

**Funded by the Community Pharmacy Foundation
To the National Community Pharmacists Association Foundation
In support of the Dispose My Meds™ Program
June 2015**

The Dispose My Meds™ program was recognized as an official activity of the 2010 Earth Week Observance in the United States. Through a comprehensive, turnkey medication returns system community pharmacists are able to respond to the demands of customers who prefer companies that provide environmental services. Participating pharmacies are able to highlight their role of as a valuable member in the community and showcase their leadership in protecting the environment and preventing medication misuse.

Thus far the [Dispose My Meds Program](#) has over 1,600 participating locations nationwide and has collected over 200,000 lbs. of unused and/or expired medications (non-controlled substances). Through this program, the opportunity to examine the reasons that patients are returning their medication exists. This proposed project is important because it is anticipated that information will be gathered explaining why medications are being disposed of by patients and potentially determine reasons for non-adherence to medications.

Objective:

An objective of the data collection process will be to determine and quantify the extent of waste that may come from mail-order provided medicines compared to those medicines provided by community pharmacies and from other healthcare providers.

Methods:

The data collection period ran over the span of twelve months, from June 2012 – June 2013. A voluntary survey was available at each location participating in the Dispose My Meds Program for patients returning their medications. The survey was to be available either orally via pharmacist administration or on paper. For those pharmacies that were unable to enter data, a paper survey was to be mailed to the investigators. A statement regarding consent was placed at the top of the paper survey or given verbally to each participant. The surveys were collected and mailed to the Feik School of Pharmacy (FSOP) investigators quarterly by the participating pharmacies. The data was reviewed quarterly to determine the quantity of surveys received and to examine the preliminary data. No compensation was offered to those taking the survey. Compensation was offered to the pharmacies that input 50 entries or more. Qualifying pharmacies were offered a \$25 voucher toward the purchase of the next medication disposal collection bin.

Results:

Source of Return (by pharmacy type)

Pharmacy Type	Frequency	Percentage (%)
Community Pharmacy	4671	71.5
Mail Order	1089	16.7
Physician Samples	298	4.6
Other	446	6.8
Unknown	31	0.5
Total	6535	100.0

A total of 6,535 return entries were received, and the majority of medications (71.5%) returned were from a community pharmacy, followed by returns from mail order (16.7%). Physician samples represented less than 5% of the returns, and the remainder of the returns came from other sources not specifically cited or were unknown.

Results (continued):

Percent Remaining in Upon Return (% within pharmacy type)

		Community Pharmacy	Mail order pharmacy	Total	
Percent Remaining	0	Count	9	1	10
		% within PharmType	0.2%	0.1%	0.2%
10		Count	456	55	511
		% within PharmType	9.8%	5.0%	8.9%
20		Count	383	50	433
		% within PharmType	8.2%	4.6%	7.5%
30		Count	437	54	491
		% within PharmType	9.4%	5.0%	8.5%
40		Count	344	56	400
		% within PharmType	7.4%	5.1%	6.9%
50		Count	669	92	761
		% within PharmType	14.3%	8.4%	13.2%
60		Count	315	67	382
		% within PharmType	6.7%	6.2%	6.6%
70		Count	333	87	420
		% within PharmType	7.1%	8.0%	7.3%
80		Count	397	94	491
		% within PharmType	8.5%	8.6%	8.5%
90		Count	528	114	642
		% within PharmType	11.3%	10.5%	11.1%
100		Count	800	419	1219
		% within PharmType	17.1%	38.5%	21.2%
			4671	1089	5760
		% within PharmType	100.0%	100.0%	100.0%

Proportion returned: Generic vs. Brand

		Community Pharmacy	Mail order pharmacy	Total
Brand	Count	1265	364	1629
	% within PharmType	27.1%	33.4%	28.3%
Generic	Count	3406	725	4131
	% within PharmType	72.9%	66.6%	71.7%
Total	Count	4671	1089	5760
	% within PharmType	100.0%	100.0%	100.0%

Discussion:

Although all of the disposal locations in the study were conducted at independent pharmacies, for purposes of the study, community pharmacy data included both independent pharmacies as well as chain locations. The data is likely to be confounded in part because the collection sites were all held across 64 independent pharmacies and therefore the results likely to skew higher towards community pharmacies in general. This is likely due to the fact that the program advertising was done to each pharmacy's customer base and mail order facilities typically do not accept patient medications for disposal. In addition, this is a small sample size of pharmacies in relation to the number of pharmacies across the nation. However several notable points can be made based on the results.

The returns from community pharmacy ranged from 0.2% to 17.1%, and the returns from mail order pharmacy ranged from 0.1% to 38.5%. However the returns from mail order, within its pharmacy type, appeared to have a higher proportion returned with 80% or greater remaining. Nearly 58% of the medications returned from mail order had 80% or more of the medication left, compared to 37% from community pharmacy. Additionally, the returns of brand medications were proportionally higher from mail order pharmacy. Community pharmacies had a higher percentage of returns on generic medications compared to mail order.

It could be too early to draw conclusions, but the data points present a good springboard for further study. For example, a general benchmark indicator of adherence is completion of 80% or more of therapy within a given timeframe. Calculations are based on proportion of days covered, or a PDC measure which is currently used to calculate adherence measures in the quality measures for star ratings for plans in Medicare Part D. In this case, the lesser amounts of medication remaining could indicate greater adherence. On the contrary, there appear to be greater amounts being returned from mail order with 80% or more remaining, prompting questions about possible non-adherence which are worth exploring. Greater amounts of medication leftover could also present medication safety issues with accidental poisonings.