Prevalence and patterns of opioids currently prescribed in community-dwelling older adults at risk of severe frailty

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Background: Opioids are used to manage moderate to severe pain. Older adults (≥65) with frailty are more likely to experience adverse effects. We have limited evidence on prevalence and patterns of opioid analgesics prescribed in this population.

Aim: To determine the prevalence and patterns of opioids prescribed to community-dwelling older adults at risk of severe frailty.

Methods: Opioid prescription data were extracted from medical records. Current opioid use was defined as 'an opioid prescription within 30 days of recruitment'. Prescriptions were regularly scheduled or *pro re nata* (PRN). Opioid dose was converted to oral morphine equivalent (OME) and presented in milligrams per day. Descriptive statistics are presented.

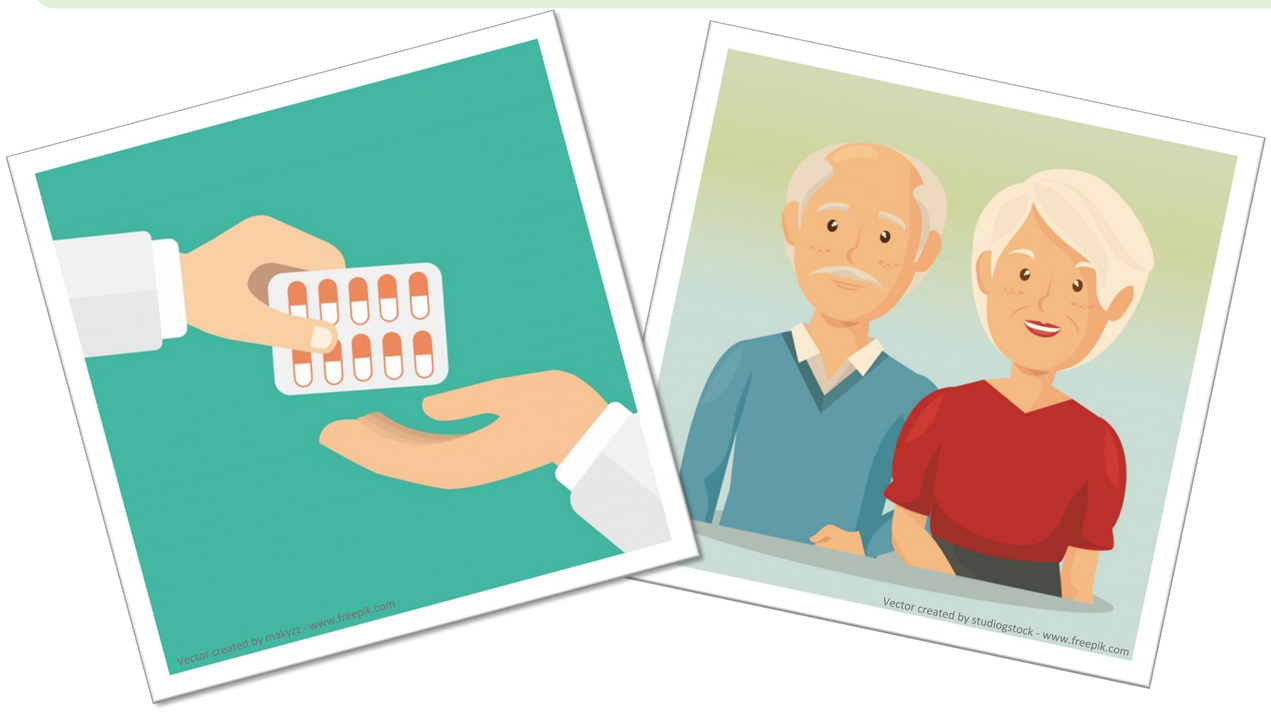

Table 1. Daily dose in oral morphine equivalents (mg/d) by opioid type

	All prescription data (n = 80)[a]				
	N	%	Dose strength[c]	Daily dose in oral morphine equivalent (mg/d) Median [IQR]; (range) Lowest possible dose	Highest possible dose
Codeine	40	50.0	Very low	9.0 [3.2 – 12.0]; (1.5 – 24.0)	12.0 [6.4 - 24.0]; (1.5 - 24.0)
Tramadol	15	18.8	Low	20.0 [20.0 – 40.0]; (10.0 – 40.0)	40.0 [20.0 – 40.0] (15.0 – 40.0)
Buprenorphine	10	12.5	Low	24.0 [12.0 – 45.0]; (12.0 – 72.0)	24.0 [12.0 – 45.0]; (12.0 – 72.0)
Morphine	10	12.5	Low - Moderate	40.0 [20.0 – 105.0]; (10.0 – 180.0)	50.0 [20.0 – 105.0] (20.0 – 180.0)
Dihydrocodeine	5	6.3	Very low	12.0 [6.5 – 12.0]; (4.0 – 12.0)	18.0 [10.0 – 24.0]; (8.0 – 24.0)
Oxycodone	4	5.0	Low	28.2 [17.8 – 41.3]; (15.0 – 45.0)	28.2 [17.8 – 41.3] (15.0 – 45.0)
Fentanyl[b]	3	3.8	High	120.0 (60.0 – 210.0)	120.0 (60.0 – 210.0)
Meptazinol[b]	2	2.5	Low	20.0 (20.0 – 20.0)	20.0 (20.0 – 20.0)

Abbreviations: mg/d Milligrams per day, *IQR* Interquartile range

[a] 10 participants were prescribed more than one opioid, which is reflected in the table above.
[b] The IQR is not presented in addition to the range where 2 - 3 participants had an opioid prescription for the opioid type.
[c] Dose strength *(reported in relation to median daily dose):* Very low (<20 OME), low (20 – 49 OME), moderate (50 – 99 OME), high (100 – 199 OME) and very high (≥ 200 OME), as defined by Gomes T, Mamdani MM, Dhalla IA, Paterson JM, Juurlink DN. Opioid dose and drug-related mortality in patients with non-malignant pain. *Archives of Internal Medicine.* 2011;171(7):686–691.
[1] Faculty of Pain Medicine of the Royal College of Anaesthetists. Tapering and stopping [Internet]. Available from: https://www.fpm.ac.uk/opioids-aware-structured-approach-opioid-prescribing/tapering-and-stopping

Results:

- 80/247 (32.4%) were currently prescribed an opioid analgesic: 43 (53.8%) regularly scheduled; 30 (37.5%) PRN; 7 (8.8%) a combination of both.
- Table 1 presents median daily OME by opioid type for all prescriptions.
- Codeine was most commonly prescribed (n= 40; 50.0%), followed by tramadol (n= 15; 18.8%), transdermal buprenorphine (n= 10; 12.5%), and morphine (n= 10; 12.5%).
- For codeine doses ranged from 9mg (IQR 3.2, 12.0) to 12mg (IQR 6.4, 24.0); for tramadol from 20mg (IQR 20.0, 40.0) to 40mg (IQR 20.0, 40.0); and morphine from 40mg (IQR 20.0, 105.0) to 50mg (IQR 20.0, 105.0). The median OME dose for buprenorphine was 24mg (IQR 12.0, 45.0).
- The highest median daily OME was with fentanyl, followed by morphine.
- As outlined by the Faculty of Pain[1], the risk of harm increases at doses above 120mg/d OME. Using this as a proxy, no median daily doses >120mg/d, but some individuals were prescribed fentanyl and morphine daily doses >120mg/d.

Conclusion

Opioids were prescribed to approximately a third of older adults at risk of severe frailty. Codeine and tramadol were most commonly prescribed, despite having a limited role in this population due to adverse effects and variability in effect. Careful selection of opioids is warranted; further evidence is needed on the beneficial and adverse effects, by opioid.

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