hensive approaches to chronic pain into their scope of services.

Health care systems can incorporate nonjudgmental screening, brief intervention, and referrals for further assessment and treatment of addiction into all clinical settings where opioids are prescribed. Conversely, addiction-treatment providers can screen patients for pain, recognizing that inadequately treated pain is a risk factor for relapse.

Payers, including Medicare and state Medicaid programs, can use data-analysis tools to spot the red flags of inappropriate prescribing and refer prescribers to medical boards or other state agencies for further review, education, and oversight. Prescription-drug monitoring programs can also identify prescribers in need of assistance. Coherent, evidence-based review of clinical practice can be conducted with the aim of supporting high-quality care for both chronic pain and addiction — and avoiding the unintended consequence of deterring physicians from caring for patients with complex needs.

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

Public and private insurers can provide as generous coverage for treatment of opioid-use disorder as they do for management of chronic pain. This standard is infrequently met — for example, it is long past time for Medicare to begin covering the effective care provided in opioid-treatment programs.

It is also time for the FDA to address the intertwining of chronic pain and addiction farther upstream in the drug-development cycle. The agency might consider creating a pathway for development and review of new products and indications for simultaneous treatment of chronic pain and opioid-use disorder. Building on its own work to advance the science of abuse-deterrent formulations, the FDA should also require that prescription opioids meet basic deterrent standards and should facilitate the gradual reformulation of existing products to meet such standards. In declining to apply such a standard to Zohydro, the agency noted that existing deterrent mechanisms have had minimal impact by themselves. However, even modest safeguards have been shown to reduce the potential for inappropriate use.[5] As part of a comprehensive strategy, a set of reasonable requirements for opioid medications is well in line with the FDA's public health mission. Taking such action will deter others with less expertise from filling a perceived void.

In the end, pointing the finger at Zohydro is not going to resolve the tension that exists today between chronic pain and addiction. All concerned about the treatment of chronic pain and all responding to the rise in overdose deaths need to come together to promote high-quality and effective prevention and treatment for both conditions.

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Medication-Assisted Therapies — Tackling the Opioid-Overdose Epidemic

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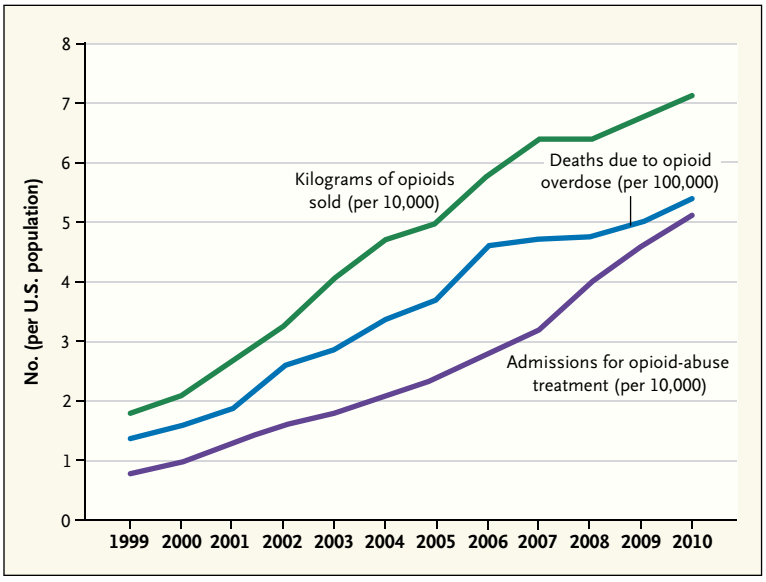
The rate of death from overdoses of prescription opioids in the United States more than quadrupled between 1999 and 2010 (see graph), far exceeding the combined death toll from cocaine and heroin overdoses.[1] In 2010 alone, prescription opioids were involved in 16,651 overdose deaths, whereas heroin was implicated in 3036. Some 82% of the deaths due to prescription



Opioid Sales, Admissions for Opioid-Abuse Treatment, and Deaths Due to Opioid Overdose in the United States, 1999–2010.

Data are from the National Vital Statistics System of the Centers for Disease Control and Prevention, the Treatment Episode Data Set of the Substance Abuse and Mental Health Services Administration, and the Automation of Reports and Consolidated Orders System of the Drug Enforcement Administration.

opioids and 92% of those due to heroin were classified as unintentional, with the remainder being attributed predominantly to suicide or "undetermined intent."

Rates of emergency department visits and substance-abuse treatment admissions related to prescription opioids have also increased markedly. In 2007, prescription-opioid abuse cost insurers an estimated $72.5 billion — a substantial increase over previous years.[2] These health and economic costs are similar to those associated with other chronic diseases such as asthma and HIV infection.

These alarming trends led the Department of Health and Human Services (HHS) to deem prescription-opioid overdose deaths an epidemic and prompted multiple federal, state, and local actions.[2] The HHS efforts aim to simultaneously reduce opioid abuse and safeguard legitimate and appropriate access to these medications. HHS agencies are implementing a coordinated, comprehensive effort addressing the key risks involved in prescription-drug abuse, particularly opioid-related overdoses and deaths. These efforts focus on four main objectives: providing prescribers with the knowledge to improve their prescribing decisions and the ability to identify patients' problems related to opioid abuse, reducing inappropriate access to opioids, increasing access to effective overdose treatment, and providing substance-abuse treatment to persons addicted to opioids.

A key driver of the overdose epidemic is underlying substance-use disorder. Consequently, expanding access to addiction-treatment services is an essential component of a comprehensive response.[2] Like other chronic diseases such as diabetes and hypertension, addiction is generally refractory to cure, but effective treatment and functional recovery are possible. Fortunately, clinicians have three types of medication-assisted therapies (MATs) for treating patients with opioid addiction: methadone, buprenorphine, and naltrexone (see table). Yet these medications are markedly underutilized. Of the 2.5 million Americans 12 years of age or older who abused or were dependent on opioids in 2012 (according to the National Survey on Drug Use and Health conducted by the Substance Abuse and Mental Health Services Administration [SAMHSA]), fewer than 1 million received MAT.

When prescribed and monitored properly, MATs have proved effective in helping patients recover. Moreover, they have been shown to be safe and cost-effective and to reduce the risk of overdose. A study of heroin-overdose deaths in Baltimore between 1995 and 2009 found an association between the increasing availability of methadone and buprenorphine and an approximately 50% decrease in the number of fatal overdoses.[3] In addition, some MATs increase patients' retention in treatment, and they all improve social functioning as well as reduce the risks of infectious-disease transmission and of engagement in criminal activities. Nevertheless, MATs have been adopted in less than half of private-sector treatment programs, and even in programs that do offer MATs, only 34.4% of patients receive them.[4]

A number of barriers contribute to low access to and utilization of MATs, including a paucity of trained prescribers and negative attitudes and misunderstandings

Characteristics of Medications for Opioid-Addiction Treatment.

Characteristic	Methadone	Buprenorphine	Naltrexone
Brand names	Dolophine, Methadose	Subutex, Suboxone, Zubsolv	Depade, ReVia, Vivitrol
Class	Agonist (fully activates opioid receptors)	Partial agonist (activates opioid receptors but produces a diminished response even with full occupancy)	Antagonist (blocks the opioid receptors and interferes with the rewarding and analgesic effects of opioids)
Use and effects	Taken once per day orally to reduce opioid cravings and withdrawal symptoms	Taken orally or sublingually (usually once a day) to relieve opioid cravings and withdrawal symptoms	Taken orally or by injection to diminish the reinforcing effects of opioids (potentially extinguishing the association between conditioned stimuli and opioid use)
Advantages	High strength and efficacy as long as oral dosing (which slows brain uptake and reduces euphoria) is adhered to; excellent option for patients who have no response to other medications	Eligible to be prescribed by certified physicians, which eliminates the need to visit specialized treatment clinics and thus widens availability	Not addictive or sedating and does not result in physical dependence; a recently approved depot injection formulation, Vivitrol, eliminates need for daily dosing
Disadvantages	Mostly available through approved outpatient treatment programs, which patients must visit daily	Subutex has measurable abuse liability; Suboxone diminishes this risk by including naloxone, an antagonist that induces withdrawal if the drug is injected	Poor patient compliance (but Vivitrol should improve compliance); initiation requires attaining prolonged (e.g., 7-day) abstinence, during which withdrawal, relapse, and early dropout may occur

about addiction medications held by the public, providers, and patients. For decades, a common concern has been that MATs merely replace one addiction with another. Many treatment-facility managers and staff favor an abstinence model, and provider skepticism may contribute to low adoption of MATs.[4] Systematic prescription of inadequate doses further reinforces the lack of faith in MATs, since the resulting return to opioid use perpetuates a belief in their ineffectiveness.

Policy and regulatory barriers are another concern. A recent report from the American Society of Addiction Medicine describing public and private insurance coverage for MATs highlights several policy-related obstacles that warrant closer scrutiny. These barriers include utilization-management techniques such as limits on dosages prescribed, annual or lifetime medication limits, initial authorization and reauthorization requirements, minimal counseling coverage, and "fail first" criteria requiring that other therapies be attempted first (www.asam.org/docs/advocacy/Implications-for-Opioid-Addiction-Treatment). Although these policies may be intended to ensure that MAT is the best course of treatment, they may hinder access and appropriate care. For example, maintenance MAT has been shown to prevent relapse and death but is strongly discouraged by lifetime limits.[5]

In addition, although Medicaid covers buprenorphine and methadone in every state, some Medicaid programs or their managed-care organizations apply the utilization-management policies described above. Most commercial insurance plans also cover some opioid-addiction medications — most commonly buprenorphine — but coverage is generally limited by similar policies, and access to care may be limited to in-network providers. Few private insurance plans provide coverage for the depot injection formulation of naltrexone, and most do not cover methadone provided through opioid treatment programs.

Implementation of the Affordable Care Act (ACA) will increase access to care for many Americans, including persons with addiction. This expansion builds on the Mental Health Parity and Addiction Equity Act, which requires insurance plans that offer coverage for mental health or substance-use disorders to provide the same level of benefits that they do for general medical treatment. The ACA significantly extends the reach of the parity law's requirements, ensuring that more Americans have coverage for mental health and substance-use disorders and that coverage complies with the federal parity requirements. These reforms present new opportunities for reducing prescription-opioid abuse and

its consequences by expanding the number of high-risk people who receive MATs through either public or private insurance. The importance of access to MATs and other treatment services for substance-use disorder is underscored by the recent recognition of increased heroin use; what may be less widely recognized is that the majority of these new heroin users initially abused prescription opioids before shifting to heroin.

A key driver of the overdose epidemic is underlying substance-use disorder. Consequently, expanding access to addiction-treatment services is an essential component of a comprehensive response.

HHS agencies are actively collaborating with public and private stakeholders in efforts to expand access to and improve utilization of MATs, in tandem with other targeted approaches to reducing opioid overdoses.[2] For example, the National Institute on Drug Abuse (NIDA) is funding research to improve delivery of MATs to vulnerable populations, including those in the criminal justice system. NIDA is also working to develop new pharmacologic treatments for opioid addiction and helping to fund "user friendly" delivery systems for naloxone (i.e., intranasal rather than injection). SAMHSA is encouraging MAT use in its state funding of substance-abuse treatment programs through the Substance Abuse Prevention and Treatment Block Grant and regulatory oversight of methadone and buprenorphine for opioid addiction. Furthermore, SAMHSA supports production and dissemination of educational resources to MAT prescribers, as well as an "Opioid Overdose Toolkit" to educate first responders, treatment providers, and patients about ways to prevent and intervene in opioid-overdose cases.

The Centers for Disease Control and Prevention is working to empower states to implement comprehensive strategies, including MATs, for preventing prescription-drug overdoses. These strategies focus primarily on addressing the overdose epidemic through enhanced surveillance, effective policies, and clinical practices that establish statewide prescribing norms. Such efforts can be enhanced by using data sources to identify and intervene in cases of patients or providers who fall outside those norms. And the Centers for Medicare and Medicaid Services is working to enhance access to MATs by Medicaid programs through improved benefit design and application of the Mental Health Parity and Addiction Equity Act. But to be successful, all these initiatives require the active engagement and participation of the medical community.

The epidemic of prescription-opioid overdose is complex. Expanding access to MATs is a crucial component of the effort to help patients recover. It is also necessary, however, to implement primary prevention policies that curb the inappropriate prescribing of opioid analgesics — the key upstream driver of the epidemic — while avoiding jeopardizing critical or even lifesaving opioid treatment when it is needed. Essential steps for physicians will be to reduce unnecessary or excessive opioid prescribing, routinely check data from prescription-drug–monitoring programs to identify patients who may be misusing opioids, and take full advantage of effective MATs for people with opioid addiction.

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