CONFRONTING THE CRISIS OF OPIOID ADDICTION

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EXECUTIVE SUMMARY

Introduction

Opioid addiction is headline news as it is so common and devastating on multiple fronts: societal costs, personal devastation, broken families, loss of productivity, increased crime and overburdened criminal justice systems. There are currently 2 million Americans addicted to prescription opioids and an additional 500,000 heroin addicts.[1] Opioid deaths, now outnumbering deaths from motor vehicle accidents,[2] have tripled since the 1990s. Indeed, this crisis affects all segments of our society. We need to recognize that once addicted, many people experience permanent brain changes, which makes opioid addiction a relapsing and unremitting, chronic illness. Unfortunately, our health care system is currently organized to treat this addiction primarily with acute care services and the hope of abstinence upon discharge. Evidence tells us that this approach typically leads to treatment failures and readmissions to acute detoxification services. In short, expensive care delivering poor health outcomes. To address today's crisis, we must treat opioid addiction as a chronic illness. We must organize payers and providers to embrace proven reimbursement and care models that successfully combat other chronic health conditions.

The opioid crisis

The current crisis can be traced to the escalating use of prescription opioids in the 1990s. In response to pain management needs, doctors increasingly prescribed opioid pain relievers without adequate awareness of the permanent brain changes that opioids can cause in susceptible individuals. This susceptibility, most likely the province of multiple gene interactions, does not discriminate based on socioeconomic status. Whether rich or poor, white collar or blue collar, white, black or Hispanic, opioid addiction affects all members of our community. Unfortunately, the stigma of being a drug addict and the associated criminal activity that can result from addiction have colluded until now to limit the discussion on effective treatment approaches, necessary resources and timely access to combat this insidious dependence.

Our health care system is currently organized to treat this addiction primarily with acute care services and the hope of abstinence upon discharge. Evidence tells us that this approach typically leads to treatment failures and readmissions to acute detoxification services.

Contributing factors to the crisis

The following factors have contributed to the growing dependence on opioids and the inability of the health care system to combat the crisis:

» Stigma
» Pain management practices
» The role of genetics
» Primary care provider training and access
» Dominance and limited success of abstinence-only approaches
» Fee-for-service reimbursement structures and multiple payers

The solution: embracing a chronic care model

The recognition, and acceptance, of opioid addiction as a chronic illness provides an evidence-based framework to increase the quality of care, reduce costs, and improve outcomes. It also highlights the role and need for primary

care to assume a key position in the treatment continuum. However, this framework is more than a clinical program, *per se*; the model incorporates the necessary societal, systemic, and legislative overhaul to promote continuous and real improvements in care and clinical outcomes. The chronic care model (sometimes referred to as chronic disease management) has been successfully employed to treat patients with various common chronic illnesses, such as diabetes. The six tenets of that model are described below.

Recommendations

1. **Community resources and policies**

   Fostering partnerships in the community to link resources and promote better health
   Health care providers need to forge partnerships with state agencies, courts, schools and colleges, faith organizations, businesses and clubs. This effort must extend to liaison with treatment provided in prisons to ensure continuity of care upon release. There must also be an increased availability of naloxone (overdose rescue injection) to prevent overdoses in all settings. Community linkages, including mandatory education in school settings, are also essential to shift public perception and stigma. Those policies must address workforce development; increased access to services; and prevention and maintenance.

2. **Health care organization**

   Establishing alternative payment methodologies to promote a chronic care model
   The relationship between purchasers and provider organizations needs to reflect the value and prioritization of chronic care, as opposed to fee-for-service, episodic care. Continuing to reimburse repetitive acute services, with a high relapse rate and known increased mortality, is illogical without further investment in community-based care coordination. The health care delivery system must embrace alternative payment methodologies to promote a chronic care model.

The recognition, and acceptance, of opioid addiction as a chronic illness provides an evidence-based framework to increase the quality of care, reduce costs, and improve outcomes.

3. **Self-management support**

   Reinforcing informed consent to support individuals' choice of treatment options
   Individuals, and when possible, members of their personal support system, must be key members of their own treatment team. To do so, they must be fully informed of the treatment options, alternatives, risks and benefits, including medication-assisted therapies (MAT, e.g., methadone, buprenorphine, naltrexone). These options must be more universally available and presented to the consumer. The reinforcement and expansion of informed consent is an important part of that process.

4. **Delivery-system design**

   Building an effective continuum of care anchored on the chronic care model
   The components of an effective continuum of care are often divided among diverse providers and managed by different payers (e.g., insurance/managed care entities, state and county governments). Such discontinuous service systems impede the consumer's timely access to appropriate care in the least restrictive setting and may cause unnecessary administrative and clinical delays. The American Society of Addiction Medicine's (ASAM) 10 levels of care allow the flexibility to provide person-centric care in the least restrictive, most effective setting, with the goal to achieve recovery in the community. This structure delineates acute care from the planned management of ongoing care. Redesign will also require more education for primary care providers and their non-physician staff, as well as the integration of peers with lived experience into the primary care setting.

5. **Decision support**

Driving provider education on substance use disorder services

In order to ensure the application of evidence-based clinical practice guidelines for MAT, providers may need assistance identifying the appropriate service and available service providers. Senior leaders and physician "champions" play a key role in leading education and training on first prescriptions and the adoption of screening.

6. **Clinical information systems**

Improving the coordination of care through registries and electronic health records

Registries are the cornerstone of managing chronic illness as they enable robust tracking of outcomes. State-based registries for all known recipients and prescribers of MAT, that also track prescriptions to specific pharmacies, would inform providers. However, they could also have the unintended consequence of deterring individuals from seeking treatment, especially MAT. Anonymous registries (i.e., without consumer identifiers), however, are still valuable to track outcomes and utilization of different services within the continuum. Electronic health records (EHRs) are crucial to real-time access of pertinent clinical information (e.g., diagnoses, co-morbidities, medications, treatment goals and crisis plans). EHRs should be available to all members of the treatment team to foster collaboration, coordination and consistent care.

Summary

The paramount task for all stakeholders is to confront stigma and promote the understanding of addiction as a biologically based, relapsing chronic illness. We must provide individualized, evidence-based care; we need to expand access; we need to build a full-service continuum of care; and we need to devise aligned reimbursement strategies for improved outcomes. Member engagement needs to be specific and local, and may include peer navigators and new technologies to better involve members in their care. All levels of prevention are crucial, and include educational campaigns, medication disposal or buy-back programs, and community availability of opioid antagonist medication to reverse unintentional overdose. Implementation of the above six tenets of the chronic disease model of care signifies a major redesign of the current health care system and offers that best approach to combat the opioid addiction. Support by all stakeholders is required to confront and address this crisis.

The paramount task for all stakeholders is to confront stigma and promote the understanding of addiction as a biologically based, relapsing chronic illness.

OPIOID ADDICTION: AN OLD STORY WITH NEW CHALLENGES

INTRODUCTION

Opioid addiction is headline news as it is so common and devastating on multiple fronts: societal costs, personal devastation, broken families, loss of productivity, increased crime and overburdened criminal justice systems. There are currently 2 million Americans addicted to prescription opioids and an additional 500,000 heroin addicts.[1] Opioid deaths, now outnumbering deaths from motor vehicle accidents,[2] have tripled since the 1990s. Indeed, this crisis affects all segments of our society. We need to recognize that once addicted, many people experience permanent brain changes, which makes opioid addiction a relapsing and unremitting, chronic illness. Unfortunately, our health care system is currently organized to treat this addiction with acute care services and the hope of abstinence upon discharge. Evidence tells us that this approach typically leads to treatment failure and readmission to acute detoxification services. In short, expensive care delivering poor health outcomes. To address today's crisis, we must treat opioid addiction as a chronic condition. We must organize payers and providers to embrace proven reimbursement and care models when combatting a chronic health condition.

THE CURRENT ENVIRONMENT

The opioid crisis

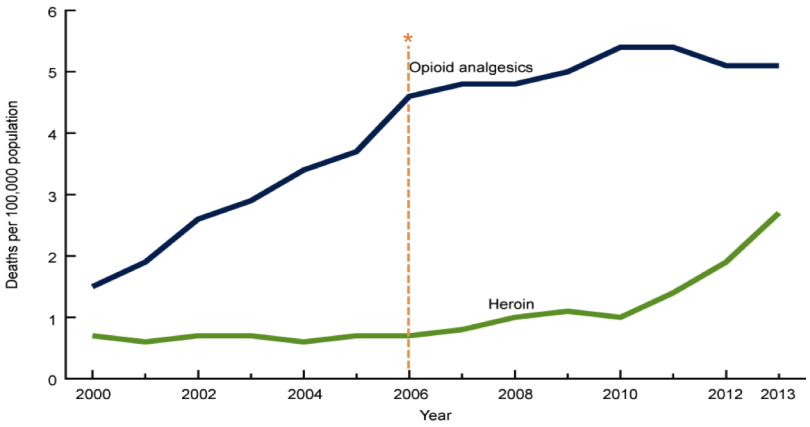
The current crisis can be traced to the escalating use of prescription opioids in the 1990s. In response to pain management needs, prescriptions for opioid pain relievers increased without adequate awareness of the permanent brain changes that opioids can cause in susceptible individuals. This susceptibility, most likely the province of multiple gene interactions, does not discriminate based on socioeconomic status. Whether rich or poor, white collar or blue collar, white, black or Hispanic, opioid addiction affects all members of our community. Unfortunately, the stigma of being a drug addict and the associated criminal activity that can result from addiction have colluded until now to limit the discussion on effective treatment approaches, necessary resources and timely access to combat this insidious dependence.

The evolving American health care landscape and its implication for addiction services

The backdrop to today's opioid addiction crisis is a health care environment undergoing dramatic change, especially for substance use disorder benefits and access. The Affordable Care Act (ACA) has expanded benefits to include childless adults, a population not typically covered by Medicaid prior to the ACA. This expansion coverage (both Medicaid and Exchange) now makes insurance available to consumers with a higher prevalence of substance use disorders. Further, those benefits must include mental health and substance use disorder services to meet the Essential Health Benefits and requirements and mandates of the Mental Health Parity and Addiction Equity Act (MHPAEA). In brief, the MHPAEA requires health plans that offer mental health and substance use disorder benefits to do so at the same level as their medical/surgical benefits. Consequently, by 2020, it is estimated that the two laws will expand mental health benefits to an additional 62.5 million people, with 32.1 million individuals able to access substance use disorder benefits for the first time.[3] The upshot of these two laws is that more people will access substance use disorder services through health insurance now than ever before. The inevitable consequence of this increased access to services is more pressure on the health care delivery system to provide effective substance use disorder treatment, as well as changes to how care is reimbursed. Recommendations to address today's opioid addiction crisis must consider the changing health policy landscape, particularly so when acknowledging the true nature of addiction as a chronic brain disease.

Cost of addiction

Sadly, the impact of opioid addiction is measured in the loss of life. The death rate from opioid overdose from 2000 to 2013 increased from 4,400 to 16,235, or a 375% increase.[4] We are unnecessarily losing too many productive members of our society.



SOURCE: *CDC/NCHS National Vital Statistics System, Mortality*

In addition to the loss of life, opioid addiction is associated with numerous risks for poor medical outcomes; reduced care and attention to other chronic illnesses; other substance use; infections, such as hepatitis B and C and HIV; and systemic bacterial infections. Addiction-related social factors include the loss of job and income; unstable housing or homelessness; and poor interpersonal relationships with family and friends, resulting in isolation and lack of social supports. Indigent, "street-level" addicts frequently need to resort to illegal means, such as shoplifting or prostitution, to feed their addiction, which poses greater risks to society and the addict. Numerous studies indicate annual cost of opioid addiction to be more than $50 billion.[5] For these reasons, we must treat opioid addiction as a major public health concern.

CONTRIBUTING FACTORS TO THE CRISIS

Stigma

The social bias towards addiction as a volitional act or a weakness of character persists. This view negatively impacts the funding, development and access to an effective continuum of treatment services. Public health leaders, payers and providers must counteract this misguided view and promote comprehension of addiction as a chronic, relapsing condition. There is not a single, "one-size-fits-all" means to influence attitudinal change or engagement. Racial, ethnic, gender, age, socioeconomic and lifestyle variations will need consideration.

Despite the volitional act that initiates opioid use, any resulting dependence and addiction are largely mediated by genetics and permanent changes in brain physiology, not merely social/ environmental factors.

Pain management practices

A preferred approach to pain management has been the prescribing of opioids. Unfortunately, we now know that pain management practices have been a significant contributor to the current opioid crisis. With this knowledge, we must embrace alternative pain strategies, including a focus on function (rather than pills), cognitive and behavioral approaches, contingency management,[6] and non-opioid medications and devices (e.g., TENs units, ice packs) whenever possible.

The role of genetics

Despite the volitional act that initiates opioid use, any resulting dependence and addiction are largely mediated by genetics and permanent changes in brain physiology, not merely social/environmental factors. Therefore, even after prolonged abstinence, there are persistent symptomatic effects and dysphoria, making opioid addiction a chronic, relapsing illness, not a purely behavioral problem.[7, 8] The American Psychiatric Association (APA) Practice Guideline (2nd edition, 2006) recognizes this reality in its assertion that "...the pivotal factor in successful treatment is engaging the patient in long-term outpatient relapse prevention with a duration measured in years rather than days."[9]

Primary care provider training and access

Provider stigma and attitudes about patient selection, safety, and low reimbursement are compounded by limited training and education in the neurobiology and treatment of addictions.[6] These factors contribute to limiting access to community-based care. This confluence of knowledge and referral gaps promotes the "Don't ask, don't tell" scenario in which physicians do not screen or recognize addiction, and patients (often stigmatized, disenfranchised, ashamed or in denial) do not offer information.

There will not be enough specialty care to meet the demand, especially in rural areas. Necessary capacity can only be built by the inclusion of primary care. To do so, we must confront the failure of medical education to include appropriate training in the treatment of this common yet underdiagnosed chronic disease. Of course, we cannot wait for a new generation of enlightened primary care providers. Ongoing provider education, decision support, referral assistance and appropriate incentives will need to be part of a comprehensive treatment program.

Dominance and limited success of abstinence-only approaches

To date, pervasive stigma, social bias and other factors have led to an over-reliance on abstinence-only treatment modalities, in spite of the limited success rates for this approach. Abstinence alone creates a loss of tolerance, but not necessarily a decrease in cravings, which leads to an increased rate of relapse and inadvertent overdose (e.g., when the previously tolerant, but now abstinent, addict resumes opioid use at his/her previously usual dose, leading to respiratory depression or non-cardiogenic pulmonary edema). While an abstinence-only approach works for some individuals, opioid replacement therapy (ORT) may be far more effective and humane for the majority, allowing them to appreciate a higher quality of life.

Fee-for-service reimbursement structures and multiple payers

Fee-for-service reimbursement structures reward a single-service focus, as opposed to ensuring that the consumer is managed through a full continuum of care. By not moving to value-based purchasing, payers incent providers to deliver

more units of service and limit rewards for collaboration with our providers on the continuum of care. For example, a facility may offer just detox services with the incentive to keep the beds full. Consequently, that facility will likely have a limited responsibility and accountability for the patient's movement along the continuum (or "dis-continuum") of care. In brief, whether the patient recovers or relapses has no consequence for the detox provider.

Additionally, low reimbursement arrangements have dissuaded some facilities from using more costly, evidence-based treatments (e.g., extended-release injectable naltrexone), while fee-for-service has fueled the development of associated laboratories for non-evidence based overuse of laboratory testing.

Payment authority for addiction also contributes to fragmentation, with discontinuous services covered by insurance benefit (or not), by the state or county appropriation or federal entitlements. These payers often do not collaborate to ensure that an in-common consumer access to care is well-coordinated.

THE SOLUTION: EMBRACING A CHRONIC CARE MODEL[10,11]

The recognition, and acceptance, of opioid addiction as a chronic illness provides an evidence-based framework to increase the quality of care, reduce costs, and improve outcomes. It also highlights the role and need for primary care to assume a key position in the treatment continuum. However, this framework is more than a clinical program, *per se*; the model incorporates the necessary societal, systemic, and legislative overhaul to promote continuous and real improvements in care and clinical outcomes. The chronic care model (sometimes referred to as chronic disease management) has been successfully employed to treat patients with various common chronic illnesses, such as diabetes.

Community linkages are essential to shift public perception, decrease stigma and to spread the understanding of opioid addiction as a chronic illness.

There are six essential elements of the chronic care model:

1. Community resources and policies
2. Health care organization
3. Self-management support
4. Delivery-system design
5. Decision support
6. Clinical information systems

Each of these elements has specific implications for the improved treatment of opioid addictions. There are also element-specific legislative actions and support crucial to the systemic change necessary to halt the escalation in opioid addiction, diversion and related death.

RECOMMENDATIONS

1. Community resources and policies

Fostering partnerships in the community to link resources and promote better health

Community linkages are essential to shift public perception, decrease stigma and to spread the understanding of opioid addiction as a chronic illness. We need broad partnerships among health care providers, payers, state agencies, courts, schools, colleges, faith organizations, exercise programs, businesses and clubs to better leverage all available community resources. It must be the mission of all stakeholders to work together to bridge disruptive service gaps that threaten to impede the consumer's progress along the continuum. This effort must also include the criminal justice system so that appropriate treatment occurs in prisons and to ensure continuity of care when the incarcerated return to the community.

We call for the following recommendations regarding community resources and policies:

Resources: increase access

There are not enough adequately trained providers to treat addictions. Legislative actions could improve this access by the following:

» Lift the panel size limits on suboxone patients for providers that demonstrate clear evidence-based protocols and provide full wrap-around services for their addictions patients

» Extend prescriptive authority to well supervised mid-level practitioners who work within such full-service practices and provide maintenance care

» Change the methadone regulations to allow for use in office-based practices, and establish training programs for providers willing to offer this service

Workforce development

» Add addiction medicine to the primary care medical specialties eligible for National Health Service Corps (NHSC) Scholarships, with four post-residency years of service in an addictions-specific site (or in primary care with a focus on addictions treatment)

» Offer an NHSC Scholarship enhancement (e.g., a larger amount, a shorter post-residency commitment, etc.) for other appropriate specialties with approved core training in the treatment of addictions; require a post-residency commitment to serve in an addictions-specific site (or in primary care with a focus on addictions treatment)

Policies: prevention and maintenance

Legislative policies have begun to affect the prescription opioid crisis, as prescriptions, use and abuse have started a downturn in the last couple of years.[7] This downturn is a hopeful sign and suggests that policy can affect outcomes. To that end, it is important to remain watchful for lobbying opportunities to keep easily abused opioids off the market; to increase access to evidence-based treatment (including MAT); and to increase availability of Safety First services.

Next steps for policymakers include:

» Promote prescription opioid take-back programs that incentivize consumers to return leftover medications to pharmacies, medical offices, or police stations

» Make naloxone widely available without a prescription

» Require community access to naloxone; specifically, mandate training and availability for schools, mobile police units, EMTs, pharmacies and fire safety units

» Require access to, and training in the administration of, naloxone for addicts and/or their family members when an individual enters opioid addiction treatment

» Pass a federal Good Samaritan law to protect people from criminal prosecution for calling 911 when someone is overdosing

» Ease the 42CFR confidentiality prohibition against provider sharing of addictions-related information and treatment for the purpose of care planning

» Promote Safe Sex education for the community as well as consumers entering the treatment system at any level, as appropriate

» Require alcohol, drug and tobacco use and addiction education in health classes starting in early middle school by utilizing SAMHSA's National Register of Evidence-Based Programs and Practices (NREPP), which contains more than 50 evidence-based prevention activities available for implementation

Criminal justice system

» Offer incentives for treatment programs for selected inmates
» Mandate addictions treatment and education in prisons, including MAT, as appropriate
» Require follow-up care plans with identified providers prior to release, including an incentive for a pre-release meeting of the inmate and follow-up providers
» Require prisons to provide brief post-release care in cases where there is an unacceptable wait for community services

2. Health care organization

Establishing alternative payment methodologies to promote a chronic care model

The relationship between purchasers and provider organizations needs to reflect the value and prioritization of chronic care over fee-for-service, acute and episodic care. Consumers often enter the system at high levels of acuity (e.g., inpatient detox); are lost to follow-up; and resurface for the original acute service due to the lack of provider accountability resulting from a fee-for-service system. Such repetitious service and lack of provider accountability—particularly post-discharge—does not promote recovery, improve outcomes, or use limited resources judiciously. The mismatch between episodic payment structures and chronic disease care speaks to the need for more creative reimbursement strategies that realign incentives with the goals of comprehensive, high quality treatment and improved outcomes. Such strategies should promote access to evidence-based MAT, including both opioid replacement therapies (i.e., methadone or buprenorphine), or antagonist treatment (e.g., naltrexone, either oral [ReVia] or extended-release injectable [Vivitrol]), as well as accompanying psychosocial and medical modalities. Reimbursement should be tied to outcomes and promote full-service, chronic disease management.

Examples of reimbursement structures that address these challenges include pay-for-performance programs (P4P), capitated or population-based models, and bundled service arrangements. They focus on quality, rather than quantity, of service. These models include the single caveat that there are performance specifications that target outcomes, member engagement and movement along the continuum to less restrictive, intensive, community-based services, and ultimately, maintenance treatment.

The relationship between purchasers and provider organizations needs to reflect the value and prioritization of chronic care over fee-for-service, acute and episodic care.

One method of reimbursement is an episode bundle. In this model, a provider is paid a set amount for a continuum of care (i.e., a detox stay plus rehabilitation step-down plus two months of outpatient substance use therapy) and a period of time (in this example, one year). The provider is held to specific quality outcomes, such as a member participation rate, detox readmission (90 days or more), therapy completion and member self-reported outcomes. The provider is paid a flat amount for the entire episode, with upside and downside structures to prevent "cherry-picking" and inappropriate discharges.

Here, the role of policymakers is to:

» Incentivize payers and providers to pilot all inclusive, chronic disease models of care for persons with opioid addiction with the goal of maintenance in the community and decreased utilization of acute services
» Require insurance companies to provide alternative payment methodologies (e.g., bundled payments) that promote efficacious treatment throughout the full episode of care
» Promote payment strategies that tie reimbursement to quality and outcomes

3. Self-management support

Reinforcing informed consent to support individuals' choice of treatment options

There must be a treatment plan, developed in conjunction with the consumer, and regularly updated as appropriate to the consumer's progress. Individuals must be key members of their own treatment team. To do so, they must be fully informed of the treatment options, alternatives, risks and benefits, including MAT. These options must be more universally available and presented to the consumer. Informed consent is critical to self-management and must occur with the first opioid prescription. Such prescriptions are frequently the spark for ongoing use, abuse, addiction and diversion. While the risk is not identical across all individuals, and there are some recognizable risk factors,[12] "universal precautions" are warranted.

With the consumer's permission, his/her support system (e.g., family, friends, sponsor, significant other) should be included in these informational discussions.

Policymaker support for informed consent should:

- Reinforce the responsibility of prescribers to discuss the risks and benefits involved in the use of opioids for pain management
- Require verbal explanation of the full array of addictions treatment modalities and services, both professional and community (e.g., NA, peer navigators, etc.)
- Require verbal and written explanation of available MAT to treat opioid addiction (i.e., methadone, buprenorphine, buprenorphine-naloxone, oral naltrexone, and long-acting injectable naltrexone)
- Promote inclusion of the individual's personal support system whenever possible and acceptable to the individual
- Promote exploration and adoption of mobile technologies to facilitate self-management

Individuals must be key members of their own treatment team. To do so, they must be fully informed of the treatment options, alternatives, risks and benefits, including MAT.

4. Delivery-system design

Building an effective continuum of care anchored on the chronic care model

As in the treatment of other chronic diseases, the treatment of addiction should have clear goals and markers for improvement. It should be individualized, member-centric and culturally sensitive. Treatment may consist of several modalities, such as medication, counseling, mutual help/community-based programs etc. The components of an effective continuum of care are often not only delivered by diverse providers, but managed by different payers (e.g., insurance/managed care entities, state and county governments). Such discontinuous service systems impede the consumer's timely access to appropriate care in the least restrictive setting and may cause unnecessary administrative and clinical delays. Promoting access to care requires a care manager to facilitate collaboration and coordination, and to help the consumer navigate his/her care system.

As part of a system redesign, providers require guidelines to help them determine the best care setting to meet an individual's unique needs. ASAM's 10 levels of care provide that guidance. These 10 levels of care allow the flexibility to provide person-centric care in the least restrictive, most effective setting, with the goal to achieve recovery in the community. This structure delineates acute care from the planned management of ongoing care. Redesign will also require more education for primary care providers and their non-physician staff, as well as the integration of peers with lived experience into the primary care setting.

To the extent that full service networks can be developed, or approximated through affiliations, the full continuum should be realized. However, the initial task for delivery design is to review and align local services, service descriptions, contractual agreements, billing codes and review criteria with the recognized ASAM levels of care. This review and alignment of services will identify currently available services as well as any care gaps in the delivery system. As the necessary services to bridge these gaps are developed and implemented, there will be continued need for care management, communication between collaborating providers and active efforts for consumer engagement.

Next steps include:

- Review the current care system design and fix shortcomings to ensure administrative and clinical ease, promote collaboration and align payment incentives
- Require limited-services addictions providers to form or join a working network with other providers to cover the full array of addictions services
- Promote better understanding of what information can be shared between providers with respect to the HIPAA laws and 42 CFR as providers may feel unduly restricted in regards to sharing information on a patient's addiction and treatment
- Require case/care management services to be part of full-service addictions treatment
- Require pain management services to be part of full-service addictions treatment, either within the program or through contracted services

Engagement of the primary care community should be addressed by provider training on MAT, issues related to first prescriptions, safe prescribing, pain management and the adoption of screening.

5. Decision support

Driving provider education on substance use disorder services

Engagement of the primary care community should be addressed by provider training on MAT, issues related to first prescriptions, safe prescribing, pain management and the adoption of screening. Health plans, professional boards and community agencies should collaborate to support these programs. There are now well established tenets of safe prescribing; it is indiscriminate or excessive prescribing that needs to be curbed. Many state boards of medicine require continuing medical education in safe prescribing for license renewal. Some also provide written material for prescribers, as well as patient brochures or posters, for medical waiting rooms.

Early identification through screening and recognition of risk factors creates the opportunity to intervene before health, social or legal consequences compound the problem. Early detection training programs should be widely available to personnel of all possible referral service sites, such as primary care, schools, crisis centers, etc. However, screening success mandates an appropriate response. Therefore, it is important for providers to have dedicated phone access to appropriate treatment referrals, decision-support and/or care management services for their patients.

Necessary actions for decision support:

- Create a provider hotline to offer decision support
- Provide training on addictions screening and treatment best practices
- Provide training on pain strategies to include a focus on function (rather than pills), cognitive and behavioral approaches, contingency management,[6] and non-opioid medications and devices (e.g., TENs units, ice packs)
- Training should highlight that the compassionate and monitored use of opioid analgesia cannot be uniformly withheld because of addiction and that pain management can be incorporated into opioid replacement therapy to best meet both goals.

6. Clinical information systems

Improving the coordination of care through registries and electronic health records

Registries are the cornerstone of managing chronic illness as they enable robust tracking of outcomes. State-based registries for all known recipients of MAT, that also track prescriptions to specific pharmacies, would inform providers. However, they could have the unintended consequence of deterring individuals from seeking treatment, and especially MAT. To deter this potential outcome, steps can be taken to capitalize on registries' potential.

Policymakers should:

- Convene a panel to evaluate/study the risks and benefits of developing a registry of MAT recipients and prescribers
- Promote the development and use of anonymous registries to track outcomes and inform continuous quality improvement for specific treatment components and the total continuum of services
- Promote the use of care management modules within the EHR to track progression along the ASAM continuum and provide feedback to all members of the treatment team

In addition to registries, innovations in technology currently play an underutilized role in identifying those individuals likely in need of services, as well as engaging those individuals in their own care. For example, predictive analytics could identify individuals at risk of opioid addiction, enabling payers to reach out to these individuals to engage them in relevant programs.

SUMMARY

Prescription opioid addiction reached crisis proportions over the past two decades, fueled by increased prescribing practices for pain management. The societal, fiscal and human costs have been vast. There are effective, evidence-based treatments, but social bias and a pervasive view of addiction as a character flaw rather than a medical issue have limited access to these services. The recent decrease in non-medical opioid use, abuse, diversion and related deaths is a hopeful sign that legislation and pharmaceutical technologies can effect change, but it is not enough to create real transformation. The paramount task is to confront stigma and promote the understanding of addiction as a biologically based, relapsing chronic illness.

To provide individualized, evidence-based care, we need to expand provider networks, build full-service continuums of care, devise creative contracting and reimbursement strategies, and align incentives with improved outcomes.

To provide individualized, evidence-based care, we need to expand provider networks, build full-service continuums of care, devise creative contracting and reimbursement strategies, and align incentives with improved outcomes. Member engagement needs to be specific and local, and may need to include peer navigators and new technologies to involve members in their treatment. All levels of prevention are crucial, and include educational campaigns, medication disposal or buy-back programs, and community availability of opioid antagonist medication to reverse unintentional overdose. Implementation of these six tenets of the chronic disease model of care signifies a major redesign of the current health care system to treat appropriately the chronic disease of opioid addiction and combat the opioid crisis. Support by all stakeholders is required to confront and address this crisis.

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APPENDIX A

TERMINOLOGY

Abuse refers to any intentional (but possibly less compulsive) non-medical use.

Addiction is a pattern of compulsive behavior, including non-medical use, loss of control, continued use despite negative consequences, extreme measures to procure the substance, etc.

Buprenorphine is a partial μ opioid receptor agonist and kappa (κ) opioid receptor antagonist, approved by the FDA in 2000 for office-based maintenance therapy (BMT). Used in inpatient settings for acute detoxification management, the oral form (**Subutex**) can be abused if injected intravenously; as a result, the most common outpatient form is a combination with naloxone (**Suboxone**), which blocks the opioid effects when injected. Physicians take an eight-hour certification training to prescribe buprenorphine for office-based induction and maintenance treatment. In 2007, the FDA increased its original limit of 30 patients per physician, now allowing a certified physician to manage 100 patients concurrently. From 2003 to 2006, 300,000 people in the US received buprenorphine treatment.[12]

Dependence refers to a physiologic adaptation to the regular administration of a drug or medication, such that sudden discontinuation of that drug will result in symptoms of withdrawal. Anyone taking an opioid for a certain amount of time will develop physiologic dependence.

Detoxification (detox) is the acute management of withdrawal symptoms, often achieved by replacement of a short-acting drug by a long-acting drug that covers the same receptors (e.g., the mu [μ] opioid receptors in the brain).

Heroin is diacetylated morphine, and the most commonly injected opioid of abuse.

Lapse refers to an isolated incidence of use after a period of abstinence and does not necessarily lead to relapse.

Maintenance therapy involves long-term medication substitution to support abstinence from the addictive drug-of-choice.

Methadone is a long-acting, synthetic opioid agonist. Methadone maintenance therapy (MMT) has been the standard treatment for heroin addiction since the FDA approved its use in 1972, but only in highly regulated outpatient treatment programs (OTPs, i.e., methadone clinics). Now, after 40 years of experience, methadone is the most studied and documented maintenance drug. Prior to MMT, the opioid dependence-related US death rate was 21 per 1000 users; with the advent of MMT, the rate fell to 13/1000. The death rate for opioid dependent persons receiving MMT is 30% lower than for those not in treatment.[12] In 2005, 22% (235,836) of >1.7 million people seeking opioid addiction treatment in the US received MMT.[12]

Naltrexone is an opioid receptor antagonist. The oral form (**ReVia**) of naltrexone totally blocks the effects of opioids and may also decrease cravings for opioids (as well as for alcohol). For those individuals with opioid addiction and a bias, or a professional mandate (e.g., physicians), against opioid substitution therapy, naltrexone is a non-opioid alternative. A sustained-release, injectable form of naltrexone (**Vivitrol**) has been shown to be effective and to overcome the adherence issues of the oral preparation.[12]

Opiates, a subclass of opioids, are alkaloid compounds extracted from opium, and include **morphine**, **codeine**, and semisynthetic derivatives of the poppy plant (but not synthetic opioids, such as oxycodone or methadone).

Opioids are natural or synthetic substances that act at one of the three main opioid receptor systems (mu, kappa, delta), and have analgesic and central nervous system (CNS) depressant effects and may cause euphoria.

Opium, an extract of the poppy plant commonly smoked in Asia and the Middle East, is less commonly abused in the US.

Relapse is a return to use after a period of post-detox abstinence, often with a return to previous levels of use, dependence and addiction.

Tolerance, which occurs after repeated use of a substance, is the need to use larger amounts of a substance to get the desired effect, or a greatly decreased effect from use of the same amount. There can be tolerance to not only the desired effects (e.g., the high, and/or pain relief), but also to the side effects (e.g., sedation or respiratory drive suppression). With opioids, however, there is a limit to the tolerance one can develop to respiratory depression. This explains some of the unintentional opioid overdoses, when tolerance to desired effects drives a person to use increased amounts that eventually are high enough to suppress breathing. Tolerance also diminishes with abstinence, so addicts who have been abstinent are at risk of overdose if they resume use at the same dose as when they were regularly using.