

**Lake Erie Protection Fund Small Grant Technical Report
SG 399-11
Final**

**Lake County Pharmaceutical Drug
Collection & Disposal Program**

**Report prepared by
The Lake County General Health District**

Acknowledgements

This project was made possible by a grant from the Lake Erie Protection Fund through the Ohio Lake Erie Commission. The monies for the Lake Erie Protection Fund are supported by the citizens of Ohio through their purchase of the Lake Erie License Plate.



For more information visit the Ohio Lake Erie Commission website at www.lakeerie.ohio.gov

The Lake County General Health District wishes to acknowledge and thank the following agencies for their support and participation in this project:

The Lake County Solid Waste District
The Lake County Narcotics Agency
The Lake County Sheriff's Department
The Lake County Alcohol, Drug Addiction and Mental Health Services Board
The Willoughby Hills Police Department
The Mentor Police Department
The Madison Township Police Department
The Lakeland Community College Police Department
The Ohio EPA, Northeast District Office Agency Advisor – Keith Riley

The Lake County General Health District would also like to extend a special thanks to Ronald Townsend of the U.S. Drug Enforcement Administration for his assistance in providing the instruction on what is needed to comply with federal regulations associated with collection and disposal of controlled substances.

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SG 399-11
Lake County General Health District
Pharmaceutical Drug Collection & Disposal Program**

Purpose

The purpose of the project was to develop a long-term continuous pharmaceutical drug collection and disposal program that would be convenient for the consumer and economical to maintain for the agencies involved.

Grant Project Justification

The Lake County General Health District applied for this grant under the premise that this program would assist in meeting the Lake Erie Strategic Objective of "*Reducing the loading of toxins and other pollutants from businesses and households*" in the Lake Erie Protection & Restoration Plan – 2008. It is hoped that this program will provide information for the Ohio EPA in their designated actions to form a web page for homeowners that explains the concerns regarding pharmaceuticals and personal health care products that enter the waters of the state and to provide guidance on proper disposal of these wastes.

Program Background: Environmental and Safety Concerns

Both prescription and non-prescription drugs are being found in the nation's waterways. Some of the drugs are endocrine disruptors and have been found to alter the gender of fish which is an environmental concern as well as a potential threat to the consumer and the commercial fishing industry. While the concentrations found in the water are low (ppb, ppt), their potential effects on the environment and health are gaining serious concern. The existing sewage treatment facilities are not currently equipped to remove these contaminants and the methods for the removal of these contaminants that can be implemented at existing plants is costly. A certain amount of these contaminants enters the wastewater stream as a constituent of sewage; the other common pathway is from flushing unused, unwanted and expired medications down the toilet. Recent research has also detected pharmaceuticals in leachate generated at landfills that is transported to wastewater treatment plants for disposal and treatment.

According to the Alliance for the Great Lakes, recent testing of water in Lake Michigan has found low levels of pharmaceutical compounds. This is a critical issue of concern because the Great Lakes are a source for drinking water to over 40 million people. There is a growing concern about the human health risks that may result as a result of long term, low level exposure to pharmaceutical compounds.

In addition to the environmental concerns, pharmaceuticals accumulating in the household can present a public safety hazard. There is a documented problem with teens and young adults abusing controlled substances such as Percocet, Vicodin, and OxyContin which are opiate pharmaceuticals used for pain control. A recent article in the *Lake County News Herald* quoted the Lake County Narcotics Agency indicating that 11 of 12 fatal drug overdoses in 2009 involved prescription pain killers. According to the U.S. Drug Enforcement Administration nearly seven million Americans are abusing prescription pain killers. Removing unused or expired drugs from medicine cabinets reduces the potential for abuse or accidental misuse of those drugs.

Project Description (Activities)

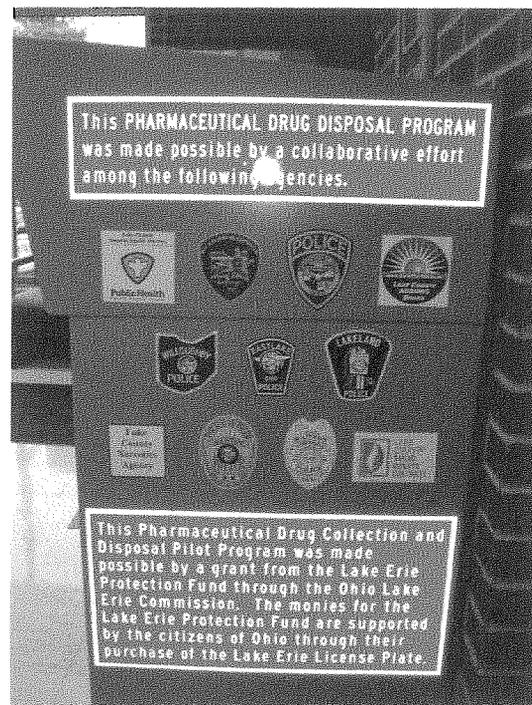
Methods

Several states, cities and counties throughout the country have successfully implemented long-term pharmaceutical drug collection programs, while others have organized single-day or annual collection events. Continuous collection programs have been organized utilizing drop off locations in law enforcement offices, hospitals and at pharmacies. Some continuous programs involve mail back of unused drugs to the pharmaceutical companies.

The Health District conducted extensive research into the types of programs that have been implemented around the country. We corresponded via email and talked directly with some of the key individuals that have developed and implemented successful programs. The pilot program that we implemented was somewhat modeled after the San Mateo County program in California that was implemented in 2006 and has been successfully operated, expanded and continued since its inception. The Health District partnered with the Lake County Solid Waste District with the implementation of the Lake County program.

Program Specifics

Free standing collection receptacles were placed (see photos below) in five local law enforcement reception areas: Lake County Sheriff's Department, Willoughby Hills Police Department, Mentor Police Department, Lakeland Community College Police Department and the Madison Township Police Department.



The law enforcement personnel monitor the collection bin weekly and remove the liners when the bin is full. They then replace the liner in the bin and store the full bag of pharmaceuticals in a locked 55 gallon drum stored in an evidence room. Once the drum is full, the local law enforcement personnel transport

the collected pharmaceuticals to the Lake County Narcotics Agency that acts as a central collection and storage location. All waste is transported with a chain of custody form that documents the handling, weight of materials and agency from where the waste is received. An example of this form and the standard operating procedure is included in the appendix at the back of the report.

Although the law enforcement departments are open 24/7, we encouraged the public to use the locations during specific hours, avoiding weekend evenings when local departments would potentially be the busiest. The hours are convenient since they encompass times that residents can go before or after work and on the weekends during the daytime.

Prior to placing the collection bins in the law enforcement departments, each department was required to obtain approval from the US Drug Enforcement Administration because of the desire to collect controlled substances such as prescription opiates (pain control) in addition to other medications. One major criterion required for the ability to collect controlled substances is that they must be under the control of law enforcement at all times. Therefore, the collection bins are located in law enforcement departments and are under visual observation at all times.

The Lake County Narcotics Agency handles the destruction of the pharmaceutical waste in the same manner as they do their evidence. Pharmaceutical waste is incinerated in a Basic Oxygen Furnace that holds an Ohio EPA Air Permit. The Ohio EPA does not require additional approvals or permit modification for this type of facility to dispose of pharmaceuticals as long as no more than 5% of the fuel fed into the furnace consists of pharmaceutical waste. The Narcotics Agency schedules the destruction date in advance such that these conditions can be met. The narcotics agents go in teams of two or more to the facility when destruction is to take place.

Public Education & Outreach

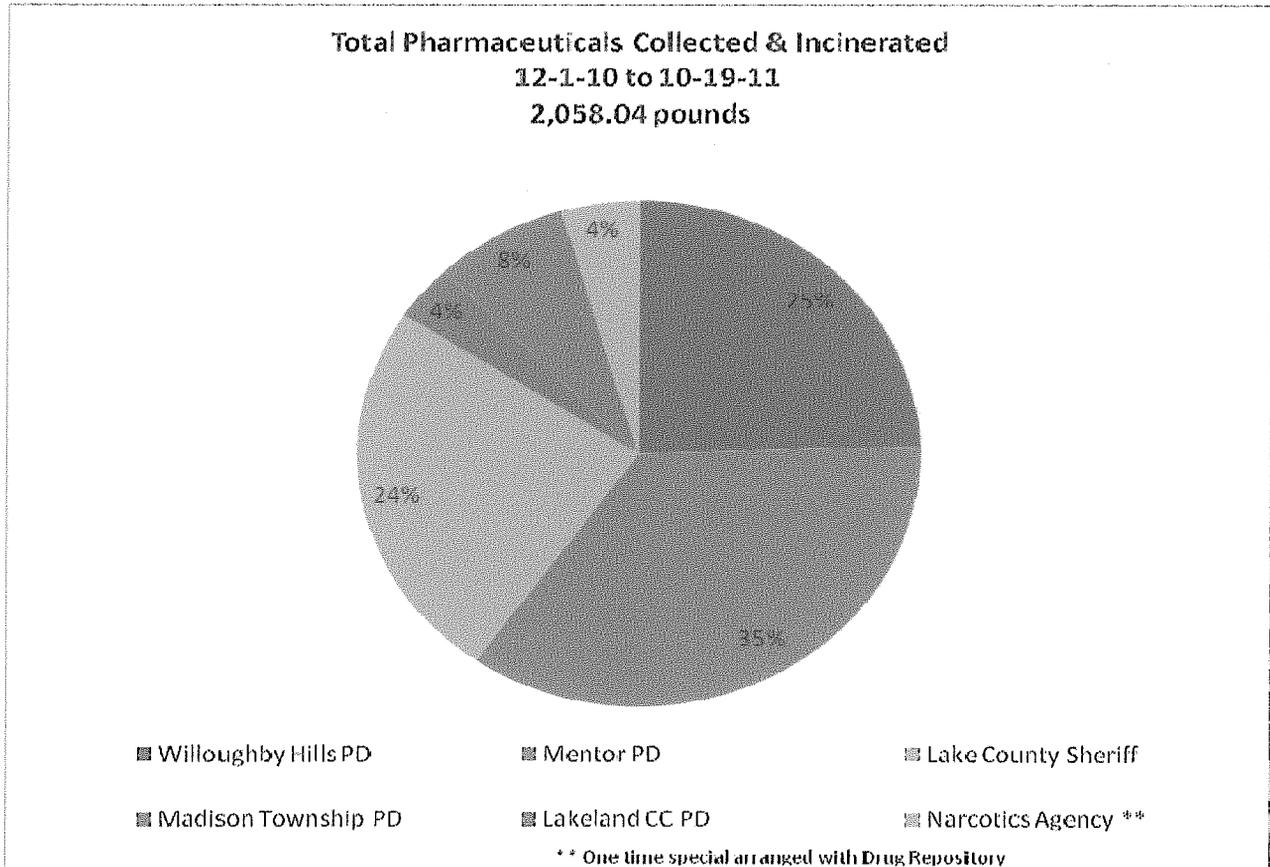
In order for the program to be successful, effective public education and marketing was essential. The marketing and education elements were met with relatively low cost methods. To kick off the program, the Health District sent out a news release and held a press conference (see appendix). In addition to the news release, a blast email was sent out to all county agencies, all county communities, hospitals, physician offices, pharmacies, funeral homes, nursing homes and veterinarian offices. Posters and/or fact sheets were placed at all Lake County pharmacies, libraries, county/community offices and senior centers to inform citizens of this program. All public agencies were encouraged to provide a link on their websites for the program. Information was placed on local community cable stations and information spots by staff were conducted. A message for the county "phone message on hold" has also been running since the inception of the program. News articles for local community newsletters were also prepared and distributed.

In order to determine the public perception of the program and to determine the types of pharmaceuticals residents were bringing for disposal, the health district developed a brief survey. The survey consisted of five questions that could be answered by a simple yes or no. The survey cards were located on top of the bins and online.

The Health District developed a fact sheet for this program that is included in the appendix to this report. While the fact sheet has been distributed in all the various methods discussed above, the fact sheet was also placed in the 30 free standing displays used in the county storm water management program. We determined that 234 of the pharmaceutical fact sheets were taken by residents in Lake County. Through our health education program, we collaborate with the Opiate Task Force. Over 20 presentations have been done in the Mentor, Riverside and North High Schools on drug abuse; during those presentations' the fact sheet was distributed to approximately 800 students.

Outcomes

The program commenced on December 8, 2010 and the final accounting was completed on October 21, 2011, however the program is still operational. For purposes of this report the accounting of waste collected and incinerated as of this month is reflected in the following pie chart.



As previously discussed in this report, the participants were encouraged to complete the survey and deposit it in a box located on top of the bin. The actual survey card is illustrated below:

Please complete the Pharmaceutical Drug Collection & Disposal Program Survey
Place in survey box or complete survey on line at www.lcghd.org
Circle answer below

Do you think this drug disposal program is a convenient method for collection and disposal of medications?	YES	NO
Did you dispose of prescription pain medication?	YES	NO
Did you dispose of prescription medications other than pain medication?	YES	NO
Did you dispose of non-prescription medications, vitamins, creams or syrups, etc.?	YES	NO
Did you dispose of pet medications?	YES	NO

The overall response to the program based on the survey was extremely positive. Several participants took the time to write additional comments or just write "thank you" on the cards. The health district has summarized the responses in the table below:

	Sheriff's Dept			Madison Twp			Mentor			Lakeland			Willoughby Hills			Online Survey			Total		
	Yes	No	NR	Yes	No	NR	Yes	No	NR	Yes	No	NR	Yes	No	NR	Yes	No	NR	Yes	No	NR
Do you think this drug disposal program is a convenient method for collection and disposal of medications?	59	9	0	44	3	0	91	3	0	32	0	0	149	4	1	16	0	0	391	19	1
Did you dispose of prescription pain medication?	33	34	1	22	23	2	46	42	6	13	19	0	85	67	2	10	6	0	209	191	11
Did you dispose of prescription medications other than pain medication?	47	20	1	32	13	2	78	16	0	19	13	0	132	21	1	13	2	1	321	85	5
Did you dispose of non-prescription medications, vitamins, creams or syrups, etc.?	18	50	0	18	28	1	36	57	1	11	21	0	78	73	3	10	6	0	171	235	5
Did you dispose of pet medications?	8	60	0	4	42	1	10	84	0	3	29	0	18	134	2	5	11	0	48	360	3
Total Surveys Completed	68			47			94			32			154			16			411		

NR means no response

Survey Response

Out of the total 411 surveys completed, 66 of the participants wrote additional comments on the response cards, some of which are listed below:

It's better than polluting our water!

Thank you for helping keep out of landfill

Once I learned not to flush meds I didn't know what to do with them. I had them in a drawer in my nightstand. My 3 yr old grandson found them and before I could get around the bed he took a pill (bottle lid was broken). I got it out of his mouth, & called poison control. He was fine but I still didn't know what to do with them---until now. Thank you!

Thank you for this service.

Thank you so much for making it so convenient for Will. Hills residents.

Pain killer for aneurysm surgery, I was able to dispose of remaining pills in this container. THANK YOU SO MUCH FOR PARTICIPATING IN THIS PROGRAM! :)

I think I filled your box!

Great idea - Please continue

Excellent program. 2nd time I've used drop-off in 2 months

Thanks for a way to safely do this 😊

Summary and Lessons Learned

The Lake County General Health District is pleased to acknowledge the success of this program and indications are that the program will continue. Recently the Health District was able to secure some additional funds to add to new locations to the program. The survey responses indicate that the public is using and has embraced the program. Approximately 50% of the participants brought opiate pain medications to the collection bins. Additionally the participants have indicated they are disposing of a variety of pharmaceuticals.

The advantages to a continuous year round collection and disposal program located in law enforcement facilities are:

- Helps to reduce the pollution of our surface waters
- Convenient to residents such that they do not have to wait for a special collection day
- Security of locations at law enforcement operations
- Locations in police stations meets DEA controlled substance requirements
- Potential to remove controlled substances from medicine cabinets in a timely fashion (instead of waiting for a special collection) that can be misused or abused
- Helps seniors to remove unused or unwanted medications from their medicine cabinets reducing confusion in taking their medications
- Most economical approach with least manpower needed for removal of pharmaceuticals

We believe that this program can be duplicated and it is hoped that other agencies will undertake a similar endeavor. The Health District and the Solid Waste District have been contacted numerous times to date from others across Ohio and even from Illinois for information on how to develop and implement this program. As for lessons learned, we are pleased to say that for the most part the program has run smoothly. The Health District did underestimate the amount of time that it would take our staff in the development, implementation and maintenance of the program. In a positive light however, we overestimated the amount of time it would take the law enforcement personnel involved in the program. Those estimates of time were based in part on the information we obtained from San Mateo California, as it was their program we partially modeled for our project.

Departmental time spent by all agencies has contributed to meet the 25% match required for the grant. Most police departments spend approximately two hours per month on average for checking the bin and transport to the Lake County Narcotics Agency (less at the least busy locations and more at the busiest location). The Narcotics Agency spends approximately 15-16 hours of time per year based on the current activity which accounts for time spent when departments bring in pharmaceuticals and transport and witness the destruction of the pharmaceuticals.

The final financial accounting form is at the end of this report.

LAKE ERIE PROTECTION FUND

SMALL GRANT - FINAL ACCOUNTING

Grant Number:

v2010

Budget Categories	Original Budget	Funds Spent	Current Balance	Matching Funds
A. Salaries & Wages				
Police & Narcotics Personnel	3500.00	3500.00		1213.49
Health District Personnel	5834.62	5834.62		136.30
Solid Waste District Personnel	920.00	920.00		25.31
B. Fringe Benefits				
Police & Narcotics Personnel				2442.40
Health District Personnel				2155.96
Solid Waste District Personnel				362.09
C. Total Salaries & Benefits (A+B)	\$10,254.62	\$10,254.62	\$0.00	\$6,335.55
D. Non-expendable Equipment				
BINS WITH SHIPPING	2890.00	2890.00	0.00	0.00
DRUMS WITH FREIGHT	905.38	905.38	0.00	42.62
E. Expendable Materials & Supplies				
BIN LINERS, CABLE TIES, SHIPPING	250.00	250.00	0.00	87.73
PREPARATION OF BINS	200.00	200.00	0.00	22.28
F. Travel				
G. Services or Consultants				
PRINTING	500.00	500.00	0.00	3.08
WASTE DISPOSAL	0.00	0.00	0.00	
H. Computer Costs				
I. Publications/Presentations				
J. All other direct costs				
K. Total Direct Costs (C thru J)	\$15,000.00	\$15,000.00	\$0.00	\$6,491.26
L. Indirect Costs				
Total Costs (K + L)	\$15,000.00	\$15,000.00	\$0.00	\$6,491.26

Ohio Lake Erie Commission
 One Maritime Plaza, 4th Floor
 Toledo, OH 43604
 p 419-245-2514
 f. 419-245-2519
 lakeerie.ohio.gov

I certify that the grant expenditures listed and descriptions of the charges are true and accurate to the best of my knowledge. These expenditures represent approved grant costs that have been previously paid for and for which complete documentation is on file.

Project Director Authorizing Agent Fiscal Agent	<i>Laura Kramer-Krusa</i> <i>James Kilday</i> <i>Jill C. ...</i>	Date 10-26-11 10/26/11 10/26/11
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APPENDIX

**Lake County
Pharmaceutical Drug Collection & Disposal Program
Standard Operating Procedure**

- Collections bins with key locking openings will be located in the designated areas at each law enforcement department. Each department will determine if the bins must be secured (bolted) to the floor in the designated areas. There will be a poster on the wall above each bin with pertinent disposal information.
- Each department will also have one or two key locking drums for temporary storage of the pharmaceutical waste. These drums will be housed in the evidence storage location until transport to the Lake County Narcotics Agency (our central collection location).
- Keys for the collection bin and drums will be kept in a secure location within each department.
- Each collection bin will have a collection container inside with a clear plastic liner inside it. The designated law enforcement personnel will check the level of the contents in the container at least once per week (or more frequent if needed) to determine if the container is full and a new liner must be placed in the bin.
- Replacement liners will be provided to each department. Once a liner in the container is full, the liner will be removed, the liner bag will be tied closed and placed in the locking drum in the evidence storage location until the drum(s) is/are full.
- The liners in the bins are clear such that it will be easier to determine if something of concern has been deposited in the bins that would be a problem for disposal during evidence destruction, the law enforcement personnel will notify Laura Kuns at the Health District at 440-350-2543 to discuss the appropriate disposal of the item or items of concern.
- Each department will be given a supply of chain of custody documents (in triplicate) to be used whenever the pharmaceutical waste changes hands. When the storage drum(s) is/are full the local law enforcement personnel will remove the contents of the drum(s) and transport it to the Narcotics Agency where it will be stored in the evidence room. The Narcotics Agency contact is Chris Begley at 440-350-3337, law enforcement personnel should notify Chris to schedule a drop off of waste. The law enforcement personnel transporting the pharmaceutical waste will sign and date the top copy of the chain of custody document and the Narcotics agent will weigh the transported waste and record it on the document. The Narcotics agent will also sign and date the form. The top copy of the document will be given to the local law enforcement personnel for their records.
- The collected pharmaceutical materials will be stored at the Lake County Narcotics Agency until such time that a routine evidence destruction event is scheduled to occur. The collected pharmaceutical waste will be transported with the evidence to the destruction facility. When the waste is incinerated the Narcotics agent will sign and date all the applicable chain of custody documents.
- The Narcotics agency will keep a copy of the completed chain of custody document and the remaining copy of each complete form will be forwarded to the Lake County General Health District.

**Lake County Pharmaceutical Drug Disposal
Chain of Custody Document**

Law Enforcement Location: _____

Address: _____

WASTE TRANSPORT

Received From: _____
(Print & Sign Name)

Date: _____

Waste Material: Pharmaceutical Drugs

Weight: _____ lbs.

Received By: _____
(Print & Sign Name)

Date: _____

WASTE DESTRUCTION

Waste Destruction type: Incineration

Waste Destruction Witnessed by:

(Print & Sign Name)

Date: _____



Lake County General Health District

**NEWS RELEASE
DECEMBER 7, 2010**

**CONTACT: LAURA KRAMER KUNS (440) 350-2543
LAKE COUNTY GENERAL HEALTH DISTRICT**

LAKE COUNTY LAUNCHES PHARMACEUTICAL DRUG COLLECTION & DISPOSAL PROGRAM

The Lake County General Health District and the Lake County Solid Waste District announces the beginning of a pilot program for the continuous collection and disposal of pharmaceutical drugs. Beginning December 8, 2010 Lake County residents can dispose of their unwanted and expired prescription and non-prescription medications at one of five law enforcement departments throughout the county as follows:

Lake County Sheriff's Office
104 East Erie St.
Painesville

Mentor Police Department
8500 Civic Center Blvd.
Mentor

Willoughby Hills Police Department
35405 Chardon Rd.
Willoughby Hills

Madison Township Police Department
2065 Hubbard Rd.
Madison

Lakeland Community College Police Department
7700 Clocktower Dr., Building A, lower level
Kirtland

Each of these law enforcement departments will have a collection bin in their department where Lake county residents can bring their unwanted and expired prescriptions, cold/flu medications, pain relievers, pet medications, vitamins, creams, cough syrups, pills and prescription pain killers. Residents should remove or black out the personal information on pharmacy labels and leave the medicines in the original package or container. Residents should be advised that absolutely no needles or syringes are permitted in these bins.

The disposal hours for all the locations are convenient being Monday through Friday 7:00 AM to 8:00 PM, Saturday 9:00 AM to 5:00 PM and Sunday from 1:00 PM to 5:00 PM, the only exception is that there are no Sunday hours at Lakeland.

There are two major reasons for using the Lake County collection bins: Environmental Concerns and Public Safety. Prescription and non-prescription are being found in our rivers, streams and ground water. These drugs are considered to be "emerging contaminants of concern" partly due to the harmful effects that low concentrations are already having on the fish population. Our existing wastewater treatment plants and septic systems are not designed to remove these contaminants. Residents can help to reduce the amount of these contaminants in our environment by utilizing the collection bins instead of flushing unwanted drugs down the toilet or putting them in the trash.

According to statistics from the US Drug Enforcement Agency (DEA), prescription pain relievers are the new drug users' drug of choice versus marijuana or cocaine. By partnering with law enforcement

in this program, it allows residents to bring in prescription pain killers such as oxycodone and hydrocodone commonly known as Percocet, Vicodin and OxyContin. Removing these narcotics from the medicine cabinet and properly disposing of them will help to reduce the potential of drug abuse and accidental drug misuse.

Another important partner is the Lake County Narcotics Agency who will support the law enforcement departments in central collection, storage, transport and destruction of the collected medications. Destruction of the drugs will take place by incineration.

This drug collection and disposal program was made possible by a grant from the Lake Erie Protection Fund through the Ohio Lake Erie Commission. The monies for the Lake Erie Protection Fund are supported by the citizens of Ohio through their purchase of the Lake Erie License Plate. Additional grant monies were contributed to this project by the Lake County ADAMHS Board.

The Health District encourages residents utilizing the bins to participate in a brief five question survey about this program and for additional information to visit www.lcghd.org.