

Addressing Pharmaceuticals in Philadelphia Drinking Water



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Approach to Pharmaceuticals in Water Supply

- Media/Risk Communication
- Research and Sampling
- Education
- Partnerships/Dialogue

Pharmaceutical Use Worldwide

- ❑ Over \$274 billion was spent on over 3.7 billion scripts in 2006
- ❑ UN projects a 3-fold increase in usage in next 25 years



Pharmaceuticals in the News

MSNBC TV
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TAINED WATER
AP: WATER SUPPLIES FROM COAST
TO COAST TAINED BY DRUG RESIDUE

Related link: Pharmaceuticals lurking in U.S. drinking water

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NIGHTLY NEWS
with BRIAN WILLIAMS
Reporting America's Story
WEEKNIGHTS
nightly.msnbc.com

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<http://www.msnbc.msn.com/id/23503485?GT1=43001>

Outcomes of Media Blitz

- ❑ 506 media pieces based on AP story
- ❑ Promoted “outrage” and concerns versus solutions
- ❑ Sparked awareness, policy discussion, and underscored need for improved risk communication



Philadelphia Takeaways

- What Worked
 - *Proactive testing*
 - *Being upfront*
 - *Providing facts but being open about uncertainty*

- What Didn't
 - *"The public won't understand"*
 - *Citing regulations*
 - *"The water is absolutely safe"*
 - *Reactive testing*

- Other Lessons
 - *Trust is most important factor in public response*
 - *Perceptions must be treated equally with science*
 - *Cooperate with press but don't rush*
 - *Keep City Hall informed*

Media/Risk Communications

- Is our drinking water still safe?
- Is Philadelphia unique?
- How do pharmaceuticals get into drinking water?
- What did we find and how much?
- What is Philadelphia doing?
- What can I do to help?
- www.phila.gov/water



Research and Sampling

Occurrence

Removal

Relevance

National Research

- AWAARF – Removal, toxicological relevance
- USEPA – Occurrence (source and finished waters)
- PA DEP – Occurrence (source waters, fish tissue)
- USGS NAWQA – Occurrence
- Rutgers University – Occurrence (sediment)

PWD Research

- Sampling of source and finished water, major tributaries
- Examining removal efficacy of MIEX pilot plant
- Participating in research projects/staying abreast of research

Pharmaceutical Testing Results for Philadelphia

	Source Water	Treated Water
Total Samples Collected	16	16
Number of Compounds Analyzed	70	70
Number of Compounds Detected	32 (not 63)	17 (not 56)
% of Compounds Detected	46%	24%

Philadelphia Education Pilot

- Focus on seniors and longterm care facilities
 - *Potentially big meds sources; manageable*

- Use takeback programs as primary educational tool
 - *Active education*
 - *Best disposal method*

- Utilize mail-in approach with reverse distributor
 - *"New" approach*
 - *Deals easily with certain obstacles*
 - *State regulations*
 - *Tracking*
 - *Privacy*

Philadelphia Education Pilot Cont'd

- Two Components:
 - *Senior Center*
 - *Assisted Living Facility*
- Led by Women's Health and Environmental Network
- Funded by EPA and PWD
- Partners included:
 - *Capital Returns*
 - *University of the Sciences of Philadelphia*
 - *Thomas Jefferson University School of Pharmacy*



Philadelphia Education Pilot: Senior Care Center

□ Day 1

- Information Session – Problem and Pilot Solution
- Distribution of materials for mailing of unused meds
 - Envelopes
 - Printed Materials
 - Instructions



□ Day 2

- Mail-in Assistance Program
- Pharmacists and students available for questions
- Survey
- Snacks



Senior Care Center Mail-In Program Results

Number of pharmacists	5
Number of pharmacy students	6
Number of narcotics strikeforce officers	1
Information session participants	70+
Recipients of pilot materials	34
No. attending mail-in assistance program	15
Amount of drugs mailed in	3.12 lbs
Types of drugs: asthma, cough syrups, analgesics	34%
Most common reason for disposal	Expired meds

Philadelphia Education Pilot: Longterm Care Facility

- ❑ Assisted living facility
- ❑ Promote mail-in of unused pharmaceuticals
- ❑ Staff training



Lessons Learned from Pilot So Far

- ❑ Event-based takebacks are labor intensive for not much return
- ❑ Institutional changes may be better longterm approach



Regulatory Obstacles to Takeback Programs

- ❑ Drug Enforcement Agency requires that only law enforcement officers can receive controlled substances from consumers
- ❑ In some states including PA, full regulation of hazardous waste if collected in a central location



Policy Developments

- ❑ Drug Enforcement Agency and Obama
- ❑ EPA Universal Waste Rule Change



Next Steps

- ❑ Continue focus on disposal
- ❑ Focus on reducing prescriptions
 - Health care sector
 - Insurance companies and big box stores
 - AARP

Partnerships/Dialogue

□ Local



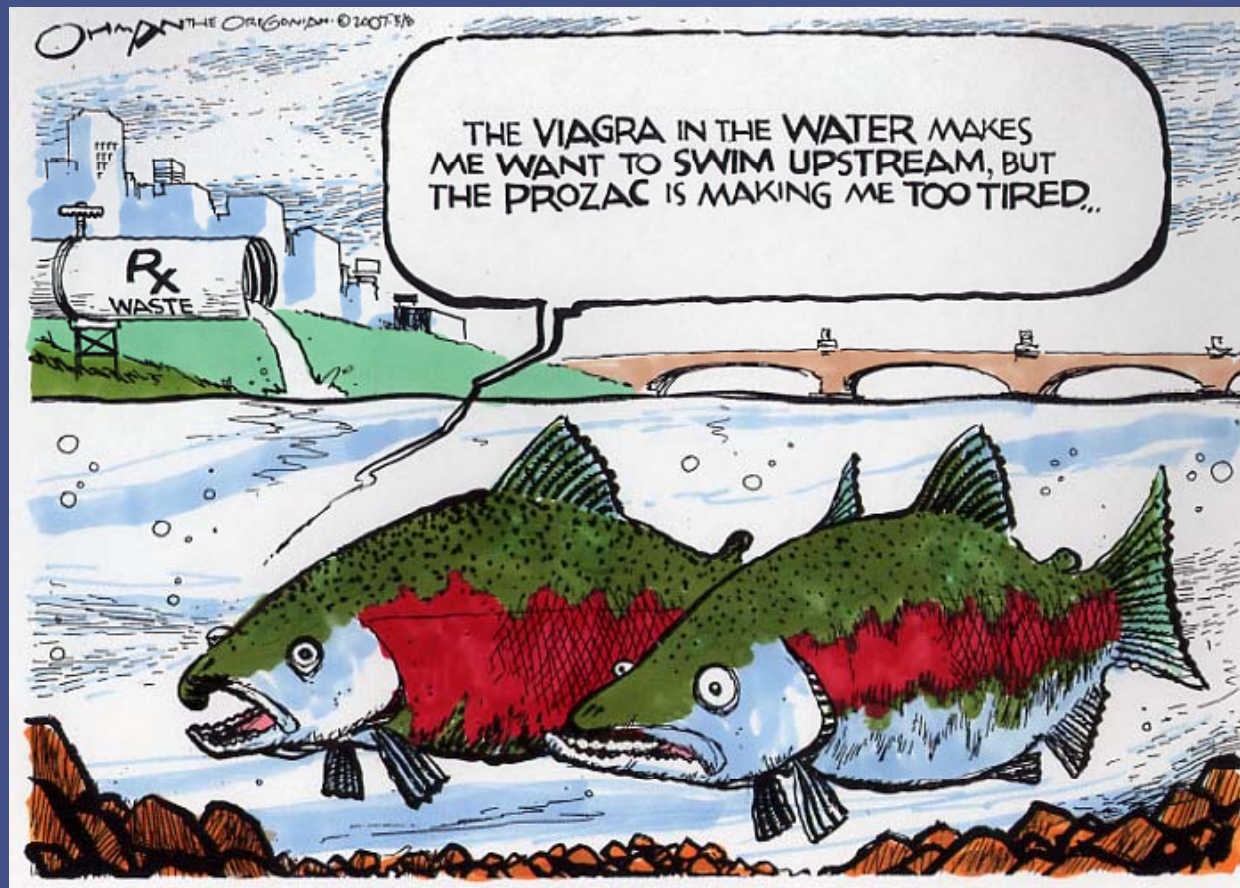
- *Environmental Protection Agency Region III Pharmaceutical Workgroup*
- *Schuylkill Action Network*
- *Women's Health and Environmental Network*
- *Pharmaceutical Manufacturers/Distributors*
- *Water Suppliers*

□ National



- *National Source Water Collaborative*
- *Product Stewardship Institute*
- *National list-serves*

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http://www.phila.gov/water/pharmaceuticals_in_d.html

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National Activities

- Collection Events
 - Northeast Recycling Council
 - San Francisco Bay Area
 - Greater Chicago
 - Milwaukee
 - Washington State – Pharmacies
- Permanent Collection Locations
 - Teleosis Institute- Pharmacies, Doctor's Offices, Health Care Facilities
 - Monroe County, IN – Household Hazardous Waste Facilities
- Mail-back Programs
 - Maine
 - Wisconsin

Takeback Program Resources

Northeast Recycling Council

[http://www.nerc.org/topic_areas/
unwanted_medications_collections.html](http://www.nerc.org/topic_areas/unwanted_medications_collections.html)

Wisconsin Department of Natural Resources

[http://dnr.wi.gov/org/aw/wm/pharm/phar
m.htm](http://dnr.wi.gov/org/aw/wm/pharm/pharm.htm)

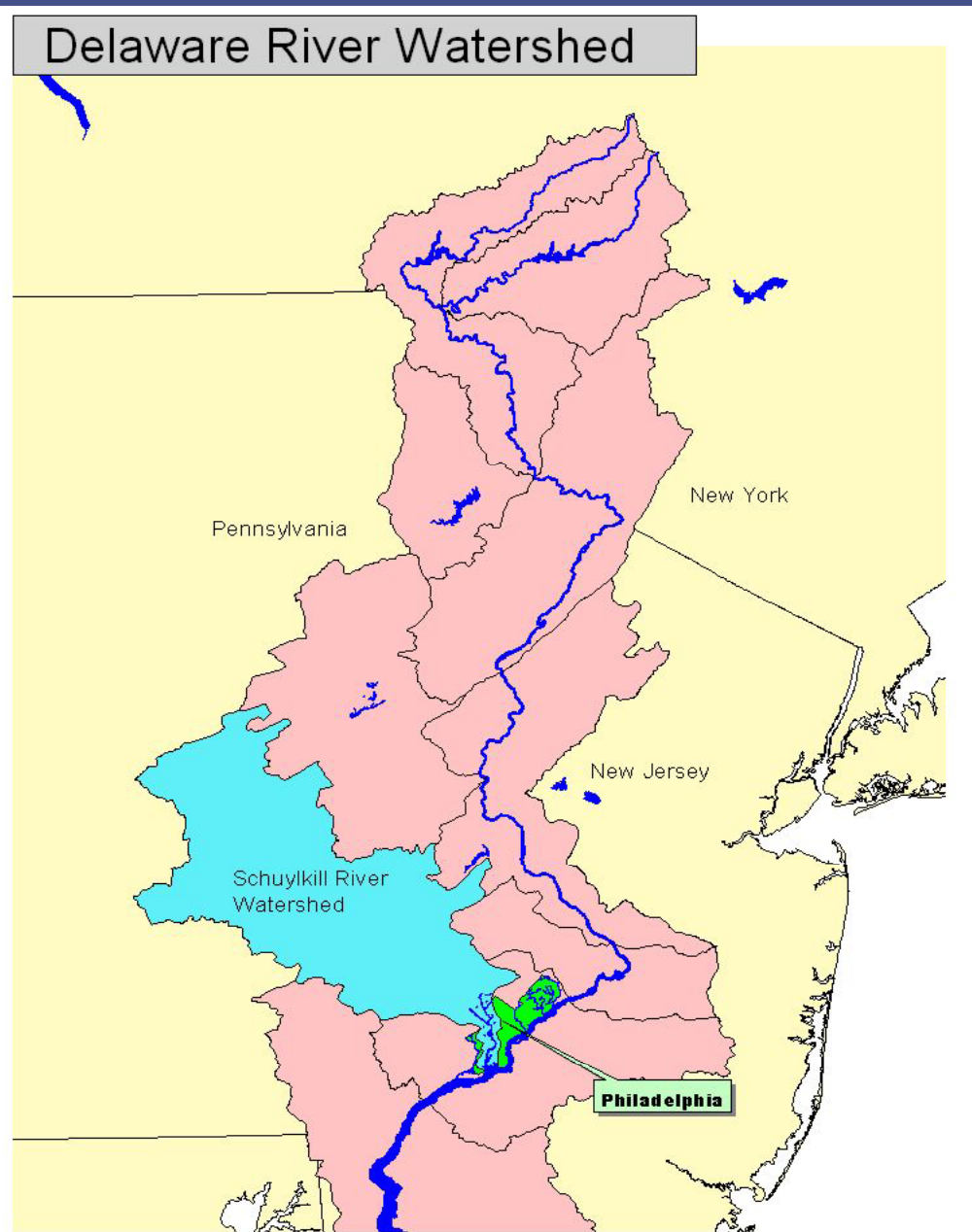
Philadelphia's Water Supply

- ❑ PWD provides drinking to ~1.7 million people

- ❑ 2 plants on Schuylkill River
 - 2,000 sm
 - >200 municipalities
 - 11 counties

- ❑ 1 plant on Delaware River
 - 13,539 sm
 - >800 municipalities
 - 4 states
 - 42 counties

- ❑ >10,000 point sources



Media/Risk Communications

- Is our drinking water still safe?
 - *No documented health impacts*
 - *We are paying close attention*
 - *We drink the water too!*

- Is Philadelphia unique?
 - *No, this is a nationwide problem*

- How do pharmaceuticals get into drinking water?
 - *People!*

Media/Risk Communications Cont'd

What did we find and how much?

- *Eight, 8 oz. glasses of water for 800 years equals amount of caffeine in a cup of coffee*
- *Low levels detected through better technology*

What is Philadelphia doing?

- *Monitoring*
- *Staying on top of science*
- *Engaging the public through media, web, etc.*
- *Researching treatment options - no known treatment removes all compounds*

Media/Risk Communications Cont'd

□ What can I do to help?



- *Do not flush or pour down the drain any unused or unwanted medicines.*
- *Crush leftover pills in a plastic bag, mix with coffee grounds or kitty litter, tape, conceal, and put into the garbage.*
- *Request partial prescriptions for new or temporary medicines*
- *Do not rely on tap filter systems or bottled water*