

Broadening Our Vision: Green Pharmacy Coalition



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Fate of Unused Pharmaceuticals

- What are Pharmaceuticals Final Destination?
- Water
- Land
- Air



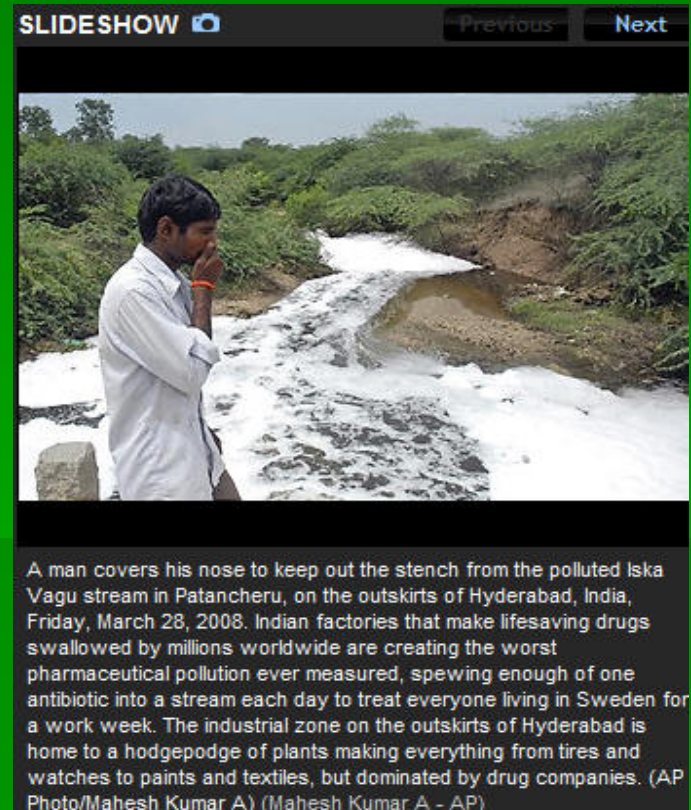
1-2-3... Mark Kruger injects bottles of prescription medication into the Bella Vista, Arkansas, Police Department's Drug Incinerator. The incinerator is used as an alternative to flushing unwanted drugs, which can make their way into the drinking water system.

What we do not know?

- The ultimate fate of APIs in *landfills*
- How much disposal in *sewers* contributes to environmental residues
- How much incineration of pharmaceuticals will contribute to air pollution.
- Not much about actual inventories of disposed medication

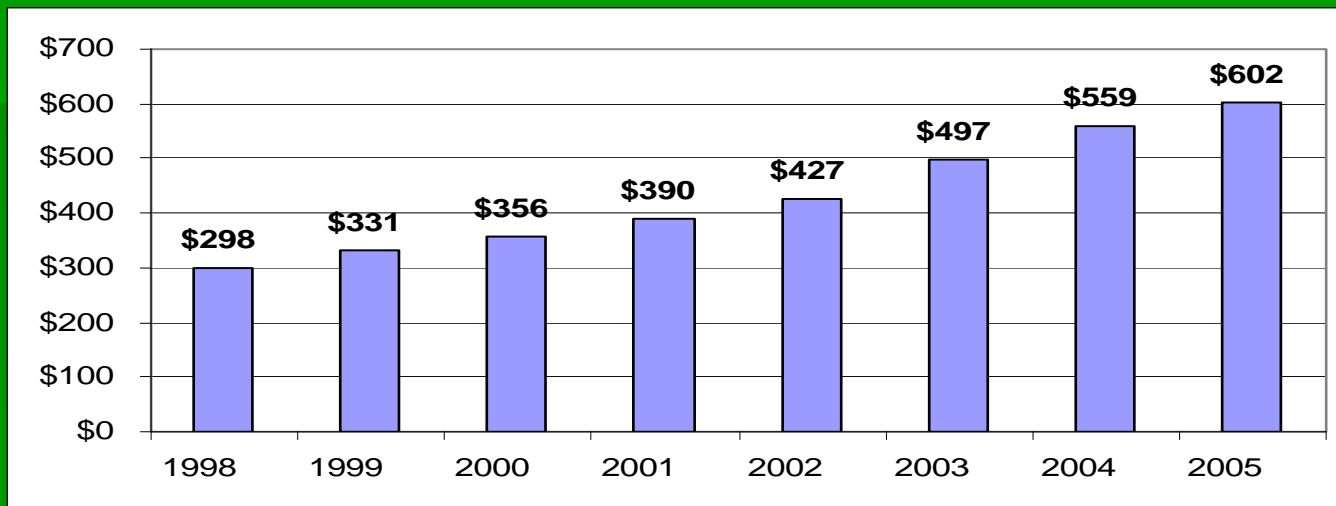
What We Do Know

- In terms of water, excretion is more responsible for APIs entering the environment than direct disposal
 - Worth calculating, which ones in terms of
 - Excr. clearance/PBT/DDD



What We Do Know

- Drugs accumulate in peoples homes
- Healthcare facilities have pharmaceutical waste
 - Reverse distribution
 - Disposal



CO2 and Pharm Footprint

- Procurement forms 60% of the emissions for which NHS England is responsible; within the procurement sector pharmaceuticals are the largest subsector, making up 22% of total emissions.
- Emissions from procurement of pharmaceuticals make up a fifth of the total for NHS England, and are comparable to emissions from either building energy use or travel sectors.

NHS Recommendation

- Examine usage/wastage of pharmaceuticals
- Work with key manufacturers on lowering GHG emission
- Study the carbon intensities by world region for generic and R&D based medicines
- Investigate alternative models of care which may be less drug intensive

What is Most Important?

- A key insight into this challenge is that a wide spectrum of actions targeted at reducing the transfer of PPCPs to the environment holds the potential for reciprocally improving the quality and cost of healthcare

- C. Daughton



Integral Solutions

- Treating the environment and healthcare as an integral system could greatly clarify where and how to invest resources to achieve optimal outcomes.
- As improvements in either can lead to collateral improvements in the other.
 - C. Daughton



Green Pharmacy Coalition

- A multi-stakeholder proactive, voluntary holistic stewardship program
 - Stakeholders dispensing pharmaceuticals all must take back all unwanted medications

Primary Coalition Stakeholders

- Hospitals
- Long-term Care Facilities
- Hospice
- Primary Care Clinics and Health Centers
- Veterinarian hospitals and clinics
- Pharmacies

Green Pharmacy: Secondary Stakeholders

- Government and Law Enforcement
- Third Party Payers
- Health Care Systems
- Waste Management Agencies
- Public Utilities
- Public Health Organizations
- Environmental Organizations
- Professional Associations
- Consumers

Hospitals

- Ongoing events
 - Managing Pharmaceutical Waste:
 - A 10-Step Blueprint for Healthcare Facilities
 - Eydie Pines & Charlotte Smith
 - Rx2 Curing Pharmaceutical Waste
 - Catherine Zimmer
 - EPA Inventory request
 - Integrative Approach to Pharmaceutical Waste Management
 - Practice Greenhealth Program
 - Practice Greenhealth Webinars

Hospice

- Pilot Mail-back program
 - Sutter VNA
 - Sharps Inc.



SHARPS.

TAKEAWAYTM
ENVIRONMENTAL RETURN SYSTEM

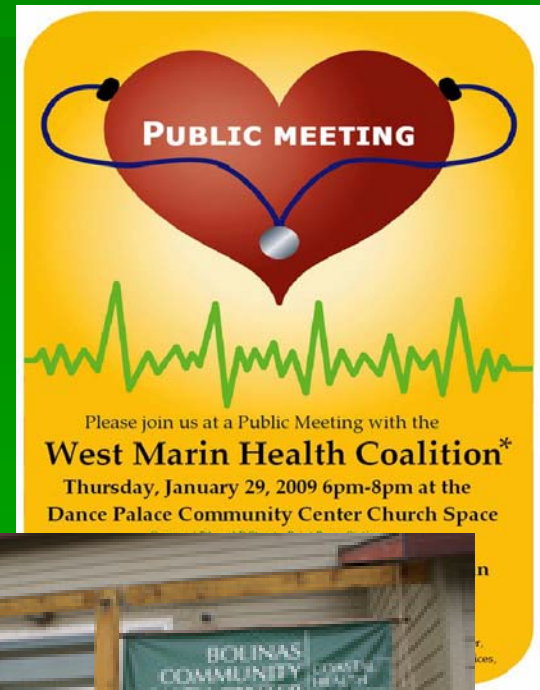
Pharmacists

- CE Programs
 - Drugs in the Environment:
A Pharmacist's
Perspective
 - Tauro University
- Green Pharmacy Toolkit



Coastal Health Alliance

- Three clinics in West Marin
 - On-going take back program
 - paid for by the county
 - Public education
 - West Marin Environmental Health Coalition
 - Clinical staff require patients to bring in their medications on all visits
 - Practice Greenhealth Clinic Program



Long Term Care Facilities

- Research into facility medication waste
- Piloting electronic dispensing

- “Reducing And Preventing Pharmaceutical Waste”
 - Continuing Education
 - American Society of Consultant Pharmacists
 - National Convention November 2009

*When it comes to drug.....
prevention saves!*



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