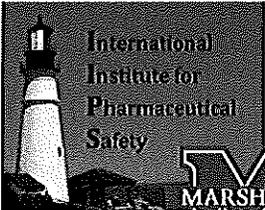


# C.18

Gressit, Stevan (2011) Prescription  
Drug Abuse: A Problem for the  
Community and Physicians







## Prescription Drug Abuse: A problem for the community and the physicians




**Cabell County Medical Society Dinner  
Meeting  
Guyan Golf and Country Club**

Huntington, West Virginia

November 10, 2011

Stevan Gressitt, M.D.



### WHY ADDRESS DISPOSAL OF UNUSED MEDICATION? ARE THERE BENEFITS TO IMPROVE HEALTHCARE AND THE COMMUNITY AT THE SAME TIME ?

12-26-2004



**THE ATHENS DECLARATION** was unanimously voted on August 3rd 2007 at the 2nd International Conference on Environment in the City of Athens Cultural Center is as follows:

1. To create an international group
2. To support the following in response to address unused drug disposal
3. To reduce household drug burden
4. To reduce accumulation of drugs by the elderly
5. To protect our physical environment
6. To reduce improper international drug donations
7. To eliminate waste in the international health care systems of all countries

We call upon governments, NGOs and citizens everywhere to control policies and practices that factor waste in the health care systems of all countries and endanger human, animal, and our physical environment.

We call upon all countries to honor their support of WHO Guidelines on Drug Duration and the WHO Guidelines on Drug Disposal and strive to improve on these.

We call upon health care providers worldwide to appropriately prescribe medicines to patients in the most effective form and quantity.

We call upon health care organizations to not set form policies that promote excessive dispensing.

We call upon private providers to recognize the need for medicine to be safe as intended. It is to be effective.

We call upon governments, NGOs and citizens worldwide to not immediately burn improper drug donations rather as humanitarian and following disaster in a general practice.

We call upon others to endorse these principles with us for the betterment of the health of the environment and people worldwide.

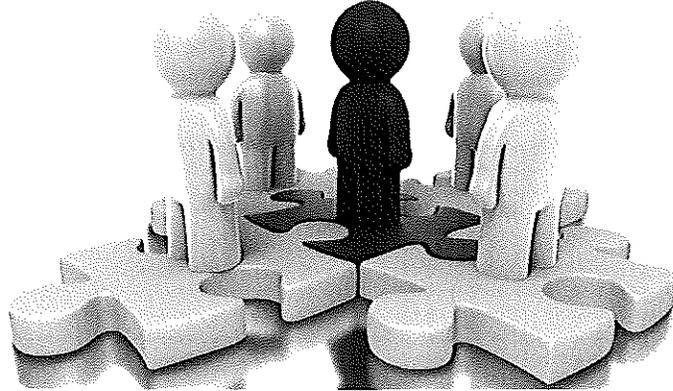
**Athens,  
Greece  
August 3rd,  
2007**



Stevan Gressitt, M.D.  
 Health Services Director, Athens Care at Saint  
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 Email: gressitt@slh.com

# Unused Medications

Where are we now?



Prepared for: U.S. Drug Enforcement Administration

By: Dr. Jeanie Jaramillo and Dr. Stevan Gressitt

July 19, 2011

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## Acknowledgement

This presentation includes information collected and compiled by the *Pharmaceutical Collection Monitoring Group* through use of the *Pharmaceutical Collection Monitoring System™*

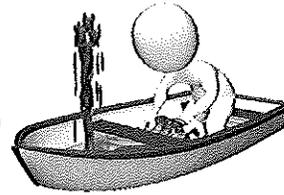
<http://medicationcleanout.com/DataCollectionProject.aspx>



4

## Purpose for Visit

- There's an elephant in the room
  - Not that unused medications are a problem
    - Now common knowledge:
      - Meds as a source of poisonings
      - Source of abuse (and diversion)
      - Source of misuse
      - Source of environmental contamination
- Finding a solution
  - Band aid approach is no longer enough
    - Take back events are a band aid approach



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## Root Cause Analysis is Needed

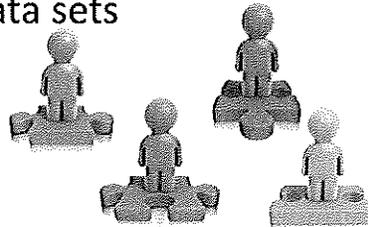
1. Define the problem factually
2. Gather data and evidence
3. Ask "why" and identify causes
4. Identify corrective actions that will prevent recurrence
5. Implement actions
6. Observe effect



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## Data Collection

- Numerous take backs across country
- Several high-quality data sets
  - Gressitt
  - Mireles
  - Gottlieb
  - Jaramillo
- All data sets collected different data points
  - No consistency
  - Merging of data difficult if not impossible



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## Pharmaceutical Collection Monitoring System™ (PCMS)

- Web-based recording and reporting tool
- Provides for collection of consistent data across multiple sites
- Accessible by users anywhere that internet service is available



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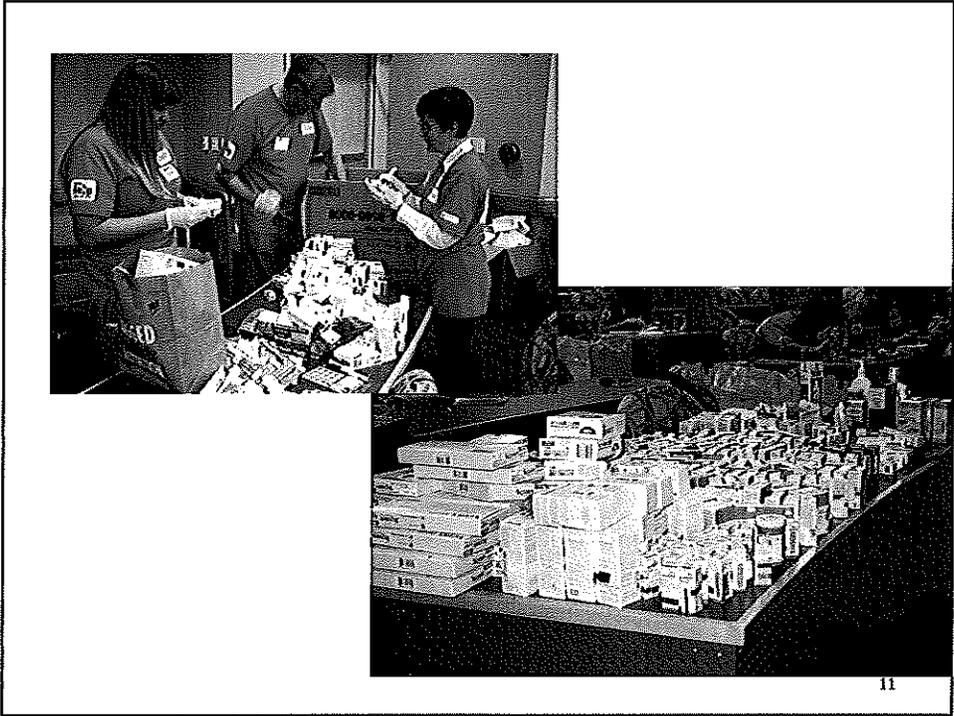
## **A Case Report: Car #188**

- Amarillo, Texas
- Population: ~180,000
- Community Medication Take Back Event
- Drive through
- Collaborative effort with Amarillo Police Department



## **Car #188**

- 2 large boxes
- Medications from deceased parents and cat
- Speculatively parents both suffered from chronic, terminal diseases
- Reporting today only the controlled substances from this vehicle

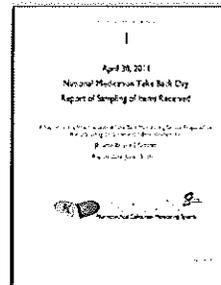


## Controlled Substances from Car #188

Drug Name	Strength	# Containers	Qty Collected	AWP	Low-High End Street Value
diazepam	5 mg	18	2,320	\$167	\$2,320 - \$46,400
hydrocodone/ APAP	10/325 mg	4	520	\$363	\$1,040 - \$10,400
Lorcet®	5/500 mg	2	2	\$3	\$6 - \$18
Lyrica®	75 mg	6	84	\$227	\$420 - \$1,680
morphine sulfate	30 mg	61	10,080	\$5,352	\$80,640 - \$302,400
MS Contin®	30 mg	3	6	\$17	\$90 - \$300
oxycodone/APAP	5/500 mg	15	802	\$95	\$802 - \$4,010
temazepam	30 mg	2	180	\$32	\$180 - \$368,808
		<b>111</b>	<b>13,994</b>	<b>\$6,256</b>	<b>\$85,498 - \$368,808</b>

## April 30<sup>th</sup> 2011, DEA Take Back Day

- Eight organizations
- 11 sites
- Conducted events and logged data
- Goal: data from at least first 50 participants
- Result: data from items of 411 participants was collected
- 3,800 line items logged



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### Classification Breakdown by Site

Site	Controlled Substances	Non-Controlled Substances	OTCs	Unknowns
Belfast, ME	5.94%	71.55%	21.76%	0.74%
Erie, PA	7.79%	49.75%	42.45%	0.00%
Ft. Worth, TX	1.65%	47.96%	60.34%	0.05%
Harard, PA	9.21%	52.33%	38.46%	0.00%
Harborcreek, PA	1.88%	83.83%	14.30%	0.00%
League City, TX	9.23%	67.56%	33.09%	0.12%
Lubbock, TX	8.61%	66.17%	34.50%	0.81%
Naples, FL	11.15%	43.91%	32.38%	12.56%
Portland, ME	4.98%	66.96%	27.99%	0.07%
St. Louis, MO	4.86%	65.65%	29.49%	0.00%

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## Most Commonly Collected Controls



Acetaminophen with hydrocodone  
22.7%

Acetaminophen with propoxyphene  
21.3%

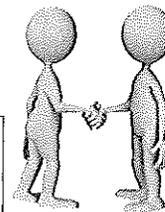
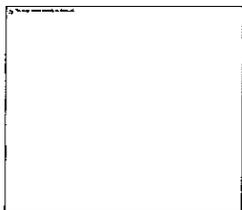


Benzodiazepines  
11.3%

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## Medication Utilization/ Wastage

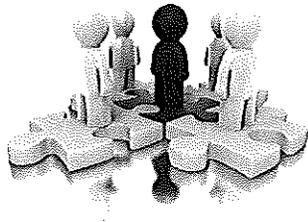
- Controlled substances collected/documentated
  - On average, 67% of dispensed controls were brought to take back events for disposal
  - 67% = wasted
    - Overprescribed?
    - Over-marketed?



16

## Contact Information

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## Maine State Medication Take Back Data

2011 International Symposium on Safe Medicine  
October 4, 2011

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Doctor of Pharmacy Candidate, 2014  
Generation Rx Co-Chair, APhA-ASP

**Stevan Gressitt, M.D.**  
Founding Director, International  
Institute for Pharmaceutical Safety

**UNE** UNIVERSITY OF  
NEW ENGLAND  
College of Pharmacy

**Generation Rx** APhA-ASP  
Preventing the Misuse and Abuse  
of Prescription Medications  
AMERICAN PHARMACEUTICAL ASSOCIATION  
ACADEMY OF STUDENT PHARMACISTS



## Disclosure

- The content from Heather Stewart does not relate to any product of a commercial interest. Therefore, there are no relevant financial relationships to disclose.
- Safe Medicine Disposal for ME was funded by the U.S. Environmental Protection Agency Grant # CH-83336001-0.
  - Lenard Kaye, Principal Investigator and Director
  - Jennifer Crittenden, Program Manager and Research Associate, University of Maine Center on Aging, Bangor, ME
  - Stevan Gressitt, Co-Principal Investigator, and former Medical Director Maine Office of Adult Mental Health Services, Maine Department of Health and Human Services, Augusta, ME

## Objectives

### Data Collected Independent of DEA

- To summarize the Maine data collected from the "National Medication Take Back" event on April 30, 2011.
- To raise awareness of the growing need for successful medication disposal programs.
- To compare and contrast results from the "Safe Medicine Disposal for ME" program and the "National Medication Take Back" event.

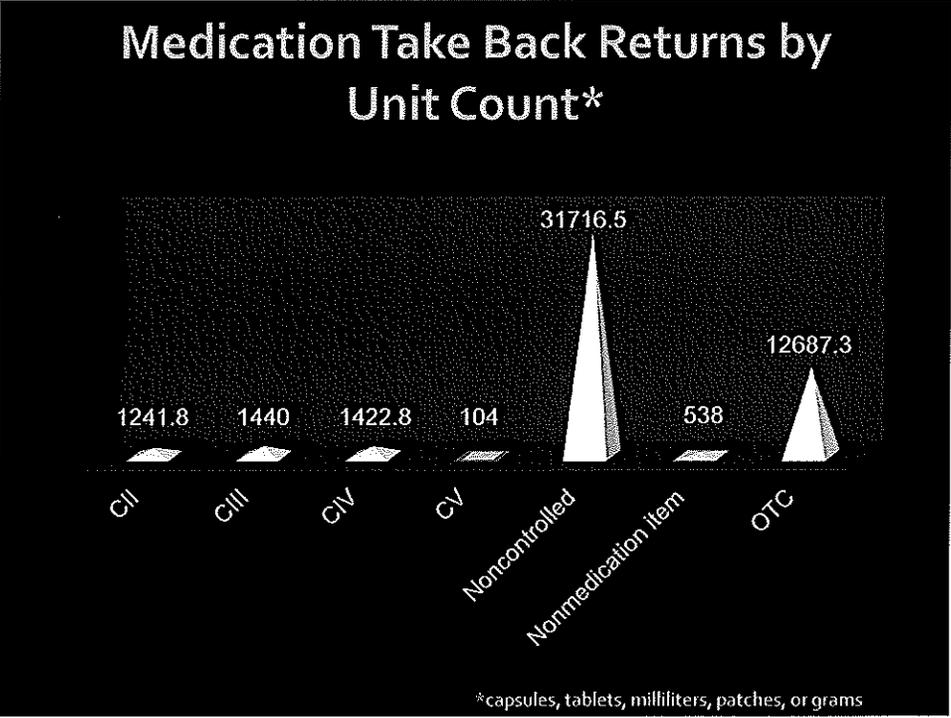
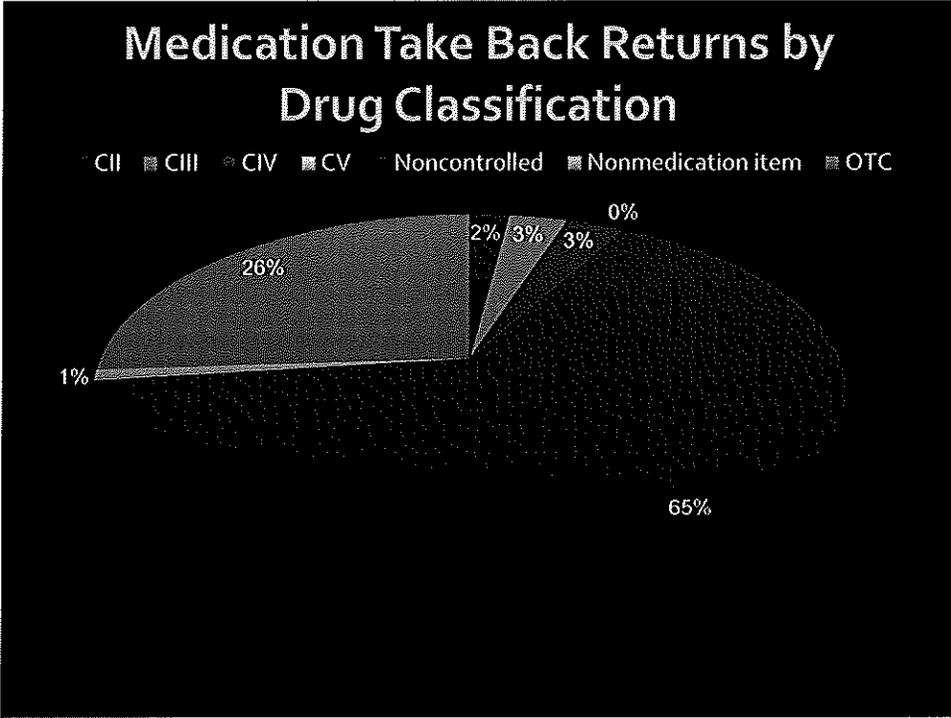
## Pounds Collected, According to 2010 Decennial Census

County	County Population	Lbs Collected	
Sagadahoc	35293	766.2	
Aroostook	71870	1470.8	
Androscoggin	107702	1503.3	
Piscataquis	17535	180.1	
<b>Cumberland</b>	<b>281674</b>		<b>2537.2</b>
Hancock	54418	474.9	
Kennebec	122151	1054.6	
Lincoln	34457	261.6	
Knox	39736	297.9	
Franklin	30768	228.1	
York	197131	1427.3	
<b>Waldo</b>	<b>38786</b>		<b>271.7</b>
Penobscot	153923	938	
Washington	32856	153.6	
Oxford	57833	234.8	
Somerset	52228	119.9	
<b>Maine Total Collection: 11920 lbs</b>		<b>(14000 oct 29)</b>	(Source US DEA Maine)

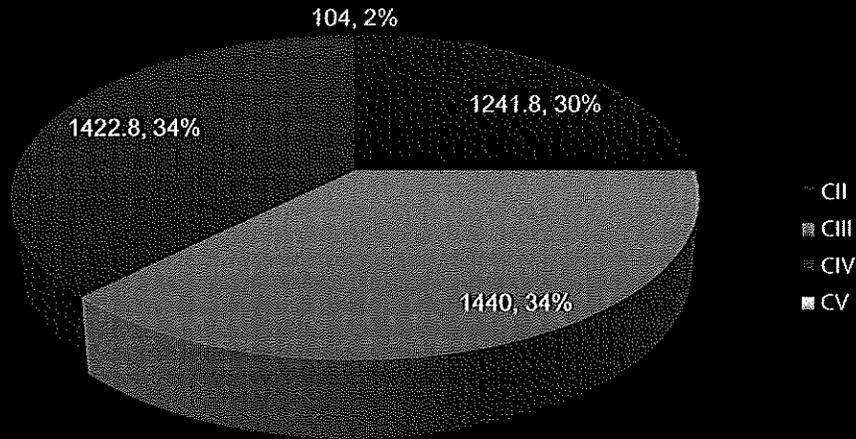
## Maine State Medication Take Back Participation, April 30, 2011

- **Portland**
  - 55 Participants
  - Logged 797 individual medications
  - Collected 43,278 Units\*
  - 73.7% Waste
- **Belfast**
  - 13 Participants
  - Logged 97 individual medications
  - Collected 3,166 Units\*
  - 68.5% Waste
- **Long Term Care Facility (LTCF)**
  - 3 Participants
  - Logged 75 individual medications
  - Collected 2,761 Units\*
  - 65.1% Waste

\*capsules, tablets, milliliters, patches, or grams

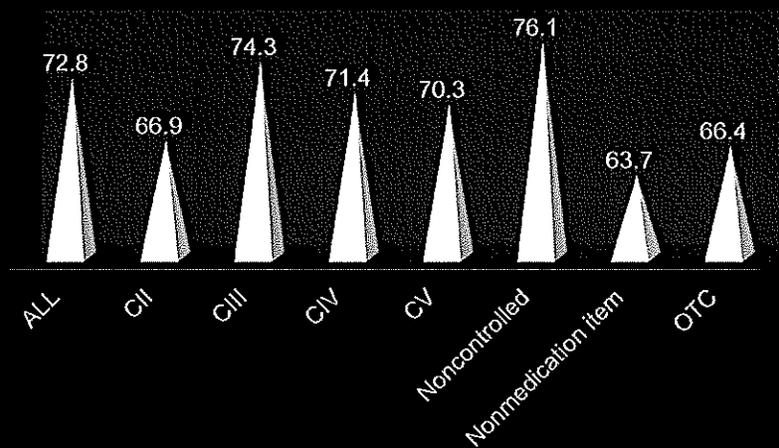


## Medication Take Back Returns by Controlled Substance Category\*



\* Classification as a controlled substance is defined by the Controlled Substance Act of 1974

## Percent Returned from Dispensed, by Medication Class

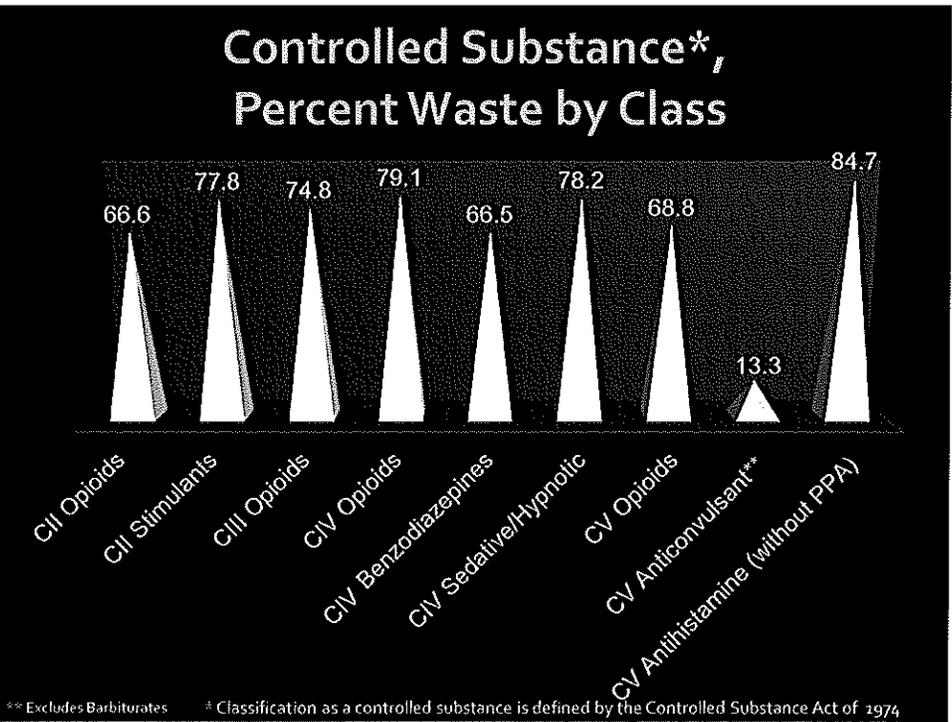




## Top 10 Therapeutic Class, Wastage by Capsule/Tablet Count

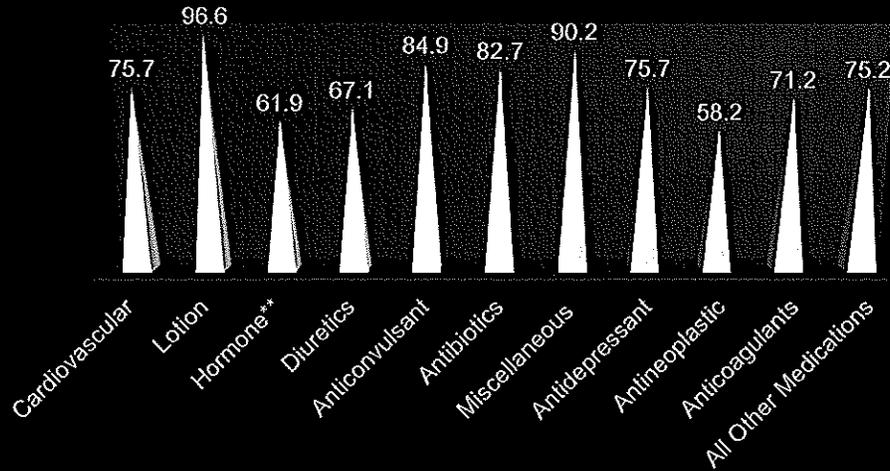
Therapeutic Class	Original Amount	Returned Amount	Waste (%)
Cardiovascular	12350	9344	75.7
Hormone & Hormone Replacement	4201	2601	61.9
Diuretic	2537	1703	67.1
Anticonvulsant	1983	1684	84.9
Antibiotic	1797	1487	82.7
Antidepressant	1692	1280	75.7
Antineoplastic	1966	1144	58.2
Anticoagulant	1567	1116	71.2
Gastrointestinal	1069	968	90.6
NSAID	962	572	59.5

## Controlled Substance\*, Percent Waste by Class





## Non-controlled Medication, Therapeutic Category by Unit Count\*, Percent Waste



\*\* Includes hormone replacement

\*capsules, tablets, milliliters, patches, or grams

## PharmEcology® review of returns for environmental hazard\*

- No controlled drugs were hazardous wastes
- Seven OTC drugs were RCRA hazardous or potentially hazardous (alcohol content not documented)
- Of Rx drugs, only 15 were RCRA hazardous waste

\*Analysis performed manually by PharmEcology Services, WM Healthcare Solutions, Inc. based on available data

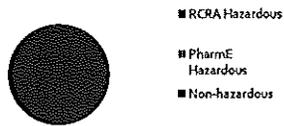
# Maine Take-back Waste Analysis

Waste Type	Controlled Sub stances	Non- Controlled Rx	OTC	Summary	Summary Percentages
RCRA Hazardous	0	15	7	22	4%
PharmE Hazardous	0	25	0	25	4%
Non-hazardous	75	284	195	554	92%
<b>Total</b>	<b>75</b>	<b>324</b>	<b>202</b>	<b>601</b>	<b>100%</b>

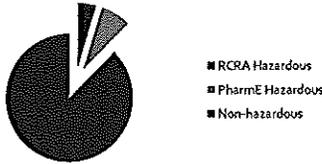
Manual analysis performed by PharmEcology Services, WM Healthcare Solutions, Inc. PharmE Hazardous® is a proprietary category developed by PharmEcology Services to identify drugs that are potentially as hazardous as wastes currently "listed" under RCRA, but are not RCRA hazardous wastes (i.e. many chemotherapy drugs).

# Maine Take-back Waste Analysis

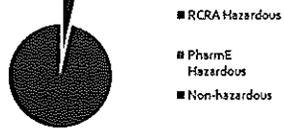
Controlled Substances



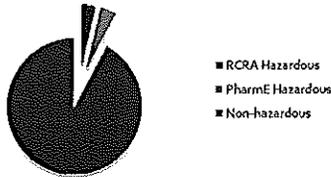
Non-Controlled Rx



OTC



Summary: Maine Take-back Data



Manual analysis performed by PharmEcology Services, WM Healthcare Solutions, Inc.

## Safe Medicine Disposal for Me (SMDME)

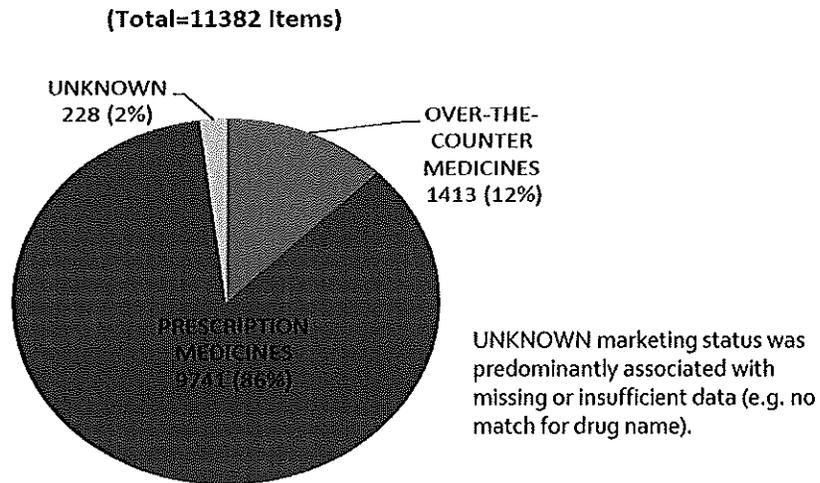


- Enabled through state legislation
  - Public Law 2003, Chapter 679 "An Act to Encourage the Proper Disposal of Unused Pharmaceuticals"
    - Sponsored by Senator Lynn Bromley
    - <http://www.maine.gov/legis/opla/drugrpt.pdf>
- Prototype model (statewide and national replication) for the disposal of unused household medications (controlled and non-controlled)
- Anonymous, free way to dispose of unused medications safely and properly
- High heat incineration, according to Maine's law enforcement drug seizures procedure
- Utilizes U.S. Postal Service to solve Maine challenges
  - Maine has a high degree of rurality
  - Oldest state in the nation
    - Maine median age 42.7 years old versus U.S. 37.2 years old (2010 U.S. Census Bureau)

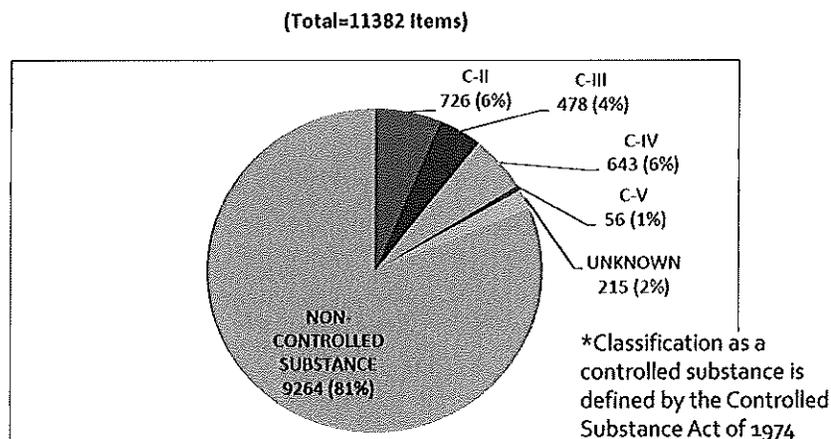
## Participant Survey Results: Top Reasons for Medication Collection in Patient Homes

- A physician told the patient to stop taking the medication or gave the patient a new prescription. (27.3%)
- Medicine belonged to a deceased family member. (19.6%)
- The person felt better or no longer needed the medicine. (18%)
- The person had a negative reaction or allergy to the medicine. (11.9%)

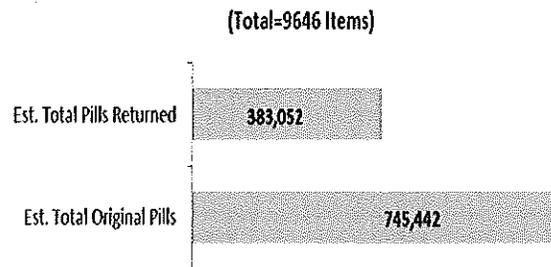
## Marketing Status of Returned Medication



## Medication Returns by Federal Controlled Substance Category\*



## Estimated Proportion of Waste (Percentage) By Pill Count

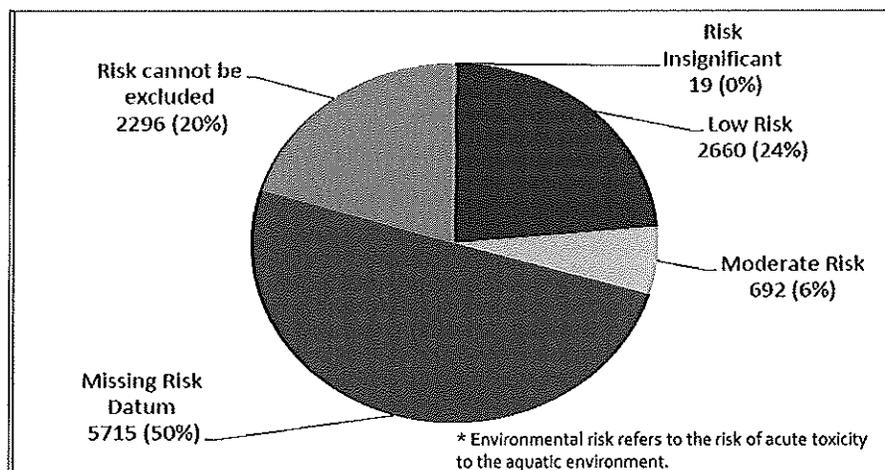


The estimated proportion of wasted medicines, by PILL FORM and PILL COUNT only, is calculated by dividing the *estimated total quantity returned* by the *estimated total standard packsize*. The total PILL count is the sum of PILL form (coded as pill, capsule, or tablets). The *estimated total standard packsize* corresponds exactly to the total line items of this variable (n=9646).

**ESTIMATED PROPORTION OF WASTE = 51.39%**

## Potential Environmental Risk\* of Medication Returns

(Total=11382 Items)



## Conclusion

- Need for data while ensuring the highest level of security
  - Justification for policy
  - Improved health care practice
    - Health care professionals need to collaborate to avoid prescription abuse, misuse, and diversion
  - Patient Safety
    - Primary Concern
- Immediate need for education on all fronts
  - Pharmacists, prescribers, patients, and government officials
- Need to take affirmative position
- **Need to utilize student health care professionals for greatest impact!**

## October 29, 2011 DEA results

- **DEA's Third National Prescription Drug Take-Back Event Collects 188.5 Tons**
- **NOV 03- (WASHINGTON, D.C.)** – Americans participating in the U.S. Drug Enforcement Administration's (DEA's) third National Prescription Drug Take-Back Day on October 29 turned in more than 377,086 pounds (188.5 tons) of unwanted or expired medications for safe and proper disposal at the 5,327 take-back sites that were available in all 50 states and U.S. territories. When the results of the three Take Back Days to date are combined, the DEA and its state, local, and tribal law-enforcement and community partners have removed 995,185 pounds (498.5 tons) of medication from circulation in the past 13 months.

<http://www.justice.gov/dea/pubs/pressrel/pr110311.html>

# CMS and Medicare Part D and Wasted meds

<http://www.gpo.gov/fdsys/pkg/FR-2011-10-11/pdf/2011-25844.pdf>

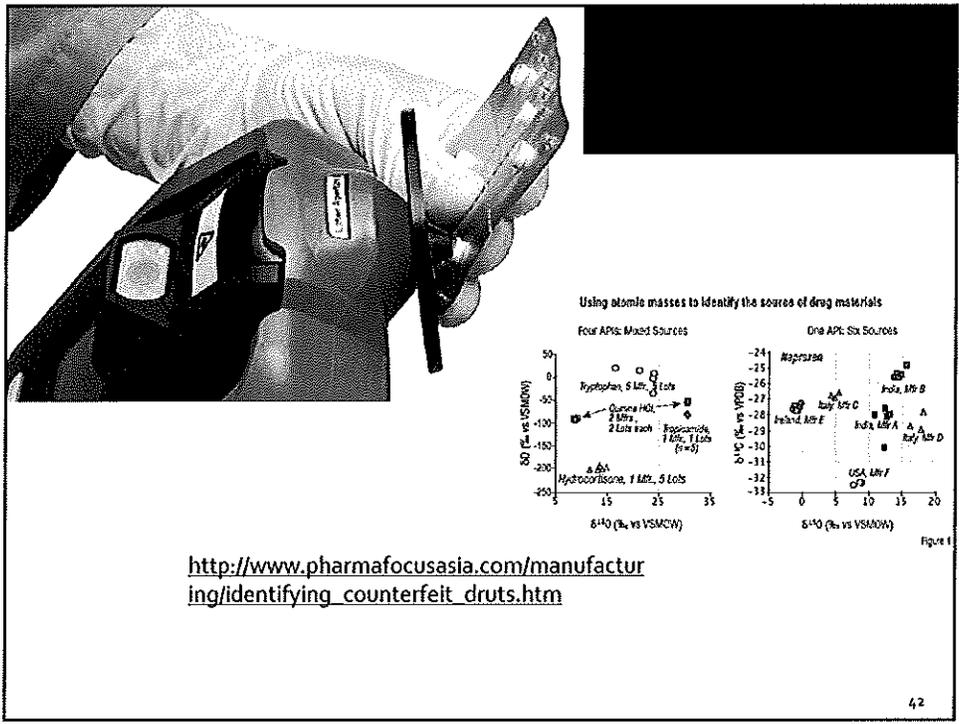
43054 Federal Register / Vol. 76, No. 198 / Tuesday, October 11, 2011 / Proposed Rules

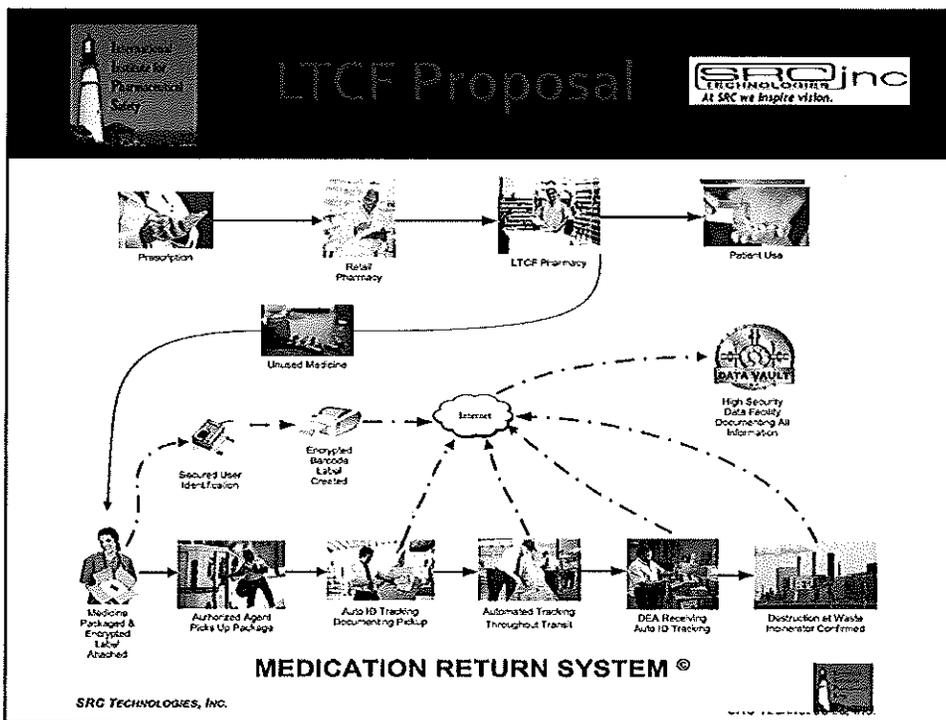
of an entity's medical care expenses for the year, as well as the amount of the entity's net operating loss for the year, as well as the amount of the entity's net capital loss for the year. In order for the entity to be able to receive the premium and application of the quantity of coverage for the year, the entity must file a return for the year by the due date for filing the return, and the entity must file a return for the year by the due date for filing the return, and the entity must file a return for the year by the due date for filing the return.

We believe that the savings from the fully cost-sharing requirement may be partly offset by the additional cost of the fully cost-sharing requirement. We estimate that the additional cost of the fully cost-sharing requirement would be \$1.1 billion in 2011, and that the savings from the fully cost-sharing requirement would be \$1.1 billion in 2011. The net savings from the fully cost-sharing requirement would be \$0 in 2011.

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## Alternative technology at end of life?



**The National Center for Electron Beam Research**

### Program in Environment Treatment Technologies

The focus of activities is to harness E-Beam and X-ray technologies to treat municipal drinking and wastewater, and industrial waste streams. Projects underway are focused on disinfecting against microbial pathogens, destroying estrogenic compounds, chlorinated compounds and other recalcitrant pollutants. Researchers with expertise in microbiology, chemical engineering and process chemistry are involved. The projects are funded from both federal and private sources.

**NATIONAL CENTER FOR E-BEAM RESEARCH**

- Program in Vaccine Development
- Program in Pasteurization, Sterilization & Phytoinhibitory Applications
- Program in Fundamental Biological Responses
- Program in Consumer Economic and Marketing Studies
- Program in Environmental Treatment Technologies
- Program in Material Transformations

# For Further Information

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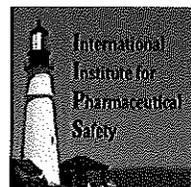


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