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Health
Canada Santé
Canada

**F&DA Environmental Assessment
Regulations Project
Benchmark Survey**

**A Report to Health Canada (POR-02-13)
Office of Regulatory and International Affairs**

March 2002

**COMPAS Inc. (PN: 332-04)
Multi-Audience Research
Ottawa, Toronto and Winnipeg**

Canada

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Executive Summary

- ◆ Health Canada commissioned COMPAS to undertake research with the general public to assess awareness, attitudes, knowledge and behaviours related to the disposal of products regulated under the Food and Drugs Act and their potential environmental impact. A total of 1,512 surveys were completed by phone March 9-15, 2002. Based on a sample of this size, the results can be considered to be accurate within +/- 2.6%, 19 times out of 20.

Background and Context

- ◆ Asked in an open-ended fashion to identify the most important health-related issues facing Canadians at this time, most people identified issues related to the quality of our healthcare, and most especially deficiencies in the healthcare system. This included the poor quality of healthcare in general (19%), followed by more specific issues, such as lack of funding (14%), lack of doctors (13%), lack of hospitals and hospital beds (12%), and long waiting lists (10%) (two responses accepted).
- ◆ Asked to identify the most important environmental issue facing Canadians at this time, participants pointed most often to three issues: pollution in general (25%), water quality (25%), and air quality (21%) (two responses accepted). Each of these issues was identified more than twice as often as any others, and suggests that Canadians tend to view environmental issues in general terms.
- ◆ 78% of respondents described themselves as knowledgeable about the safe disposal of household products once they have finished using them. However, people were more likely to describe themselves as moderately (54%) as opposed to very knowledgeable (24%). Approximately one-quarter said they are not very or not at all knowledgeable about this.

Recycling and Patterns of Disposal

- ◆ 85% of respondents indicated that their household currently participates in a recycling program. Relatively few, 15%, said that they do not. The focus here was on items that are picked up for recycling, not dropped off.
- ◆ 90% of those who take part in a recycling program said that their program covers paper products. Significant numbers also participate in programs that recycle plastic (75%), glass (64%), and cans (61%).
- ◆ 59% drop off some items at a location in their area for recycling. Products that were identified most often include paint (36%), paper products (35%), glass



(30%), cans and plastic (29% each) (multiple responses accepted). Also cited were batteries (16%) and chemicals or hazardous waste (11%). Many of the items near the top of the list are things that other households have picked up. It is likely that in some locations in Canada, particularly rural areas, there are no pick-up recycling programs only drop off depots.

- ◆ 68% said they do not dispose of products in ways other than through the regular garbage or recycling. However, slightly less than one-third (31%) said they do. When these people were asked to identify what they dispose of in other ways, they pointed most often to paint (22%), followed by a number of products, each cited by roughly the same number (9-13%), including motor oil, food scraps, compost, paper products, and batteries.

Consumer Shopping Behaviour

- ◆ Respondents were read a list of consumer products and asked to indicate how often they read the label on the product before purchasing it. They were most likely to read the labels on over-the-counter medications (81%) and natural health products (79%). Slightly more than half (52-55%) regularly read the labels on things like contact lenses, thermometers, or pregnancy test kits, cosmetic products, and household cleaners, although significant numbers (27-32%) said they rarely or never do this. Clients were least likely to read labels on personal care products, although they were more likely to do this (44%) than not (38%).
- ◆ Participants who said they read labels at least occasionally for these products were asked what type of information they are looking for. The most common answer, by far, was the ingredients (73%). As well, two other types of information were cited by significant numbers: the negative effects or dangers (44%) and instructions for use (34%). Few of those who read labels volunteered that they look for information on how to dispose of the product. However, when asked directly if they also look for such information, over half (57%) said that they do.

Knowledge and Awareness of Product Disposal

- ◆ 54% said they are at least occasionally uncertain about how to dispose of certain kinds of household products so that they do not harm the environment this (18% said often). A significant minority said they are rarely (29%) or never (16%) uncertain about this.
- ◆ When respondents are uncertain about how to dispose of a product after using it, they tend to do one of two things. Almost half (48%) put it in the regular trash, while 28% said they call someone for information on what to do.



- ◆ Asked whether certain products pose a threat to the environment and therefore require special disposal, participants' opinions varied by product:
 - ✓ 97% said that this definitely or probably applied to paint.
 - ✓ 94% to veterinary medications, such as antibiotics and hormones (asked only to those working with livestock, horses, and farm animals).
 - ✓ 90% to household cleaners, and unused or expired prescription drugs and household cleaners.
 - ✓ 81% to unused or expired non-prescription drugs and other medication.
 - ✓ 71% to things like contact lenses, thermometers, or pregnancy test kits.
 - ✓ 52% to cosmetic products, such as makeup, cream and lotions.
 - ✓ 46% to natural health products, such as nutritional supplements and health remedies.
 - ✓ 45% to personal care products, such as bath soap and shampoo.
 - ✓ 39% to genetically modified foods.
 - ✓ 37% to products with food additives, such as food colouring and preservatives.
 - ✓ 35% to left-over meat.
 - ✓ 26% to coffee grinds, vegetable trimmings and other kitchen scraps.

Related Attitudes

- ◆ Participants were read a series of statements and asked to express their level of agreement with each one. Using a 7-point scale (7 = strongly agree; 1 = strongly disagree):
 - ✓ 82% agreed that they are very interested in learning all they could about how to safely dispose of household products so that they don't harm the environment.
 - ✓ 82% agreed that if they knew what was required to safely dispose of household products, they would do this all the time even if inconvenient.
 - ✓ 50% agreed that they always consider a product's impact on the environment when deciding whether to buy it.
 - ✓ 43% agreed that they get enough information about the safe disposal of household products.
 - ✓ 35% agreed that consumer products that are available for sale in Canada are generally safe for the environment.
 - ✓ 31% agreed that dropping off household products to recycling facilities takes too much time and effort (59% disagreed).
 - ✓ 30% agreed that taking their unused or expired medication to the pharmacy for disposal would be inconvenient (63% disagreed).
- ◆ In short, participants tended to express positive attitudes in most of these areas. Most are interested in more information on safe disposal, say they would take appropriate action if they knew what to do, and do not think dropping off left-over



products takes too much time or effort or is inconvenient. When the focus is on current behaviour, the situation is somewhat less positive: many say they do not always consider the impact on the environment when they buy a product.

Education and Awareness

- ◆ 32% of participants would go to government departments or city hall if they wanted information about recycling and the safe disposal of household waste. This was followed by the Internet or on-line sources (17%), a recycling depot (14%), or disposal authorities (9%) (multiple responses accepted).
- ◆ Participants were somewhat divided over which level of government should provide information to Canadians about the safe disposal of household waste. Equal numbers (27% each) identified the federal and municipal governments, while one in five identified provincial governments. Almost one-quarter (23%) said that all levels should be involved in this.
- ◆ Asked how important it is for the Government of Canada to develop regulations for the industry to inform consumers about the safe disposal of household products in order to protect the environment, nearly everyone (93%) said this is important, with 82% attributing to it strong importance.
- ◆ Two factors dominated in terms of ways to encourage Canadians to take action to safely dispose of household products: nearly half (42%) identified education or information about which products require special disposal, followed by one-third (32%) who advocated raising awareness through publicity. A variety of other factors were also identified.
- ◆ Among obstacles that might make it difficult for Canadians to take action to safely dispose of household products, two factors once again head the list: a lack of information or education (27%) and inconvenience (25%).
- ◆ 80% do not recall hearing anything about new F&DA Environmental Assessment Regulations in the past 12 months. Conversely, 19% recall hearing something about this. Those who did identified a number of recollections, but none with any frequency. These included references to the contamination of water, the proper disposal of waste, genetically modified foods, and finding traces of chemicals in various places.



Conclusions and Recommendations

The survey findings suggest that Canadians, for the most part, view themselves as relatively knowledgeable about the safe disposal of household products. However, most do not appear to link the disposal of household waste to the protection of the environment. Rather, top-of-mind for them appears to be the link between product disposal and the safety of children and others from a health perspective (e.g. ensuring that hypodermic needles/unused medication are not accessible). By way of context, it is noteworthy that only 3% identified waste disposal as a top environmental issue at the start of the survey.

In considering these results, one should remember that the data concern aspects of opinion and behaviour that are more specific than the phenomena which are generally central to the way Canadians think about the environment. Typically, Canadians tend to organize their thoughts about the environment in terms of air quality, water quality and very general ideas about pollution. Furthermore, in some other studies, when people were probed about what they meant by pollution, they were more likely to associate it with industrial pollution rather than the results of their own household activities. Thus, the realm of pollution from the disposal of domestic products is likely not at the centre of people's thoughts on this topic (other than “standard” recycling).

In terms of current behaviour, the vast majority of Canadians participate in recycling programs (which typically cover paper products, plastic, glass and cans), while a clear majority also drop off at local facilities or depots additional items not covered by their pick-up recycling program. As well, slightly less than one-third use alternative means, over and above the regular trash and recycling, to dispose of products. Although not asked directly, it is evident that many Canadians also compost some household waste.

From a recycling perspective, therefore, many Canadians currently exhibit positive behaviours. Taken together, this appears to represent an excellent base upon which to build awareness and behaviours related to products governed by the F&DA.

That said, the types of things that people do recycle, beyond the standard items, tend to be products that have a strong chemical base to them, such as paint, motor oil, batteries, and other chemicals/hazardous waste. Added to this list, in terms of special disposal beyond recycling and the regular trash, are prescription and non-prescription drugs, items that also have a “strong chemical” aspect to them. Many of the items regulated by the F&DA – cosmetics, personal care products, natural health products – are often disposed of through the regular trash. In short, Canadians are more likely to link “strong chemicals” to the need for special disposal than they are to link any other types of products beyond the standard items that are recycled.

In terms of reading labels, there is considerable variation in the propensity to do so based on the type of product. Significantly, the types of products lower down on the list



(i.e. whose labels are read less often) are also the types of products that are disposed of most often through the regular trash. And when reading labels, people are looking for information on ingredients, health/hazard warnings or instructions. Few are looking for disposal information. This is further evidence of the lack of salience that this issue has among Canadians (i.e. the environmental impact of household products disposal). However, once reading the labels, most people do indicate that they read disposal information. That is, people are not looking for information about how to dispose of the product when they read the label, but if it is there, most will pay attention to it.

Toward the end of the survey, respondents were asked how often they feel unsure about how to dispose of household products. More than half are uncertain about this at least “occasionally”. Unlike the earlier measure in the survey, this one is directly linked to environmental protection and suggests that there is greater doubt among Canadians as to what is truly required in terms of safe disposal from an environmental perspective. And when people are not sure of how to dispose of a product, the main default option is to put it in the regular garbage. This speaks to the need to provide information on what else could be done, and to educate Canadians on alternatives to recycling and regular garbage. There was considerable variety in people’s perceptions as to which products require special disposal.

Overall, the attitudes expressed by Canadians tend to be very pro-environment. This suggests that Canadians would be receptive to information disseminated on the subject by Health Canada. Not only do the vast majority express interest in information on the safe disposal of household products, an equally high number indicate that they would “always” safely dispose of such products if they knew how. There was also strong support for regulations to require manufacturers to provide disposal information. People were less positive in terms of always considering the environmental impact of products when they buy them, and in terms of putting up with inconvenience when disposing of items.

In terms of which level of government is expected to provide relevant information, respondents pointed in almost equal numbers to all three levels, including all three together. Government was also ranked first in terms of where they would go for such information, although the Internet and recycling depots were also identified with some frequency.

Cluster analysis shows that one can view these phenomena in terms of three types of people. There are those who rely on ordinary garbage disposal and have few other concerns with related issues, those who are engaged in using existing information and using alternatives to ordinary garbage disposal, and those who are less active but who have some doubts about the environmental safety of consumer products and would like more information. Underlying this, we see that some demographic characteristics are relevant, including age, gender, and to a lesser degree, education and region.



Taken together, the results paint a portrait of a population that does not appear to be well informed in this area – in fact, is not even aware that this is an issue – but that does appear to be open to information that educates them about the scope of the problem and about appropriate methods of disposal. Moreover, armed with information, Canadians indicate that they would adopt behaviours conducive to good environmental stewardship.

There are a number of issues that Health Canada might consider in its marketing and communications activities to promote the safe disposal of household products. We offer the following recommendations for the department's consideration:

- ❑ Given that most Canadians do not appear to link the safe disposal of household products with environmental protection and stewardship, there is a need for the department to emphasize this link in all related communications. This is required to drive home the message, on an ongoing basis, that safe product disposal and environmental protection are related. Otherwise, there is a danger that people will not make this link, and might therefore be less attentive to information on product disposal.
- ❑ As noted, Canadians tend to view themselves as relatively knowledgeable about the safe disposal of household products. However, the survey suggests that this is not the case. Consequently, this self-perception of being knowledgeable represents a potential barrier in terms of increasing people's level of awareness and understanding of related issues. Health Canada might want to instill doubt in Canadians' minds about the extent to which they are informed about product disposal issues to try to ensure that they are receptive to new information (to them) in this area.
- ❑ Since a high proportion of Canadians currently take part in recycling programs (both pick up and drop off programs), Health Canada should try to build on this, and perhaps position F&DA product disposal as a logical "next step" in terms of meaningful action that can be taken by individuals to protect the environment.
- ❑ As noted, people often read product labels on these types of products, albeit not for disposal information. Nevertheless, they pay attention to it if it is there. This underscores the importance of regulations that require industry to provide such information on their product labels, ideally in a way that gives this information some prominence. As well, departmental communications that direct Canadians to review disposal information on product labels would likely be well received since many read labeling on a regular basis. This is also an important avenue to consider for information transmission since the survey results indicate that one of the biggest perceived barriers to the adoption of safe disposal practices is inconvenience (and product labels are clearly a convenient method for people to get some of this information).
- ❑ Adopt regulations to require industry to provide product disposal information to consumers on their product labels and otherwise.



- ❑ Since people are most likely to read the labels of over-the-counter medications and natural health products, Health Canada may want to link the idea of reading labels of other products with these products.
- ❑ Encourage people to consider the environmental impact of household products when they buy them. Results in this area are mixed, with significant numbers indicating that they do not do this now. In order to be able to do this, however, people need to know which products are more/less safe for the environment.
- ❑ Raise awareness of this topic as an issue. As noted, for most Canadians it does not appear to be on the “environmental landscape” at the present time.
- ❑ Educate Canadians on which products require special disposal, and how they should be disposed of. Otherwise, they will generally put them in the trash.
- ❑ Make it easy for Canadians to get information in this area. The data suggests that most would be receptive to new information, and would act on it if they knew what to do.
- ❑ Since more than one-quarter said they would call someone if they were unsure about how to dispose of something, this suggests that it would be effective to include in communications materials a 1-800 help line that provides advice to Canadians on disposal methods.
- ❑ Maximize the convenience to people of safe disposal methods. This is one of the top barriers to taking action, along with a lack of information. It also appears to be a factor for people with children living in the home, who may well be more pressed for time than others, and would therefore particularly value convenient methods of disposal. Moreover, it is likely that households with children in the home are significant consumers of these types of products (relative to those who do not have children living with them).
- ❑ Encourage pharmacies to serve as depots for the disposal of prescription and non-prescription medications, and to advertize this to their customers.
- ❑ There are communications implications in terms of demographic characteristics. As such, communications strategies and the targeting the messages should be developed following a careful review of the multivariate and bivariate analyses.
- ❑ Provide information through the “sources” that respondents identified, such as government offices, city hall, the Internet, recycling depots, as well as a range of other organizations cited by smaller numbers.
- ❑ Use the Internet to provide detailed information to Canadians on how to dispose of household products. Many expressed a desire for information to be provided in this way. As well, information via the Internet can be kept up-to-date, and over time, this might become a standard reference source for Canadians.
- ❑ Review the lists of perceived barriers and facilitators identified by respondents in terms of Canadians taking action in this area, with a view to addressing as many as possible.



Introduction

Health Canada commissioned COMPAS to undertake research with the general public to assess current awareness, attitudes, knowledge and behaviours related to the disposal of products regulated under the Food and Drugs Act and their potential environmental impact.

Background and Objectives

Health Canada is working with Environment Canada to develop new regulations to assess the impact on the environment and subsequent affect on human health of substances used in products that are regulated under the Food and Drugs Act (F&DA). These environmental assessment regulations will be drafted using the best available science and best practices identified from the Canadian and international scientific and regulatory community. Once in place, the regulations will require substances in products, such as pharmaceuticals, biologics, food additives, novel foods, personal care products and cosmetics to comply with both environmental assessment requirements and current health and safety criteria. This regulatory initiative will build on and broaden the proposed regulatory framework published in the Canada Gazette, Part I, on July 3, 1999, for products of biotechnology.

The research objectives for this survey included:

- ❑ Determining behavioural patterns, attitudes and beliefs of the general public regarding the disposal of household products.
- ❑ Establishing benchmarks and providing initial trend-line data on the awareness, attitude and behaviour levels of Canadians related to products that are regulated under the F&DA.
- ❑ Providing recommendations on the social marketing and public education implications of the research findings.

This research study will serve to determine the educational needs of the general population as they relate to the disposal of products regulated under the F&DA. Health Canada will use the results to explore avenues to raise awareness of and encourage the use of appropriate practices in Canada. The results will also serve as a benchmark and will form the foundation of the evaluation framework for the public education campaign.



*F&DA Environmental Assessment Regulations Benchmark Survey:
A COMPAS Report to Health Canada*

Research Design

A total of 1,512 surveys were completed by telephone. Based on a sample of this size, the results can be considered to be accurate within +/- 2.6%, 19 times out of 20 (most conservative estimate). Interviewing took place March 9-15, 2002.

The following specifications applied to this project:

- The survey was conducted with Canadian residents, 18 years of age and older;
- Regional oversamples were used in order to allow for regional analyses. The data was then weighted to ensure that the final results were representative of the Canadian population as a whole. The following table presents the survey sample frame, including regional oversamples:

Region	Province	Provincial Distribution	Regional Distribution	Regional Quota Oversample	Provinces in Regional Oversample
Atlantic	Newfoundland	27	117	200	46
	Prince Edward Island	7			11
	Nova Scotia	46			79
	New Brunswick	37			64
Quebec	Quebec	363	363	300	300
Ontario	Ontario	565	565	395	395
Man/Sask	Manitoba	56	107	200	105
	Saskatchewan	51			95
Alberta	Alberta	144	144	200	200
BC	British Columbia	199	199	200	200
Territories	YK	2	5	5	2
	NWT	2			2
	Nunavut	1			1
TOTAL		1,500	1,500	1500	1500

- A pre-test was conducted in both official languages (15 in English, 15 in French). Modifications were made to the questionnaire as a result.
- Calls were conducted during the evenings and weekends.
- Sponsorship of the study was revealed (i.e. Health Canada).



For editorial purposes, the terms “respondents” and “participants” are used interchangeably to denote survey participants. Appended to this report are copies of the questionnaire (English and French), a summary of the results of the multivariate analyses, demographic variations, and a detailed technical note on multivariate analyses (under separate cover).

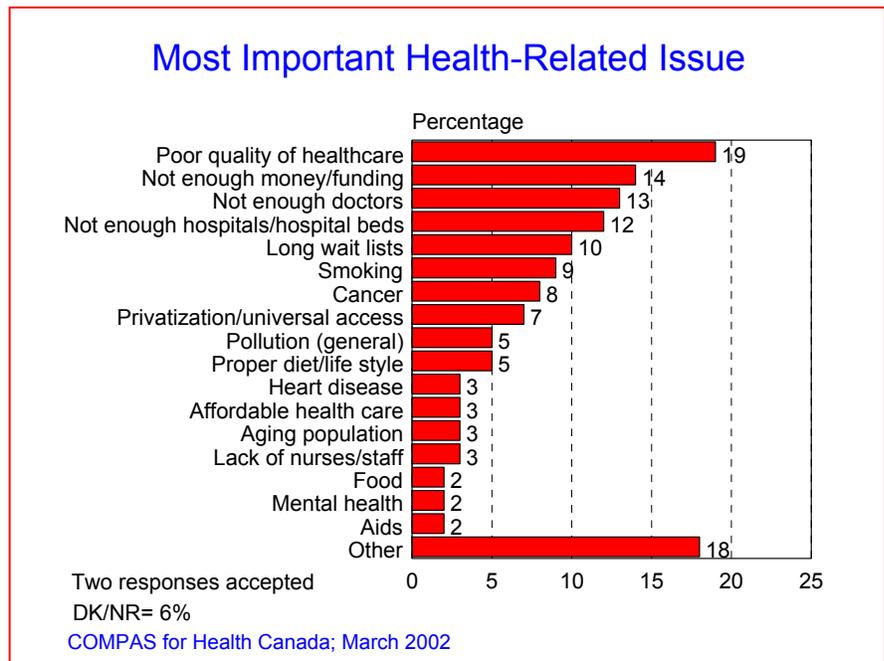


Background and Context

At the outset, respondents were asked a small set of background questions on health and environmental issues. The purpose was to obtain useful contextual information and, in particular, to have respondents start thinking about related issues.

Healthcare Deficiencies – Most Important Health-Related Issues

Participants were asked in an open-ended fashion to identify the most important health-related issues facing Canadians at this time. In response, most people identified issues related to the quality of our healthcare, and most especially deficiencies in the healthcare system. This included the poor quality of healthcare in general (19%), followed by more specific issues such as lack of funding (14%), lack of doctors (13%), lack of hospitals and hospital beds (12%), and long waiting lists (10%) (two responses accepted).



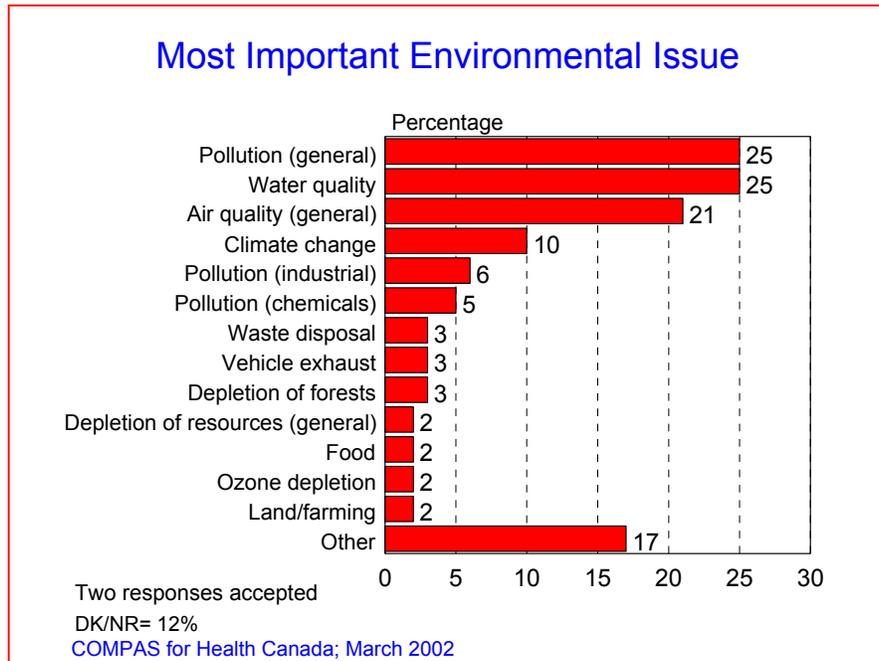
Also mentioned with some frequency (7-9%) were smoking, cancer, and issues related to the privatization of healthcare and universal access.

Issues identified infrequently include pollution in general, proper diet and lifestyle, heart disease, affordable healthcare, an aging population, lack of nurses, food, mental health, and aids. Included in the 'other' category are abuse of the healthcare system, air quality, water safety, diabetes, terrorism, household waste, chemicals in the environment, industrial pollution, and terrorism.

Pollution, Water & Air Quality – Top Environmental Issues



Asked to identify the most important environmental issue facing Canadians at this time, participants pointed most often to three issues: pollution in general (25%), water quality (25%), and air quality (21%) (two responses accepted). Each of these issues was identified more than twice as often as any others, and suggests that Canadians tend to view environmental issues in general terms.

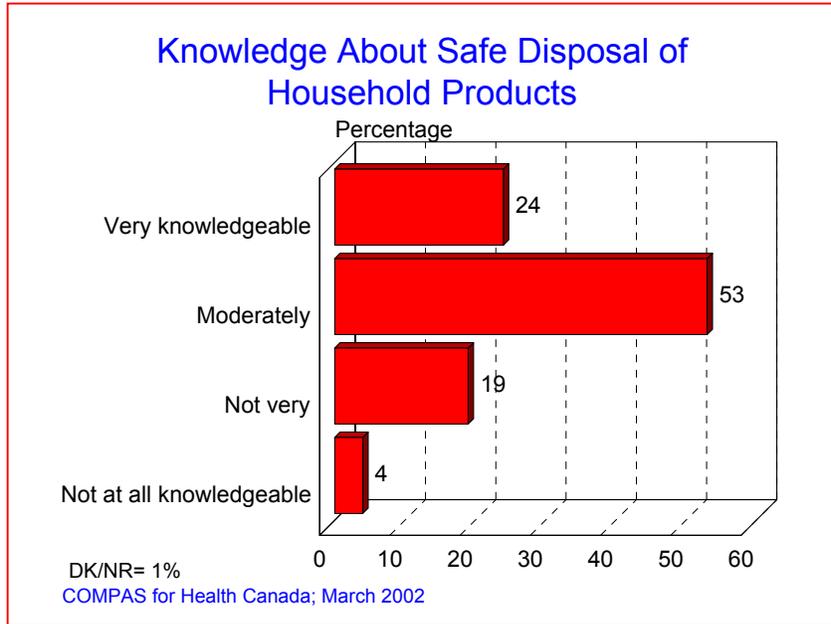


The only specific issues to receive noteworthy attention were climate change/global warming (10%), industrial pollution (6%), and chemical pollution (5%). All other issues were identified infrequently. These include waste disposal, vehicle exhaust, depletion of forests and resources in general, food, ozone depletion, and the use of land for farming. Included in the 'other' category are the use of pesticides, protection of wildlife habitats, recycling, overpopulation, acid rain, landfill problems, and the Kyoto agreement.



Three-Quarters Feel Informed About Safe Disposal of Household Products

Just over three-quarters of respondents described themselves as knowledgeable about the safe disposal of household products once they have finished using them. However, people were more likely to describe themselves as moderately (54%) as opposed to very knowledgeable (24%). Conversely, approximately one-quarter said they are not very or not at all knowledgeable about this.



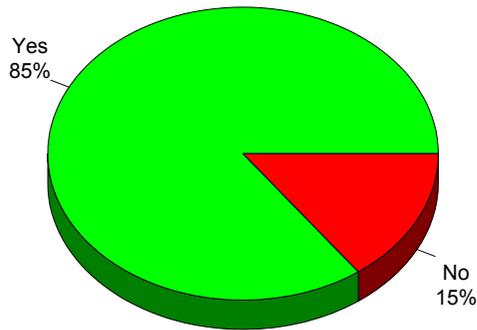
Recycling and Patterns of Disposal

In this section, participants were asked about their own behaviour in terms of the disposal of household products, including participation in recycling activities.

Vast Majority Participate in Recycling Program

Fully 85% of respondents indicated that their household currently participates in a recycling program. Relatively few, 15%, said that they do not. The focus here was on items that are picked up for recycling, not dropped off.

Does Household Participate in Recycling Program?



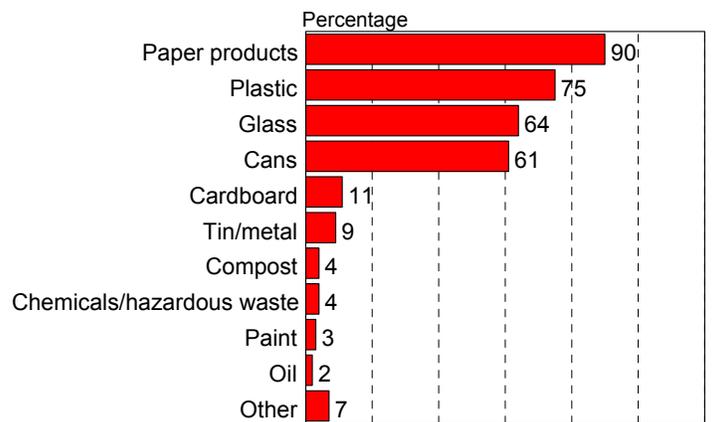
COMPAS for Health Canada; March 2002

Recycling Programs Often Include Paper, Plastic, Glass & Cans

The vast majority (90%) of those who take part in a recycling program said that their program covers paper products. Significant numbers also participate in programs that recycle plastic (75%), glass (64%), and cans (61%) (multiple responses accepted. Smaller numbers said their recycling program covers cardboard (11%) and tin and metals (9%), although it is likely that some others will

Things Covered by Recycling Program

(N= 1,278; asked only to those involved in a recycling program)



Multiple responses accepted
DK/NR= 1%

COMPAS for Health Canada; March 2002

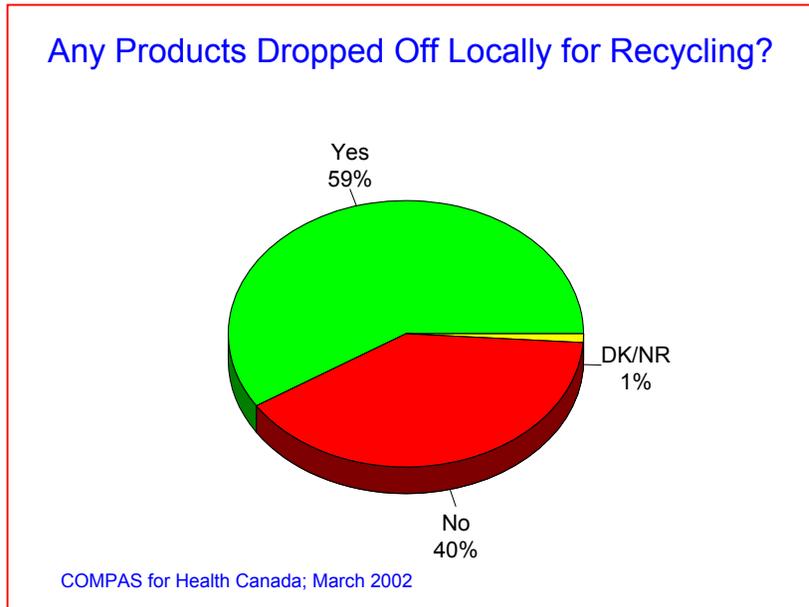


have included these things in the broader categories already mentioned (i.e. paper products and cans).

A few people participate in programs that cover compost, chemicals and hazardous waste, paint, and oil. Included in the 'other' category are food waste, construction materials, and tires.

Majority Drop Off Products for Recycling

All participants were asked if there were any products that they drop off at some location in their area for recycling. More than half (59%) said that they do this.



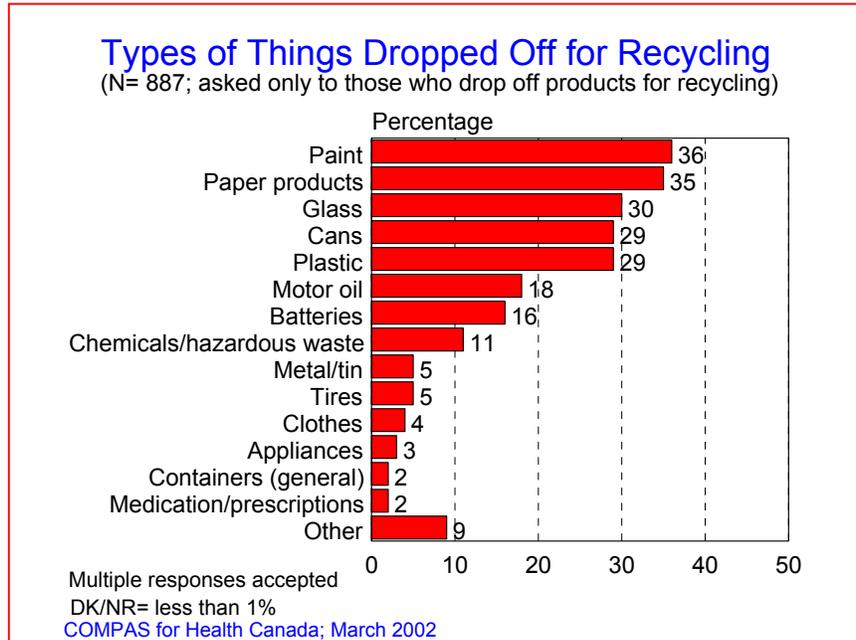
Many Products Dropped Off for Recycling

Asked what they drop off for recycling, participants identified a relatively wide range of products. Many of the products near the top of the list are items that other households have picked up. It is likely that in some locations in Canada, particularly rural areas, there are no pick-up recycling programs only drop off depots.

Products that were identified most often

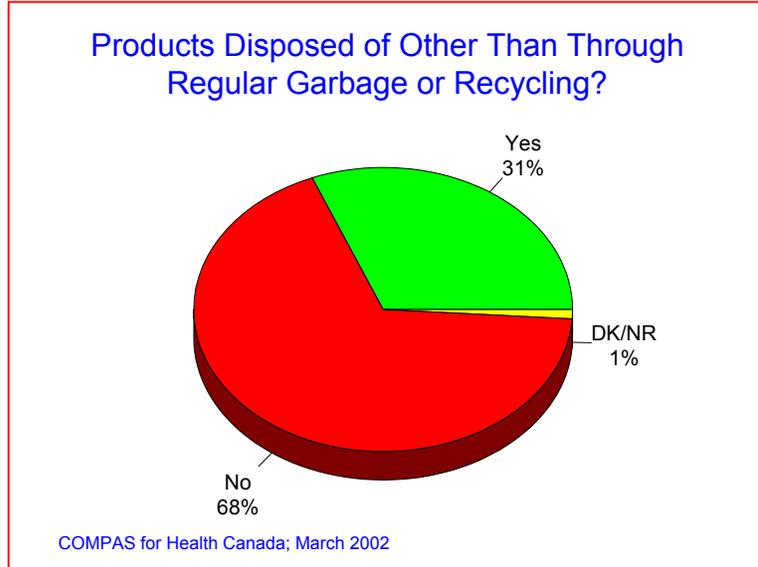
include paint (36%), paper products (35%), glass (30%), cans and plastic (29% each) (multiple responses accepted). Also cited often were batteries (16%) and chemicals or hazardous waste (11%).

Products dropped off infrequently include metal and tin, tires, clothes, appliances, containers (unspecified), and medications or prescriptions. Included in the 'other' category are milk containers, synthetic products, construction material, aerosol containers, cardboard, and non-biodegradable products.

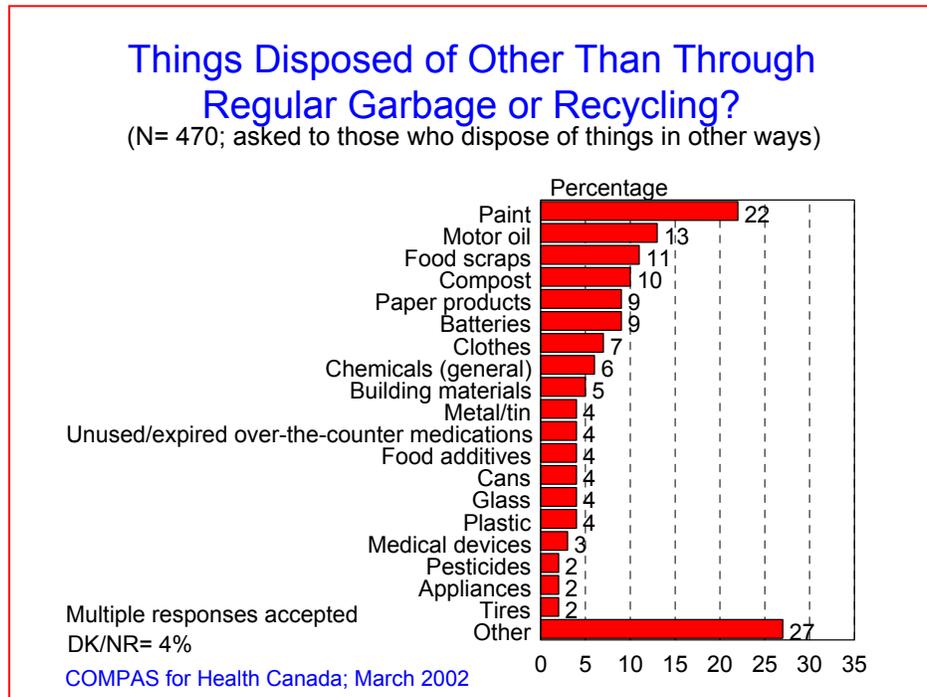


One-Third Dispose of Products in Ways Besides Trash & Recycling

Most participants (68%) said they do not dispose of products in ways other than through the regular garbage or recycling. However, slightly less than one-third (31%) indicated that they do.



These participants were asked to identify what they dispose of in other ways. Heading the list by a substantial margin was paint (22%). This was followed by a number of products, each cited by roughly the same number (9-13%), including motor oil, food scraps, compost, paper products, and batteries (multiple responses accepted).



Mentioned less often (2-7%) were clothes, chemicals (general), building materials, metal and tin, unused or expired over-the-counter medication, food



additives, cans, glass, plastic, medical devices, pesticides, appliances, and tires. Included in the 'other' category are natural health products, veterinary products, personal care products, blood products, car parts, and containers (unspecified).

Disposal of Products Over past 12 Months

Participants were read a list of different household products. They were asked to indicate how they disposed of each one in the last 12 months. For products that come in a container, they were asked to focus on the leftover or unused content, not the container. The list included the following products:

- Cosmetic products, such as makeup, creams and lotions.
- Natural health products, such as nutritional supplements and health remedies.
- Household cleaners.
- Veterinary medications, such as antibiotics and hormones (asked only to those working with livestock, horses, and farm animals).
- Things like contact lenses, thermometers, or pregnancy test kits.
- Personal care products, such as bath soap and shampoo.
- Paint.
- Unused or expired non-prescription drugs.
- Unused or expired prescription drugs.
- Coffee grinds, vegetable trimmings and other kitchen scraps.
- Left-over meat.

The following table shows participant behaviour regarding the disposal of these products over the past year. While there is no clear pattern of behaviour, participants are most likely to dispose of products by putting them in the regular garbage. The only exception is paint, which a majority of participants are more likely to recycle. Household cleaners are also recycled by a number of participants, although they are more likely to put them in with the regular garbage.



Way of Disposing of Products Over Past 12 Months

Product	Regular garbage (%)	Recycled (%)	Toilet/Sink (%)	Dumped/buried (%)	Other (%)
Cosmetics	80	9	2		2
Natural health products	58	8	5	0.4	19
Household cleaners	47	30	10	1	14
Veterinary medications*	39		5	2	23
Things like contact lenses, thermometers, pregnancy kits	65	4	6		5
Personal care products	57	21	13		11
Paint	15	62	14	4	14
Unused/expired non-prescription drugs	50	2	19	1	26
Unused/expired prescription drugs	39	2	20	1	37
Coffee grinds and kitchen scraps	63	4	4	7	33
Left-over meat	76	1	2	1	25

Multiple responses accepted

*N= 39; asked only to those working with livestock, horses, or farm animals

DK/NR= 1-33%

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Items that are disposed of in 'other ways' with some frequency include:

- Natural health products (24% dispose of this in ways besides the regular trash or recycling).
- Household cleaners (25%).
- Veterinary medications (29%).
- Personal care products (24%).
- Unused or expired non-prescription drugs (46%).
- Unused or expired prescription drugs (58%).
- Coffee grinds, etc. (44%).
- Left-over meat (28%).



Consumer Shopping Behaviour

In this section, participants were asked about some of their shopping habits.

Majority Regularly Read Labels on Most Products Before Purchasing

Respondents were read a list of consumer products and asked to indicate how often they read the label on the product before purchasing it. The list included seven products:

- ❑ Cosmetic products, such as makeup, creams and lotions.
- ❑ Natural health products, such as nutritional supplements and health remedies.
- ❑ Veterinary medications, such as antibiotics and hormones (asked only to those working with livestock, horses, and farm animals).
- ❑ Things like contact lenses, thermometers, or pregnancy test kits
- ❑ Personal care products, such as bath soap and shampoo.
- ❑ Household cleaners.
- ❑ Over-the-counter medications.

A majority of participants indicated that they regularly (i.e. often or always) read the labels on all but one of these products before purchasing them. Moreover, they were more likely to say they did so 'always' rather than 'often'. Beyond that, there was considerable variation in consumer behaviour.

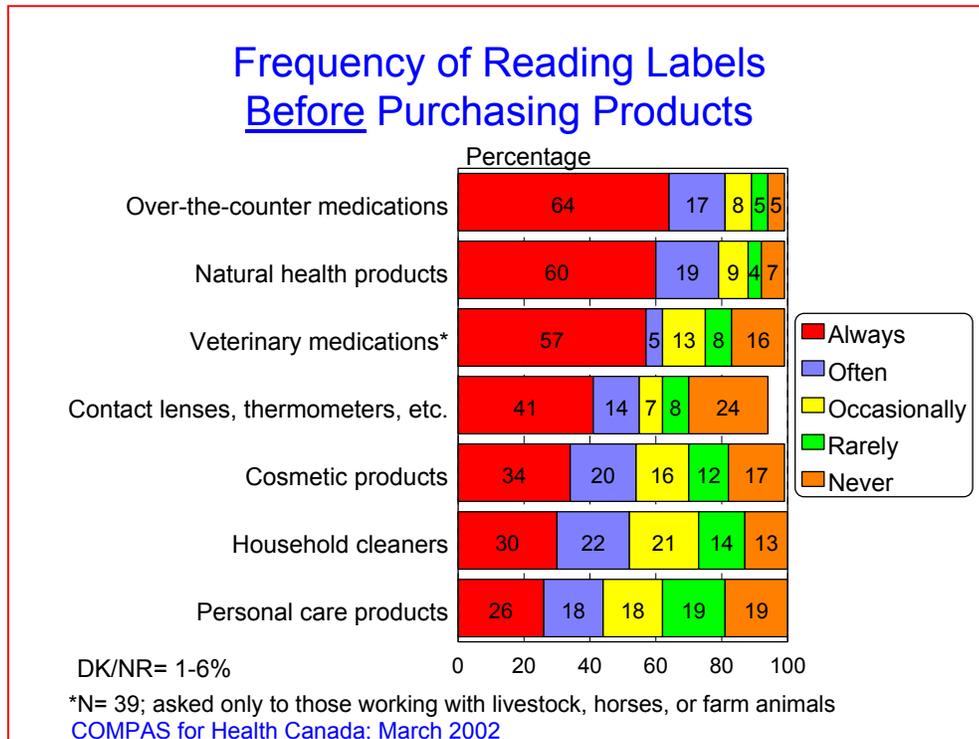


Participants were most likely to read the labels on over-the-counter medications (81%) and natural health products (79%). Between 60-64% said they always read the labels on these products before purchasing them. Approximately two-thirds (62%) regularly read the labels on veterinary medications (over half said always).

Slightly more than half (52-55%) regularly read the labels on things like contact lenses, thermometers, or pregnancy test kits, cosmetic products, and household cleaners before purchasing them, although significant numbers (27-32%) said they rarely or never do this.

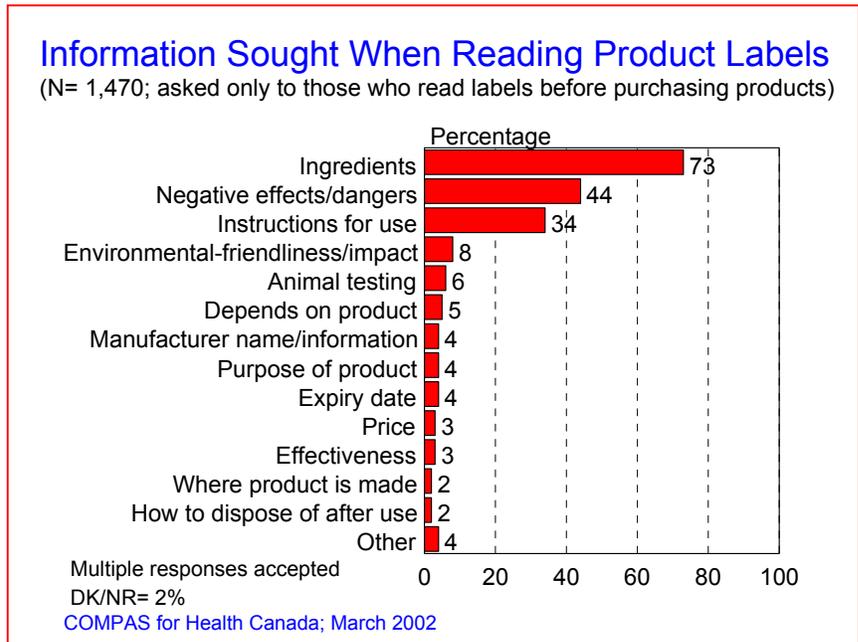
Clients were least likely to read the label on personal care products before purchasing them, although they were more likely to do this (44%) than not (38%).

Participants tend to be definite about their behaviour, usually indicating that they often/always or rarely/never read labels as opposed to saying they occasionally do so.



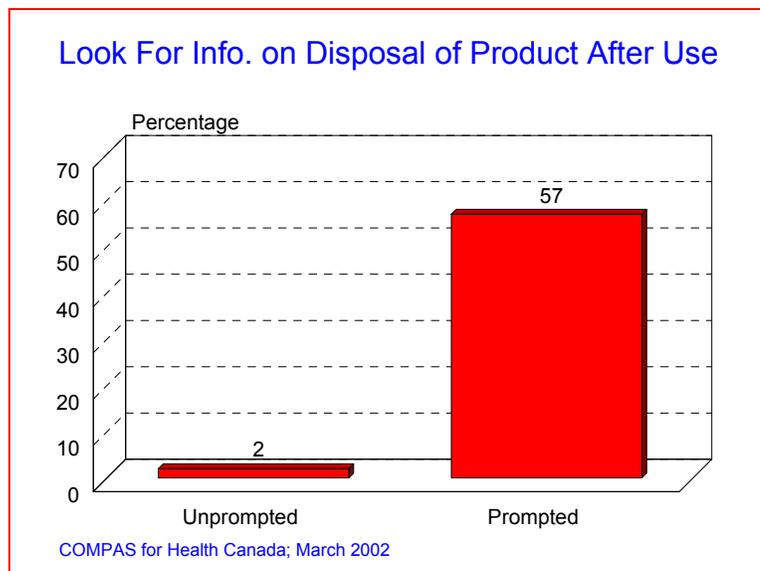
Ingredients, Dangers & Instructions – Main Info Sought on Labels

Participants who said they read labels at least occasionally for each of these products were asked what type of information they are looking for. The most common answer, by far, was the ingredients, identified by 73%. As well, two other types of information were cited by significant numbers: the negative effects or dangers (44%) and instructions for use (34%) (multiple responses accepted).



All other types of information tended to be sought infrequently, including information about the impact on the environment, possible testing conducted on animals, information about the manufacturer, the purpose of the product, expiry date, price, effectiveness, where the product is made, and how to dispose of it after use. A few said that the information they seek depends on the product.

As the accompanying graph shows, few participants who read labels indicated in an unprompted way that they look for information on how to dispose of the product. However, when asked directly if they also look for disposal information, over half (57%) said that they do.

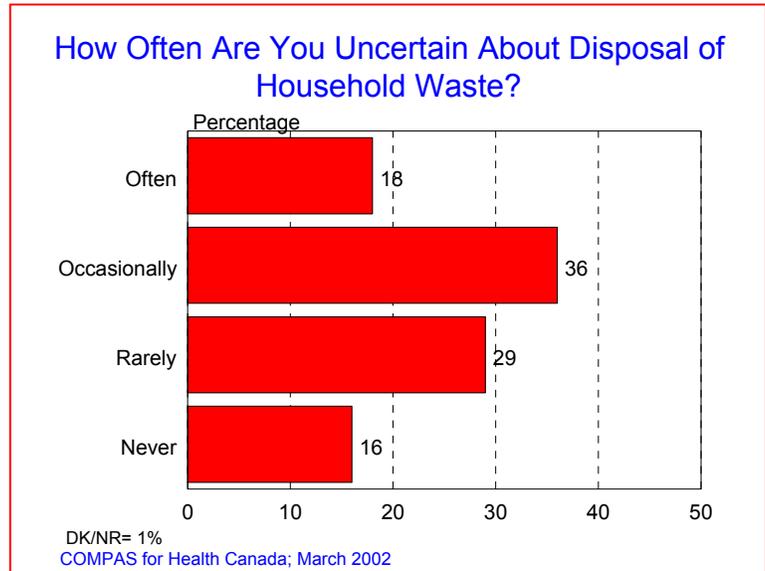


Knowledge and Awareness of Product Disposal

In this section, the focus was on participants' levels of knowledge and awareness regarding the safe disposal of household products.

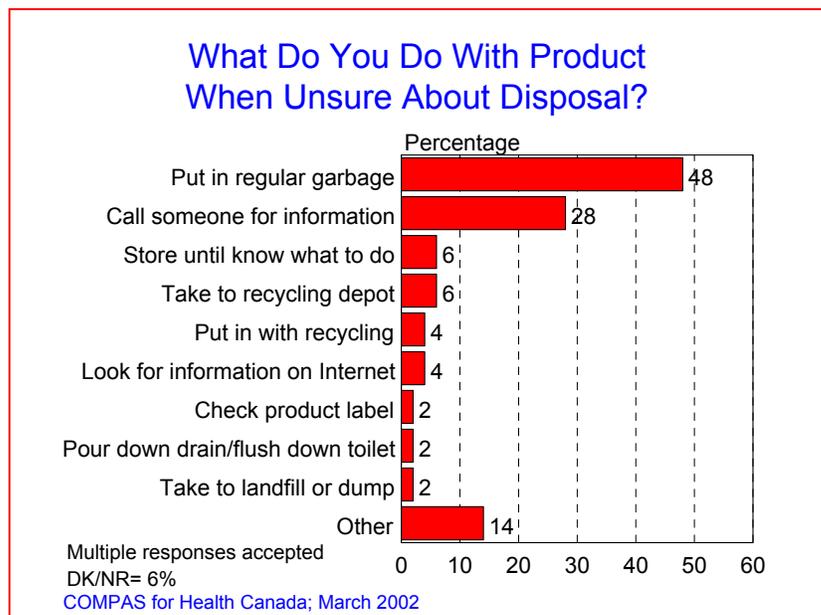
Mixed Level of Knowledge About Disposal of Household Products

Participants were asked if they are ever unsure about how to dispose of certain kinds of household products so that they do not harm the environment. Note that the potential impact on the environment is specifically stated. Slightly more than half (54%) said that they are at least occasionally uncertain about this (18% said often). A significant minority said they are rarely (29%) or never (16%) uncertain.



Put in Regular Garbage – Main Response to Disposal Uncertainty

When participants are uncertain about how to dispose of a product after using it, they tend to do one of two things. Almost half (48%) put it in the regular garbage, while just over one-quarter (28%) said they call someone for information on what to do (multiple responses accepted).



Other responses were identified infrequently, including storing the product until they know what to do with it, taking it to the recycling depot, putting it in with the recycling, looking for information on the Internet, checking the product label, pouring it down the drain or toilet, or taking it to a landfill site. Included in the 'other' category are burying it, dumping it into a stream, taking it back to where it was purchased and asking for information, burning it, taking it to a hazardous waste facility, and trying to use their judgment on what would be best to do.

Perceptions of Which Products Require Special Disposal

Participants were read a list of products and asked whether or not these things pose a threat to the environment and therefore require special disposal. For each product, they were asked whether they think it definitely requires special disposal, probably requires it, probably does not require it, or definitely does not require special disposal.

The list of products was:

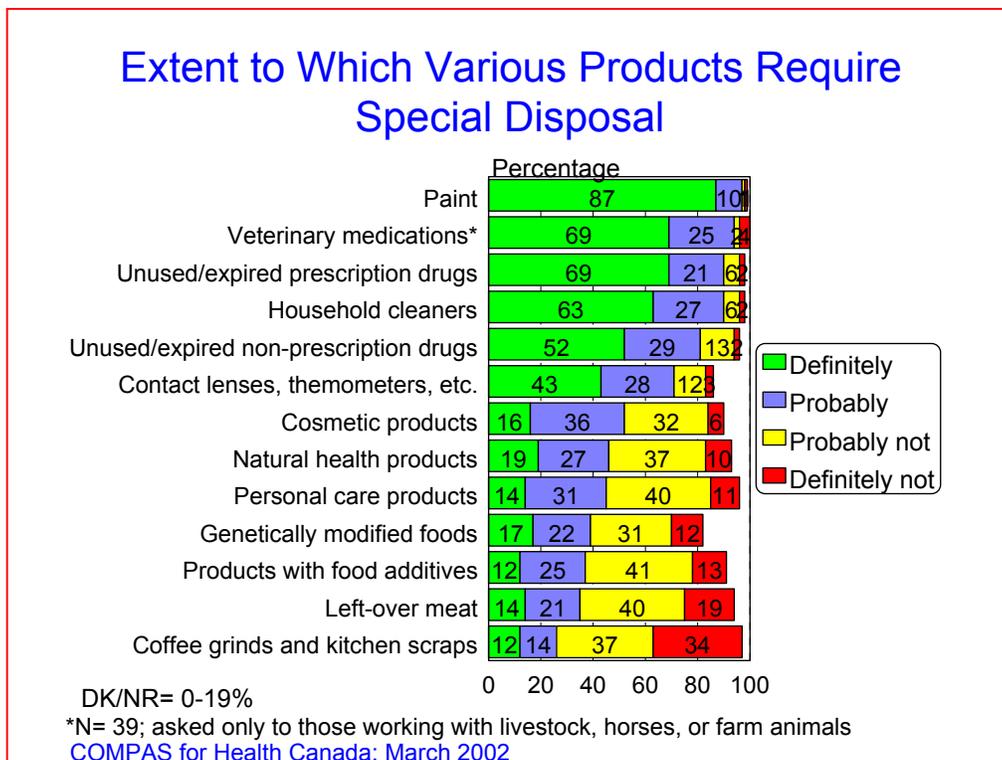
- Genetically modified foods.
- Unused or expired non-prescription drugs and other medication.
- Unused or expired prescription drugs and other medication.
- Cosmetic products, such as makeup, cream and lotions.
- Products with food additives, such as food colouring and preservatives.
- Natural health products, such as nutritional supplements and health remedies.
- Veterinary medications, such as antibiotics and hormones (asked only to those working with livestock, horses, and farm animals).
- Things like contact lenses, thermometers, or pregnancy test kits.
- Personal care products, such as bath soap and shampoo.
- Household cleaners.
- Paint.
- Coffee grinds, vegetable trimmings and other kitchen scraps.
- Left-over meat.

A majority of participants were at least relatively certain that seven of these products require special disposal. However, the level and degree of certainty



varied. There was near unanimity about paint. Nearly all (97%) were at least relatively certain that it requires special disposal (87% said *definitely*). Strong majorities were also at least relatively certain that special disposal is required for veterinary medications (94%), unused or expired prescription drugs and household cleaners (90% each), and unused or expired non-prescription drugs (81%). Over half felt that each of these products definitely requires special disposal. Nearly three-quarters (71%) think that things like contact lenses, thermometers, or pregnancy test kits require special disposal.

Both the level and degree of certainty dropped significantly in terms of the environmental threat posed by all of the other products. Just over half (52%) felt that cosmetic products require special disposal, but people were more likely to say that this is probably, not definitely the case. Participants were less certain about the environmental threat posed by natural health products and genetically modified foods. They were almost equally divided over whether these products do or do not require special disposal.



Most participants were of the opinion that the remaining products do not pose a threat to the environment. Over half (51-59%) thought that personal care



products, products with food additives, and left-over meat do not require special disposal, although significant numbers (35-45%) disagreed. The only product a significant majority of participants were certain is not a threat to the environment was coffee grinds and kitchen scraps. Nearly three-quarters (71%) offered their belief that this does not require special disposal.



Related Attitudes

This section explored respondents' attitudes with respect to recycling, safe disposal of products and related issues.

Most Participants Express Positive Attitudes on Related Issues

Participants were read a series of statements and asked to express their level of agreement with each one (using a 7-point scale: 7 = strongly agree; 1 = strongly disagree). There were seven statements:

- I always consider the impact of a product on the environment when deciding whether or not to buy it.
- Dropping off household products to recycling depots or facilities takes too much time and effort.
- I am very interested in learning all I can about how to safely dispose of household products so that they don't harm the environment.
- Taking my unused or expired medication to the pharmacy for disposal would be inconvenient.
- I think I get enough information about the safe disposal of household products.
- Consumer products such as pharmaceuticals and personal care products that are available for sale in Canada are generally safe for the environment.
- If I knew what was required to safely dispose of household products once I've finished using them, I would make sure I do this all the time even if it's inconvenient.

There was widespread agreement with two of the statements:

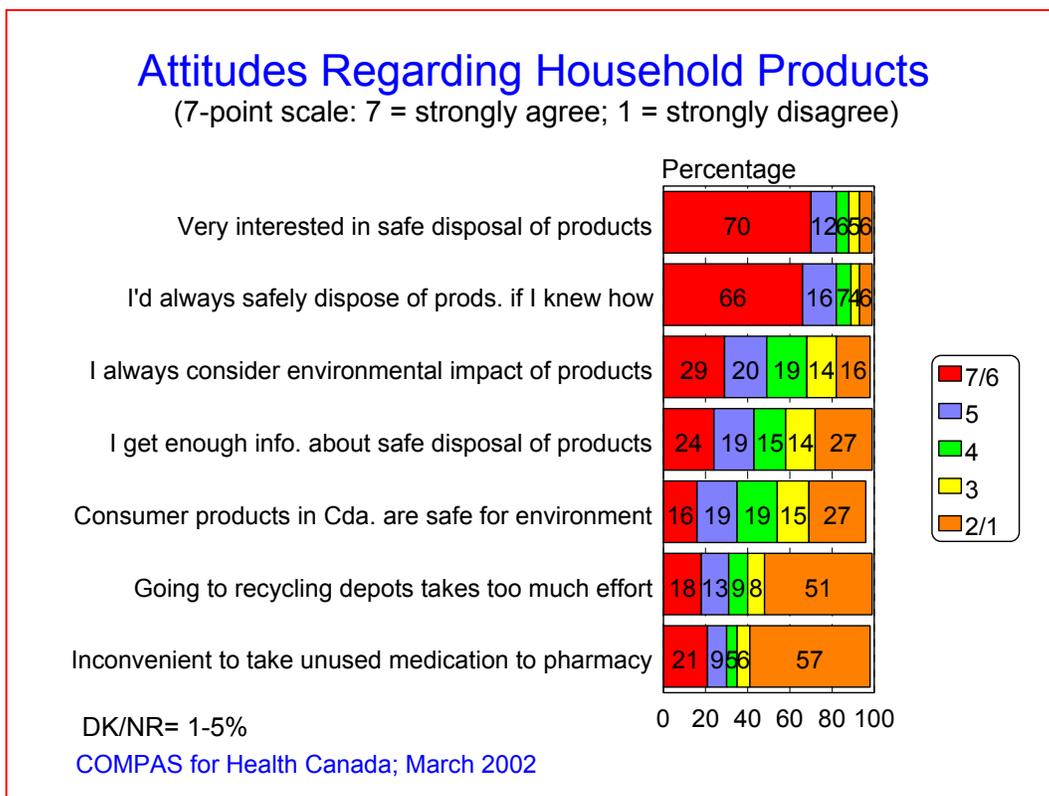
- That they were very interested in learning all they could about how to safely dispose of household products so that they don't harm the environment.
- That if they knew what was required to safely dispose of household products once they finished using them, they would make sure they did this all the time even if inconvenient.

Not only did 82% express agreement with each, 66-70% strongly agreed with these statements.



There was less agreement among participants when it came to their own consumer behaviour. Half agreed that they always consider the impact of a product on the environment when deciding whether or not to buy it, while 30% disagreed.

Participants were most divided over statements dealing with their knowledge of consumer products and the environment. This included whether or not they get enough information about the safe disposal of household products (43% agreed, 41% disagreed), and whether consumer products available for sale in Canada are generally safe for the environment (35% agreed, 42% disagreed).



A majority of participants disagreed with the remaining statements. Between half and two-thirds disagreed that dropping off household products to recycling facilities takes too much time and effort (59%), and that taking unused or expired medication to the pharmacy for disposal would be inconvenient (63%). Over half strongly disagreed with both these statements.



In conclusion, participants tended to express positive attitudes in most of these areas. Most are interested in more information on safe disposal, say they would take appropriate action if they knew what to do, and do not think dropping off left-over products takes too much time or effort or is inconvenient. When the focus is on current behaviour, the situation is somewhat less positive: many say they do not always consider the impact on the environment when they buy a product.



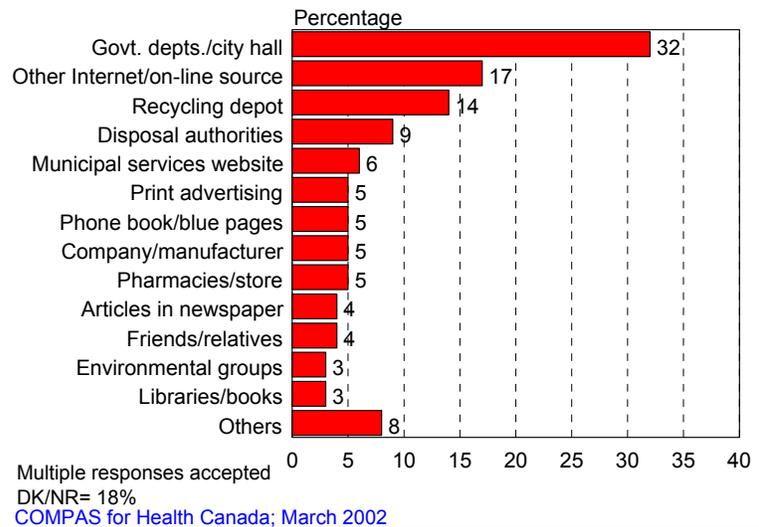
Education and Awareness

The final part of the questionnaire, not including demographic questions, explored a number of information and communications issues.

Government – Main Source of Information About Recycling

The largest proportion of participants would go to government departments or city hall if they wanted information about recycling and the safe disposal of household waste. Approximately one-third (32%) said this is where they would go, followed by the Internet or on-line sources (17%), a recycling depot (14%), or disposal authorities (9%) (multiple responses accepted). An additional six percent combined two of these sources, identifying a municipal services website.

Sources of Info. About Recycling/Safe Disposal of Household Waste



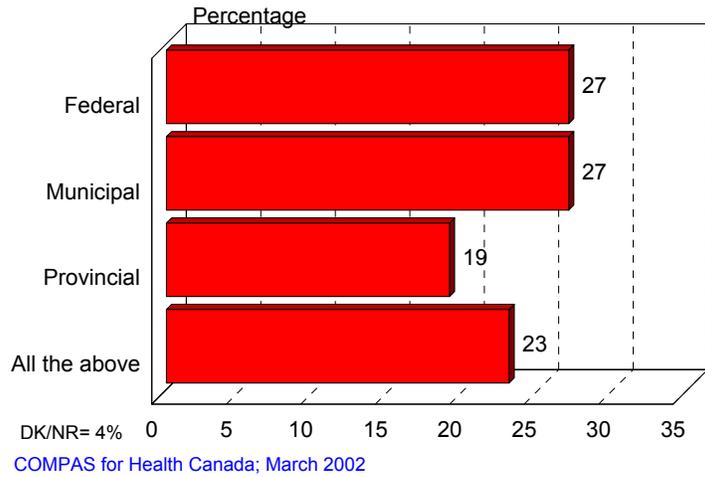
Other sources were mentioned infrequently and included print advertising, the phone book (including government blue pages), the manufacturer of the specific product, a pharmacy or the store where the product was purchased, articles in newspapers, friends and relatives, environmental groups, and libraries or books. Included in the 'other' category are radio and TV ads, television programs, neighbours, the blue box information line, and the fire department.



Divided Opinion About Which Govt. Level Should Provide Information

Participants were somewhat divided over which level of government should provide information to Canadians about the safe disposal of household waste. Equal numbers (27% each) identified the federal and municipal governments, while one in five identified provincial governments. Almost one-quarter (23%) said that all levels should be involved in this.

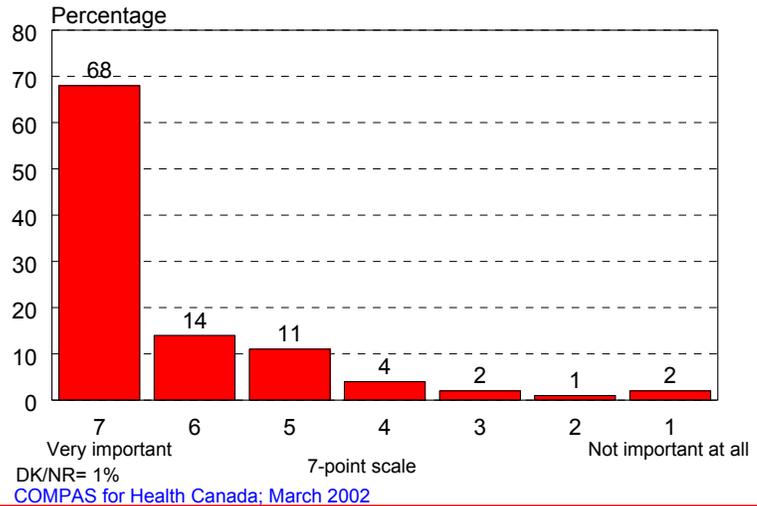
Level of Govt. Responsible for Info. on Safe Disposal of Household Waste



Near Consensus That Regulations to Inform Consumers About Safe Disposal Are Important

Participants were asked how important it is for the Government of Canada to develop regulations for the industry to inform consumers about the safe disposal of products like prescription drugs, cosmetics, and personal care products to protect the environment. Using a 7-point scale (1 = not important at all; 7 = very important), nearly everyone (93%) said this is important, with 82% saying very important (scores of 6-7 combined).

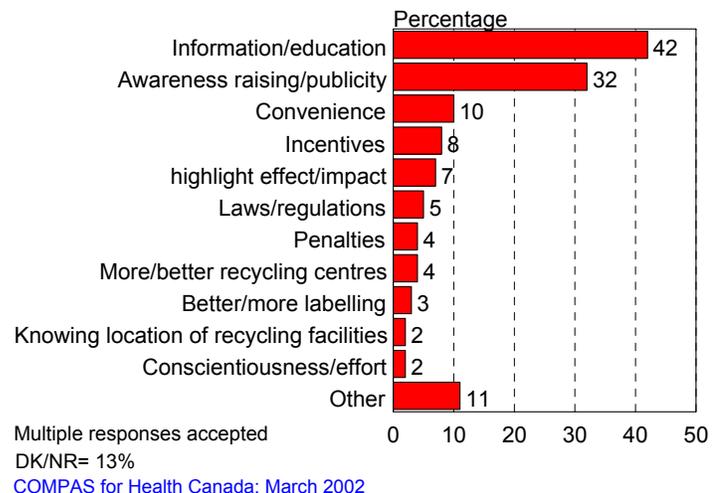
Importance of Regulations to Inform Consumers About Safe Disposal of Household Products



Information, Publicity – Main Factors to Encourage Action

Participants identified a variety of ways to encourage Canadians to take action to safely dispose of household products. However, two factors dominated: nearly half (42%) identified education or information about which products require special disposal, followed by one-third (32%) who advocated raising awareness through publicity (multiple responses accepted).

Encouragements to Take Action to Safely Dispose of Household Products



Significant numbers also identified ensuring easy access or convenience when it comes to disposal (10%), providing incentives (8%), and highlighting the effects or impact of unsafe disposal (7%).

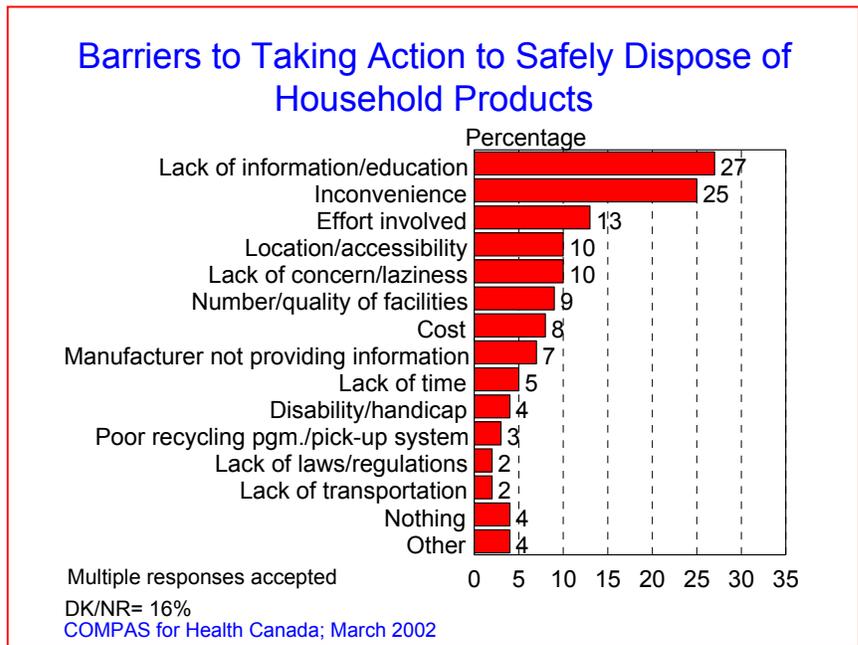
Identified less often were laws and regulations, penalties, more/better recycling centres, better or more labelling, knowing the location of recycling facilities, and making a more conscientious effort. Included in the 'other' category are adopting special disposal days, having better instructions on products, and having specific bins for different items. A few said that nothing would encourage this. Sixteen percent did not identify any potential facilitators.

Lack of Information, Inconvenience – Main Obstacles to Safe Disposal

While participants identified a number of obstacles that might make it difficult for Canadians to take action to safely dispose of household products, two factors once again head the list: a lack of information or education (27%) and inconvenience (25%) (multiple responses accepted).

Also cited with some frequency were the location or accessibility of recycling depots (10%), a lack of concern or laziness (10%), the number and quality of disposal facilities (9%), cost (8%), and a lack of information provided by the manufacturer (7%).

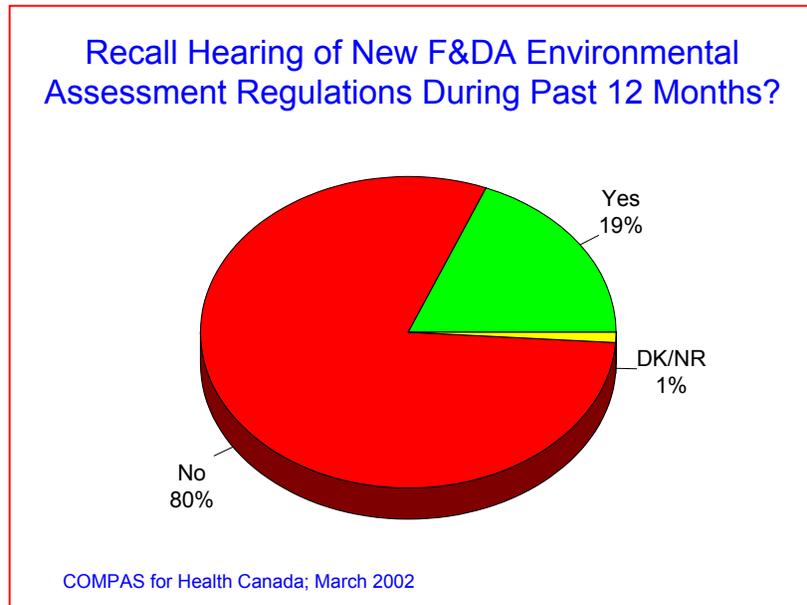
Small numbers identified lack of time, a disability or handicap, poor recycling programs, a lack of laws or regulations, and lack of transportation. A few said that there were no barriers or obstacles. Included in the 'other' category are lack of funding, lack of resources, age (i.e. being elderly), forgetfulness, and inability



to ensure that everyone in the household takes part. Sixteen percent did not identify any potential obstacles.

80% Do Not Recall Hearing About F&DA Environmental Assessment Regulations

Fully 80% do not recall hearing, reading or seeing anything about new F&DA Environmental Assessment Regulations during the past 12 months. Conversely, 19% recall hearing something about this.



These results came in response to the following question:

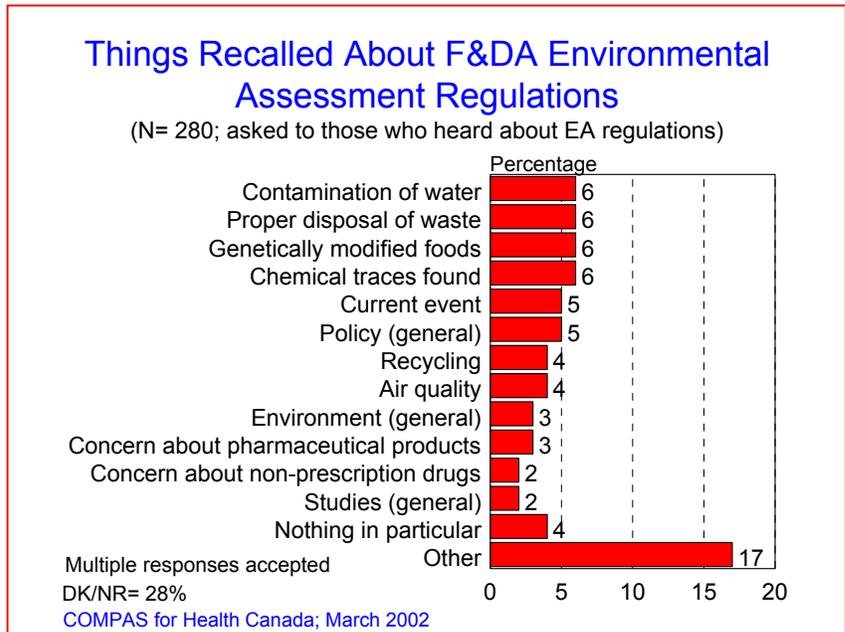
Scientific reports from Canada and internationally have stated that certain substances contained in health and personal care products can be detected at very low levels in the environment. As a result, Health Canada has undertaken the development of new Environmental Assessment Regulations for products regulated under the Food and Drugs Act. Thinking back over the last 12 months, can you recall reading, hearing or seeing anything at all about this?

In public opinion studies, it is widely accepted that respondents often inflate their levels of awareness or knowledge of something. We would suggest that this is quite likely the case with the current subject.



Limited Recall of F&DA Environmental Assessment Regulations

Participants who said they recalled something about the new F&DA Environmental Assessment Regulations were asked what it is that they remember. People identified a number of recollections, but none with any frequency. These included references to the contamination of water, the proper disposal of waste, genetically modified foods, finding traces of chemicals in various places, simply noting that this is a current event, government policy (unspecified), recycling, and air quality in general.

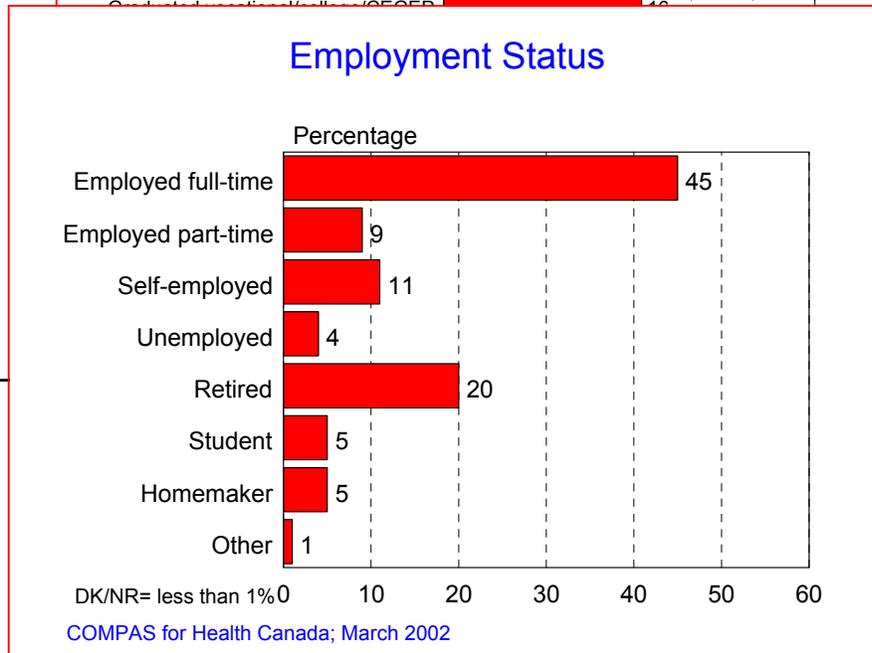
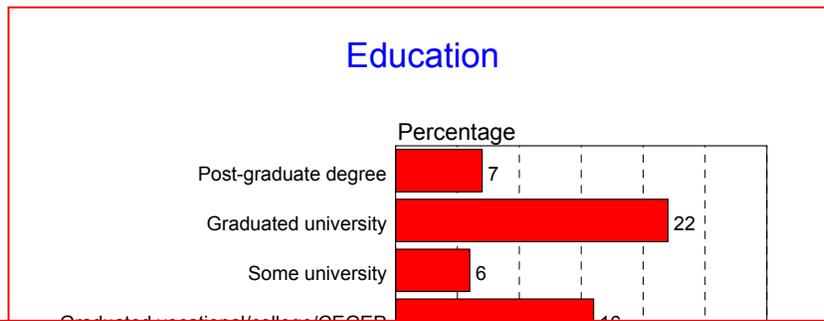
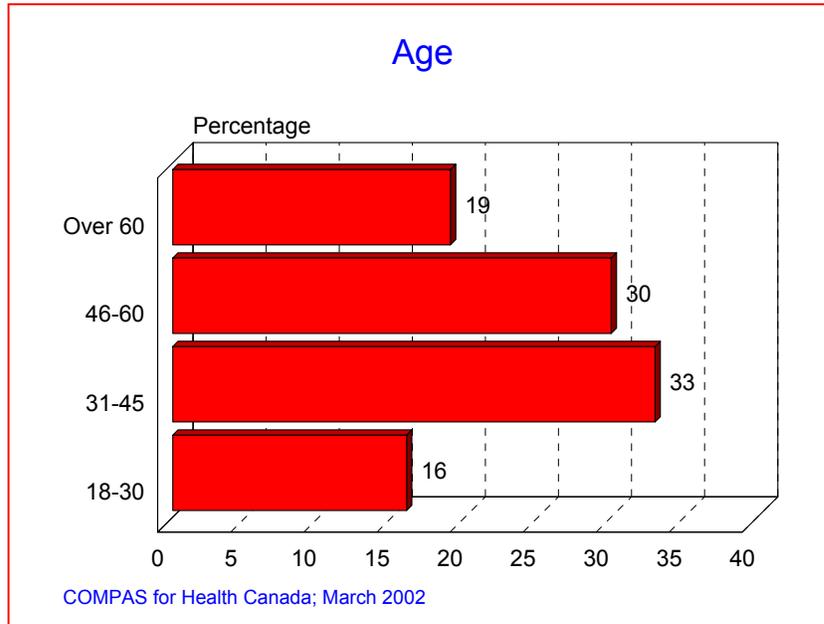


One-third acknowledged recalling nothing (28% did not respond, while 4% recalled nothing in particular).

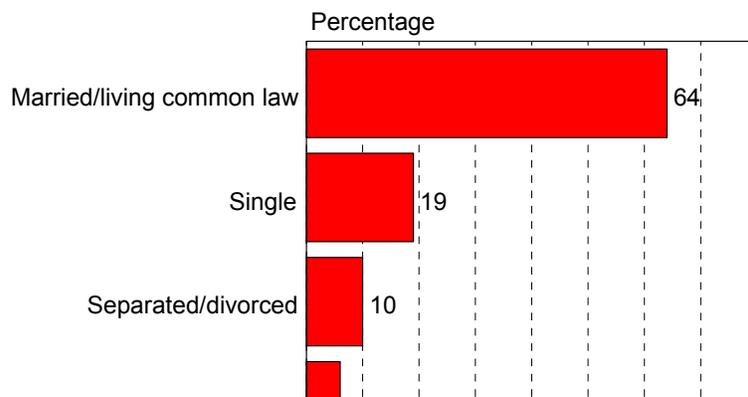


Profile of Participants

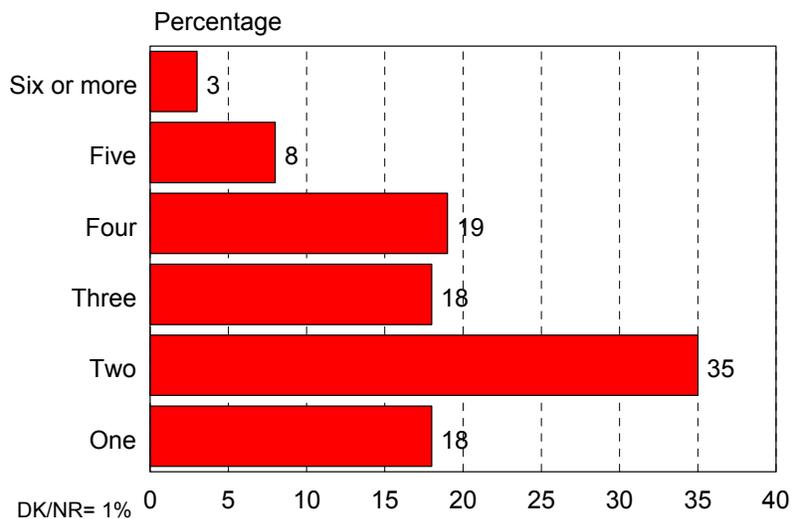
The following graphs present the demographic characteristics of survey participants.



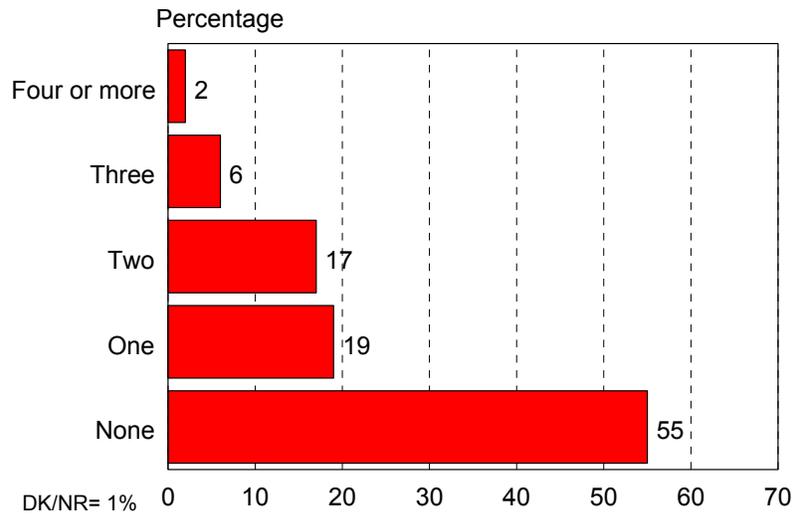
Marital Status



Number of People Living in Household

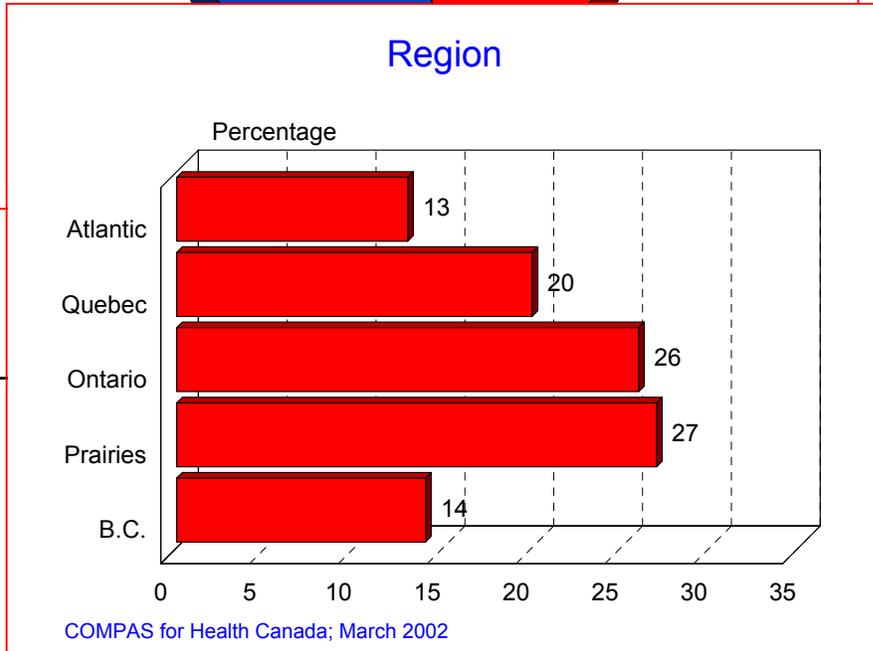
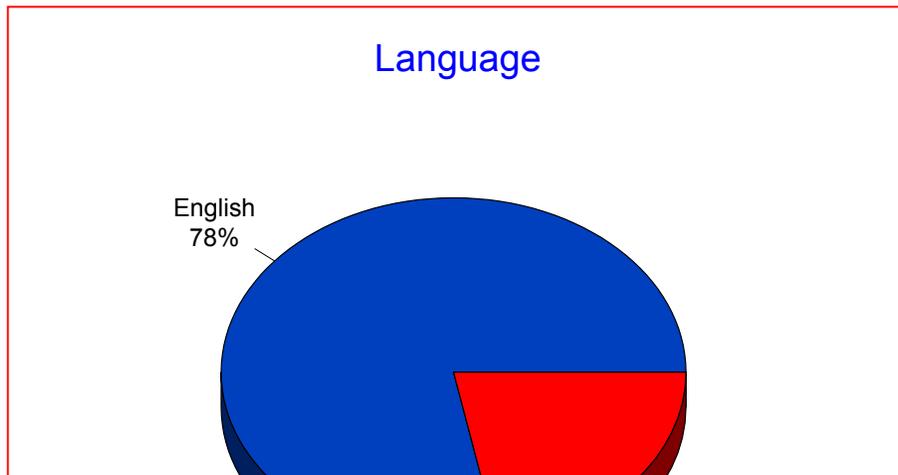
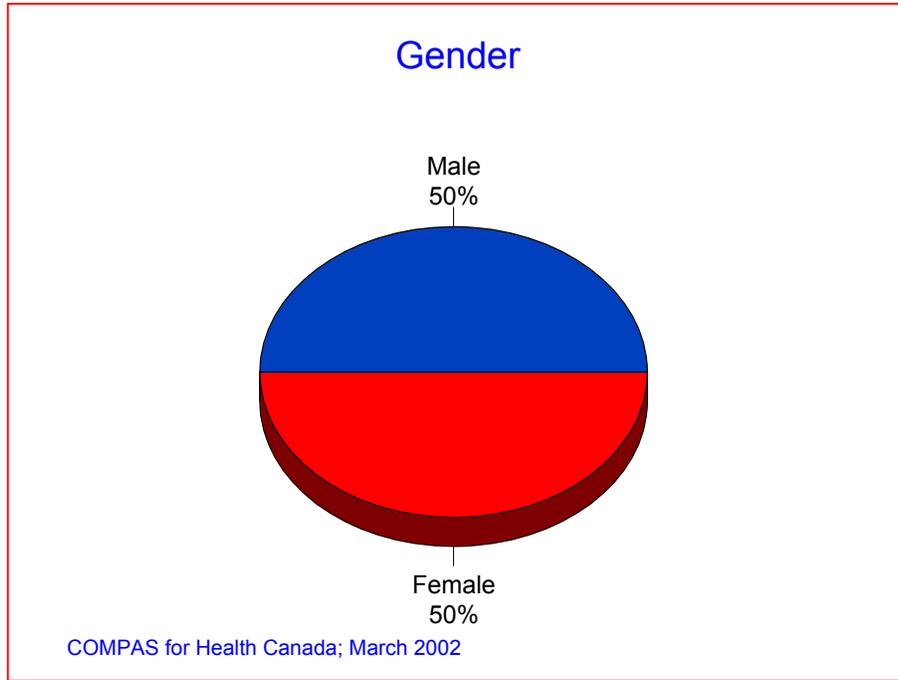


Number of Children Under 17 Living in Household



COMPAS for Health Canada; March 2002







Conclusions and Recommendations

The survey findings suggest that Canadians, for the most part, view themselves as relatively knowledgeable about the safe disposal of household products. However, most do not appear to link the disposal of household waste to the protection of the environment. Rather, top-of-mind for them appears to be the link between product disposal and the safety of children and others from a health perspective (e.g. ensuring that hypodermic needles/unused medication are not accessible). By way of context, it is noteworthy that only 3% identified waste disposal as a top environmental issue at the start of the survey.

In considering these results, one should remember that the data concern aspects of opinion and behaviour that are more specific than the phenomena which are generally central to the way Canadians think about the environment. Typically, Canadians tend to organize their thoughts about the environment in terms of air quality, water quality and very general ideas about pollution. Furthermore, in some other studies, when people were probed about what they meant by pollution, they were more likely to associate it with industrial pollution rather than the results of their own household activities. Thus, the realm of pollution from the disposal of domestic products is likely not at the centre of people's thoughts on this topic (other than "standard" recycling).

In terms of current behaviour, the vast majority of Canadians participate in recycling programs (which typically cover paper products, plastic, glass and cans), while a clear majority also drop off at local facilities or depots additional items not covered by their pick-up recycling program. As well, slightly less than one-third use alternative means, over and above the regular trash and recycling, to dispose of products. Although not asked directly, it is evident that many Canadians also compost some household waste.

From a recycling perspective, therefore, many Canadians currently exhibit positive behaviours. Taken together, this appears to represent an excellent base upon which to build awareness and behaviours related to products governed by the F&DA.

That said, the types of things that people do recycle, beyond the standard items, tend to be products that have a strong chemical base to them, such as paint, motor oil, batteries, and other chemicals/hazardous waste. Added to this list, in terms of special disposal beyond recycling and the regular trash, are prescription and non-prescription drugs, items that also have a "strong chemical" aspect to them. Many of the items regulated by the F&DA – cosmetics, personal care products, natural health products – are often disposed of through the regular trash. In short, Canadians are more likely to link "strong chemicals" to the need



for special disposal than they are to link any other types of products beyond the standard items that are recycled.

In terms of reading labels, there is considerable variation in the propensity to do so based on the type of product. Significantly, the types of products lower down on the list (i.e. whose labels are read less often) are also the types of products that are disposed of most often through the regular trash. And when reading labels, people are looking for information on ingredients, health/hazard warnings or instructions. Few are looking for disposal information. This is further evidence of the lack of salience that this issue has among Canadians (i.e. the environmental impact of household products disposal). However, once reading the labels, most people do indicate that they read disposal information. That is, people are not looking for information about how to dispose of the product when they read the label, but if it is there, most will pay attention to it.

Toward the end of the survey, respondents were asked how often they feel unsure about how to dispose of household products. More than half are uncertain about this at least “occasionally”. Unlike the earlier measure in the survey, this one is directly linked to environmental protection and suggests that there is greater doubt among Canadians as to what is truly required in terms of safe disposal from an environmental perspective. And when people are not sure of how to dispose of a product, the main default option is to put it in the regular garbage. This speaks to the need to provide information on what else could be done, and to educate Canadians on alternatives to recycling and regular garbage. There was considerable variety in people’s perceptions as to which products require special disposal.

Overall, the attitudes expressed by Canadians tend to be very pro-environment. This suggests that Canadians would be receptive to information disseminated on the subject by Health Canada. Not only do the vast majority express interest in information on the safe disposal of household products, an equally high number indicate that they would “always” safely dispose of such products if they knew how. There was also strong support for regulations to require manufacturers to provide disposal information. People were less positive in terms of always considering the environmental impact of products when they buy them, and in terms of putting up with inconvenience when disposing of items.

In terms of which level of government is expected to provide relevant information, respondents pointed in almost equal numbers to all three levels, including all three together. Government was also ranked first in terms of where they would go for such information, although the Internet and recycling depots were also identified with some frequency.

Cluster analysis shows that one can view these phenomena in terms of three types of people. There are those who rely on ordinary garbage disposal and have



few other concerns with related issues, those who are engaged in using existing information and using alternatives to ordinary garbage disposal, and those who are less active but who have some doubts about the environmental safety of consumer products and would like more information. Underlying this, we see that some demographic characteristics are relevant, including age, gender, and to a lesser degree, education and region.

Taken together, the results paint a portrait of a population that does not appear to be well informed in this area – in fact, is not even aware that this is an issue – but that does appear to be open to information that educates them about the scope of the problem and about appropriate methods of disposal. Moreover, armed with information, Canadians indicate that they would adopt behaviours conducive to good environmental stewardship.

There are a number of issues that Health Canada might consider in its marketing and communications activities to promote the safe disposal of household products. We offer the following recommendations for the department's consideration:

- Given that most Canadians do not appear to link the safe disposal of household products with environmental protection and stewardship, there is a need for the department to emphasize this link in all related communications. This is required to drive home the message, on an ongoing basis, that safe product disposal and environmental protection are related. Otherwise, there is a danger that people will not make this link, and might therefore be less attentive to information on product disposal.
- As noted, Canadians tend to view themselves as relatively knowledgeable about the safe disposal of household products. However, the survey suggests that this is not the case. Consequently, this self-perception of being knowledgeable represents a potential barrier in terms of increasing people's level of awareness and understanding of related issues. Health Canada might want to instill doubt in Canadians' minds about the extent to which they are informed about product disposal issues to try to ensure that they are receptive to new information (to them) in this area.
- Since a high proportion of Canadians currently take part in recycling programs (both pick up and drop off programs), Health Canada should try to build on this, and perhaps position F&DA product disposal as a logical "next step" in terms of meaningful action that can be taken by individuals to protect the environment.
- As noted, people often read product labels on these types of products, albeit not for disposal information. Nevertheless, they pay attention to it if it is there. This underscores the importance of regulations that require industry to provide such information on their product labels, ideally in a



- way that gives this information some prominence. As well, departmental communications that direct Canadians to review disposal information on product labels would likely be well received since many read labeling on a regular basis. This is also an important avenue to consider for information transmission since the survey results indicate that one of the biggest perceived barriers to the adoption of safe disposal practices is inconvenience (and product labels are clearly a convenient method for people to get some of this information).
- ❑ Adopt regulations to require industry to provide product disposal information to consumers on their product labels and otherwise.
 - ❑ Since people are most likely to read the labels of over-the-counter medications and natural health products, Health Canada may want to link the idea of reading labels of other products with these products.
 - ❑ Encourage people to consider the environmental impact of household products when they buy them. Results in this area are mixed, with significant numbers indicating that they do not do this now. In order to be able to do this, however, people need to know which products are more/less safe for the environment.
 - ❑ Raise awareness of this topic as an issue. As noted, for most Canadians it does not appear to be on the “environmental landscape” at the present time.
 - ❑ Educate Canadians on which products require special disposal, and how they should be disposed of. Otherwise, they will generally put them in the trash.
 - ❑ Make it easy for Canadians to get information in this area. The data suggests that most would be receptive to new information, and would act on it if they knew what to do.
 - ❑ Since more than one-quarter said they would call someone if they were unsure about how to dispose of something, this suggests that it would be effective to include in communications materials a 1-800 help line that provides advice to Canadians on disposal methods.
 - ❑ Maximize the convenience to people of safe disposal methods. This is one of the top barriers to taking action, along with a lack of information. It also appears to be a factor for people with children living in the home, who may well be more pressed for time than others, and would therefore particularly value convenient methods of disposal. Moreover, it is likely that households with children in the home are significant consumers of these types of products (relative to those who do not have children living with them).
 - ❑ Encourage pharmacies to serve as depots for the disposal of prescription and non-prescription medications, and to advertize this to their customers.
 - ❑ There are communications implications in terms of demographic characteristics. As such, communications strategies and the targeting the



- messages should be developed following a careful review of the multivariate and bivariate analyses.
- Provide information through the “sources” that respondents identified, such as government offices, city hall, the Internet, recycling depots, as well as a range of other organizations cited by smaller numbers.
 - Use the Internet to provide detailed information to Canadians on how to dispose of household products. Many expressed a desire for information to be provided in this way. As well, information via the Internet can be kept up-to-date, and over time, this might become a standard reference source for Canadians.
 - Review the lists of perceived barriers and facilitators identified by respondents in terms of Canadians taking action in this area, with a view to addressing as many as possible.



Demographic Variations

This section presents the demographic variations for the issues explored in this survey. Characteristics included in this analysis are gender, age, and region.

Gender

Gender differences were evident in the data, but tended to be relatively small. Women were more likely to say they feel unsure about the disposal of household waste, and are more inclined to read labels before purchasing products (for all products). Men and women were mostly in agreement about which products require special disposal. In terms of environmental engagement, gender differences were small in most areas. However, women were more likely to express interest in learning more about the safe disposal of household products and to state they would act on this information even if it were inconvenient. Women were slightly more likely to view as important the need for regulations to inform consumers about the safe disposal of products.

Context Issues

Men and women consider themselves to be equally knowledgeable about the safe disposal of household products (75-78%).

Recycling and Patterns of Disposal

Men and women were equally likely to say they use other methods of disposal besides garbage or recycling to dispose of certain products (30-32%). Men were somewhat more likely to identify motor oil (17% vs. 9%) and building materials (7% vs. 2%) as products they dispose of in other ways, while women were more likely to identify clothes (10% vs. 4%).

Women were moderately more likely to say they dispose of cosmetic products (82% vs. 74%) and personal care products (59% vs. 53%) by putting them in the regular garbage. Meanwhile, men were more apt to identify paint (17% vs. 11%), unused or expired non-prescription drugs (54% vs. 45%) and prescription drugs (44% vs. 34%), and leftover meat (78% vs. 72%). Men were also more likely to say they recycle paint (28% vs. 21%).

Women were more apt to say they dispose of natural health products (8% vs. 5%), unused or expired non-prescription drugs (23% vs. 15%) and prescription drugs (23% vs. 16%) in a toilet or sink.

Consumer Shopping

Across the full range of consumer products, women were more likely to say they *a/ways* read the label on a product before purchasing it. These gender differences include:

- ❑ Cosmetic products (39% among women vs. 27% among men)
- ❑ Natural health products (66% vs. 55%)
- ❑ Things like contact lenses, thermometers, or pregnancy test kits (45% vs. 37%)
- ❑ Personal care products (30% vs. 21%)
- ❑ Over-the-counter medications (68% vs. 60%)
- ❑ Household cleaners (32% vs. 27%)

When asked about the type of information they look for in a product label, women were somewhat more likely to identify ingredients (68% vs. 60%), and men instructions for use (35% vs. 28%). Men were slightly more apt to say they read and pay attention to information on how to dispose of the product once they finish using it (59% vs. 54%).

Knowledge and Awareness

Women were more likely to say they feel unsure about the disposal of household waste, at least on an occasional basis (59% vs. 50%).

Men and women were mostly in agreement about whether certain products require special disposal. Differences across all categories were generally small (1-6%). The sole exceptions relate to the disposal of natural health products (53% vs. 40%) and left over meat (39% vs. 30%), which were identified more often by women than men in terms of requiring special disposal.

Related Attitudes

Respondents were asked to express their level of agreement with seven statements related to environmental engagement and motivation. Gender differences were small (0-3%) across most statements. However, women were more likely to express higher levels of agreement with the following:

- ❑ I am very interested in learning all I can about how to safely dispose of household products so that they don't harm the environment (74% vs. 66%)
- ❑ If I knew what was required to safely dispose of household products once I've finished using them, I would make sure I do this all the time even if it's inconvenient (70% vs. 62%).

Education and Awareness

Women were more likely to say the municipal government should provide information about the safe disposal of household waste (30% vs. 23%), while men were more likely to say the federal government (31% vs. 24%).

Women were slightly more likely to rate as important the need for the Government of Canada to develop regulations for the industry to inform consumers about the safe disposal of products (84% vs. 79%).

Region

This regional analysis is based on the following breakdown:

- Atlantic Canada
- Quebec
- Ontario
- Prairies
- BC/Territories

Quebecers tend to see themselves as less knowledgeable about the safe disposal of household products. B.C. residents were the most likely to say they use disposal methods besides garbage or recycling to dispose of certain products, with Quebecers and Atlantic Canadians the least likely to do this. Patterns of disposal were quite varied across the different products and regions.

Quebecers were considerably less likely than others to say they read and pay attention to information on how to dispose of the product on product labels. Respondents in all regions were equally likely to say they feel unsure, at least occasionally, about the disposal of household waste. Atlantic and Quebec residents tended to be more likely to say products require special disposal. Atlantic residents were the most likely, and Prairie residents the least likely, to view as important the need for regulations to inform consumers about the safe disposal of products.

Context Issues

Quebecers view themselves as less knowledgeable about the safe disposal of household products (57% vs. 80-84% among all others).

Recycling and Patterns of Disposal

Ontario households are the most likely to participate in a recycling program, while those in the Prairies are the least likely to: 91% vs. 82-86% for the Atlantic, Quebec and B.C. vs. 72% for the Prairies. Ontarians and Quebecers were less likely to say they drop off products for recycling (48-51% vs. 71-76% among all others).

B.C. residents were the most likely to say they use other disposal methods besides garbage or recycling to dispose of certain products (43% vs. 34% each for Ontario and the Prairies vs. 27% for the Atlantic vs. 19% for Quebec). Atlantic Canadians were more likely to identify food scraps (17% vs. 8-12% for others) and paper (22% vs. 16% for B.C. vs. 5-7% for others) as products they dispose of in other ways. Atlantic and B.C. residents were the least likely to identify paint

(11-14% vs. 23-29% for others). Prairie residents were more apt to identify motor oil (20% vs. 10-15% for others), while Quebecers and Ontarians were less likely to compost (7% each vs. 12-15%)

Atlantic Canada and Quebec residents were less likely to say they dispose of cosmetic products by putting them in regular garbage (73-74% vs. 80-85% for others), while Ontarians were most likely to say they recycle cosmetic products (14% vs. 6-8%).

Ontarians are the most likely to dispose of natural health products by putting them in the garbage (69% vs. 61-62% for the Prairies and B.C. vs. 51% for the Atlantic vs. 44% for Quebec). B.C. residents were more apt to say they recycle natural health products (15% vs. 7-11% for Ontario, the Atlantic, and the Prairies vs. 4% for Quebecers). Quebecers and Ontarians were the least likely to say they dispose of them in the toilet/sink (3% each vs. 9-13%). However, Quebecers were the most likely to say they bring natural health products back to the pharmacy (18% vs. 0-5% among all others).

Residents of all regions were similarly likely to say they dispose of household cleaners in the garbage (42-49%). Ontarians were the most likely to say they recycle them (30% vs. 20-22% for Quebec, the Prairies, and B.C. vs. 16% for the Atlantic). Meanwhile, residents of the Atlantic and B.C. were more likely to say they dispose of household cleaners in the sink/toilet (15-16% vs. 7-11% for others).

Prairie residents were the most likely to say they dispose of things like contact lenses, thermometers, or pregnancy test kits in the regular garbage (84% vs. 75-76% for Ontario and B.C. vs. 64% for the Atlantic vs. 43% for Quebec).

Quebec and B.C. residents were the least likely to say they dispose of personal care products in the regular garbage (45-48% vs. 61-64%). Ontarians were the most likely to say they recycle them (27% vs. 21% for B.C. vs. 15-17% for others).

Regional differences also emerge in the disposal of paint. Ontarians were the most apt to say they dispose of paint in a depot/disposal site, followed by B.C. residents (49% vs. 39% vs. 26-29% for others). Residents of the Prairies and B.C. were the most apt to recycle paint (30-34% vs. 25% for Ontario vs. 18-19% for others). Meanwhile, residents of the Atlantic and Quebec were more likely to put it in the garbage (20-25% vs. 8-12%).

Ontarians tend to dispose of used or expired non-prescription drugs by putting them in the garbage (58% vs. 52% for B.C. vs. 44-45% for Quebec and the Prairies vs. 38% for the Atlantic). Quebecers were the most apt and B.C. residents the least apt to say they bring them back to the pharmacy (32% vs. 19-23% for the Atlantic, Ontario and the Prairies vs. 15% for B.C.). However,

Quebecers were the least likely to dispose of such products in the toilet/sink (9% vs. 20-24% for Ontario and the Prairies vs. 29-30% for B.C. and the Atlantic).

Ontario and B.C. residents were more likely to dispose of unused/expired prescription drugs by putting them in the garbage (46-44% vs. 32-35% for others). Quebecers were the most apt to bring them back to the pharmacy (44% vs. 23-29% for others) and the least likely to dispose of them in the toilet/sink (8% vs. 21%-27% for the Prairies, Ontario and B.C. vs. 32% for the Atlantic).

Quebecers were the most apt and Atlantic residents the least to say they dispose of items like coffee grinds and other kitchen scraps in the regular garbage (83% vs. 52-58% for B.C., Ontario and the Prairies vs. 41% for the Atlantic). However, Atlantic Canadians were the most likely to compost such items (40% vs. 31-32% for Ontario and B.C. vs. 25% for the Prairies vs. 12% for Quebec).

Quebecers and Ontarians were more likely to say they put leftover meat in the regular trash (80-85% vs. 71% for B.C. vs. 65% for the Prairies vs. 42% for the Atlantic). Prairie residents were the most likely to feed leftover meat to their pets (30% vs. 21-22% for B.C. and the Atlantic vs. 12-14% for others).

Consumer Shopping

Prairie and Quebec residents were somewhat less likely to regularly read the labels on cosmetic products (47% for the Prairies and 52% for Quebec vs. 55-58% for all others), over the counter medications (77% each vs. 81% for B.C. vs. 84-85% for the Atlantic and Ontario), and on things like contact lenses, thermometers, or pregnancy test kits (48-52% vs. 57-59% for all others). Atlantic Canadians were the most likely to regularly read the labels on personal care products (53% vs. 41-45% for others). Meanwhile, Prairie residents were the most likely to regularly read the labels on household cleaners (58% vs. 51-53% for B.C., Ontario and the Atlantic vs. 48% for Quebec).

B.C. residents, followed closely by those in Ontario and the Prairies, were more likely to look for information about the ingredients when they read the product label (72% vs. 66-68% for Ontario and the Prairies vs. 59% for the Atlantic vs. 54% for Quebec). Ontario residents were the most apt to look for instructions for use (37% vs. 29-32% for Quebec and the Prairies vs. 22-23% for the Atlantic and B.C.).

Quebecers were considerably less likely than others to say they read and pay attention to information on how to dispose of the product (40% vs. 60-64%).

Knowledge and Awareness

Respondents regardless of region were equally likely to say they feel unsure, at least occasionally, about the disposal of household waste (54-56%).

Quebecers and Ontarians were the most apt to say they dispose of products they are unsure about by putting them in the regular garbage (51-56% vs. 33-44% for others). Atlantic Canadians were more likely to say they call someone for information when they are unsure about how to dispose of a product (37% vs. 31-32% for the Prairies and B.C. vs. 23-27% for others).

Atlantic and Quebec residents were generally more likely to say that products require special disposal. Ontarians were less likely to say personal care products (40% vs. 46-50% for all others) require special disposal. Residents of the Atlantic, Quebec and the Prairies were more likely to say this about unused/expired non-prescription products (84-85% vs. 76-80% for others) and genetically modified food (40-44% vs. 34-37% for Quebec and B.C.). Atlantic and Quebec residents were more apt to say this about cosmetics (56-58% vs. 49-51% for others), products with food additives (44-46% vs. 32-37% for others), natural health products (50-54% vs. 40-46% for others), and coffee grinds, vegetable trimmings and other kitchen scraps (31-36% vs. 20-25% for others). Atlantic Canadians were the most likely to say this about leftover meat (46% vs. 38% for Quebec vs. 31-34% for others), and things like contact lenses and thermometers (78% vs. 72-74% for Quebec and the Prairies vs. 66-69% for others).

All respondents were similarly likely to say this about paint (94-98%), unused or expired prescription medicine (87-93%), and household cleaners (88-95%).

Related Attitudes

In terms of attitudinal issues, Atlantic Canadians expressed the highest levels of agreement with each of the following statements:

- Taking unused or expired medication to the pharmacy for disposal would be inconvenient (27% vs. 20-22% for others).
- I think I get enough information about the safe disposal of household products (35% vs. 22-27% for Ontario, the Prairies and B.C. vs. 18% for Quebec).
- Consumer products that are available for sale in Canada are generally safe for the environment (25% vs. 18% for Ontario vs. 13-15% for others).
- If I knew what was required to safely dispose of household products once I've finished using them, I would make sure I do this even if it's inconvenient (76% vs. 68-70% for Ontario, the Prairies, and B.C. vs. 54% for Quebec).

Atlantic residents were slightly less likely to agree that 'dropping off household products to recycling depots or facilities takes too much time and effort' (13% vs. 17-19% for others). Ontario and B.C. residents were more likely to express agreement with 'I always consider the impact of a product on the environment when deciding whether or not to buy it' (31-32% vs. 25-28% for the Atlantic and Quebec vs. 23% for the Prairies). Prairie and B.C. residents tended to be less in agreement with 'I am very interested in learning all I can about how to safely dispose of household products so they don't harm the environment' (64% each vs. 72-74%).

Education and Awareness

Quebecers were the most likely to say they would go to government departments/city hall to obtain information about the safe disposal of household waste (42% vs. 29-31% for Ontario and the Prairies vs. 23-26% for B.C. and the Atlantic). They were the least likely to identify the recycling depot (4% vs. 14-18% for the Atlantic, Ontario and the Prairies vs. 29% for B.C.) and the Internet/on-line sources (13% vs. 15-17% for the Atlantic, Ontario and B.C. vs. 21% for the Prairies). Participants from the Atlantic and Ontario were more apt to say they would go to disposal authorities/waste management for information (15-16% vs. 3-7% among all others).

Residents of Quebec, Ontario, and B.C. were more likely to think municipal government should provide information about the safe disposal of household waste (27-31% vs. 17% -21% for the Atlantic and the Prairies). Meanwhile, Atlantic residents were the most apt to say provincial government (24% vs. 18-20% for Quebec, Ontario and the Prairies vs. 14% for B.C.). All respondents were similarly likely to identify the federal government (25-31%). Respondents from B.C. and the Prairies were slightly more likely to say all three levels of government (26-29% vs. 20-24% among all others).

Atlantic residents were the most likely, and Prairie residents the least likely, to view as important the need for regulations to inform consumers about the safe disposal of products (87% vs. 80-83% for Ontario, Quebec and B.C. vs. 77% for the Prairies).

Age

For the purpose of this analysis, respondents were divided into the following age groups

- ❑ 18-30 years of age
- ❑ 31-45 years of age
- ❑ 46-60 years of age
- ❑ Over 60 years of age

In general, the youngest cohort (labelled 'youth') was the least likely to exhibit pro-environmental behaviour, attitudes and knowledge. As well, the oldest cohort ('seniors') tended to be the most pro-environmental in their orientations.

Context Issues

The youngest cohort consider themselves to the least knowledgeable, while the oldest cohort believe themselves to the most knowledgeable about the safe disposal of household products (64% vs. 77-78% among 31-60 year olds vs. 84% among those over 60 years of age).

Recycling and Patterns of Disposal

Youth (18-30 years old) were slightly less likely to say their household currently participates in a recycling program (79% vs. 85-86% among all others). They were also the least likely to say they drop off products for recycling (47% vs. 57% among those aged 31-45 and over 60 vs. 69% among 46-60 year olds). Finally, youth (18-30 years) were less apt to say they dispose of products in other ways (26% vs. 31-34% for all others).

In general, youth are more likely to dispose of unused products by putting them in the regular garbage. As well, the oldest cohort is generally the least likely to rely on regular trash. Findings include:

- ❑ Cosmetic products: 89% vs. 31-45 years (80%) vs. 46-60 years (76%) vs. 68% among seniors
- ❑ Natural health products: 73% vs. 31-45 years (61%) vs. 46-48% for all others
- ❑ Household cleaners: 56% vs. 31-45 years (51%) vs. 38-41% for all others
- ❑ Things like contact lenses, thermometers, or pregnancy kits: 81% vs. 31-45 years (68%) vs. 40-46% for all others
- ❑ Personal care products: 68% vs. 31-45 years (58%) vs. 49-51% for all others
- ❑ Paint: 21% vs. 14-17% of those between 31-60 years vs. 7% for those over 60
- ❑ Unused or expired non-prescription drugs: 76% vs. 31-45 years (54%) vs. 46-60 years (43%) vs. 27% of seniors

- Unused or expired prescription drugs: 64% vs. 31-45 years (43%) vs. 46-60 years (35%) vs. 17% of seniors.

The two exceptions relate to the disposal of coffee grinds and other kitchen scraps, where the middle-aged cohort (i.e. 31-45 years) was marginally more likely to say they dispose of them in the garbage (67% vs. 69% of youth vs. 51-58% for others) and leftover meat, where those between 18-60 years were similarly likely to put it in the garbage (75-78% vs. 67% among seniors).

Furthermore, youth were the least likely to say they brought back to the pharmacy leftover natural health products (4% vs. 9-11% for others), unused/expired non-prescription drugs (9% vs. 19% of those 31-45 years vs. 28% of those 46-60 years vs. 38% of seniors), and unused/expired prescription drugs (18% vs. 26% of those 31-45 vs. 37% of those 46-60 years vs. 47% of seniors). Once again, the oldest cohort is the most likely to do this.

Seniors were more likely to dispose of leftover products in the toilet/sink: personal care products (17% vs. 10-12% for all others), unused/expired prescription drugs (27% vs. 20% of those 31-60 years vs. 8% of youth), and unused/expired non-prescription drugs (27% vs. 18-22% of those 31-60 years vs. 8% of youth).

Seniors were also more likely to recycle cosmetic products (15% vs. 8-9% for others), to take unused paint to a depot/disposal site (46% vs. 35-38% of those 31-60 years olds vs. 24% of youth) and to compost coffee grinds other kitchen scraps as (33% vs. 22-26% for all others).

Consumer Shopping

Seniors were the most apt to say they regularly read labels on cosmetic products (62% vs. 55% of those 46-60 years vs. 49% of all others) and personal care products (56% vs. 37-44% of all others). Moreover, the older two cohorts were similarly likely to say they regularly read the labels on household cleaners before purchasing them (57-58% vs. 45-47 of all others).

Respondents between 18-30 and 46-40 years were more likely to say they regularly read the labels of things like contact lenses, thermometers, or pregnancy test kits (58-63% vs. 50% of those 31-45 years vs. 42% of seniors). Youth tend to look for instructions for use/directions on product labels: 37% vs. 31-45 years (33%) vs. 28-29% among all others. The tendency to look for information on how to dispose of products increases with age: 47% of youth vs. 55% of those 31-45 years vs. 59% of those 46-60 years vs. 68% of seniors.

Knowledge and Awareness

Seniors are the least likely to say they feel unsure about how to dispose of waste in their household (46% vs. 53-59% if all others).

Youth were the most apt to say they dispose of products they are unsure about by putting it in the garbage: 63% vs. 31-45 years (53%) vs. 38-42% of all others.

Seniors are less likely to believe the following need special disposal: genetically modified foods (32% vs. 39-40% of all others), things like contact lenses, thermometers, or pregnancy kits (59% vs. 71-77% of all others), personal care products (39% vs. 44-49% of all others), and household cleaners (80% vs. 92-93% of all others).

Respondents between 31-60 years were somewhat more apt to say cosmetic products (53-58% vs. 46-48% of others) and products with food additives (38-41% vs. 33-34% of others) require special disposal.

There were essentially no other age differences.

Related Attitudes

In terms of attitudinal issues, youth were the least in agreement with each of the following statements:

- ❑ I always consider the impact of a product on the environment when deciding whether or not to buy it: 19% vs. 31-45 years (25%) vs. 33-35% of all others.
- ❑ I am very interested in learning all I can about how to safely dispose of household products so that they don't harm the environment: 61% vs. 70-73% of all others.
- ❑ If I knew what was required to safely dispose of household products once I've finished using them, I would make sure I do this all the time even if it's inconvenient: 56% vs. 31-45% (63%) vs. 71% among the oldest two cohorts.

Seniors expressed the highest levels of agreement with the following:

- ❑ Taking my unused or expired medication to the pharmacy for disposal would be inconvenient: 27% vs. 17-22% of all others.
- ❑ I think I get enough information about the safe disposal of household products: 36% vs. 28% of those 46-60 years vs. 17% of the youngest two cohorts.
- ❑ Dropping off household products to recycling depots or facilities takes too much time and effort: 22% vs. 17-19% of those 18-45 years vs. 14% of those 46-60 years old.

Respondents between 46-60 years were more likely to think that consumer products that are available for sale in Canada are generally safe for the environment (21% vs. 13-15% among all others).

Education and Awareness

Youth were the least apt to say they would go to government departments (23% vs. 33-35% of all others) for information about recycling and the safe disposal of household waste. Meanwhile, the oldest cohort was the least likely to identify the Internet or other on-line sources (5% vs. 16% of those 46-60 years vs. 21-22% among the younger two cohorts).

Youth were the most likely to think the provincial government should provide information about the safe disposal of household waste (28% vs. 18-21% of those 46 and over vs. 14% of those aged 31-45 years).

Youth were also less likely to view as important the need for regulations to inform consumers about the safe disposal of products (75% vs. 81-85% of all others).

Multivariate Analyses: Results Summary

Multivariate analyses were undertaken to explore relationships between variables that reflect different aspects of waste disposal behavior, label reading behavior, perceptions as to whether certain products need special disposal, and environmentally-oriented motivations and attitudes. On each of these sets of variables, we conducted factor analysis. We also analyzed the way these factors relate to demographic characteristics. As well, a cluster analysis was undertaken to group people according to their behaviour, knowledge and attitudes. We then looked at how the clusters relate to the demographic characteristics.

Information about the methods used for these analyses and the detailed findings are presented in a technical note appended under separate cover. In this summary note, we present only the main results of the analyses. A brief summary is provided, followed by a more fulsome review of the results.

Summary

Broadly speaking, we find that people tend to make fairly clear distinctions in behavior in disposing of different types of products. Certainly, prescription and non-prescription drugs stand apart in most of the results. Food tends to be a distinct product area, as do other types of personal care products.

Label reading behavior tends to be one-dimensional. People who read labels on one type of product tend to read them on others as well.

Perceptions that certain products need special disposal fall into distinct factors, where food and personal care products tend to be linked, and chemical products and drugs tend to be linked. These perceptions probably have quite a bit to do with pedestrian perceptions of the potency of different types of compounds. These ordinary perceptions make some sense, but, of course, could be objectively questioned in the case of certain personal care products.

The series of questions probing environmental engagement and activity in relation to product disposal showed surprising complexity in light of the limited number of questions asked. In any event, we see that such variables tend to cluster in terms of use of or willingness to make use of information, willingness to accept inconvenience in disposing of products, and level of perceived security of product disposal connected to a sense of whether or not more information is needed on product disposal.

Cluster analysis shows that one can view these phenomena in terms of three types of people:

- Those who rely on ordinary garbage disposal of products and have few other concerns or engagements with related issues.
- Those who are actively engaged in using existing information and using alternatives to ordinary garbage disposal.
- Those who are less active but who have some doubts about the environmental safety of consumer products and prefer more information.

Underlying all this are some demographic differences. Age tells one of the more interesting stories in that it would appear that older people are generally more actively engaged in product disposal behavior and information than younger people. Is this due to life cycle phenomena having to do with stages of home ownership or family development? This could be the case, but it could also be the case that environmental issues are linked more to the experiences and interests of a particular generation or generations that like to think they are more socially activist in nature. Nevertheless, the data suggests that younger people are highly likely to prefer more information about product disposal issues. They also have some doubts about the environmental safety of consumer products. However, for whatever reasons, they are not yet actively engaging in these issues to the same extent as older people.

Education is a less important factor, but it does have some interesting effects. We saw some results in which highly educated people were less likely to be actively engaged with product disposal and the environment. We also saw situations in which there were non-linear effects and people at opposite ends of the educational spectrum had similar views or orientations. Some of this may be confounded by age and education correlations.

Women generally indicated higher levels of engagement with product disposal behavior and issues. This probably has to do with the dominant role that women play in home goods and personal care products purchase decisions.

In general, the presence or absence of children in the home does not have much of an impact on attitudes or behaviour. Generally, the modest results that we get suggest that people living with children are a bit more pressed for time and, partially for this reason, are less likely to be actively engaged in alternative disposal methods. Alternatively, they do have concerns about the environmental-friendliness of consumer products, and express a need for more information. In addition, they have a willingness to endure some future inconvenience for the purposes of environmentally responsible behavior. So, they tend to have good intentions, but are not currently as actively engaged in product disposal behavior as others. However, it is important to restate that these are small effects.

More generally, these results do point to the possibility that the actions and orientations of interest in this study are not strongly linked to life cycle differences. However, many more layers of alternative explanation would have to be peeled away before one could make this statement with great confidence.

Finally, region does play a role. People in the West are more likely to accept the inconveniences involved with certain kinds of product disposal. People east of Ontario tend to be more likely to be involved in conventional garbage disposal. However, people east of Ontario are more likely to express the view that certain products need special disposal. Furthermore, people in Quebec are highly likely to express the view that more information is needed about product disposal and that there is reason to be concerned with the environmental safety of consumer products.

All of this takes place against a backdrop of variation in local services pertaining to product disposal, and, as indicated, variation in life cycle and generational influences.

Waste Disposal Behavior

The questions used in this analysis involved respondents' disposal patterns with respect to a range of household products. The factor analysis resulted in three fairly strong factors explaining 51% of the variation in the original set of variables:

- One factor concerned non-food and non-drug related waste disposal. This reveals that disposal behavior on just about everything, except food, prescription and non-prescription drugs, is correlated.
- A second factor shows that disposal procedures for prescription and non-prescription drugs are correlated.
- The third factor shows that disposal behaviors for meat and other foods are linked.

Interestingly, natural health products load moderately well on both the first and second factors. So, they seem to occupy a place midway between personal care/personal enhancement products and prescription/non-prescription drugs.

When we look at how these factors relate to demographic characteristics such as region:

- ❑ People in the Atlantic region are far more likely than others to dispose of non-food /non-drug items in the regular garbage.
- ❑ Region does not significantly impact on the prescription/non-prescription drug factor.
- ❑ Region does have a significant impact on the food and meat factor, with Quebec residents more likely than others to dispose of such waste in their regular garbage.

Moving on to education, we find that:

- ❑ Education does not have a significant impact on the non-food/non-drug factor.
- ❑ Education has a near significant effect on the prescription/non-prescription drug factor, with more highly educated people more likely to dispose of such products in the garbage.
- ❑ Education has a significant effect on the food and meat factor. Again, more educated people are more likely to use regular garbage to dispose of such products.

Age has a significant effect on all three factors:

- ❑ The 18 to 30 age group is more likely to use garbage as a means of disposing of non-food, non-drug items.
- ❑ The same is true for the prescription/non-prescription drug factor.
- ❑ The 31 to 45 age group is more likely to dispose of food and meat products in regular garbage.

Gender does not have a significant impact on the first two factors, but it has a near significant effect on the food and meat factor. Specifically, men are a bit more likely than women to use regular garbage for food and meat disposal.

With respect to whether or not there were any children living in the home (17 years of age or younger), there is a near significant difference on the first factor and a clearly significant difference on the second (there is no significant difference on the third). Specifically,

- ❑ People living with children are a bit more likely than those without to dispose of non-food, non-drug products through the regular garbage.
- ❑ People living with children are clearly more likely to dispose of prescription and non-prescription drugs through the regular garbage.

Label Reading Behavior

The next set of questions pertains to label reading behaviour. Only one factor was extracted, which explained 48% of the variation in the set of items. Basically, this tells us that people who read labels for one type of product tend to read labels on other types of products.

Looking at this against demographic characteristics, we find that:

- ❑ Region does not have a significant effect on label reading.
- ❑ Gender does have a significant effect, with women being more likely to read labels than men.
- ❑ Education does have a significant effect, but not a straightforward one. People at the extremes of educational attainment are most likely to read labels. This may result from the correlation of education and age.
- ❑ Age has a significant effect, with older people more likely than younger ones to read labels.
- ❑ There is no significant difference between those living with children and those without respecting propensity to read labels.

Perception of Special Disposal Needs

Another battery of questions dealt with perceptions as to whether or not certain types of products require special disposal. The factor analysis produced two strong factors explaining 48% of the variation in the original variables. The first and strongest factor shows that perceptions of special disposal needs for food, food additives and food enhancements tend to correlate with perceptions of disposal needs respecting a wide variety of personal care products. The second factor shows that perceptions of the needs for special disposal of prescription and non-prescription drugs tend to be related to perceptions of need for special disposal of chemical products, such as household cleaners and paints.

Looking at these two factors in relation to demographic characteristics, we find that:

- ❑ Region has an effect on the food and personal enhancements factor, with people from the Atlantic region and Quebec being more likely to believe that such products require special disposal.
- ❑ The drug and chemicals factor does not have significant variation by region.

Gender has a significant impact on both factors, with women being more likely than men to indicate that all types of products need special disposal.

Age has a significant impact on both factors. Specifically:

- Youth (18 to 30) are the least likely to think that food and personal enhancement products need special disposal, while the 40 to 60 age group is the most likely to think this.
- The same applies to the drugs and chemicals disposal factor. Youth (18 to 30) are the least likely to think these products need special disposal, while the 40 to 60 age group is most likely to think special disposal is required.

Education has a significant impact on the food and personal enhancements factor, while the chemical and drug factor is not affected by education. People with the most education are less likely to think that special disposal is required for food and personal enhancements products, while people with lower levels of education are generally more likely to think that special disposal is required.

Those living with or without children do not differ significantly on either of the factors.

Environmental Engagement and Motivation

A series of questions were used to probe the environmental engagement and motivation of people with respect to consumption, disposal and information issues. We obtained a three-factor solution that explains 61% of variation in the variables.

- A person scoring high on the first factor would have a high commitment to obtaining and using information on the relationship between product disposal and the environment.
- Those scoring high on the second factor would not think it inconvenient to take various actions involved in recycling or disposing of products.
- People scoring high on the third factor are not secure with current levels of information about and security of the disposal of consumer products.

Respecting the influence of demographic characteristics, we find that age has a small but significant impact on each factor:

- People over 45 are more likely to be committed to the active use of environmental information on product disposal and to want more such information for additional behavioral engagement.
- People over 30 are more likely to say they would accept some degree of inconvenience for the purposes of proper disposal of products.
- People 45 and under are more likely to think that there are problems with the safety of consumer products and to see a need for more information.

As can be seen, there is an interesting disconnect between perceptions of product safety and the need for information and actual commitment to using the information or being willing to accept some inconvenience in product disposal. It may be possible that younger people have doubts about environment and

product disposal safety but desire more information to serve as a basis for action. Older people may feel they already have enough information to act and that problems, while they exist, are within reasonable bounds.

Education does not have a significant impact on the first factor, but it does have impacts on the other two factors:

- People at the very lowest end of the educational spectrum are less likely to accept inconvenience to dispose of products.
- With perceived lack of safety and the need for more information, we again find that people at the low end of the educational spectrum are not likely to have concerns. This is contrasted with people at the very high end of the educational spectrum who do say that there are disposal safety concerns and that more information would be useful.

Gender only has an impact on the first factor. Women are more likely than men to say they make or would make use of information on the disposal of products and the environment.

Region does not affect the first factor but has significant influences on the other two factors:

- People in Alberta and B.C. indicate they are more likely to accept inconvenience in disposing of products. Note that this complements findings pertaining to other factors. In earlier factors people east of Ontario were more likely to dispose of items through regular garbage. Here, we see the West has a higher commitment to accepting some inconvenience and disposing of products in other ways.
- People in Quebec are more likely than others to score high on the factor reflecting concern with product safety and need for more information. Note that this also aligns with an earlier finding that Quebecers were among those most likely to say that some products require special disposal.

There were significant differences between those living with children and those without on the first and third factors, and nearly conventional significance on the second factor:

- Those living with children are less likely to have a commitment to active use of environmental information on products.
- Those living with children are a bit more likely than those without to have a commitment to accept inconvenience in pursuing environmental behavior.
- Those living with children are more likely to say that consumer products are not environmentally safe and to desire more information.

In general, even the significant effects noted with respect to this set of factors are not large in magnitude.

Cluster Formation

We took all the factors except the single labeling factor, and used them as the basis for cluster analysis. Three clusters were identified:

- Conventional Garbage Users with Few Special Concerns or Motives (29% of survey population): These people have the highest use of conventional garbage disposal as exhibited in two of the garbage disposal factors. They have the second highest scores on food and meat disposal through garbage. They have very low scores on most of the factors respecting environmental concern and engagement and special concerns with disposal problems.
- Actively Concerned with Special Disposal Issues and New Information (30% of survey population): These people have very low scores on all factors pertaining to disposal of products through regular garbage. They have very high scores on active use or willingness to use environmental information on products and to endure inconvenience in disposing of products. On the other hand, they are not the highest on the factor expressing insecurity about the safety of consumer product disposal and a desire for more knowledge. They are informed and active rather than simply anxious and uninformed. On the other hand, they have high scores on factors reflecting the view that special disposal is required for certain products. Apparently, they think the information is available and action should be taken.
- Insecure with Selective Concerns and Behaviours (41% of survey population): These people have a rather mixed profile. They have very low garbage disposal usage except for food and meat, where they have the highest likelihood of disposing of such products through garbage. They have moderate levels of willingness to cope with inconvenience, and they have very high levels of concern with consumer product safety and a desire for more information to be used. They are highly likely to think that special disposal is needed for drugs and chemicals, but not for other types of products.

In terms of the differentiation of these clusters by demographic characteristics:

- Starting with gender's significant impact on cluster classification, we find that women are more likely than men to be in cluster 3, although both groups are well represented in that largest cluster. Women dominate cluster 2 and men dominate cluster 1.
- Region has a significant impact with those from Ontario, Quebec and Atlantic Canada likely to be in cluster 1. Atlantic Canadians are most likely to be in cluster 2, while Quebecers are least likely to be there. Cluster 3 is

- a reversal of cluster 2. Atlantic Canadians are least likely to be in that cluster and Quebec residents are most likely to be there.
- We continue to see significant age effects. Youth (18 to 30) are the most likely to be in cluster 1. Cluster 2 is dominated by the over 45 group, particularly the over 60 part of that group. There is not a huge age differential for cluster 3, but the 31 to 45 age range is most likely to be represented there.
 - Education tends not to be significant.
 - With respect to whether or not there were any children living in the home, there is no significant relationship. In fact, it is remarkable how similarly those with and without children were distributed across the clusters.

In terms of linking the labeling reading factor to these clusters, cluster 1, the conventional garbage users, have a low propensity to read labels. Cluster 2, actively concerned and engaged people, has the highest propensity for reading labels. Cluster 3 has an intermediate average level on this factor.

Since there seems to be some kind of variation in demand for and confidence in knowledge that differentiates the clusters, we analyzed how the clusters differ on the variable that involved self-reported knowledge of household product disposal. The effect is a significant one, and the pattern of response clearly shows what would be expected. The cluster 2, or actively concerned and engaged, people are most likely to report high levels of knowledge. The cluster 3 people, who have some concerns but also want more knowledge, show the next highest concentration of high reported knowledge. The Cluster 1 people, who basically just put things in regular garbage and have few concerns or desires in this area, show the lowest level of reported knowledge.