means access to the manualized components of treatment as they are revalidated for digital surfaces, rather than as delivered by a licensed clinician in an office.

On the other side are technologies that see humans as central to achieving therapeutic goals. In this context, technology serves to scale rather than replace human connection, and technology development focuses on safe and scalable methods to connect patients to clinicians and their community. The most prominent example is the widespread shift to telepsychiatry and telepsychotherapy facilitated by large legal and cultural changes in the delivery of care in response to the COVID-19 pandemic.[26] As noted above, this shift provided an enormous increase in access, rapidly decreasing geographic distance and time constraints as barriers to care. While telehealth has in many ways become synonymous with video conferencing, the concept of connecting clinicians to patients remotely may introduce whole new paradigms of treatment. For example, researchers have investigated the value of virtual reality for clinician-administered support groups in populations like caregivers for people with chronic illness, who have high psychological distress but low mobility.[27]

However, the proliferation of telehealth has not solved other fundamental limitations associated with access, including cost and the availability of licensed clinicians in relation to the need. In many ways, fundamental problems of access reemerge regardless of the technological platform. Even if telehealth has reduced costs, access remains tied to larger structural issues embedded in the health care system. Indeed, our shortages of a licensed and skilled workforce for mental health services were not solved but instead were reinforced by the emergence of telehealth.

One potential alternative to match the unmet need is nontraditional community-based forms of mental health care. As opposed to the church basements and VFW halls of previous generations, peer-to-peer support communities have emerged organically across open social platforms like Second Life, Facebook, YouTube, and AltspaceVR. Communities ranging from LGBTQ youth to people with schizophrenia to people with addiction have utilized social platforms to disseminate information and receive support at a surprisingly high rate.[28] While we have yet to see the evidence that community-based social support will influence

population health, for a generation of digital natives, this form of care may be preferable to office-based individual therapy.

Anna's story is not over yet. She still struggles with periods of depression, sometimes followed by relapse. She has gotten better at recognizing the signs and, as such, is faster to call her psychiatrist, who now sees her via Zoom.

> I'm better at noticing when I'm starting to slip. First of all, I always know I'm getting in trouble when my smartwatch notices that my sleep patterns are worse. I go to sleep later, I sleep in. This is always a great clue for me. I usually reach out to my psychiatrist. It's easy to meet her on Zoom, but it still takes two weeks to get an appointment. I've found that Narcotics Anonymous [NA] is really helpful in the meantime. I always liked NA but it was such a pain to find a meeting that was at a convenient time and place. When I feel unmotivated, it's just really hard to get there. Now I can literally find a meeting at any moment online. I've literally spent 3 hours on the couch trying to motivate myself to go. But then I go. It's literally right there for me. I also use a lot of mindfulness and meditation techniques. There are all these apps out there now and some are really good. I like to use them while driving to work and even at lunch when I've had a stressful morning. All of these things help a bit on their own and seem to help a lot together.

And the field is starting to learn how the key pieces of digital measurement, real-time remote interventions, and comprehensive care management fit together to provide someone like Anna with the support she needs. We better understand that the role of machine learning is not simply to detect and report risk, but to be the engine that learns and meets the individual needs of Anna and all those invested in her care. Finally, and most important, we understand that the digital world is Anna's milieu. It is where she goes both to find drugs and to find support for her sobriety. While new technologies emerge every day, Anna is left alone to navigate a sea of tools with unclear validity. Her therapist has the same experience. With the exception of Zoom, the clinical workflow has stayed much the same in the twenty-first century as in the twentieth. There remains little objective measurement and no consistent method to communicate between the many members of Anna's care team.

Further, as in so many domains of her life in this new digital era, Anna is left feeling uneasy about her data privacy. Are federal HIPAA regulations and the EU's General Data Protection Regulation adequate to protect patients in this age of data breaches and ransomware? At least Anna has access to technology – what of the millions who lack access to smartphones and reliable internet? Will access to technology further exacerbate the troubling trend toward greater inequality?

The greatest shortcoming in mental health technology to date is its siloed nature, developed away from the people, places, and sense of purpose that drive recovery and growth. Organically, people with serious mental illness have sought and found community in virtual spaces, greatly reducing the cost and

effort associated with care. Similarly, clinicians have flocked to digital platforms as the opportunity emerged following COVID. The core challenge for the community of scientists, technology developers, and clinicians developing the future of mental health care is how we can scale those essential dimensions of treatment that support ongoing recovery that have fallen by the wayside because they are resource heavy, not because they are ineffective. Can key elements of community engagement return to prominence in mental health care through scalable technology? Can remote measurement improve feedback and accountability by moving the field from infrequent and inaccurate assessments of treatment needs to real time actionable information for both the patient and their clinical team? Can digital interventions and telehealth work together to support a larger patient treatment plan by embedding both automated and human care directly in the patient's life?

In retrospect, the central focus on medication in the treatment of psychiatric illness may have been largely driven by the technological capabilities of the time. Community aspects of care have not scaled, making them shockingly expensive and inefficient, and even more shockingly hard to access for those most in need. As technology companies move into the era of Web3 and the Metaverse, where users immerse themselves in virtual spaces that travel across the many platforms with the user (for example, laptops, phones, virtual reality headsets, augmented reality glasses, watches), we are forced to ask how mental health care will be structured in this world. Will these virtual spaces be used to provide greater access to the communities of professionals, lay professionals, and loved ones involved in clinical care? What will the psychiatrist's office on the main street of the metaverse look like? How will it be organized so that it is safe and effective? These remain unanswered questions, as virtual spaces have opened up a new frontier of opportunity and risk that we have not even begun to understand. Similarly, how will the digital signals between a patient like Anna and her care team be understood when these data sources represent a primary form of communication? If Anna were an avatar in a virtual space, how would she express deep emotion on her face or in her voice? How would a clinician "read" her expression or intent? Centrally, will the digital representations of measurement and treatment that are built to replace the analog world reduce barriers to care for people with serious mental illness, or will they provide an additional layer of alienation? This will ultimately be determined by the ability to connect the opportunities in efficiency to the structures that bear those costs, in a manner that is effective for the patient and their team.

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ENDNOTES

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Empowering the (Extra)Ordinary

Vikram Patel & Atif Rahman

Psychological treatments are among the most effective interventions for a wide range of mental health conditions but remain inaccessible to most people who could benefit from them, including in many high-income countries. We describe two case studies from South Asia that demonstrate innovatively designed psychological treatments addressing many of the barriers that limit their scalability. The treatments are brief, less complex, and delivered by frontline providers, such as peer counselors in community settings. These case studies, alongside a large and growing literature from around the world, provide the foundation for a paradigm shift in mental health care by rejecting the nihilistic notion that communities do not have enough resources to address mental health problems or that these problems are too complex to address. Central to this notion is the recognition that mental health problems can be addressed effectively with resources that every community possesses: people who care for others in their communities.

Mental health conditions are not only among the leading causes of the burden of health-related suffering globally, but their contribution to the burden of disease has been rising inexorably in all world regions over the past two decades. This increase is fueled in part by the relative success in the reduction of other burdensome conditions (such as childhood infections and cardiovascular diseases), as well as the absence of effective mental health prevention and care programs. The latter may be explained by two interacting factors. First, the failure to address social determinants that both fuel the onset of mental health problems and their persistence, and second, the failure to improve the effective coverage of the interventions that have been shown to improve the chances of recovery. The key words here are *effective*, indicating the interventions are backed by evidence and must be delivered with adequate quality, and *coverage*, indicating that the entire population is covered, in particular the groups who bear a disproportionate burden of mental health conditions. This essay focuses specifically on the goal of realizing effective coverage of one of the most effective interventions for mental health conditions: psychological treatments.

Psychological treatments ("talking" treatments) have been around for over a century, though their shape and form have changed significantly over this period, from the long-term (sometimes, lifelong) therapies founded on the principles of

psychoanalysis to the more recent emergence of treatments based upon cognitive, behavioral, and interpersonal theories. The latter have been shown to have effects on improving outcomes in a wide range of mental health conditions. Indeed, psychological treatments are the first-line and most effective interventions for most child and adolescent mental health problems, anxiety disorders, and posttraumatic stress disorder (PTSD). In the case of depression, there have been two primary approaches to the treatment of an acute depressive episode: namely, antidepressant medication and psychological treatments. While antidepressant medication is an effective treatment, two recent systematic reviews have shown that psychological treatments outperform medication on the important outcome of keeping people well in the longer term after an initial episode.[1] Thus, psychological treatment is the best choice for the management of depression. For other mental health conditions for which medication has robust effects (for example, psychotic disorders), psychological treatments, typically combined with social work components, improve the odds of better clinical and social outcomes.

Given this robust evidence, one might expect that psychological treatments would be widely available globally. In fact, the reality is the opposite: in the countries where we have worked for much of our careers (India and Pakistan), and countries in other parts of Asia and Africa where we have collaborated with colleagues, the effective coverage of psychological treatments is probably not even 1 percent of the population. Alarmingly, even in wealthy countries like the United States, which has among the highest numbers of mental health practitioners per capita in the world, for patients who do receive treatment for depression, the vast majority – approaching 90 percent – are prescribed antidepressant medications, while only about one-quarter receive psychological treatment.[2] Despite this imbalance, the overwhelming majority of patients, in particular those from racial and ethnic minority groups, express a preference for psychological treatments. Those who do receive psychological treatments report greater satisfaction, higher rates of treatment completion, and superior clinical outcomes.[3] This is the heart of the global mental health crisis: the most effective treatments and those preferred by patients are not accessible to the vast majority of the world's population.

The barriers are formidable. The historic divisions in mental health practitioner disciplines and the implicit hierarchies that position psychiatry over the other disciplines play a significant role in the privileging of "biomedical" interventions over psychological treatments. On the other hand, psychological treatments have become increasingly complex with multiple components that require years of expensive training and present licensing hurdles, greatly limiting the numbers of providers who are permitted to deliver them. The high costs of training psychologists and their deployment means that there is not only a great shortage of skilled providers, but an extreme maldistribution across geographical and population contexts. Within the camps of psychological therapists, there is

reluctance to widen the pool of providers to include a more diverse workforce or to adopt the simpler, briefer versions of psychotherapy that are distilled from the traditional complex packages. Reimbursements or public financing for psychotherapy typically lag behind, or are completely absent, compared with medication, making psychotherapy more expensive for patients than medication. Then there is the concern that psychological treatments are based on observations made in relatively homogenous, white, affluent patients who are seeking care from academic mental health centers, and that these principles and assumptions may not generalize to more diverse populations. Finally, another barrier lies in the lack of any commercial backing for psychotherapies, typically developed by scientists in university settings who are brilliant designers of theoretically informed interventions but are no match for pharmaceutical corporations in terms of marketing. In a health care landscape where profits drive what is made available to patients, psychotherapies cannot compete with pills, even when they outperform them.

In this context, we describe two case studies initiated in the Global South with the shared goal of designing psychological treatments for depression that were acceptable and feasible in the communities where they were intended to be delivered. We will describe each study in turn, and then consider the lessons from these cases for the future of global mental health.

In 1988, Atif Rahman, the founder of the Human Development Research Foundation in Pakistan, began his medical career at what was then the Rawalpindi General Hospital. Situated in the historic garrison city of Rawalpindi, the hospital was a typical busy, overcrowded, tertiary health facility catering to a population of over ten million. Working in the neonatal and pediatrics wards, Rahman very quickly realized that the journey to good health began very early in life. Humans were shaped in the mother's womb, and this process, along with the environment of the first three thousand days of life, laid down the template for what was to follow. In these busy wards, one of Rahman's duties was to provide instructions to mothers of infants with diarrhea about the use of oral rehydration. He was struck by the inability of some mothers to follow these simple instructions – they seemed distant, lacking self-confidence, and were emotionally unavailable. In his next job at the psychiatry department, he came across patients with the same presentation, and learned they suffered from a disabling disorder: depression. The condition was important from a public health perspective because of its associations with infant growth and development. Medication was not indicated due to the risk of harm to fetuses and breastfeeding infants. The psychiatry department only catered to the tip of the iceberg: millions of women were suffering from depression in silence, especially in rural areas where trained mental health care practitioners were nonexistent. Learning from approaches to tackle the HIV epidemic in Africa, the field of global mental health was fast adopting the strat-

egy of "task-shifting" or "task-sharing," which involved the rational redistribution of tasks among health workforce teams. Where appropriate, tasks once only entrusted to highly qualified health workers were moved to those with shorter training and fewer qualifications to make more efficient use of the available human resources for health. Could task-sharing be applied to a complex task such as the delivery of cognitive behavior therapy (CBT) to depressed, mostly nonliterate women in rural areas of Pakistan?

Now working at the University of Liverpool, Rahman and his team at the Human Development Research Foundation developed the Thinking Healthy Programme (THP), a CBT-based intervention that could be delivered by frontline providers, such as community health workers in primary and secondary care settings. A key feature in the development of this intervention was that it took into account the voices of the women from low-income rural settings who would receive the intervention.[4] The formative research showed that the word *depression* was not widely recognized, and mental health problems carried a stigma. The intervention therefore focused on mobilizing family support around the agenda of the child (rather than addressing maternal depression directly, which is often met with resistance) and individual counseling for mothers using CBT techniques that addressed not only the mother's mood state but also her interactions with her infant. The mothers were provided health education in a manner that built up their self-confidence and belief in their parenting abilities. The community health workers were encouraged to assist the mother in problem-solving: for example, helping nonliterate mothers negotiate the health care system. The workers were able to titrate and tailor the intervention according to the individual needs of each family and in the process target those with the greatest needs. The use of narratives and pictures to deliver the intervention to nonliterate women made the intervention feasible and acceptable.

Starting from pregnancy to one year postnatal, mothers received eight to sixteen sessions of psychological treatment. The approach in the THP included simplified CBT strategies to achieve three main goals: 1) to identify and modify maladaptive styles of thinking and behaving – in particular those leading to poor self-esteem, inability to care for their infants, and disengagement from social networks – and to substitute these with more adaptive ways of thinking and behaving; 2) behavioral activation to rehearse the more adaptive behaviors, such as self-care, attention to diet, and positive interactions with the infant between sessions; and 3) problem-solving to overcome barriers to practicing such strategies. The program was fully manualized, and included instructions for the delivery of each session with culturally appropriate pictorial illustrations aimed at helping mothers reflect on their thinking process and encouraging family involvement. There were five modules: preparing for the baby, the baby's arrival, and early, mid, and late infancy. The intervention was designed to be delivered in home visits by supervised community

health workers who had received a brief five-day training, strengthened by experiential learning and monthly half-day facilitated group supervision.

The Thinking Healthy Programme was integrated into primary health care, which, in Pakistan, is organized around Basic Health Units (BHUs) catering to a population of between thirty thousand and fifty thousand. Each BHU has a doctor, a midwife, and about twenty-five frontline providers called Lady Health Workers (LHWs). These village-based LHWs deliver maternal and child health care services in the communities. The LHWs were trained to deliver the treatment to mothers in their care. A cluster randomized controlled trial was conducted with nine hundred mothers experiencing perinatal depression.[5] The intervention more than halved the rate of perinatal depression in the intervention group, compared to the control group. In addition to symptomatic relief, the women receiving the intervention had less disability and improved social functioning. Infants of treated women had fewer episodes of diarrhea and were more likely to be immunized, treated women were more likely to use contraception, and both parents reported spending more time playing with their infants. An independent group of health economists conducted a long-term follow-up of the original research and found that the impacts on women's mental health had persisted, with a 17-percent reduction in depression rates after seven years. The intervention also improved women's financial empowerment and increased both time- and money-intensive parental investments by between 0.2 and 0.3 standard deviations.[6]

Expanding the THP nationally and globally presented another set of challenges. Rahman's team collaborated with several groups to explore strategies for such scale-up. In urban India (in collaboration with Patel), they found that peers (lay women from the community) were effective in delivering the program.[7] Peer-delivered THP cost only 1 USD per intervention recipient, which was negligible compared to the benefits. To meet the challenge of a lack of staff to scale up training and supervision, a single specialist instructed and managed a group of frontline trainers, who in turn cascaded the training to peers.[8] The peers were able to achieve and sustain the required competency to deliver the intervention. As peers became more competent, they could become peer-supervisors, thus adding to the pool of trainers and supervisors. This cascaded model could potentially be scaled up with only a few specialist trainers nationally. In Vietnam, Peru, and China, researchers found that the translated and adapted versions of the THP were acceptable and appropriate for delivery by frontline providers, demonstrating the transferability of the intervention across cultures and health systems.[9] In Pakistan, Rahman's group developed a software application for the training and supervision of community health workers remotely without the need for in-person instruction.[10] In Kenya, researchers piloted the delivery of the THP through mobile phones.[11] In 2015, the THP became the first completely manualized evidence-based intervention to be incorporated in the WHO's flagship mental health Gap

Action Programme (mhGAP), with step-by-step instructions for implementation by frontline providers.[12] In 2019, the THP received a boost from the highest office in Pakistan when it was included in the President's Plan to Promote Mental Health of Pakistanis: an ambitious program to scale up selected interventions, including the THP, to the entire country.[13]

Perhaps the best testament to the utility of these approaches comes from the patients themselves who have received the intervention, and the "barefoot therapists" who delivered it to them.

> "My [health worker] helped me take care of myself…when there was nobody…when she started working with me I realised I have to look after myself . . . for my child." (a mother in Goa, India)

> "I am learning new things every day, which are beneficial for me." (a mother in Rawalpindi, Pakistan)

> "What could be more rewarding than to see a mother smiling again and playing joyfully with her baby. I feel proud of my work as it is bringing positive changes in the lives of many mothers." (a frontline provider in Rawalpindi, Pakistan)[14]

What is the way forward for the THP? Clearly, in Pakistan, scale-up from a few hundred health workers to one hundred fifty thousand health workers nationally is a giant leap and requires further research and innovation to assure both the quality and sustainability of delivery. While randomized controlled trials show that the THP is effective, cost-effective, and less stigmatizing than other treatments for depression, efforts to scale up at this level are hampered by issues of quality control, and what has been described by implementation scientists as "voltage drop" (meaning the intervention loses some degree of its potency or fidelity when moving from efficacy to effectiveness in the real world) and "programme drift" (in other words, the intervention deviates from its manualized or implementation protocols).[15] Applying a technological solution to this challenge and working with the local community, Rahman and his team have developed an app that allows frontline providers to deliver the intervention sustainably without the need for extensive training and supervision.[16] A frontline provider delivers the cognitive-therapy components through a virtual "avatar" therapist incorporated into the app. Using automated cues from the app, the peer reinforces key therapeutic messages, helps with problem-solving, and provides the nonspecific but essential therapeutic elements of empathy and support. The peer and app therefore act as cotherapists in the delivery of the intervention. The peer can deliver the intervention with good fidelity after brief automated training. This approach has the potential to be applied to other areas of mental health and help bridge the care gap, especially in resource-poor settings. Currently, a randomized controlled trial is underway to test the effectiveness and cost-effectiveness of the app.

A tech-assisted peer-delivered intervention that improves mental health will have several implications for practice and research, especially in low- and middle-income countries. From a practice perspective, the innovation offers a unique model of service delivery, with peers working in partnership with the health system to provide care for depression as the first step in a tiered model of care. In addition, the technology has the potential to assist peers in triaging the target population according to symptom severity and other risks, such as suicidal ideation and interpersonal violence at an early stage, allowing these to be managed at a specialist facility, optimizing the efficiency of this expensive and scarce resource. The technology also has the potential to provide more personalized therapy by developing algorithms that direct the peer toward automated therapy sessions tailored to the needs of individual patients. Analytic methods using machine learning can be employed in future versions of the app to help peers take clinical decisions. Finally, the app has the potential to collect data about anxiety and depression at a population-level. This can assist with planning for future services, and research into the mechanism of action of the intervention in various demographic groups, as well as providing data on implementation outcomes, contributing to reducing the global burden from depression.

The origin site of the Healthy Activity Program case study is the state of Goa in India. The huge land size and population of India have resulted in wide differences between its thirty-odd states, and Goa is a unique example of this diversity. Unlike the rest of the country, Goa was colonized by Portugal. It is among the most literate and wealthiest states of the country as well as one of the smallest. Despite being relatively well-resourced, most of Goa's population has no access to evidence-based psychological treatments, as mental health practice is dominated by pharmacological interventions.

Vikram Patel led the program of work in this study, which was implemented by Sangath, a nonprofit mental health organization he cofounded in 1996, shortly after returning to India upon completing his psychiatric residency in England, and two formative years of working in Zimbabwe, where he was first exposed to the challenges of meeting mental health needs in contexts with very few specialized providers and pervasive social determinants of poor mental health. Patel began by documenting the burden of depression, reporting that the condition was very common (as many as one in five adults attending primary care were affected by distressing depressive symptoms), that it was strongly linked to social deprivation (such as poverty and gender-based violence), and that it was associated with disability and a higher risk of suicidal behaviors. The studies also reported that many of those affected by depression (more than 95 percent) did not have their mental health problem recognized.[17] The few who were able to access care typically received a cocktail of medications targeting specific symptoms (such as

benzodiazepines for insomnia, analgesics for pain, and vitamins for fatigue), prescribed by poorly trained medical practitioners.

This led to the evolution of Sangath's work in extending mental health care away from hospitals to community settings. Preliminary work highlighted the challenges of integrating psychological therapies within existing health systems steeped in the biomedical models of mental health care.[18] It was also clear that psychological treatments developed in high-income countries could not simply be transposed in low-income settings. Researchers in low-income countries were now trying to develop culturally appropriate psychological treatments. Psychologist Paul Bolton and his colleagues' work in Uganda and psychiatrist Ricardo Araya and his colleagues' work in Chile provided the early breakthroughs in the field, demonstrating the effectiveness of task-sharing to frontline providers.[19] This inspired Patel, now working for the London School of Hygiene & Tropical Medicine, to undertake a major program in India called MANAS (Manshanti Sudhar Shodh, which means "Project to Improve Mental Health" in the local Konkani language). MANAS was ambitious. It involved designing and evaluating a collaborative care intervention for integrating the treatment of depression and anxiety in routine primary care. A brief psychological treatment (interpersonal therapy) delivered by frontline counselors was a core element of the intervention. While the results were promising, the uptake of the psychological treatment was still low and further work was required to make the treatments acceptable in the community.[20]

Inspired by the landmark publication of the THP findings described earlier, Patel launched PREMIUM (PRogram for Effective Mental health Interventions in Under-resourced health systeMs), whose goal was to develop and implement a systematic methodology to design effective psychological treatments for mental disorders that were affordable, culturally acceptable, and feasible for delivery by frontline providers.[21] After careful study of other successful approaches to adapt psychological interventions to varied cultural contexts, a systematic methodology was applied to the design of a psychological treatment for depression. The treatment development phase lasted about three years and involved a series of studies aimed at addressing two key objectives: 1) designing the structure of the intervention (for example, its "active ingredients," based on global evidence and/or local practice) and 2) evaluating its delivery in routine health care settings to maximize its acceptability to the target population and its feasibility for delivery by nonspecialist providers. The resulting treatment was called the Healthy Activity Program (HAP), which centers on behavioral activation, a course of treatment supplemented by problem-solving and other simple techniques to address challenges faced by patients in achieving and/or maintaining activation targets, and to respond to other common complaints such as rumination, relationship difficulties, and sleep difficulties. The HAP was delivered in a face-to-face format over five to eight sessions, each lasting up to forty minutes, with initial sessions taking

place weekly. Sessions were delivered at the Primary Health Center (PHC) or patient's home, but telephone sessions were used when necessary and feasible.

The HAP was evaluated in a randomized controlled trial in ten PHCs in which the new treatment was compared with enhanced usual care.[22] Ultimately, 495 primary care attenders with moderately severe to severe depression took part in the study. The HAP was designed to be delivered by frontline health workers who were recruited through a process that began with advertising these positions in local newspapers. Selected applicants were then invited for the training, which was delivered over two weeks, covering both general counseling skills and techniques specific to the HAP. Supervision was an essential process to assure the quality of health care delivery for all cadres of providers. The traditional approach to supervising frontline counselors has been to use "experts" (typically mental health professionals) to observe sessions or discuss cases. This approach is simply not feasible in the real world. We demonstrated that peer supervision (in which a group of frontline counselors would listen to, rate [on a therapy-quality scale], and then discuss audiotaped sessions of one of the counselors) was acceptable and effective. Peers met in groups of three to four participants each week, in which two to three audiotaped sessions were rated and discussed. Over time, each counselor had the opportunity for a number of their sessions to be rated, with average to good quality across the trial period for all the counselors.

A major lesson from previous trials was that many patients found it hard to visit the clinic regularly for sessions (typically because of poor transportation facilities and high costs, including the time required to travel to the clinic), which led to high attrition rates. In the trial, while most patients received the first session in the clinic (where their depression was detected through routine screening), 91 percent of follow-up sessions were delivered at home. Thanks to this delivery strategy, we observed high treatment completion rates of 69 percent. The trial results unequivocally demonstrated a moderate effect at three months (patients who received the treatment were 61 percent more likely to remit). These effects were sustained at the end of one year. Notably, the effect of the HAP on depression outcomes at twelve months was mediated by patient-reported behavioral activation levels at three months, confirming the theory that underpinned the intervention. Economic analyses reported that the HAP is cost-effective, with a high probability that the HAP could be cost saving. Like the long-term follow-up of the THP, a recently completed follow-up observed significantly better mood scores and decreased rates of depression five years later.

As with the experiences of patients in the THP studies in Pakistan, patients who received the HAP often attributed improvement to the interpersonal relationship with the counselor, in particular their perception of the counselor as being sincere and committed, providing enough time to discuss all their concerns, and a feeling of being listened to and understood.

"I found it easy to talk to her. She helped me understand my health problem. You immediately felt like there was all the time in the world to talk, which of course you never feel at the PHC. The fact that she was looking at me intensely, listening, and writing down what I was saying made me feel like she was interested in what I had to say." (45-year-old woman)

"She seemed very honest and sincere. She was interested in what I used to tell her. I felt, she genuinely wanted to help me. She would ask about my financial situation and about my relationship with my family members. I thought somebody is interested in listening to my story." (58-year-old man)

"I felt completely comfortable telling her everything. I could share all my problems. I could trust her. I could feel that she cared about me and that helped me…it made me feel stronger because she was there to support me." (50-year-old woman)

"She helped me understand my health problem. I feel calmer. She taught me how to relax. The strategies she suggested were useful and helped me, I would say it helped me more than the medicines." (40-year-old man)[23]

Beyond the impact on patients, the counselors also reported a sense of enhanced confidence and satisfaction in their work. They thought the experience of delivering the HAP had also offered benefits to their own well-being. One counselor narrated her learning experience: "This experience has helped us to learn how to deal with and cope in such situations [depression]." Another shared her intentions of using her skills to help people within her intimate social circle: "Personally this will also help us in the future.…We can use these skills to help friends and neighbors."

The unique sociocultural context of Goa where the HAP was developed may limit the generalizability of the experiences in its implementation. Thus, its utility in the wider global health context required its evaluation in diverse contexts. There are now several such examples of adaptation and evaluation from diverse contexts. The HAP was adapted for use in a very rural and impoverished region of central India for Sangath's VISHRAM (Vidarbha Stress and Health Programme) project, a population-based initiative with the goal of implementing a coordinated multi-component program to increase demand for care (largely through community-based strategies), and to improve supply of care (largely through community-based counselors delivering the HAP). The program led to a sixfold increase in the demand for mental health care among people with depression in the community.[24] The HAP was adapted for use in Nepal and evaluated in randomized controlled trials, which reported its effectiveness in reducing the severity of depression and disability compared with the WHO's mhGAP package training (including nonspecific psychosocial counseling).[25] The HAP has been adapted for depression care for patients with tuberculosis in Nepal and with HIV in Uganda.

Given the large unmet needs for care for depression even in well-resourced countries (like the United States), a key question is the extent to which the evidence generated in these studies may be relevant to those contexts. This has been greatly facilitated by the fact that the active ingredient of the HAP is behavioral activation, a component of CBT that studies have shown is just as effective as the full CBT package, and which has evolved into a standalone psychological treatment in its own right.[26] The key innovation in the HAP was to make the treatment brief and feasible for frontline providers. The SUMMIT (Scaling Up Maternal Mental Healthcare by Increasing Access to Treatment) project adapted the HAP for perinatal women with depressive and anxiety symptoms and launched a trial comparing nonspecialist with specialist delivery models in sites in Toronto, Chapel Hill, and Chicago – cities with large, ethnically diverse, urban, and rural populations.[27] Our efforts to scale up the HAP has led us to address the barrier of training and supervision through the use of digital curricula, scalable approaches to assess competencies, and tools that can be used by frontline providers to rate therapy sessions generating quantitative metrics of quality.[28]

When seen alongside the wider literature on psychological treatments for mood, anxiety, and trauma-related disorders (which together account for at least two-thirds of the global burden of mental disorders), these two studies demonstrate how the challenges to scaling up psychological treatments can be addressed through innovations in their design and delivery.[29] First, the treatments combine established principles of psychological science with factors that enhance their acceptability in the sociocultural contexts of their delivery, such as minimizing the number of components, delivering them in relatively few sessions and in settings that are convenient to the patient (typically in their own homes), and incorporating social care (for example, in the THP, addressing mother-child interaction; and in the HAP, addressing determinants like interpersonal violence). Second, the studies demonstrate that the fundamental principles of the most dominant theories underpinning psychological treatments (namely, cognitive, behavioral, and interpersonal principles) are just as potent in these diverse populations as they were originally shown to be in samples drawn from high-income countries. This is a singularly important affirmation of the universal applicability of psychological science, once considered its Achilles' heel when compared with the presumed universal applicability of medications for mental health problems. Third, simplification of the treatment procedures makes it easier for frontline providers to learn the core principles underpinning psychological treatments and for patients to understand and incorporate behavioral change in their daily lives, providing an explanation for their impressive long-term effects. Fourth, these studies emphatically demonstrate how the competency-based training of the providers followed by continuing peer supervision and sup-

port, and the use of appropriate technology, can enable them to deliver these treatments with a high degree of fidelity and impact. Finally, it would be incorrect to interpret this large body of evidence to suggest that the only value of task-sharing is to address access to evidence-based interventions as a stop-gap measure for contexts where there are insufficient specialist providers. The evaluations of task-sharing have demonstrated many other benefits too, including empowerment of the providers themselves with heightened self-efficacy and purpose, the reduction of stigmas attached to mental health care, and improved engagement with mental health care consequent to the comfort that patients have talking to providers from their own communities who also address their other health and social concerns.

This body of evidence is central for reimagining how the crisis of lack of access to evidence-based psychological treatments can be addressed globally. The global impact of this work is evidenced by the acknowledgment of the critical role of task-sharing of brief psychosocial interventions not only for low- and middle-income countries but also in high-income countries. There is now a robust body of evidence evaluating this approach in these countries, and the academic and policy communities have called to embrace this approach to transform mental health care.[30] It is important to note this innovation represents an extension of the existing mental health care system, not a replacement, expanding its footprint deep into the community to reach those whose needs have been unmet while ensuring coordination so that those who require more specialized care can easily access it. Most important, task-sharing of these carefully designed interventions intended to optimize acceptability and feasibility not only increases their coverage but also reaches those who cannot otherwise access care, reducing disparities. Yet apart from small islands of successful scale-up at a national level, notably the Improving Access to Psychological Treatments program in England, there is no visible effort to scale up psychological treatments in most countries.[31]

A major challenge is finding a way to enable providers on the scale needed to address the vast unmet needs for care. The traditional models of face-to-face training and supervision are not feasible, and digital platforms and peer-led capacity building will need to be used to achieve this goal, as have been tested for both the THP and the HAP. EMPOWER is a program led by Harvard Medical School and Sangath that is deploying a suite of digital methods and tools to efficiently train and support a wide range of frontline providers in learning, mastering, and delivering evidence-based psychosocial interventions. The first offering, the scale-up of the HAP, is now underway in the central state of Madhya Pradesh, one of the least-resourced states in India. The program is being implemented in partnership with the state government's health department and involves the training and support of a cadre called Accredited Social Health Activists (ASHA), who serve as the frontline providers of the country's National Health Mission. Building on this ex-

perience in India, we are now extending this work to Texas. Over 80 percent of the state's 254 counties are designated as "mental health professional shortage areas."[32] In partnership with the Meadows Mental Health Policy Institute and the UT Southwestern Medical Center, we aim to scale up depression care in under-resourced communities in Texas by training and supporting frontline providers to deliver the treatment. We have completed the tailoring of the program content for the U.S. context and are currently engaged in culturally adapting the content so that it will also be available in Spanish to meet the needs of the significant Hispanic population in the state. This effort is a rare example of reverse engineering innovations developed in low-resource countries for delivery in wealthy countries.

This body of science, much of it led from the Global South with generous funding from Northern donors and collaboration with psychological and implementation scientists in Northern universities, is an exemplar of both the value of global partnerships and the decolonization of global health, creating novel interventions and delivery approaches that can transform policy and practice in all countries. Our experiences, along with those of the thriving global mental health research and practitioner community, emphasize the need for paradigm shifts in the architecture and principles of the mental health care system. At its heart is the reduced medicalization of mental health problems that privileges a narrow biomedical paradigm dominated by doctors, diagnoses, and drugs. A critical goal of all mental health care systems is both the recognition that mental health care must address psychosocial needs (which will always involve a team of community-based frontline providers) and the admission that adequate resources and support are needed to empower these extraordinary persons. Moreover, this reimagination radically revises the widely prevalent nihilistic notion that most communities in the world do not have enough resources to address mental health problems or that these problems are too complex to address. Instead, we must recognize that every community has resources, and mental health problems can be addressed effectively with a resource every community possesses: people who care for others in their communities.

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Good Mental Health Care: What It Is, What It Is Not & What It Could Be

Arthur Kleinman & Caleb Gardner

What makes for good mental health care? What are the barriers to good care and, when they can be overcome, what accounts for successful treatment? What does successful treatment and care, in fact, mean? Can they mean different things to different people? If so, how can we think about them in a practical way that is useful to patients, families, and clinicians? On the one hand, from work in fields as various as neuroscience, clinical psychology, and anthropology, we are learning (and rediscovering) more and more about how the human mind works and the many ways that psychological suffering can be preempted and treated. On the other hand, in many ways, the mental health care system is either dysfunctional or working against what we know to be best for psychological and social flourishing – the disappearance, for example, of true "care" from medical and mental health care systems. In this essay, set against the background of diverse perspectives provided by the foregoing essays in this volume, we attempt to frame and address some of these basic questions, giving priority to practical, down-to-earth, lay, and professional considerations.

A person walks into a consulting room (or into a family encounter, clinic, or community mental health center) looking for help with difficult feelings, ideas, or relationships. Their problem may come with a widely agreed upon label, or may at first seem more amorphous. It may not fit neatly into any available category. It may be difficult to articulate in words for the affected person, the family carer, or the professional provider. The person may be ambivalent about classifying their experience as a problem at all. In the clinical setting, they meet a caregiver: a community health care worker, a physician experienced in using selective psychopharmacological agents, a therapist of some variety. Their transaction is pragmatic, concerned with lessening or removing complaints and controlling unwanted experiences. That clinical action entails understanding the problem as clearly as possible and in such a way as to make available an intervention, a treatment strategy that will maximize the benefit while minimizing the harm.

What that strategy ends up being will depend on the nature of the presenting problem and the training, orientation, and expertise of the provider(s). A medication may be used, or a certain kind of psychotherapy will be initiated, an alternative and complementary practice employed, or family – and self – care with exercise, diet, and meditation. If in psychiatry, another kind of somatic treatment may be prescribed such as transcranial magnetic stimulation or electroconvulsive therapy. If in religious healing, prayer and rituals may be undertaken. The affected person (patient, client, supplicant) and provider will then discern if the chosen course proves helpful or not. All of this, and more, is what we are talking about when we talk about mental health care.

From a more academic perspective, the multidisciplinary collection of essays in this issue also demonstrates how mental health care encompasses a wide range of conditions and possible interventions. Different disciplinary perspectives and theoretical frameworks can formulate the same problem in sometimes very different ways and can, therefore, lead to different approaches to treatment that may complement one another or be mutually incompatible (see the essay by Allan V. Horwitz and Jerome C. Wakefield in this issue).[1] While each perspective lays out a problem to be addressed theoretically in its own way, there will be some conditions – usually those with more dramatic or acute signs and symptoms – that nearly all frameworks regard as mental health issues.[2] Other conditions with more widely shared or subtle characteristics may be thought of by some as within a certain normal range that places them outside the purview of mental health care. Some basic theoretical frameworks represented in this *Dædalus* issue are: biochemical, neurological, genetic, psychological (cognitive, emotional), psychodynamic/psychoanalytic, interpersonal, social constructionist (cultural, moral), and social structural (poverty, class, race).

While some authors are clearly grounded in one or several distinct perspectives, in clinical practice there is always present a blend of influence idiosyncratic to a particular provider, institution, and political economic system. In other words, the theoretical distinctions between different fields and subfields, as well as professions and institutions, have real effect and implications for practice, yet are never wholly representative of day-to-day clinical reality.[3] When patient, family, and community perspectives and practices are given primacy in mental health care – as they must, because they constitute most of care – the realities of what such care is about become both more diverse and more widely shared. Think of the emergent perspective of neurodiversity as a popular replacement for professional caregivers' orientation to pathology in an effort to reduce stigma and mainstream differences.[4] Research and practice, theory and technique, are forever joined and forever in tension with one another.

In psychiatry and psychology, because we do not understand the etiology of psychological problems in the way that we understand the cause of bacterial in-

fection or bone fractures, we also do not understand exactly how our interventions help, or why they help some people in certain ways and not others. The treatment of mental distress and illness, whether by medication or psychotherapy is, therefore, still fundamentally empirical.[5] And yet that empirical outcome is so connected to different human interests and perspectives that caregiver and care-recipient (as well as family, friends, and other providers) may not fully agree on the outcome.

Let us return to the person in the consulting room. Their problem has been presented and formulated in some manner and an intervention (or nonintervention) has been decided upon. Treatment has begun, and while these more or less explicit steps are taken and evaluated, something else is happening in the clinical encounter (something that happens to some extent in every clinical encounter): a basic human interaction is unfolding and a caregiving relationship of some sort is developing in the context of all the conscious and unconscious hopes, expectations, uncertainties, and fears of both the affected person and the provider, the patient and the healer. This is the heart of care : the intersubjective caregiving-receiving reciprocity. The therapeutic power of this relationship in all fields of medicine has been well known for a very long time. When we speak of "bedside manner," "the healer's art," "the placebo response," or "therapeutic empathy and presence," we are drawing on this relationship.[6] Today it is given increasing attention in the medical school curriculum. Efforts to incorporate language and lessons from the humanities and arts into medical training illustrate the sense that there is something clinically valuable to being a human provider with a human patient.[7] These endeavors tend to run aground, however, when efforts are made to standardize clinical interactions and enfold them into any sort of algorithmic approach, such as those entailed by bureaucratic uses of one-size-fits-all technology and the structural demands of our "era of high throughput" of patients and procedures.[8]

Measures of true caregiving processes like the quality of therapeutic relationships, the actual time spent interacting, the practitioner's skills (or lack thereof) in listening and communicating, their emotional support, their presence as an ethical and spiritual act, their clinical judgment and therapeutic decision-making – all fundamental to quality care – routinely go unexamined in everyday clinical work. We measure none of these crucial elements of care in health care systems. Hence, evidence of the quality of caregiving in psychiatry, other mental health professions (except for a few kinds of psychotherapy research), and indeed every other area of medicine is essentially nonexistent. Instead, clinics and hospitals use a bureaucratic sleight of hand : they evaluate institutional efficiency – the cost, speed, and other bureaucratic measures of the performance and outcomes of services – as a substitute for care and call it quality. The actual day-to-day quality of care in mental health, as in the rest of the field of health, is largely unknown because it is not directly, routinely, or systematically examined.

To complicate things further, there are several different ways one might look at and, therefore, evaluate quality in mental health care: there is quality as defined by different academic and industrial research perspectives, quality as defined by the latest practice standards of each profession and institution, and quality as the usefulness (or not) to a particular person in a particular context of care and treatment relationship. The first will always be different depending on what theoretical and methodological perspective is taken (such as biological, psychological, social constructionist, social structural). The second will also be different depending on the official professional, institutional, or governmental guidelines. The third is more likely to be shared, and may even contain a certain universality, owing to the practical, down-to-earth human activity of caregiving and receiving. It is the abidingly human parts in the individual, family, and community context of care that we primarily concern ourselves with in this essay. This is care as exemplified in this volume by Kay Redfield Jamison's descriptions of the lived experiences of suffering and healing among those with mood disorders, and Vikram Patel and Atif Rahman's research on the effectiveness and potential of therapy by lay counselors and community caregivers.[9]

We generally assume that therapists are therapeutic. There is a good deal of quantitative and qualitative data about the treatment outcomes of particular kinds of therapy, and much reportage about their practices, to suggest they are.[10] And yet we also find regular accounts in the media and in the rapidly expanding genre of patient and family member narratives that raise serious questions about just how good, in general, the quality of care for patients' mental health really is.[11] As clinicians who work in this remarkably varied field, we are aware that many psychiatrists, clinical psychologists, psychiatric social workers and nurses, occupational therapists, and practitioners from other disciplines often aspire to clinical excellence. But how often does aspiration translate into high-quality care as assessed by patients, families, and professionals themselves, let alone independent observers, the state, or health insurance companies? Because we are also acutely aware of all the financial, bureaucratic, and professional barriers to quality care, we must admit we simply do not know enough about quality of care in the mental health field. What we do know is simultaneously promising and discouraging. And we must recognize openly that much of what we identify as care does not lend itself to the kind of quantification and evaluation that are used in academic medical and public health policy. But the fact that the subtleties of individual relationships cannot be adequately assessed by a randomized controlled trial does not mean that they are not important. There are other, related, essential elements of care that can be measured more readily, such as actual time devoted to face-to-face patient care, the pattern and level of communication, and the minimization of bureaucratic distractions

and financial conflicts of interest, as well as the reduction of ethical failings and iatrogenic harm.

It is past time to implement across the broad range of practices and practitioners the elements of high quality of care, especially for those most vulnerable and marginal who simultaneously have the greatest need and the fewest resources. Access without adequate quality of services is as unacceptable as are efforts at prevention without treatment.

Looking at our own profession, psychiatry, we recognize that in clinics and training programs across the United States, clinicians and trainees are spending hours and hours each day in front of computer screens entering information that has very little to do with the clinical reality of the patients they are treating. It is a serious crisis in psychiatry, as in the rest of medicine. The union of insurance- and liability-driven clinical documentation and electronic medical records that function as billing platforms and convert clinicians into accountants has grown into a bureaucratic nightmare that distorts clinical realities and wastes precious time.[12] Particularly troubling is the sheer hours spent in training and practice on clinically irrelevant documentation that could (and should) be spent providing care ; it discourages clinicians and, at worst, makes them feel alienated from their desire to take part in high-quality clinical practice – alienation that is so common it has received extensive media attention as an epidemic of "burnout." Burnout results in poorer education and socialization for failure.[13]

The model of the mind implicit in this one-size-fits-all systems approach to psychiatric practice is a false one: unidimensional; without nuances, uncertainty, or contradiction; without humanity. That model does damage to both patients and clinicians. Again, the beneficiaries are insurance companies, those invested in growing hospital bureaucracies, and pharmaceutical companies who lobby for their overpriced products to be more integrated into treatment algorithms across entire health care systems. Prioritizing money, not care, has led us to this state of affairs. Even supposedly nonprofit institutions function as businesses seeking profits : a 2016 study found that seven of the ten most profitable hospitals in the United States were nonprofits.[14] In psychiatry, researchers who should know better, and whose findings may even have made them think twice, have gone along with this commercially driven approach because it not only improves hospital finances, but supports their own publication record and career advancement. They have removed the psyche from psychiatry and in its place given primacy to economic growth over subjective and contextual good. It has not been beneficial for those people who have had the most at stake : patients, families, communities, and ordinary practitioners.[15] Sad to say, academic psychiatry by and large has offered little resistance. Instead, it has been all too eager to abandon the complexity of the human reality of care in favor of the artificial stamp of approval of "evidence-based science" (read, efficiency-based metrics) from industries whose primary objective is financial gain.[16]

Consider the observations made by Steven Hyman; Anne Harrington; Isaac R. Galatzer-Levy, Gabriel J. Aranovich, and Thomas R. Insel; Helena Hansen, Kevin J. Gutierrez, and Saudi Garcia; and Gary Belkin, among others, in this issue of *Dædalus*.[17] Despite many remarkable discoveries in basic neuroscience about the workings of the brain, the efficacy of everyday treatment for mental illness has not changed much over the past four decades, and once lofty promises remain unfulfilled. Diagnosis is always a problem (due in large part to the subjective and still mysterious nature of most psychological issues) and the *Diagnostic and Statistical Manual* (DSM) of the American Psychiatric Association has become an ever-expanding catalog of arbitrary conditions or "disorders" defined by symptom checklists, many of which are so lacking in evidence for underlying structure that the entire diagnostic system has been rejected by neurobiologists.[18]

There are also concerns on the treatment side of mental health practice. That psychotherapy has outcomes that are better or similar to those for medication is a huge consideration.[19] That relatively simple psychotherapy delivered by community peers with limited training is just as effective as any other treatment for certain mental health problems calls into question what the mental health system in every society should look like. And that developments in neuroscience now emphasize two key features of mental life – unconscious processing and the primacy of feelings – signifies that we are in many ways catching up to a conception of human experience that has long been explored in art, music, literature, and psychodynamic psychology.[20]

When taken altogether, it is no longer surprising that the whole superstructure of our mental health care system seems profoundly stuck. The widespread efforts to turn mental health care into something approximating routine blood pressure management or antimicrobial treatment are at odds with the state of our current understanding of causes and effects, the emergent pictures of the way the mind works, and our sense of what is decent, ethical practice. Small wonder we may not be getting the results we say we want. And small wonder that psychiatry residents and other trainees are feeling dispirited by a system and an administrative apparatus that seem to deny the existence of the very conflicts and complexities that are causing, or at least exacerbating, the suffering of our patients.

The place of psychiatry, and by extension a medical approach to mental health problems, may well have to become a great deal smaller in the future in comparison with the greater mental health care system, as Hansen and colleagues suggest in their essay.[21] Their advocacy for a public health harm-reduction approach to syndemics of substance abuse, suicide, and homelessness strikes us as the right track. So, too, does Patel and Rahman's promulgation of a much larger role for community health caregivers in the delivery of psychotherapeutic interventions for depression, anxiety, trauma, and other common men-

tal health problems.[22] For example, the available evidence suggests that half of all cases of depression are relatively less severe and respond well to self- and family-care practices, including exercise, diet, interpersonal support, and meditation. From a public health standpoint, then, professional care of depression, like that of other common mental health problems, should be focused on those more-serious chronic cases that do not respond to these first-line interventions and that require expert treatment, including medication and other somatic therapies, as well as more sophisticated and intensive forms of psychotherapy.[23] The same case can be made for a much narrower, limited, and highly specialized role for psychiatry (and clinical psychology) as a referral back-up for mental health care delivered by primary care physicians, nurses, and community care workers. The same specialized back-up would be appropriate for public health harm-reduction services aimed at reducing domestic violence, racial violence, and other forms of violence-based trauma, as well as suffering due to natural disasters that are increasing owing to climate change, as is addressed in this volume in the essays by Jeffrey W. Swanson and Mark L. Rosenberg, Joseph P. Gone, and Hansen, Gutierrez, and Garcia.[24]

On the other hand, or perhaps even alongside such constrictions, there are ways in which the field of clinical psychiatry could expand. In academic and other medical institutions that continue to pursue a genuine interest in the improvement of care across departments, psychiatry could be a model and active consultation resource for understanding and maximizing the healing power of the caregiving relationship. Even more generally, as the findings of neuroscience continue to grow and attract interest in medical circles as well as the public sphere, psychiatry is well positioned to lead the ongoing integration of medicine with the humanities, sciences, and arts, while also continually articulating and adhering to the boundaries of our current knowledge, a principle that happens to be at the core of effective clinical practice.[25]

The result of such change would be a wholesale restructuring of mental health care systems. Such a new mental health care system would also require system-wide prioritization of quality of caregiving relationships, clinical communication, and the related elements of high-quality care that we discussed earlier.

Mental health programs, interventions, and policies are still, for the most part, designed and implemented as though mental health problems are there just waiting to be fixed, figured out, or eliminated with the correct medication or therapy. As though our internal divisions and self-deceptions, with their close connections to our local cultural worlds and their strains and conflicts, were just superficial cracks in the inner veneer of otherwise perfectly consistent and coherent psyches and smooth social relationships. It is an arresting irony that the field of mental health has so much difficulty encompassing the unconscious – part of our everyday contexts of lived experience with all its familiar paradox, ambivalence, and confusion.

Still, on a practical level, not all or perhaps even most causes of psychological problems are most usefully traced to unconscious conflicts or divisions within the self. Some should be approached and primarily understood from a genetic perspective. Some are most usefully seen as interpersonal issues. Some post viral. Some neurodegenerative. Some deeply social-structural as the result of grinding poverty and everyday assaults of racism, as illustrated in the essays by Jonathan M. Metzl, Gone, and Hansen, Gutierrez, and Garcia.[26] Yet everyone still has to grapple with the reverberations of these biosocial conditions in their mind. So even in instances of genetically based conditions or infections like COVID-19, which can affect the brain and have been so destructive of mental health, as Laura Sampson, Laura D. Kubzansky, and Karestan C. Koenen show in their contribution to this volume, the experiences of true mental health *care* must be suffused with respect for the mysteries and complications of unconscious life.[27] The ontology of care in mental health, the *being* element, not just the *knowing* element, requires attention to unconscious life.[28] That is likely how interpersonal processes, such as the therapeutic interactions of depressed individuals with their community caregiver peers described by Patel and Rahman, have their healing effect.[29] It is how psychotherapy probably works.[30] And perhaps it also helps us understand how systems of health care that (explicitly or implicitly) deny the divided and contradictory nature of human experience can be so corrosive of real care.

This problem, unfortunately, is true of all of health care. Health care systems largely limit their vision of patients, families, and practitioners to a simplistic and extraordinarily superficial consumer-provider framing that supports the dominant vision of health economists and business interests. It reduces care to its supply and demand and product-centered characteristics; it is simply an inadequate way of framing caregiving.[31] It offers only a small space to acknowledge and affirm the pain and suffering of patients, the fear and uncertainty of family members, and the emotional and moral responses of practitioners. That is the complex – psychological, social, and cultural – humanity of human beings. Out of that human care comes the *presence* (or absence of presence) of the protagonists in the hospital's healing dramas and the *reciprocity* that elicits and sustains care in families and communities.[32] Care itself is about the work of caregiving through acts like supporting, assisting, being there, accompanying. Because just the opposite of the dominating health policy vision is or should be what psychotherapy is about, it offers both a vision and a practical model for the therapeutic relationship throughout medicine and health care.[33] Yet, as it runs against the grain of existing health care systems, psychotherapy has been marginalized. Neither regarded as efficient or cost-effective enough at the system level. Perhaps the kind of robust support Patel and Rahman's research offers, along with that of others like it, will help prioritize a psychotherapeutic framing of caregiving that is more popular and influential.

The dismissive responses of health program directors and planners make it crystal clear that any serious undertaking to improve the current quality of care will require not piecemeal reform, but rather a thoroughgoing reimagining of what health care is about. We must make more central the real needs and opportunities of people who are struggling to find and offer healing.

In the 1980s and 1990s, one of us (Kleinman) conducted research on mental health problems in China. That research showed a much larger number of people were in need of mental health care than those regarded as suffering from mental illness by Chinese psychiatrists and other physicians at the time. The care available then was limited to psychopharmacological treatment given in mental hospitals or by psychiatrists and primary care doctors in outpatient clinics. Subsequently, as it became increasingly possible to have large-scale epidemiological studies, it was repeatedly shown that the burden of mental health problems in China was in the same ballpark as in the United States and Europe, and that like in those societies, it was worsening. In China, persons with mental health problems can experience high levels of stigma, and Chinese patients with mental illness tend to emphasize their physical symptoms and seek general medical care. It was Kleinman's view, therefore, that the resulting somatic orientation of psychiatrists, which reinforced such somatization, would reduce the likelihood that the Chinese mental health care system would develop substantial psychosocial and psychotherapeutic care approaches. That theory turned out to be completely wrong. Over the past quarter-century, there has been robust development of counseling and psychotherapy in the popular domain of care in China. These therapeutic approaches are delivered by school counselors, psychologists, and an impressive array of therapists of many different kinds. The popularity of various forms of what we would call psychotherapy in today's China is part of a sea change in that society that is most apparent among youth and younger adults, but increasingly involves people of all ages. The upshot is a mental health system that extends well beyond psychiatrists, hospitals, and clinics while, at the same time, the quality of care for mental health problems in hospitals and clinics has increasingly improved. This is a development seen in other countries that points to cultural, political, economic, and social transformations of our time that simultaneously seem to be worsening mental health yet also reducing its stigma and creating much broader and diversified forms of care that people are seeking out to a much greater extent than anyone would have predicted.

The late Paul Farmer – an icon of healing in global health – wrote: "The idea that some lives matter less is the root of all that is wrong with the world."[34] He was talking about the devastating effects of racism and neocolonialism. But he was also pointing a finger at the combined commercial and bureaucratic processes that dominate health care and so much else in the world. As Hansen and co-

authors, Metzl, Belkin, Gone, and others in this issue show, reimagining mental health care in our times must be a call for making *care* the central value and therefore the measure of health care systems. To accomplish that will require responding to poverty and inadequate housing, reforming the failed criminal justice system, and changing other structural forces that treat many people, including the mentally ill, as if they matter less. Just as this will require societal reform, it will require support for the complex humanity of patients, families, and practitioners.

Gone's account of historical trauma experienced collectively and individually by Indigenous Americans explains why the ever more popular category of PTSD is inadequate for getting at the incomplete and stalled social mourning and personal grieving in the face of past and present ethnocide and persistent assaults on Native peoples everywhere. Based on research and his own experience as a member of the *Aaniiih*-Gros Ventre Tribal Nation of Montana, Gone joins us and many others in concluding that we need nothing less than to thoroughly reimagine mental health care systems. That critical process of reimagination, Gone goes on to say, needs to begin with acknowledgment and affirmation of the more positive and uplifting value dimensions of tribal life, which in turn can encourage healing and rebuilding of more availing worlds. The trajectory of such Indigenous care has to work through loss and mourning in order to offer a new foundation for human flourishing that, among other things, undertakes psychic repair.[35]

In this same vein, Finnish-American medical anthropologist Annikki Herranen-Tabibi deploys the resonant term "resurgent care" to describe how Sami elderly in the Scandinavian Arctic teach youth to reclaim and reinvigorate traditional ways of caring for disrupted kinship ties, social suffering, chronic illness, disability owing to aging, as well as climate change's local destruction of the permafrost foundation of their ecosystems, and the burdens of their everyday living conditions. Resurgent care becomes more than Indigenous resistance, but an entire people's modus vivendi for working through mourning and resistance to confront social and health inequalities, heal and create the on-the-ground conditions for personal and collective flourishing. This is a quest for the wisdom to repair, reinvigorate, and endure.[36]

Social mourning and personal grieving involve the stewardship of memories, which need to be cared for just as bodies are cared for by lay persons and professionals alike, as they ritually transition or are psychotherapeutically assisted to act forward. Care of memories is the ethical-spiritual-aesthetic reticulum that underpins trust across distinctive forms of mental health care therapies, thereby enabling the completion of individual mourning and the rest of the healing process. Caring for collective memories at the societal level might offer a means for social care and community healing.

We have landed on a foundational principle for mental health systems everywhere: care must be at the center and can be mobilized in different ways to

strengthen a world or to rebuild individual lives. Life itself is the soul of care : human relationships, presence, the caring for memories, the everyday activities of pragmatic solidarity, accompaniment, meaning-making, and ethical decency. Social technologies, including telemedicine, virtual reality, psychiatric medications, and assistive devices, require that human foundation of ordinary life to maximize human prospects. Political economy and bureaucracy must sustain and strengthen, not weaken, this life foundation of care. Policy and programs, as Swanson and Rosenberg show for the crisis of gun violence in America, require care together with prevention if they are to succeed. The upstream sources of our mental health crises – poverty, racism, destructive institutional bureaucracy, wanton commercialization – require care and control if social and health disparities are to be reduced.[37] That means focusing on individuals at the same time as social conditions and social systems. It also means that health care systems must prioritize *care* as their central value ahead of financial gain, bureaucratic procedure, professional codes, and ideological commitments. High-quality mental health care begins and ends with acts of care.

Renowned Boston therapist and teacher Elvin Semrad is said to have described psychotherapy as fundamentally a process of "acknowledging, bearing, and putting in perspective" things that are, initially, unacknowledgeable and unbearable. Embedded in this formulation is the insight that, to some degree or another, our individual and collective suffering and symptomatology come from the seemingly infinite ways that we find to not-know what we know. We automatically, reflexively try not to know something if it is too painful, too frightening, too developmentally inappropriate and therefore impossible to integrate into one's growing self, or if it sets up a seemingly irresolvable conflict with other things we want, need, and know.[38] Call it a defense : denial, repression, dissociation, projection, whatever. Our minds can do this sort of thing because on some level of basic survival it is adaptive ; it gets us through but can leave us psychologically mangled. This kind of not-knowing happens on an idiosyncratic, individual level, where an event, a thought, a feeling that is unbearable for one person is perfectly bearable for another with different biology, life history, culture, and so on. It also happens on the level of communities and populations. What else is "the idea that some lives matter less" if not a kind of massive psychological distortion, a denial of something that is as profound as it is self-evident ? So why the need for denial ? Why is the idea that all lives are of equal value so often unbearable ? Probably, at least in part, because of the threat this truth poses to so much of how we operate as individuals and societies, because of the incalculable responsibilities and conflicts and complexities this simple fact brings along with it.

Some of the most foundational work on intergenerational trauma and the repetitive transmission of both dramatic and subtle childhood mistreatment high-

lights various psychological defenses against unbearable feelings as a mechanism for such transmission.[39] We avoid complicated and painful truths by repressing, dissociating, and otherwise deadening our emotional knowledge, and we thus increase the risk of reenacting and engendering the same deadening processes in our children. Leonard Shengold and others have called this essentially traumatic process "soul murder."[40] Similarly, Donald Winnicott described the "false self" that takes over one's life when the self-preservative psychological contortions of childhood have been too great.[41] The child, in order not to know what she cannot bear to know, must amputate her whole apparatus for knowing and feeling new things. She must kill a part of herself in order to survive. Gone, in his essay, describes a related process on both an individual and a community level. Just as the defensive denial of the basic truth of human equality can result in actual genocide, so can the unbearableness of such historical trauma subsequently create the conditions for "soul genocide" and the alienation from one's individual and historical identity on a massive scale. It then becomes not a question of treating PTSD symptoms in any sort of medicalized manner, but rather finding a way, collectively, to mourn a loss that entails acknowledging and bearing those things that have so far been unacknowledgeable, perhaps even psychologically unrepresentable in thought or feeling.

We began this essay by noting the wide range of conditions and experiences that might be encompassed by the field of mental health care. This diversity of conditions, treatments, technical approaches, and theoretical orientations remains and will likely continue to expand. At the same time, we set out to identify and articulate some everyday, down-to-earth, universal aspects of mental health issues and treatments that arise from our shared human condition and transcend, or at least should transcend, the innumerable and inevitable conflicting interests of medical finance and economics, publication and promotion incentives, theoretical allegiances, academic prejudice, bureaucratic inertia, and human desire for concreteness and simplicity, to name a few. There is currently no comprehensive theory of mental illness that accounts for everything we observe from biology to individual experience to social phenomena. Fundamental causes for even the most common issues are still debated, elusive, and overdetermined all at once. So, we must continue to learn more: more neuroscience, more social science, more clinical experience. At the same time, we must recognize that we already know something about what makes for good care and we must promote it. We also know how challenging it can be to bear reality, to be honest with ourselves. How easy, how natural it can be to curate our thoughts and feelings, our memories, and our theories and policies in ways that are both self-protective and self-destructive. Whether a psychological problem arises primarily from biochemistry or psychodynamic conflict, or social conditions, one of the most important roles of caregiving, whatever the technique, is to help one person or many acknowledge and bear a compli-

cated reality that is for all of us, at one point or another, too much to handle on our own. This truth is both daunting and hopeful in its basic, unsophisticated nature. It is also threatening to anyone (truly, all of us to some degree) and any institution that wants to have the authoritative answer, the right treatment. Perhaps that is why it keeps getting ignored – or forgotten.

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ABOUT THE AUTHORS

Arthur Kleinman, a Fellow of the American Academy since 1992, is the Esther and Sidney Rabb Professor of Anthropology at Harvard University, and Professor of Medical Anthropology in Global Health and Social Medicine and Professor of Psychiatry at Harvard Medical School. He is the author of twelve books, including *The Soul of Care : The Moral Education of a Husband and a Doctor* (2019), *A Passion for Society : How We Think about Human Suffering* (with Iain Wilkinson, 2016), and *Rethinking Psychiatry : From Cultural Category to Personal Experience* (1988).

Caleb Gardner is a Lecturer Part-Time at Harvard Medical School, a psychiatrist, and a psychoanalytic candidate at the Boston Psychoanalytic Society and Institute. He has written for such journals as *The New England Journal of Medicine* and *The Lancet*.

ENDNOTES

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[2] Psychosis and severe anxiety are recognized almost everywhere. See Arthur Kleinman, *Rethinking Psychiatry : From Cultural Category to Personal Experience* (New York : Free Press, 1988).

[3] On clinical reality, see Arthur Kleinman, *Patients and Healers in the Context of Culture : An Exploration of the Borderland between Anthropology, Medicine, and Psychiatry* (Berkeley : University of California Press, 1980), in which clinical reality is defined as an instance of the mutual construction of the social world by participants–patients, networks, practitioners–who come together around a practical problem, and in so doing recreate culture (societal and professional) through their interactions and acts of interpretation, communication, caregiving, and care receiving.

[4] Matthew Wolf-Meyer, *Unravelling : Rethinking Personhood in a Neurodiverse Age* (Minneapolis : University of Minnesota Press, 2020).

[5] See, in this volume, Anne Harrington, "Mental Health's Stalled (Biological) Revolution : Its Origins, Aftermath and & Future Opportunities," *Dædalus* 152 (4) (Fall 2023) : 166–185, https://www.amacad.org/publication/mental-healths-stalled-biological-revolution-its-origins-aftermath-future-opportunities ; and Steven E. Hyman, "The Biology of

Mental Disorders : Progress at Last," *Dædalus* 152 (4) (Fall 2023) : 186–211, https://www.amacad.org/publication/biology-mental-disorders-progress-last.

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7 One of the early and most influential works on this subject is Jerome Frank, *Persuasion and Healing : A Comparative Study of Psychotherapy* (New York : Schocken, 1961). For a cross-cultural expansion of these ideas, especially as they relate to Asia, see Karen Laura Thornber, *Global Healing : Literature, Advocacy, Care* (Leiden : Brill, 2020). And for a powerful recreation of William Osler, W. H. R. Ricers, and other exemplary healers in medicine who embodied the elements of psychotherapy in their work of caregiving, see Kay Redfield Jamison, *Fires in the Dark : Healing the Unquiet Mind* (New York : Knopf, 2023).

8 Kenneth Ludmerer, *Let Me Heal : The Opportunity to Preserve Excellence in American Medicine* (New York : Oxford University Press, 2015).

9 Kay Redfield Jamison, "Disorders of Mood : The Experience of Those Who Have Them," *Dædalus* 152 (4) (Fall 2023) : 151–165, https://amacad.org/publication/disorders-mood-experience-those-who-have-them ; and Vikram Patel and Atif Rahman, "Empowering the (Extra)Ordinary," *Dædalus* 152 (4) (Fall 2023) : 245–261, https://amacad.org/publication/empowering-extraordinary. The literature on care is quite extensive and crosses professional and popular genres. See the references in Arthur Kleinman, *The Soul of Care : The Moral Education of a Husband and a Doctor* (New York : Penguin, 2019) ; and in Felicity Aulino, *Rituals of Care : Karmic Politics in an Aging Thailand* (Ithaca, N.Y. : Cornell University Press, 2019).

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11 Illustrative of the wider crisis of care are the articles documenting cases of psychiatric polypharmacy : one medication is added to another to manage symptoms and side effects, while the underlying causes and human experiences fade into the clinical background. For example, see Matt Richtel, "This Teen Was Prescribed 10 Psychiatric

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13 Smit Chitre has written a senior honors thesis in anthropology at Harvard University based on an ethnography with clinicians of different generations at a leading hospital that both documents burnout and relates it directly to classical Marxist alienation. In Chitre's interviews, these clinicians feel alienated from the high expectations they have for their work as professional carers and the systemic obstacles that make it so extraordinarily difficult for them to realize these expectations in actual practice. Other reports by researchers and practitioners do not necessarily use the term but convey the same meaning. See Sandeep Jauhar, *Doctored : The Disillusionment of an American Physician* (New York : Farrar, Straus and Giroux, 2015) ; and Kleinman, *The Soul of Care*.

14 Ge Bai and Gerard F. Anderson, "A More Detailed Understanding of Factors Associated with Hospital Profitability," *Health Affairs* 35 (5) (2016), https://doi.org/10.1377/hlthaff.2015.1193.

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18 See the references in Hyman, "The Biology of Mental Disorders."

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[20] Throughout history, observers of human experience in the arts and sciences have, in various ways, grappled with and articulated the everyday phenomenon of subconscious or periconscious mental processing : the fact that much of our lives happens outside of or in-and-out of our conscious awareness. These observations have taken many shapes, from the various models of the unconscious in psychodynamic theory and practices (for a thorough review of the influences on and the evolution of the original formulations of a dynamic unconscious, see Henri Ellenberger, *The Discovery of the Unconscious* [New York : Basic Books, 1981 ; 1970]), to the growing understanding of dissociation and "split-off" experience in all kinds of trauma (see Bessel Van der Kolk, *The Body Keeps the Score : Brain, Mind, and Body in the Healing of Trauma* [New York : Penguin, 2014]), to the self-deceptions and the conflicted, disavowed motivations that govern the lives of the characters in good literature, thereby making them convincingly human. The fact that so much of our experience, so much of our selves, happens off-screen or partially off-screen is often why we find ourselves behaviorally or psychologically stuck in apparently baffling ways. It is also the path by which we can actually grow and change. Harold Bloom, in *The Art of Reading Poetry* (New York : Harper, 2005), has said that while Dante is the poet of a certain fundamental fixity within all of us, Shakespeare is the poet of "a psychology of mutability" based upon self-overhearing. These two simultaneous human conditions, changelessness and change, often seem to be at the heart of what we contend with in the office with patients and in our own ongoing efforts to become who we are. "Consciousness is to poetry what marble is to sculpture," Bloom says ; "words are figurations of consciousness" and "the work of great poetry is to aid us to become free artists of ourselves." Essentially, this is also the work of clinical mental health care. Now, led by scientists such as Antonio Damasio, neuroscience, too, is contributing to our appreciation of the power and ubiquity of both unconscious and emotional brain/mind processes in basic psychological development, as well as states of illness or distress. See Antonio Damasio, *Self Comes to Mind : Constructing the Conscious Brain* (New York : Partheon, 2010) ; and Jaak Panksepp and Lucy Biven, *The Archeology of Mind : Neuroevolutionary Origins of Human Emotions* (New York : W.W. Norton, 2012). For a more comprehensive list of neuroscientific publications that address psychodynamic concepts and processes, see Maggie Zellner, "Freud in the Light of Neuroscience : The Brain as the Light of Psychoanalysis," in *Clinical Studies in Neuropsychoanalysis Revisited*, ed. Christian Salas, Oliver Turnbull, and Mark Solms (Oxfordshire : Routledge, 2021).

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[23] See Seth Mnookin, Arthur Kleinman, Timothy Evans, et al., "Out of the Shadows : Making Mental Health a Global Development Priority," paper presented at the World Bank Group/World Health Organization meeting on making mental health a global development priority, Washington, D.C., April 13–14, 2016, https://www.emro.who.int

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Inside back cover : (top) Colored magnetic resonance imaging scans through a human head showing the brain. Image © by Simon Fraser/Science Photo Library.

(middle) BLOOM. An Installation by Anna Schuleit Haber. Massachusetts Mental Health Center, Boston, Massachusetts, November 2003. Orange begonias on the second floor, where the library and several of the offices were located, on the same floor as one of the busiest homeless shelters in Boston. This was the last floor to close when the building was decommissioned in 2003. The project was inspired by the wish to flood the building with 28,000 live flowers dedicated "To Those Who Had Been There." All flowers were later donated to psychiatric centers and shelters throughout New England. https://www.anna-haber.com.

(bottom) Melancholy (1891) by Edward Munch. Oil on canvas, 72 cm × 98 cm.
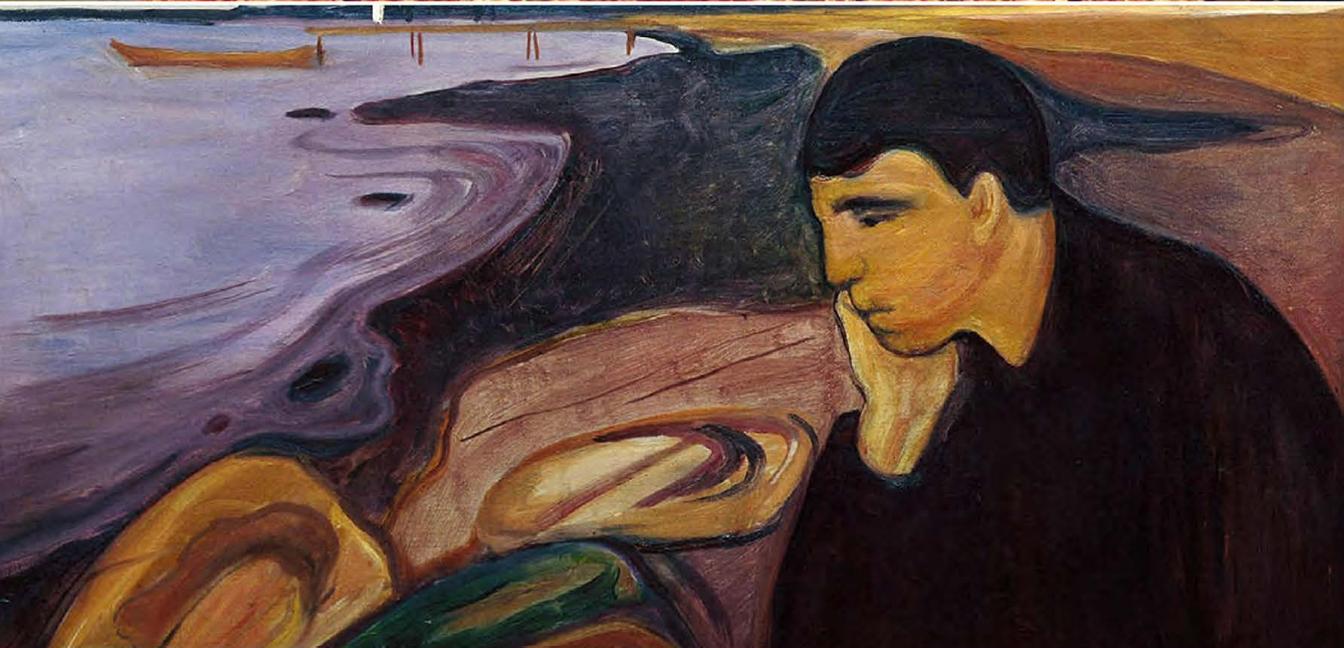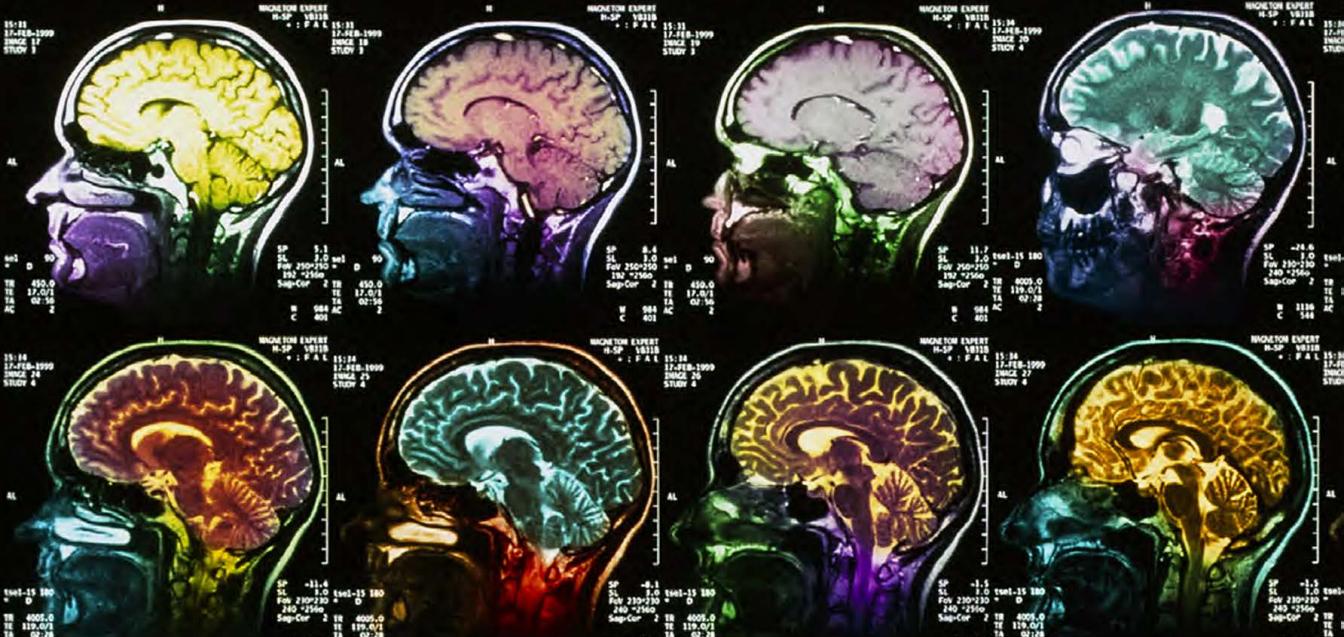
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   Jennifer T. Kubota, Alexandra Kalev, Frank Dobbin, Manuel J.
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