

# **Chronic pain: supporting safer prescribing of analgesics**

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## Abbreviations

<b>ACMD</b>	Advisory Council on the Misuse of Drugs
<b>BMA</b>	British Medical Association
<b>BPS</b>	British Pain Society
<b>CDC</b>	Centers for Disease Control and Prevention
<b>CQC</b>	Care Quality Commission
<b>EPM</b>	Essential Pain Management
<b>FPM</b>	Faculty of Pain Medicine
<b>IASP</b>	International Association for the Study of Pain
<b>ICD</b>	International Classification of Diseases
<b>NHS</b>	National Health Service
<b>NICE</b>	National Institute for Health and Care Excellence
<b>NSAID</b>	Nonsteroidal anti-inflammatory drug
<b>PHE</b>	Public Health England
<b>RCGP</b>	Royal College of General Practitioners
<b>RCOA</b>	Royal College of Anaesthetists
<b>SIGN</b>	Scottish Intercollegiate Guidelines Network
<b>SNRI</b>	Serotonin–norepinephrine reuptake inhibitor
<b>SSRI</b>	Selective serotonin reuptake inhibitor
<b>TCA</b>	Tricyclic antidepressant
<b>WHO</b>	World Health Organization

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# 1 Background

The management of patients with chronic pain can present significant challenges,<sup>1</sup> and the substantial public health harms in relation to prescription analgesics seen in the United States and elsewhere has prompted renewed efforts to assess the role of medicines in pain management. The BMA's 2016 analysis report on *Prescribed drugs associated with dependence and withdrawal*, notes the increase in analgesic prescribing for this patient group<sup>2</sup> and adds to the current conversation about whether prescribing analgesics is always in the patient's best interests given that, for opioids in particular, there is limited evidence for efficacy in treating long-term pain.<sup>2,3</sup> This represents a potentially significant public health issue, and our members have called for the exploration of factors that could support the safer prescribing of opioid analgesics. Such an approach would ensure that patients are only prescribed medicines from which they derive benefit and will limit medication associated harms. This is important given the cost of opioid prescribing, which in England is estimated to total over £300 million, and in Scotland to over £32 million, annually.<sup>4,5</sup>

This briefing paper highlights some of the key issues surrounding the use of analgesics in the management of patients with chronic pain; setting out a range of recommendations for governments, policy makers and healthcare professionals, with the aim of supporting the safer prescribing of these medicines. Whilst it provides an introduction to the current state of the evidence in this area, it is not intended to provide a systematic review of the evidence or act as a clinical guide. A comprehensive resource to support the clinical use of opioids – *Opioids Aware* – has recently been developed (see **Section 3**).

Issues surrounding the appropriate use of analgesics are of wide relevance to BMA members across different branches of practice. This briefing follows a BMA board of science seminar in September 2014, initiated by Baroness Ilora Finlay (BMA president 2014-15), which explored problems facing clinicians when prescribing opioids in palliative care and for chronic pain.

## 2 Introduction

Pain can be defined as an unpleasant sensory and emotional experience associated with actual or potential tissue damage.<sup>6</sup> The complexity and prevalence of pain make it a major clinical and social challenge. According to the 2015 global burden of disease study, chronic pain conditions are amongst the most significant causes of suffering and disability worldwide.<sup>7</sup> Pain can often co-occur with emotional and mental health difficulties. Pain can be associated with anxiety and depression and mental health diagnoses and emotional difficulties can influence the experience of pain and complicate management. An estimated 49% of patients in the UK suffering from chronic pain also suffer from depression.<sup>8</sup> Data from the 2011 Health Survey for England indicate that, as well as depression, chronic pain is associated with a multitude of negative health and social outcomes, including poorer mental wellbeing, anxiety, job/income loss, impaired function and limited daily physical and social activities.<sup>9</sup>

### 2.1 Defining chronic pain

The IASP (International Association for the Study of Pain) defines chronic pain as pain that has persisted beyond normal tissue healing time. It can be continuous or interrupted by pain-free intervals.<sup>10</sup> In the absence of other criteria, chronic pain is usually taken to be pain that has persisted for three months. Although this temporal definition may be more useful for research rather than clinical purposes, the BPS (British Pain Society) and the SIGN (Scottish Intercollegiate Guidelines Network) use the three-month definition as the basis for their recommendations on the treatment of chronic pain.<sup>11,12</sup>

Pain has been historically subdivided according to the presumed nature of the tissue injury. There may be a number of underlying mechanisms including somatic tissue injury, damage to nerves and pain from viscera. These categories often overlap. There is often not an identifiable current injury, but pain may relate to previous injury or disease or abnormal sensory processing. The perceived intensity of pain does not necessarily relate to the degree of tissue injury and is influenced by many factors including the patient's understanding of and concerns about the pain, anxiety, distress, expectations and previous experience of pain.<sup>13,14,15,16</sup> There is also now increasing understanding of the long term health impact of early adverse experiences, and the association between emotional trauma, post-traumatic stress disorder and pain has been well described.<sup>17,18</sup>

There are multiple classifications of chronic pain, and **Appendix 1** provides an overview of those that have been developed by the IASP for inclusion in the 11<sup>th</sup> revision of the WHO (World Health Organization) International Classification of Diseases.

### 2.2 Prevalence of chronic pain

It has been estimated that around 20% of adults in Europe, and that 13% of adults in the UK experience chronic pain, though this varies depending on the criteria and definitions used.<sup>19,20</sup> A meta-analysis of population studies estimated that chronic pain affects between one third and one half of the UK population, and that between 10.4% and 14.3% of the population of the UK report severely disabling chronic pain that is either 'moderately' or 'severely' limiting.<sup>21</sup> The National Pain Audit estimated that 11% of adults and 8% of children in the UK suffer from severe pain.<sup>20</sup> In the 2011 Health Survey for England 31% of men and 37% of women overall reported to have pain or discomfort that troubled them all of the time or 'on and off' for more than three months;<sup>22</sup> this increased with age, from 14% of men and 18% of women aged 16-34 compared to 53% of men and 59% of women aged 75 and over.<sup>22</sup>

#### Key message

- There is a substantial burden of chronic pain in the UK population, though specific prevalence figures vary depending on the criteria and definitions used.

The increasing prevalence of chronic pain in a population with a growing proportion of older people may be directly contributing to the increased prescribing of analgesics, including opioids. Numerous studies have suggested that chronic pain is more common amongst older populations, although not necessarily the very oldest age groups.<sup>23,24</sup> This is particularly the case when related to pain caused by conditions such as osteoarthritis,<sup>25</sup> with the severity of chronic pain also increasing with age.<sup>25</sup> As the median age of the UK population has increased significantly – from 33.9 in 1974 to 40.0 in mid-2014 – and 17.6% of the population is now over 65,<sup>26</sup> it will be important to consider the impact this may have on demand for pain management.

## 2.3 Analgesic drugs

A number of drug classes have effects on pain processing some of which are used for other indications e.g. depression and epilepsy, as there are common underlying biological processes. Whilst the primary focus of this briefing paper is on the safer prescribing of strong opioid analgesics, **Figure 1** provides a summary of the various types of drugs that are used for the treatment of pain. **Box 1** provides a brief overview of opioid pharmacology.

**Figure 1 – Summary of different analgesic drugs**

Analgesic type	Examples
Simple analgesics	paracetamol, aspirin
NSAIDs (nonsteroidal anti-inflammatory drugs)	ibuprofen, naproxen, diclofenac, celecoxib, mefenamic acid, etoricoxib, indomethacin, aspirin
compound analgesics	co-codamol (codeine and paracetamol), co-dydramol (dihydrocodeine and paracetamol), co-codaprin (codeine and aspirin)
weak opioid	codeine, dihydrocodeine
strong opioid	morphine, buprenorphine, fentanyl, methadone, oxycodone, tapentadol, tramadol
drugs with anti-epileptic action	carbamazepine, pregabalin, gabapentin
tricyclic antidepressants	amitriptyline, nortriptyline
serotonin-noradrenaline reuptake inhibitors	duloxetine

**Source:** British National Formulary (available at: [www.evidence.nhs.uk/formulary/bnf/current](http://www.evidence.nhs.uk/formulary/bnf/current))

### Box 1 – Basic opioid pharmacology

Opioid drugs produce their effects by activating opioid receptors, located in the central nervous system, peripheral nervous system and peripheral tissues. Activation,<sup>27</sup> results in a reduction of neuronal cell excitability that in turn reduces transmission of nociceptive impulses.

Opioids can be natural, synthetic or semi-synthetic. Natural opioids are those derived from the alkaloids found in opium, such as morphine and codeine. Semi-synthetic opioids are derived from natural opioids, and include oxycodone (derived from thebaine), hydrocodone (derived from codeine) and dihydromorphine (derived from morphine). Synthetic opioids are synthesised from chemicals and molecules that do not come from the alkaloids found in opium but share the ability to bind to and activate opioid receptors. Examples of synthetic opioids include methadone, fentanyl and tramadol.<sup>28</sup> Some opioids – including codeine – are prodrugs that exert their analgesic effect after metabolism.

## 3 Analgesic use for chronic pain

The prescribing of opioids has increased markedly over recent years, although the evidence for their efficacy in the treatment of chronic pain conditions remains weak, and our increasing knowledge of their short and long-term side effects, raises questions over their use.<sup>2,3</sup> The following sections highlight recent trends in the prescribing of opioid and other analgesics, and explore the evidence for the efficacy, safety and potential harms associated with their use in people suffering from chronic pain.

### 3.1 Analgesic prescribing for chronic pain: UK trends

In recent years there has been a substantial increase in the number of opioid analgesics prescribed for the management of chronic non-cancer pain, with increases occurring in all parts of the UK, significantly in excess of any population increases (see **Box 2**). While it is not possible to determine if items were prescribed for chronic pain, or whether they were used in palliative care, research indicates that the majority of prescriptions for opioid analgesics are for patients with chronic non-cancer pain.<sup>29</sup>

#### Box 2 – Opioid prescribing trends in the UK

##### England

- There was a year on year increase in opioid prescribing in the community from 228 million items in 1992 to 1.6 billion in 2009.<sup>30</sup>
- The number of opioid analgesics prescribed in general practice in England increased by 1.5 million between 2008 and 2013.<sup>22</sup>
- The most commonly dispensed opioid analgesic in England is co-codamol, a compound analgesic of codeine and paracetamol, with numbers of prescribed items – by chemical name – increasing by 5% from 14.89 million to 15.58 million between 2010 and 2014.<sup>31,32</sup> Over the same time period the use of morphine rose by 66% from 2.44 million prescribed items to 4.05 million; buprenorphine use rose by 53% (1.19 million to 1.83 million); oxycodone by 44% (0.89 million to 1.28 million); codeine by 37% (3.03 million to 4.16 million) and fentanyl prescribing rose by 22% (0.99 million to 1.21 million).<sup>32</sup>

##### Scotland

- The prescribing of a number of opioids increased between 2010 and 2015. The fastest increases were seen for codeine and morphine.
- Over 50% more morphine was dispensed in 2014/15 than four years earlier, up from 280,351 to 440,472 items. Codeine use rose even more rapidly, with a 64% increase from 89,159 to 146,561 items. Tramadol use rose 12% from 972,922 to 1,091,237 items. There was also a 33% increase in oxycodone use and a 23% increase for fentanyl.<sup>33</sup>

##### Wales

- Between 2010 and 2014 the prescribing of morphine increased by 105%, from 168,736 to 345,808 items, and codeine from 63% from 85,528 to 120,257 items. Tramadol use rose by 5% over the period (563,071 to 592,678), buprenorphine by 22% (93,843 to 114,559) and oxycodone by 23% (72,139 to 88,997).

##### Northern Ireland

- Available data from Northern Ireland indicate that analgesic use overall increased by 9.7% between 2010 and 2014 and by 36.4% between 2004 and 2014.<sup>34</sup>

#### Key message

- All parts of the UK have seen substantial increases in the prescribing of opioids over recent years.

### 3.1.1 Other analgesics

#### *Gabapentin and pregabalin*

There has been a steep rise in the number of prescriptions of gabapentin and pregabalin for the management of chronic pain in general practice in England.<sup>22</sup> In 2012, nearly three million items of pregabalin, and three and a half million items of gabapentin were prescribed, representing a 350% and 150% increase in prescribing of these drugs respectively, since 2007.<sup>35,36</sup> In 2013, the total cost for these medicines in England was £237.9m, most of which was accounted for by pregabalin, which is still under patent for use in pain, and cost a total of £211.2m in 2013.<sup>37</sup>

Scotland has seen a similarly rapid increase in the prescribing of gabapentin and pregabalin. Between 2010/11 and 2014/15, the number of items dispensed for each drug more than doubled, with gabapentin rising from 302,736 items to 629,741, and pregabalin rising from 133,985 to 364,111 items.<sup>34</sup> In Wales, pregabalin items dispensed more than doubled between 2010 and 2014, increasing from 121,495 to 282,183, and gabapentin use rose from 192,767 to 395,109 items.<sup>42</sup> In Northern Ireland, pregabalin appears to be prescribed much more readily than in the rest of the UK,<sup>38</sup> with the combined number of items of gabapentin and pregabalin prescribed totalling 352,000 for 2013, a 29% rise in two years.<sup>39</sup> As these figures do not break down dispensed items by indication it is not possible to determine precisely the proportion prescribed for the treatment of pain compared to, for example, those prescribed to treat epilepsy. However, manufacturers of pregabalin have estimated that approximately 80% of total UK pregabalin prescriptions are for the treatment of neuropathic pain.<sup>40</sup>

#### *Antidepressants*

There has been an increase in the use of antidepressants that are most commonly used or recommended for the treatment of pain. Total prescriptions for amitriptyline increased by 36.1% and for duloxetine by 131.3%, to 11.85 million and 1.36 million items respectively in England between 2010 and 2014.<sup>31,32</sup> Although not broken down by indication, amitriptyline is now used more commonly for treating pain than it is for depression.<sup>41</sup> In Scotland, between 2010/11 and 2014/15, amitriptyline prescriptions increased by 25.6% from 931,799 to 1,169,917 items and duloxetine by 150% from 60,279 to 150,790 items.<sup>33</sup> In Wales, amitriptyline increased by 50.6% from 575,196 items to 866,025 items, and duloxetine 108.7% from 88,883 to 185,425 items.<sup>42</sup> In Northern Ireland, prescribed amitriptyline items increased by 76.2% from 222,358 to 391,720 and duloxetine from 58,284 to 106,980 items, or 83.5%.<sup>34</sup>

#### *NSAIDs*

It is not clear what proportion of NSAID (nonsteroidal anti-inflammatory drug) prescribing is for individuals with chronic pain. The prescribing of diclofenac in the community in England has reduced significantly in recent years, from over 8.6 million items to less than 3 million, now accounting for approximately 10% of NSAID prescriptions.<sup>43</sup> These data reflect trends throughout the rest of the UK where the prescribing of diclofenac has decreased over recent years.<sup>33,34,42</sup> This has most likely resulted from updated guidance on its cardiovascular risk (see **Section 3.3**), and may have important implications for the prescribing of opioid analgesics. In contrast, the prescribing of Naproxen in England increased from 1.1 million items in 2005 to 7.6 million in 2015.<sup>43</sup> Over the same time period the prescribing of Ibuprofen increased from approximately 6 million items to 7.3 million. In Scotland the prescribing of ibuprofen in the community increased by 79% between 2014/15 and 2015/16, with Naproxen prescribing increasing by 18%.<sup>33</sup>

## 3.2 Analgesic use in chronic pain – exploring the evidence

The following provides a brief introduction to the evidence surrounding the effectiveness of opioids and other analgesics for treating chronic pain, as well as the potential harms associated with these drugs.

### 3.2.1 Efficacy of opioids for chronic pain

As highlighted by *Opioids Aware*, there is a large body of evidence – including randomised controlled trials<sup>a</sup> and systematic reviews – that has concluded that opioids may reduce pain for some patients in the short and medium term (less than 12 weeks).<sup>44</sup> Their use in acute pain and for pain at the end of life is well established. There is, however, a lack of consistent good-quality evidence to support a strong clinical recommendation for the long-term use of opioids for patients with chronic pain. Meta-analyses assessing evidence of the effectiveness of opioids for patients with chronic pain of whatever aetiology, have suggested that they are only effective in a minority of patients.<sup>4,45,46,47,48,49,50,51,52,53</sup>

A limiting factor is that most clinical trials of chronic pain medicines are conducted over a 12-week period, and there are very limited data that provide evidence for their use for periods of longer than six months. Given the limited duration of most clinical trials for opioid analgesics, and the impracticability of using placebo controls over prolonged periods, data on the efficacy of long-term use has been limited to assessment in case series and open-label extensions of controlled trials,<sup>b</sup> rather than placebo-controlled studies.<sup>44</sup> Analysis of these data does not allow firm conclusions with regards to functional improvement or improvement in a patient's quality of life. A 2015 meta-analysis – assessing the efficacy, tolerability and safety of opioid analgesics in open-label extension trials over a duration of six months or more – highlighted that only a minority of patients selected for opioid therapy completed the studies, yet sustained effects of pain reduction could be seen in these patients, including in those with neuropathic pain.<sup>54</sup> Long term cohort data may provide further information on the experiences of patients using opioids long-term in clinical practice.<sup>55</sup> Similarly, it has been suggested that 'pragmatic trials' measuring a wide range of patient outcomes should be utilised for assessing the effectiveness of pain medications.<sup>56</sup>

One difficulty in assessing the effectiveness of opioid treatment arises from the number of possible adverse effects, including nausea, headache, somnolence, urinary complications and constipation (see **Section 3.3**). Many studies suffer from low-compliance rates,<sup>57</sup> with patients discontinuing treatment due to adverse effects or with insufficient pain relief. In a 2009 evidence review by the American Pain Society, it was highlighted that whilst recommendations for the use of opioids in chronic pain have been made on the basis of a systematic review, these are rarely supported by high quality, or even moderate quality evidence. Instead, they rely on expert consensus to overcome numerous research gaps in areas such as balancing the risks and benefits of opioid therapy.<sup>58</sup>

#### Key messages

- There is a lack of good-quality evidence to support a strong clinical recommendation for the long-term use of opioids for patients with chronic pain
- There are only limited data that provide evidence to support the use of opioids for periods of longer than six months
- Many clinical studies of opioids for chronic pain suffer from low-compliance rates, with patients discontinuing treatment due to adverse effects or with insufficient pain relief.

a Randomised controlled trials are studies in which people are randomly assigned to 2 (or more) groups to test an intervention. One group has the intervention being tested, the other (control group) has an alternative intervention, a dummy intervention (placebo) or no intervention at all.

b Open-label extension studies typically follow on from randomised controlled trials, to allow assessment over a longer period of time. They are not placebo controlled and both researchers and participants know what treatment is being administered.



### *Current guidance on opioid prescribing for chronic pain*

Despite limitations in the evidence, guidance is available for prescribers in the UK on the use of opioids for treating pain. Clinical guidance from NICE (National Institute of Health and Care Excellence) on drug treatment for neuropathic pain recommends the use of morphine or tramadol to treat neuropathic pain only when advised by a specialist.<sup>59</sup> It has graded most of the available evidence as low or very low due to insufficient follow-up periods.<sup>59</sup> Separately, guidance from the IASP Neuropathic Pain Special Interest Group (NeuPSIG) – based on systematic review and meta-analysis – made only weak recommendations for the use of tramadol and other strong opioids as second and third-line treatments, respectively, for neuropathic pain in adults.<sup>46</sup> Originally developed to assist the treatment of cancer-related pain, the WHO's analgesic ladder is often used as a guide to the treatment of chronic pain but it has never been validated in this setting. The analgesic ladder suggests that with increasing reported pain intensity, increasingly strong analgesics should be provided and doses of strong opioids increased until pain is controlled. Chronic pain is a complex entity reflecting factors beyond the original, or ongoing, stimuli. Furthermore, the evidence that escalation of opioid doses in this setting confers an improvement in pain or function is weak and there is strong evidence that harm from opioids is dose related. It has been suggested that use of the WHO ladder in patients with long term pain fails to recognise the complexity of the chronic pain experience, and may contribute to inappropriate prescribing.<sup>60</sup>

In 2010, the BPS produced good practice guidelines on opioid use in persistent pain, stating that, while opioids can be effective, other evidence-based interventions should be used if available.<sup>11</sup> *Opioids Aware* replaces and supersedes the 2010 guidance and places emphasis on general principles of good prescribing practice underpinned by an understanding of the condition being treated, appropriate pain assessment and monitoring of prescribing to ensure that medicines that are ineffective are stopped (see **Box 3**).<sup>61</sup>

### **Box 3 – 'Opioids Aware' prescribing resource**

*Opioids Aware* is a prescribing resource funded by PHE (Public Health England) and produced by the FPM (Faculty of Pain Medicine) in conjunction with NHS England, other medical Royal Colleges, NICE, the CQC (Care Quality Commission), NHSBSA (NHS Business Services Authority), the Royal Pharmaceutical Society and the British Pain Society. The resource aims to support all healthcare professionals, patients, and carers in understanding the potential benefits and harms of opioid treatment.

Recognising that existing guidance has been relatively unsuccessful in influencing the use of analgesics, it has taken a different approach. It instead breaks down the available evidence into smaller sections, making it more accessible and placing opioids in the wider context of pain management. It provides guidance in the following areas:

- Best professional practice;
- The condition, the patient, the context
- Clinical use of opioids
- A structured approach to opioid prescribing
- Information for patients

The resource covers issues such as opioids and the law; writing prescriptions; reporting harms; the role of pharmacists in safe prescribing; assessing and managing long-term pain; the role of medicines; effectiveness of opioids; side effects and harms; prescribing trends; problem drug use and special circumstances.

A detailed explanation of the risks and benefits must be undertaken with the patient before opioids are started. A small proportion of people may obtain good pain relief with opioids in the long term if the dose is kept low and especially if their use is intermittent. These patients can be managed with regular monitoring. Too many people with chronic pain are prescribed opioids at high doses. The risk of harm increases substantially at high dose. Above an oral morphine equivalent daily dose of 120mg, further benefit is unlikely. If benefit in pain reduction and improved function is not achieved at low dose, opioids should be discontinued, even if no other treatment is readily available.

Chronic pain is very complex and if patients have disabling symptoms that do not respond to treatment, a detailed assessment of the many emotional influences on their pain experience is necessary. This may be done by a GP or in a pain management service. Patients with chronic pain in high dose opioids should be referred to specialist pain management services, and if possible joint pain and addiction services. The ideal practice is then to reduce the opioid dose. Further guidance is available from *Opioids Aware*

**Recommendation:** To better inform clinical practice more research is required into the effects of long-term prescribing of opioids for pain relief, including their efficacy & safety for periods longer than six months.

### 3.2.2 Efficacy of other analgesics for chronic pain

#### *Gabapentin and pregabalin*

Gabapentin and pregabalin are licensed in the UK for the treatment of neuropathic pain and refractory epilepsy. Pregabalin is also licensed for the treatment of generalised anxiety disorder. The evidence for the use of gabapentin and pregabalin for the treatment of neuropathic pain is more comprehensive than that of opioids, as reflected in their indications and their recommended use in guidelines. NICE clinical guidance for primary care professionals on drug treatment for neuropathic pain recommends the use of gabapentin or pregabalin (as well as the anti-depressants duloxetine or amitriptyline) as initial treatment, with due consideration of a patient's co-morbidities and context.<sup>59,62</sup> This recommendation is based on evidence from randomised control trials showing that both reduce pain in comparison to a placebo.<sup>59</sup> Separately, a systematic-review and meta-analysis from the NeuPSIG of the IASP recommended gabapentin and pregabalin for first-line use in adults with neuropathic pain.<sup>46</sup> Despite these recommendations, a 2014 systematic review concluded that over half of patients treated with gabapentin for chronic neuropathic pain or fibromyalgia<sup>c</sup> will not have substantial pain relief, determined as a reduction in pain intensity of at least 50%.<sup>63</sup> Six in every ten patients can expect to have some adverse effects, such as dizziness, somnolence (drowsiness), peripheral oedema (swelling) or gait disturbance.<sup>63</sup> A separate 2009 systematic review considering the use of pregabalin similarly found no useful benefit to a significant proportion of patients.<sup>64</sup> However, in both cases, a small number of patients were found to benefit substantially, including with marked improvements in their quality of life, while more benefitted moderately. There is no good evidence for effectiveness of gabapentin and pregabalin for acute pain or for long-term pain that is not of neuropathic origin. More research is required to ensure gabapentin and pregabalin are used in the best possible way, to maximise the potential benefit to patients with chronic pain, whilst minimising the risk of harm.<sup>50</sup>

c Fibromyalgia is a long-term condition that can cause widespread pain and symptoms in many other bodily systems.

### *Antidepressants*

There is evidence that some antidepressants may be helpful for some patients with chronic pain. A 2007 systematic review suggested that a number of antidepressants – in-particular tricyclic antidepressants – can be effective in the treatment of chronic pain.<sup>65</sup> However, a 2015 systematic review assessing the use of the tricyclic antidepressant amitriptyline for the treatment of neuropathic pain concluded that, despite its widespread use and successful treatment in many people with neuropathic pain, there is a lack of supportive unbiased evidence for its beneficial effect, with few studies meeting the most recent research standards.<sup>66</sup>

In a review of 19 studies considering the analgesic effect of SNRIs (serotonin-noradrenaline reuptake inhibitors), 12 found that they provide clinically important pain relief and are associated with fewer side-effects than tricyclic antidepressants.<sup>67</sup> There is moderately strong evidence – based on the GradePro system of assessing evidence<sup>d</sup> – that the SNRIs duloxetine reduces pain in diabetic neuropathy and fibromyalgia. A systematic review, considering six randomised controlled trials, concluded that duloxetine is useful for relieving pain from fibromyalgia and diabetic neuropathy, and about as effective as other available drugs.<sup>68</sup> Although one systematic review suggests that amitriptyline demonstrates superior efficacy to duloxetine.<sup>69</sup> A systematic-review and meta-analysis from the NeuPSIG of the IASP recommended SNRIs or tricyclic antidepressants as first-line therapy for neuropathic pain.<sup>46</sup>

NICE guidance for the treatment of neuropathic pain recommends the use of amitriptyline and duloxetine as first line treatments for neuropathic pain, alongside gabapentin and pregabalin. Switching between these four is recommended if the first is not successful.<sup>62</sup> SIGN guidance for the treatment of chronic pain recommends the use of amitriptyline for neuropathic pain and fibromyalgia, and to try alternative tricyclic antidepressants if there is a need to reduce side effects.

### *NSAIDs*

A 2015 systematic review concluded that there is no evidence to support or refute the use of NSAIDs in neuropathic pain conditions,<sup>70</sup> which is reflected in the guidance available for the treatment of neuropathic pain. A 2015 review of NSAIDs for chronic low back pain concluded that there was low quality evidence that they are slightly more effective than placebo.<sup>71</sup> A separate review of topical NSAIDs for chronic musculoskeletal pain indicated that they provided significantly more trial participants who had osteoarthritis of the knee or hand with good levels of pain relief than placebo, but that there was no evidence for the effectiveness of topical NSAIDs in other chronic painful conditions.<sup>72</sup>

d GradePro is the official software of the Grading of Recommendations Assessment, Development and Evaluation (GRADE) Working Group, with the goal of creating a common approach to grading quality of evidence. It has been updated for use by Cochrane review authors to create summary of findings tables.  
<http://tech.cochrane.org/revman/other-resources/gradepr/about-gradepr>

### 3.3 Potential harms associated with long-term analgesic use in chronic pain

There are significant public health concerns about the harmful effects of analgesics, particularly regarding their long-term use. The following briefly explores the potential harms associated with the use of opioids, and other analgesics, for the treatment of chronic pain.

#### Box 4 – Opioid prescribing in the USA

Concerns about the harms caused by extensive prescribing of opioids have become particularly pertinent as a result of their extensive misuse in the USA.

According to the CDC (Centers for Disease Control), the annual number of opioid prescriptions in the USA quadrupled between 1999 and 2014.<sup>73</sup> This increase has been matched by a steep increase in opioid-related mortality.<sup>74</sup> Mortality trends indicate a rapid increase in the number of deaths from unintentional drug poisoning with opioid analgesics, with deaths involving opioids rising from 4,041 in 1999 to 14,459 in 2007.<sup>44</sup> Seventy-five per cent of all pharmaceutical overdose deaths in the USA in 2010 involved opioids.<sup>75</sup> In 2014, more than 14,000 people died from overdoses involving prescription opioids.<sup>74</sup> According to data from the CDC, prescription drug overdoses in the USA occur disproportionately amongst patients who are seeing multiple doctors, or seeing one doctor and receiving a high dosage.<sup>76</sup>

In the UK, there has been a focus on understanding the lessons that can be learned from the significant prescription opioid misuse in the USA. This has included exploration of the extent to which the situation is comparable between the two countries, and identifying which contributory factors may be unique to the USA.<sup>77,78</sup> It has, for example, been suggested that pharmaceutical company marketing practices in the USA have served to inflate the benefits and obscure the harms of prescription opioids.<sup>78</sup> It has also been highlighted that specific differences in the healthcare systems of the two countries may influence the relative harms associated with opioid misuse in the USA and UK,<sup>77,78</sup> as may each country's wider policy on illicit drugs.<sup>77</sup>

#### 3.3.1 Harms associated with opioids

##### *Mortality*

As highlighted in **Section 3.1**, prescribing data indicates that the use of opioids has increased substantially in the UK. To date this has not resulted in the same significant increase in opioid related deaths that has been seen in the USA (see **Box 4**).<sup>77</sup> The UK has, however, seen an increase in deaths involving opioids with heroin, methadone and morphine (this latter noted at post mortem as a metabolite of heroin) being the biggest contributors. Although the total numbers are substantially lower than in the USA, the overall trends are similar. Though it should be noted that in the USA prescription opioid deaths significantly predominate over heroin.<sup>79</sup> England and Wales experienced a doubling of annual deaths involving codeine between 2005 and 2009,<sup>80</sup> and there were a total of 128 deaths involving codeine in 2015.<sup>81</sup> There has also been a significant increase in the number of deaths related to tramadol, rising from one recorded in England and Wales in 1996, to 208 in 2014 although most recent (2015) data show a fall in the last 12 months.<sup>81</sup> These mortality data prompted scheduling of the drug<sup>e</sup> in 2014.<sup>82</sup> Most tramadol deaths were in conjunction with other drugs and it is not known whether the tramadol was or was not prescribed for those patients in whom the drug was mentioned on the death certificate. In Scotland, tramadol-related deaths increased from eight in 2001 to 34 in 2011.<sup>55</sup> Statistics from Northern Ireland also show an increase in deaths from a range of opioids. Between 2003 and 2013, the number of deaths in which tramadol was mentioned on the death certificate rose from 0 to 20, although this is down from a high of 31 in 2012. Deaths involving codeine rose from 2 to 22 over the same period.<sup>83</sup>

e Further information from NICE about controlled drugs is available [here](#).

*Respiratory depression*

Opioids can have an effect on respiration via a number of mechanisms,<sup>84</sup> and respiratory depression has been highlighted as a particular problem in acute pain management – where patients have not developed tolerance.<sup>44</sup> In patients with chronic pain, there are specific concerns over disturbance of nocturnal respiratory control.<sup>85</sup> For example, there have been reported fatalities in patients with sleep apnoea who are prescribed opioids, and particular risks arise when opioids are prescribed with other sedative drugs, particularly benzodiazepines.<sup>44</sup>

*Endocrine and immune effects*

There is evidence that opioid use can adversely impact upon a range of endocrine functions.<sup>86</sup> As highlighted in *Opioids Aware*, opioid use is associated with hypogonadism and adrenal insufficiency in both sexes.<sup>61</sup> It has also been demonstrated in animal and human studies that opioids can have a suppressive effect on immune function, but that this may differ for different opioid analgesics.<sup>61,87</sup>

*Hypersensitivity to pain (hyperalgesia)*

A number of studies have indicated that, paradoxically, prolonged use of opioids can result in hypersensitivity to pain (hyperalgesia). A 2006 systematic review of opioid-induced hyperalgesia highlighted that opioid analgesics can render patients more sensitive to pain and potentially may aggravate pre-existing pain.<sup>88</sup> *Opioids Aware* states that hyperalgesia has been demonstrated in preclinical studies, in patients receiving high dose potent opioids as a component of general anaesthesia and in experimental studies of patients maintained on methadone for the treatment of opioid addiction. The clinical significance of these findings in routine prescribing is not known.<sup>61</sup>

*Dependence and withdrawal*

The 2016 BMA analysis report on *Prescribed drugs associated with dependence and withdrawal* highlighted the potential that opioids, prescribed to treat chronic pain, will lead to tolerance and physical dependence, especially with prolonged treatment and at higher doses.<sup>2</sup> The report also noted that withdrawal symptoms can be severe and disabling.<sup>2</sup> It should be noted that tolerance and the experience of withdrawal symptoms on opioid cessation are normal pharmacological effects of opioid treatment and should not be confused with addiction or opioid misuse or abuse. There are certain risk factors – including co-morbid mental health disorders and substance misuse disorders – that long-term epidemiological data indicate are associated with individuals being more likely to receive opioid prescriptions for pain. Patients with these risk factors are more likely to be prescribed higher doses of opioids and more likely to be co-prescribed other centrally acting drugs including benzodiazepines – a phenomenon described as ‘adverse selection’.<sup>44</sup>

**3.3.2 Harms associated with other analgesics***Gabapentin and pregabalin*

As with opioids, gabapentin and pregabalin have been associated with increasing mortality in the UK. Instances of gabapentin being mentioned on death certificates increased significantly, from 4 in 2010 to 49 in 2015.<sup>81</sup> Pregabalin has shown an increasing trend in terms of prescription levels, positive post-mortem toxicology findings, and in the misuse of the drug being implicated in death.<sup>59</sup> Instances of gabapentin being mentioned on death certificates increased from 4 in 2010 to 90 in 2015.<sup>81</sup>

The dependence potential associated with gabapentin and pregabalin has also led to concerns that the number of people misusing these prescription medicines may be rising in the UK. PHE and NHS England have produced advice for prescribers on the potential for misuse of gabapentin and pregabalin, warning of the dangers of dependence and the diversion of prescribed drugs – whereby drugs are unlawfully transferred from their intended recipient to another user or distributor.<sup>37</sup> High levels of misuse, particularly of pregabalin, have been reported in prison populations, and, in January 2016, the ACMD (Advisory Council for the Misuse of Drugs) recommended that – due to the harms associated with these drugs – gabapentin and pregabalin should be controlled under the Misuse of Drugs Act 1971.<sup>89</sup>

### *Antidepressants*

Data from the Office for National Statistics indicate that, in 2013, there were 466 deaths in England and Wales associated with antidepressants, with the number of deaths associated with amitriptyline rising by 12% since 2012.<sup>90</sup> Though available data does not allow for a distinction between patients who were taking antidepressants for depression and those taking them for the relief of pain.

TCA (tricyclic antidepressants) are associated with a number of adverse effects, including dry mouth, constipation, tachycardia, cardiac arrhythmia, and blurred vision. Overdose with these drugs is associated with a high rate of fatality.<sup>91</sup> In comparison to TCAs, SSRIs (selective serotonin reuptake inhibitors) have more tolerable side effects and greater relative safety in overdose,<sup>92,93</sup> but are associated with greater withdrawal symptoms in people discontinuing use.<sup>94</sup> A 2009 systematic review of the use of the SNRI duloxetine indicated that most people taking it will have at least one side effect, but these are mostly minor. Nevertheless about one in six people discontinue duloxetine as a result of side effects.<sup>68</sup>

### *NSAIDs*

There are specific issues around the use of NSAIDs, including long-standing and well-recognised gastrointestinal, cardiovascular and renal safety concerns, which have been summarised in NICE prescribing guidance.<sup>95</sup> This highlights that a decision to prescribe NSAIDs should be based on an assessment of a person's individual risk factors, including any history of cardiovascular and gastrointestinal illness.<sup>95</sup> Concerns over the cardiovascular and gastrointestinal safety of NSAIDs may have contributed to increased prescribing of other analgesic classes.

## 4 Supporting the management of patients with chronic pain

Over the last few decades, opioids have been increasingly used in the UK to manage chronic pain. Potential reasons for this include the availability of new preparations and formulations of opioids, changes in patient expectation, prescribing practice, and societal attitudes.<sup>12</sup> Other studies have identified a lack of consensus regarding appropriate use of medicines, a lack of suitable alternatives, the difficulty stopping or reducing a patient's opioid prescription, and patient demand for opioid treatments (including from those who may be addicted or are diverting prescription medicines).<sup>96</sup> A further contributory factor is the historic under-treatment of pain, which may have motivated well-intentioned efforts to enhance the availability of prescription analgesics, including opioids.<sup>96</sup> Given the weak evidence base and potential harms associated with long term analgesic use discussed in the preceding section, there is a need to explore the range of support required for patients suffering from chronic pain.

The following sections focus on the steps required to ensure that all patients with chronic pain have access to the most appropriate treatment, and to ensure doctors are adequately supported in the management of these patients.

### 4.1.1 Attitudes towards the use of opioids for chronic pain

Analysis of the attitudes to opioid prescribing in the USA has suggested that, historically, concerns about addiction, the potential for increased disability and lack of efficacy over longer time-periods limited their use in the treatment of chronic pain.<sup>97</sup> In the 1980s, reports and articles began to emerge that suggested opioids could, or should, be used to treat chronic pain, based on earlier experiences treating cancer patients. Two papers have been identified as being particularly influential in this regard.<sup>97</sup> In 1986, Portenoy and Foley published a paper describing their experiences of treating patients with non-malignant pain that strongly advocated the use of opioids over longer periods of time.<sup>98</sup> In 1990, Melzack wrote 'The Tragedy of Needless Pain',<sup>97,99</sup> which called for more research into the use of opioids for non-cancer chronic pain, arguing that people were unnecessarily suffering from pain because of fears of addiction.

Prescribing behaviour in relation to opioids may be subject to a range of influences. A 2007 survey of GPs' attitudes found that 53% of those without specialist training felt that both their medical school and primary care training were inadequate with regard to pain management.<sup>100</sup> Even so it suggested that the presence of guidelines and the level of specialist training had little impact on the prescribing of opioids. In the study GPs who did not commonly prescribe opioids were found to be older, and to have been practicing for longer, than those who did.<sup>100</sup> A separate 2008 survey of GPs in the UK indicated that the likelihood of prescribing opioids may be influenced by a practitioner's age, gender and degree of specialist training.<sup>101</sup> A further small qualitative study of the attitudes of GPs to prescribing suggested that they had a more cautious approach to prescribing opioids for chronic non-cancer pain than for cancer-related pain.<sup>102</sup>

A 2015 qualitative study of opioid prescribing in primary care highlighted a range of factors identified by patients and doctors that influenced prescribing in this setting. These included the difficulties of short-term, often emotionally charged consultations; highlighting the importance of continuity in the doctor-patient relationship.<sup>103</sup>

#### 4.1.2 Challenges when stopping opioid treatment

Doctors can face significant challenges in stopping opioid treatment for patients in whom these medications have not provided effective pain relief. This may result in patients being prescribed opioids despite the fact that they are receiving no benefit from them. As set out in *Opioids Aware* (see **Section 3.2**), if it is thought opioid therapy may play a role in a patient's pain management, a trial should be initiated to establish whether a patient achieves a reduction in pain with the use of opioids – if not they should be stopped.<sup>44</sup> The difficulties in ceasing opioid treatment if not effective have been acknowledged.<sup>3</sup> It can, for example, be very difficult to tell a patient that their treatment is not working when they are clearly in pain, and there are often few alternatives to using opioids in attempting to reduce chronic pain.<sup>3</sup>

Guidance on the use of opioids for chronic pain does recommend strategies to manage this. For example, the SIGN pathway for using strong opioids in patients with chronic pain recommends a trial of opioids with stopping rules agreed with the patient, such as if treatment goals are not met, or if there is no clear evidence of dose response.<sup>104</sup> It has been highlighted that while opioids, as well as other analgesics including gabapentin and pregabalin, can work effectively to relieve pain, this is only achieved in a small percentage of patients, and prescribers must expect analgesics to fail for the majority of patients.<sup>105</sup> It is unusual for any analgesic, including opioids, to completely eliminate pain, and that the focus of treatment should be on reducing a patient's pain with a view to improving their quality of life.

**Recommendation:** Consideration should be given to the range of support that is required for doctors and patients during the process of assessment, trial and review of opioid treatment for chronic pain. This should include support for stopping opioid treatment that is not working.

#### 4.1.3 Supporting the effective management of chronic pain in primary care

Most patients with chronic pain first contact health services through primary care, and are subsequently managed in this setting. According to the RCGP (Royal College of General Practitioners), people with chronic pain consult their GP around five times more frequently than those without, and chronic pain is a presenting condition in around 22% of consultations.<sup>106</sup> It is generally accepted that more straightforward pain problems can be assessed and managed by non-specialists in a primary care setting, with specialist care required for complex pain, and even when patients are referred to specialist treatment, their ongoing care is likely to return to their GP.<sup>107</sup> In a 2015 parliamentary report, the Chronic Pain Policy Coalition called for a minimum standard of yearly assessment of patients being treated with opioids for their chronic pain.<sup>108</sup>

Supporting action in this area is dependent upon adequate resourcing of general practice. As highlighted in the BMA's 2015 vision for general practice – *Responsive, safe and sustainable: towards a new future for general practice* – having sufficient time to spend with patients is one of the leading factors identified by GPs that could help them to better deliver the essentials of general practice.<sup>109</sup> The value of adequate consultation times is particularly important for patients that have complex conditions which may require greater exploration, as is often the case for people suffering from chronic pain. Sufficient resources are also necessary to support regular reviews of medication use. Further consideration should be given to the role of pharmacists in pain management in primary care settings.<sup>110,111</sup>

**Recommendation:** Sufficient investment and resources for primary care, including longer consultation times, are required to support improvements in analgesic prescribing for patients with chronic pain.



#### 4.1.4 Supporting the development of specialist chronic pain services

Some patients with chronic pain, including those with complex co-morbidities, will require the support of specialist services.<sup>115</sup> Specialists in pain medicine play a central role in pain management as competent physicians with the training and expertise to understand and manage painful medical conditions, diagnose treatable underlying causes of pain and highlight unmet physical and mental health needs. Referral to specialist pain services is indicated where pain is associated with either or both high levels of distress and disability or when severe pain remains refractory to treatment. Improving access to specialist services would better support patients to cope with pain, and may reduce inappropriate prescribing of strong analgesics. A multidisciplinary/multiprofessional approach is recognised as the main requirement for this and there should be ready access to pain management programmes for patients who are likely to benefit (see **Box 5**).<sup>112</sup> Multidisciplinary chronic pain services are more effective than no treatment, or treatment as usual, for a range of patient outcomes, including pain experience, mood and activity levels.<sup>115</sup> There are a range of factors that impact upon access to specialist services, including: the geographical distribution of clinics; whether services meet the minimum standards for a multidisciplinary service; and referral to pain management services and the waiting times to access them.<sup>113</sup> The development of specialist services necessitates sufficient availability of appropriately trained healthcare professionals. It has, for example, been highlighted that there is a lack of pain medicine specialists in some parts of England and Wales, and as a whole England & Wales currently have fewer chronic pain consultants per 100,000 population than Scotland and Northern Ireland – equating to a total shortfall of 118 chronic pain specialists.<sup>114</sup>

#### Box 5 – Pain management programmes

The BPS have produced guidelines for pain management programmes for adults. These highlight that the principle of pain management programmes is to “enable people with chronic pain to achieve as normal a life as possible by reducing physical disability and emotional distress, and improving the individual’s ability to self-manage pain-associated disability and reduce reliance on healthcare resources”.<sup>115</sup>

Though they should not necessarily be expected to achieve a reduction in a patient’s pain, there is good evidence for the efficacy of pain management programmes in improving pain experience and physical functioning and for their potential to reduce medication use.<sup>115</sup>

Psychological interventions may have an important role in the treatment of some patients with chronic pain. There is moderate evidence that psychological therapies can help people with chronic pain reduce negative mood (depression and anxiety), and disability.<sup>116</sup> Though for some types of pain – for example neuropathic pain – there is a lack of studies assessing the effectiveness of these therapies.<sup>117</sup> Research also suggests that patient’s attitudes towards their pain can have an influence on their quality of life. For example, fear of movement as a result of the pain, and other pain-related fears can be more disabling than the pain itself, so tackling such issues is a vital consideration of any treatment.<sup>118</sup>

It is very important that co-morbid mental health disorders are identified and managed appropriately. One a population-based case-control study<sup>f</sup> conducted in Manchester found that patients with chronic pain were three times more likely to suffer from a mental disorder, with most patients suffering from mood and anxiety disorders.<sup>119</sup>

<sup>f</sup> Case-control studies are observational studies that compare groups of people with and without a particular disease or condition.

Patients with complex multiple medical symptoms, particularly if they are finding it difficult to reduce high harmful doses of opioids, need to be managed in teams with mental health expertise in diagnosing and managing common mental health disorders including significant depression, personality vulnerabilities, post-traumatic stress disorder, somatisation disorder, addiction, and in managing the emotional effects of previous traumatic experiences.

#### *Access to services*

There is high variation in access to multidisciplinary care, with many pain clinics not having adequate access to a psychologist, physiotherapist and physician.<sup>20</sup> The 2012 National Pain Audit found that only 40% of pain clinics in England, and 60% in Wales, met the minimum multidisciplinary standard – the presence of a psychologist, physiotherapist and physician – compared to 64% and 80% respectively that self-identified as multidisciplinary. The report recommended better access to physiotherapy and psychology given the high rate of anxiety and depression, and the link with poor physical functioning.<sup>20</sup> It also highlighted that pain clinics should be able to treat a wide variety of conditions; the audit, for example, indicated that some clinics appear to focus mainly on spinal pain or other musculoskeletal complaints, despite the need for treatment for conditions such as pelvic pain or non-musculoskeletal neuropathic pain.<sup>20</sup> Freedom of information requests from the Chronic Pain Policy Coalition in June 2013 indicated that, of all 211 CCGs in England, 28% had no named clinical lead for pain services, 27% could not provide a named managerial lead, and 29% of did not commission multidisciplinary pain services.<sup>120</sup>

Closer working between different parts of the health care system is essential. Integrated working between primary care and the specialist treatment provided by secondary care, or specialist community-based services, is increasingly seen as the more appropriate model of care for achieving the best patient outcomes.<sup>112,121</sup> Patients should be able to move seamlessly between different parts of the system and between different providers, to ensure that they receive timely access to the services required.<sup>112</sup>

Waiting times for specialist services are not consistent across the UK, with some patients having to wait considerably longer for specialist treatment. A 2014 report by Healthcare Improvement Scotland highlighted significant variation in waiting times for specialist services, in-particular in access to pain psychology services.<sup>122</sup> The National Pain Audit's final report – which focused on England and Wales – suggested that the RCoA (Royal College of Anaesthetists) should adopt the IASPs waiting time guidance for its good practice guide for pain services. This recommends that patients should be seen within eight weeks for routine or regular treatment, one month for urgent or semi-urgent cases, and one week for the most urgent cases.<sup>20</sup>

#### *Service provision*

There is a variety of guidance available on the provision of services. Specific guidance on the commissioning of chronic pain services has been published by the RCGP, and endorsed by the BPS, Chronic Pain Policy Coalition and FPM.<sup>112</sup> It explores how the commissioning process can better support chronic pain patients and how doctors can engage with commissioners more effectively. Its key points include that:

- pain management is best delivered by multidisciplinary and multiprofessional teams;
- there should be equity of provision across socioeconomic scales, with services meeting the needs of local populations;
- clinical professional advice to commissioners is key to delivering the best value services
- people should be at the centre of a multi-morbidities approach, and involved in service design and delivery.

The FPM have published core standards for pain management services in the UK, which are intended to provide a clinical guideline and a framework for those planning services.<sup>113</sup> These set out core standards for pain management services in community, secondary care, and specialist settings. They highlight that specialist pain management services in the community or secondary care should always involve a multidisciplinary team, and that a multidisciplinary team must include:

- medical consultants
- nurses
- physiotherapists
- psychologists
- pharmacists

Often this will also include occupational therapists, and where available, suitably trained GPs as well as SAS (specialty and associate specialist) doctors.<sup>113</sup> There need to be close working relationships in related medical disciplines including orthopaedic surgery, neurosurgery, neurology and psychiatry.

Some pain management services hold combined pain and substance misuse clinics where patients who have pain and who are using high doses of prescribed opioids or recreational drugs and alcohol can be assessed and managed.

The BPS guidelines on pain management programmes outline the evidence for multidisciplinary services, how patients should be referred and the resources that a service should have access to. They highlight the importance of pain management programmes being properly resourced with adequate time, personnel and facilities, and recognise the need to improve access to these programmes to support early intervention as well as comprehensive rehabilitation.<sup>115</sup> The BPS has also developed a 'commissioning hub', which is intended to provide a source of information on different service models, commissioning issues and outcomes from across the country.

### Key messages

- Pain management is best delivered by multidisciplinary and multiprofessional teams.
- There is high variation in access to multidisciplinary care and waiting times for specialist pain services are not consistent across the UK

#### 4.1.5 Non-pharmacological interventions for chronic pain

Non-pharmacological treatment may be effective in reducing long-term pain and disability in some patients with chronic pain.<sup>123</sup> These treatment options can also augment and complement analgesic use.<sup>123</sup> It is therefore important that patients have access to, and opportunity to benefit from, a range of effective non-pharmacological treatment options where appropriate. Non-pharmacological interventions for chronic pain include psychologically based interventions, such as behavioural therapies, as well as physical therapies.<sup>12</sup> The core standards for pain management services, published by the FPM, recommend that pain management programmes should utilise pharmacological and non-pharmacological treatment options, and that patients with chronic pain should have access to clinical psychology and specialist physiotherapy early in their treatment pathway.<sup>115</sup> As highlighted in the BPS guidelines for pain management programmes, there is evidence for the efficacy of cognitive behavioural therapy pain management programmes in improving pain experience, mood, coping, negative outlook on pain, and activity levels.<sup>115</sup> Though there remains a lack of studies assessing the efficacy of psychological approaches for some types of pain.<sup>117</sup> Further work is also required to develop the evidence base for invasive interventions in the treatment of chronic pain.<sup>124</sup>

**Recommendations:**

- All relevant commissioning and provider organisations – including CCGs in England, health boards in Scotland and Wales, and the Health and Social Care Board in Northern Ireland – should ensure that multidisciplinary pain management services are available for patients in their area and that these are commissioned according to available guidance. These organisations should also work to ensure timely access to pain management programmes, to support early intervention and comprehensive rehabilitation for patients with chronic pain.
- All healthcare providers that are responsible for the management of patients with chronic pain should be familiar with the range of non-pharmacological interventions that may be effective for the management of chronic pain – including physical and psychological therapies. Healthcare professionals should also be aware of the local availability of these services.

## 5 Role of training and education in improving analgesic use for treating chronic pain

The following section explores the role of training and education in supporting improvements in analgesic prescribing. It particularly focuses on the steps required to ensure all non-specialists have the basic knowledge and skills to support the appropriate management of patients with chronic pain. For information **Appendix 2** provides an overview of the training pathway for pain medicine specialists in the UK. There is a need to ensure that training in medical schools, as well as postgraduate training – both in general practice and for secondary care doctors who are not specialists in pain medicine – equips clinicians with the knowledge and skills to support the appropriate management of patients with chronic pain. Training on the principles of pain management should ensure all clinicians who are non-specialists in pain medicine are:

- aware that it is often unlikely that analgesics, including opioids, will completely eliminate pain and that they are likely to be effective in only a minority of patients;
- aware that as well as being a component of other conditions, chronic pain is a long term condition in its own right, and like many other long term conditions it usually cannot be cured;
- able to effectively manage the expectations that patients may have about their treatment, for instance, with regard to the likelihood that treatment will successfully reduce their chronic pain and the degree of pain reduction it can be realistically expected to achieve;
- comfortable highlighting that the focus of treatment is likely to be on reducing rather than eliminating pain, and maintaining function, with a view to improving quality of life;
- able to access specialist input and advice to support these conversations with patients.

As well as these basic principles, the role of doctors in assisting those with chronic pain to manage the impact of their condition and live independently has been specifically highlighted as an area that would benefit from improved training. The Chronic Pain Policy Coalition have suggested that healthcare professionals should be ‘trained to encourage people living with chronic pain to participate in education and peer support programmes to aid independent living’.<sup>108</sup> Healthcare professionals should also be comfortable in providing information regarding supported self-management of chronic pain.<sup>113</sup>

### 5.1 A focus on undergraduate training

In 2008, the Chief Medical Officer’s 150th annual report recommended that training in chronic pain be included in the curricula of all healthcare professionals.<sup>8</sup> It noted at the time that teaching at undergraduate level was patchy and inconsistent. Research into the provision of pain education in medical schools across Europe – based on information on the content of curricula in 2013 – found that there were compulsory dedicated modules in pain in only 4% of UK medical schools, and only 11% offered compulsory or elective modules.<sup>125</sup> Fifty per cent of medical schools in the UK documented pain-specific topics within their curricula, either as part of compulsory dedicated pain modules, or pain within other compulsory modules – the lowest level of 15 European countries, although the researchers did indicate that the level of detail available was too variable to allow comprehensive analysis.<sup>125</sup> Advancing the Provision of Pain Education and Learning (APPEAL) – a Europe wide review of undergraduate pain education – called on medical schools, pain specialists, medical students and policy makers to ensure that undergraduate students receive pain education to allow them to adequately treat pain, in light of the relatively little coverage it receives at present.<sup>126</sup>

The GMC’s (General Medical Council) *Outcomes for graduates* includes the requirement to be able to prescribe drugs safely and effectively, and to plan drug therapy for common indications, including pain.<sup>127</sup> It is important that there is clear guidance on the knowledge and skills in pain management that students should be expected to acquire over the course of their undergraduate qualifications. Medical schools should consider how to incorporate

existing resources into their individual curricula. Despite the production of pain curricula by IASP,<sup>128</sup> evidence of translation into more effective undergraduate education in pain is limited.

A recent international consensus has set out the core competencies in pain assessment and management that should be included in the curricula of all medical schools worldwide.<sup>129</sup> These competencies are intended to drive improvements in delivery of pain education and help shift emphasis towards pain as a disease. It is recommended that these competencies are assessed within the examination process for graduation. In another initiative, the FPM is currently supporting the introduction of a pain management course 'Essential Pain Management-lite' to medical schools (see **Box 6**) with emphasis on delivery of pre-determined pain content. The FPM has also produced guidance on the competencies required for a range of pain interventions, as well as guidance specific to the management of paediatric pain.<sup>130</sup>

### Box 6 – Essential Pain Management (EPM-lite)

[EPM-lite](#) is a scaled down essential pain management course designed to be delivered to medical undergraduates in half a day, with the aim of expanding the level of pain management knowledge taught at undergraduate level. In 2014, the FPM began a project of introducing EPM-lite, and it has now been delivered in several UK medical schools.<sup>131</sup>

#### Recommendations:

- Pain competencies should be included in the curricula of all medical schools and be assessed in graduation examinations
- Medical schools should ensure that existing resources – such as the IASP's curriculum outline on pain and the FPM's EPM-lite programme – are used effectively to ensure sufficient high quality undergraduate teaching on the basics of pain management.

## 5.2 Promoting guidance to support improved analgesic prescribing for chronic pain

To promote the appropriate management of chronic pain, renewed emphasis is required on the utilisation of existing guidance, and the development of tools to assist healthcare professionals when prescribing analgesics. A considerable amount of guidance has already been produced setting out the recommended ways of managing pain for patients suffering from chronic pain (see **Section 3.2**). Although a wide range of guidance is available to support prescribing, the continued increase in the long-term use of opioids to treat chronic pain – despite the lack of evidence of their long-term effectiveness in most patients – indicates an ongoing need to promote best practice, and to monitor closely current prescribing trends.

**Recommendation:** Existing guidance on the management of chronic pain and the appropriate prescribing of analgesics needs to be promoted, and consideration given how it can be maximised to support more appropriate use of analgesics, including amongst clinicians who are not specialists in pain medicine.

## 6 Conclusion and summary of recommendations

Over recent years there has been a substantial increase in the prescribing of opioids, leading to significant public health concerns that the harms associated with these medications are increasing. Much of this increased prescribing is likely associated with their use for the treatment of chronic pain but, there is limited evidence to support their long-term use for most patients.

Chronic pain is a complex condition, which has a substantial impact on the lives of those affected. The relief of pain should be seen as a clinical priority, yet the prescribing of opioids is often not the most appropriate or effective treatment option for many patients with chronic pain, and can risk exposing patients to unnecessary harm. If it is thought opioid therapy may play a role in a patient's pain management, a trial should be initiated to establish whether a patient achieves a reduction in pain with the use of opioids – if not they should be stopped. Patients should be fully informed of potential benefits and harms from this trial. Dose escalation should be limited as risk of harm rises as dose increases, especially if there is inadequate relief of pain. Analgesic use by patients with chronic pain should be reviewed regularly. Better support is required for both doctors and patients in stopping opioid treatment where this has not provided effective pain relief. Adequate resources are required to move away from prescribing as a 'default' option, towards a comprehensive, multidisciplinary approach to the management of chronic pain, which is now recognised as a long-term condition in its own right. The need to avoid treatments or procedures that are unlikely to be of benefit has been recognised across different branches of medicine, including through the 'choosing wisely' initiative from the Academy of Medical Royal Colleges.<sup>132</sup>

Supporting improvements in the treatment of chronic pain, and the use of analgesics, necessitates action across a range of areas, including the provision of services; research; training; continued education and professional development, and the development and promotion of guidance. This report sets out a range of recommendations for action in these areas that need to be taken forward by governments, policymakers and professionals across the UK.

## Summary of recommendations

### Developing the evidence base

- To better inform clinical practice more research is required into the effects of long-term prescribing of opioids for pain relief, including their efficacy & safety for periods longer than six months.

### Pain management

- Consideration should be given to the range of support that is required for doctors and patients during the process of assessment, trial and review of opioid treatment for chronic pain. This should include support for stopping opioid treatment that is not working.
- Sufficient investment and resources for primary care, including longer consultation times, are required to support improvements in analgesic prescribing for patients with chronic pain.
- All relevant commissioning and provider organisations – including CCGs in England, health boards in Scotland and Wales, and the Health and Social Care Board in Northern Ireland – should ensure that multidisciplinary pain management services are available for patients in their area and that these are commissioned according to available guidance. These organisations should also work to ensure timely access to pain management programmes, to support early intervention and comprehensive rehabilitation for patients with chronic pain.
- All healthcare providers that are responsible for the management of patients with chronic pain should be familiar with the range of non-pharmacological interventions that may be effective for the management of chronic pain - including physical and psychological therapies. Healthcare professionals should also be aware of the local availability of these services.

### Training and education

- Pain competencies should be included in the curricula of all medical schools and be assessed in graduation examinations.
- Medical schools should ensure that existing resources – such as the IASP's curriculum outline on pain and the FPM's EPM-lite programme – are used effectively to ensure sufficient high quality undergraduate teaching on the basics of pain management.
- Existing guidance on the management of chronic pain and the appropriate prescribing of analgesics needs to be promoted, and consideration given how it can be maximised to support more appropriate use of analgesics, including amongst clinicians who are not specialists in pain medicine.



## 7 Further resources

**Please note:** this listing of publications is intended for further information only. The BMA is not responsible for the content or accuracy of external websites, nor does it endorse or otherwise guarantee the veracity of statements made in non-BMA publications.

**Supporting individuals affected by prescribed drugs associated with dependence and withdrawal** – British Medical Association

Available at: <https://www.bma.org.uk/collective-voice/policy-and-research/public-and-population-health/prescribed-drugs-dependence-and-withdrawal>

**Opioids Aware: A resource for patients and healthcare professionals to support prescribing of opioid medicines for pain** – Hosted by the Faculty of Pain Medicine

Available at: <https://www.fpm.ac.uk/faculty-of-pain-medicine/opioids-aware>

**Core Standards for Pain Management Services in the UK** – Faculty of Pain Medicine

Available at: <http://www.rcoa.ac.uk/system/files/FPM-CSPMS-UK2015.pdf>

**The hidden suffering of chronic pain** – The Chronic Pain Policy Coalition

Available at: <http://www.policyconnect.org.uk/cppc/research/hidden-suffering-chronic-pain-booklet-parliamentarians>

**Pain Management Services: Planning for the future: Guiding clinicians in their engagement with commissioners** – Royal College of General Practitioners

Available at: <http://www.rcoa.ac.uk/system/files/FPM-Pain-Management-Services.pdf>

**National Pain Audit Final Report 2010-2012** (England and Wales)

Available at: <http://www.nationalpinaudit.org/media/files/NationalPainAudit-2012.pdf>

**Guidance on the management of pain in older people (2013)** – British Geriatrics Society

Available at: [http://www.bgs.org.uk/pdfs/pain/age\\_ageing\\_pain\\_supplement.pdf](http://www.bgs.org.uk/pdfs/pain/age_ageing_pain_supplement.pdf)

## Appendix 1 – classification of chronic pain

The below table highlights the classifications of chronic pain that have been developed by the IASP for inclusion in the 11<sup>th</sup> revision of the WHO International Classification of Diseases.

### Classification of chronic pain for ICD-11

The current version of the WHO's *International Classification of Diseases (ICD-10)* includes diagnostic categories for chronic pain conditions. For the 11th revision of the ICD a task force led by the IASP has developed a new classification of chronic pain, divided into the following seven groups.

1. *Chronic primary pain* – Chronic primary pain is pain in 1 or more anatomic regions that persists or recurs for longer than 3 months and is associated with significant emotional distress or significant functional disability (interference with activities of daily life and participation in social roles) and that cannot be better explained by another chronic pain condition.
2. *Chronic cancer pain* – Chronic cancer pain includes pain caused by the cancer itself (the primary tumor or metastases) and pain that is caused by the cancer treatment (surgical, chemotherapy, radiotherapy, and others).
3. *Chronic post-surgical and post-traumatic pain* – Pain that develops after a surgical procedure or a tissue injury (involving any trauma, including burns) and persists at least 3 months after surgery or tissue trauma.
4. *Chronic neuropathic pain* – Chronic neuropathic pain is caused by a lesion or disease of the somatosensory nervous system.
5. *Chronic headache and orofacial pain* – Chronic headache and chronic orofacial pain is defined as headaches or orofacial pains that occur on at least 50% of the days during at least 3 months.
6. *Chronic visceral pain* – Chronic visceral pain is persistent or recurrent pain that originates from the internal organs of the head and neck region and the thoracic, abdominal, and pelvic cavities
7. *Chronic musculoskeletal pain* – Chronic musculoskeletal pain is defined as persistent or recurrent pain that arises as part of a disease process directly affecting bone(s), joint(s), muscle(s), or related soft tissue(s).

**Source:** Treede RD, Rief W, Barke A (2015) A classification of chronic pain for ICD-11. *Pain* **156**(6): 1003–1007

## Appendix 2 – specialist training in pain medicine

The FPM is the professional body responsible for the training, assessment, practice and continuing professional development of pain medicine specialists in the UK. It describes the role of pain medicine physicians as undertaking “[...] *the comprehensive assessment and management of patients with acute, chronic and cancer pain using pharmacological, interventional, physical and psychological techniques in a multidisciplinary setting.*”

Trainee anaesthetists that wish to specialise in pain medicine must undertake 12 months or more of advanced pain training in designated specialist centres. Successful completion of this training, alongside continuous assessment and passing of the FPM examination leads to the award of FFPMRCA (Fellowship of the Faculty of Pain Medicine of the Royal College of Anaesthetists) or the Diploma (DFPMRCA) for those trainees who have a qualification that is equivalent to FRCA.<sup>133,134</sup>

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