

01/07/14

**Public Health Advisory Board response to the
California Product Stewardship Council's request for support of the
"Don't Rush to Flush" campaign**

BACKGROUND:

The California Product Stewardship Council (CPSC) "Don't Rush to Flush" campaign in Yolo and Sacramento Counties donated mailbox-style pill collection bins to six unused medication collection sites, located in pharmacies and Sheriff's offices. Each collection site, in turn, has agreed to pay around \$2,000 per year for at least five years, to have pills they collect picked up and disposed of.

A CPSC representative spoke to PHAB in June 2013, describing the "Don't Rush to Flush" campaign, and asking for our support. CPSC are concerned about three problems:

- (a) the risk from trace amounts of medicine found in surface and ground water
- (b) the risk of accidental ingestion of unused medicines stored in homes or disposed of in the trash
- (c) the risk of intentional abuse of unused *controlled* drugs stored in homes or disposed of in the trash

CPSC is promoting these solutions to the problems they have identified:

(a) To prevent medicines from getting into surface and ground water:

- they are asking people not to flush unused medicines into the sewer system
- they are asking people not to put unused medicines in the trash, because they might leach into ground or surface water after being placed with other household wastes in municipal solid waste landfills
- they are asking that all unused medicines be incinerated in medical waste disposal facilities

(b) To prevent unused medicines from being accidentally ingested, they are asking people to store unused medicines in their homes until they can drive or take a bus to public medication collection sites as much as 15 miles away, to deposit them in pill collection bins.

(c) To prevent abuse of unused controlled drugs, they are asking people to store these medicines in their homes until they can drive or take a bus to public medication collection sites as much as 15 miles away, to deposit them pill collection bins. Because the pill collection bins will contain large amounts of controlled drugs, along with other prescription and over-the-counter medicines, they will be reinforced, double-locked, and continuously monitored to prevent theft. Only state-licensed medical waste haulers will be able to empty the bins and transport the contents to a secure medical waste incineration facility, in Texas.

Several PHAB members questioned the practicality and safety of this program, and recommended PHAB study the issue further before deciding whether to support the CPSC campaign. After further review and discussion, PHAB decided not to support the "Don't Rush to Flush" campaign.

PHAB later become aware that the CPSC had also worked with Alameda County to enact an ordinance in 2013 requiring pharmaceutical manufacturers to pay for an unused *prescription* medicine take-back program. CPSC is also sponsoring California Senate Bill 727 which would require pharmaceutical manufacturers to develop, implement and fund unused *prescription and over-the-counter* medicine take-back programs throughout the state.

At present, unused *controlled* substances, such as narcotics, stimulants, and psychotropic drugs, can only legally be returned to police stations — or thrown in the trash or sewers. CPSC hopes that the Federal Drug Enforcement Administration will soon issue new regulations allowing unused medicine collection sites to accept controlled substances.

In September, CPSC gave a “Don’t Rush to Flush” presentation to the Board of Directors of the Sacramento Regional County Sanitation District (SRCSD). All of the Sacramento County Supervisors are members of the SRCSD Board of Directors. The SRCSD Board seems supportive of an unused drug take-back program. When the Sacramento County Supervisors’ Chiefs of Staff met with PHAB representatives in October, they were surprised to learn that PHAB had decided not to support the “Don’t Rush to Flush” campaign. They asked that PHAB take a formal vote on whether to recommend the County should support the campaign or not, and give the Supervisors a written explanation for their recommendation.

EVALUATION:

A. Collecting and incinerating *unused* medicines rather than placing them in municipal landfills would have no effect on the amount of medicine found in our water. Even dumping *unused* medicines in our sewers, which PHAB does *not* recommend, would have a minor effect on the amount of medicine found in our water.

The possible harm to humans and ecosystems from trace amounts of medicines, as well as many other household, industrial, and agricultural chemicals, found in surface and ground water is a legitimate subject of public health concern. It makes sense not to unnecessarily increase levels of medicines in our water by putting *unused* medicines in our sewage systems.

However, the trace amounts of most medicines found in surface and ground water have not yet been shown to cause environmental harm. The detected levels of medicines found in water are measured in *parts per trillion* — a thousand to a million times lower than the levels of other chemicals typically found in drinking water. A person would need to drink between 10 and 100 Olympic swimming pools of water to obtain the equivalent dose of one pill of most of the medicines found in California water.

70-80% of medicines prescribed to people are *used*, and then excreted in urine and feces, while still largely biologically active. These medicines end up in our sewers, and may appear in treated wastewater and septic system leachates. (No one has yet suggested that people using medicines save their medicine-contaminated urine and feces in plastic zipper bags, to be collected and incinerated as medical waste.)

Much larger amounts of many medicines are routinely fed to farm animals than are prescribed to humans. For example, 80% of the antibiotics manufactured in the United States are fed to farm animals. These drugs are excreted, while still biologically active, in animal urine and feces, which become part of agricultural run-off, entering surface and ground waters. Even the manure used in gardens contains active medicines, which soak into our ground water and wash into storm drains and rivers.

In contrast to medicines excreted by humans and animals that enters our sewers, storm drains, streams and ground waters, **99.9% of unused medicines placed municipal solid waste landfills remains in the landfills, and contained landfill leachates, until it decomposes. There is no evidence that medicine in properly constructed and maintained municipal landfills gets into ground or surface water, as the CPSC alleges.**

In addition to used and unused medicines, **there are thousands of other household chemicals in our water classified by the Federal Environmental Protection Agency as “contaminants of emerging concern” (CECs).** These include (a) endocrine disrupting compounds such as human, animal, and plant hormones, detergent residues, flame retardants, non-stick coatings, lubricants, and plasticizers, and (b) personal care products such as disinfectants, deodorants, fragrances, flavoring agents, insect repellents, and sunscreens. These chemicals are put into our sewers as a result of their intended uses, such as bathing, washing clothes and dishes, cleaning, and gardening.

Thousands of additional industrial and agricultural chemicals, classified as CECs, are in our water. They are generally untested, unregulated, and potentially harmful to humans and the environment.

The "Don't Rush to Flush" campaign implies that a large portion of the medicine discovered in our water would be eliminated if unused medicines were not improperly disposed in sewer systems or placed municipal solid waste landfills. In fact, improperly disposed unused medicines make up a much smaller fraction of the medicine found in our water than medicines excreted by humans and animals. The trace amounts of medicines found in our water are a relatively minor concern compared with larger concentrations of thousands of other household, industrial, and agricultural chemicals in our water.

Here are two examples of the problems eliminating "medicines" from our water:

(a) Caffeine is a drug found in California waters that might adversely affect circadian rhythms and behavior of fish and invertebrates. CPSC would have us incinerate all unused prescription and over-the-counter medicines containing caffeine to prevent possible adverse effects on the environment. However, caffeine is also a natural component of coffee, tea, and chocolate, and an added component of most soft drinks, which are poured into our sewage systems in huge quantities every day. Sending unused "No-Doze" pills to Texas for incineration would have virtually no effect on the levels of caffeine in our water.

(b) Estrogens are hormones found in California waters that may adversely affect fish development. CPSC would have us incinerate all *unused* estrogen-containing pills (such as oral contraceptives) and estrogen containing creams to prevent possible adverse effects on the environment. However, almost ten times as much *prescribed* estrogen is *used* by people and then excreted, entering our sewage system. A hundred times as much *natural* estrogen ends up in our water from human and farm animal natural estrogen excretion. Foods such as cow's milk and soybeans also contain estrogen. These are also poured into our sewers.

Many household chemicals, such as polybrominated diphenyl ethers (PBDEs) used as flame-retardants in fabrics, and perflourinated compounds (PFCs), used in non-stick cookware, food packaging, waterproof clothing, fabric stain protectors, lubricants, and paints, are "endocrine disruptors" which act like estrogens. These chemicals end up in our sewers and storm drains, and from there spread to our surface and ground water, as well as accumulating in fish and people who eat the fish. Collecting unused estrogen containing pills and creams for incineration would have an insignificant effect on the total amount of estrogens and estrogen-like chemicals in our water.

B. Saving unused medicines in homes so they can be taken to medicine collection sites may increase the risk of accidental ingestion.

The second rationale for the "Don't Rush to Flush" campaign is to prevent accidental ingestion of unused medicines left in the home or disposed in household solid waste. **Members of PHAB are concerned that there may be greater risk of accidental poisoning if unused medicines are saved up in the home**, possibly for months, until they can be taken to medication collection sites. Immediately disposing of pills with other solid waste, as soon as they are no longer needed, would seem a better way to prevent accidental poisoning. Federal health agencies suggest mixing discarded pills with water and kitchen garbage such as coffee grounds and bacon grease, or with wet cat litter, and then sealing the mixture in a plastic bag or container, to make the medicine unpalatable and difficult to find or identify.

PHAB checked with staff of our regional poison control center, who agreed the risk of accidental poisoning seemed greater with storing unused pills — particularly if they were transferred out of child-

proof containers into plastic zipper bags — than if they were immediately mixed with wet garbage and discarded.

C. Saving unused controlled drugs in homes so they can be taken to medicine collection sites, and storing relatively large quantities of controlled drugs at collection sites may increase the risk of controlled drug abuse and theft.

The third rationale for the “Don’t Rush to Flush” campaign is to prevent intentional abuse of unused narcotics, stimulants, and other psychotropic drugs. This is why medication collection containers can only be placed in pharmacies or Sheriff’s offices. They must be continually monitored and double-locked, only to be opened by two people at the same time, to prevent theft and drug abuse. Yet, saving up unused controlled substances until they can be taken to a collection site may *increase* the opportunity for them to be stolen, sold, or abused.

If unused medicine collection sites are allowed to accept controlled substances, it is estimated that controlled substances will make up about 11% of the medicines that are returned. Pill collection bins, perhaps holding several pounds of narcotics, could become attractive targets for theft, like ATMs.

In contrast, if all unused pills, including controlled substances, were immediately taken out of their containers, mixed with wet solid waste such as coffee grounds, kitty litter, or bacon grease to make them unidentifiable and unpalatable, and then mixed with other household garbage, the chances of them being found and used seem remote.

Robert Meagher, M.D.
Research and Evaluation Chairman
Sacramento County Public Health Advisory Board

REFERENCES:

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August 2013

www.teleosis.org/.../San-Francisco-Medicine-Waste-Charaterization-Study



Drop off your expired and unwanted medications at:

Sac State Student Health Services Pharmacy

6000 J St., Sacramento | (916) 278-6040

Summer hours (June–August): Monday–Thursday: 7:30 AM–4:00 PM, Friday: 8:30 AM–3:30 PM

Spring/Fall/Winter hours: Monday–Thursday: 8:30 AM–5:30 PM, Friday: 9:00 AM–4:30 PM

South Sacramento Pharmacy

5385 Franklin Blvd., Sacramento | (916) 452-0247 | Monday–Friday: 8:30 AM–6:00 PM, Sat: 9:00AM–1:00PM

Sacramento County Sheriff's Department North Patrol Division

5510 Garfield Ave., Sacramento | (916) 874-1021 | Monday–Friday: 8:00 AM–4:30 PM

Jefferson Pharmacy

1029 Jefferson Blvd., West Sacramento | (916) 371-2022 | Monday– Friday: 9:30 AM–5:30 PM

El Macero Pharmacy

417 Mace Blvd. #D, Davis | (530) 231-6429 | Monday–Friday: 9:30 AM–6:30 PM, Saturday: 9:30 AM–5:00 PM

Eagle Drug

101 Main St., Winters | (530) 795-4123 | Monday–Friday: 10:00 AM–6:00 PM

How to prepare meds for disposal in the bins at these host locations:

1. At home, remove, scratch off or **black-out personal information** from the containers to protect identity.
2. At home, remove pills from original containers and **place containers in your recycling bin**.
3. At home, **place pills in a clear zipper bag**. Keep **liquids and creams** in original containers.
4. Bring zipper bag and any liquids or creams into one of the locations above and **place in bin** – it is that easy!


YES! What Can Be Collected: Prescription and over-the-counter drugs, pet medications, and medicated ointments.

NO! What is Not Collected: Controlled substances, personal care products, sharps, bloody or infectious waste, thermometers, hydrogen peroxide, aerosol cans, business waste, and radiopharmaceuticals are NOT accepted.*

*Refer to your local Household Hazardous Waste program or SRCSD's www.dontflushyourmeds.com for sharps disposal. No Controlled Substance prescriptions (e.g., vicodin, Ritalin, codeine, valium, etc.) – see complete list at www.deadiversion.usdoj.gov/schedules. Dispose of controlled substances at a National DEA Take-Back Day Event near you, or check with your local law enforcement office: (800) 882-9539 or www.deadiversion.usdoj.gov

More info: www.DontRushToFlush.org

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DON'T RUSH TO FLUSH

**MEDS in
the BIN.
We All
WIN!**

Existing Pharmaceutical Collection Sites – Sacramento & Yolo Counties:

Collection Site	Address	Phone	Operating Hours
El Macero Pharmacy	417 Mace Blvd. #D Davis, CA 95618	(530) 231-6429	Mon-Fri, 9:30 AM to 6:30 PM, Sat, 9:30 AM to 5 PM
Eagle Drug	101 Main Street Winters, CA 95694	(530) 795-4123	Mon-Fri, 10 AM to 6 PM
Jefferson Pharmacy	1029 Jefferson Blvd. West Sacramento, 95691	(916) 371-2022	Mon-Fri, 9:30 AM to 5:30 PM
South Sacramento Pharmacy	5385 Franklin Blvd. Sacramento, CA 95820	(916) 452-0247	Mon-Fri, 8:30 AM to 6 PM, Sat, 9 AM to 1 PM
California State University, Sacramento Student Health Services Pharmacy at The WELL	6000 J Street Sacramento, CA 95819	(916) 278-6040	Summer (June–August): Mon-Thu, 7:30 AM - 4 PM, Fri, 8:30 AM - 3:30 PM Spring/Fall/Winter: Mon-Thu, 8:30-5:30, Fri, 9-4:30
Sacramento County Sheriff's Dept. North Patrol Division	5510 Garfield Avenue Sacramento, CA 95841	(916) 874-1021	Mon-Fri, 8 AM to 4:30 PM
Safeway Pharmacy	1850 Prairie City Road Folsom, CA 95630	(916) 608-2455	Mon-Fri, 9 AM to 8 PM Sat-Sun, 9 AM to 5 PM
Valley Pharmacy	7600 Hospital Drive Sacramento, CA 95823	(916) 423-2098	Mon-Fri, 8:30 AM to 5:30 PM
Corner Drug Company	602 Main Street Woodland, CA 95695	(530) 662-2813	Mon-Fri, 9 AM to 6 PM Sat, 9 AM to 3 PM
National DEA Take-Back Day Events (controlled substances): www.deadiversion.usdoj.gov	See DEA website to find events near you.	(800) 882-9539	Dates vary – usually one Saturday, April & October Next event: Oct. 26, 2013 10 AM to 2 PM
Yolo County Central Landfill (Household Hazardous Waste Collection Days)	44090 County Road 28H Woodland, CA 95776	(530) 666-8729	Every Friday & Saturday 7:30 AM to 3:30 PM
Sacramento County North Area Recovery Station – HHW Area	4450 Roseville Road, North Highlands, 95660	(916) 875-5555	Tues, Thurs, Fri & Saturday 8:30 AM to 4:00 PM
City of Folsom Household Hazardous Waste Program (call for appointment)	Folsom, CA (residential pickup service)	(916) 355-8367	Call for specifics or to schedule an appointment
Coming Soon: City of Elk Grove Special Waste Collection Center	Elk Grove, CA	(916) 691-2489	TBD – projected to begin collection in fall 2013

More info: www.DontRushToFlush.org

