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Policy analysis

Prescription opioid misuse in the United States and the United Kingdom: Cautionary lessons

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ABSTRACT

In the United States, opioid analgesics have increasingly been prescribed in the treatment of chronic pain, and this trend has accompanied increasing rates of misuse and overdose. Lawmakers have responded with myriad policies to curb the growing epidemic of opioid misuse, and a global alarm has been sounded among countries wishing to avoid this path. In the United Kingdom, a similar trend of increasing opioid consumption, albeit at lower levels, has been observed without an increase in reported misuse or drug-related deaths. The comparison between these two countries in opioid prescribing and opioid overdose mortality underscores important features of prescribing, culture, and health systems that may be permissive or protective in the development of a public health crisis. As access to opioid medications increases around the world, it becomes vitally important to understand the forces impacting opioid use and misuse. Trends in benzodiazepine and methadone use in the UK as well as structural elements of the National Health Service may serve to buffer opioid-related harms in the face of increasing prescriptions. In addition, the availability and price of heroin, as well as the ease of access to opioid agonist treatment in the UK may limit the growth of the illicit market for prescription opioids. The comparison between the US and the UK in opioid consumption and overdose rates should serve as a call to action for UK physicians and policymakers. Basic, proactive steps in the form of surveillance – of overdoses, marketing practices, prescribers, and patients – and education programs may help avert a public health crisis as opioid prescriptions increase.

Background

In the United States, opioid treatment of chronic pain is the focus of urgent attention due to increasing trends in misuse and non-fatal and fatal overdose among those to whom the opioids are prescribed as well as those who obtain them illicitly. Opioid overdose is now the second leading cause of accidental death in the United States after motor vehicle accidents (Centers For Disease Control and Prevention, 2010). These trends parallel an increase in opioid prescriptions (Hall et al., 2008). Policymakers have responded with efforts to curb the growing epidemic of opioid misuse, and a global alarm has been sounded among countries wishing to avoid this epidemic.

In the UK, a similar trend of increasing opioid prescriptions, albeit at lower levels, has been observed without an increase in reported misuse or drug-related deaths. Is there a protective feature of the UK healthcare system, or is an epidemic lurking at a moment when opioid consumption is at a similar level to the US' when its problems began to unfold more than a decade ago?

In this narrative review we compare two highly developed societies and health care systems – those of the US and the UK – in opioid prescribing, misuse and opioid overdose mortality; then, we underscore important features of prescribing, culture and health systems that may be permissive or protective in the development of a public health crisis. Based on the consensus of the authors, we reference events that represent important milestones in opioid prescribing practices or regulatory processes. Finally, we consider the policies aimed at safety in opioid prescribing in these two countries. As access to opioid medications, hailed as a human right (Lohman, Schleifer, & Amon, 2010), increases around the world, it becomes

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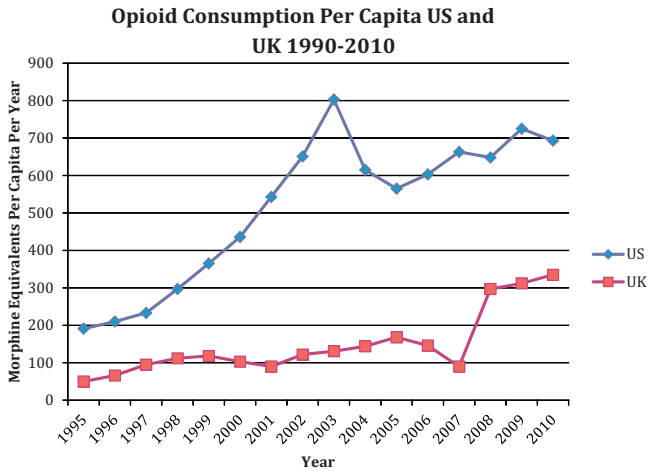

Fig. 1. Opioid consumption in the US and UK (DCAMC, 2012). Data compiled by the Drug Control and Access to Medicines Consortium reflects opioids (fentanyl, hydromorphone, methadone, morphine, oxycodone, pethidine) distributed at the retail level reported by the International Narcotics Review Board. Data does not reflect specific clinical indications for opioid use (e.g., methadone treatment for pain or for opioid agonist treatment of addiction).

imperative to understand the forces impacting opioid use and misuse.

Trends in opioid prescribing

Opioid prescribing for chronic non-cancer pain is increasing in the US and UK. This has occurred in spite of a paucity of evidence regarding the efficacy of opioid therapy for chronic non-cancer pain and a growing literature surrounding its harms (Kalso, Simpson, Slappendel, Dejonckheere, & Richarz, 2007; Noble et al., 2010; Okie, 2010). Although the US currently consumes more opioids per capita than the UK, both countries have seen increases in opioid consumption over the last two decades (DCAMC, 2012). Notably, the per capita consumption of opioids in the UK in 2010 was comparable to that of the US in 1999, which was the beginning of a steep increase in opioid prescribing, arguably a "tipping point" in opioid misuse in the US (see Fig. 1).

The types of commonly prescribed opioids differ between the US and the UK. In the US, the most prescribed schedule II opioid is oxycodone with acetaminophen, and the most prescribed schedule III opioid is hydrocodone with acetaminophen, also the most commonly prescribed medication in the US (TOP 200 Products of 2011, 2012). In the UK, the most prescribed class A (schedule II) opioid is morphine, and the most prescribed class B (schedule III) opioid is codeine with acetaminophen, which is now the eleventh most commonly prescribed medication in the England (Addiction to Medicine, 2011). Of note, Tramadol, which has weak agonist properties on the opioid receptor, has recently been classified as a scheduled substance in the UK and US.

Opioid misuse in the US and UK

Comparing opioid misuse requires a standard nomenclature. Since the nomenclature is not always consistent in the literature, for the purposes of this review, the term *misuse* will be used as a general term for behavioral problems – ranging from use other than as prescribed to addiction – that are associated with opioid use (Table 1).

According to national surveys, prescription opioid misuse is second only to cannabis in illicit drug use in the US with approximately 2% of the adult population reporting nonmedical use of prescription analgesics (NSDUH, 2009). Despite the lack of similar surveys in the UK, it is clear that the prevalence of prescription opioid misuse represents a smaller proportion of illicit drug use, and patients presenting for treatment of prescription opioid dependence have remained stable since 2005 (Addiction to Medicine, 2011).

At least two distinct and overlapping populations of individuals who misuse prescription opioids likely coexist – those prescribed opioids, and those obtaining prescription opioids illicitly for the intent of euphoria or maintenance of a physical dependence. In the US and the UK, the majority of those who misuse prescription opioids are believed to have obtained them from their general practitioner directly or via friends and family, with sale on the illicit market, and internet sales representing significant but minor sources (Addiction to Medicine, 2011; NSDUH, 2009). The phenomenon of diversion has been called a "black box," describing the uncertain means by which opioids are obtained, distributed and consumed non-medically (Inciardi, Surratt, Cicero, Kurtz, et al., 2009). Nonetheless, as opioid prescribing increases, physicians bear increasing public health responsibilities in their interactions with patients.

Evidence from both the US and the UK shows that illicit prescription opioid use shares a market with heroin use (Inciardi, Surratt, Cicero, & Beard, 2009; Morgan, Griffiths, & Hickman, 2006), and thus the relative price and availability of each will affect rates of misuse. Although difficult to compare due to lack of control for purity, the World Drug Report 2012 indicates that the price of heroin is $62 per gram and $450 per gram in the UK and the US, respectively (UNODC, 2012). Although opioid agonist treatment, an evidence-based treatment for opioid dependence, continues to increase in the US (SAMHS, 2012), the more established and decentralized model of office and general practitioner-based provision of methadone and buprenorphine with the involvement of community pharmacists in the UK is likely better equipped to meet demand for services (Strang, Hall, Hickman, & Bird, 2010). There were 167,200 individuals in treatment for opioid use in England during 2009/2010 (Department of Health, 2010), 63% of an estimated 264,072 opioid users during that same time period (Hay, Gannon, Casey, & Millar, 2011). There were an estimated 600,000 individuals receiving opioid agonist treatment, 30% of an estimated 2 million opioid abusers in the US (SAMHSA, 2013). Both the relatively low price of heroin, and the availability of opioid agonist treatment may retard growth in the illicit market for prescription opioids in the UK.

Lessons from drug poisoning data

Although the number of opioid prescriptions has increased in both the US and the UK, England and Wales have not seen a concurrent rise in opioid overdose (see Fig. 2). One important methodologic challenge, however, is that surveillance and classification of cause of death are not standardized within or between countries; thus, precise comparison of opioid overdose rates is impossible.

Several important trends have emerged in the analysis of overdose deaths in the US. First, misuse resulting from diversion was found to play a predominant role in unintentional opioid fatalities. In one study, less than half of overdose victims had ever been prescribed opioids, and 20% of overdose victims had obtained prescriptions from multiple physicians (Hall et al., 2008). Known as "doctor-shopping," individuals in the US may take advantage of a decentralized physician network by securing multiple opioid prescriptions for themselves or for sale in the illicit market (Fischer, Bibby, & Bouchard, 2010). Oversight of such activity is complicated by regulations and surveillance networks that often differ across state lines. The single payer model of healthcare delivery and central regulatory body in the UK may limit "doctor-shopping."