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EDITORIALS

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# Overprescribing is major contributor to opioid crisis

## Surgeons in particular must change their behaviour

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Public health crises come in two forms—those resulting from naturally occurring diseases and those that are the byproduct of medical care itself. The opioid crisis is the latest self inflicted wound in public health. In the US alone, there were 240 million opioid prescriptions dispensed in 2015, nearly one for every adult in the general population.[1] In order to tackle the opioid epidemic, we must first tackle a major contributor—physician overprescribing.[2]

Too many people are leaving hospital with bottles of opioid tablets they don't need. Consider a standard elective laparoscopic cholecystectomy. Some doctors appropriately prescribe opioids judiciously after the procedure—that is, providing patients leaving hospital with only non-opioid alternatives or up to five opioid tablets in combination with non-opioid alternatives—whereas other doctors are routinely overprescribing—giving every patient a bottle of 30-60 highly addictive opioid tablets. Most commonly this is oxycodone written with instructions to take 5-10 mg as needed every 4-6 hours for pain. But if patients follow these instructions, they will be taking up to 90 MME (morphine mg equivalents) a day—a dose nearly double the threshold above which the US Centers for Disease Prevention and Control cautions a twofold increased risk of overdose (≥50 MME/day *v* <20 MME/day).[3]

Unfortunately, the advent of electronic health records further engrained this pattern of overprescribing in surgical practice as it was set as a default in e-prescribing. For example, when a user types oxycodone in the prescribing section of the electronic medical record, 30 tablets appears as the default even though most patients need fewer than 10 tablets or can remain comfortable with non-narcotic alternatives.[4] Changing the default is one easy step all medical centres should adopt to address the opioid epidemic.

Data can be a powerful tool in tackling the opioid overprescribing problem. Using 2016 US Medicare data, our Johns Hopkins team analysed the average number of opioids a doctor prescribes after a routine laparoscopic cholecystectomy, excluding patients with pre-existing opioid use or pain syndromes. Doctors' prescribing patterns ranged from 0 to over 50 (fig 1), with only about a fifth averaging what Johns Hopkins pain specialists call the best practice range (≤10 tablets).[5]

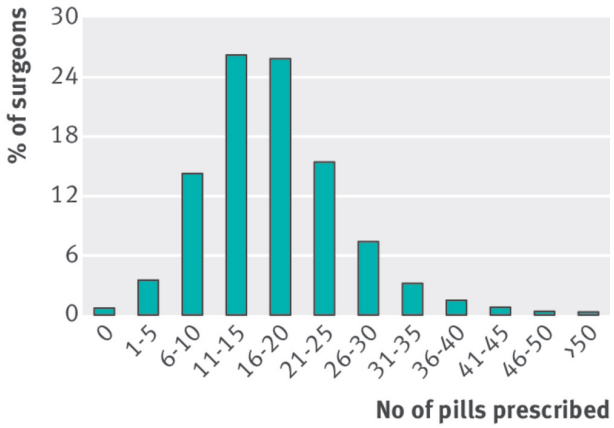


**Fig 1** Distribution of surgeons by number of opioid pills they prescribed after laparoscopic cholecystectomy

We have replicated the analysis for many common procedures in medicine, including operations that can be managed with non-opioid alternatives alone. Consistent with current literature, the physician distribution graphs keep showing wide variation in opioid prescribing.[6] Physicians who are outside of the data boundaries of reasonable variation for standardised procedures as set by our hospitals pain specialists are easily identifiable.

## Changing behaviour

The moral question is now that we can identify outlier overprescribing surgeons and other clinicians, what do we do about it? Using the Improving Wisely model of sharing individual and confidential data reports with doctors showing them where they stand relative to their peers for standardised areas of medical care, we can identify doctors who need expert guidance to prescribe more wisely and reduce unwarranted clinical variation in opioid prescribing.[7]

In healthcare, there is science, tradition, and dogma. Over the past few decades, opioid prescribing has been driven little by science and mostly by tradition and dogma. The trend to overprescribe opioids is based on an experiential "that's how I like to do it" model passed along from generation to generation of trainees. This dogma was solidified by a 1980 *New England Journal of Medicine* letter,[8] long since discredited,[9] which stated

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that only 1% of people become addicted to narcotic pain medication. Aggressive advertising of opioids, including direct-to-consumer marketing, quickly ensued.[10]

Another iatrogenic factor driving opioid overprescribing is the notion that pain is the fifth vital sign of medicine. This concept became dominant in the mid-1990s, and its measurement became an indicator of patient satisfaction and hospital performance in the mid-2000s.[11-13]

Many doctors have started, or have had the wisdom all along, to prescribe opioids judiciously. These physicians recognise the drugs' addictive potential and reserve them for their true indications: terminal cancer, second degree burns, and major surgery, for example. Sadly, however, a consumerist mentality of patient satisfaction and pain-free expectations has swept through medicine, resulting in opioids being prescribed for soft indications such as simple procedures, back pain, and chronic joint pain rather than reserving them for persistent pain despite optimal non-narcotic treatments.

Improved education is needed for both physicians and patients on the proper role of opioids versus other pain medications.[14 15] Put simply, we need to return to sound medicine and employ wise prescribing strategies. While we can and should prevent postoperative pain, feeling zero pain is an unrealistic expectation during the recovery period. Multimodal postoperative pain management should be the standard of care for inpatient and outpatient procedures, with opioid medications used adjunctively.[16]

In the past, we surgeons were taught that opioids were not addictive. But today, medical science has taught us that the opposite is true.[17 18] In fact, one in 16 surgery patients becomes a chronic opioid user.[19] After chronic pain specialists, surgeons have the highest rate of opioid prescribing in the US, and recent data show that 70-80% of prescribed opioids go unused by patients after common surgical procedures.[6 20] This can lead to stockpiling and use for non-prescribed indications by the patient or others. While better access to opioid addiction treatment is an essential part of resolving the opioid epidemic, we should remember that the most effective treatment is still prevention.

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