

Study examines variation in intensity of fracture-associated prescription drug use

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Findings from a new Geisel-led study, published in the *Journal of General Internal Medicine*, reveal that there is substantial variation across different regions of the country in the intensity of fracture-associated drug (FAD) use among long-term care facility residents, and that areas with greater use of these prescription drugs experience higher hip fracture rates.

In recent decades, the use of prescription medications has increased dramatically in the U.S. due to factors such as improvements in the ability to detect disease, expanding treatment options, and an aging population. For many Americans over age 65, these medications provide an effective means of managing disease and improving quality of life and longevity.

However, many commonly prescribed drugs—such as opioid pain killers, sleep aids, diuretics, antidepressants, and antacids—are known to carry an [increased risk](#) of breaking a bone, by increasing falls, weakening bones, or both. This is especially true for patients whose fracture risk is already high due to conditions like osteoporosis.

"In our previous research, we showed that combining three or more FADs carried up to a four-fold risk of hip fracture for Medicare beneficiaries, and that exposure to these medications for residents of long-term care facilities was nearly twice that of those living in the community setting," says Rebecca Emeny, Ph.D., MPH, a research scientist at The Dartmouth Institute for Health Policy and Clinical

Practice and lead author on the study.

In this study, the investigators sought to determine how much regional variation exists in the intensity of FAD use (from a list of 21 FADs) in long-term care facilities and to assess the association between this intensity and hip fracture rates. They analyzed Medicare administrative data and the prescription records of 422,111 long-term care residents, comparing FAD use across hospital referral regions, and observed more than 36,409 hip fractures among these residents over an eight-year period (2006-2014).

Areas with the greatest multiple FAD use intensity (with at least three FADs prescribed) were in the southeast, in Gulfport and Oxford, Mississippi; Alexandria and Monroe, Louisiana; and Miami, Florida; while the lowest intensity areas were in Bronx, New York; Bend, Oregon; Albuquerque, New Mexico; Honolulu, Hawaii; and Sun City, Arizona.

The researchers found an average difference of 12 percent in the range of FAD prescribing when comparing hospital referral regions. They also determined that the risk of [fractures](#) was about 14 percent higher for residents in the highest intensity prescribing areas when compared to the lowest.

"Seeing such variation in the [intensity](#) of prescribing of these risky drugs across this vulnerable population adds to the evidence that guidelines aren't necessarily being followed," says Emeny. "We hope these results contribute to a more considerate weighing of risks and benefits when combinations of these medications are prescribed."

More information: Rebecca T. Emeny et al, Regional Variation in Fracture-Associated Prescription Drug Use and Hip Fractures in Long-Term Care: an Observational Study, *Journal of General Internal*

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