



Pharmaceutical Annual Report

January 2008 to December 2008

Submitted to: The Director of Waste Management
Environmental Quality Branch
Ministry of Environment
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1. Executive Summary

Collection across the province has increased from 23,384 kg in 2007 to 35,704 kg in 2008. While media coverage on the issues of drug abuse, accidental poisoning and the incidence of drugs in the water have raised the level of awareness; guidance and proper disposal options for medications through regional districts or municipalities seemed to have gained momentum as well. PCPSA has reached several targets and strategies to promote and educate the public on a safe, efficient and secure drug disposal.

- **Collection Points:** In 2008, PCPSA were able to increase pharmacy participation rates from 93.3% to 95% with accessibility and convenient access to over 942 community pharmacies. Consumer convenience, attractive and accessible pharmacies are fundamental components to our program. Easy to find links for pharmacists and the public on the British Columbia Pharmacy Association's website, guidance on how to dispose of unused or expired medications on the Recycling Council of British Columbia's website as well as our own (PCPSA), and similar search tools on numerous Regional Districts or Municipalities' websites have contributed to the program successes.
- **Public Awareness:** The B.C. Pharmacy Association is a leader with their focus during the Pharmacy Awareness Week on our program to their members and to the public. The Capital Regional District Regional Source Control Program was also promoting the *Medications Return Program* with their campaign on a drug-free marine environment in March 2008. A program that collects and disposes of unused or expired medications is gaining support as people wrestle with how best to dispose of various type of waste.
- **Promotion:** British Columbia had increased media coverage on safe disposal for waste medications. This was in part a reaction to the ban of stewardship products from the regular waste stream in Metro Vancouver and to the interest with environmental issues such as climate change and waste reduction. There were several talk shows featuring safe disposal of medications and health awareness events promoting the *Medications Return Program*. Information on the *Medications Return Program* was published with Annual Recycling Calendars; with brochures, flyers and posters being circulated across the province.

This program continues to focus on unused and expired medications from households and continue to offer multiple solutions to reflect local/regional differences. Permanent collection programs provide ongoing, year-round drop-off services for consumers.

Once approved, this report will be available on the medications return website at www.medicationsreturn.ca

2. Program Outline

Purpose:

The Post-Consumer Pharmaceuticals Stewardship Association (PCPSA) is the Industry Funding Organization (IFO) created to manage safe disposal of unused or expired medications returned from the public. PCPSA is formed under the Society Act (BC) and registered nationally as a not for profit association. The association's role is to act as a steward for environmental waste management programs of pharmaceutical and consumer health products from the public. This program provides the pharmaceutical and consumer health products industries with a collective means of adhering to the requirements of the British Columbia *Recycling Regulation*.

Governance Structure:

Brand-owner: (i) a person who manufactures a pharmaceutical product and sells, offers for sale or distributes a pharmaceutical product in British Columbia under its own brand, or;
(ii) a person who is not the manufacturer of a pharmaceutical product but is the owner or licensee of a trademark under which the pharmaceutical product is sold or distributed in British Columbia, whether or not they own the Drug Identification Number.

Board of Directors: The affairs of the Association are managed by a board of directors (maximum of twelve (12)). The board of directors shall be comprised of at least one (1) representative from each of the sectors. All nominees for the board of directors shall declare with which sector he or she is affiliated. No one member and its affiliates may have more than one (1) representative on the board of directors.

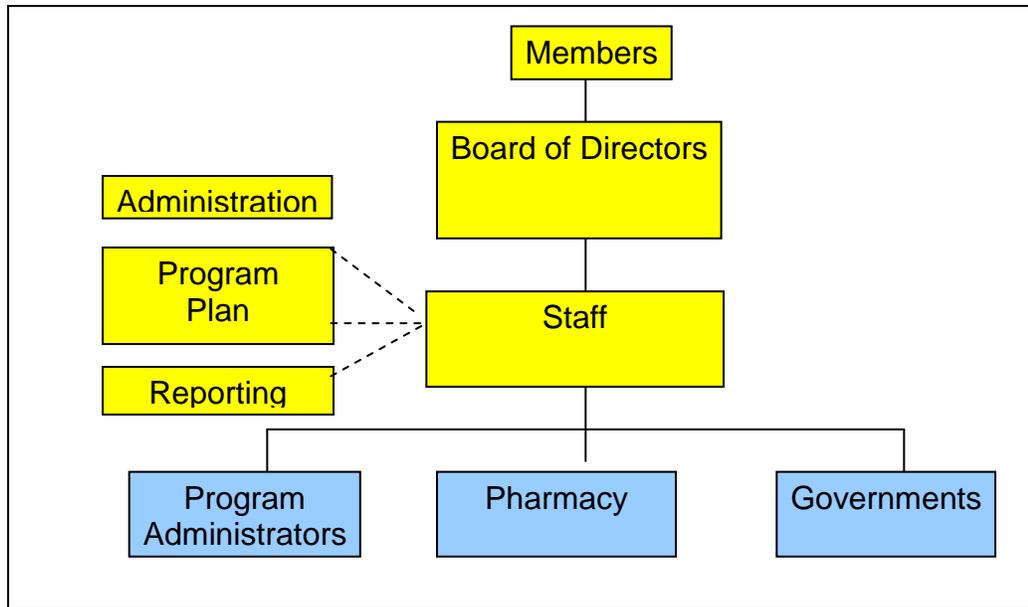
Members: Brand-owner of pharmaceuticals and consumer health products industries are members of the association.

Pharmacy: Community pharmacies registered with PCPSA to collect unused and expired medications from the public.

Program Administrator: The business contracted to manage the *Medications Return Program* in British Columbia.

Program Plan: The Pharmaceutical Stewardship Plan approved by the Ministry.

Staff: Individuals employed by the association.



Product Category:

The pharmaceutical product category consists of all unused or expired drugs, as defined in the Food and Drugs Act (Health Canada),

- ✓ including prescription and nonprescription drugs,
- ✓ Including ingested natural health products (NHP) as defined in the *Natural Health Products Regulation* (Health Canada),
- ✓ excluding disinfectants, sanitizers with disinfectant claims,
- ✓ excluding veterinary products,
- ✓ excluding topical or skin care products,
- ✓ excluding foods, and
- ✓ limited to household quantities.

Collection System:

The collection sites for the *Medications Return Program* are community pharmacies. Pharmacies offer a logical and convenient system for the public to return unused or expired medications. They offer easy access to those with special needs and varying degrees of personal mobility. Many of these pharmacies are open extended hours, offering a convenient place for consumer disposal year-round. Pharmacist participation is voluntary. We work with the B.C. Pharmacy Association and the B.C. College of Pharmacists to advertise and promote the program to their members.

The pharmacy is responsible for the safekeeping of the *Medications Return Program* container and its contents while on their premises. The containers must be handled and stored properly to ensure that they are not subject to spilling, loss or theft. Once the container is full, the pharmacist contacts the Program Administrator who arranges for pick up and replacement of containers within 7 days.

All containers returned from a pharmacy are tracked by pickup date, weight, location and stored in a secure location until a shipment ready for safe destruction through a licensed destruction facility.

Environmental Assessment:

Expired medications do not represent a serious threat to public health. Medications returned under this program do not meet the criteria for hazardous material. Persistence, bio-accumulation and toxicity are universally recognized criteria for protection of the environment from adverse chemical contamination. Substances are assessed under the Canadian Environmental Protection Act and Regulations. Environment Canada and Health Canada websites will provide recent information at:

<http://www.ec.gc.ca/substances/ese/eng/dsl/dslprog.cfm>, and
<http://www.hc-sc.gc.ca/dhp-mps/index-eng.php>

Fee Structure:

PCPSA's members, brand-owners of pharmaceuticals and consumer health products, are contributing for their sector share based on a sample of collected returns conducted in 2006. We will review our rates once we have completed a waste study scheduled for the fall of 2009. PCPSA continues to invoice brand-owners of affected products once a year. Their contributions is based on prescriptions dispensed (brand-name and generic) and/or percentage of sales of affected consumer health products. Rates are set yearly by the Board of Directors in relation to projected costs. The *Medications Return Program* is fully funded by the industry Appendix 1.

There are no fees to the public for returning medications to participating pharmacies. In addition, individual pharmacies can sign up voluntarily (no fees charged) to be a collection and storage point for the program.

3. Educational Materials and Strategies

- ❖ *to ensure citizens of British Columbia are informed of the Program and are provided with current information regarding the availability of a system for the collection of unused and expired medications.*

Publicity:

In 2008, the British Columbia Pharmacy Association and the Capital Regional District (CRD) organized similar media campaigns on the importance of returning unused medications to the pharmacy.

During the Pharmacist Awareness Week (March 2008) the BCPhA organized a media campaign across B.C. on the theme of Responsible Medications Return. Regional photo opportunities and information on the *Medications Return Program* ran in thirty local community newspapers with

detailed information from pharmacists on the program as well as remarkable coverage in the local news, talk shows and television. (Appendix 2a)

The CRD Medications Return Campaign was developed in cooperation with local industry representatives and a number of committed organizations. The campaign ran in March to coincide with the Pharmacist Awareness Week. Posters and flyers were displayed on city buses, billboards, newspapers and in households within the Capital Regional District boundaries (Appendix 2b).

Information booth was set up at the Vancouver Landfill Open House (June) and during the Columbia Shuswap Regional District solid waste management project. Magnets (500) along with our posters, brochures and flyers were distributed.

The B.C. Ministry of Environment produced a brochure promoting EPR programs available across B.C. These were available to the public whenever information on the B.C. Medications Return Program was displayed (Appendix 2c).

PCPSA has contracted with the Recycling Council of British Columbia's "recycling hotline" service to provide information on medications disposal. The RCBC Hotline is open during normal business hours, accessible to the public by a toll free telephone number (1-800-667-4321). The RCBC Recycling Hotline is a comprehensive, toll-free personal service that provides information on waste reduction, recycling, disposal and pollution prevention throughout the entire province. Approximately 120 calls regarding medication disposal are received annually, representing less than 1% of their total calls.

PCPSA continued to use an e-bulletin to communicate with participating community pharmacy managers and staff. Program information and provincial initiatives on the *Medications Return Program* were circulated in the spring and fall (Appendix 2d).

In January, a ban on unused medications from curbside garbage and recycling bins came into effect for residents of Metro Vancouver; consequently, several articles and announcement were made to alert the public on these new restrictions covering material that are regulated by the *Recycling Regulation*.

Print Media:

PCPSA was able to secure space for the *Medications Return Program* in the annual calendar published by Metro Vancouver and Richmond (1.3 millions households).

Articles on our program were also published in newspapers such as the Time Colonist (Victoria), Metro Vancouver and Chatelaine (Appendix 2e).

Website:

The website is used more frequently, 64.86 % increase in comparison to 2007 for information on waste medications and safe disposal. Within the site is a searchable database of pharmacy and explanation of products accepted by the program. As we continue to build our membership base, we have contacted regional districts for their assistance in advertising the *Medications Return Program* by providing a link to our website. Eighteen (18) regional districts and two municipalities are currently offering this link.

Brochures/Posters:

In addition to our posters and brochures that can quickly be supplied to participating pharmacies, we have a new flyer available for events. The brochure provides directions on what is accepted and not accepted; how to return unused or expired medications and where to go in an easy to follow fashion. Posters and flyers help develop and promote awareness of the *Medications Return Program*

Twelve (12) public display locations requested flyers/posters for their information areas. Metro Vancouver was the most active with workshops on stewardship programs for surrounding municipalities (26).

Ambassador Program:

During the summer of 2008, PCPSA continued to take advantage of the Ambassador program through British Columbia Used Oil Management Association. Their team met with and built relationships with important stakeholders in the program including numerous civic and regional district officials. They discussed how British Columbia communities could safely dispose of household hazardous materials and expired medications with government officials, as well as promoting our programs at community events and media interviews. Eighty-three (83) B.C. municipalities were visited over the 13-week program including communities on Vancouver Island, the Rockies, the East Kootenays, Northern B.C. and the Lower Mainland.

4. Collection System Information

The collection sites for the *Medications Return Program* are community pharmacies. Community pharmacies currently participating in the program can be easily located by the public on the association's website at www.medicationsreturn.ca or by phoning RCBC hotline services.

At the end of the year, we had 942 registered pharmacies representing 95% of licensed community pharmacies in B.C (Appendix 3a). This represents a net change of 29 collection sites from 2007; 39 new locations, 20 closures and over 187 changes in ownership or pharmacy managers.

Since the participation of pharmacists is central to the success of this program, we track the rotation of managers or relocation of stores within the province. All recently opened pharmacies and pharmacies with a change in address and/or manager are contacted and receive information on the program in a timely fashion (Appendix 3b)

PCPSA purchased monthly pharmacies listing from the B.C. College of Pharmacists to track changes (quarterly) and works with BCPhA, the professional association for the pharmacists and pharmacy profession on promoting the program.

To accommodate safe disposal practices, PCPSA has agreed to provide take-back containers for unused or expired medications from the public to sites with special needs, such as a community hospital located in a remote area as well as 2 retirement/care facilities and one clinic.

2008 Planned Target Set in Approved Stewardship Plan	2008 Report on the Planned Target	
Collection Points: Target until 2011:	Maintain a pharmacy program participation rate of 90%.	
Performance measure: Report percentage of participating pharmacies yearly.	95%	
2008 planned strategies: 1. Contact new licensed community pharmacies from amended list purchased from the B.C. College of Pharmacists on a monthly basis. 2. Contact existing pharmacies with ownership and/or manager changes on a quarterly basis. 3. Contact pharmacies with a significant change in collection pattern.	Opening, closures and managers changes provided with Appendix 3b Completed as planned Completed as required	

5. Life Cycle Management

The Canadian Council of Ministers of the Environment in their Extended Producer Responsibility Product Evaluation Tool proposed several criteria to measure the impact of pharmaceutical waste on human and environment health.

Does the product or its components or by-products contain toxics or other substances that are hazardous to human health or to the environment?

Researchers have found some classes of drugs in the Canadian environment, primarily in surface water. However, the potential effects are considered to be very low.

Are the anticipated duration effects on human health or the environment likely to be significant?

The anticipated duration of the effects could be considered medium-term. There is scientific evidence that the risk to human is very low, however there are concerns about the effects of those low levels on aquatic life, therefore research on the chronic toxicity potential of pharmaceuticals in the environment is important, but outside the scope of responsibilities of the *Medications Return Program*.

Is this product a significant component to municipal waste stream?

Pharmaceuticals products are not significant by volume or weight to the waste stream.

Some stakeholders believe that the current state of the science does not warrant collection. It is questioned whether take backs have any real environmental and safety benefit. Take-back programs for pharmaceutical products have a limited impact on the environment, research data demonstrate that most drugs (80%) entering waterways are derived through normal use and excretion.

Pollution Prevention Hierarchy:

The pollution prevention hierarchy requirements outlined in the *Recycling Regulation* to reduce the environmental impact are not feasible for pharmaceutical products; consequently PCPSA disposes of the waste at government approved facilities.

6. Recovery Rate

While PCPSA agrees that recovery rate provides some means to measure program success; we are clearly very limited in reporting the recovery rate and any efforts taken to normalize the recovery rate due to the nature of the product. Medications may have a long period between purchase and return and prescriptions drugs dispensed should be fully consumed unless otherwise directed by a health professional. The PCPSA *Medications Return Program* collects medications; not the container used to market the product or vial used to dispense and identify the prescription. We recommend that containers be recycled.

We are currently recording collection in kilograms by Regional Districts. The absolute collection per capita by Regional Districts appears in Appendix 4, Table 1; while Table 2 is the absolute collection of medication in kilogram (mass recovered) on a quarterly basis. The average rate of returns per capita for the province is 0.008 kg. The highest return was from the Capital Regional District at .012 and Mount Waddington at .013. The lowest rate is with Columbia-Shuswap at 0.0014.

7. Fee Information

- (i) No fee collected or charges for this product

8. Performance Targets

2008 Planned Target Set in Approved Stewardship Plan	2008 Report on the Planned Target
Waste composition Study Target from 2007 to 2011:	Decrease the presence of pharmaceuticals in RD's that conduct waste composition studies.
Performance measure: Report amounts of pharmaceuticals estimated in statistically significant RD's waste composition studies	For the Regional Districts that conduct waste composition studies, the waste composition studies should be statistically significant to establish the presence of pharmaceuticals within the HHW category, as more is collected through the MRP significantly less should appear in waste collection. No reports were received in 2008.
2008 Planned Strategies	
Review information collected from composition study to investigate the benefits of participating in a composition study with selected regional districts	RCBC is to investigating with the BCPSC and will come back to stewardship agencies with a plan for sharing costs.
Amendments to the plan's performance target/goal:	Follow up with RCBC and other Stewardship Agencies.

2008 Planned Target Set in Approved Stewardship Plan	2008 Report on the Planned Target
Public Awareness Target from 2007 to 2011:	50% increase in public awareness of the program compared to 2007 awareness. Baseline program awareness level at 31% SD ± 4.3%.
Performance measure: Percentage of public awareness of the program	Based on the 2007 survey results, the targets of 35% and 39% have been set for 2008 and 2009 and the corresponding strategies to meet these targets are:
2008 planned strategies: Increase publicity in another 2 RD annual calendar and continue to support special events (4).	Report of 2008 strategies: 1. Promotion of program by advertising in two RD's recycling calendars; 18 RD's and 2 municipalities have a link to the Medications Return's website.
Support Regional Districts/Municipalities initiatives with promoting safe disposal of medications.	<p>Annual Calendar: two years in a row with: City of Richmond (2009 calendar) Vancouver Recycling (insert flyers)</p> <p>Brochures and posters circulated to: Corporation of Delta (200) MoE, Environment Protection Division (900) Regional District of Buckley-Nechako Northern Rockies Regional District Peace River Regional District Regional District of Fraser-Fort George Cowichan Valley Regional District North Okanagan Capital Regional District Columbia Shuswap Regional District community (6 events) Falkland Sorrento Celista Salmon Arm Revelstoke Golden Sicamous Genome Canada for their B.C. stores (27)</p> <p>New link to our website and/or information on program on these regional districts or municipalities' websites Buckley-Nechako Columbia Shuswap, Municipality of Golden Fraser Valley Kitimat-Stikine Mount Waddington Nanaimo</p>

	<p>North Okanagan Peace River</p> <p>Local Newspapers: Friday, October 17, 2008 Drug Roundup Times Colonist (Victoria) Return unused drugs to pharmacy Chatelaine magazine, April Medicine Chest 101, Cleanup. Readership, 895,000.</p> <p>Information booth was set up at the Vancouver Landfill Open House (June).</p> <p>2. Extensive publicity generated for the Pharmacist Awareness Week (PAW), makes it difficult to estimate the exposure with television, radio, community newspapers and the BC Government Day events. Press releases from the B.C. Pharmacy Association. Local media events held in 35 communities on safe disposal of medications. Vancouver Sun, eight page advertorial for PAW, placed in the March 3 issue, readership 481,900. An insert on the <i>Medications Return Program</i> was distributed to BCPhA members with the Association newsletter, the TABLET (April/May2008) reaching 2000 pharmacists, 700 pharmacies and 16 pharmaceutical companies.</p> <p>Radio/Television A-Channel - Health Minister promotes Medications Return Program (March 5) CBC Health Minister urged consumers to take old meds back (March 4) National News (Radio Canada) July 2008</p> <p>3. The Capital Regional District (CRD) is the regional government for the 13 municipalities that are located on the southern tip of Vancouver Island. The CRD Medications Return Campaign ran in March to coincide with the Pharmacist Awareness Week. Posters and flyers were displayed on city buses, billboards, newspapers and in households within the Capital Regional District boundaries, exposure estimated 366,516.</p>
Use the BC Used Oil Ambassador Program to promote safe disposal for medications to municipal representatives and at community	4. PCPSA collaborated once again with British Columbia Used Oil Management Association for a province-wide communications campaign. Two ambassadors toured the province promoting three Extended Producers Programs

events.	(used oil, medications and paint) through distribution of material to municipal officials during meetings as well as to the public at community events. As a result, PCPSA was able to make contact with 83 municipalities and left over 6000 brochures in those locations.
Amendments to the plan's performance target/goal:	None at this time. The strategies in place for 2009 should provide us with the expected outcome.

2008 Planned Target Set in Approved Stewardship Plan	2008 Report on the Planned Target
Quantity Collected performance target 2007-2011	Maintain a minimum quantity collected of 14,000 kg.
Performance measure	
Report total quantity collected on a yearly basis with quarterly results by regional districts	Total collection for 2008 was 35,704 kg Regional district distribution Appendix 4 Table 1 and 2,
2008 planned strategies:	Report of 2008 strategies:
Continue to work with members and participating pharmacies to organize special collection events and promotion	The weight for the year is up 53%, very significant increase due in part to media coverage on take-back or extended producer programs in the news. This was in part a reaction to the ban of stewardship products from the regular waste stream in Metro Vancouver and to the interest with environmental issues such as climate change and waste reduction.
Amendments to the plan's performance target/goal:	None at this time. The strategies in place for 2009 should provide us with the expected outcome.
Confirming next year's strategies	2009 strategies will target Regional districts with lower returns.
Year 3 and 4	Continue to work with members and community pharmacies with special collection events and retailer publicity.
Year 5	To be developed based on public survey results in year 4.

2008 Planned Target Set in Approved Stewardship Plan	2008 Report on the Planned Target
Promotion performance target 2007-2011	Publicity on the MRP in 14 regional districts or municipalities' websites with recycling sections. Indication of program in 13 recycling calendars.
Performance measure:	
Increase in awareness of program to dispose of medications.	Contact regional districts and municipalities with information for the website/recycling directory/annual calendar on the <i>Medications Return Program</i> .

2008 planned strategies	Report of 2008 strategies:
<p>Follow up on advertising on RD/municipalities websites and annual calendars and contact another 5 municipalities.</p> <p>Contact 10 municipalities and 28 RD's to advertise the program in the garbage and municipal calendars.</p>	<p>Contact regional districts with promotional material and key messages for their websites. Follow up with e-mail</p> <ol style="list-style-type: none"> 1. Found 21 websites with information on <i>Medications Return Program</i>. Abbotsford, Buckley-Nechako, Capital, Central Kootanay, Columbia Shuswap, Comox-Strackcona, Cowichan Valley, Fraser-Fort George, Fraser Valley, Kitamat-Stikine, Mission, Nanaimo, Kitimat-Stikine, Chilliwack, North Okanagan, Okanagan-Similkameen, Peace River, Mount Waddington and the Municipality of Golden, MoE, RCBC as well as the North Shore Recycling Program. 2. Contact 12 regional districts with key messages for their websites and annual recycling calendars.
Develop contact list for RD's	2. RCBC will provide Stewards with a list of Municipal Waste Coordinators for RD's.
Website information	As anticipated the traffic on our website was up (39.3%) and the numbers of e-mails and calls received for information continues to grow. The website was updated to reflect new information as it became available. Appendix 4 Table 3
Amendments to the plan's performance target/goal:	None at this time. The strategies in place for 2009 should provide us with the expected outcome.
Confirming next year's strategies	Follow up on advertising on RD/municipalities websites and annual calendars and contact another 5 municipalities.
Year 3	Follow up on advertising on RD/municipalities websites and annual calendars.
Year 4	Evaluate the outcome of our promotional program through a public survey.
Year 5	TBD

9. Disposal

There are several options for disposing drugs collected through this program. Waste incinerators are the optimum method currently available for disposal.

In 2008, PCPSA used a thermal process (Pyrolytic Desorption Depolymerization) to safely and efficiently achieve the same accepted levels of thermal destruction provided by traditional incineration systems while significantly reducing the landfill burden from non-hazardous materials and providing for the recovery of oil.

9. Conclusion

As drug abusers often obtain medications from the home of friends or family members, it is extremely important to address the safe and proper disposal of unused medication. PCPSA is committed to working other stakeholders to offer a safe and effective drug disposal that will help to reduce the risk of drug abuse and environmental pollution in our communities.

APPENDICIES