



Building Solutions to Pharmaceutical Pollution

The Nuts and Bolts of a Medicine Take-Back Collection

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&

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Objectives

- List three health and safety risks created by unused pharmaceuticals
- Review steps required to conduct a medicine take back event
- Gain a better understanding of the challenges associated with take back events

All Healing Has Ecological Consequences...



Leftover pills!

- Disposal advice inconsistent
- Office of National Drug Control advise not practical
- Increased risk of prolonged storage & improper disposal



Prolonged Storage Risks

- Poisoning
- Non-fatal primary affects children
- U.S. Consumer Product Safety Commission warning





Prescription Drug Abuse

- A significant and worsening problem
- Second leading cause of unintentional injury death, exceeded only by MVC
- “Pharming” and “Trail Mix” parties
- Estimated 800,000 web sites that sell Rx drugs, no questions asked

Water Quality and Supply

- Only about 1/3 of the world's potential fresh water can be used for human needs
- As water pollution increases, supply decreases
- Toilet to tap approach – key to management in 21st century



Environmental Impact

- 2002 USGS landmark study
- Feminization of male fish
- Antibiotic resistant bacteria in surface water may reduce growth of plants
- Characterized as 'slow motion, long term risk' to humans





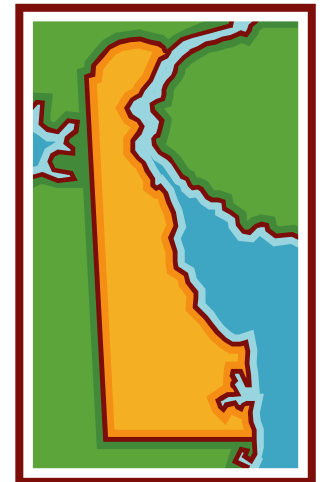
The Precautionary Principle

When an activity raises threats of harm to the environment or human health, precautionary measures should be taken even if some cause-and-effect relationships are not fully established scientifically.

Wingspread Conference, 1998

Taking Action in Delaware

- Grant obtained from DNREC for \$2500
- Original pilot was continuous return program in 3 outpatient CCHS pharmacies
- Using secure locked bins
- Hospital leadership supportive





Goals Included...

- Improve water quality by providing community with safe disposal method
- Enhance patient safety
- Educate community about hazards of flushing practices
- Increase public sense of ecological responsibility



Regulatory Roadblocks

- Informed proposed pilot would be in violation of DEA regulations
- Controlled substance act
- The research begins!
- List-serve query
- Multiple phone calls
- Armed with information for conference call



Plan B

- Various solutions & compromises proposed
- Mid-west model suggested
- Meds to be collected weekly on specified day and time period
- Controlled substances would not be collected



A New Approach

- Breaking news – public wants answers
- Grant transferred to DNA – NHOP
- One day take back event chosen
- Modelled after Mid Coast and NERC
- Arrangements made for location, law enforcement, publicity & disposal
- Appeal to Board of Pharmacy



Board of Pharmacy Appeal

- Prepared presentation
- Request that Board of Pharmacy become an ally in collection efforts
- Told not illegal but no support shown
- DEA directed law enforcement not to participate
- Letter to supervisor and deputy attorney general

Final Nod of Approval



DON'T FLUSH UNWANTED OR EXPIRED MEDICATIONS.

BRING IN YOUR OLD MEDICATIONS FOR PROPER DISPOSAL!

For more info, call:
(302) 428-2117
or
(302) 998-3141

Everyone Is Invited!
Leave all medications in original containers.

Delaware Nurses Association presents

Medicine Cabinet Clean-Out Day!

Brought to you by Nurses Healing Our Planet

WEDNESDAY

September 3, 2008

9 am to 1 pm

Dover Police Station

400 South Queen Street

Dover, Delaware 19904

All pharmaceuticals brought in will be disposed of in an environmentally safe manner.

WE WILL ACCEPT:

- Prescriptions
- Over-the-Counter Pills
- Liquid Medications
- Inhalers
- Vitamins
- Pet Medicine

This project is funded by a grant from DNREG. Special thanks to the Delaware Board of Pharmacy.

More than 43,000 pills collected
in less than four hours!



Other Outcomes

- Grant increased
- 150 gallons of liquid & solid meds
- 20 gallons of aerosols
- 262 participants statewide
- 68 volunteers
- \$350,000 worth of controlled





Mid Coast Hospital

- Spring, 2005
- Concerned citizens sharing thoughts created what has become a biannual event.
- TRIAD, Sagadahoc Sheriff's Department, Mid Coast Hospital/
Healthline/Community Outreach
 - Saw a need to address pharmaceutical waste
 - Involved hospital pharmacist, and pollution prevention coordinator



Education of Team

- Group began to research what we can do with pharmaceuticals
 - Research included info from Pharm Ecology
- We knew to not flush
 - Geologic Survey results 2002
- Simple landfill was out, as was community incineration
- Contacted waste disposal companies
 - Incineration as hazardous waste recommended. This is currently the best technology



Site Chosen

- Mid Coast Hospital
- Good location for surrounding areas/communities
- Waste hauler chosen was the hospital hazardous waste hauler
- This was to be a special pick up from them



Our Process

- Workers
 - Pharmacist for drug identity
 - Law enforcement for Schedule #3 drugs
- Flow, directing folks to the conference rooms
- Security
 - Advertisement of the event might draw people looking for drugs. Extra security and police presence in the parking lot day of the event
- Counters
 - Time of event 10 -2 for collection
 - This first event every pill was counted for data
 - Tables, computers to log amounts
 - Gloves, we handled a lot of pills
 - Recycle bins, packaging was often recyclable



Early Problems

- One site more complicated for people to bring their drugs. Parking and size of building deterrent
 - Next event will have several drop off sites.
 - Law enforcement will be present at each site and then transport to the hospital for processing
- Waste Hauler chose to come for meds on their regular pick up day, leaving meds in our hazardous waste room for a week!
- DEP found a different hauler for subsequent events.

Results from First Event

- 135 participants
- 175 pounds of non-controlled medications *minus inhalers*
- 5 gallons controlled substances
- One location



- First Mid Coast Event
- *Counting...*





Subsequent Events

Multiple sites are just drop off locations:

West Bath fire Department, Richmond Senior Center, Mid Coast Senior Center, Red Cross-Mid Coast Chapter, Lincoln County Communications Center

Transported to hospital by law enforcement

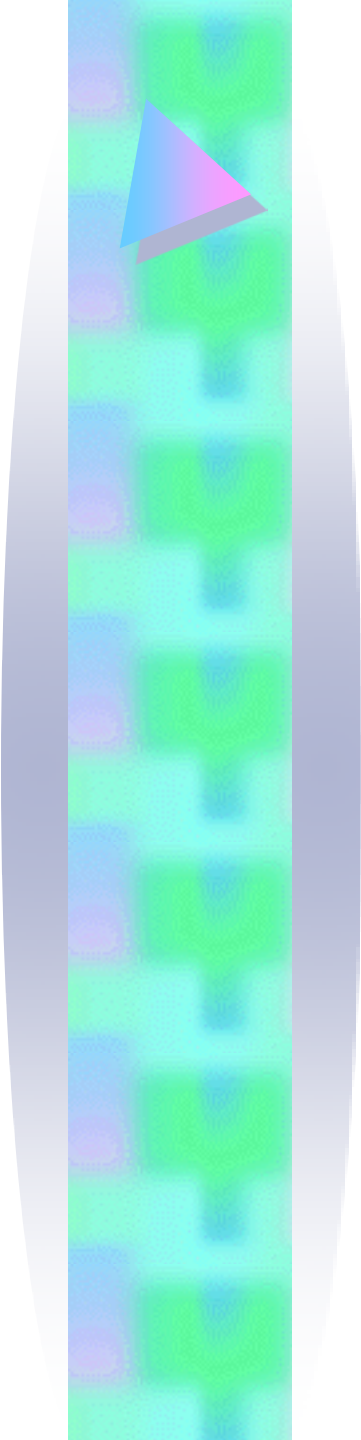
June 2009 is the eighth collection for this collaborative effort; twice per year/ spring & fall

Expanded to one Evening and the daytime



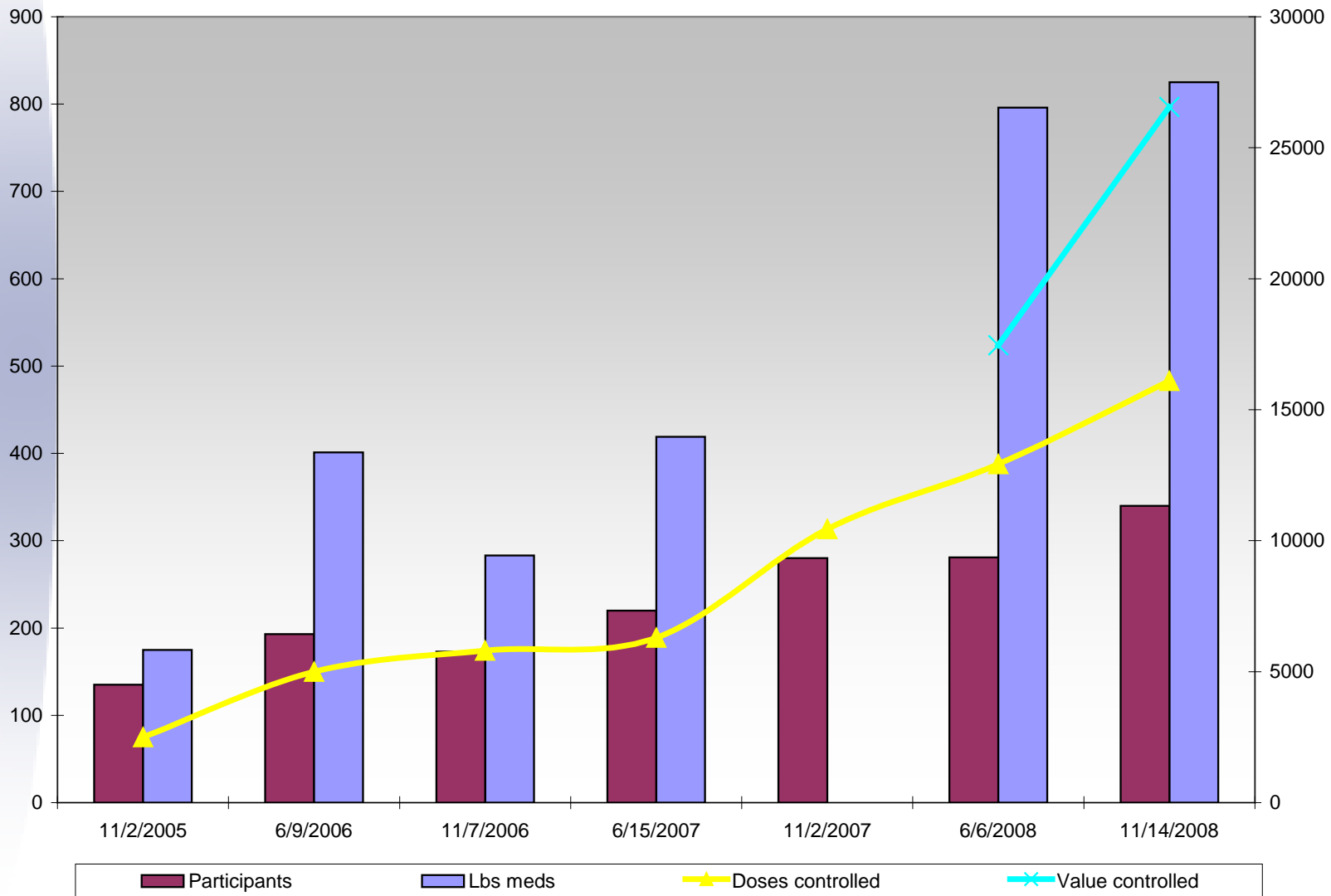
Joy of Collaboration

All Area Law Enforcement Agencies, Mid Coast Hospital, CHANS Home Health Care, TRIAD, The Highlands, Sagadahoc EMA, Sagadahoc Health Improvement Project (SHIP), Department Health and Human Services, Public Health Nurses, Maine Department of Environmental Protection (DEP), Community pharmacists, Sagadahoc Weed and Seed Program





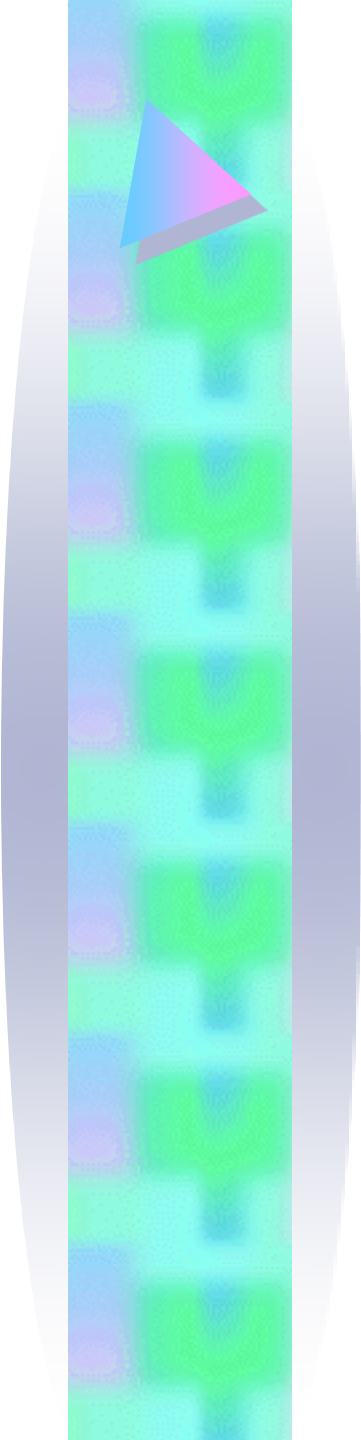
Statistics, Seven Events



A decorative vertical bar on the left side of the slide, featuring a colorful triangle (blue, purple, green) at the top and a blurred background of green and blue squares below. The title "Next Steps" is centered at the top in a blue serif font.

Next Steps

- Mail Back
- University of Maine Center on Aging
- Grant awarded \$150,000 for program
 - Pilot 75 pharmacies
 - Prepaid mailers: place unwanted meds in envelope and mail.
 - Goes to Westbrook where the meds are handled the same way as our community events.
 - Funds gone when the mailers are gone



Maine Product Stewardship Bill

- *This bill establishes a system to collect and safely dispose of unwanted drugs from households and other residential sources.*
 - Legislative Document #821 *written by Ann Pistell from DEP and Representative Anne Perry*
 - Introduced by Representative Anne Perry
NP Nurse Luminary from HCWH!

[/http://www.maine.gov/portal/government/legislature.html](http://www.maine.gov/portal/government/legislature.html)

<http://janus.state.me.us/legis>



Points to Ponder

- Medication Take Back Programs are baby steps in solving a huge problem
- A universal plan is needed to address pharmaceutical waste
- Pharmaceutical advertisements off TV
- Prescribing practices need reevaluation and overhaul.
 - Bulk OTC and 90 day supply
 - Lower costs to patients and insurance companies/3rd party payer.



- Costs... of unused meds
- Aranesp 200mcg
- wholesale price \$1250 per vial.
- This one returned prescription represented \$15,000!



Goals

- Development of better disposal technology and practice
- Better prescribing practices that dispense fewer medications, both in type and amounts
- Green pharmaceuticals
- Simplified disposal systems in healthcare institutions
- Improved WWT technology



Unless someone like you cares a whole awful lot, nothing is going to get better. It's not!

– Theodor Seuss, Geisel The Lorax

