



Medicines Evidence Commentary

commentary on important new evidence from Medicines Awareness Weekly

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Pain management: Initial opioid prescriptions and likelihood of long-term opioid use

An American observational study looked at the relationship between early opioid prescribing patterns and likelihood of long-term use. Opioid continuation beyond 1 year was observed more frequently in people who were started on long-acting opioids or tramadol. Likelihood of chronic opioid use increased with larger initial opioid supply, longer treatment durations and where higher starting doses were prescribed. The study had several limitations, however overall it is consistent with existing NICE guidance and advice from the [Opioids Aware](#) resource in emphasising that clinicians should be mindful of initial prescribing decisions and subsequent risk of long-term opioid use.

Overview and current advice

Opioid medicines are prescribed to treat moderate to severe pain, but repeated use can lead to dependence and tolerance. There has been a marked and progressive rise in prescribing of opioids in the UK over the past decade and the trend to increased prescribing continues. Opioids are effective for acute pain and pain at the end of life, but there is little evidence that they are helpful for long-term pain. A small proportion of people may obtain good pain relief with opioids in the long-term if the dose can be kept low and especially if their use is intermittent. However, it is difficult to identify these people at point of opioid initiation ([Public Health England/Faculty of Pain Medicine. Accessed 19/06/17](#)). There remains limited information regarding the transition from acute prescribing to chronic opioid use.

The NICE key therapeutic topic on [medicines optimisation in long-term pain](#) brings together the evidence base, resources and safety alerts relating to long-term opioid use. Opioid medicines are subject to special legislative controls because there is potential for them to be abused, diverted or cause possible harm. The NICE guideline on [controlled drugs](#) provides recommendations on the safe management of controlled drugs. This includes recommendations for prescribers to review prescriptions for controlled drugs, prescribe an appropriate quantity and take into consideration the total opioid load that is being prescribed.

For more specific types of pain, recommendations are provided by the NICE guidelines on [palliative care for adults: strong opioids for pain relief](#), [pharmacological management of neuropathic pain in adults in non-specialist settings](#), and [low back pain and sciatica in over 16s: assessment and management](#). The guideline on low back pain includes the recommendation that opioids should not routinely be offered for managing acute low back pain and should not be offered for managing chronic low back pain.

Opioid medicines are widely recognised as high risk from a medication safety perspective. [NHS Improvement](#), the [National Patient Safety Agency](#) (NPSA) and [MHRA](#) have highlighted several safety concerns, primarily focused on dosing errors, overdose, drug poisoning, increased mortality risks, opioid addiction, and inappropriate prescribing in opioid-naïve patients. These concerns and available resources to minimise risk are summarised in the NICE key therapeutic topic for [medicines optimisation in long-term pain](#).

In March 2016 the US Centers for Disease Control and Prevention (CDC) published the [CDC Guideline for Prescribing Opioids for Chronic Pain](#). The guideline considered when to start or continue opioids for chronic pain, choice of drug, duration, follow-up, discontinuation, assessing risk and addressing harms (Dowell et al. 2016). However, there remained a lack of data regarding the transition from acute to chronic opioid use and factors that increased the likelihood of taking opioids long-term.

New evidence

The CDC conducted an [observational study](#) to characterise first episode of opioid use and identify factors contributing to an increased likelihood of taking opioids long term ([Shah et al. 2017](#)). A random 10% sample of patient records was drawn from a national database of health plans for the US commercially insured population. The records included for analysis were for adults who had at least one opioid prescription during the period of 1 June 2006 to 1 September 2015, and who had not received an opioid prescription in the 6 months prior to first opioid prescription. Records for people with cancer or a substance misuse disorder diagnosis were excluded.

In total 1,294,247 people met the inclusion criteria. For people who were prescribed at least 1 day of opioids, the probability of continued opioid use at 1 year was 6.0% and at 3 years was 2.9%, with a median time to discontinuation of 7 days. The rate of long-term use at 1 year increased to 13.5% for people whose first episode of use was for 8 days or more, and to 29.9% when first episode of use was for 31 days or more.

The largest incremental increases in probability of continued opioid use were observed when:

- The first prescription supply exceeded 10 or 30 days
- People received a third opioid prescription
- The cumulative dose was 700mg morphine equivalents or above

The highest likelihood of continued opioid use at 1 and 3 years was observed in the following populations:

- People whose initial treatment was with a long-acting opioid (27.3% at 1 year; 20.5% at 3 years)
- People whose initial treatment was with tramadol (13.7% at 1 year; 6.8% at 3 years)
- People whose initial treatment was with a schedule II short acting opioid other than hydrocodone or oxycodone (8.9% at 1 year; 5.3% at 3 years). In comparison, for schedule III-IV opioids (such as codeine and dihydrocodeine), the 1-year opioid continuation rate was 5% and it was 2.2% at 3 years.

For 70% of people, the initial prescription duration for opioids was for one week or less. However for 7.3%, the initial prescription was for longer than 31 days.

The authors acknowledged several limitations of the study. They were unable to collect information on pain intensity, causes and duration; factors which may have a considerable impact on duration of opioid use. As a result, the proportion of chronic opioid use that was intentional was not known. This may be particularly relevant when considering the higher continuation rates observed for long-acting opioids, tramadol and other strong opioids.

Commentary

Commentary provided by NICE

This observational study ([Shah et al. 2017](#)) explores initial opioid prescribing patterns across a large US population, and considers factors that may be associated with likelihood of long-term opioid use. These include duration of initial opioid prescription supply, opioid dose and choice of opioid.

In addition to the limitations highlighted by the authors, it is important to note that this was an American study, and the prescribing practices, guidelines and healthcare-related behaviours may vary from UK practice. Several opioids prescribed within the study are not licensed or routinely prescribed in the UK. Also, the health records were derived from a commercially insured population, and results may vary when compared to the general US population, including those without insurance. Applicability of results to the general UK population, is therefore uncertain. Another weakness of this [study](#), compared with [randomised controlled trials](#) (RCTs), is that it is observational and subject to many [confounding](#) factors. Whilst the authors are likely to have controlled for differences between groups, it is possible that they did not fully account for the imbalances, and also that other confounders existed which were not known and, therefore, not adjusted for.

Despite these limitations, the study findings highlight the importance of careful consideration of initial opioid prescriptions and risks of long-term opioid use. This supports current NICE guidance (see Overview and Current Advice) and recommendations from the [Opioids Aware](#) resource, which is a Public Health England funded project that supports prescribers and patients in making informed decisions about opioids for pain. The [Checklist for Prescribers Initiating Opioid Treatment](#), which focuses on what to discuss with people when considering opioid treatment, documentation, prescribing responsibly and arranging reviews is particularly helpful. When considering opioids, prescribers should involve the patient in early discussions about treatment goals, appropriate use of opioids, potential harms and review points, using a [shared decision making](#) approach.

Study sponsorship

Conflicts of interest or sponsorship were not stated for this study.

References

Dowell D, Haegerich TM, Chou R. (2016) [CDC Guideline for Prescribing Opioids for Chronic Pain – United States, 2016](#). MMWR Recommendations & Reports 65 (1), 1–49

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