

Does opioid use in pets create higher risk for abuse in humans?

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The increase in opioid prescriptions for people over the past decade may have been paralleled by an increase in opioid prescriptions for pets, according to a study from researchers at the University of Pennsylvania's

Perelman School of Medicine and the School of Veterinary Medicine. The findings, in this first-ever study of veterinary opioid prescriptions, suggest that there is also an increased demand for veterinary opioids, driven by complex procedures performed in veterinary medicine, as well as a heightened awareness of the importance of pain management. Given that opioid prescribing in veterinary medicine is not as heavily regulated as medical prescriptions for humans, it is possible that misused veterinary prescriptions could contribute to the ongoing opioid epidemic. The results are published today in *JAMA Network Open*.

In the study, researchers reviewed all opioid pills and patches dispensed or prescribed for dogs, cats, and other [small animals](#) at the University of Pennsylvania's School of Veterinary Medicine (Penn Vet) from January 2007 through December 2017. The results show that the quantity of these prescriptions, as measured in morphine milligram equivalents (MME), rose by 41 percent during the period annually, while the annual number of visits rose by only about 13 percent. As a veterinary tertiary care facility, Penn Vet's unique caseload requires particular attention to and treatment of pain in veterinary species, which may account for increased opioid utilization in the study.

"As we are seeing the opioid epidemic press on, we are identifying other avenues of possible human consumption and misuse," said study senior author Jeanmarie Perrone, MD, a professor of Emergency Medicine and the director of Medical Toxicology at Penn Medicine. "Even where the increase in prescribed veterinary opioids is well intended by the veterinarian, it can mean an increased chance of leftover pills being misused later by household members, sold or diverted, or endangering young children through unintentional exposure. The results of this study suggest that by assessing the rate of veterinary opioid prescriptions, we can develop strategies to reduce both human and [animal health](#) risks associated with increasing use."

The current opioid crisis in the United States causes tens of thousands of overdose deaths every year—roughly 50,000 in 2017, according to the Centers for Disease Control and Prevention. The crisis began in the late 1990s and was fueled largely by a steep increase in prescriptions for opioid pain relievers. Tightening regulations including prescription drug monitoring programs have helped reduce the number of opioid [prescriptions](#) from their peak in 2011. Although prescription opioid overdose deaths are now exceeded by those due to illegally obtained heroin and fentanyl, the former still account for nearly 20,000 fatalities annually. Since opioid prescribing in [veterinary medicine](#) is not as comparatively regulated, concerns are raised that opioids prescribed for pets could be misused by humans.

The researchers reviewed pharmacy records at the Penn Vet's Ryan Hospital during the 10-year study window, and analyzed trends for the four opioids prescribed or dispensed to animal patients—tramadol, hydrocodone, and codeine tablets, and fentanyl patches. The animals in the study included dogs (73.0 percent), cats (22.5 percent), and assorted others including rabbits, snakes, and birds (4.5 percent).

"We found that the increased quantity of opioids prescribed by our hospital was not due to increased patient volume alone. It is likely that our goal of ensuring our patients are pain-free post-operatively, particularly for those requiring complex and invasive procedures, has driven our increased prescribing practices during this period," said lead author Dana Clarke, VMD, an assistant professor of Interventional Radiology at the University of Pennsylvania's School of Veterinary Medicine "At the national level, we don't know the potential or extent of prescription diversion from animals to humans, and what impact this could have on the human opioid crisis."

Anecdotes about veterinarian-prescribed opioids being used by people have already prompted some states to add restrictions to veterinary

prescribing. In Pennsylvania, state legislators are working with the Pennsylvania Veterinary Medical Association (PVMA) to determine the most effective course of action for opioid dispensing by the state's practicing veterinarians. Two states, Maine and Colorado, now require background checks on animal owners' opioid prescription histories before a veterinarian can write an opioid prescription. Alaska, Connecticut, and Virginia now limit the amount of opioids any one veterinarian can prescribe to a single patient/animal. Twenty states now require veterinarians to report their [opioid prescriptions](#) to a central database, just as medical doctors do. At Penn Vet, efforts currently in practice to reduce opioid prescribing include preference of local anesthetics for post-operative pain, pain scores to guide administration of opioids, and monitoring of patients requiring long-term opioid use, such as dogs with chronic coughing requiring hydrocodone.

The authors say it is important that the potential problem of diverted veterinary opioids be studied further to determine its scale, and should be addressed by extending the [opioid](#) stewardship measures that already affect medical physicians to veterinary doctors, in all states.

Provided by Perelman School of Medicine at the University of Pennsylvania

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