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Druggy Waters

Local programs offer solutions for pharmaceutical pollution.

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By Kera Abraham



Pharmaca pharmacy manager David Villareal (left) and AfricareMeds founder Richard Anyanwu (right) work to keep drugs out of our water supply.

Antidepressants, birth control pills, steroids, antibiotics, painkillers: They're not only in the bodies of people taking them, but also in the water we drink. Unused and expired medications that are flushed down the toilet or thrown in the trash can enter the water supply, thus exposing communities to constant weak cocktails of randomly mixed drugs.

Two local initiatives – a medicine take-back program and a charity that provides health care in Nigeria – offer alternatives.

Studies have established that many tap water supplies are unintentionally dosed. A recently released *Associated Press* investigation found drugs in the municipal water of 24 cities, including San Francisco, whose water tested positive for a sex hormone. A 2002 U.S. Geological Survey analysis of streams in 30 states found pharmaceuticals in more than 80 percent of the waterways tested.

Compounding the problem: pharmaceutical use is on the rise. Disbursements of commonly abused meds such as codeine and oxycodone more than doubled between 2000 and 2004, according to the Drug Enforcement Administration. After the drugs pass through our bodies and get flushed down the toilet, they enter the sewage system.

Then there's the issue of the medicines we *don't* take. The Community Medical Foundation for Patient Safety reports that more than 40 percent of prescription meds – particularly psychotherapy drugs – go unused, for a variety of reasons. According to a 2006 study in the *Journal of the American Board of Family Medicine*, 35 percent of patients have rinsed medications down the sink and 54 percent have flushed them down the toilet.

Most sewage systems remove some, but not all, pharmaceutical compounds before discharging treated wastewater into public waterways. Medicines dumped in the trash can seep out of landfills and enter the water table.

Researchers have discovered a range of impacts on aquatic life. Male fish exposed to estrogen have become female; shellfish dosed with Prozac have released non-viable eggs; antidepressants have pissed off lobsters. The impact on humans is not well understood, but a 2006 study found that a low-level mixture of 13 common drugs

can affect the growth of human embryonic cells.

The California Integrated Waste Management Board currently has no official policy for disposing of household medical waste. But last October, Gov. Arnold Schwarzenegger signed a bill aiming to change that. The new law directs the CIWMB, Department of Health Services and other state agencies to create pilot take-back programs allowing people to return unused meds to pharmacies and health-care providers. The agencies will later report to the Legislature on how the programs can be implemented statewide. CIWMB is just beginning to work out the details, says agency spokeswoman Beatriz Sandoval.

While bureaucrats slog through their processes, one nonprofit is implementing solutions. In May 2007, Teleosis, a Berkeley-based organization dedicated to reducing the environmental impacts of health care, launched a program to encourage safe drug disposal. Under the Green Pharmacy Program, people may return unused meds to 14 participating pharmacies and doctors' offices.

Teleosis encourages health-care staff to dump out pills and recycle their plastic containers. A medical waste hauler collects the meds and takes them to a facility in Texas, where they're incinerated. The byproducts are trapped and cleaned before they're released into the environment, according to Teleosis program manager Evin Guy. The initiative already has safely disposed of more than 1,000 pounds of medication, she says.

Pharmaca Integrative Pharmacy, one of the program's partners, offers the take-back service at its new Monterey store on Munras Avenue. The location has collected more than 70 pounds of medications since its grand opening in late February, according to pharmacy manager David Villareal. The store offers customers a \$1 coupon for every vial they bring in, while coupons last. "The community has had an overwhelming response," Villareal says.

For legal reasons, Pharmaca can't accept narcotics such as valium, morphine or codeine, he says. But it will take other prescription meds, samples from doctors' offices, vitamins, supplements and over-the-counter drugs, such as Tylenol and ibuprofen.

If the meds are unexpired, they still may have a useful life. Seaside resident Richard Anyanwu, a registered nurse and Baptist deacon, runs the nonprofit AfricareMeds, which has been providing health care to indigent Nigerians since 2002. With donations from dozens of local sponsors, Anyanwu took more than 500 pounds of medical supplies to Nigeria last December. Two doctors and four nurses administered tests and prescribed medicines for almost 800 people in need, he says.

The latest information about drugs in the water supply only adds urgency to Africare's mission. "Now the fish are getting sick," Anyanwu says, "because they're getting hormones that weren't prescribed to them."

By taking unused drugs out of the waste stream, his nonprofit performs the double service of getting medicines to patients who need them – and keeping them away from the people and animals who don't.

DONATE UNEXPIRED MEDS TO AFRICAREMEDS, 640 ELM AVE., SEASIDE. 899-2280, AFRICAREMEDS.COM. TAKE EXPIRED MEDICATIONS TO PHARMACA INTEGRATIVE PHARMACY, 570 MUNRAS AVE., MONTEREY. 333-0751, PHARMACA.COM.