

# CEI *Report*

July 2011



## Pharmaceutical Pollution Prevention

Documents recent work to identify and disseminate best management practices to prevent over-dispensing of medicines in the Greater Rochester Area.



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# Executive Summary

## Pharmaceutical Pollution Prevention: Preventing Pills from Becoming Waste

CEI, in cooperation with its CARE Collaborative, has been working to develop, evaluate, recommend and provide outreach/education on processes that prevent the over-dispensing of medications. Ken Carl, CEI Project Manager, began working on this project late last summer and wrapped up the work in April 2011. Ken worked to develop and evaluate a variety of techniques or best management practices to prevent the over-dispensing of medicines in institutions and to properly manage whatever excess that is generated. He has developed and disseminated outreach materials to those organizations who can implement best management techniques and practices.

CEI also provided education about the risks associated with improper management of old pills and what can be done to prevent these chemicals from entering our water. The target audience was health care facilities, specifically urgent care centers, hospice operations, and nursing homes. This project was made possible by funding from:

**New York State Pollution Prevention Institute at the  
Rochester Institute of Technology; and**

**Air & Waste Management Association, Genesee Finger Lakes Chapter**

This project would not have been successful without the support of several organizations including:

- Monroe County Department of Environmental Services
- St. John Fisher School of Pharmacy
- Drug Information Center at the University of Rochester Medical Center
- Wegmans Food Markets
- Excellus Blue Cross Blue Shield
- New York State Department of Environmental Conservation (NYSDEC) and Department of Health (DOH)

## Best Management Practices for Health Care Facilities

### Pharmaceutical Waste Reduction Strategies

A Best Management Practices (BMP) document on preventing pills from becoming waste was developed using information published by the USEPA.

The five best management practices' are:

1. Unit dose packaging and automatic dispensing,
2. Trial prescriptions for fewer dosages,
3. Review and purchasing practices,
4. Replacement of manufacturers' samples with vouchers, and
5. Waste reduction practices.

Other outreach and education materials were taken from existing documents.

### Unit Dose Packaging and Automatic Dispensing

To reduce the quantity of unused pharmaceuticals, facilities can limit the number of doses dispensed to a patient at one time (unit dose packaging). This is the preferred approach.

The facility can purchase prepackaged unit doses, for example, in blister packs or bingo cards. It can also prepare unit doses at the on-site pharmacy for dispensing to patients (e.g., individually wrapped or dispensed via an automated dispensing system). By limiting the amount of medication dispensed to a patient at one time, unopened pharmaceuticals can more readily be restocked and re-used. As long as the packaging is not opened and has been stored properly, the facility may be able to return medications to its pharmacy for reuse. The majority of unit doses are blister packs purchased from the manufacturer as unit doses.

### Trial Prescriptions

If a facility cannot use unit dose packaging, the use of trial prescriptions is the next best option. Certain medications have high incidences of side effects, and patients frequently stop taking the medication before the dispensed quantity is used. For these medications, we recommend use of trial prescriptions in which only a small quantity (e.g., 7 - to 14-day supply) is dispensed. If the patient stops taking the medication, the unused amount is reduced.



### Review and Purchasing Practices

The facility should review purchasing practices to determine ways to reduce waste.

- Identify any pharmaceuticals that commonly expire before use – buy less to reduce wasted amount.
- Identify pharmaceuticals used by multiple departments – purchasing a standard package size, dose, or form can reduce waste. This allows multiple departments to use the same supply.

### Replacement of Samples with Vouchers

Pharmaceutical sales representatives often provide sample medications to health care facilities. Samples of medication can be provided to patients at no cost as trial prescriptions. To reduce waste, health care facilities should replace samples with vouchers. The patient exchanges the voucher for a sample at the pharmacy. This minimizes generation of waste from expired sample medications.

### Waste Reduction Practices

A periodic review of the inventory should be established. This periodic inventory review will allow the list of pharmaceuticals to be updated and will aid the facility in identifying pharmaceuticals nearing expiration.

Stock rotation is also a practice that will help to reduce expired pharmaceuticals. During the periodic inventory review, any short-dated pharmaceuticals are redistributed to other areas of the facility where they are needed and used immediately.

## Discussion

### Nursing Homes

Unit dose packaging (each dose in its own package) combined with automated dispensing has the most significant effect on reducing medicine waste. Only nursing homes with in house pharmacies are permitted to use automated dispensing; currently there are 4 nursing homes out of 34 in Monroe County that are in this position. Essentially the medicines belong to the nursing home (pharmacy) until they are dispensed from the packages to the patients. If they don't get dispensed they can be returned to the pharmacy for re-use; so obviously waste levels are very low. The remaining nursing homes use outside vendor pharmacies to supply the medicines which are in unit dose packages. If the medicines are not used for the assigned patient and they are still in the unit dose package, they can be returned to the vendor pharmacy for re-use. The one exception to this is for medicines that are controlled substances which cannot be returned and must be kept by the nursing home for disposal. The vendor pharmacy provides frequent deliveries which allow the nursing homes to limit the amount in prescriptions for controlled substances and thereby reduce the potential for waste (BMP#2).

All nursing homes with pharmacies are registered by the Drug Enforcement Administration (DEA) and in New York State they are considered Class 3 Generators of medicine waste. The significance of this is that they can return their unused controlled substances to a Reverse Distributor who can return them to the manufacturer for credit or arrange for proper disposal.

Nursing homes without pharmacies are considered Class 3A Generators and are not permitted to use Reverse Distributors. They are required to securely store unused controlled substances and to get approval from the DOH/BNE to dispose of them. All of the Class 3A nursing homes that we visited were well aware of this requirement and following it. The destruction method that is most commonly used is flushing; the BNE is trying to discourage the use of flushing and sent an August 2010 letter to all Class 3A Generators suggesting 4 other alternatives to flushing. One of the alternatives is for them to host a pharmaceutical collection event for the public. At such an event, the nurs-

ing home would be able to include their own medicines, including controlled substances. None of the nursing homes that we visited were aware of this option; several were interested in hosting events and were going to contact the BNE to get more details. So our disseminating the availability of this option was an important outcome of this project.

All of the nursing homes were interested in guidance providing education to their employee for disposition of their own medicines. We gave them fliers for the household collection event schedules to share with employees.

#### Nursing Homes Visited:

**St. John's** - Tony Montalbano, Chief Pharmacist

**MM Ewing Continuing Care Center** (Canandaigua) - Bob Locke, Director of Pharmacy

**St. Ann's** - Christine Freely, Director of Pharmacy

**Episcopal Church Home** - Linda Hirt: Director of Nursing

**The Cottages at Unity** - Mary Beth Hossenlopp, Physicians Assistant

**Wayne County Nursing Home** - Margaret Haroff, Director, Cheryl Acome, Director of Nursing, Marjorie Torrelli: W. Finger Lakes Solid Waste Engineer

**Jewish Home** - Staff

**Fairport Baptist Home** - Staff

**Penfield Place** - Staff

**Latta Road Nursing Home** - Staff







## Hospices

We found that there are only two Medicare licensed Hospice organizations in Monroe County- Lifetime Care and Visiting Nurse Services. Each of them have their own hospice, but they also supply hospice services to all of the nursing homes and the small volunteer run hospices throughout the region. The volunteer-run hospices are considered the same as an individual's home because, in this setting the patient and his/her family maintains possession of the medication; so any left-over medicines can be taken to household collection events. Both of these organizations agreed that it would be a good idea to provide hospices with collection information that they could share with patients and families. In the nursing home setting, the remaining medicines are treated with the rest of the medicine waste for the nursing home.

Lifetime Care runs a stand-alone facility called the Hilderbrandt Hospice. They use a vendor pharmacy so are considered a Class 3A generator with the same disposal requirements as the Class 3A nursing homes. Since patients do not stay there for long periods of time, they try to prevent medicine excess by limiting the quantity in prescriptions (BMP#2). Visiting Nurse Services runs a hospice on the St. Ann's Nursing Home campus called the Palliative Center for Caring. St Ann's has an in-house pharmacy which the hospice uses, so they are considered a Class 3 generator. They use unit dose packaging which minimizes any medicine excess (BMP#1).

### Hospices Visited:

**Lifetime Care Hospice** – Barb Giehl, Vice President of Hospice and Palliative Care

**Visiting Nurse Services** – Mary Kelly, Director of Hospice and Palliative Care

## Urgent Care Centers

Our investigation found that these facilities do not have a lot of medicines in house and do not have any controlled substances; mostly they write prescriptions to meet the needs of their patients. One interesting arrangement was where there was an independent pharmacy in the same building as the Urgent Care Center. The pharmacy was open for the same hours as the center so it was very convenient to fill the prescriptions.

What little excess medicines they did have were handled by the vendor who handled their other medical wastes. Some centers used samples from manufacturers' reps; we encouraged them to have the reps take the samples back if they got close to expiring. During the visits we gave them copies of the flier for the household collections schedule and ask them to share that information with patients.

### Urgent Care Centers Visited:

**Thompson Urgent Care** (Farmington) - Bob Locke, Director of Pharmacy

**Xpress Care Medical** (Gates) – Staff

**Concentra Urgent Care** (Rochester) – Nursing Supervisor

**Excel Care** (Pittsford) – Staff

**Urgent Care by Lifetime Health** (Rochester) – Staff

**Urgent Care by Lifetime Health** (Greece) – Staff

**Eastside Medical Urgent Care** (Penfield) - Wanda McCallum, Nursing Supervisor

**Urgent Care Now** (Webster) – Staff

**Extended Medical Services** (Webster) – Staff

**Immediate Care** (Greece) - Staff





## Outreach and Education

Several outreach and educational materials were used to support the above tasks.

- Fact Sheet: Preventing Pills from Becoming Waste  
<http://ceinfo.org/care/resources/Preventing%20Pills%20from%20Becoming%20Waste.pdf>
- Best Management Practices for Health Care Facilities  
<http://ceinfo.org/care/resources/BMP-Health-CareFacilities.pdf>
- Do Not Flush Your Drugs - NYSDEC article;  
<http://ceinfo.org/care/resources/NewPrescription-DoNotFlush.pdf>
- Copies of DEC and DOH letters to Class 3 and Class 3A Generators (available on request)
- List of available waste management facilities (available on request)
- Schedule information for the household collection events  
<http://www.monroecounty.gov/hhw>
- Excellus Blue Cross Blue Shield is a major health insurer in our region with close to 2 million members. They work with 18,000 doctors. As part of this project, they agreed to make the following communications through their networks:
- Excellus BC/BS newsletter article to providers about not over-subscribing
- Excellus BC/BS newsletter article to small businesses about proper Rx disposal

## Future Efforts

We expect to continue to disseminate materials developed by this project because of the continued interest expressed by many groups with whom we interact regularly, especially the CARE Collaborative. In addition, we have met and shared all of the information with the Drug Information Center at the U of R. They are a relatively new organization and are developing their communication strategy which will include our information and material.

We also believe that there is an opportunity to share this information with other health care facilities throughout the region that we were not able to reach during this project. Certainly other nursing homes and hospices could benefit. Consideration was given to providing information to the Veterans Administration facility in Canandaigua, NY. We chose not to visit them since they are outside the regulatory jurisdiction of NYS and we did not have the proper guidance at this time to share with them. We believe that this need still exists and it is one we would like to pursue if there were funding to support it.

Nursing homes were the only long-term care facilities that were included in this study. We believe that the same opportunities exist for other long-term care facilities such as assisted living centers and rehabilitation centers. Also, as a result of the Patient Protection and Affordable Health Act of 2010, the Centers for Medicare and Medicaid Services (CMS) are issuing new pharmaceutical dispensing guidelines for all long-term care facilities. An opportunity exists to help those facilities understand what the impact of these new guidelines will be to them.

Another area of interest is pharmaceutical use on farms. As far as we know, no one has looked at this in terms of impact on the environment and we believe that it is an area that should be explored.

If you have any questions or comments please contact:

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