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Authors

Holmes, Seth M
Hansen, Helena
Jenks, Angela
[et al.](#)


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million people older than 18 years of age and 8 million people between the ages of 12 and 18. More than 4% of them had antibodies to hepatitis C, of whom nearly 75% had active viremia; 21% screened positive for hypertension; and about 5% screened positive for diabetes. Counseling is under way for the 40% of the screened population that is considered obese by WHO standards.

Virtually all people identified

as having active virus replication have been effectively treated. Egypt may soon be the first country to eliminate hepatitis C. The success of this program suggests that other countries could effectively pursue other chronic and infectious diseases by using similar strategies. It may be hard work to get there, but Egypt has proven that universal screening for a range of diseases is not impossible. Drug-pricing challenges can be overcome. Treatments can be made available for all.

Disclosure forms provided by the author are available at NEJM.org.

From ACCESS Health International and the Haseltine Foundation for Science and the Arts, New York.

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Misdiagnosis, Mistreatment, and Harm — When Medical Care Ignores Social Forces

Seth M. Holmes, Ph.D., M.D., Helena Hansen, M.D., Ph.D., Angela Jenks, Ph.D., Scott D. Stonington, M.D., Ph.D., Michelle Morse, M.D., M.P.H., Jeremy A. Greene, M.D., Ph.D., Keith A. Wailoo, Ph.D., Michael G. Marmot, M.B., B.S., Ph.D., and Paul E. Farmer, M.D., Ph.D.

In a 2019 op-ed in the *Wall Street Journal* entitled “Take Two Aspirin and Call Me by My Pronouns,” former University of Pennsylvania Dean of Medical Education Stanley Goldfarb echoed a dismissal that some physicians have been voicing for decades. Why should medical training focus on social factors, Goldfarb asked, when medicine’s purpose is to cure individual patients? His essay assumed that one can effectively cure patients while ignoring the world in which they live. Unfortunately, that is an empirically untenable position.

Between November 2018 and January 2020, the *New England Journal of Medicine* published monthly Case Studies in Social Medicine, exploring concepts from the social sciences that can help us respond to the influence of social factors in the practice of medicine

(see table). These cases were developed to demonstrate how clinicians can help manage social forces and their health effects. In addition, we found that the articles help demonstrate that without the skills to identify and respond to those forces, physicians are at risk of misdiagnosing, mistreating, and ultimately causing harm. When physicians use only biologic or individual behavioral interventions to treat diseases that stem from or are exacerbated by social factors, we risk harming the patients we seek to serve.

Social, political, and economic structures — those highlighted by Goldfarb as well as structural racism, settler colonialism, other structures of marginalization, and the inequalities each of these produces — are injuring and killing people. To stop these pro-

cesses, we need a range of community- and team-based interventions, many of which occur beyond clinical practice — such as urban and regional planning to ensure the availability of safe housing and healthy food, and policy and systems changes to guarantee fair access to gainful employment and protection from environmental degradation. As clinicians, we endeavor to treat our patients’ diseases and injuries. But when we dismiss social factors as peripheral, we not only miss opportunities to improve outcomes, we may in fact fail at medicine’s core responsibilities to diagnose and treat illness and to do no harm.

Physicians risk misdiagnosis when we fail to take social structures into account or misattribute their effects to biologic mechanisms or individual behaviors. A

Case Studies in Social Medicine Series.*	
Case	Social Concept
Treating the fundamental drivers of patient health	
Carrasco et al.	Misrecognition and critical consciousness
Seymour et al.	Structural differential
Knight et al.	Reproductive (in)justice
Karandinos et al.	Structural violence of hyperincarceration
Pallok et al.	Structural racism
Navigating structural and bureaucratic barriers to care	
Stonington et al.	Structural iatrogenesis
Berlin et al.	The right and left hands of the state
Braslow et al.	Medicalization and demedicalization
Madaras et al.	Social distance and mobility
Kalofonos	Biological citizenship
Critically applying medical knowledge and categories	
Friedner et al.	Disability justice and multiple normals
Stroumsa et al.	The power and limits of classification
Aronowitz et al.	Contingent knowledge and looping effects
Béhague et al.	Dialogic praxis
Chowdhury et al.	Democratizing evidence production

* The series was introduced in a *Medicine and Society* article by Stonington et al. (Case Studies in Social Medicine — Attending to Structural Forces in Clinical Practice. *N Engl J Med* 2018;379:1958-61).

well-recognized example of large-scale misdiagnosis involves the multiple, intertwined epidemics of chronic disease that are related to housing and food insecurity in low-income neighborhoods. These diseases — including diabetes, heart disease, obesity, asthma, mood and anxiety disorders, and substance use disorder — cluster together sociogeographically into what have been termed “syndemics.”¹ “Dietary counseling” may be farcical when patients with diabetes cannot acquire lean proteins and vegetables. And escalating doses of inhaled asthma medication may be futile for children living in high-allergen or environmentally contaminated

housing. Syndemics are related to certain neighborhoods’ unstable housing and dearth of healthy food, which reflect a history of institutional racism — including redlining — and stark socioeconomic inequalities produced by capitalism.

When chronic conditions are viewed as solely biologic or behavioral malfunction, the diagnosis misses the true causes, and often, misdiagnosis leads to ineffective treatments. But clinicians and health care administrators can work to appropriately diagnose and treat the institutional and social drivers of syndemic disease. For example, clinicians and public health advocates

have persuaded the states of Oregon, New York, and Massachusetts to devote Medicaid spending to affordable, safe housing and have reduced food insecurity in U.S. cities through clinic- and community-based food-access programs.

Without acknowledging or responding to social structures, clinicians may perpetuate mistreatment, providing ineffective responses to our patients’ medical problems. There are aspects of peoples’ lives outside medical care that determine whether they get sick and how well or poorly our treatments “fit” them. These social forces are also active within medicine, determining whom we treat, how we treat them, where we put hospitals and clinics, which specialties and caregivers we prioritize and fund, and what goals we set for treatment.

One example involves clinicians’ necessary interactions with financial institutions such as insurance companies, which affect some patients more negatively than others, depending on their socioeconomic, immigration, racial, colonized, or other marginalized status. In one documented case, a patient with gastric cancer underwent biopsy and imaging for staging and chemotherapy planning and then had to wait 3 months for insurance approval. By that time, lab tests revealed worsened liver function and increased levels of tumor markers and repeat imaging showed new metastases necessitating altered chemotherapy and radiation regimens. This change in prescription required another 3-month wait for approval, and the patient died without receiving a single medication.²

Such financially motivated restrictions are just one instance of

social, political, and economic structures leading to inappropriate treatments and poor outcomes. Training in social medicine and structural competency can prepare clinicians to identify such constraints and work toward solutions for their patients and practices. Many clinicians, for example, play important roles in growing social movements for health care access for all.

Beyond misdiagnosis and mistreatment, medical care that ignores social structures may cause patients real and measurable

harm, in a manner similar to the iatrogenic harms of medical mistakes. One example is the role of physicians in the ongoing opioid epidemic. The aggressive marketing of opioids by the pharmaceutical industry and false claims used to gain Food and Drug Administration approval have been widely publicized. And physicians who have failed to change patterns of inappropriate pain management are increasingly the targets of lawsuits and public anger. More broadly, population health researchers point to social conditions such as postindustrial unemployment and disintegration of social networks and community institutions as the root causes of epidemic pain and reliance on narcotics, recognizing opioid overdoses as “deaths of despair.”³ Physicians are front-line witnesses to community-level despair, but we are generally equipped only to

prescribe opioids in response, rather than to investigate and collaboratively address the social problems leading our patients to seek these prescriptions. A clinical workforce educated in social medicine principles would be more skilled in questioning the corporate influences that propagated inappropriate opioid prescribing, while identifying and intervening in the social drivers of demand for opioids.

The centrality of social factors in clinical care has long been recognized by physicians — from

effective care as an important factor. The Robert Wood Johnson Foundation has reported that the vast majority of physicians nationwide identify social factors as critical to clinical outcomes — but indicate a need for tools for addressing the social drivers of health and illness. There is enormous progress to be made, given that the majority of U.S. medical schools and residency programs lack faculty with expertise in social medicine, curricula for teaching it, and training sites where it is practiced.

Clinicians are uniquely positioned to respond to the social, political, and economic structures affecting our patients' health. If we fail to do so, we risk misdiagnosis, mistreatment, and iatrogenic harm. We are convinced that undergraduate, graduate, and continuing medical education in structural competency and other social medicine frameworks⁴ can be used to train clinicians who will thrive while effectively confronting the health problems caused by inequitable social structures.⁵ A grasp of such frameworks would lead physicians to interact differently with patients, communities, interprofessional teams, health care systems, and the societies and world in which we live. Then millions of patients could receive medical care that is effective and does no harm.

Disclosure forms provided by the authors are available at NEJM.org.

From the University of California Berkeley, Berkeley, and the University of California San Francisco, San Francisco (S.M.H.); New York University, New York (H.H.); the University of California Irvine, Irvine (A.J.); the University of Michigan, Ann Arbor (S.D.S.); Brigham and Women's Hospital and Harvard Medical School — both in Boston (M.M., P.E.F.); Johns Hopkins University, Baltimore (J.A.G.); Princeton University, Princeton, NJ (K.A.W.); and University College London, London (M.G.M.).

When chronic conditions are viewed as solely biologic or behavioral malfunction, the diagnosis misses the true causes, and often, misdiagnosis leads to ineffective treatments.

Rudolf Virchow, the 19th-century “founder of modern pathology,” who traced typhoid epidemics to living conditions in central Europe, to leaders of the Association of American Medical Colleges and the Institute of Medicine (now the National Academy of Medicine), who have issued position statements on this topic. The National Research Council recently reported that the United States spends more money on health care than any other country yet has the poorest health outcomes among peer nations, largely owing to social structural factors.

Inequitable social structures not only harm patients; they also subvert our attempts to provide effective care. In fact, among the growing number of physicians who report experiencing burnout or even leaving clinical practice, many cite systemic barriers to ef-

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Opioid Prescribing in the Midst of Crisis — Myths and Realities

Michael L. Barnett, M.D.

The once-simple act of writing an opioid prescription has become fraught. Physicians must check prescription monitoring databases to review patients' histories, make sure their prescription complies with state limits on dose or number of days' supply, and consider any practice-quality measures that might be affected. Beyond regulatory requirements, physicians must contend with growing stigma in the medical community against using opioids for pain management. Not surprisingly, there can be a palpable chill when a discussion about managing pain drifts toward opioids. Should I really start them? What if the patient demands more? What if I end up prescribing them long-term? Years of relaxed attitudes toward opioids have given way to an atmosphere of apprehension.

In many ways, this caution is a positive development since 2011, when prescribing opioids for pain seemed as routine as giving antibiotics for a urinary tract infection. According to the data science firm IQVIA, the volume of opioids prescribed per year quadrupled between 1991 and 2011. Many patients took only a fraction of the supply they received, and substantial quantities of opioids were diverted for nonmedi-

cal use. Opioid-related overdose deaths soon began increasing exponentially, a trend that evolved into a crisis fueled by intravenous heroin and fentanyl use. The consequences of overprescribing continue to reverberate.

The medical community has since reversed course. As of 2018, the total volume of opioid prescriptions nationally had fallen by more than 40% from "peak opioid" around 2011. Undoubtedly, much of this decrease has come from shedding avoidable use, but stories are emerging of prescribers abandoning opioids indiscriminately, particularly for the millions of U.S. patients with chronic pain. Like many other public debates, the opioid-prescribing debate seems hopelessly polarized: either opioids are industrially sponsored weapons of mass addiction or they're a misunderstood last hope for alleviating suffering. The optimal use of these medications lies between these two poles — but where, exactly? There's no definitive answer, but there are persistent myths and misunderstandings that contribute to overprescribing or underprescribing (see table).

Perhaps the most durable myth leading to overprescribing is that opioids are uniquely effective for pain control — they are special,

powerful analgesics that are sometimes held back until others don't work, just as the most powerful antibiotics are reserved for especially severe, resistant infections. This belief was codified in the World Health Organization's analgesic "ladder" for cancer-pain treatment, which placed nonsteroidal antiinflammatory drugs (NSAIDs) on the bottom rung for mild pain and opioids on higher rungs for persistent moderate-to-severe pain.

I encounter this myth frequently in caring for patients, who may believe they're being denied the "real thing" if they are offered only NSAIDs for severe pain. In reality, although opioids do treat pain, there is little evidence that they have a clear advantage over NSAIDs,¹ muscle relaxants,² or other alternative pain treatments such as tricyclic antidepressants³ for many conditions. A less generous interpretation of the evidence is that opioids are inferior to NSAIDs because of their less favorable side-effect profile for either short- or long-term treatment. The clinical implication is that there is no reason to give opioids a special, privileged status in pain control. They are simply another therapeutic option, best tried after NSAIDs and other alternatives if