Leftover Medication Disposal in Waukesha and Winnebago Counties, Survey Report, 2009

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Executive Summary

The UW-Extension Solid and Hazardous Waste Education Center received a grant from the US Environmental Protection Agency in 2008 to implement a pilot mail back program for unused medicines. In order to evaluate the effectiveness of this strategy, the UW River Falls Survey Research Center conducted two opinion surveys on the topic of leftover medicine disposal. One survey, which is referred to as the general public survey, was sent to a random sample of 1,149 households in Waukesha and Winnebago Counties. The survey was followed by a post card reminder and a second mailing to non-respondents. The response rate was 29 percent, and the results are expected to be accurate to within plus or minus 5.3 percent. Statistical tests do not indicate that "non-response bias" is a problem in this sample. The respondents to this survey are somewhat older, have more formal education, and higher household incomes than would be expected.

The other survey, which is referred to as the participant survey, was sent to a random sample of 1,000 Waukesha County households that participated in a recent mail back collection program for leftover medicines. A second mailing was sent to non-respondents. The response rate was 16 percent, and the results are expected to be accurate to within plus or minus 7.4 percent. There were many more women than men among the respondents. Like the random sample described above, this sample also contains older, wealthier and more highly educated respondents.

The questionnaires contained many identical questions, and responses of the two populations were compared throughout the report. In general, those in the participant survey have systematically different opinions than the general public survey respondents, demonstrating both increased knowledge of the issue and significant behavior change in the ways they manage old medicines.

The first set of questions asked for respondent's opinions about a range of issues associated with disposal of unused medicines. There were significant differences of opinion on eight of the ten questions asked. Participants in the mail back program seem to be more aware of the risks posed by unused medications For example, the general public was more likely to agree that storing leftover medicines at home poses little risk, while the mail back participants were more likely to agree that leftover medicines are a common path to drug abuse/overdoses. Additionally, more of the general public respondents chose the "don't know" option in six of the ten statements, indicating a lower level of awareness about this topic and suggesting a need for on-going educational efforts on the topic of how to responsibly deal with leftover medicines.

Both groups have made significant changes in the way they dispose of leftover medicines. They are now less likely to use the following practices: store medicines indefinitely in their homes, pour leftovers down the sink or in the toilet, or place leftovers in the trash in an unaltered form. A higher proportion of participants in the mail back program have reduced their use of these practices.

Television and newspapers are the most frequent sources of information among the general public regarding leftover medicines. Significantly more participants in the mail back program have used information from local/county government. When asked how they would prefer to receive information on this topic, the general public still preferred television and newspapers, but participants in the mail back program preferred to receive information from knowledgeable experts including pharmacists/drug stores, doctors/hospitals, and local/county governments.

Participants in the mail back program were well satisfied with their experiences and offered few suggestions for improvement.

The chief reason cited by the general public for not participating in the mail back program was that they didn't know about it. Half of the households in the general public survey said they have leftover medicines. These respondents said they are likely to participate in collection programs that offer continuous service, such as drop-off sites that are open on a regular schedule, ongoing mail back programs, or a program where leftover medicines could be returned to the pharmacy where purchased.

Survey Purpose

The purpose of this study was to gather opinions about the disposal of unused/leftover medicines in Waukesha and Winnebago Counties and was part of a research project by Steven Brachman of the UW-Extension Solid and Hazardous Waste Education Center (SHWEC). This study consists of two separate surveys. One survey, which is referred to as the general public survey, was sent to a random sample of households in Waukesha and Winnebago Counties. The other survey was sent to a sample of Waukesha County residents who participated in a free program called "Get the Meds Out" through which a mail back service was offered for the disposal of leftover medicines.

Survey Methods

Public Survey. In January, 2009, the Survey Research Center (SRC) at the University of Wisconsin – River Falls mailed surveys to a random sample of 1,149 households (owner-occupied and renter-occupied) in Waukesha and Winnebago Counties. The surveys were followed by post card reminders and a second mailing to non-respondents. The overall response rate was 29 percent (337 completed questionnaires). Based on the estimated number of adults in the population of the two counties (385,284)[1], the results provided in this report are expected to be accurate to within plus or minus 5.3 percent with 95 percent confidence.

Mail Back Participant Survey. In order to assure confidentiality, the mail back program survey participants was distributed by Capital Returns, Inc, which is the entity that received medicines for the mail back program. In January, 2009, Capital Returns mailed surveys to a random sample of 1,000 participants from Waukesha County. The surveys were followed by a second mailing to non-respondents. Completed surveys were returned to the Survey Research Center, which completed the data entry, tabulation and analysis. The overall response rate was 16 percent (155 completed questionnaires). Based on the reported total number (1,250) of Waukesha County residents who elected to participate in the mail back program, the results provided in this report are expected to be accurate to within plus or minus 7.4 percent with 95 percent confidence.

The questionnaires used in the project were nearly identical, allowing for direct comparison on many key variables between the general public and those who were self-selected participants in the free mail back program for unused medicines.

Any survey has to be concerned with "non-response bias." Non-response bias refers to a situation in which people who don't return a questionnaire have opinions that are systematically different from the opinions of those who return their surveys. **Based upon a standard statistical analysis that is described in Appendix A, the Survey Research Center (SRC) concludes that there is no evidence that non-response bias is a concern for the public survey sample. There is insufficient data to perform a statistical analysis for non-response bias on the data from the mail back program survey.**

In short, the data gathered in these surveys are expected to accurately reflect the opinions of the general public of Waukesha and Winnebago Counties and the participants in the mail back collection. While the data available to the SRC from the participant survey did not allow us to test for non-response bias, the demographic profile of the respondents in the mail back program is a good match to the overall population profile of Waukesha County.

[1] 2008 Official Population Estimate, Wisconsin Department of Administration

In addition to the numeric responses, respondents provided additional written comments which were compiled by the SRC from the surveys. **Appendix B to this report contains the complete compilation of comments.**

Appendix C contains a copy of both survey questionnaires with quantitative summaries of responses by question.

Profile of Respondents

Table 1a summarizes the demographic profile of the public survey respondents from Waukesha and the overall adult population of Winnebago County residents. Where comparable data were available from the 2000 Census of Population, they were included to indicate the degree to which the sample represents the overall adult population in the two Counties.

There are fewer people under 45 years of age in this sample than the Census indicates should have been included. In particular young adults, ages 18-24, are underrepresented in the sample. Our experience is that younger residents are less likely to participate in surveys than are their older neighbors. Only about ten percent of the questions in the survey showed a statistically significant difference between the opinions of those who are age 45 and above and those who are younger than that. An examination of those variables found no distinct pattern to the variables containing age-related differences. Furthermore, the sizes of the differences among the responses were generally quite small and did not alter the overall response pattern and interpretation of the results. Thus, the shortage of younger respondents does not seem to detract from the representativeness of the sample.

The respondents to the general public survey also contained higher levels of formal education than would be expected. About 15 percent of the questions had statistically significant differences between those who had post-high school education and those without higher education. An examination of those variables found no distinct pattern to the variables containing age-related differences. The differences in the percentages of the responses were generally quite small and did not alter the overall interpretation of the results.

Additionally the respondents to the general public survey contained a higher proportion of households with annual incomes above $50,000 than in the 2000 Census. About 21 percent of the questions had statistically significant differences between households making less than $50,000 and those households $50,000 and above. However, comparisons of income data to the Census are problematic due to the age of the data and the growth of incomes since the 2000 Census. An examination of those questions with statistically significant differences found no distinct pattern to the variations. Furthermore, the differences in the percentages of the responses were generally quite small and did not alter the overall response pattern and interpretation of the results.

The number of responses from each of the two counties in the general public sample was proportionate to overall the adult population of each county. The SRC performed a statistical analysis of the responses from each county and found statistically significant differences were present in only six of the 68 variables on the questionnaire. Additional data analysis will identify when various demographic groups have significantly different views.

Table 1a. Demographic Profile of Respondents – General Public Waukesha and Winnebago Counties							
Gender	**Count**	**Male**	**Female**				
Sample	328	55%	45%				
Census (age 18+)	385,284	49%	51%				
Age 18+	**Count**	**18 – 24**	**25 – 34**	**35 – 44**	**45 – 54**	**55 – 64**	**65+**
Sample	327	1%	7%	17%	28%	23%	25%
Census	385,284	11%	17%	24%	20%	12%	16%
County of Residence	**Count**	**Waukesha**		**Winnebago**			
Sample	315	70%		30%			
WI Official Estimate.[2]	418,038	69%		31%			
Highest Level of Education	**Count**	**High School Diploma or Less**	**Some College/ Tech**	**Tech College Grad.**	**Bachelor's Degree**	**Graduate/ Professional Degree**	
Sample	319	17%	21%	13%	31%	18%	
Census (age 25+)	342,394	40%	22%	7%	22%	9%	
Annual Household Income Range	**Count**	**<$25,000**	**$25-$49,999**	**$50-$74,999**	**$75-$99,999**	**$100,000+**	
Sample	279	8%	19%	25%	21%	28%	
Census	196,630	17%	26%	25%	15%	17%	

Table 1b summarizes the demographic profile of Waukesha County respondents who participated in the mail back collection program.

There is a striking gender imbalance among the respondents. Women made up a highly disproportionate number of the respondents (79%). However, there were few differences between the response patterns of the men and women in this survey. Only 10 percent of the questions contained statistically significant differences based on gender. Thus, there was little evidence of gender bias in the data and the SRC chose not to weight the data to reflect the proportion of men and women in the population.

The sample contained more respondents in the 45 to 54 age group than would have been expected and there were fewer young adults. But only three percent of the questions had statistically significant differences between those under age 45 and those who are 45 years or older.

As was seen in the profile of the respondents to the general public survey, the sample had more respondents with post-high school education and had higher household incomes. However, there were no questions with statistically significant differences based on education and only three percent of the variables had statistically significant differences based on household income.

In short, it is felt that the sample of participants is likely to reflect accurately the views of the entire group of program participants. Further data analysis of the mail back respondent survey will identify when various demographic groups have significantly different views.

[2] 2008 Official Population Estimate, Wisconsin Department of Administration

Table 1b. Demographic Profile of Waukesha County Participants—Mail Back Program							
Gender	**Count**	**Male**	**Female**				
Sample	137	21%	79%				
Census (age 18+)	265,864	49%	51%				
Age 18+	**Count**	**18 – 24**	**25 – 34**	**35 – 44**	**45 – 54**	**55 – 64**	**65+**
Sample	139	1%	12%	27%	32%	18%	12%
Census	265,864	9%	16%	25%	21%	13%	16%

Highest Level of Education	**Count**	**High School Diploma or Less**	**Some College/ Tech**	**Tech/ College Grad.**	**Bachelor's Degree**	**Graduate/ Professional Degree**
Sample	131	14%	21%	14%	39%	13%
Census (age 25+)	241,299	36%	23%	8%	24%	10%

Annual Household Income Range	**Count**	**<$25,000**	**$25-$49,999**	**$50-$74,999**	**$75-$99,999**	**$100,000+**
Sample	137	4%	14%	12%	31%	39%
Census	135,450	13%	23%	25%	17%	21%

Demographic differences between the general public and the mail back participants were statistically significant on three of the four demographic variables: gender, age and household income. Not surprisingly, significantly more participants in the mail back program were women than in the survey of the general population. The respondents to the mail back survey were more likely to be under age 45 and to live in households with $75,000 or more annual income than was true of the general public survey.

Opinions about Leftover Medicines

The first question in both surveys presented a series of statements about unused medications and asked the respondents to indicate their level of agreement or disagreement. Chart 1 contains a summary of the responses based on the combined percentages of those who said they "agree" and "strongly agree." The top bar represents the responses from the general public, while the bottom bar corresponds to the respondents from the mail back collection program. Throughout the report, similar charts will be used to show the comparison between the responses from the general public and the responses from the participants in the mail back collection program. As shown in Chart 1, the two groups have substantial differences in their responses to several of the statements in Question 1. This pattern of differences between the general public and participants in the mail back collection program is repeated throughout the survey and is one of the primary findings from the data.

Opinions of the general public. A majority of respondents from the general public agreed or strongly agreed that leftover medicines have been detected in drinking water supplies and that trace amounts have been found in surface waters. At the same time, about a third of the general public chose the "don't know" response.

About half said they agreed or strongly agreed that there is scientific evidence that trace amounts of leftover medicines found in drinking water supplies cause adverse affects on human health. More than one in four respondents, however, chose the "don't know" response.

The public has split opinions about the risk of storing unused medicines in their homes. About the same proportion agreed or strongly agreed (48%) as disagreed or strongly disagreed (47%).

Although few of the public respondents disagreed or strongly disagreed that leftover medicines have affected aquatic life, 48 percent chose the "don't know" response, while 46 percent said they agreed or strongly agreed.

About half of the general public agreed or strongly agreed that leftover medicines are a common path to drug abuse and overdoses, but 38 percent disagreed or strongly disagreed.

The public respondents generally do not think that disposing of leftover medicines in the trash or down the toilet is a good idea. More than six in ten disagreed or strongly disagreed that unused medicines should be placed in their trash, and nearly four in five disagreed or strongly disagreed that leftover medicines should be flushed down the toilet or poured down the sink.

Few members of the public agreed or strongly agreed that leftover medicines will harmlessly decompose in the environment (11%) or that municipal water treatment facilities remove medicines that have been flushed down the toilet (8%). About 30 percent said they "don't know."

There were no differences among the various demographic groups or between respondents from the two counties.

Opinions of mail back collection participants. A very large majority (85%) of participants agreed or strongly agreed that traces of leftover medicines have been found in rivers and lakes, and three in four agreed or strongly agreed that leftover medicines are a common path to drug abuse and overdoses.

A majority of mail back participants agreed or strongly agreed that leftover medicines have been found in drinking water supplies and there is scientific evidence showing that leftover medicines have affected aquatic life. But about one in four respondents said they "don't know.

A quarter of respondents said they agree or strongly agree that storing leftover medicines at home poses little risk. At the same time, one in four agreed or strongly agreed that trace amounts of medicines in drinking water can have adverse health impacts on humans, while 30 percent said they "don't know."

Mail back program participants are nearly unanimous (90%) in their opinion that leftover medicines should not be flushed down the toilet. Three in four mail back program participants said they disagree or strongly disagree that leftover medicines should be disposed of with their garbage.

More than eight in ten disagreed or strongly disagreed that leftover medicines will harmlessly decompose in the environment. About two-thirds of mail back participants said they strongly disagree or disagree that municipal water treatment facilities remove medicines that have been flushed down the toilet, while about 20 percent chose the "don't know" response.

Men were more likely to agree or strongly agree that storage of leftover medicines in their homes poses little risk. Men were also more likely to agree or strongly agree that leftover medicines should be flushed down the toilet and that municipal water treatment facilities remove medicines that are flushed down the toilet.

Comparisons between the general public and mail back program participants. The differences between the responses of the general public and the mail back participants as shown in Chart 1 were statistically significant on eight of the ten statements.

The general public was more likely to agree or strongly agree with the following statements:

- Storing leftover medications in your home poses little risk
- Leftover medicines have been detected in drinking water supplies.
- Scientific studies have shown that trace amounts of leftover medicines found in drinking water cause adverse human health effects.

Mail back program participants were more likely to agree or strongly agree with the following statements:

- Leftover medicines are a common path to drug abuse and overdoses.
- Traces of leftover medicines have been found in streams, rivers, and lakes throughout the U.S.
- Studies have found that leftover medicines have affected the growth/development of aquatic life.

Mail back program participants were more likely to disagree or strongly disagree with the following statements:

- Municipal water treatment facilities remove leftover medicines that are flushed down the toilet.
- Leftover medicines will harmlessly decompose in the environment.

As described above, both groups had a high proportion of "don't know" responses to the statements in Question 1. These data are summarized in Table 2. The general public had "don't know" responses ranging between 28 percent and 48 percent on six of the ten statements (underlined in Table 2). At the same time, the mail back collection participants had "don't know" responses ranging from 19 percent to 30 percent on four statements. All four of the statements in which it mail back participants had a high percentage of "don't know" responses were also statements that received a high percentage of "don't know" responses among the general public. In all cases the percentage of "don't know" responses was

higher among the general public. The five statements with a difference of greater than 10 percent are underlined in Table 2.

Chart 1. Opinions About Unused Medicines

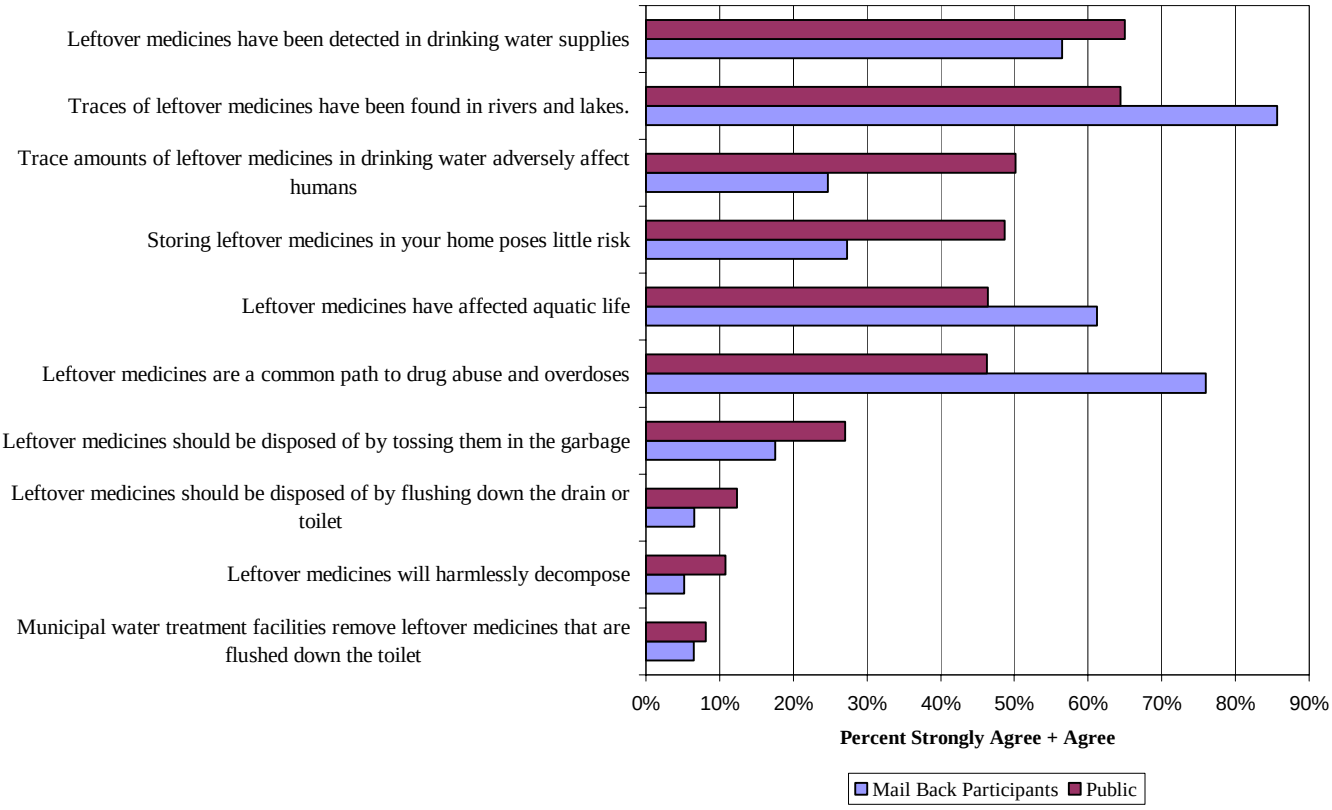


Table 2. Percentage of "Don't Know" responses to Question 1.			
	Public	Mail Back	Difference
Municipal water treatment facilities remove leftover medicines that are flushed down the toilet	30%	19%	11%
Leftover medicines have been detected in drinking water supplies	31%	23%	8%
Scientific studies have found that trace amounts of leftover medicines found in drinking water cause adverse human health affects	41%	30%	11%
Leftover medicines will harmlessly decompose in the environment	28%	10%	18%
Traces of leftover medicines have been found in streams, rivers, and lakes throughout the U.S.	31%	8%	23%
Studies have found that leftover medicines have affected the growth/development of aquatic life	48%	26%	22%

In sum, the responses to these opinion questions indicate that participants in the mail back program seem to be more aware of the risks posed by unused medications (a pathway to addiction or overdoses, adverse impacts on aquatic life, and long-term environmental impacts) and of the limited number of responsible disposal options available to them. Participants in the program also had a higher general level of knowledge about medicine disposal issues (substantially lower, though still relatively higher, percentages

in the "don' know" category). From a public policy perspective, this suggests an on-going need for educational efforts on the topic of how to responsibly deal with unused medicines.

Past and Present Disposal Practices

Respondents were presented a list of various disposal methods and asked to indicate which practices they have used in the past and which they are currently using. Past practices are summarized in Chart 2.

Past practices – general public. The three most frequent past practices listed by respondents from the general public were to put leftover medications in the trash without alteration (60%), to store the medicines at home for an indefinite period (50%), and to flush the medicines down the toilet (41%). There was a large gap in the reported frequencies for all other disposal practices. Between 10 percent and 20 percent said they have poured unused medicines down the sink, returned medications to a collection program, or put the leftover medicines in the trash in an altered form (e.g., mixed with kitty litter, etc.). Fewer than 10 percent of the respondents from the general public said they had given unused medicines to family or friends, given leftover medicines to the poor, burned the leftovers in a backyard burn barrel, or returned their unused medicines to a pharmacy or physician.

There were no differences among the various demographic groups or between respondents from the two counties.

Past practices – mail back collection participants. Like the general public, the most frequent past disposal practice used by mail back program participants was to put the leftover medicines in the trash in an unaltered form (57%). A third of respondents have used previous collection programs (short-term drop-off events). About one in four respondents have indefinitely stored their leftover medicines in their homes, have flushed them down the toilet, or have poured them down the sink. The most frequent comment in the "Other" category was that respondents did not have any more leftover medicines because they use the medicines until they are gone.

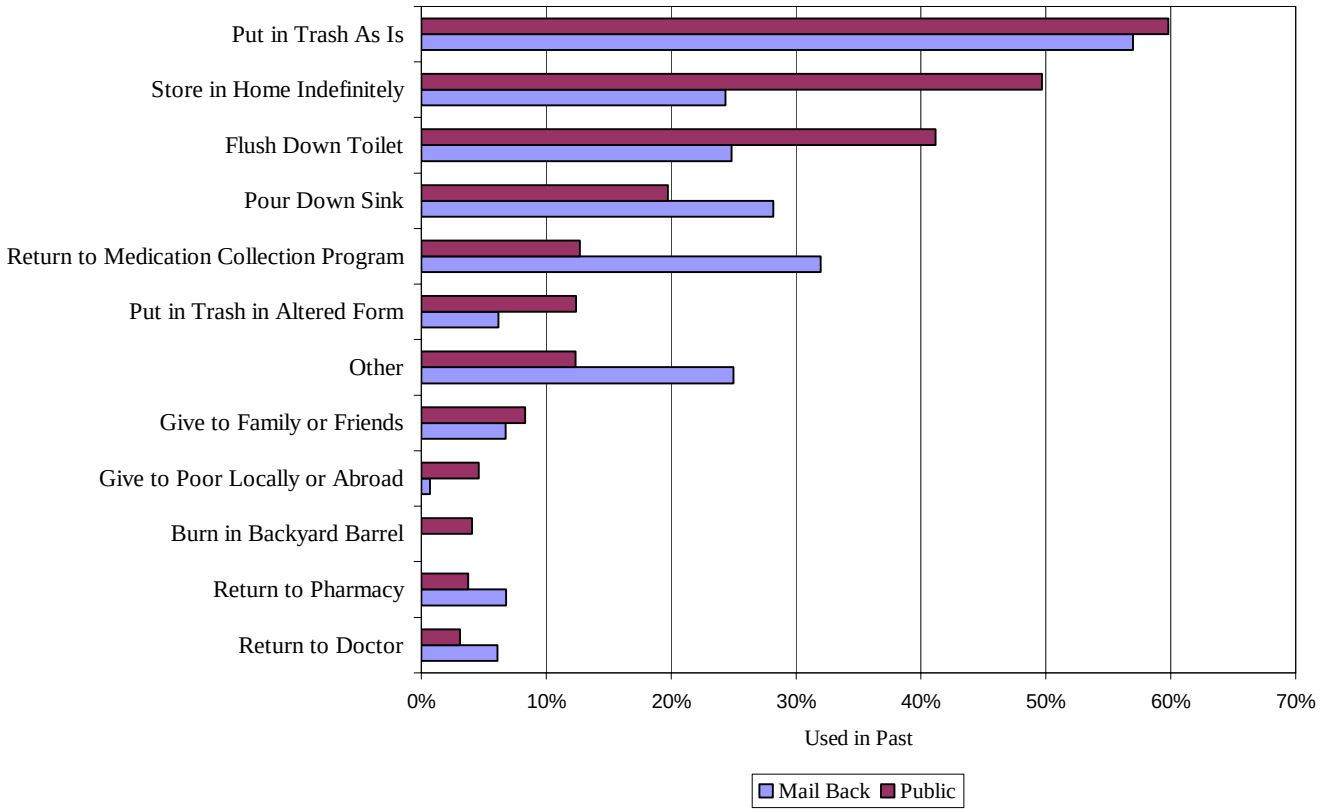
Few participants in the mail back collection program said they had given unused medicines to family or friends, given leftover medicines to the poor, burned the leftovers in a backyard burn barrel, or returned their unused medicines to a pharmacy or physician.

There were no differences among the various demographic groups.

Comparisons between the general public and mail back program participants. The differences between the responses of the general public and the mail back participants as shown in Chart 2 were statistically significant for five disposal practices used in the past. Mail back participants were less likely to have used the following practices:

- Stored them in their homes indefinitely
- Flushed them down the toilet
- Put them in the trash in altered form
- Given them to the poor

Chart 2. Past Disposal Practices



A follow-up question asked respondents to identify which disposal practices they are currently using. The results are summarized in Chart 3.

Current practices – general public. The two most frequently used disposal methods among the general public are storage of the leftover medicines in their homes and placement in their trash in an unaltered form; about a third of respondents reported they currently use each of these two methods. About one in five are using a collection program (short-term drop-off events or the mail back collection). Slightly more than 10 percent said they are currently placing their unused medications in an altered form in their trash or flushing the medicines down the toilet. Fewer than 10 percent are currently using any of the remaining listed disposal methods, i.e., return to pharmacy, return to doctor, pour down sink, give to family or friends, give to the poor, or burn in back yard burn barrel.

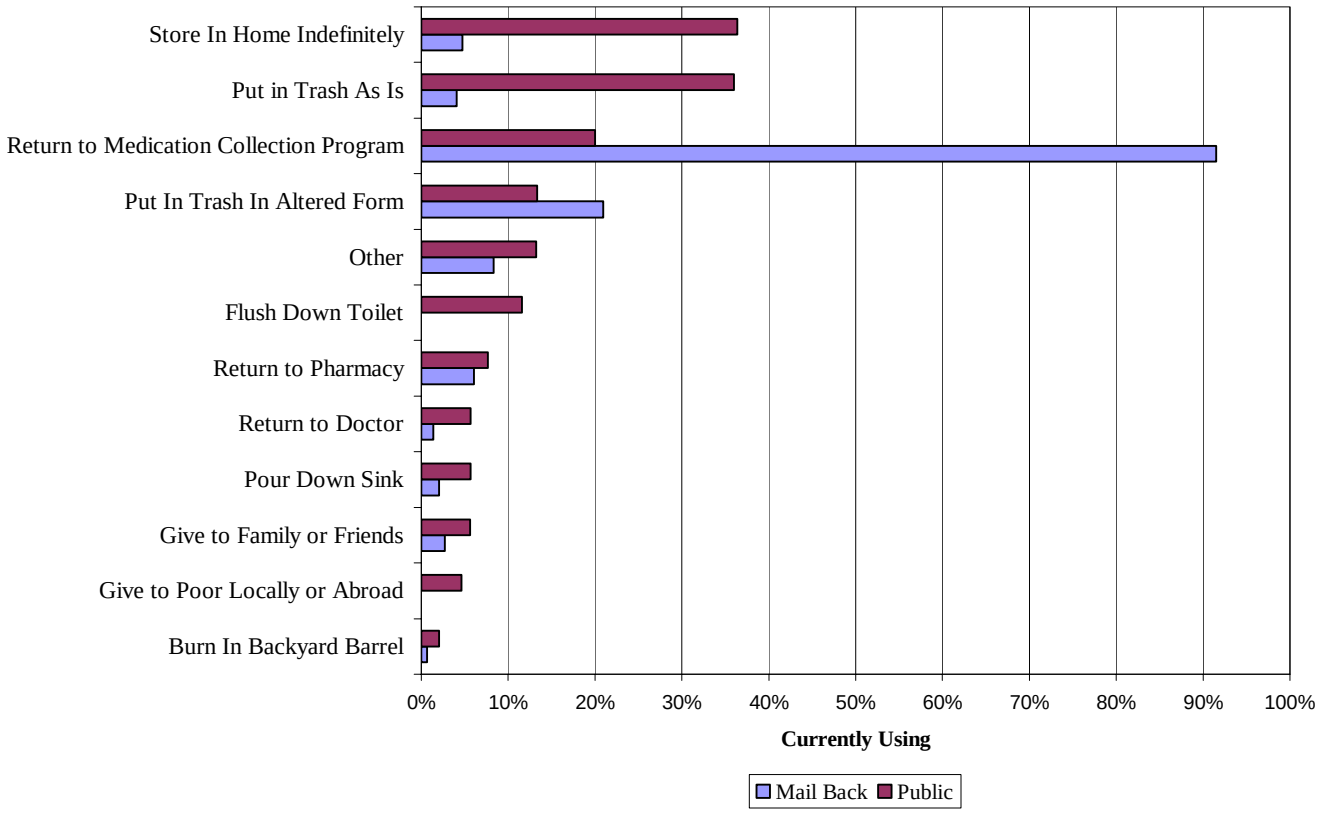
There were no differences among the various demographic groups or between respondents from the two counties.

Current practices – mail back collection participants. By far and away, the most frequent disposal method practiced among mail back program participants is to return leftover medicines to a collection program (92%). Since this questionnaire was mailed only to participants in such a program, this result was expected. Coming in a very distant second place was placement of their leftover medications in the trash in an altered form (21%). Very few (less than 10 percent) mail back collection participants reported that they presently use any of the remaining eleven items on the list. There were no differences in the current practices among the various demographic groups. The most frequent comment in the "Other" category

was that respondents did not have any more leftover medicines because they use the medicines until they are gone.

Comparisons between the general public and mail back program participants. As shown in Chart 3, the mail back program participants and the general public differ dramatically in their respective practices regarding leftover medicines. The general public is significantly more likely to indefinitely store leftover medicines in their homes, to put leftover medicines in the trash "as is," to flush unused medicines down the toilet, to return leftovers to a physician, and to give unused medicines to the poor. Not surprisingly, those who have participated in the mail back collection program are much more likely to have said they are returning leftover medicines to a collection program. In addition, a higher proportion of participants in the mail back program said they currently put unused medicines in their trash in an altered form (e.g., mixed with kitty litter).

Chart 3. Present Disposal Practices



The SRC analyzed the changes between past and present disposal practices for the two groups. The results are shown in Chart 4. Increases in current use compared to past use are shown as positive percentages to the right of the "0," while decreasing use of past practices are shown as negatives to the left of the "0."

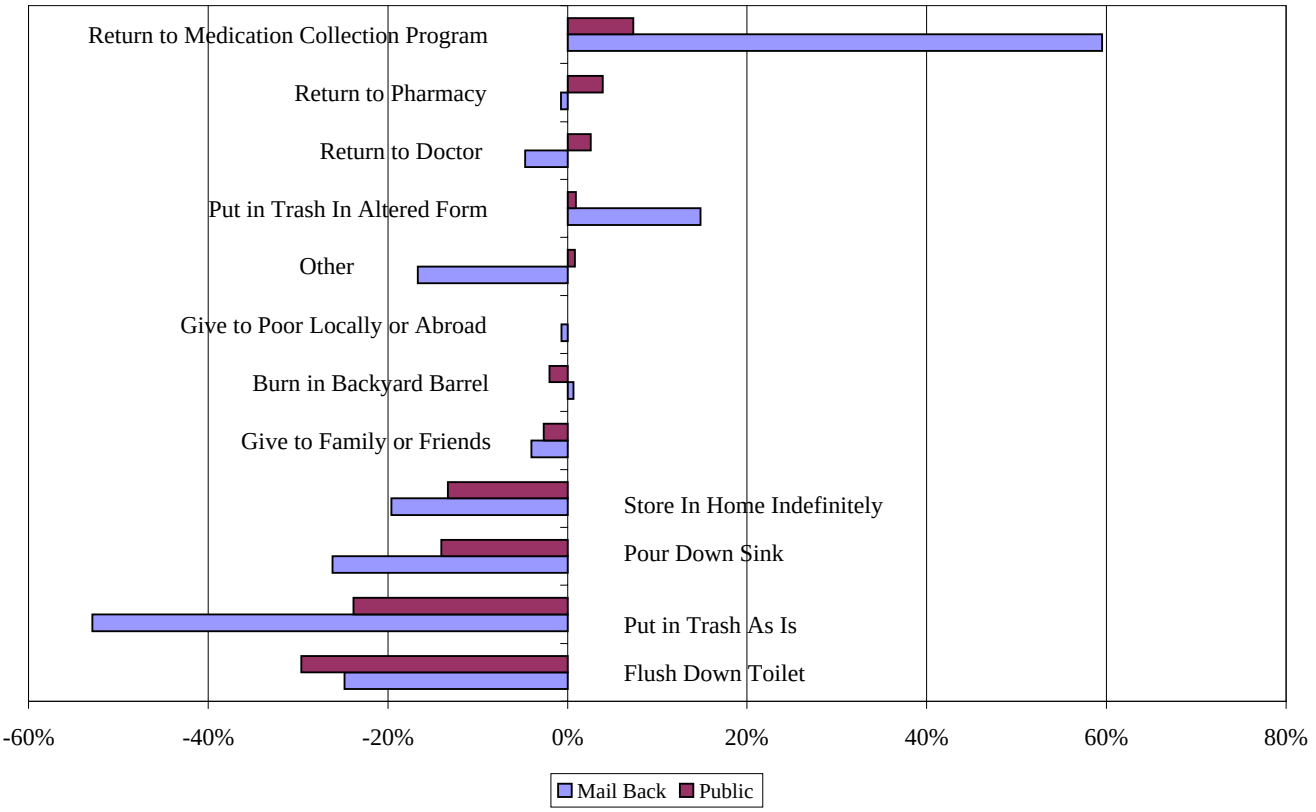
Changes in disposal practices – general public. Among the general public, flushing leftover medicines down the toilet dropped from 41 percent to 12 percent; disposal in the trash in an unaltered form decreased from 60 percent to 36 percent; disposal down the sink dropped from 20 percent to six percent, and storage for an indefinite period of time in their homes decreased from 50 percent to 36 percent. On the other hand, the pubic reported small increases in the use of collection programs and returning leftover medicines to their physician or pharmacist.

Changes in disposal practices – mail back collection participants. The most striking changes among the mail back program participants were the decreasing usage of four particular practices and the increasing use of collection programs. Disposal in the trash in an unaltered form dropped from 57 percent to only four percent. Disposal by pouring leftover medicines down the sink dropped from 28 percent to only two percent. Similarly, disposal in the toilet dropped from 25 percent to zero, and indefinite storage in their houses dropped from 24 percent to five percent. The use of collection programs rose dramatically from one in three respondents to near unanimity (92%). Placing leftover medicines in the trash in an altered form also increased in frequency among mail back participants, rising from six percent to 21 percent.

Comparisons between the general public and mail back program participants. Both groups were less likely to currently use the following disposal methods: store their unused medicines in their homes indefinitely, pour leftover medicines down the sink, place unused medicines in the trash without alteration, or flush leftover medicines down the toilet. With the exception of flushing leftovers down the toilet, the participants in the mail back program were more likely to have decreased their use of these four particular disposal methods.

Mail back participants were more likely to have increased their participation in collection programs, and more of them are putting leftover medicines in the trash in an altered form.

Chart 4. Change in Disposal Practices



From a public policy perspective, the results in Chart 4 are encouraging. The public seems to be open to changing their practices with respect to disposing of unused medicines. There have been substantial shifts in disposal practices, suggesting that people are quite interested in "doing the right thing" with respect to the responsible disposal of pharmaceutical products. These results indicate that a little education coupled with expanded disposal opportunities could be expected to have a substantial impact.

Sources of Information

Respondents were next asked to indicate the sources of information they have used regarding the disposal of unwanted medicines. The results are summarized in Chart 5.

Sources of information – general public. The public said they have used a relatively small number of information sources for information regarding leftover medicines. Television and newspapers stood out at the top of the list, with about 36 percent each, and there was a significant gap between these two media and the remaining information sources listed. About one in five said they had received information from a pharmacist; between 10 percent and 20 percent mentioned magazines, family/friends/co-workers, radio, local/county government publications, local/county government collection programs, and hospitals/physicians. Fewer than 10 percent said they have received information from the Internet, senior citizen organizations, environmental organizations, employers, or workshops/meetings.

Importantly, a third of the general public said they have never seen information on this issue.

Respondents who were age 45 or more were more likely to have used information from a previous leftover medicine collection event or, not surprisingly, from a senior citizen organization. Respondents who have higher levels of formal education more frequently used newspapers and web sites as information sources regarding leftover medicines. Respondents with a high school education or less said they used pharmacists more frequently.

Respondents from Winnebago County were even less likely to have used radio as an information source regarding leftover medicine disposal; they were more likely to have said they never received information about this topic. Respondents from Waukesha County were slightly more likely to have used information from local/county governments or information from a previous collection program.

Sources of information – mail back collection participants. The top ranking information source among participants in the mail back collection was their local/county governments, which was cited by more than four in ten respondents. Television and newspapers were a close second and third information sources, with 38 percent and 34 percent respectively. About one in six respondents said they had received information from previous leftover collection events or from a pharmacist or drug store. Between 10 percent and 15 percent of mail back collection participants said they had used information from the Internet or from doctors/hospitals. Fewer than 10 percent reported receiving information on this topic from magazines, family/friends/co-workers, radio, senior citizen organizations, environmental organizations, employers, and workshops/meetings.

Respondents who were age 45 or more frequently cited physicians or hospitals as sources of information about leftover medicines.

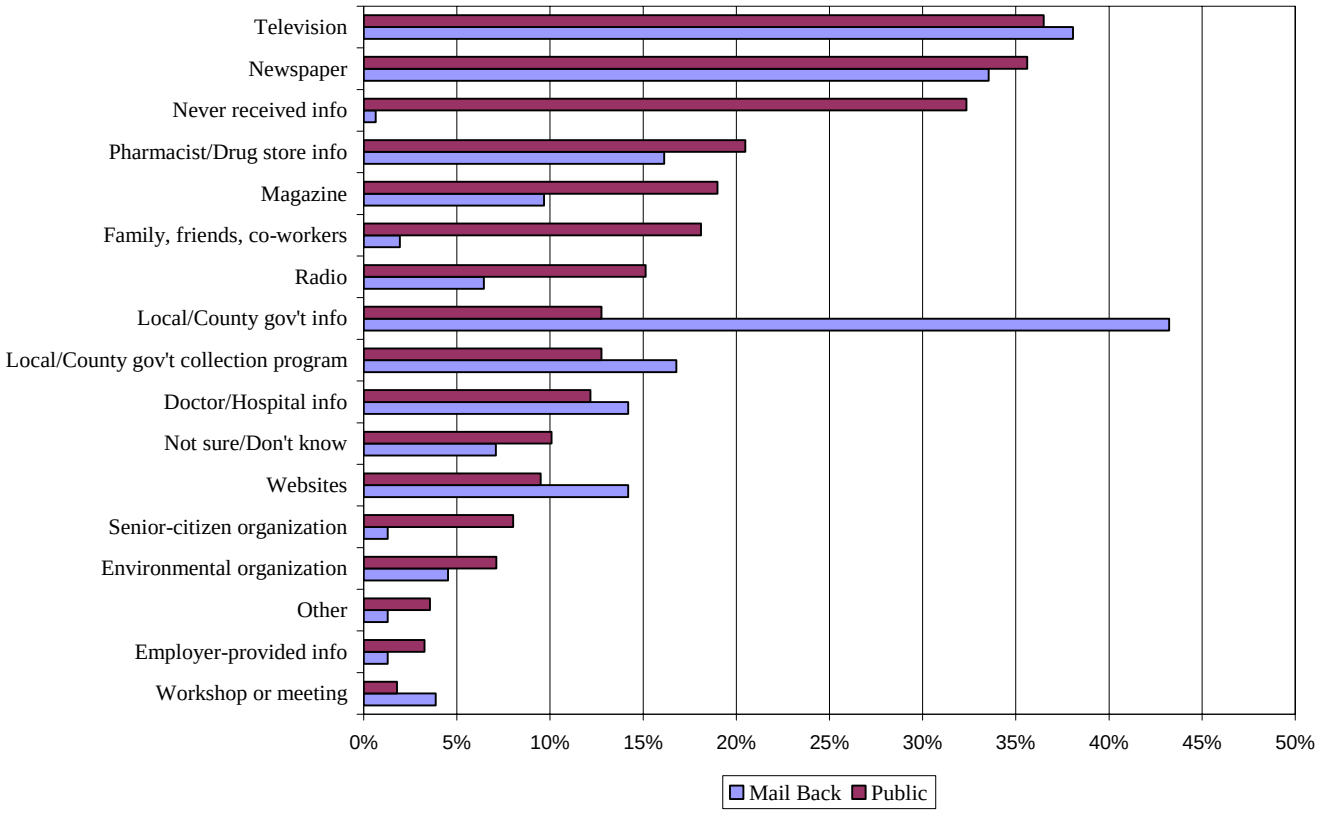
Comparisons between the general public and mail back program participants. Although participants in the mail back program cited television and newspapers in about the same proportion as the general public, they are much more likely to have used information from a local or county government source. More than four in ten participants in the mail back program listed local/county government as a source of information compared to only 13 percent of the general public.

Other statistically significant differences between the general public and the mail back collection participants include the following: The general public is more likely to receive information via magazines,

friends/family members, radio, and senior citizen organizations. Participants in the mail back program were more likely to have used information from previous local/county leftover medicine collection events.

Relatively few respondents from either group have used doctors/hospitals, websites, senior citizen organizations, environmental organizations, employer-provided information, and workshops as sources of information on this topic.

Chart 5. Sources of Information Used



A follow-up question asked respondents to identify their three most preferred sources of information from the list in the previous question. The results are summarized in Chart 6.

Preferred sources of information – general public. The rank order of the top three preferred sources of information is the same as the top three sources actually used (see Chart 5). About one in five respondents included television among the top three. Newspapers and pharmacists/drug stores were included in the top three by about 15 percent. Physicians/hospitals came in fourth place with 10 percent. The remaining information sources were preferred by no more than 10 percent of respondents from the general public.

There were no differences among the various demographic groups or between the respondents from the two counties.

Preferred sources of information – mail back collection participants. The most preferred sources of information regarding leftover medicines were pharmacist/drug store (22%), followed by doctor/hospital (17%), and local/county government information (16%). These preferences at the top of the list of

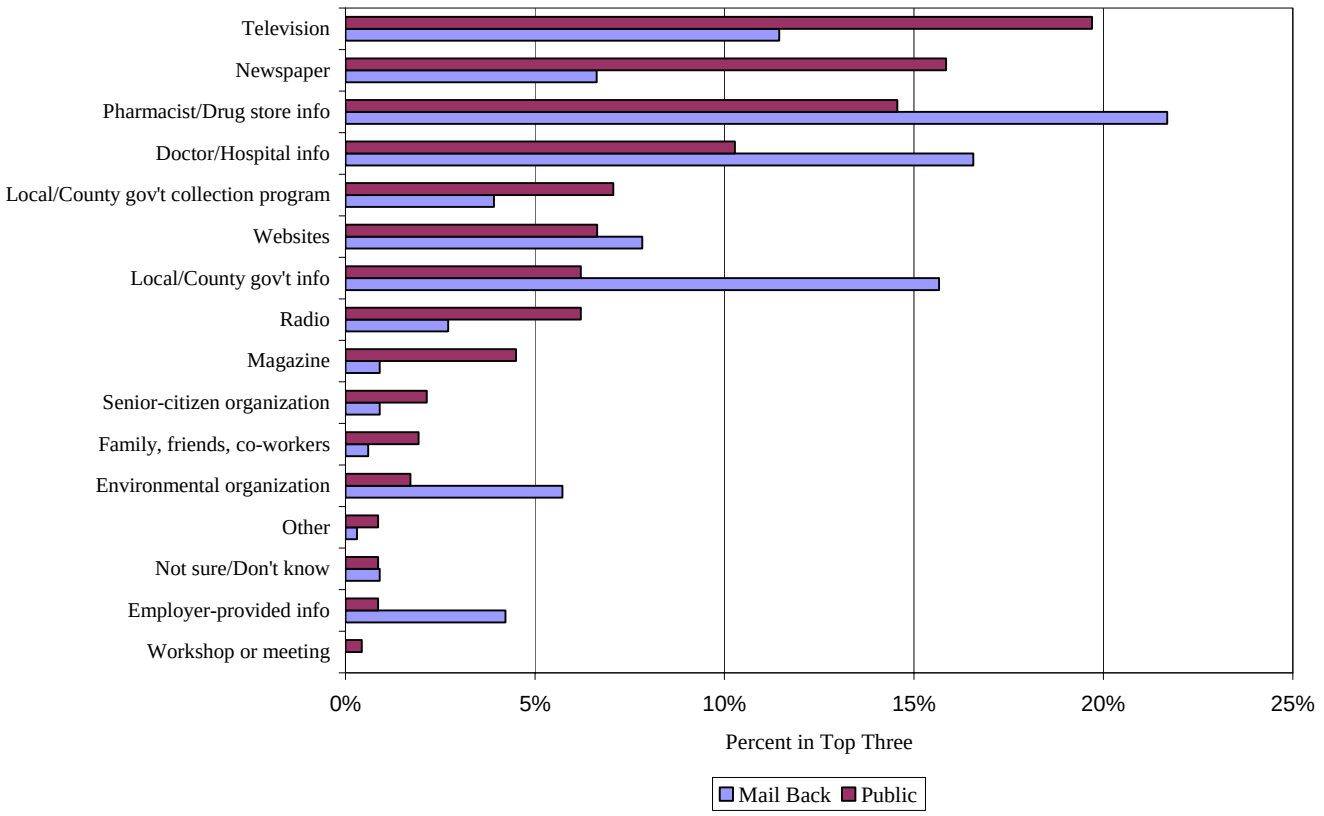
preferred sources are in a different rank order than the top ranked sources of information being used (see Chart 5). Television and newspapers were replaced by medical professionals (pharmacists/drug stores and physicians/hospitals) in the top two ranks, and local/county government moved to third place. Television was included in the top three by about 11 percent of the mail back collection participants. Radio dropped back to seven percent. All of the remaining information sources were below 10 percent.

There were no differences in the current practices among the various demographic groups or between the respondents from the two counties.

Comparisons between the general public and mail back program participants. Respondents from the general public were more likely to prefer the following sources of information: television, newspaper, local/county government collection programs, radio, magazines, senior citizen organizations, and friends/family. Participants in the mail back collection program were more likely to prefer the following: pharmacist/drug store, doctor/hospital, local/county government information, environmental organizations, and employers.

Although the mail back program participants indicated a stronger preference for pharmacists/drug stores and doctors/hospitals as preferred sources of information, the general public gave relatively high rankings these two sources, behind only television and newspapers.

Chart 6. Three Most Preferred Information Sources



If the goal of public policy is to improve the responsible disposal of unused medicines, Charts 5 and 6 seem to have two messages. Chart 5 indicates that information provided by the County seems to have had sufficient credibility with mail back program participants to have gotten them to use this option. Thus, increasing the profile of information about disposal of unused medicines from the County is important.

Chart 6 indicates that reaching a broad swath of people in the area with information about proper disposal is likely to require a smorgasbord approach that combines stories on the local TV news, newspaper articles, and working with local pharmacies and hospitals.

Opinions about the Mail Back Collection Program

Participants in both surveys were asked to indicate their level of satisfaction with three aspects of the program. Only three percent of the general population survey reported that they had participated in the mail-back program – the other 97 percent skipped the questions about program satisfaction. As shown in Table 3, those who evaluated the mail back program said they are well-satisfied with their experience. More than nine in ten were "satisfied" or "very satisfied" with the toll-free call center information and the packaging materials. The level of satisfaction with the shipping locations was not quite as strong. Nevertheless, a majority (70%) were "satisfied" or "very satisfied" with the shipping locations.

Table 3. Satisfaction with mail back collection program.

	Count	Don't Know	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
800 number call center information	152	0%	66%	30%	1%	1%	1%
Packaging materials	151	0%	56%	37%	5%	2%	0%
Shipping locations	151	1%	40%	30%	17%	12%	1%

There were no significant differences among the demographic groups.

Respondents were asked to offer suggestions for improvement of the mail back program. Among the eight comments from the general public, the most frequent topic was lack of awareness of the availability of the program. The most frequent suggestion from the participants in the program was a desire to have the US Postal Service as a shipping option. The complete list of responses can be found in Appendices B1 and B2.

Impediments to Participation

General Public Responses. The respondents to the pubic survey were next asked to identify all the reasons they chose not to participate in the mail back collection program. As shown in Table 4a, more than 80 percent said they weren't aware of the program. Respondents who said they didn't participate because they had no leftover medicines were a distant second, with 21 percent. Only seven percent said they weren't interested in the mail back collection because they are not concerned about leftover medicines. Four percent didn't participate because they had already participated in one of the previous drop-off collection events.

Table 4a. Reasons for Non-participation in Mail Back Collection —General Public

Didn't know about the mail back program for leftover medicine disposal	82%
Do not have any leftover medicines	21%
Am not concerned about leftover medicines	7%
Previously participated in a different drop off program in my county	4%
Other: **See Appendix B1**	4%
Wanted to participate but missed the program	3%

Among the demographic groups, respondents from households with annual incomes less than $50,000 were more likely to have said they do not have any leftover medicines.

A follow-up question asked the respondent to identify the single most important reason for their non-participation. Again, the most frequent reason for non-participation was the lack of awareness of the program (79 percent).

Mail Back Participant Responses. The participants in the mail back collection program were asked slightly different versions of these questions. Instead of identifying reasons for non-participation, the participants were asked to identify factors that might prevent their participation in future mail back collections. The results are shown in Table 4b.

Table 4b. Reasons Not to Participate in Mail Back Program in the Future – Mail Back Participants	
Don't expect to have any leftover medicines	28%
Other: **See Appendix B2**	17%
Am not concerned about leftover medicines	10%
Mail back programs are too inconvenient	5%
Mail back programs don't take the meds I need to get rid of	5%
Mail back programs are too complicated	3%

Chief among the reasons they might not participate in future programs a lack of need; twenty-eight percent said they don't expect to have any leftover medications in the future. Only one in ten said they are not concerned about leftover medicines. Very few participants identified negative concerns that might prevent their future participation: five percent of respondents said mail back programs are too inconvenient or don't take the particular leftover medicines they have, while only three percent said mail back collection is too complicated. Two-thirds of the comments in the "Other" category were simple statements of support indicating the respondent liked the program and would use it again.

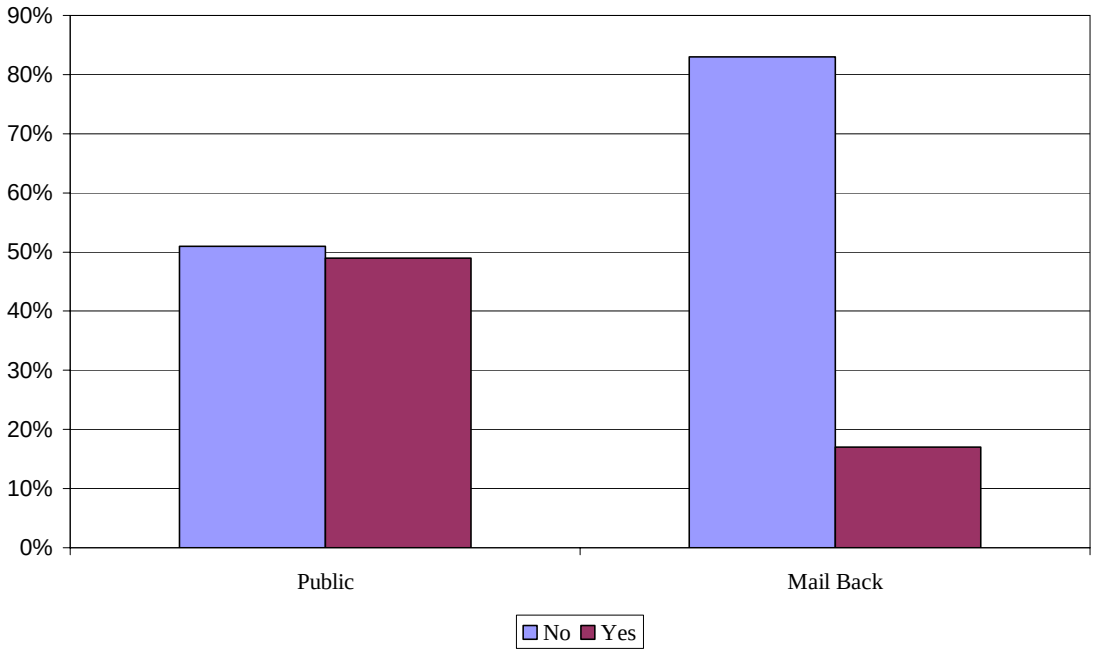
When asked to identify the single most important factor that might prevent their participation in the future, half of the respondents said they wouldn't have a need for a collection because they don't expect to have leftover medicines in the future. This result is consistent with the comments in Question 3, in which the most frequent "Other" comment was that the respondent was now using up all medicines.

Preferences for Leftover Medicine Disposal

Toward the end of the questionnaire, respondents were asked if they have any leftover medicines and to indicate their preferences for various types of disposal programs. The results are in Chart 7 and Chart 8.

Among the respondents from the general public, half said they have leftover medicines in their households (Chart 7). In contrast, only 17 percent of the participants in the mail back collection program currently have leftover medicines, which suggests a fairly high level of impact for the mail-back program.

Chart 7. Do You Currently Have Leftover Medications?



Preferences for leftover medicine disposal – general public. As shown in Chart 8, between two-thirds and three-fourths of the general public said they would be "likely" or "very likely" to participate in any of the three types programs that would offer continuous collection. The choice of an ongoing collection program at a specified drop-off location (77%) and a program allowing return of leftover medicines to the pharmacy where purchased (74%) were in a virtual tie for first place. Not far behind was the option for an ongoing mail back program (67%). There was a substantial decrease in the level of interest for one-time drop-off events of the type that have already been held, with only 40% saying they would be likely to participate.

Interest in participating in a future collection program was even higher among those who said they currently have leftover medicines in their households. Importantly, the most favored options among respondents with leftover medicines were an ongoing drop-off collection at a specified location and an ongoing mail back collection.

Preferences for leftover medicine disposal – mail back collection participants. The high level of satisfaction among participants in the mail back program was reflected in their level of support for an ongoing mail back program. More than 80 percent of respondents said they would be "likely" or "very likely" to participate in this type of operation again. Smaller majorities of respondents from the mail back program said they would likely participate in an ongoing drop-off collection (61%) or return leftover medicines to the pharmacy (57%). The option for single-day drop-off collections was decidedly less popular than any of the other three options, with only one in five indicating they would be likely to participate. The pattern of preferences for disposal options among those with leftover medicines did not differ from those who currently do not have leftover medicines in their households.

Comparisons between the general public and mail back program participants. Majorities of both group said they would be likely participants in any of the three continuous programs listed. At the same time, participants in the mail back program more strongly favored a continuous mail back program than the general public. Although neither group favored one-time drop-off collections, this option had even less support among those who had participated in the mail back program.

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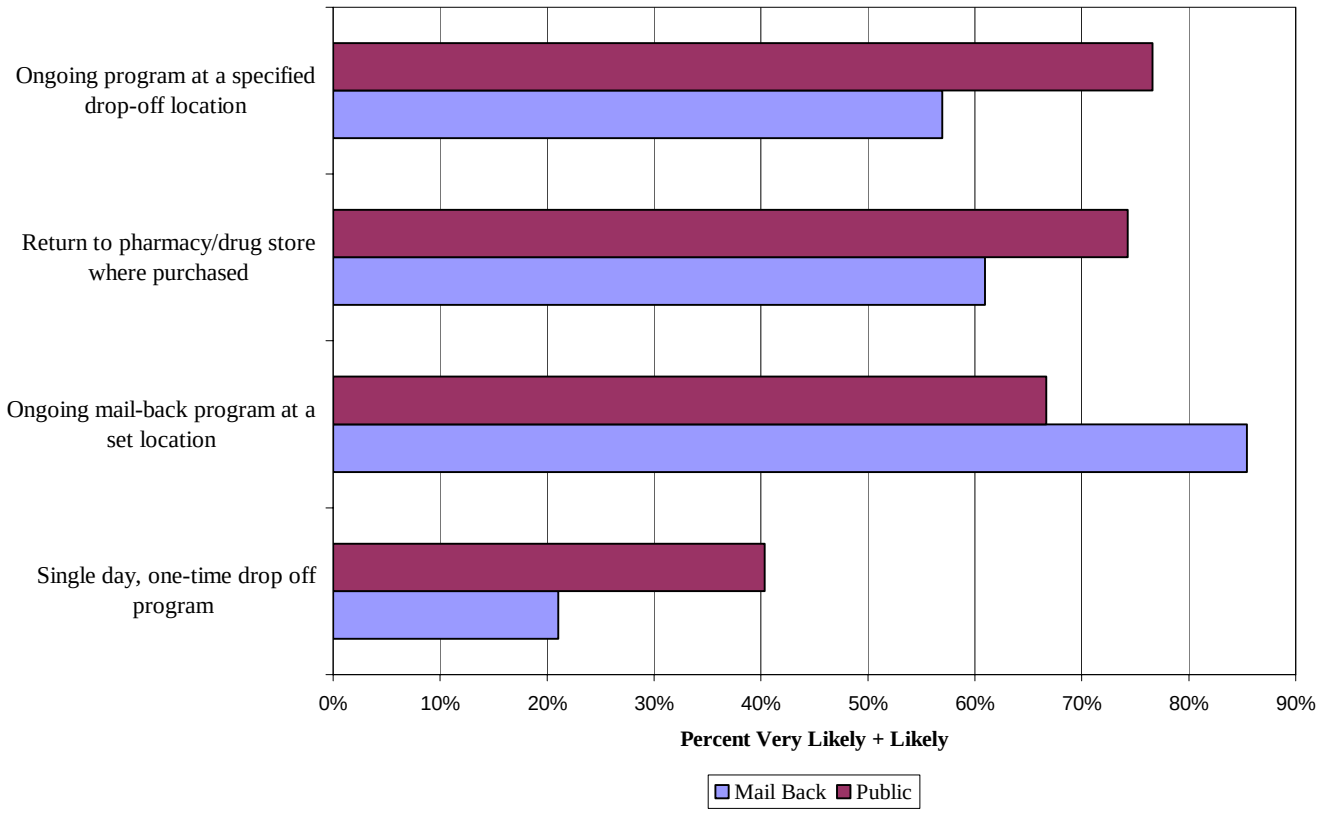
Chart 8. Preferences for Leftover Medicine Disposal Programs



Conclusions

1. As we have noted throughout the report, the response pattern of the participants in the mail back collection program shows that this group represents a different population than the general public. Participants in the mail back program are more likely to be women and tend to be younger and have higher household incomes.

2. Importantly, very few of the general public said lack of concern about leftover medicines was a factor in their decision not to participate in the mail back collection program. Instead, the primary reason for non-participation by members of the general public is that they were not aware of the mail back collection program. The good news is that a majority of respondents across all the demographic groups within the general public said they would be likely to participate in a collection program that offered the convenience of continuous service. Results presented show that the general public has already altered their disposal practices fairly substantially, which indicates a willingness to change their behavior if they are given options that are relatively easy to use. These results indicate that a little education coupled with expanded disposal opportunities could be expected to have a substantial impact.

3. The general public and the participants strongly prefer an ongoing collection program of some type. Ongoing programs, whether mail back, drop-off, or return to pharmacy, offer the scheduling flexibility that cannot be matched by one-time drop-off events.

4. Among the many differences between those who chose to participate in the mail back program and the general public are their respective preferred sources of information. These differences may provide some clues for effective publicity and promotion for future to collect leftover medicines. The respondents from the general public said they have a much stronger preference for television broadcasts and newspapers as well as information from pharmacists and physicians as sources of information about leftover medications, which may suggest that program sponsors increase their efforts to obtain coverage in these two forms of mass media as well as working collaboratively with prescribers and providers of medicines.

5. Participants in the mail back collection program were quite satisfied with their experience, which suggests that no systematic changes are needed to improve future mail back programs. If one were to look for a single aspect of the program to consider for a change, it would be to expand the options for shipping to include the US Postal Service.

Appendix A – Non-Response Bias Test

Any survey has to be concerned with "non-response bias." Non-response bias refers to a situation in which people who don't return a questionnaire have opinions that are systematically different from the opinions of those who return their surveys. For example, suppose most non-respondents currently return unused medicines to their physician (Question 3j), whereas few of those who returned their questionnaire said they currently return their unused medicines to their doctor. In this case, non-response bias would exist, and the raw results would understate the public's preference of disposing of leftover medicines by returning them to their physician.

The standard way to test for non-response bias is to compare the responses of those who return the first mailing of a questionnaire to those who return the second mailing. Those who return the second questionnaire are, in effect, a sample of non-respondents (to the first mailing) and one can assume that they are representative of that group. In the public survey sent to random Waukesha and Winnebago households, 201 people responded to the first mailing, and 136 responded to the second mailing.

In the random sample of the general public, the SRC found 12 variables with statistically significant differences between the mean responses of these two groups (Table A1) out of 68 tested. Table A1 indicates that even when statistical differences exist, the magnitude of this difference is small and did not affect the interpretation of the results. **The Survey Research Center (SRC) concludes that there is little evidence that non-response bias is a concern for this sample.**

The survey of participants in the mail back program conducted by Capital Returns did not differentiate among those who responded to the first mailing and those who responded to the second mailing. Thus, it is not possible to test for non-response bias within that data set.

Table A1 – Statistically Significant Differences Between Responses of First and Second Mailings of the Public Survey

Variable	Statistical Significance	Mean First Mailing	Mean Second Mailing
1d. Leftover medicines should be disposed of by tossing them in the garbage	.038	3.56	3.82
2a. Pour down the sink	.018	1.76	1.87
2b. Flush down the toilet	.007	1.53	1.68
2k. Return to pharmacy/drug store	.010	1.98	1.93
3f. Burn in backyard burn barrel	.002	2.00	1.95
3l. Other	.043	1.93	1.80
4a. Television coverage	.047	.41	.30
4m. Environmental organization	.043	.09	.04
9a. Didn't know about the mail back program for leftover medicine disposal in my county	.000	.89	.72
9e. Don't have any leftover medicines	.000	.14	.31
10. Most important reason for not participating	.005	1.57	2.14
12. Do you currently have leftover medicines and would like more information about how to dispose of them safely	.009	1.45	1.60

Appendix B1 – Comments: General Public Survey

Question 2 and 3. "Other" disposal practices (23 comments)

- None (2x)
- Add water to medicine in its container and dispose in plastic bag, didn't know I could take it to a medication collection center.
- Always used until empty mostly
- Consume no leftovers
- Don't know where to go with it
- Don't use much medicine. Use up vitamins
- Have never had any
- Hospital
- I use all medicine prescribed by my doctor and do not use OTC meds
- Medical disposal site
- Not using meds
- Put in used coffee grounds
- Return to vet
- Tried return at drug store--no program
- Used them all as prescribed
- Used up
- Using all current meds
- Usually don't have leftovers
- Usually use them all
- Walgreens does not take meds back, I tried.
- We use all prescription meds until done have few meds in home
- Wrap in duct tape as presently hospital recommended

Question 4. "Other" sources of information (13 comments)

- Common sense (2x)
- College environmentalists and partnership with pharmacists
- Home hospice
- I'm not sure of our info
- Mail inserts
- My choice
- None
- Not enough info coming out
- Not using meds
- Talk radio
- University study
- Very little information

Question 8. What suggestions, if any, do you have to improve the mail back program? (6 comments)

- Didn't know there was a mail back program
- Get info to drug stores
- I do not know about it. Hand out literature with medication at pharmacy.
- I would like to try it, it sounds like a great idea.
- It took a week to get packaging material. This could be improved
- We are not familiar with this program

Question 9. Which of the following might prevent you from participating in a mail-back program in the future? "Other" comments (15 comments).

- Just moved to Waukesha County (3x)
- Did not hear about it
- Do not need government involved
- Don't need a government program
- Don't need to
- I have not taken the leftovers in yet
- Med are used until gone
- Negligent
- New to the neighborhood
- Not on any medication thank goodness
- Not on prescription meds
- Truly didn't know
- Very few leftover
- We were new to the area and did not know where to take the drugs. I think our pharmacy was the site. I thought you had to take drugs there

Question 17. What is your ZIP code?

ZIP	Count
54956	27
53151	22
53051	19
53188	19
53045	18
54952	18
53066	17
53186	17
53189	14
54901	14
53072	11
54902	11
54904	11
53005	9
53089	9
53149	9
53150	9
53029	7
53122	6
53146	6
53018	5
54963	5
53119	3
54947	3
53007	2
53103	2
53153	2
53183	2
52045	1
53056	1
53078	1
53108	1
53118	1
53131	1
53184	1
53187	1
53201	1
53566	1
54045	1
54147	1
54914	1
54919	1
54923	1
54940	1
54964	1
56051	1

Appendix B2 – Comments: Mail Back Participants Survey

Question 2 and 3. "Other" disposal practices (0 comments)

Question 4. "Other" sources of information (2 comments)

- ONDCP
- School

Question 7. Suggestions to improve the mail back program. (19 comments)

- Use post office/regular mail (7x)
- I really liked/loved this program (2x)
- Thank you (2x)
- Great Program!
- I liked this program thank you for doing it
- Larger envelopes for medication.
- Liked program!
- More shipping locations
- None, good program keep in place.
- This was a very good program! Thank You!
- This was easy I liked it.

Question 8. Which of the following might prevent you from participating in a mail-back program in the future? "Other" comments (18 comments).

- Would use again (12X)
- Like program (2x)
- None (2x)
- Don't have time, just throw away.
- NA

Question 16. What is your ZIP code?

ZIP	Count
53072	19
53045	14
53089	13
53005	12
53051	12
53151	10
53066	9
53186	8
53189	8
53188	5
53018	4
53029	4
53146	4
53118	3
53150	3
53119	2
53012	1
53014	1
53057	1
53058	1
53069	1
53086	1
53092	1
53103	1
53149	1
53183	1
53185	1

Appendix C1—Quantitative Summary of Responses by Question: Public Survey

Medication Disposal
in Waukesha and Winnebago Counties
Please return by February 6, 2009

Using blue or black ink, please fill the circle that most closely matches your response to the following questions or statement. Please fill the circle: Like this: ● Not like this: ✓ ✗ /

I. Opinions

1. Please give us your opinion about the following statements about leftover medicines, which are prescriptions, over-the-counter medicines, vitamins, or herbal supplements that are past their expiration date or are no longer being used on a regular basis.

	Don't Know	Strongly Agree	Agree	Disagree	Strongly Disagree
a. Storing leftover medicines in your home poses little risk	4%	11%	37%	34%	13%
b. Leftover medicines are a common path to drug abuse and overdoses	16%	14%	33%	30%	8%
c. Leftover medicines should be disposed of by flushing down the drain or toilet	8%	3%	9%	39%	40%
d. Leftover medicines should be disposed of by tossing them in the garbage	9%	2%	25%	40%	23%
e. Municipal water treatment facilities remove leftover medicines that are flushed down the toilet	30%	1%	7%	40%	22%
f. Leftover medicines have been detected in drinking water supplies	31%	21%	44%	4%	0%
g. Scientific studies have found that trace amounts of leftover medicines found in drinking water cause adverse human health affects	41%	14%	36%	7%	2%
h. Leftover medicines will harmlessly decompose in the environment	28%	2%	9%	45%	16%
i. Traces of leftover medicines have been found in streams, rivers, and lakes throughout the U.S.	31%	17%	47%	4%	1%
j. Studies have found that leftover medicines have affected the growth/development of aquatic life	48%	13%	33%	4%	1%

II. Practices/Information

In the following two-part question, we want to know **how you have disposed of leftover medications in the past and how are you currently disposing of them**?

	2. Used in Past		3. Currently Using	
	Yes	**No**	**Yes**	**No**
a. Pour down the sink	20%	80%	6%	94%
b. Flush down the toilet	41%	59%	12%	88%
c. Store in my home indefinitely	50%	50%	36%	64%
d. Put into the trash as is	60%	40%	36%	64%
e. Put into the trash in an altered form (e.g. mixed with kitty litter, coffee grounds, etc)	12%	88%	13%	87%
f. Burn in backyard burn barrel	4%	96%	2%	98%
g. Give to poor or needy locally or abroad	5%	95%	5%	95%
h. Give to family or friends	8%	92%	6%	94%
i. Return to a medication collection program	13%	87%	20%	80%
j. Return to doctor	3%	97%	6%	94%
k. Return to pharmacy/drug store	4%	96%	8%	92%
l. Other _____	12%	88%	13%	87%

4. From the following list, please select all of the sources of information about leftover medication disposal you have used (select all that apply):

a. Television coverage	36%	i. Doctor/Hospital info	12%
b. Newspaper articles	36%	j. Websites	9%
c. Magazine articles	19%	k. Family, friends or co-workers	18%
d. Radio program	15%	l. Employer-provided info	3%
e. Local/County government info	13%	m. Environmental organization	7%
f. Local/County government collection program	13%	n. Senior-citizen organization (e.g. AARP)	8%
g. Pharmacist/Drug store info	20%	o. Not sure/Don't know	10%
h. Workshop or meeting	2%	p. Other _____	4%
q. I have never gotten information about leftover medication disposal	32%		

(If q is your response, skip Question 5 and go to Question 6)

5. Of the sources of information about leftover medication waste disposal listed in Question 4, enter the letter (a. – p.) of the 3 you <u>most</u> prefer.

a. 20% b. 16% c. 5% d. 6% e. 6% f. 7% g. 15% h. 0% i. 10%
j. 7% k. 2% l. 1% m. 2% n. 2% o. 1% p. 1% q. 0%

	Yes	No
6. Have you participated in the *Get the Meds Out* mail back program in Waukesha or Winnebago County?	3%	97%

(If "No", skip Questions 7 and 8, go to Question 9)

7. How satisfied were you with the following *Get the Meds Out* program components.

	Don't Know	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
a. 800 number call center information	77%	5%	3%	13%	3%	0%
b. Packaging materials	71%	8%	5%	13%	3%	0%
c. Shipping locations	68%	8%	8%	11%	3%	3%

8. What suggestions, if any, do you have to improve the mail back program? **See Appendix B**

9. Which of the following might prevent you from participating in a mail-back program in the future (select all that apply):

a. Didn't know about the mail back program for leftover medicine disposal	82%	d. Am not concerned about leftover medicines	7%
b. Previously participated in a different drop off program in my county	4%	e. Do not have any leftover medicines	21%
c. Wanted to participate but missed the program	3%	f. Other: _____ _____	4%

10. Of your reasons for not participating in a leftover medicines disposal program identified in Question 9, enter the letter (a. – f.) that is your most important reason for not participating. a. 79% b. 0% c. 3% d. 3% e. 12% f. 3%

11. For each of the following possible methods for disposing of leftover medications, please indicate how likely it is that you would utilize one of these no-cost options.

	Not Sure	Very Likely	Likely	Unlikely	Very Unlikely
a. Single day, one time drop off program at a specified location and time	7%	14%	26%	33%	20%
b. Ongoing program at a specified drop-off receptacle location with set hours (e.g., police station)	5%	38%	38%	10%	8%
c. Ongoing mail-back program with postage paid mailers available at a set location (e.g.,your pharmacy.)	6%	41%	26%	17%	10%
d. Return to pharmacy/drug store where purchased	4%	47%	27%	12%	9%

	No	Yes
12. Do you currently have any leftover medications in your home and would you like more information regarding how to dispose of them safely?	51%	49%

IV Demographics

Finally, we'd like you to tell us a bit about yourself. Your answers are voluntary and will be confidential. Your name will never be linked to your responses.

13. Gender

Male	Female
55%	45%

14. Age

18-24	25-34	35-44	45-54	55-64	65+
1%	7%	17%	28%	23%	25%

15. My education level is:

17%	High school or less	21%	Some college/ tech school
13%	2-year college/ tech degree	31%	4-year college degree
18%	Grad or professional degree		

16. Household Income Range

8%	Under $25,000	19%	$25 - $49,999	25%	$50 - $74,999
21%	$75 - $99,999	28%	$100,000+		

17. What is your zip code? **See Appendix B**

We thank you for completing the survey!

Please return your survey in enclosed postage-paid envelope by February 6, 2009

Appendix C2—Quantitative Summary of Responses by Question: Mail Back Participants Survey

Medication Disposal
in Waukesha County
Please return by February 6, 2009

Using blue or black ink, please fill the circle that most closely matches your response to the following questions or statement. Please fill the circle: Like this: ● Not like this: ✓ ✗ /

I. Opinions

1. Please give us your opinion about the following statements about leftover medicines, which are prescriptions, over-the-counter medicines, vitamins, or herbal supplements that are past their expiration date or are no longer being used on a regular basis.

	Don't Know	Strongly Agree	Agree	Disagree	Strongly Disagree
a. Storing leftover medicines in your home poses little risk	3%	7%	20%	43%	27%
b. Leftover medicines are a common path to drug abuse and overdoses	9%	44%	32%	13%	2%
c. Leftover medicines should be disposed of by flushing down the drain or toilet	3%	0%	7%	66%	24%
d. Leftover medicines should be disposed of by tossing them in the garbage	7%	1%	16%	60%	16%
e. Municipal water treatment facilities remove leftover medicines that are flushed down the toilet	19%	1%	6%	58%	16%
f. Leftover medicines have been detected in drinking water supplies	23%	14%	42%	19%	1%
g. Scientific studies have found that trace amounts of leftover medicines found in drinking water cause adverse human health affects	30%	7%	18%	31%	15%
h. Leftover medicines will harmlessly decompose in the environment	10%	1%	5%	59%	25%
i. Traces of leftover medicines have been found in streams, rivers, and lakes throughout the U.S.	8%	43%	42%	5%	1%
j. Studies have found that leftover medicines have affected the growth/development of aquatic life	26%	24%	37%	11%	2%

II. Practices/Information

In the following two-part question, we want to know **how you have disposed of leftover medications in the past and how are you currently disposing of them**?

	2. Used in Past		3. Currently Using	
	Yes	**No**	**Yes**	**No**
a. Pour down the sink	28%	72%	2%	98%
b. Flush down the toilet	25%	75%	0%	100%
c. Store in my home indefinitely	24%	76%	5%	95%
d. Put into the trash as is	57%	43%	4%	96%
e. Put into the trash in an altered form (e.g. mixed with kitty litter, coffee grounds, etc)	6%	94%	21%	79%
f. Burn in backyard burn barrel	0%	100%	1%	99%
g. Give to poor or needy locally or abroad	1%	99%	0%	100%
h. Give to family or friends	7%	93%	3%	97%
i. Return to a medication collection program	32%	68%	92%	8%
j. Return to doctor	6%	94%	1%	99%
k. Return to pharmacy/drug store	7%	93%	6%	94%
l. Other _____	25%	75%	8%	92%

4. From the following list, please select all of the sources of information about leftover medication disposal you have used (select all that apply):

a. Television coverage	38%	i. Doctor/Hospital info	14%
b. Newspaper articles	34%	j. Websites	14%
c. Magazine articles	10%	k. Family, friends or co-workers	2%
d. Radio program	6%	l. Employer-provided info	1%
e. Local/County government info	43%	m. Environmental organization	5%
f. Local/County government collection program	17%	n. Senior-citizen organization (e.g. AARP)	1%
g. Pharmacist/Drug store info	16%	o. Not sure/Don't know	7%
h. Workshop or meeting	4%	p. Other _____	1%
q. I have never gotten information about leftover medication disposal			1%

(If q is your response, skip Question 5 and go to Question 6)

5. Of the sources of information about leftover medication waste disposal listed in Question 4, enter the letter (a. – p.) of the 3 you <u>most</u> prefer.

a. 11% b. 7% c. 1% d. 3% e. 16% f. 4% g. 22% h. 0% i. 17%
j. 8% k. 1% l. 4% m. 6% n. 1% o. 1% p. 0% q. 0%

Questions 6 and 7 relate to the *Get the Meds Out* in which you recently participated

6. How satisfied were you with the following *Get the Meds Out* program components.

	Don't Know	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
a. 800 number call center information	0%	66%	30%	1%	1%	1%
b. Packaging materials	0%	56%	37%	5%	2%	0%
c. Shipping locations	1%	40%	30%	17%	12%	1%

7. What suggestions, if any, do you have to improve the mail back program? **See Appendix B**

8. Which of the following might prevent you from participating in a mail-back program in the future (select all that apply):

a. Mail back programs are too complicated	3%	d. Am not concerned about leftover medicines	10%
b. Mail back programs are too inconvenient	5%	e. Don't expect to have any leftover medicines	28%
c. Mail back programs don't take the meds I need to get rid of	5%	f. Other: _____	17%

9. Of your reasons for not participating in a leftover medicines disposal program identified in Question 9, enter the letter (a. – f.) that is your most important reason for not participating. a = 4% b=10% c= 10% d=10% e= 52% f=15%

10. For each of the following possible methods for disposing of leftover medications, please indicate how likely it is that you would utilize one of these no-cost options.

	Not Sure	Very Likely	Likely	Unlikely	Very Unlikely
a. Single day, one time drop off program at a specified location and time	20%	14%	7%	45%	14%
b. Ongoing program at a specified drop-off receptacle location with set hours (e.g., police station)	19%	32%	25%	15%	10%
c. Ongoing mail-back program with postage paid mailers available at a set location (e.g.,your pharmacy.)	6%	64%	21%	6%	3%
d. Return to pharmacy/drug store where purchased	19%	34%	26%	13%	7%

	No	Yes
11. Do you currently have any leftover medications in your home and would you like more information regarding how to dispose of them safely?	83%	17%

IV Demographics

Finally, we'd like you to tell us a bit about yourself. Your answers are voluntary and will be confidential. Your name will never be linked to your responses.

12. Gender	Male	Female
	21%	79%

13. Age	18-24	25-34	35-44	45-54	55-64	65+
	1%	12%	27%	32%	18%	12%

14. My education level is:	14% High school or less	21% Some college/ tech school	14% 2-year college/ tech degree
	39% 4-year college degree	13% Grad or professional degree	

15. Household Income Range	4% Under $25,000	14% $25 - $49,999	12% $50 - $74,999
	31% $75 - $99,999	39% $100,000+	

16. What is your zip code? **See Appendix B**

We thank you for completing the survey!

Please return your survey in enclosed postage-paid envelope by February 6, 2009