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International Comparison in Opiate Prescribing for New Users in Primary Care using Electronic Medical Record Data

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Introduction

The opioid epidemic in North America has, in part, been attributed to an increase in opiate use for non-cancer pain and the prescription of more potent molecules. In contrast, the United Kingdom appears unaffected by this crisis, possibly because of differences in primary care prescribing, or health system policies.

Objective

To determine if there are differences in opiate prescribing for new users in primary care in the United Kingdom, United States, and Canada.

Approach

Electronic health record data from Quebec, Canada (MOXXI), the United States (Partners Health Care, Boston MA), and the United Kingdom (CPRD random sample of 600,000) were used to identify new users of opiates (no prior prescription in 2 years), at least 18 years old between 2006-2016. Cancer patients were excluded after harmonizing equivalent READ and ICD9/10 codes. Generic drug names in each jurisdiction were mapped to the WHO ATC classification, and characterized using morphine milligram equivalents (MME).

Results

Overall 655,877 new users were identified, of whom 78% of 58,286 (U.S.), 88% of 6,251 (Canada), and 96% of 600,000 (UK) were non-cancer patients. Mean age of new users was 49 (SD 16) in the US, 57 (SD 16) in Canada, and 52 (SD 19) in the UK. 57.6% (UK) to 67.3% (US) of new users were women. In the UK, 86.5% of patients were started on codeine (MME:0.15), compared to 43.9% in Canada and 8.5% in the U.S. In the U.S 65.0% were started on oxycodone (MME:1.5), and 10.9% on hydrocodone (MME:1). In Canada, tramadol (18.2%; MME: 0.1) followed by oxycodone (13.2%) were the next most commonly prescribed drugs.

Conclusion/Implications

Substantial differences in opioid prescribing practices for non-cancer pain were observed between the UK and Canadian and United States sites. The predilection to start patients on more potent opiates in North America may be a contributing cause to the opiate epidemic.

