

Final Report - June 10, 2014
RRRASOC Drug Take-Back in Senior Facilities Pilot Collection
MDEQ Tracking Code: 430231-13

Executive Summary

The Resource Recovery and Recycling Authority of Southwest Oakland County (RRRASOC) and the Michigan Recycling Coalition (MRC), with the assistance of a grant through the Community Pollution Prevention Program from the Michigan Department of Environmental Quality (MDEQ), conducted three pilot pharmaceutical collection events targeting the senior citizen population in selected RRRASOC communities. The goal of the effort was to evaluate the efficacy of holding collection events for unwanted pharmaceuticals in coordination with municipal senior citizen programming at senior citizen facilities.

RRRASOC held three events in three different communities (Novi, Wixom, and Southfield) in February of 2014. Each event was two hours long and held at a municipal senior center that was adjacent to senior living facilities and/or to which senior citizen bus transportation from living facilities is provided. The events were promoted with flyers, city newsletters, and electronic media.

RRRASOC utilized a licensed, private sector hazardous waste company (Environmental Recycling Group) to collect and properly disposed of the material, with the exception of controlled substances. At each event, local law enforcement was present to take possession of any controlled substances.

Participation varied from event to event, ranging from only three participants to twenty-nine participants. Approximately 86.5 pounds of material, including .8 pounds of controlled substances that were collected at the event in Novi. No controlled substances were collected at the other two events.

Although total participation was lower than expected, the amount of medications delivered per participant appeared high. Pounds per participant ranged from .5 pounds at the Southfield event to 2.2 pounds at the Wixom event. In total, the average weight of the pharmaceuticals per participant was 1.8 pounds.

Vendor costs totaled \$4,279.39. Costs per event were similar since the fixed costs of personnel and equipment were consistent regardless of event participation and the amount of material collected. The total vendor cost per pound was \$49.47 and the cost per participant was \$89.15.

Participants were surveyed during the events. While 90% of the participants reported that neither their doctor or pharmacist ever told them how to dispose of old medications, more than 93% reported being aware of the need to properly dispose of medications. Nearly 97% of participants reported that the events were convenient and that access to such collection events is important. Nearly 57% indicated that such events should take place more than once per year.

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RRRASOC has concluded that there is continued interest in this collection model. For those residents that attended the collection events, it was important and convenient, and they would like to see more such events.

RRRASOC also identified the need to increase participation to spread fixed collection costs out over more participants. The communities that engaged a multi-modal approach to event promotion experienced higher participation levels than the community that relied solely on the distribution of promotional flyers.

Background

RRRASOC is a municipal solid waste authority that is comprised of eight municipalities in Oakland County. Each year, RRRASOC holds five household hazardous waste collection events through the area to which residents can bring unwanted pharmaceuticals. Some of the police departments and a limited number of pharmacies in the RRRASOC communities also accept pharmaceuticals.

As a result of conversations with community senior citizen groups, RRRASOC concluded that many senior citizens are not independently mobile and have extremely limited ability to participate in existing programming and opportunities for the proper disposal of unwanted pharmaceuticals. This population may be living at home, depending on outside care, or are living in nursing facilities or retirement communities. These residents are often unable to travel to or participate in HHW collection events, pharmacy take back programs, or local police department collection boxes to dispose of their old medicines properly.

RRRASOC determined that holding more convenient collection events for senior citizens may have merit and identified the need to evaluate the efficacy of holding collection events in conjunction with municipal senior centers and the living facilities with which they coordinate events.

The Michigan Recycling Coalition (MRC) is a statewide non-profit membership-based organization located in Lansing that fosters environmental conservation by promoting sustainable materials use and recovery. RRRASOC partnered with the MRC to obtain a grant through the Community Pollution Prevention Program from the Michigan Department of Environmental Quality (MDEQ). The purpose of the grant was to help fund three pilot on-site collection events at senior care focused programs and facilities. This pilot was designed to help us understand participation opportunities and obstacles, the types of materials generated, and the costs of providing services to a population that is likely to generate large quantities of waste pharmaceuticals.

The grant awarded was for \$6,005 to cover the vendor costs associated with the collection events, as well as the development of promotional and educational

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materials. The local match amount consists of \$300 of in-kind services from the MRC and \$4,155 of internal RRRASOC costs.

Collection Event Results

RRRASOC held three events in three different communities (Novi, Wixom, and Southfield) in February of 2014. Each event was two hours long and held at a municipal senior center that was adjacent to senior living facilities and/or to which senior citizen bus transportation from living facilities is provided. The events were promoted with flyers, city newsletters, and electronic media.

RRRASOC utilized a licensed, private sector hazardous waste company (Environmental Recycling Group) to collect and properly disposed of the material, with the exception of controlled substances. At each event, local law enforcement was present to take possession of any controlled substances.

Participation varied from event to event, ranging from only three participants to twenty-nine participants. Approximately 86.5 pounds of material, including .8 pounds of controlled substances that were collected at the event in Novi. No controlled substances were collected at the other two events.

Although total participation was lower than expected, the amount of medications delivered per participant appeared high. Pounds per participant ranged from .5 pounds at the Southfield event to 2.2 pounds at the Wixom event. In total, the average weight of the pharmaceuticals per participant was 1.8 pounds.

Vendor costs totaled \$4,279.39. Costs per event were similar since the fixed costs of personnel and equipment were consistent regardless of event participation and the amount of material collected. The total vendor cost per pound was \$49.47 and the cost per participant was \$89.15.

Novi Event

The event in Novi was held on February 11, 2014 from 10:00 am to 12:00 pm at the City of Novi Meadowbrook Activity Center located at 25075 Meadowbrook Road. The facility is activity center for the City of Novi Older Adult Services and is adjacent to the Meadowbrook Commons, which is a 175 unit senior housing facility.

The event was promoted through flyers distributed at the Meadowbrook Activity Center, an article in the City of Novi Older Adult newsletter (copy attached), the City's website, and the City's Facebook page. The newsletter was distributed to 14,000 households throughout Novi.

The event had 29 participants, delivering 50 pounds of pharmaceuticals, including .8 pounds of controlled substances, for an average of 1.7 pounds per

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participant. The City of Novi Police Department took possession of the controlled substances for subsequent destruction.

The vendor costs for collection and disposal were \$1,513.13, for a per pound cost of \$30.26 and a per participant cost of \$52.18.

Wixom Event

The event in Wixom was held on February 19, 2014 from 10:00 am to 12:00 pm at the City of Wixom Community Center Lounge located at 49015 Pontiac Trail. The facility is the activity center for seniors in Wixom and the surrounding area through the City of Wixom Community Services Department. There is no senior housing attached to the site but the Community Services Department provides convenient bus transportation for area senior housing facilities to the Community Center Lounge.

The event was promoted through flyers distributed at the Community Center Lounge, an article in City of Novi newsletter (copy attached), and the City website. The newsletter was distributed to 11,000 households throughout Wixom.

The event had 16 participants, delivering 35 pounds of pharmaceuticals, for an average of 2.2 pounds per participant. A City of Wixom Police Officer was on site but no controlled substances were collected.

The vendor costs for collection and disposal were \$1,448.13, for a per pound cost of \$41.38 and a per participant cost of \$90.51.

Southfield Event

The event in Southfield was held on February 26, 2014 from 10:00 am to 12:00 pm at the Southfield Senior Adult Recreation Center located at 24350 Civic Center Drive. The facility is the activity center for seniors in Southfield. The facility is situated between two high rise senior housing facilities, McDonnell Towers and River Park Place. The site is also adjacent to senior housing condominiums. The total number of housing units is 504.

The event was promoted through flyers directly distributed to each of the 504 housing units.

The event had three participants, delivering 1.5 pounds of pharmaceuticals, for an average of 0.5 pounds per participant. A City of Southfield Police Officer was on site but no controlled substances were collected.

The vendor costs for collection and disposal were \$1,318.13, for a per pound cost of \$878.75 and a per participant cost of \$439.38.

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Survey Results

Willing participants in the events were given a brief survey. While 90% of the participants reported that neither their doctor or pharmacist ever told them how to

dispose of old medications, more than 93% reported being aware of the need to properly dispose of medications. Nearly 97% of participants reported that the events were convenient and that access to such collection events is important. Nearly 57% indicated that such events should take place more than once per year. The results of the survey are attached.

Conclusions

Overall participation was lower than anticipated. However, those seniors that did participate brought more material than expected, demonstrating that those particular residents had rather large inventories of unused and unwanted medications. We are inclined to assume that other senior citizens may also have similar stockpiles of pharmaceuticals that require proper disposal. But for those seniors, the timing of these collections may not have been ideal. As is the case for other collection programs, offering collection opportunities with greater frequency, at regular intervals is the key to training a population and capturing more materials.

The survey results demonstrate that participants found the collections to be convenient and important. More than 93% of the participants were aware of the need to properly dispose of their medications but the vast majority did not get that information from their doctors or pharmacists. We did not determine how participants became aware of the need to properly dispose of medications.

Per pound and per participant unit costs were high due to relatively low turnout. Per pound costs ranged from \$30.26 to 878.75, with a total of \$49.47. That compares unfavorably to the per pound cost for the RRRASOC HHW collection events, which has averaged \$0.44 per pound for all materials combined over that past five years. However, such events include a wide variety of other materials, making comparisons somewhat less useful.

Additionally, 75% of the vendor costs were fixed costs for personnel and equipment. Variable costs were for the proper disposal of the containerized material. The fixed costs were incurred regardless of the participation level and the volume of material received. Greater participation and more material volume would allow those costs to be spread out across more units without a significant increase, if any, in variable costs.

The communities that engaged a multi-modal approach to event promotion experienced higher participation levels than the community that relied solely on the distribution of promotional flyers. Also, based on our experience with other

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types of collection event programming, participation may grow as familiarity with the program increases over time.

The survey results demonstrate that health care providers may not be making patients aware of the need for the proper disposal of medications. One might speculate that if those service providers were to make their patients more aware of the need for proper disposal and provide them with information concerning disposal drop-off events and take back programs, more patients would avail themselves of disposal opportunities.

Follow Up Actions

Relevant follow up actions to be undertaken by RRRASOC outside of the grant period include the following:

1. Continue to evaluate opportunities to make this collection approach more cost effective, increase participation, and incorporate it into the suite of collection solutions, such as police department take-back, pharmacy take-back, and HHW collection events.
2. Pursue additional funding opportunities to expand the collections into our other communities.
3. Work with agencies and organizations such as the MDEQ and the MRC to identify ways to encourage health care providers and pharmacies to share proper disposal information with patients.
4. Work with the MRC to share information about our collection pilot.



DO YOU HAVE EXPIRED OR UNUSED MEDICINES IN YOUR CABINET?



DON'T FLUSH expired or unwanted prescription and over-the-counter drugs down the toilet or drain.



DO RETURN unwanted or expired prescription and over-the-counter drugs to a drug take-back program.

Old medicines are a growing hazard in our homes and in the environment. The exact quantity of unused and expired pharmaceuticals in American homes is unknown, however, evidence indicates that between 10 and 43 percent of the almost 4 billion prescriptions dispensed in the U.S. every year go unused and become waste. When flushed or disposed of in the garbage, over-the-counter medications and prescription drugs can enter our waterways and potentially contaminate our drinking water supply. Prescription drug abuse, overdose and accidental poisoning are growing human health concerns. Proper storage and disposal of old medicines is the key to safety.

RRRASOC, your local recycling authority, is providing this facility with a secure collection opportunity for old medicines. Licensed professionals will collect your unused, expired and unwanted medications and ensure they are safely handled for proper disposal, thus preventing them from contaminating the environment and keeping them away from children, pets and potential abusers.

Collect and consolidate your unused and outdated medicines in a securely sealed plastic bag and bring your bag to the collection opportunity listed.

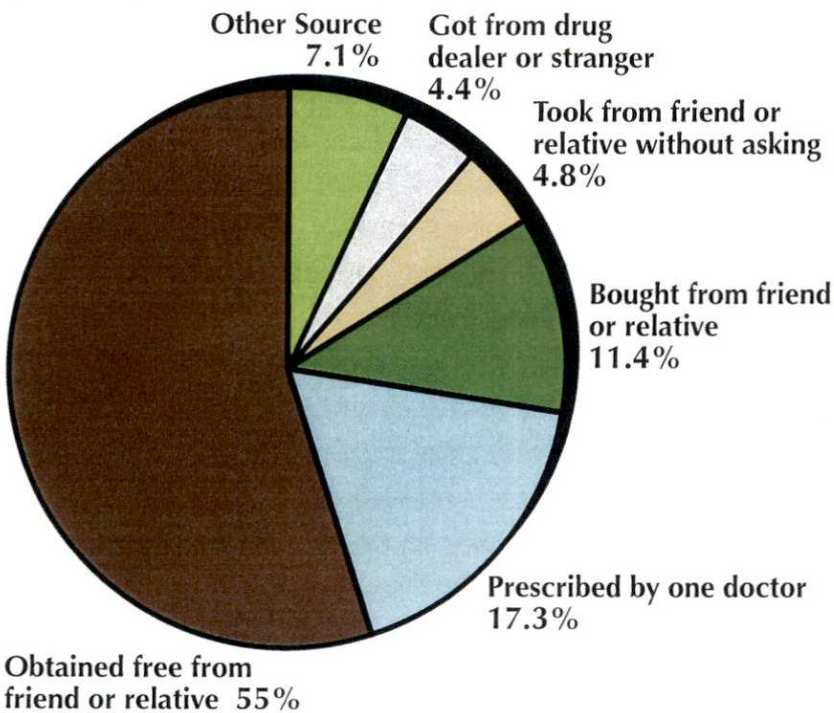
UNWANTED MEDICINE COLLECTION

Tuesday, February 11, 2014

10:00 A.M. – Noon

**City of Novi • Meadowbrook Activity Center
25075 Meadowbrook Road**

People who abuse prescription painkillers get drugs from a variety of sources⁷



[vii] Center for Disease Control and Prevention (CDC). (2011). Policy Impact: Prescription Painkiller Overdoses. Retrieved 7 July 2013 from <http://www.cdc.gov/homeandrecreationalafety/rxbrief/>.

Many local pharmacies and law enforcement facilities collect unused medicines for proper disposal throughout the year, contact RRRASOC or the MRC for more information.



R.R.R.A.S.O.C

RRRASOC
20000 W Eight Mile Rd.
Southfield, MI 48075
248.208.2270
www.rrrasoc.org



www.michiganrecycles.org
517.974.3672

IN THE HOME

Drug Abuse & Overdose

Prescription drug abuse is the fastest growing drug problem in America and has been classified as an epidemic by the U.S. Centers for Disease Control and Prevention (CDC). Statistics show that 7 out of 10 prescription pain relief abusers get their drugs from family and friends.

Accidental Poisoning

Half of the 2.4 million calls to Poison Control Centers in 2010 involved children ages 5 and under, and 9 out of 10 poisonings occur at home.

IN THE ENVIRONMENT

Most water treatment plants in the U.S. are not designed to filter out pharmaceutical compounds, so trace levels of prescription drugs are often detected in treated municipal water supplies. Certain types of pharmaceuticals, including analgesics/anti-inflammatories (e.g., Ibuprofen), antibiotics (e.g., azithromycin); anti-epileptics, and steroid hormones (e.g., prednisone), are toxic to marine animals and present a danger to entire populations of aquatic organisms.

Funded through a Community Pollution Prevention Program Grant of the Department of

Environmental Quality
PURE MICHIGAN



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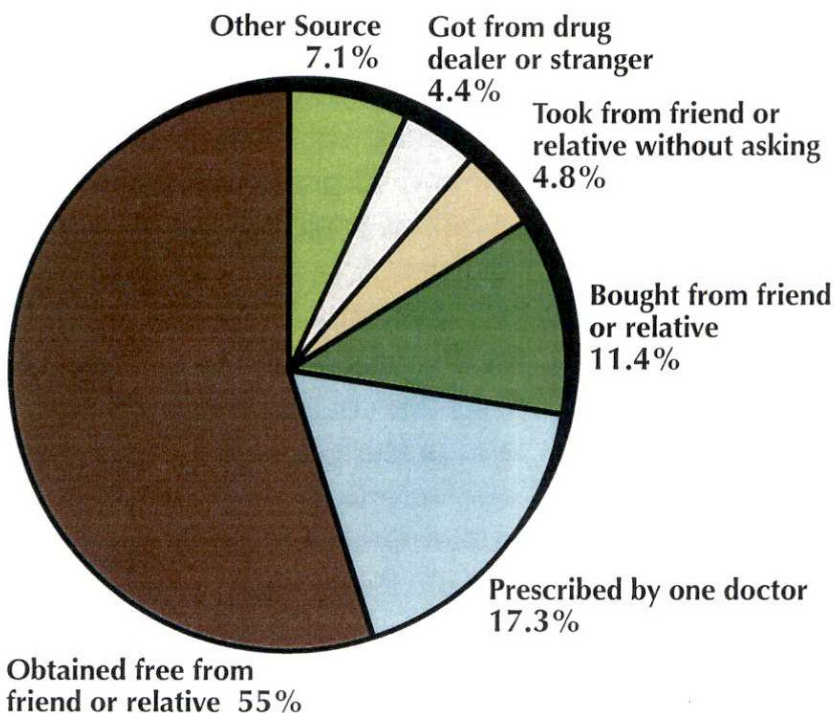
UNWANTED MEDICINE COLLECTION

Wednesday, February 19, 2014

10:00 A.M. – Noon

City of Wixom • Community Center Lounge
49015 Pontiac Trail

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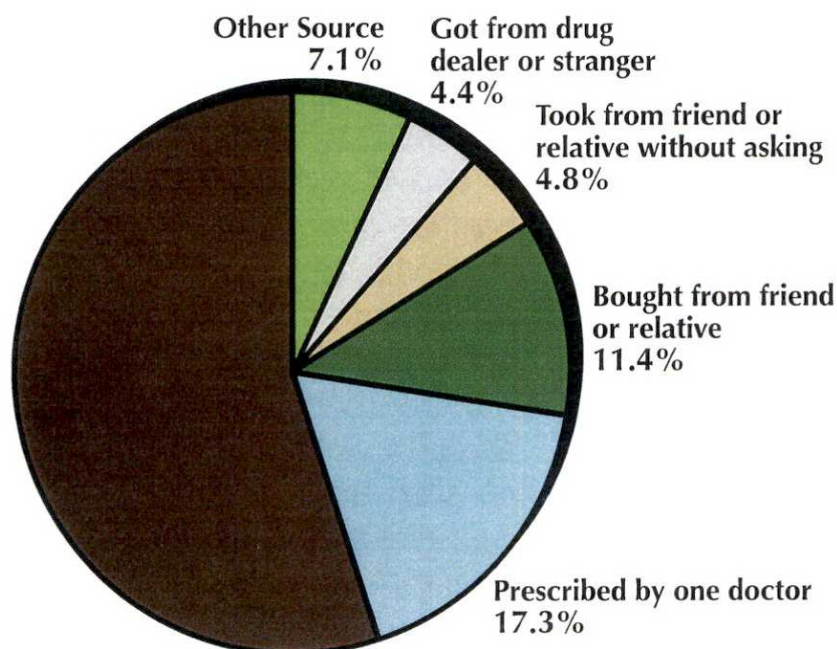
UNWANTED MEDICINE COLLECTION

Wednesday, February 26, 2014

10:00 A.M. – Noon • City of Southfield
Southfield Senior Adult Recreation Center
24350 Civic Center Drive

Collect and consolidate your unused and outdated medicines in a securely sealed plastic bag and bring your bag to the collection opportunity listed.

People who abuse prescription painkillers get drugs from a variety of sources⁷



Obtained free from friend or relative 55%

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City of Novi Older Adult Services Mon-Fri • 8am-5pm

Payment for program registrations available at Meadowbrook Activity Center 8am-3pm

Rachel Zagaroli



Older Adult Services Manager
248.347.0403
rzagaroli@cityofnovi.org

Sandy Fisher

Social Services
248.347.0421
sfisher@cityofnovi.org

Shannon Janes

Front Desk Staff
248.347.0414

Tori Heglin

Karen Kapchonick

Recreation Programmer
248.347.0422
248.347.0550
theglin@cityofnovi.org
kkapchonick@cityofnovi.org

Clay Pearson

City Manager
248.347.0445
cpearson@cityofnovi.org

Jason Mangum

Director of Parks, Recreation and Cultural Services
248.347.0400
jmangum@cityofnovi.org

CITY COUNCIL

Bob Gatt, Mayor
Dave Staudt, Mayor Pro-Tem
Andrew Mutch
Justin Fischer
Wayne Wrobel
Laura Marie Casey
Gwen Markham

Volunteer Spotlight

Barb Shobe is an avid reader and loves to work on crossword puzzles and Sodoku, but spends a good amount of her time volunteering. She has a long history of volunteering since her retirement from Plymouth Canton Community Schools.

Before moving to Meadowbrook Commons, Barb volunteered at the Northville Library, and Northville Senior Center. Barb can be found volunteering at Providence Park Hospital, Meadowbrook Activity Center, and the Novi Civic Center Welcome Desk. Throughout the month of December, she stepped up and assisted the Older Adult Services office by filling in for an employee absence. Barb enjoys volunteering because of the opportunities to meet new people and keep up her skills.

Barb has five children and ten grandchildren who all live on either the East or West Coast, but Barb loves living in Novi. It's lucky for us she has no intention of moving!

Interested in volunteering for the City of Novi? Call **248.347.0414** or stop by the Older Adult Services Office, 45175 Ten Mile Road, for more information.



WHY WAIT FOR SPRING? CLEAN OUT YOUR MEDICINE CABINET NOW

Have a medicine cabinet full of old prescriptions? Dispose of them safely through a partnership with the Resource Recovery and Recycling Authority of Southwest Oakland County (RRRASOC). RRRASOC was awarded a grant through the State of Michigan to conduct a pilot program for prescription drug disposal.

Novi residents may bring unused or expired drugs to the **Meadowbrook Activity Center, 225075**

Meadowbrook Road, on Tuesday, February 11 between 10am and noon. If you are concerned about

privacy, you may remove the medicine from the bottle and use a bag or cover identity information with a permanent marker.

This program is designed to offer an alternative to keeping expired medications or disposing of them improperly

in the garbage or toilet. Representatives from RRRASOC and the Novi Police Department will be on hand to assist.

Not able to make it to the event on February 11? The Novi Police Department accepts unwanted medications 24 hours a day at their headquarters, 45125 Ten Mile Road, between Novi and Taft Roads.



SENIORS - NOTES



Blood Pressure Check

When: 2nd Wednesday of the Month, Time: 9 am
Feb. 12, Mar. 12

BRIGHTSTAR HEALTHCARE will check your blood pressure at no charge. Stop in and be sure yours is in normal range.



NEW!!

COFFEE CHIT / CHAT & COUPON CLIPPERS

When: Thursday Feb. 6, Mar. 6
Time: 10 am

Come chit chat, bring coupons and clip and share with friends over a hot cup of coffee!



THANK YOU VOLUNTEERS

Thanks to all of our Senior Volunteers this winter. We appreciate your assistance in helping in so many areas. If you are interested in volunteering please contact 248-624-0870.

MEDICINE TAKE BACK DAY

When: Wed. Feb. 19,
Time: 10 am-12 noon
Where: Wixom Comm.
Center Lounge



The City of Wixom, in cooperation with the Resource, Recovery and Recycling Authority of Southwest Oakland County and the Michigan Department of Environmental Quality, will host a collection of old pharmaceuticals. The proper management and disposal of unused and unwanted medicines is important.

Trained personnel will accept the your old over-the-counter and old prescription medicines and ensure that they are properly disposed. Mark Your Calendar!

Traveling Angels Senior Care

"Dedicated to meet your needs
and add comfort to your life"

- In Home Non Medical Services
- Companionship
- Transportation
- Reliable
- Affordable
- An Experienced and Passionate Staff

Call us to see how
we can help!

Traveling Angels Senior Care

Don Eged
248-756-1200

Travelingangelsseiniorecare@gmail.com

Independently Owned
And In Your Neighborhood





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DON'T FLUSH expired or
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the toilet or drain.



DO RETURN unwanted
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drug take-back program.

Contact: **Yellow Jugs for Old Drugs**
to find a local pharmacy that will
collect and properly dispose of your old
medicines, (989) 736-8179 or visit
www.greatlakescleanwater.org/yellow-jug-old-drugs/

Contact: **RRRASOC**
to learn about other drug take-back
programs in your area, (248) 208-2270
or visit www.rrrasoc.org



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The Dangers of Leftover Medication

Old medicines are a growing hazard in our homes and in the environment. The exact quantity of unused and expired prescriptions in American homes is currently unknown, however, evidence that between 10 and 43 percent of the almost 4 billion prescriptions dispensed in the U.S. every year go unused and become waste.

In the Home

Drug Abuse & Overdose

Prescription drug abuse is the fastest growing drug problem in America and has been classified as an epidemic by the U.S. Centers for Disease Control and Prevention (CDC). Statistics show that 7 out of 10 prescription pain relief abusers get their drugs from family and friends.

Accidental Poisoning

Half of the 2.4 million calls to Poison Control centers in 2010 involved children ages 5 and under. Nine out of ten poisonings occur at home.

In the Environment

Most waste water treatment plants in the U.S. are not designed to filter out pharmaceutical compounds, so trace levels of prescription drugs are often detected in treated municipal water supplies. Certain types of pharmaceuticals, including analgesics/anti-inflammatories (e.g., Ibuprofen), antibiotics (e.g., azithromycin); anti-epileptics, and steroid hormones (e.g., prednisone), are toxic to marine animals and present a danger to entire populations of aquatic organisms.

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Drug Abuse & Overdose

Prescription drug abuse is the fastest growing drug problem in America and has been classified as an epidemic by the U.S. Centers for Disease Control and Prevention (CDC). Statistics show that 7 out of 10 prescription pain relief abusers get their drugs from family and friends.

Accidental Poisoning

Half of the 2.4 million calls to Poison Control centers in 2010 involved children ages 5 and under. Nine out of ten poisonings occur at home.

In the Environment

Most waste water treatment plants in the U.S. are not designed to filter out pharmaceutical compounds, so trace levels of prescription drugs are often detected in treated municipal water supplies. Certain types of pharmaceuticals, including analgesics/anti-inflammatories (e.g., Ibuprofen), antibiotics (e.g., azithromycin); anti-epileptics, and steroid hormones (e.g., prednisone), are toxic to marine animals and present a danger to entire populations of aquatic organisms.

Funded through a Community
Pollution Prevention Program
Grant of the
Department of
Environmental Quality
PURE MICHIGAN

YELLOW JUG LOCATIONS

Warren Prescriptions
32910 Middlebelt Rd, **Farmington Hills** (248) 855-1177

Arbor Lane Pharmacy at **Fox Run**
41100 Fox Run Road, Novi
(248) 668-8778

Checker Specialty Pharmacy
43155 W 9 Mile Rd # 2, **Novi**
(248) 305-7240

Rxtra Solutions PC
18161 W 13 Mile Rd, **Southfield**
(800) 518-9831

Medicine Cabinet Pharmacy
27159 Greenfield Rd, **Southfield**
(248) 557-8840

Pontiac Trail Pharmacy
620 N Pontiac Trail, **Walled Lake**
(248) 669-2776

New Hudson Discount Pharmacy
56270 Grand River Ave, **New Hudson**
(248) 486-0720

Milford Sav-Mor Pharmacy
1191 N Milford Rd, **Milford**
(248) 685-8363

DRUG TAKE-BACK AT POLICE STATIONS

Farmington Police Dept.
23600 Liberty St
Farmington
(248) 474-4700

Farmington Hills Police Dept.
31655 W 11 Mile Rd
Farmington Hills
(248) 871-2600

Novi Police Dept.
45125 W 10 Mile Rd, **Novi**
(248) 348-710

Southfield Police Dept.
26000 Evergreen Rd, **Southfield**
(248) 796-5500

Oakland County Sheriff
Substation
58000 Grand River Ave,
New Hudson
(248) 437-5600

1. Was this collection convenient for you?

Yes

No

2. Were you aware of the need to properly dispose of old medications?

Yes

No

3. How important is it for you to have access to a collection like this?

Not at all

Somewhat

Very

4. How often should collections like this take place?

Once a year

More than once a year

5. Has your doctor or pharmacist ever told you how to dispose of old medications?

Yes

No

6. If so, what did they tell you to do?

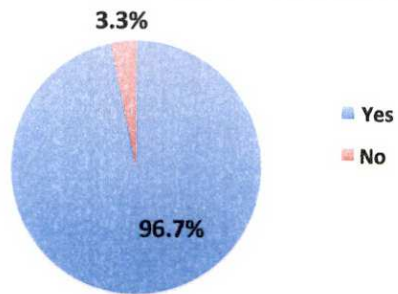
Flush them

Put them in the trash

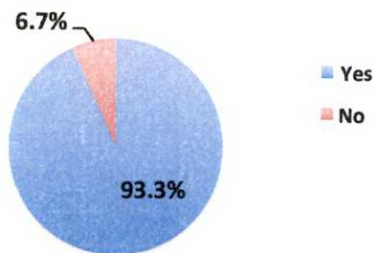
Use a take back site

Pharmaceutical Collection Survey Results

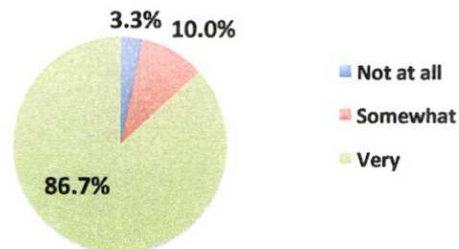
Q. 1. Was this collection convenient?



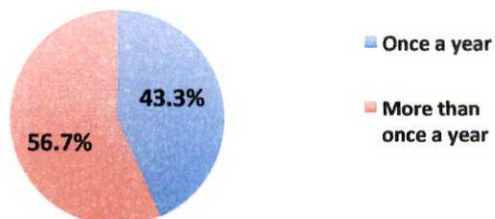
Q. 2. Were you aware of the need to properly dispose of old medications?



Q. 3. How important is it for you to have access to a collection like this?



Q. 4. How often should collections like this take place?



Pharmaceutical Collection Survey Results

Q. 5. Has your doctor or pharmacist ever told you how to dispose of old medications?

