

The Courier-Journal

50 CENTS
75 CENTS, COIN
OUTLYING AREAS
MONDAY
MARCH 10, 2008

METRO EDITION

LOUISVILLE, KENTUCKY

courier-journal.com

A GANNETT NEWSPAPER

USPS 135567

Drug traces found in U.S. water supply

Louisville among cities examined

From Staff and Wire Dispatches

Trace amounts of pharmaceutical drugs are lurking in Louisville's drinking water, including one used to treat people with bipolar disorder and alcohol withdrawal, and another prescribed to combat seizures.

Swimming with them in the city's water supply is a favorite pick-me-up: caffeine.

The findings are part of a nationwide investigation into pharmaceutical drugs in drinking water conducted by The Associated Press.

In the course of a five-month inquiry, the AP discovered that drugs have been detected in the drinking-water supplies of 24 major metropolitan areas serving at least 41 million people — from

ON THE WEB

Watch a White House video on how people should dispose of their unused drugs at www.courier-journal.com

INSIDE

Kentucky residents are getting mixed messages on how to dispose of medicines.
A4

Southern California to Northern New Jersey, from Detroit to Louisville.

The findings came as no surprise to Judy Petersen, executive director of the Kentucky Waterways Alliance, a group that lobbies for cleaner rivers and lakes.

"There is a drug cocktail, if you will, in our nation's waters," Petersen said, adding that there's little known about how those drugs might be affecting people or the environ-

See **WATER**, A4, col. 1

WATER | Drugs found in cities' supplies

Continued from A1

ment. "We're kind of flying in the dark."

Louisville Water Co. officials acknowledged an increased concern of the potential health effects of trace amounts of drugs in drinking water, even as they noted there are no national standards for pharmaceutical chemicals in the water supply.

It's only been in recent years that technology has even allowed detection of the chemicals, said Barbara Crow, a water company spokeswoman.

But they and other companies say the amounts are so small that they don't pose a health risk. But others worry that the long-term effects of even those small amounts aren't certain.

Flushed into the system

How do the drugs get into the water?

People take pills. Their bodies absorb some of the medica-

tion, but the rest of it passes through and is flushed down toilets.

Other pharmaceuticals end up in drinking water when people flush unused pills down toilets or drugs are used on farm animals that excrete back into the water supply.

Wastewater is treated before it is discharged into reservoirs, rivers or lakes. And some of the water is cleansed again at drinking-water treatment plants, but not all the drug residue gets removed.

Rengao Song, manager of water quality and research for the Louisville Water Co., said the concentrations of drugs they found in two samples taken in 2005 were so weak that they do not suggest any public health risks. They were detected in parts per trillion and lower, he said.

Crow said it was those samples, taken as part of an industry-wide study, that found their way with sampling results from

other cities into the AP report.

Louisville Water doesn't normally test for pharmaceutical drugs because it's too expensive, said Jack Wang, director of water quality and production for the city-owned utility.

Way below medical dose

The concentrations of the pharmaceuticals are far below the levels of a medical dose, the AP reported.

But the presence of so many prescription drugs — and over-the-counter medicines such as acetaminophen and ibuprofen — in so much of the nation's drinking water is heightening worries among scientists of long-term consequences to human health.

The U.S. Environmental Protection Agency also is taking notice.

"We recognize it is a growing concern, and we're taking it very seriously," said former Louisvillian Benjamin Grumbles, assistant administrator for

water at the EPA.

Recent laboratory research has found that small amounts of medication have affected human embryonic kidney cells, human blood cells and human breast-cancer cells. The cancer cells proliferated too quickly; the kidney cells grew too slowly; and the blood cells showed biological activity associated with inflammation.

Even those who use bottled water and home-filtration systems don't necessarily avoid exposure.

Bottlers, some of which simply repackage tap water, do not typically treat or test for pharmaceuticals, according to the industry's main trade group. The same goes for the makers of home-filtration systems.

Pharmaceuticals in waterways also are damaging wildlife, research shows. Notably, male fish are being feminized, creating egg yolk proteins that usually come from females.

Some scientists stress that the research is limited, and there are many unknowns. They say, though, that the documented health problems in wildlife are disconcerting.

"It brings a question to people's minds that if the fish were affected ... might there be a potential problem for humans?" EPA research biologist Vickie Wilson said.

Song, at the Louisville Water Co., largely attributed the problem to effluent discharged from treatment plants.

Metropolitan Sewer District Executive Director Bud Schardein said he's aware of the issue, and he doesn't want people flushing drugs down the toilet.

But Alex Novak, who runs MSD's Morris Forman Wastewater Treatment Plant on the Ohio River in western Louisville, said MSD does not test for drugs in its effluent. He characterized concerns about health and environmental drugs in rivers or drinking water as being "more in the research realm at this point."

Key test results

In its report, members of the AP National Investigative Team reviewed hundreds of scientific reports, analyzed federal drinking-water databases, visited environmental study sites and treatment plants and interviewed more than 230 officials, academics and scientists. They surveyed the nation's 50 largest cities and a dozen other major water providers and smaller community water providers.

Some key test results:

► Officials in Philadelphia said testing discovered 56 pharmaceuticals or byproducts in treated drinking water, including medicines for pain, infection, high cholesterol, asthma, epilepsy, mental illness and heart problems.

► Anti-epileptic and anti-anxiety medications were detected in a portion of the treated drinking water for 18.5 million people in Southern California.

► A sex hormone was detected in San Francisco's drinking water.

Of the 28 major metropolitan areas where tests were performed on drinking-water supplies, only Albuquerque, N.M.; Austin, Texas; and Virginia Beach, Va.; said tests were negative. Arlington, Texas, acknowledged that traces of a pharmaceutical were detected in its drinking water but cited post-9/11 security concerns in refusing to identify the drug.

The AP also contacted 52 small water providers — one in each state, and two each in Missouri and Texas — that serve communities with populations around 25,000. All but one said their drinking water had not been screened for pharmaceuticals; officials in Emporia, Kan., refused to answer AP's questions, also citing post-9/11 concerns.

Grumbles, the EPA's water chief, acknowledged that just late last year the agency developed three new methods to "detect and quantify pharmaceuticals" in wastewater.

"We realize that we have a limited amount of data on the concentrations," he said. "We're going to be able to learn a lot more."

Associated Press reporters Jeff Donn, Martha Mendoza and Justin Pritchard reported and wrote this story. Courier-Journal reporter James Bruggers, who contributed to it, can be reached at (502) 582-4645.