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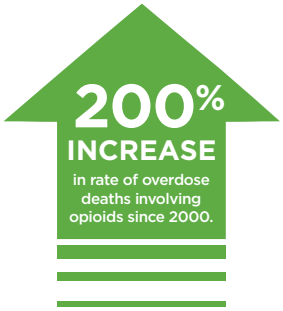
Roadmap to Fighting the Opioid Epidemic

Opioids are a category of drugs that include opiates that are derived from the poppy as well as synthetic derivatives. Opioid use disorder (OUD) as defined by DSM-5™ is a pattern of maladaptive opioid use that includes unsuccessful attempts at quitting, drug seeking behavior, tolerance, and withdrawal symptoms. Opioids include derivatives of the poppy plant like heroin, which are called opiates, and synthetic opiates, like oxycodone and fentanyl. Opioids may be obtained by prescription or illicitly.

Scope of the Problem:

Prescription opioids were developed for the treatment of both acute and chronic pain. In 2011, the Institute of Medicine released a report titled, "Relieving Pain in America." The report estimated that chronic pain affects 100 million Americans and costs the nation up to $630 billion each year. Untreated pain causes suffering, disability, depression, and increased utilization of health care services. Hence, the appropriate treatment of pain is an important part of good medical care. Unfortunately, widespread and often unnecessary or inappropriate opioid prescribing has led to an epidemic of misuse, addiction, and overdose. In the past six years since then, we have seen numerous research studies, news reports, anecdotal stories, and trend analysis, all of which support the idea that this is an increasing and ever more deadly epidemic that is straining our healthcare system to its limits while simultaneously devastating families. Therefore, clinicians must carefully balance the medical use of opioids for the treatment of pain while not contributing to the opioid epidemic.

A coordinated and collaborative effort among researchers, medical practitioners, public policy makers, public safety, and allied healthcare professions is required to address this epidemic. It will require initiatives that specifically expand health literacy about the use of opioid pain medication, as well as countermeasures to the explosive use of heroin in large and small communities across the country. It will require expanded treatment options and recovery programs to help keep those with opioid use disorders out of jail and in recovery.



One does not have to look hard to find staggering statistics from recent years about the opioid addiction crisis. A report from the Substance Abuse and Mental Health Services Administration (SAMHSA) states that 79.5 percent of heroin users had previously used prescription pain relievers for nonmedical reasons (SAMHSA, 2013a). The United States is experiencing an epidemic of drug overdose (poisoning) deaths. Since 2000, the rate of deaths from drug overdoses has increased 137%, including a 200% increase in the rate of overdose deaths involving opioids (opioid pain relievers and heroin). According to a report entitled *Increases in Drug and Opioid Overdose Deaths; United States, 2000–2014* by the Centers for Disease Control and Prevention (2016), the sharp increase in deaths involving synthetic opioids in 2014 coincided with law enforcement reports of increased availability of illicitly manufactured fentanyl, a synthetic opioid. These findings indicate that the opioid overdose epidemic is worsening; in fact, the rate of drug overdose deaths involving synthetic opioids doubled between 2013 and 2014.

According to Gale R. Burstein, MD, MPH, FAAP, Commissioner of Health, Erie County, New York, the number of deaths from heroin and opioids alone continues to rise, more than doubling in her county alone between 2014 and 2015. Dr. Burstein attributes the spike in deaths to drug dealers now mixing fentanyl with the heroin they sell on the street. Fentanyl increases the potency of the opiates as it increases the potential for a deadly overdose.

In Waterbury, Connecticut, the U.S. Attorney, Dierdre Daly, stated that there were 188 deaths in 2015 due to opioid overdoses involving fentanyl. By 2016, that number had risen to 446 in the town of Waterbury.

The Detroit Free Press posted a story on March 23, 2017 about the latest opioid craze, the use of a synthetic substance called Carfentanil, which is 10,000 times more potent than morphine and commonly manufactured as a tranquilizer for animals like elephants and rhinos. Author Betsy Woodruff states that the results are horrifying. "Mexican cartel distributors often cut these synthetic pain killers, used to tranquilize elephants, into heroin or fentanyl before shipping to the United States. Users don't seem to know what is in the drugs. But trace amounts of the drug can be lethal."

"...The latest opioid craze, the use of a synthetic substance called Carfentanil, ...is 10,000 times more potent than morphine and commonly manufactured as a tranquilizer for animals like elephants and rhinos."

Nadia Kounang and Tony Marco, of CNN, first reported that heroin laced with elephant tranquilizer had hit the streets on August 25, 2016. They reported that recent overdose outbreaks in Ohio, Indiana and Florida have been linked to the drug. Like fentanyl, carfentanil is dangerous to anyone who comes into contact with it since grains of it can be absorbed through the skin or inhaled.

How do we begin to respond to such incredible headlines?

As federal authorities try to grapple with the epidemic, and laboratories continue to identify new, more dangerous synthetics used in the manufacture of opioids, the education of medical providers, drug treatment counselors, and all allied professionals has obviously lagged behind these headline-making events.

In March 2017, American College of Physicians (ACP) published a series of recommendations to facilitate effective treatment and prevention of substance use disorders (SUDs) involving illicit and prescription drugs. Their recommendations state that "Stakeholders should cooperate to: implement evidence-based guidelines for pain management; expand access to Naloxone for opioid users, law enforcement and emergency medical personnel; expand access to medication-assisted treatment for opioid use disorders; establish a national prescription drug monitoring program; and improve existing monitoring programs." According to Crowley, et al. (2017), the ACP believes that physicians must become familiar with, and follow as appropriate, clinical guidelines related to pain management and controlled substances, such as prescription opioids, as well as nonopioid pharmacologics and nonpharmacologic interventions.

The Brain and Addiction

Opioid receptor sites have been identified and studied since the mid-1970s. There is ample evidence that anatomical and functional alteration of pain/reward circuits in the brain are affected by chronic pain and that pain relief is rewarding and activates the brain's reward/motivation circuits (Navratilova, et al., 2016). When your body is in pain, neurotransmitters such as endorphins attach to the opioid receptors, thereby numbing the perception of pain. According to Navratilova, aversive aspects of pain are encoded in brain regions overlapping with areas processing reward and motivation. Their findings revealed anatomical and functional alterations of the reward/motivation neural circuits in chronic pain.

Opioids act on the mu opioid receptor, which is widely distributed in the body. Binding of opioids to this receptor in the brain is associated with pain relief. Opioids, like all drugs of abuse, also activates a reward pathway in the brain that uses the neurotransmitter dopamine. These processes can create the motivation to continue to use opioids even after pain has subsided, putting the user at risk of misuse, dependence, and eventual addiction. Sadly, the overdose of such painkillers can also kill. Opioids target the brain's reward system by flooding the circuit with dopamine. Dopamine is a neurotransmitter present in regions of the brain that regulate movement, emotion, cognition, motivation, and feelings of pleasure. The National Alliance of Advocates for Buprenorphine Treatment stated that "Overstimulation of this dopaminergic system, which rewards our natural behaviors, produces the euphoric effects sought by people who misuse drugs and teaches them to repeat the behavior." Receptor sites for opioids occur not only in the brain but can be found in the spinal cord and digestive tract. Binding of opioids to opioid receptors outside of the central nervous system is responsible for some of their adverse side effects, like constipation.

"Overstimulation of this dopaminergic system... produces the euphoric effects sought by people who misuse drugs and teaches them to repeat the behavior."

Opioid Addiction Risk Factors

Opioid addiction treatment is especially difficult because people often have both acute and protracted withdrawal syndromes:

- **Acute withdrawal is very uncomfortable and occurs within hours to days after stopping opioids. It includes nausea, sweating, diarrhea, muscle and joint pains, and a general feeling of sickness.**
- **Protracted withdrawal can last for months, and even more than a year, and includes depressive-like symptoms such as reduced concentration, low energy level, poor sleep quality, and anhedonia (lack of ability to experience pleasure).**

Due to these protracted withdrawal symptoms, providers found that relapse rates for those trying to stop using opioids were extremely high.

According to the DSM-5™, "The risk for opiate use disorder can be related to individual, family, peer and social environmental factors, but within those domains, genetics plays a major role both directly and indirectly." (p. 543).

It has been well documented that the use of prescription opioids can lead to the abuse of illicit opioids like heroin. This has the compounding effect of making recovery more difficult and can involve the justice system if crimes are committed in obtaining illicit drugs. In some cases, the criminal justice system can be instrumental in requiring mandatory treatment for opioid/opiate abuse.

How Can We Impact the Opioid Abuse Problem?

Substance abuse treatment professionals cannot change an individual's genetic makeup or culture. However, we can impact an individual's social environment, family, peer and social relationships and internal thought processing regarding healthy versus risky and life-threatening behavior. A major step toward reversing the opioid epidemic can come by educating the professional community in evidence-based practices for identifying, intervening and treating individuals with chronic pain, individuals who would potentially abuse opioids, and individuals with existing OUD.

Impact—Step One: Prevention Intervention Strategies

The first step in addressing the opioid epidemic is to consider principles of effective prevention. According to the *American Psychologist* (2003), any effective intervention must be comprehensive. It must address critical domains such as family, peers, and community that could influence the development and perpetuation of the behaviors to be prevented. It should use varied teaching methods that focus on increasing awareness of problem behaviors in a way that promotes strong relationships. It should be initiated early enough to have an impact on behavior change, with clear goals and systems to document the results relative to the goals of treatment. Finally, it requires a well-trained staff. Program staff must be provided with appropriate training regarding the implementation of any intervention so that the desired effect is achieved and staff can provide follow-up treatment as necessary to maintain the positive results. Providers must have the necessary training to effect good prevention interventions that includes information about pain management techniques, alternative medicine approaches to pain, proper use of analgesics for pain mediation and prescribing and dosage information about opioid medications. The FDA is now requiring several additional safety labeling changes across all prescription opioid products to include additional information on the risk of misuse, abuse, addiction, overdose and death with these medications. This is part of the agency's overall effort to help inform prescribers about the importance of balancing the serious risks of opioids with their role in managing pain.

Changes in prescribing behaviors can reduce the amount of opioid prescriptions written and the number of dependent adults in a given community. Behavioral and general health literacy campaigns and the use of such prevention interventions as Information Therapy can influence the demand for opioid drugs in both ambulatory and community care environments. However, this will require a sustained commitment to training for not only physician prescribers but also for mid-level providers, including Nurse Practitioners and Physician Assistants, as well as for ancillary providers, particularly Care Mangers and Behavioral Health, Substance Use professionals.

Impact—Step Two: The Importance of Screening and Assessment

DAST, DAST-10
OARS
CRAFFT
SBIRT

Providers, including primary care and specialty treatment providers such as pain management clinicians, must be able to access immediate information about patients seen for chronic pain and be able to identify those at risk for dependence and addiction. Risk identification and assessment requires population health risk stratification and analytic methods for large population and community-based approaches as well as a sufficient screening tool kit and clinical expertise for individual risk determination. Training in the most complementary use of patient history, standardized screening techniques and risk matching and modelling will enhance the provider's dosage and prescribing methods as well as provide sufficient feedback to determine where opioid pain medication is contraindicated and/or alternative treatment methods are recommended.

If a clinician is considering prescribing an opioid analgesic, but suspects the patient is not disclosing that he or she is already being prescribed them, the first step is to consult the state Prescription Drug Monitoring Program (PMDP). These are currently available in 49 states and will tell the clinician if the patient is receiving prescription painkillers from another practitioner. A screening urine test is another option to detect undisclosed use of opioids. However, it should be noted that urine drug testing was designed for use in forensic or occupational purposes. Use of urine testing for pain management compliance has significant limitations. For example, the standard immunoassay procedure is susceptible to false positives. This may require additional training for proper interpretation of the results. Of course, when positive screens are determined, a clinician can initiate a second test based on gas chromatography-mass spectrometry. However useful, laboratory screening for drugs is only a first step in the comprehensive evaluation equation.

According to the Institute of Medicine (2011), more than 80 percent of all physician consults in the United States are pain related, and nearly one-third of all Americans suffer from chronic pain. How

does the practitioner know who will be susceptible to misuse, abuse and addiction to opioid drugs? Among the risk factors for opioid misuse is the misuse of other substances, such as alcohol and cocaine. Careful clinical history and, at times, urine screening can be used to detect other types of substance use. If such patients are then prescribed opioids for the treatment of pain, it is usually recommended that extra cautions be put in place to prevent opioid misuse.

An explicit aim of clinician training, then, is to inform the practitioner about the risk factors for opioid misuse and the available data analytic tools and screening instruments that can help detect these risk factors at the population and individual level. Relative to screening instruments, a number of such tools have been developed and validated.

One of the most popular screening instruments used is the **Drug Abuse Screening Test** (DAST). This is a widely-used instrument for drug abuse and addiction other than alcohol. It has 28 items and was developed for research use at the Centre for Addiction and Mental Health, Toronto. A shorter version, DAST-10, is a brief, clinician-administered or self-report instrument for that can be used to detect substance use other than alcohol and tobacco and to help with treatment planning. The DAST-10 is reproduced here as an addendum to the paper.

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Henrie-Barrus, et al. (2016), have noted that comprehensive screening and risk stratification is associated with decreased costs for patients, providers, and insurers, as those prescribing are able to make increasingly well-informed decisions when treatment-planning regarding what to prescribe and how to best monitor patients for safety based on risk profiles. The authors stated that “Many physicians prescribing opioid pain medications have very little training in aberrant drug-related behavior and substance abuse; thus, they may have limitations in their ability to effectively and accurately assess risk factors.”

The **Opioid Abuse Risk Screener** (OARS) is a self-administered measure of opioid abuse that includes a wide range of opioid risk factors, including depressive and anxiety symptoms and exposure to traumatic events, and abuse/neglect concerns, as well as any history of substance abuse. According to Henrie-Barrus in the *Report on the Development and Preliminary Validation of the OARS,* the screening tool can be used to assess risk of opioid abuse more broadly, including self-medication and recreational use, with promising results.

Obviously, there are other screening tools that can be used in the clinician's tool kit that will help pinpoint concerns regarding substance abuse, prescription or illicit substance behaviors, and the personal and social impact of abuse and addiction. The DAST and OARS are just two of them. Questionnaires have been developed to screen for adolescents' drug and alcohol abuse. A popular screening tool is the CRAFFT, a simple six-question screening tool that has been shown to have very good construct validity (Knight, et al. 2002). It asks questions related to drug or alcohol use in a Car, to Relax, when Alone, and screens for issues related to Forgetfulness, Friends, and Trouble. The questions are designed to spell out CRAFFT.

Screening tools like the CRAFFT, OARS, DAST and other similar questionnaires provide the opportunity for "in the moment" evaluations. These tools also allow us to develop data sets and analytics.

Training in **Screening, Brief Intervention and Referral to Treatment** (SBIRT) is a mandatory component of the new SAMHSA integration of primary care/behavioral health models being promoted through federal grants under the **Certified Community Behavioral Health Clinic** (CCBHC) program. Regulations for this integrated practice initiative state that "Training must address cultural competence; be person-centered, family-centered, recovery-oriented, as well as evidence-based, and trauma-informed, and that a CCBHC must provide training for risk assessment, suicide prevention, the roles of families and peers, and that trainings may be provided on-line." A strong recommendation from American College of Physicians clearly states that treatment plans must also integrate data from screening, assessments, and brief interventions.

5 Impact—Step Three: Building Analytics for Decision-Making

Epidemiologists have often sought answers to public health epidemics through population health analytics. This can also apply to the effort to impact the current opioid epidemic. Analytics can support the effort through developing algorithms detailing opioid abuse variable measures. For example, there is evidence that patients with certain medical conditions are at increased risk for accidental opioid overdose. These conditions include COPD, obesity, renal or hepatic impairment,

and sleep-disordered breathing and several neurological and neurodegenerative disorders, such as amyotrophic lateral sclerosis, multiple sclerosis, and Parkinson's disease. Patients with depression and suicidal ideation are also at increased risk for overdose.

Analytics have been used to discern information about potential pathways to developing OUD, including perceived inadequately controlled pain, emotional distress, previous substance use disorders. Analytics can be used to determine when opioids should be used in certain chronic pain patients with extra caution, especially where there is a concern for mental health conditions or possible suicidality. Stumbo, et al. (2017) concluded that "Analytics can inform the practitioner when evaluating pain patients, especially in making clinical decisions about whether to initiate or sustain opioid therapy."

The use of standardized evaluation tools and other data generated by administrative claims and electronic health records can be used to develop predictive analytics that will help us understand how the human organism is altered by opioid abuse and addiction. Mining this data will provide guidance as to how best to approach this epidemic using cognitive, behavioral, social and medication-assisted and alternative treatments. Neurobiological data can be paired with behavioral data to enhance the use of data analytics to predict abuse, addiction and recovery patterns of behavior. The Institute of Medicine (2017) recommended that medical providers use data analytics to identify chronic pain in patients sooner, and to manage it better to avoid patients becoming statistics related to adverse events in the opioid addiction epidemic.

Impact—Step Four: Building Blocks of Successful Treatment

I. Integrating Care

The future of integrated physical and behavioral medicine will depend on well-coordinated efforts of our primary and specialty care providers. Unfortunately, gaps in healthcare exist, particularly when there is no coordination of behavioral health with primary care. The future of behavioral health and primary care involves applying integrated care treatment and making certain that the individuals have access to services. This will likely include creating and delivering whole health models of care based on client-centered as well as family-centered wellness and recovery treatment.

One important aspect of the whole health approach to care is medication management and reconciliation. This process involves maintaining a comprehensive list of the person's prescription, over-the-counter, and alternative medications with details on the dosage and frequency of

taking them. This can eliminate some of the factors that have contributed to the epidemic such as doctor-shopping for multiple opioid pain-killers, overprescribing of opioid medications, and improper use of such medications. The many factors that are or will be in play for integrated care models to succeed will require additional professional education and training on the part of practitioners, care managers and allied professionals. It is time to build standards of care for integrated practice into continuing education programs. Through shared records, medical providers can track patients on opioid medication who are requesting early refills, and behavioral health providers can track opioid prescriptions for conditions for which opioids are not an effective intervention. Records of drug screens, physical illness and even appointments can be shared. Integrating some information systems of primary healthcare providers and behavioral health providers will allow researchers to pinpoint areas of concern. It will also provide data collection that can be used in prevention and treatment methods.

The new SAMHSA CCBHC pilot studies are expected to report data in a number of variable measures to determine levels of integration within the model programs. Data mined will include quality of care data including, but not limited to, data capturing consumer characteristics, staffing, access to services, screening, intervention and prevention efforts and treatment outcomes.

II. An Individual Person-Centered Approach

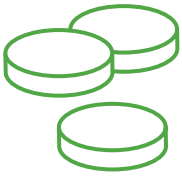
Whether working in an integrated model of care or in Behavioral Health practice, the goals of all treatment methods and models of care should be specific, measurable, attainable, relevant, and time-limited; suggesting the acronym SMART.

To make a goal SMART, it must **specify** what the individual actually wants to accomplish with the treatment. Goals such as managing pain medications, practicing mindfulness, and attending a wellness and recovery group should be self-selected and specific to the individual. The individual should then help the practitioner or case manager build **measurable** indices for the goals. In setting SMART goals, it is necessary to determine how **attainable** the goal is. Perhaps a more attainable goal is to decrease the dosage of medication by 20 mg vs. decreasing by 50 mg; or, to attend one yoga class instead of two. Attainable goals keep the individual motivated. Finding goals to be unattainable can easily become a trigger for relapse. Goals for managing symptoms, decreasing medication dosage, or learning yoga must be **relevant** to the overall goal of the individual's recovery. There should also be an established reasonable **time-frame** for the client to accomplish the goal.

Person-centered approach to OUD will require practitioners to have knowledge, skills and abilities in a number of areas to foster establishing goals for treatment that reflect what the individual patient wants to achieve, and not arbitrarily set by the practitioner.

III. Opioid Detoxification

Treatment of opioid addiction will need to focus on both the brain and behavior of the individual, particularly through the detoxification process. However, detox is just the first step in treatment. Behavioral interventions will include psychological behavioral counseling, typically through some variation of cognitive behavioral therapy (CBT). Medications can be helpful in the detoxification stage to ease craving and other physical symptoms, which often result in relapse. Detox should be part of a comprehensive management program that includes psychological and behavioral support.



IV. Medication-Assisted Treatment of Opioid Addiction

The National Institute on Drug Abuse (2012a) has firmly established that medication-assisted treatment (MAT) "increases patient retention and decreases drug use. It also can be useful in prevention of infectious disease transmission, and deterrence from criminal activity." There is strong evidential support for combining psychological counseling with MAT.

Medications developed to treat opioid use disorders work through the same receptors as the addictive drug, but are safer and less likely to produce the harmful behaviors that characterize addiction. Three types include (1) agonists, which activate opioid receptors; (2) partial agonists, which also activate opioid receptors but produce a diminished response; and (3) antagonists, which block the receptor and interfere with the rewarding effects of opioids. Prescribers and allied health professionals need to understand how specific MAT medications, including timed-release opioid antagonists and injectable medications used in the prevention of relapse, will affect an individual based on specific medical needs, history, genetics, level of resilience and other factors.

Medication-assisted treatment (MAT) "increases patient retention and decreases drug use."

Medications for opioid-dependent individuals help them to regain control of their health and their lives through better decision-making as the individual's executive functions return to normal. The use of FDA-approved medications as part of a full support program may help recovering addicts stay longer in therapy, extend their periods of sobriety, and reduce the likelihood of relapse. MAT is a specialty treatment tool which should only be used based on specific individual need. The American College of Physicians has recommended expansion of access to medication-assisted treatment of opioid use disorder and improved training in the treatment of substance use disorders, including buprenorphine-based treatment.

According to a report on SAMHSA's website regarding the *Medication-Assisted Treatment of Opioid Use Disorder Pocket Guide* (2016), in 2015, nearly 2.4 million Americans had an opioid use disorder

and approximately 80 percent of these individuals did not receive treatment. SAMHSA believes that this major service gap could be addressed through the use of a mobile app that could be used to support an increasing number of patients in MAT.

V. The Essential Group Therapy Process

Group therapy can be very beneficial in treating various mental health conditions such as anxiety and depression that are often associated with withdrawal symptoms. Group therapy can be combined with other treatment methods such as exploring an individual's motivation to change. The group process supports the personal journey of all individuals towards their own recovery through support from peers as well as through decreasing social isolation. Programs can be open-ended, follow a 12-step approach or be built to follow manualized workbooks, sometimes with homework as part of the process.

Dialectic Behavioral Therapy (DBT) is typically presented in both an individual and simultaneous group format. Lineham (1999) wrote that DBT begins by helping each person in the group understand that individual functioning and environmental conditions are interactive, reciprocal and interdependent, adapting to and influencing each other. DBT has been shown to be a strong evidence-based approach to treatment for persons with substance use disorders.

VI. Use of Complementary Medicine

Beyond behavioral therapy and medication-assisted treatment, there are many options for the treatment of opioid dependence and addiction from the field of complementary and integrative health (CIH). These approaches are non-pharmacological and can include practices such as mindfulness, relaxation training, acupuncture, yoga, tai chi and meditation. Complementary medicine approaches also are important sources of psychosocial support.

How does the clinician in practice know enough about each approach and methodology? It is understood that most primary care practitioners will refer to specialty practitioners for substance use disorder or mental health treatment. The roadmap to successful treatment must be unique to each individual. To genuinely impact the opioid abuse epidemic, practitioners at all levels—clinicians, prescribers, care managers—will need training to know how to master the treatment modalities roadmap.

How Do We Make These Impacts Work?

Clearly, battle lines have been drawn for healthcare providers, researchers, and community treatment programs in the fight against the opioid abuse epidemic. Training for providers should include up-to-the-moment information about behavioral therapies, both individual and group modalities, and medication-assisted treatments. Training should address Complementary Integrated Health (CIH) and

alternative intervention models, as well as opioid abuse prevention strategies including information therapy and community-wide behavioral health literacy campaigns. Further, how to use data analytics for population health prevention and risk reduction strategies as well as pinpointing best direct clinical care interventions based on patient risk is a new and needed skill for practitioners, treatment providers, and payers.

In addition to continuing education and training programs, Clinical Support Tools such as large data analytic tools, buphrenophine prescribing guidelines, ICD-10 coding, a list of medications approved by the Food and Drug Administration, and other treatment guidelines are needed.

Considering the toll in human suffering, the astounding financial burden, and the increasing loss of life, it is imperative that we work together to develop a clear roadmap for success in the treatment and prevention of opioid addiction.

Analytics are needed to define where the roadmap should lead us. Analytics support the community health approach as well as the clinical practitioner's ability to make individual determinations needed to provide the most effective evidence-based treatments by providing empirical evidence in support of those decisions.

Effective assessment techniques are needed to understand the complexity of opioid use in pain management and the larger issue of dependency and Opioid Use Disorder. Effective Screening, Brief Intervention and Referral to Treatment (SBIRT) in combination with medical evaluations, drug abuse screening, mental status evaluations, and integration of SUD assessment and treatment with primary care are all needed to fight this opioid epidemic head-on. The roadmap will need analytics, assessment, and training as an integrated solution.

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Addendum

DAST-10 Questionnaire	No	Yes
Have you used drugs other than those required for medical reasons?	0	1
Do you abuse more than one drug at a time?	0	1
Are you always able to stop using drugs when you want to? (If you never use drugs, answer "Yes.")	1	0
Have you had "blackouts" or "flashbacks" as a result of drug use?	0	1
Do you ever feel bad or guilty about your drug use? (If you never use drugs, answer "No.")	0	1
Does your spouse (or parents) ever complain about your involvement with drugs?	0	1
Have you neglected your family because of your use of drugs?	0	1
Have you engaged in illegal activities in order to obtain drugs?	0	1
Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?	0	1
Have you had medical problems as a result of your drug use (e.g., memory loss, hepatitis, convulsions, bleeding, etc.)?	0	1

Scoring

DAST-10 Score	Degree of Problems Related to Drug Abuse	Suggested Action
0	No problems reported	None at this time
1-2	Low level	Monitor, re-assess at a later date
3-5	Moderate level	Further investigation
6-8	Substantial level	Intensive investigation
9-10	Severe level	Intensive investigation

Source: Skinner, H. A. (1982). The Drug Abuse Screening Test. Addictive Behavior, 7(4), 363–371.