Observations of Oral Analgesics from *PM's* Annual Surveys

Here's a deep dive into podiatrists' prescribing of these drugs.

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Introduction

Prescribers often select analgesics for pain management due to their effectiveness in reducing pain intensity and providing relief for acute and chronic pain. Opioids bind to receptors in the brain or body to diminish pain signals, making them a common choice for treating moderate-to-severe pain.

However, the use of opioids carries significant risks, including addiction, overdose, and death. Despite these risks, opioids remain a primary treatment option for many patients, highlighting the delicate balance between pain relief and the potential for misuse and harm. Non-steroidal anti-inflammatories (NSAIDs) are also frequently prescribed due to their ability to reduce pain, fever, and inflammation. They are particularly effective for treating nociceptive pain, which arises from injury or inflammation.

Brooks, et al. have asserted that cognitive bias, in the form of a novel effect, occurs in post-operative opioid-prescribing practices. Absent procedure-specific guidelines or an objective standard, podiatric surgeons were often unaware of how their opioid-prescribing practices compared to those of other podiatric surgeons.[1]

As with each annual survey, respondents told *Podiatry Management* about the pharmaceuticals they prescribed, recommended, and/or dispensed from their offices, and which brand they primarily selected from a list of categories reported as percentages. Descriptive statistics were provided narratively and graphically to achieve the main goal of this article. The results were then compared with descriptive reports found in the relevant literature. Lastly, external factors were discussed to evaluate respondents' selection of oral analgesic pharmaceuticals prescribed, recommended, and/or dispensed from podiatry offices over time.

The use of opioids carries significant risks, including addiction, overdose, and death.

Annual Survey of Oral Analgesics (2009-2024)

Readers of *PM News* are aware that a free daily interactive e-mailed newsletter reaches more than 16,000 podiatric subscribers. *Podiatry Management* and *PM News* are related but are different entities. As with any survey, the investigator needs respondents, which is true for *Podiatry Management's* survey. The range of respondents over the 16 years reviewed ranged from 363 to 1,442, and 12,651 total respondents overall. The general instruction posed to respondents was, "Please indicate the percentage of time you select a particular pharmaceutical to prescribe or dispense for oral analgesia for your patients." Subsequently, respondents were provided with a closed group of oral analgesics to select from. Fifteen drug candidates, including brand names, generic names, legend drugs, controlled substances, prescriptions, and over-the-counter products, were presented in a menu format. After accounting for duplication between brand names and generic names, the product list was shortened to nine for analysis purposes.

The review of duplication confirmed that three products represented ibuprofen, while five products represented hydrocodone and acetaminophen. Of the eight products reviewed, Vicoprofen® was excluded from the hydrocodone and acetaminophen grouping because its ingredients are hydrocodone and ibuprofen. Descriptive data was obtained using respondents' percentage data, including mean, median, mode, and range for each of the 15 drug candidates. Given that the number of respondents varied from year to year, except for 2010 and 2011, the percentages of each oral analgesic could not be directly compared across the 16 years. Therefore, each percentage was converted to the number of product prescriptions for each year and then analyzed to determine the

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actual ranking of each of the nine products, yearly and overall, during the 16 annual surveys.

Results

An analysis and review of the demographic data reveals that the total number of respondents for all 16 years is 12,651. After converting the percentages to numbers of each product across the 16 years, the total number of prescribed or dispensed products amounted to 10,901. The yearly percentage data related to each year, including mean, median, mode, range, and the overall number of products, is presented in Figure 2 on the next page. Secondly, for each year, the number of products for each of the nine categories is expressed as an integer. Each product's ranking over the 16-year cohort is listed in Figure 3 on the next page. To determine a product's ranking the number of prescriptions in each category was combined.

Hydrocodone with acetaminophen totaled 3,287 prescriptions (rounded to the nearest integer), while ibuprofen totaled 2,884. Tylenol® totaled 1,439 prescriptions, and Percocet® totaled 1,261. This indicates that collectively, these four brands or generic products account for the top four products prescribed or dispensed by survey respondents from 2009-24. Figure 1 graphically represents the overall rankings (1-9) in descending order for the 16-year cohort describing total products prescribed, ordered, or dispensed.

Descriptive data was obtained using respondents' percentage data, including mean, median, mode, and range for each of the 15 drug candidates.

Discussion

First, let us address the 12,561 participants in the 16-year cohort. There is no feasible way to assert that a respondent who participated in one year's annual survey would consistently participate in future surveys. However, given the loyalty of readership to *PM News*, which has over 16,000 podiatric subscribers, it is reasonable to assume that more than one subscriber felt compelled to participate consistently in this annual survey over the 16-year cohort (including this author), as a duty to contribute to the body of podiatry

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FIGURE 1

Ranked Products in Descending Ranked Order 1-9

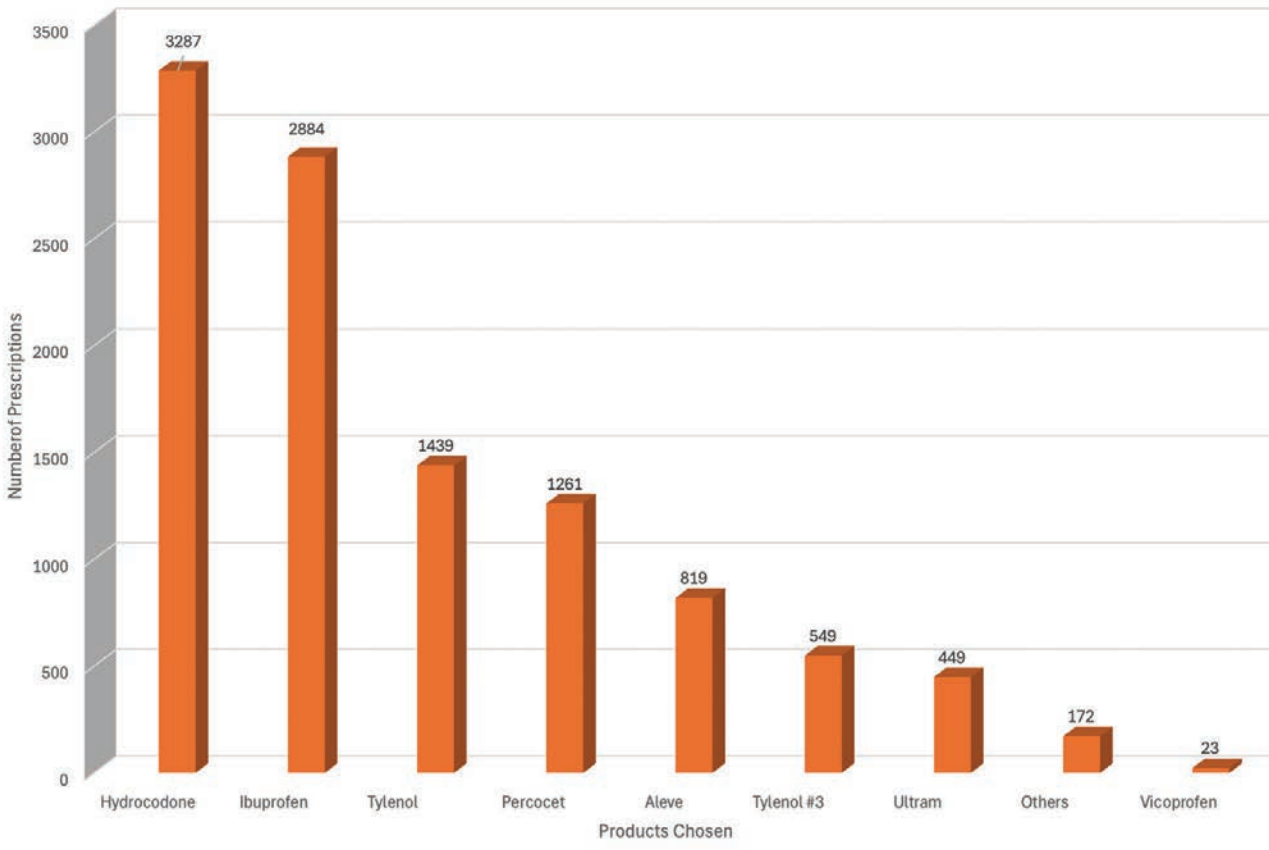

FIGURE 2

Yearly Oral Analgesic Percentage Data for *Podiatry Management* Survey Report 2009-2024

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Mean	Median	Mode	Range 2009–2024	Ranking
Total Respondents	592	581	581	363	609	670	1442	890	923	1035	1138	1042	877	738	583	587	790.6875		581	363–1442	
Ibuprofen %				5	8	7	8	11	14	16	15	16	19	17	18	15	10.5625	12	8, 15, 16	5–19	2
Motrin %			3	2	3	3	5	4	6	6	5	6	6	5	2	3	3.6875	4	6	2–6	
Advil %				2	9	6	10	8	7	10	8	12	6	8	9	8	6.4375	7	8	2–12	
Aleve %				2	7	8	7	8	9	8	9	8	8	7	6	6	5.8125	5	8	2–9	5
Percocet %	25	18	14	13	11	14	11	11	13	11	9	8	12	10	12	8	12.5	16	11	8–25	4
Hydrocodone %	3	4	4	2	11	13	10	11	11	9	10	8	7	8	9	14	8.375	7	11	2–13	1
Lortabs %	21	19	14	5	4	1	1	1	1	1		1	1	0	0	1	4.4375	11	1	0–21	
Norco %			6	4	6	13	10	13	13	11	9	11	9	10	9	9	8.3125	8	9	4–13	
Vicodin %	46	54	44	22	18	12	8	7	3	4	3	2	2	3	3	4	14.6875	27	3	2–54	
Ultram %			8	2	4	5	6	4	4	3	4	5	2	2	2	1	3.25	4	4	1–8	7
Tylenol #3 %	18	9	10	4	5	6	6	4	4	4	5	5	3	4	3	4	5.875	11	4	3–18	6
Tylenol %		14	8	14	11	10	14	11	11	11	15	12	14	15	14	14	11.75	12	14	8–15	3
Vicoprofen %				2	0	1					0	0	1	0	0	0	0.25	1	0	0–2	9
Lorcet %			3											0	0	0	0.1875	1	0	0–3	
Others %				7	1	1	2	1	1	1	1	1	2	1	1	4	1.5	3	1	1–7	8

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knowledge. I would suggest that the creators of the 2025 annual survey include a demographic question to identify whether respondents have previously participated in an annual survey, with descriptors such as "last year, 2 years ago, 5 years ago, and 10 years ago."

Brooks, et al. published findings in 2023 from a voluntary, anonymous online questionnaire consisting of six foot and ankle surgery scenarios followed by a demographics section.[2] They identified 860 podiatric foot and ankle surgeons who completed the survey.[2] Vesely et al. published findings in 2022 from 100 surgeons who participated in their survey, which described the most commonly prescribed post-operative pain medication as hydrocodone/acetaminophen 5 mg/325 mg, with the most common quantity being between 21 and 30 tablets.[3]

Sundling, et al. examined self-reported practices of podiatric surgeons regarding their methods of post-operative pain management in adult, sensate patients, as well as the frequency of use of adjunctive pain control modalities.[4] This survey was developed and distributed electronically to podiatric surgeons across the United States, with 75 podiatric surgeons completing the survey.[4] The results showed that podiatric surgeons most commonly prescribe hydrocodone/acetaminophen after surgery, with most prescribing opioids for fewer than two weeks.[4] Further, Brooks, et al. published findings in 2024 centered on the responses of 115 podiatric physicians who completed their survey, describing podiatric physicians using pre-operative regional nerve blocks more frequently than prescribing post-operative opioids for limb preservation surgeries.[5]

Lastly, Brooks, et al. examined cognitive bias in post-operative opioid-prescribing practices, reporting results from 115 podiatric surgeons who completed the survey in April 2020.[1] Comparing the benchmark of 860 participants from the literature with the respondents from all 16 years of *Podiatry Management's*

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FIGURE 3

Oral Analgesic Yearly Ranking from 2009-2024

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Total Respondents	592	581	581	363	609	670	1442	890	923	1035	1138	1042	877	738	583	587
Oral Analgesics	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank
Ibuprofen				4	2	2	2	2	2	1	1	1	1	1	1	2
Aleve					4	4	5		5	4	4	5	5	5	5	5
Percocet	2	2	2	3	3	3	4	3	3	3	4	4	4	4	4	4
Hydrocodone	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	1
Ultram			4	6	6	6	6	4	6	6	6	6	7	7	7	7
Tylenol #3	3	4	3	5	5	5	6	4	6	5	5	6	6	6	6	6
Tylenol		3	4	2	3	3	3	3	4	3	3	3	3	3	3	3
Vicoprofen													8			
Others											7		9	7	5	6

The ranking of hydrocodone with acetaminophen and its brand names as the most utilized product, ranked first once the 16 years were summed, has been validated within the podiatric clinical literature.[2-4]

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surveys illustrates that seven years (2015, 2016, 2017, 2018, 2019, 2020, and 2021) exceeded the benchmark number of 860, while the lowest respondent number of 363 still exceeds the cited literature.

The ranking of hydrocodone with acetaminophen and its brand names as the most utilized product, ranked first once the 16 years were summed, has been validated within the podiatric clinical literature.[2-4] In 2014, acetaminophen or hydrocodone was prescribed more than 68 million times overall in the U.S. By 2022, the annual number of prescriptions for this drug had dropped to approximately 23.5 million.[6] Podiatric physicians understand that combined acetaminophen and hydrocodone is used to relieve moderate-to-severe pain. The Drug Enforcement Administration (DEA) moved hydrocodone combination products (HCPs) from DEA Schedule III to DEA Schedule II in October 2014.[7] It has been argued that increasing regulatory scrutiny and rescheduling may have heightened the administrative burden surrounding HCP prescribing.[7]

Figure 3 shows that hydrocodone and acetaminophen maintained their ranking as number one from 2009 to 2018. It dropped to number two from 2019 to 2023 and returned to its top ranking in 2024. This fluctuation between the first and second rankings may be due to state and federal regulations changing the number of doses, length of days, and amounts of opioid-controlled substances, in response to the opioid crisis. Despite any perceived burden and hardship surrounding the heightened schedule of hydrocodone combination products, it retained its number-one position when the 16-year ranking was calculated.

Podiatric physicians should establish procedures to better control and limit opioid prescriptions and develop analgesic regimens to treat pain. A review of the non-opioid products (ibuprofen and Tylenol®) ranking data in Figure 3 indicates that these products were utilized so often that their combined ranking is second and third, respectively. This suggests that podiatrist respondents followed responsible opioid stewardship practices and utilized these non-opioid products as alternatives that avoid opioid-related harm.

All clinicians are ethically obliged to prescribe responsibly and cautiously to diminish the potential for opioid diversion and help minimize the growth of the current opioid abuse epidemic.

Podiatric physicians play a crucial role in managing the opioid crisis through opioid stewardship, which involves a comprehensive approach that includes (a) encouraging non-opioid treatments as the first line of pain management, (b) providing pathways for safer opioid use when opioids are necessary, (c) engaging patients with opioid use disorders in treatment programs, and (d) implementing educational initiatives to raise awareness about the risks of opioid use. Podiatric physicians are thus expected to develop preventive mechanisms for identified risks when prescribing opioids. All clinicians are ethically obliged to prescribe responsibly and cautiously to diminish the potential for opioid diversion and help minimize the growth of the current opioid abuse epidemic.

Conclusion

Podiatry Management's survey reports, data focused on oral analgesics from 2009-24, supports the hypothesis that podiatrists who self-identify as many of the specialists within the professional podiatry umbrella are indeed aware of how opioid-prescribing practices compare to those of other podiatrists. Descriptive statistics were provided narratively and graphically. The results were then compared with descriptive reports in the literature review. Other factors are discussed to evaluate respondents' selection of oral analgesic pharmaceuticals prescribed, recommended, and/or dispensed from their offices over time. Lastly, the findings can be explained by clinical education and clinical medicine that reflect procedure-specific guidelines, such as opioid stewardship. **PM**

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