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Understanding the opioid crisis through prescribing patterns

By Josh Gray | September 20, 2016

On August 25th, U.S. Surgeon General Vivek Murthy sent a letter to every doctor in the country, asking for help in combating the opioid epidemic — and noting that few public health problems in the U.S. have cost more lives.

Since 1999, opioid prescriptions have risen steadily while overdose deaths from opioid use have quadrupled.

But a new analysis of opioid prescribing patterns, based on a national sample of primary care physicians, suggests we may finally be seeing the turn in the tide that Murthy called for. The rate at which patients are receiving opioid prescriptions has declined by 9 percent over the past two years. And markedly fewer new patients are going on opioids in the first place.

This is significant news, given how deeply the opioid crisis is intertwined with the healthcare system. For many people, opioid addiction begins with legitimate medical prescriptions. But those unused pills can migrate from medicine cabinets to the street, and patients whose prescriptions end sometimes turn to those black market drugs, or to cheaper and more accessible heroin.

That's why any effort to address the crisis must begin with a detailed and timely view of opioid prescribing patterns, giving physicians and public health officials an objective way to assess the impact of policy and procedure changes. We saw an opportunity to leverage athenahealth's unique national dataset to provide an extremely timely monitoring system to fulfill this need.

Our analysis looked at prescribing patterns of 2,900 primary care physicians on the athenahealth network and across the U.S. from 2014 to the present. We focused on primary care doctors because they account for about half of the opioid prescriptions in our dataset.

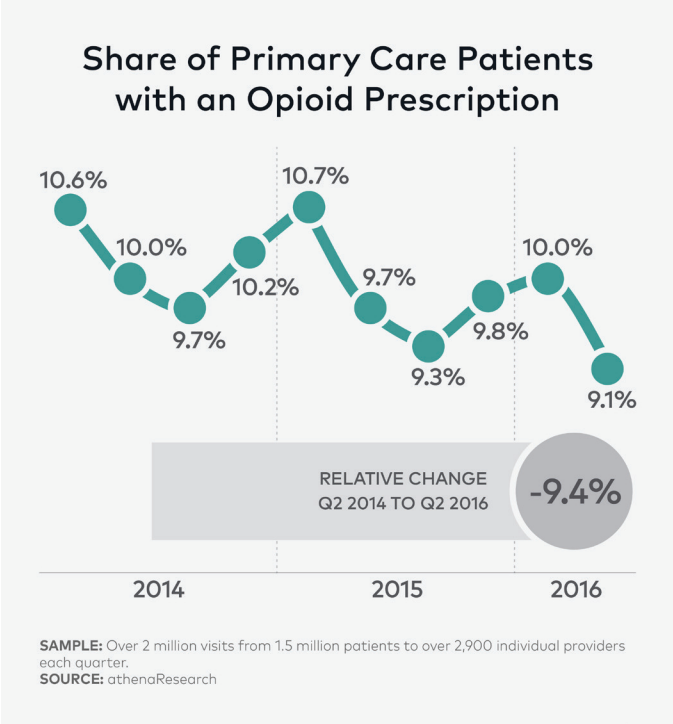
Here are some of our key findings.

1. Fewer patients overall are receiving opioids

The percent of primary care patients receiving an opioid prescription each quarter has decreased 9 percent in relative terms since this time two years ago. After many years of steady increase, this positive change in course suggests that heightened

public awareness, policy changes, and innovative education programs may be having the desired effect on physician prescribing behavior.

As encouraging as this trend is, enthusiasm needs to be tempered by concern for the patients whose prescriptions are discontinued. While the hope is that they have found alternative approaches to pain management and have moved on to an opioid-free life, we know that some will go on to suffer from untreated pain or turn to illegal opiate use without medical supervision.

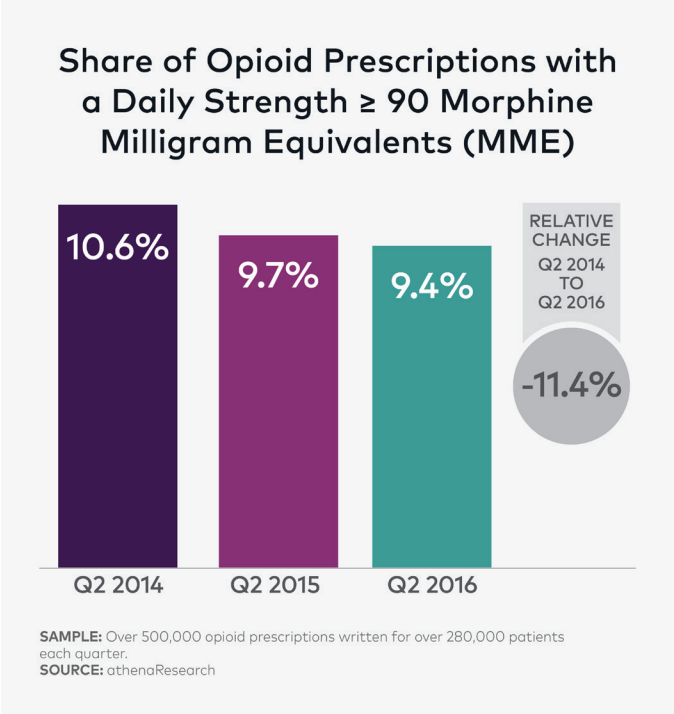


2. Lower initial doses are leading to a shorter length of treatment

One critical driver of overall opioid consumption is the strength of the initially prescribed dose. Physicians measure the potency of opioids in terms of morphine milligram equivalents (MME), which indicates the strength of the prescription.

In a recently released guideline, the Centers for Disease Control recommended avoiding or carefully justifying opioid daily dosages above 90 MME, which are generally considered to be more harmful and addictive. Our data shows that providers appear to be taking note and adhering more closely to these guidelines. The proportion of opioid prescriptions of 90 or greater MME has decreased 11 percent (in relative terms) since 2014.

This is an important mark of progress because the lower the initial dosage, the more quickly physicians discontinue their opioid prescriptions. In our sample, patients who received an initial prescription of 90 MME or greater were on opioids for an average of 6.8 months, while those who began on a strength between 50 and 90 MME were on opioids for 4.9 months.

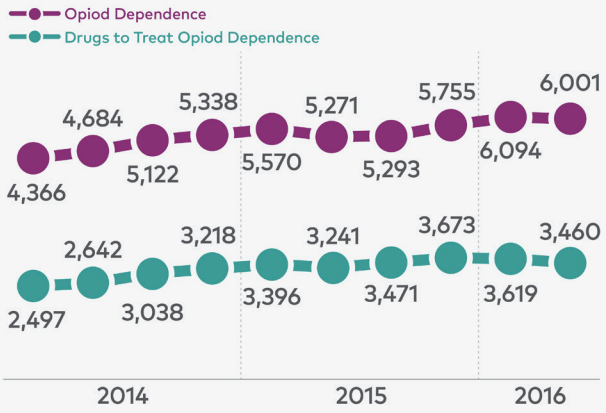


3. Providers are recognizing and treating more opioid-dependent patients

Physicians, of course, also play a critical role in detecting opioid dependence in patients and providing rapid treatment. Here, recent trends are particularly encouraging. In the first half of 2016, the physicians in our sample diagnosed 12,095 individuals with opioid dependence, up a third from two years earlier. The number of patients being treated with drugs for opioid dependence, such as buprenorphine, has also increased by about 38

percent during the same time period. So physicians seem to be getting better at diagnosing and treating opioid dependence.

Number of Adult (18-64) Primary Care Patients with a Diagnosis of Opioid Dependence



SAMPLE: Over 2 million visits from 1.5 million patients to over 2,900 individual providers each quarter.
SOURCE: athenaResearch

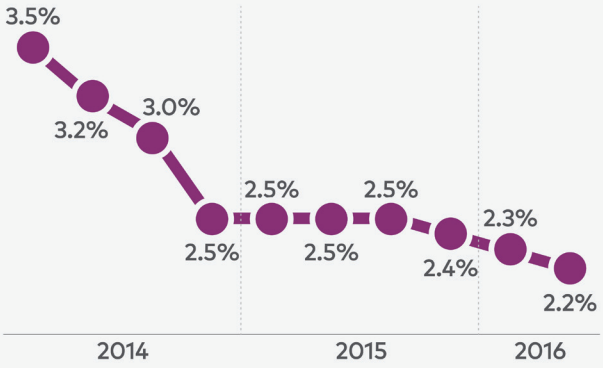
4. Fewer patients are starting on opioids

Ultimately, reducing the number of patients on opioids requires that fewer patients be prescribed opioids to begin with. Our data shows this to be the case nationally. Providers wrote new opioid prescriptions at a rate 31 percent lower in the second quarter of 2016 than they did in the same period two years ago. This fundamental shift in physician decision-making — bypassing opioids altogether — should mean that the decline in prescribing patterns we have witnessed over the last two years will persist into the future.

The shift is a likely consequence of many intersecting efforts to address the opioid crisis. Some states have established prescription drug monitoring programs and implemented prescribing restrictions. Medical education programs, such as the SCOPE of Pain program at Boston University, have worked to spread best practices within the medical community. And solutions are also springing from leaders of medical organizations, who have recognized the effects of the opioid crisis in their own communities and taken deliberate steps to change their own practices and protocols.

Some of those organizations happen to be on the athenahealth network, so our data can confirm the impact of their efforts. An orthopedic practice in Pennsylvania, concerned about excess pills on the street, cut its prescribing rates for key surgeries and worked with local officials to educate physicians. An OB/GYN practice in Ohio, realizing the human and financial cost of babies born addicted to opioids, leveraged a state grant to create wraparound services for women who suffered from addiction during pregnancy. A federally qualified health center in West Virginia hired a pain medicine specialist to manage all chronic pain cases, relieving the burden on primary care physicians and creating firm standards for pain management care.

Percent of Primary Care Patients Starting a New Episode of Opioid Use



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We'll be reporting on some of those innovative efforts and more in the coming weeks and months. And we'll keep using our data to closely monitor opioid prescribing patterns, to deepen understanding of how physician and patient behavior may be changing. In doing this, we will be working closely with academics from Harvard's Health Care Markets and Regulations Lab, a group within Harvard Medical School's Department of Health Care Policy devoted to launching private and

public sector innovations that promote high quality healthcare at a sustainable cost.

Solving the opioid crisis will mean striking the right balance between alleviating pain and minimizing addiction risk — a complex undertaking that will take time, study, and experimentation. As healthcare and government leaders explore different clinical and policy approaches, they'll need rigorous, timely monitoring systems to pinpoint how practice is changing and what efforts seem most effective.

We can only address this crisis if we understand it.

Data analysis by Anna Zink.

If you're doing innovative work to address the opioid crisis or have suggestions for further research, comment below, tweet us @athena_insight, or email us at athenainsight@athenahealth.com.

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