to advance. Similar paradigm shifts have been more of a challenge for policymakers, as reflected in their difficulty in integrating insights from economics and psychology into everyday applications. Medical practice, as a hybrid of science and social science, could benefit by learning from the work of the newest economics Nobelist and other behavioral researchers, even if this work seems remote from the sciences we're accustomed to studying. Understanding and addressing the unexpected wrinkles and twists in human decision making could yield improvements in care analogous to those based on understanding and addressing the unexpected wrinkles and twists in our patients' DNA.

An audio interview with Dr. Avorn is available at NEJM.org

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

From Harvard Medical School and the Division of Pharmacoepidemiology and Pharmacoeconomics, Department of Medicine, Brigham and Women's Hospital — both in Boston.

1. Kahneman D. Thinking, fast and slow. New York: Farrar, Straus, and Giroux, 2011.
2. Avorn J. Academic detailing: "marketing" the best evidence to clinicians. JAMA 2017;317:361-2.
3. Thaler RH, Sunstein CR. Nudge: improving decisions about health, wealth, and happiness. New Haven, CT: Yale University Press, 2008.
4. Choudhry NK, Avorn J, Glynn RJ, et al. Full coverage for preventive medications after myocardial infarction. N Engl J Med 2011;365:2088-97.
5. Cohen IG, Lynch HF, Robertson CT, eds. Nudging health: health law and behavioral economics. Baltimore: Johns Hopkins University Press, 2016.

DOI: 10.1056/NEJMp1714987

Controlling the Swing of the Opioid Pendulum

George Comerci, Jr., M.D., Joanna Katzman, M.D., M.S.P.H., and Daniel Duhigg, D.O., M.B.A.

Mr. P. is a 34-year-old man who sees his primary care physician regularly for chronic spine pain. Several years ago, he had a motorcycle accident that left him with a ruptured spleen, a shattered pelvis, and multiple thoracic vertebral fractures. After a prolonged hospital and rehab course, he was discharged without neurologic sequelae but with a severe chronic pain syndrome. The accident was a wake-up call for Mr. P. He stopped using alcohol and drugs, got a job, and began paying child support. His daily pain regimen consisted of 3600 mg of gabapentin, 60 mg of baclofen, 120 mg of oxycodone IR (a 180-mg morphine-equivalent dose), and nonsteroidal antiinflammatory drugs as needed.

Mr. P.'s condition had been stable on this regimen for 2 years. His prescription-drug monitoring reports and urine toxicology screens were pristine. Unfortunately, his primary care physician announced that her practice had adopted a no-opioid policy. Mr. P. was given a prescription for a month's worth of oxycodone and advised to find another prescriber in the future. Not unexpectedly, six other physicians refused to prescribe him opioids, and he ended up in our pain clinic, sobbing in the exam room, terrified that he'd end up "back in my old life" if he had to buy his pain medications on the street.

In the past year, our university-based interdisciplinary pain clinic has seen a flood of cases like Mr. P.'s. The increase in opioid-related mortality fueled by injudicious prescribing and increasing illicit use of both prescription and illegal opioids has led some clinicians to simplify their lives by discontinuing prescribing of opioid analgesics. The fallout is a growing pool of patients who are forced to navigate their transition off prescribed opioids, often with little or no assistance or guidance, with the potential for disastrous results.

Well before the opioid crisis was recognized and attention was directed to opioid-related deaths, clinicians cited issues related to opioids as a principal reason why they didn't enjoy caring for patients with chronic pain.[1] Now, many physicians and advanced care practitioners (nurse practitioners and physician assistants) have decided that the risk associated with prescribing opioids is too high. Some clinics, particularly in locations with high rates of opioid misuse, have established policies of not prescribing opioids at all.

The reasons for such policies are complex. Most clinicians have inadequate training in the modern treatment of chronic pain and had learned that opioids were safe and effective for all forms of chronic pain. Lacking knowledge about nonopioid approaches to pain management, many of us have overprescribed opioids for patients with chronic pain and now feel guilt and misgivings about the monster we've created. With increasing legislation and scrutiny by medical boards, phar-

macy boards, and federal agencies such as the Drug Enforcement Administration (DEA), many physicians believe that the risk of incurring sanctions is too high for them to continue prescribing opioids.

Furthermore, it's becoming more difficult for physicians to prescribe these drugs. Increasingly, prescription-drug plans are instituting complicated and confusing opioid-prescribing rules. Often, limits are placed on dosage forms, quantities, or both without any evidence that such restrictions will ameliorate opioid overuse and misuse. Navigating these rules is time consuming for both clinicians and pharmacists, who are increasingly dissatisfied with their work and unenthusiastic about caring for patients taking these medications. An even more unsettling phenomenon is drug-coverage plans' discouragement of the use of safer opioids, such as buccal buprenorphine, in favor of less expensive but more dangerous alternatives such as morphine.

In our opinion, however, the most important contributor to a desire to stop prescribing opioids is the effect of opioid prescribing on clinicians' emotional well-being. We worry about the potential unintended consequences of these medications even if they're used appropriately. More immediately, it's difficult to walk into an exam room knowing that we have to significantly reduce or stop a patient's opioid treatment — and then deal with the lengthy, emotional, possibly confrontational encounter that typically ensues.

Inappropriate opioid prescribing has certainly contributed to climbing rates of accidental death from these drugs. The profession has responded by promulgating safer prescribing guidelines[2] and rational pain-treatment guidelines. Yet an enormous number of patients are currently using prescription opioids. Many of them will need to have their doses reduced or be weaned off completely, but many cannot achieve adequate pain control without their current doses. All these patients deserve compassionate and skilled pain management. We fear that an injudicious approach involving blanket refusals to prescribe opioids and adoption of unreasonable prescribing and dispensing regulations will increase patient suffering. Furthermore, the worst-case scenario is for patients to obtain prescription opioids illegally and eventually transition to more dangerous drugs, such as heroin.[3]

Most patients with chronic pain are cared for by primary care clinicians; others are treated by specialists whose primary training is not in chronic pain. There are too few U.S. pain clinics to care for all these patients, and referring them simply for opioid stewardship is both inappropriate and unrealistic. But some key steps can be taken.

First, all clinicians can improve their knowledge about evaluating and treating chronic pain. We believe the opioid crisis is largely a crisis of inadequate treatment of chronic pain. With an estimated 100 million Americans with chronic pain, most specialties encounter such patients. Increasingly, educational opportunities are becoming available through professional organizations such as the American College of Physicians and the American Academy of Family Medicine. Several national organizations dedicated to chronic pain, such as the Academy of Integrative Pain Management and the American Academy of Pain Medicine, offer pain-management courses for clinicians of all backgrounds. In addition, Project ECHO (https://echo.unm.edu/pain-echo/) offers interactive, case-based telementoring clinics throughout the United States and Canada that provide clinicians the opportunity to present cases on a video platform and learn pain- and opioid-management skills from peers and experts in real time.[4]

Second, clinicians can consider transitioning patients from risky opioid regimens to safer buprenorphine treatment for chronic pain. We believe that every effort must be made to reduce the morphine-equivalent dose of opioid analgesics to the safest dose achievable. Buprenorphine is a partial agonist–antagonist of the mu receptor with excellent pain-relieving properties and a much safer overdose profile. Many studies show that patients taking high-dose mu-receptor agonists such as morphine or oxycodone can be successfully transitioned to this medication.[5] Though not completely risk-free, it carries much less risk of respiratory depression than other opioids. Several buprenorphine preparations are approved by the Food and Drug Administration for chronic pain conditions. Any clinician with a DEA license can prescribe certain forms of buprenorphine for pain, though an "X" waiver (see below) is required to prescribe it for opioid use disorder (OUD).

Third, clinicians can adopt risk-mitigation strategies for patients taking opioids. OUD is a common, potentially devastating condition that may co-occur with

other medical conditions involving chronic pain. Physicians have an obligation to learn how to diagnose it and develop strategies to address it. Risk-mitigation strategies such as periodic urine drug screening, scrutiny of prescription-monitoring reports, identification of aberrant behaviors, and patient education in safe use and storage of opioid medications are of paramount importance for all patients taking opioid analgesics. Similarly, take-home or coprescription of naloxone for patients taking any opioids should be routine. This strategy could save not only the patient's life but also that of a relative, friend, or bystander unlucky enough to suffer an opioid overdose.

Finally, physicians and advanced care clinicians can undergo brief training (8 and 24 hours, respectively) to obtain an "X" waiver on their DEA license so they can use buprenorphine to treat OUD. Increasing the availability of such treatment could stem the tide of opioid misuse and improve the lives of patients with OUD.

Opioid analgesics are an important part of our therapeutic armamentarium, but they have serious consequences when used improperly. As the pendulum swings from liberal opioid prescribing to a more rational, measured, and safer approach, we can strive to ensure that it doesn't swing too far, leaving patients suffering as the result of injudicious policies.

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

From the Pain Consultation and Treatment Center, Project ECHO Pain and Opioid Management Clinic (G.C., J.K.), the Department of Internal Medicine (G.C.), and the Department of Neurosurgery (J.K.), University of New Mexico, and Department of Addiction Services, Psychiatry and Behavioral Health Clinical Program, Presbyterian Healthcare System (D.D.) — all in Albuquerque, NM.

1. Leverence RR, Williams RL, Potter M, et al. Chronic non-cancer pain: a siren for primary care — a report from the PRImary Care MultiEthnic Network (PRIME Net). J Am Board Fam Med 2011;24:551-61.
2. Dowell D, Haegerich TM, Chou R. CDC guideline for prescribing opioids for chronic pain — United States, 2016. JAMA 2016;315:1624-45.
3. Mars SG, Bourgois P, Karandinos G, Montero F, Ciccarone D. "Every 'never' I ever said came true": transitions from opioid pills to heroin injecting. Int J Drug Policy 2014;25:257-66.
4. Katzman JG, Comerci G Jr, Boyle JF, et al. Innovative telementoring for pain management: project ECHO pain. J Contin Educ Health Prof 2014;34:68-75.
5. Daitch J, Frey ME, Silver D, Mitnick C, Daitch D, Pergolizzi J Jr Conversion of chronic pain patients from full-opioid agonists to sublingual buprenorphine. Pain Physician 2012;15:Suppl:ES59-ES66.

DOI: 10.1056/NEJMp1713159

Our Other Prescription Drug Problem

Anna Lembke, M.D., Jennifer Papac, M.D., and Keith Humphreys, Ph.D.

The epidemic of opioid addiction and overdose has appropriately garnered national attention and led to concerted efforts to reduce overprescribing of opioids, a major cause of today's drug crisis. By contrast, there has been little effort to address inappropriate prescribing of benzodiazepines — controlled substances such as alprazolam, clonazepam, diazepam, and lorazepam. The Food and Drug Administration (FDA) has approved benzodiazepines for a diverse set of clinical indications, including anxiety, insomnia, seizures, and acute alcohol withdrawal. These drugs are also prescribed off-label for many other conditions, such as restless legs syndrome and depression.

Between 1996 and 2013, the number of adults who filled a benzodiazepine prescription increased by 67%, from 8.1 million to 13.5 million, and the quantity of benzodiazepines they obtained more than tripled during that period, from 1.1-kg to 3.6-kg lorazepam-equivalents per 100,000 adults.[1] According to data from the National Institute on Drug Abuse, overdose deaths involving benzodiazepines increased from 1135 in 1999 to 8791 in 2015 (see graph). Despite this trend, the adverse effects of benzodiazepine overuse, misuse, and addiction continue to go largely unnoticed. Three quarters of deaths involving benzodiazepines also involve an opioid,[1] which may explain why, in the context of a widely recognized opioid problem, the harms associated with benzodiazepines have been overlooked.

In 2012, U.S. prescribers wrote 37.6 benzodiazepine prescriptions per 100 population. Alprazolam, clonazepam, and lorazepam are among the 10 most commonly prescribed psychotropic medications in the United States. Medicaid expenditures on benzodiazepines increased by nearly $40 million between 1991 and 2009,