

Letters

RESEARCH LETTER

Distribution of Opioids by Different Types of Medicare Prescribers

Researchers have suggested that the opioid overdose epidemic¹ is primarily driven by small groups of prolific prescribers and “corrupt pill mills.”^{2,3} For example, the California Workers’ Compensation Institute found that 1% of prescribers accounted for one-third of schedule II opioid prescriptions and 10% accounted for 80% of prescriptions.⁴ This propagates a message that opioid overprescribing is a problem of a small group of high-volume prescribers, while general use is likely safe and effective. Medicare data provide the opportunity to address the question of whether such prescribing patterns occur across a national population.

Methods | We examined data from individual prescribers (eg, physicians, nurse practitioners, physician assistants, and dentists) from the 2013 Medicare Part D (prescription drug coverage) claims data set created by the Centers for Medicare and Medicaid Services.⁵ Part D covers approximately 68% of the roughly 50 million people on Medicare, the federal insurance program for Americans who have certain disabilities or are 65 years or older.

For each prescriber National Provider Identifier (NPI) number (N = 808 020), the data identify each drug prescribed, total number of claims, and total costs. Each NPI includes location and specialty of practice. The data represent 1 188 393 892 claims for \$80 941 763 731. We focused on schedule II opioid prescriptions containing hydrocodone, oxycodone, fentanyl,

morphine, methadone, hydromorphone, oxymorphone, meperidine, codeine, opium, or levorphanol.

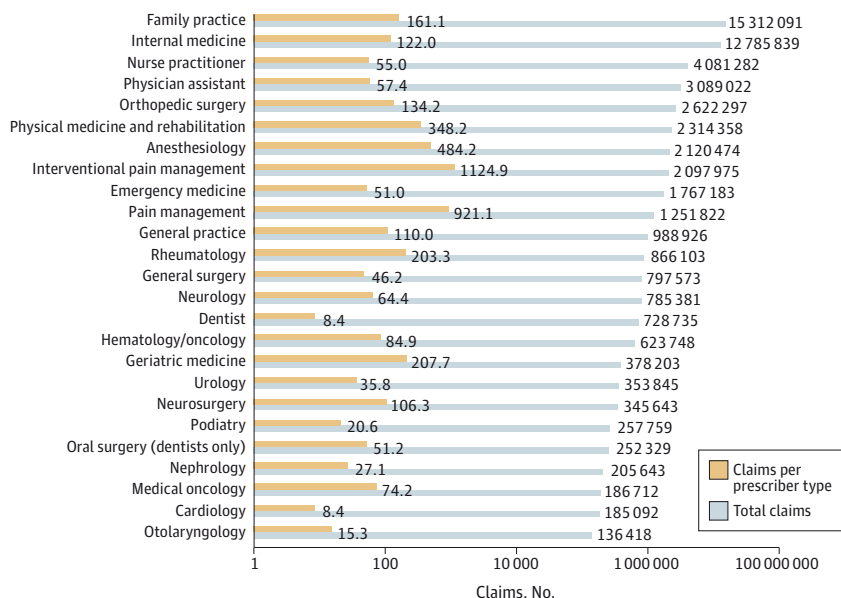
We calculated the cumulative claims for schedule II opioids from the top individual prescribers (sorted by number of claims) relative to the total claims for all prescribers. For comparisons, we repeated this for prescription costs, for all drugs, and for each state.

Results | **Figure 1** reports which Medicare prescriber specialties account for the most opioid drug claims. **Figure 2** reports the concentration of drug claims among the most prolific individual prescribers. Respective California Workers’ Compensation data⁴ are included. Notably, the top 10% of Medicare prescribers account for a smaller proportion of opioid claims (56.7%) than for all Medicare prescriptions and for the California Workers’ Compensation prescribers. Minimal regional variation is observed across provider states, with per-state values ranging from 56.6% to 57.7%. Excluding hydrocodone (schedule III prior to 2014) yields similar trends with the same top 3 prescribing specialties and 57.9% of claims from the top 10% of prescribers.

Discussion | The data studied represent a comprehensive national population of Medicare Part D prescribers but do not necessarily reflect clinicians’ complete practices, patient factors (eg, comorbidities and prescription indications), or medication dosing to inform morphine equivalents. With those cautions, 2 important findings are evident.

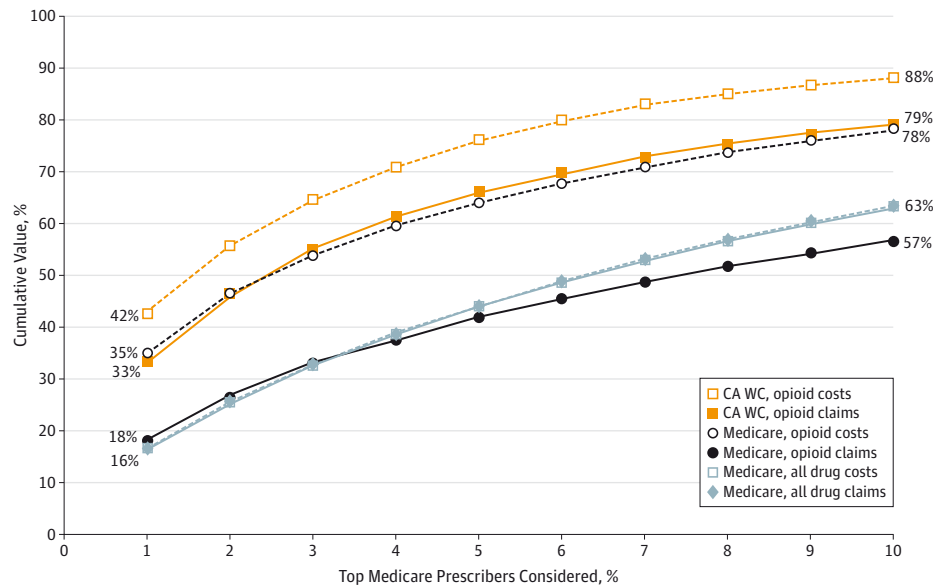
Opioid prescriptions are concentrated in specialty services in pain, anesthesia, and physical medicine and rehabilitation. By sheer volume however, total prescriptions are domi-

Figure 1. Top 25 Prescriber Specialties by Total Medicare Part D Claims for Schedule II Opioids in 2013



Values are reported on logarithmic scale.

Figure 2. Cumulative Percentage Claims and Costs for the Top 10% of Prescribers for Different Populations



For example, 1% of California workers' compensation (CA WC) Medicare prescribers incur 42% of their schedule II opioid costs. Note: The Medicare All Drug Claims curve overlaps and obscures the respective Costs curve.

nated by general practitioners (family practice, internal medicine, nurse practitioners, and physician assistants).

Contrary to the California Worker's Compensation data showing a small subset of prescribers accounting for a disproportionately large percentage of opioid prescribing, Medicare opioid prescribing is distributed across many prescribers and is, if anything, less skewed than all drug prescribing. The trends hold up across state lines, with negligible geographic variability. Figure 2 does show greater skewing for total drug costs of Medicare opioid claims, with 78% accounted for by 10% of prescribers. This could be selection of more expensive formulations or higher doses prescribed.

The distribution of any social phenomena has some degree of skewing similar to an "80/20 rule" (eg, 20% of the population controls 80% of the wealth).⁶ As of 2013, however, these data argue that opioid prescribing is no more skewed than other prescribing, reflecting a widespread practice relatively indifferent to individual physicians, specialty or region. High-volume prescribers are not alone responsible for the high national volume of opioid prescriptions. Efforts to curtail national opioid overprescribing must address a broad swath of prescribers to be effective.

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Study concept and design: Chen, Humphreys, Lembke.

Acquisition, analysis, or interpretation of data: Chen, Shah, Lembke.

Drafting of the manuscript: Chen, Lembke.

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