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## Diagnosing opioid addiction in people with chronic pain

*A fully validated alternative to DSM-5 is urgently required*

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Over the past two decades, a steep rise in the number of opioids dispensed for pain treatment has been accompanied by a dramatic rise in overdose deaths in the United States.<sup>1</sup> In 2016, up to 32 000 deaths reportedly involved prescription opioids,<sup>2</sup> and the economic burden of prescription opioid overdose has been estimated to exceed \$78bn (£59bn; €67bn) annually.<sup>3</sup> Despite all the evidence of harm, however, it remains unclear exactly how to determine if a patient with chronic pain has opioid addiction, or what criteria should serve as a gold standard in making a diagnosis of opioid use disorder (OUD) in this context. This is an important gap in the literature that hinders both evidence based care and research on the links between prescription opioids and OUD. In this editorial, we discuss the limitations of diagnosing OUD in people with chronic pain, and make several recommendations for further research.

The *Diagnostic and Statistical Manual of Mental Disorders*, fifth edition, (DSM-5) provides a widely used set of diagnostic criteria for OUD. These criteria, however, do not always apply to patients who are prescribed opioids for chronic pain. According to DSM-5, if a patient presents with two out of nine. Two of the 11 are excluded for this patient group] specific symptoms (box 1), it may indicate OUD. Symptoms 10 and 11 — “tolerance” and “withdrawal” — are excluded from the list of diagnostic criteria for people taking opioids under medical supervision.

“Tolerance” and “withdrawal” were excluded in response to criticism that these physiological characteristics may simply be the natural consequences of extended opioid use, and do not necessarily indicate a pathological process in patients with pain.<sup>4,6</sup>

Nevertheless, many of the other criteria remain largely physiological, including the first two: “opioids being taken in larger amounts or over a longer period of time than intended” and “a persistent desire or unsuccessful efforts to cut down or control opioid use.”

Like withdrawal and tolerance, these characteristics may be a product of mismanaged pain or physiological dependence, rather than OUD.<sup>4,6</sup> For example, persistent pain may cause a patient to take their prescribed opioid for longer than originally planned, or at higher doses. The same applies to criteria 4—“craving or a strong desire to use opioids”—which had no significant relationship with opioid misuse in a recent study of patients on long term treatment.<sup>7</sup> As a result, the DSM-5 criteria are of questionable validity for patients prescribed opioids for pain. This may be particularly true in primary care, where clinicians often receive inadequate training in both pain and substance use disorders.<sup>8</sup>

The second matter surrounding the diagnosis of OUD in pain patients is inconsistent use and poor standardisation of alternative measures. The shortcomings of DSM-5 have led many clinicians and researchers to define misuse, in the context of chronic pain, as the presence of aberrant, drug related behaviours<sup>9,13</sup> such as failed pill counts, repeated reports of lost drugs, failed urine drug tests, and attempts to get opioids from multiple clinicians.

Although many studies have used aberrant behaviours as a proxy for OUD,<sup>14</sup> these measures are not standardised. Highly heterogeneous behaviours have been classified as aberrant, including use of cannabis.<sup>11,13</sup> This poor standardisation reduces the validity of aberrant behaviour measures as diagnostic criteria for OUD in patients with chronic pain. Use of cannabis is particularly problematic, given the increasing evidence that cannabis may have additive analgesic effects when combined with opioids.<sup>15</sup>

Many other factors hinder accurate and timely recognition of OUD among patients with pain, including a reluctance to diagnose overuse of prescription opioids because of stigma, suboptimal training, or fear of being at fault. It is also true that, although imperfect, DSM-5 criteria can be useful and some ambiguity will remain regardless of the diagnostic measure used.

Given the high prevalence of both pain and OUD, we must develop more robust, accurate, and reproducible metrics for identifying opioid addiction specifically in people with chronic pain. The DSM-5 has yet to be validated in this patient group, and the line between pathology and physiological dependence is not well enough defined to allow the confident application of DSM-5 criteria in this context. The definition of “aberrant, drug related behaviour” as an alternative option remains highly variable despite frequent use by both researchers and clinicians.

Future research should prioritise the development of a gold standard set of criteria for diagnosing OUD that maintains the credibility and standardisation of DSM-5 criteria and adds measures specific to patients taking opioids for chronic pain—possibly including properly standardised measures of aberrant, drug related behaviour. Given the strong evidence linking prescription opioids to the current opioid epidemic in North America and elsewhere, fully validated measures of opioid use disorder in pain care are urgently needed.

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box

### **Box 1 DSM-5 criteria for opioid use disorder**

**Diagnostic criteria; opioid use disorder requires at least two criteria be met within a 12 month period**

1 Opioids are often taken in larger amounts or over a longer period of time than intended

2 There is a persistent desire or unsuccessful efforts to cut down or control opioid use

3 A great deal of time is spent in activities necessary to obtain the opioid, use the opioid, or recover from its effects

4 Craving, or a strong desire to use opioids

5 Recurrent opioid use resulting in failure to fulfil major role obligations at work, school, or home

6 Continued opioid use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of opioids

7 Important social, occupational, or recreational activities are given up or reduced because of opioid use

8 Recurrent opioid use in situations in which it is physically hazardous

9 Continued use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by opioids

10 Tolerance, as defined by either of the following:\*

- (a) a need for markedly increased amounts of opioids to achieve intoxication or desired effect
- (b) markedly diminished effect with continued use of the same amount of an opioid

11. Withdrawal, as manifested by either of the following:\*

- (a) the characteristic opioid withdrawal syndrome
- (b) the same (or a closely related) substance are taken to relieve or avoid withdrawal.

Severity: mild: 2-3 symptoms; moderate: 4-5 symptoms; severe: 6 or more symptoms.

\* Patients who are prescribed opioid medications for analgesia may exhibit these two criteria (tolerance and withdrawal), but would not necessarily be considered to have an opioid use disorder.

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**End box**

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