ISSUE BRIEF

The Opioid Epidemic in NC:
Progress, Challenges, and Opportunities

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Like many states, North Carolina faces an opioid crisis that has rapidly intensified in recent years. Addressing this epidemic requires interventions such as judicious prescribing of opioids, community based prevention efforts, broader naloxone distribution, law enforcement efforts to curb drug trafficking, and harm reduction efforts like safe syringe programs. Expanding access to treatment and recovery services, as well as affordable health insurance for individuals with substance use disorder or at risk for developing a disorder, is also critical. North Carolina has made significant progress, but we have much more work to do.

The Evolving Crisis

In North Carolina, as in the United States as a whole, unintentional opioid overdose deaths have rapidly increased, from just over 100 deaths in 1999 to over 1,300 deaths in 2016 (see Figure 1). The increase in the last year was gut-wrenching: from 2015 to 2016 there was an increase of nearly 40%. While we do not have complete death data for 2017 yet, provisional emergency department visit data for 2017 showed over 5,700 visits for opioid overdose this past year, a 40% increase from the 4,103 emergency department visits in 2016 [1]. In addition, the economic cost of unintentional opioid-related overdose death in North Carolina in 2015 was estimated to be over $1.5 billion [2].

The root causes of this epidemic are known. Many studies have shown that opioid overdose deaths at a population level are correlated with prescribing rates of opioids like hydrocodone and oxycodone [3]. Heavy marketing of these drugs to physicians and patients, in addition to a well-intentioned but flawed emphasis on the use of pain scales, led to an over-reliance on opioids. Those dynamics, coupled with the addictive potential of these drugs, have resulted in the epidemic of drug addiction and overdose gripping our state and our nation.

In the last several years, the problem has been compounded by cheap and easy access to heroin that often contains fentanyl or fentanyl analogues. These opioids are much more potent than prescription opioids and their availability and low cost compared to prescription drugs has led people to shift their consumption. In 2016, nearly 60% of opioid overdose deaths involved heroin and/or fentanyl or fentanyl analogues [4].

Few health issues have garnered the attention of such diverse sectors of our society as the opioid epidemic, from health systems to law enforcement, from the judicial system to the foster care system, from emergency medical services to schools, and from faith-based organizations to treatment providers. In this issue of the NCMJ we look at what members of some of these sectors are doing to combat the epidemic and the additional actions needed to turn the tide.

The Response

North Carolina has a history of being on the forefront of the response to the opioid epidemic. To build on our progress and further coordinate and drive efforts, in June of 2017, stakeholders from the Opioid and Prescription Drug Abuse Advisory Committee, a legislatively mandated committee, gave input into the creation of the North Carolina Opioid Action Plan [5]. The intent of the North Carolina Opioid Action Plan is to identify specific and achievable steps that will have the greatest impact on reducing the burden of death from the opioid epidemic. The plan lists these steps in the form of 6 overarching strategies.

Strategy 1: Reducing the oversupply of prescription opioids

First, the Action Plan includes efforts to reduce the oversupply of prescription opioids. As discussed by McEwen and Prakken in this issue, last year the North Carolina Medical Board adopted Centers for Disease Control (CDC) guidelines on management of pain [6]. The Board, along with other organizations like the Governor's Institute for Substance Abuse and Area Health Education Centers, implemented a concerted training effort for physicians on these guidelines.

Improving utilization of the Controlled Substance Reporting System (CSRS) is also an ongoing priority to foster appropriate prescribing. In February 2017, CSRS joined an interstate data-sharing hub with other state prescription

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drug-monitoring programs. This connection enables providers to view drugs dispensed to their patients in other states and will allow providers to make more informed prescribing decisions, as well as identify patients who may be misusing or becoming addicted to opioids so they can be referred to treatment. Over the next year, Department of Health and Human Services (DHHS) will also be integrating the CSRS with electronic health records and improving the display of information in CSRS so providers can serve their patients effectively and efficiently at the point of care.

These efforts will work synergistically with provisions in the Strengthening Opioid Misuse Prevention (STOP) Act that will require prescribers to use the CSRS to review patient prescription histories before prescribing opioids. Passed last year, the STOP Act also limits an initial opioid prescription for acute pain to no more than 5 days or 7 days for post-surgical pain, a change that will have far-reaching impact on opioid prescribing [7].

In addition, policies put in place by insurance payers have contributed to declines in opioid prescribing. Medicaid has implemented enhancements to the lock-in program, as well as prior authorization for doses exceeding 7 days or doses over 120 morphine milligram equivalents (mmes), which has contributed to an approximately 30% decline in opioids dispensed over 2 years. To further identify and align actions to promote appropriate prescribing, DHHS has convened a Payers' Council of insurers across North Carolina. Along with examining policies that promote judicious prescribing of opioids, the Payers' Council will explore opportunities to promote safer and more comprehensive alternatives to pain management and improve access to naloxone, substance use treatment, and recovery supports.

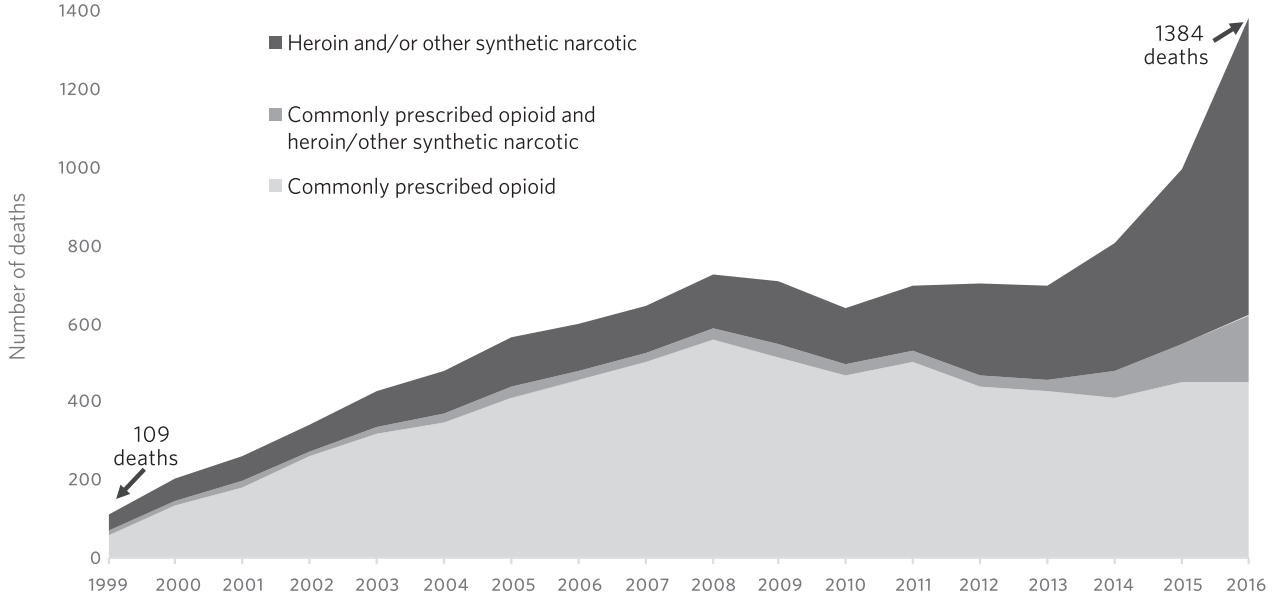
Collectively these efforts have had impact. Fewer patients are receiving an average daily dose greater than 90 mmes of opioids, and fewer patients are receiving opioids from multiple providers or pharmacies [8] (see Figure 2). While we focus on reducing the oversupply of opioids, we will also need to find new and improved ways to manage pain. Promoting judicious prescribing does not equate to never prescribing opioids—prescribing them appropriately and using an integrated and interdisciplinary approach to management of pain is key. We have more to do in the areas of research, funding, and delivery of these approaches to managing chronic pain. This is critically important, as McEwen and Prakken point out, so that we do not further exacerbate opioid addiction by squeezing people with chronic pain toward illicit drugs [6].

Strategy 2: Increasing community awareness and prevention

Another strategy in the Action Plan rests on community education and preventing youth exposure to opioids. Nearly 1 in 5 high school students reported experimenting with prescription drugs [9]. Our state now has a drop box in every county to dispose of unneeded medication so it does not end up in the hands of youth [10]. This past year, DHHS also launched a Lock Your Meds campaign to increase awareness of the appropriate storage of medication [11]. In addition, 16 new county coalitions have been funded by DHHS to provide youth-focused opioid use prevention in highly impacted areas. In this issue, McClure and Macon-Harrison highlight other critical efforts by county leaders to educate communities and activate coalitions across our state [12].

Further upstream in the prevention of addiction is reduc-

FIGURE 1.
Unintentional Opioid Overdose Deaths By Opioid Type, NC 1999-2016



Source. NC State Center for Health Statistics, Vital Statistics-Deaths, 1999-2016

ing and mitigating the impact of adverse childhood experiences (ACEs). In this issue, Tilson provides an insightful view into the intergenerational cycle of addiction [13]. Those who have experienced ACEs like abuse, neglect, and poverty are more likely to use substances and their struggle with addiction may introduce new ACEs for their children, thus perpetuating the cycle. Educating communities on the impact of ACEs, helping foster resiliency, and creating safe, nurturing relationships with adults are critical upstream prevention strategies [14].

Strategy 3: Reducing the flow of illicit drugs in our state

While the employment of community based prevention and opioid prescribing guidelines has been the focus of the health sector, law enforcement efforts have focused on reducing the trafficking of illicit drugs. It is mostly the presence of fentanyl, a compound 50 times more potent than heroin, that is driving the recent increases in overdose deaths [15].

New forms of illicitly manufactured fentanyl—fentanyl analogues—did not previously meet the state definition of controlled substances and therefore trafficking of these drugs could not be prosecuted. Last year, North Carolina passed the Synthetic Opioid and Other Dangerous Drug Control Act, which created a new provision to capture any future fentanyl derivative that may be encountered in the state. Also, through a partnership with the High Intensity Drug Trafficking Area Initiative and Division of Public Health, North Carolina has moved to active surveillance of overdose deaths to provide near real-time information. The President's Commission on Combating Drug Addiction and the Opioid Crisis report also suggested a number of strategies for strengthening federal enforcement [16].

While we should not criminalize substance use disorder, stopping trafficking into our state is crucial to reducing the death toll. In this issue, Cooley Dismukes examines the dynamics of illicit drug trafficking [17], and Gunn et al examine the variation in heroin mortality by county to inform areas most impacted in our state [18].

Strategy 4: Increasing access to naloxone and connecting overdose survivors to care

In light of the emergence of increasingly potent forms of opioids, it is urgent and imperative that we mitigate the health risks and death associated with their consumption through the use of naloxone and harm reduction strategies.

In this issue, Castillo shares the compelling need for harm reduction strategies and the progress the state has made in implementing them [19]. Through efforts of the North Carolina Harm Reduction Coalition, over 60,000 naloxone kits have been distributed in the last 5 years and over 10,000 of these kits were used to reverse an overdose. DHHS also distributed 40,000 kits in October 2017 with at least 250 known reversals reported in the following months [20]. Naloxone penetration has also increased since the standing order signed by the State Health Director permitted dispensing of naloxone to anyone at risk for overdose or in a position to help someone at risk at one of the 1400+ participating pharmacies [21]. We need to continue to increase public awareness of the standing order and support pharmacists to proactively dispense and counsel at-risk patients on naloxone.

Another harm reduction success has been the legalization of safe syringe programs. Due to the sharing of needles for injection drug use, Hepatitis C rates have increased 9-fold in the last 10 years and endocarditis has increased 12-fold. In 2016, North Carolina legalized safe syringe programs, which are a proven public health strategy for reducing infectious disease complications of injection drug use. These programs also serve as a point of connection for this hard to reach and sometimes isolated population, providing a gateway to services such as naloxone distribution, substance use disorder treatment, and social supports. As of January 2018, there were 25 programs, and we need to expand further (see Figure 3).

Providers and health systems have opportunities to integrate information about naloxone and safe syringe programs into patient care. Health systems can dispense naloxone to individuals who present to hospitals with overdose or other complications of drug use, educate those who use injection drugs on syringe exchange programs, start medication-assisted treatment while patients are in the hospital, and employ peer support to foster connection to treatment and community resources. Kumar and Greenblatt highlight the multifaceted work of hospitals and the North Carolina Healthcare Association in this issue [22].

Strategy 5: Increasing access to treatment and recovery

As we work on strategies to prevent and reduce the harms of opioids, we also need to expand access to treatment for those who are already addicted. The staggering fact is that, nationally, while almost 8% of Americans need substance use treatment, only 1.4% report receiving it [23]. And despite the abundance of evidence showing the effectiveness of medication-assisted treatment with drugs like buprenorphine and methadone, the provision of this treatment still carries the shadow of stigma.

However, there is progress in our state. This issue contains many examples of treatment models. Ramage et al discuss their comprehensive approach to treating pregnant women with substance use disorder [24]. Paul discusses programs like Law Enforcement Assisted Diversion, or LEAD, that seek to divert those who may have committed low-level offenses because of underlying substance use disorder away from jail and into treatment [25]. Prater and Brown discuss approaches for populations that are already in the justice system, including medication-assisted treatment for people on probation and parole/post-release supervision [26].

Judge Buckner describes how individuals involved in the justice system work with a multidisciplinary team in recovery court to provide mental health treatment and assistance with housing and employment needs [27]. Worth and House share stories of patients who have engaged in opioid treatment programs and are in recovery [28], and Bailey shares a day in the life of Sean McHugh, a peer support specialist who is making a difference in the lives and recovery stories of many others [29].

In addition to the treatment initiatives discussed in this issue, there are other successes. DHHS, with federal funding through the 21st Century Cures Act, has served over 3,200 additional uninsured individuals with opioid addiction. Funding is also supporting Drug Addiction Treatment Act (DATA 2000) waiver training so more physicians can prescribe buprenorphine in office-based settings. More medical schools and residencies are incorporating principles of addiction medicine into training and hospitals are starting delivery of medication-assisted treatment while patients are in the acute setting and making "warm handoffs" to outpatient treatment on discharge.

Interventions to address addiction rest on the scientific evidence that addiction is an acquired brain disease. Seeing addiction as a personal choice and moral failing with punitive consequences is an outdated and false paradigm. Recent advances in neurobiology show physiologic changes such as desensitization of reward pathways, increased stress reactivity, and changes in executive functioning, that explain the behaviors present in individuals with addiction [30, 31]. These advances in science remind us that we must not only treat addiction in a nonjudgmental and compassionate way, but we must also approach it in the same way that we treat other chronic health conditions, using the best available science and clinical guidelines.

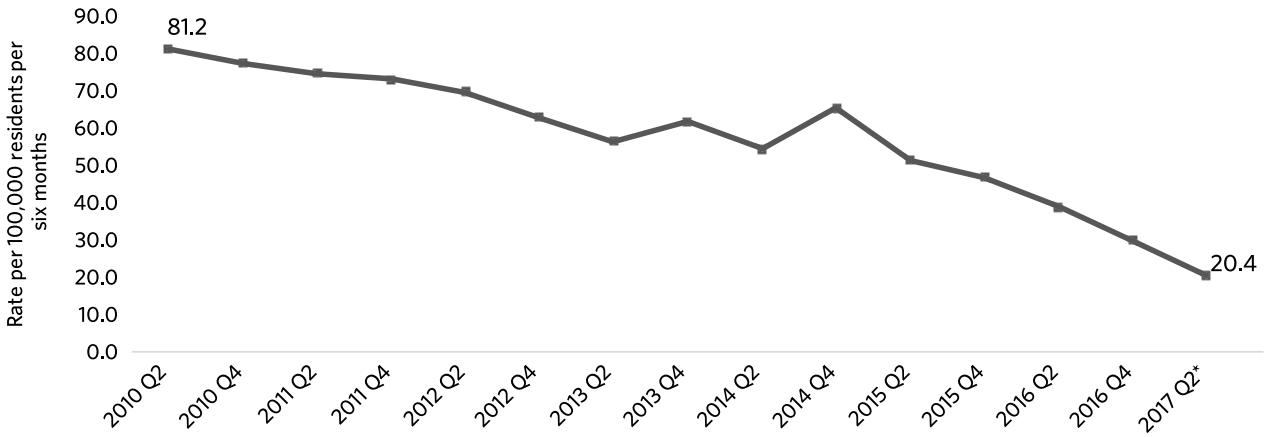
We must create community infrastructure that supports individuals in recovery. And we must also accept that relapse is a known and not unexpected occurrence on the recovery path—one that is often unfortunately met with shame and stigma. Morse, in this issue, analogizes the fallacy in these judgments, citing similar relapse rates for a person with substance use disorder and a person with diabetes [32]. Just as we do not abandon patients with diabetes who slip on their diet and develop hyperglycemia, we should not judge, criminalize, or discharge those who relapse. These are the very patients for whom we need to work harder.

The opportunity to do more as a state in the area of treatment is not hard to find. We do not have enough access. One of the most impactful levers for extending treatment is to provide access to health care through affordable insurance coverage, not only to individuals who already have substance use disorders but also to those who are at risk of developing addictions in the future. Over 900,000 North Carolinians are uninsured today, including thousands of individuals with substance use disorder needs. The lack of access to affordable health care jeopardizes their ability to lead healthy and productive lives. North Carolina has an opportunity to increase access to Medicaid without any additional state appropriation, primarily using federal dollars. This change to Medicaid would ensure that up to 150,000 individuals with mental health and/or substance use disorder needs have access to affordable health care [33]. To make progress on this epidemic, our state must have insurance coverage for more people.

Strategy 6: Measuring our impact and revising strategies based on results

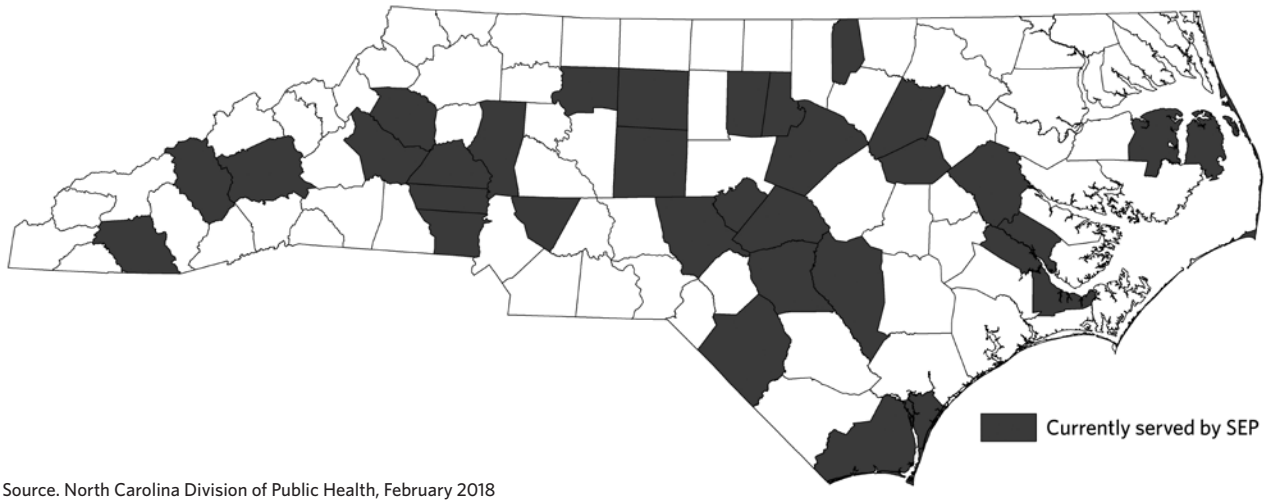
Finally, we must use data to track and measure our progress on combatting the epidemic and on achieving each of the above strategies. The North Carolina Opioid Action Plan identified key metrics for each strategy and these metrics

FIGURE 2.
Rate of Multiple Provider Episodes (One Patient Fills an Opioid Prescription from Five or More Prescribers at Five or More Pharmacies During a Six-Month Period)



Source. North Carolina Division of Mental Health, Developmental Disabilities and Substance Abuse Services, Controlled Substance Reporting System (CSRS), 2011-2016.

FIGURE 3.
Counties Served By Syringe Exchange Programs



Source. North Carolina Division of Public Health, February 2018

are updated quarterly and shared on the DHHS website [34]. There have been significant strides in reporting, surveillance, and evaluation. Monitoring of opioid overdose outbreaks has moved from passive to active surveillance; deaths, ED visits, overdose reversals, and other data are available at county level for all 100 counties; the ability to detect new fentanyl analogues with toxicology testing has improved; and new analytic protocols in CSRS have been implemented to identify aberrant prescribing, among many other improvements. In addition, we are working with researchers and universities across the state to create a research agenda for opioids that focuses on evaluating interventions in place and informing future strategies. We need to continue to build data partnerships to make timely and actionable data available to those on the front lines of this epidemic.

Conclusions

The opioid epidemic is among the most urgent public health crises facing North Carolina. Like many other organizations, the North Carolina Department of Health and Human Services views continuing to combat this crisis as among its highest priorities. Addressing this epidemic will require an ongoing, sustained effort comprised of multiple strategies and with coordination and partnership across a wide range of stakeholders including law enforcement, education, health care, policy makers, philanthropy, advocates, and the business community. While we have made progress in addressing this crisis, we have much more work to do. NCMJ

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