RESOURCES FOR PHARMACY OPERATORS

Introduction
This series of “Resources for Pharmacy Operators” is presented by NAPRA to assist pharmacists in ensuring that their community and institutional practice environments support the National Model Standards of Practice.

Each chapter identifies a collection of currently available or developing tools and resources, and in some cases outlines pharmacists’ success with their use.

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Facilities, Equipment, Supplies, Workflow & Facility Re-design

Introduction
This Resource chapter identifies requirements for facilities, equipment and supplies mandated for pharmacies through provincial regulation across Canada. Discussion of technology to support cognitive services is found in the units “Care Plans” and “Documentation”. Although regulatory requirements do not specifically refer to space and equipment to support different types of packaging such as blister packaging, if new packaging equipment is being used, Operational Guideline 6.1.2 and construction standards requiring adequate space, are applicable.

This unit also introduces tools and resources to assist in assessing and re-designing your practice site to create innovative environments that improve workflow, communication, patient care and use of personnel.

Standards of Practice
This chapter supports in general Standard #6 of NAPRA’s “Model Standards of Practice for Canadian Pharmacists”.

“The pharmacist applies knowledge, principles and skills of management as they pertain to the site of pharmacy practice, with the goal of optimizing patient care and inter-professional relations.”

Facilities
Premises
The premises should be accessible to the public and by telephone and have space for a patient counseling area.

Appearance
The pharmacist should ensure that the external and internal appearance of the pharmacy inspires confidence in pharmacy services that can be provided. Signage associated with the operation of a pharmacy must not cause confusion to the public.

Construction Standards
Every pharmacy shall be constructed so that:

- it contains a prescription laboratory in which drugs are stored and prescriptions compounded or dispensed, located in a well-defined area having a floor area adequate for the efficient operation of the pharmacy (the minimum requirement varies from province to province);

- it is free from every condition that may be dangerous to health, injuriously affect its efficient operation or injuriously affect the drugs prepared, compounded, dispensed or stored therein;

- a separate room, compartment, locker or cupboard is provided for keeping the wearing apparel of employees;

- floors are of sound construction and floor coverings may be readily cleaned in rooms where drugs are prepared, compounded, dispensed or stored, where equipment is washed or where washing and toilet fixtures are located;
• the walls and ceilings of rooms, passageways are well lighted and ventilated;

• suitable areas are provided for the storage and controlled sale of drugs by the pharmacist;

• the parts of the pharmacy in which prescriptions are compounded and dispensed for the public or drugs are stored or sold by retail shall be so constructed that they may be locked and made not accessible to the public in the absence of a pharmacist.

Dispensary
This area should be accessible only to authorized personnel and contain no products inappropriate to the practice of pharmacy.
The pharmacist should ensure that:

• Drugs and non-prescription medications for external use are stored separately from internal and injectable drugs and non-prescription medications;

• Appropriate storage areas are designated for the storage of flammable and hazardous products;

• Expired and unusable drugs and non-prescription medications are removed from current inventory and stored in designated areas awaiting proper disposal;

• Pharmacy transport of drugs and non-prescription medications has appropriate conditions of sanitation, light, humidity, ventilation, temperature, security.

Equipment and Supplies
Pharmacies must be provided with:

• A supply of hot and cold running water adequate for efficient operation of the pharmacy;

• Facilities for washing utensils used in the preparation, service or storage of drugs;

• Separate hand-washing facilities available for employees and located in a convenient location in the pharmacy;

• A system for filing prescriptions;

• A means for mechanically producing labels;

• A prescription counter adequate for the efficient operation of the prescription laboratory with not less than 1.12 square metres of free working space;

• A refrigerator for the exclusive storage of drugs requiring refrigeration;

• Sufficient containers for storing refuse in a sanitary manner;
• A quantity of the following dispensing equipment sufficient for the efficient operation of the pharmacy: metric weights, metric graduates, mortars and pestles, spatulas, funnels, stirring rods and ointment pads;

• A prescription balance, either torsion or electronic;

• A prescription numbering device;

• A quantity of consumable material sufficient for the efficient operation of the pharmacy, including bottles and caps, plastic vials with caps (some of each being light resistant), ointment jars with caps, dropper bottles, child resistant packages and distilled or de-ionized water;

• Only a potable water supply shall be used in any room where drugs are prepared compounded, dispensed or stored;

• All drugs shall be stored in a pharmacy on or in shelves, drawers or fixtures provided for that purpose.

Pharmacies must maintain:

• Furniture, equipment and appliances used in the interior of the pharmacy so that cleaning of all areas is possible;

• All furniture, equipment and appliances in a clean and sanitary and orderly condition;

• All rooms in the pharmacy, whether used for storage, compounding or dispensing of drugs or not in a clean and sanitary and orderly condition;

• The painting and decorating of the interior and exterior of the pharmacy in good condition.

Every room where drugs are prepared, compounded, dispensed or stored in a pharmacy shall be kept free from materials and equipment not regularly used in that room.

Refrigerators for the storage of drugs in the pharmacy must be maintained at a temperature between 1.3 and 10 degrees Celsius, be kept in a clean and sanitary condition and be located in an area not accessible to the public.

All refuse and waste materials in pharmacy must be removed from the premises at least twice weekly and more often if necessary to maintain a sanitary condition. Full refuse containers shall be removed from any room in which drugs are prepared, compounded, dispensed or stored.

Every pharmacy in which sterile products are compounded shall be provided with the following equipment and supplies:

• A grade A (Class 100) horizontal or vertical laminar airflow hood which is certified at least once annually;
• A limited access, well-lighted preparation area with a washable counter, walls and floor;
• A sink with hot and cold running water in close proximity to the compounding area;
• A refrigerator of adequate size to store compounded products;
• Clean, low particle-generating coats or gowns with elastic cuffs;
• Head and facial coverings;
• Clean, non-powdered gloves;
• A supply of antimicrobial scrub or soap;
• A supply of 70% isopropyl alcohol solution;
• Adequate storage space for materials.

Quality Improvement Program
Pharmacy services, processes, equipment and supplies should be assessed routinely to ensure that quality is maintained and enhanced. A quality improvement program should encompass the purchase, preparation and distribution of pharmaceuticals and should include but not be limited to:

1. Adequate documentation of the processes and evaluation criteria used and the outcomes measured;
2. Microbiological environmental monitoring of surface, air, and environment, where appropriate;
3. Routine validation of staff, facility equipment and product; and
4. Facility designs and processes that meet Good Manufacturing Practices (GMP) of Health Canada, where appropriate.

An organized quality improvement program is the definition, measurement, evaluation, maintenance and improvement of the quality of services rendered. The processes involved include:

1. Defining quality (standards and criteria);
2. Assessing performance (audits);
3. Determining compliance to standards;
4. Taking corrective action when required;
5. Reassessing performance;
6. Redefining quality.
Workflow and Facility Re-design
Powerful tools to assist in assessing your practice facilities and embark on re-design and renovations are available from several sources.

Design recommendations

- Define your objectives for the renovation, base the design on patients’ needs and employ a designer.

- Designs should enhance the visibility and availability of the pharmacist and promote interaction between pharmacist and patient for both non-prescription and prescription drugs.

- Keep the dispensary at floor level to place the patient and pharmacy on an equal level - physically and psychologically.

- Consider placing the dispensary near the front and centre of the pharmacy. One design award-winner stated that customers shouldn’t have to walk all the way to the back.

- Provide convenient access for seniors and parents carrying small children.

- Return to a “neighbourhood drug store” look - a look that blends comfortable surroundings with the professional service aspects - softer colours, wood grain fixtures, imaginative interior signage.

- Project a professional health care environment in which customer feels at home.

- Semi-private and private counseling areas.

- Play area for children.

- Seminar and waiting area which might include blood pressure monitoring, patient resource area with VCRs for health-related videos for waiting patients.

- Clear view of staff and patients around store.

- No cash register at the prescription counter.

- Private room for blood sugar and BP testing and support garment fitting.

- Position pharmacists in the forefront so they are accessible to patients and free from technical activities of the dispensary.

- Facilitate the provision of pharmaceutical care by creating a clinical space that functions separately but works effectively with dispensary.

- Pharmacists should spend as little time as possible in the dispensary - focus on patient care activities in the consultation areas.
• Make the dispensary visible to waiting patients.
• Colours and environment designed to promote calm and quiet.
• One design incorporated a quarter circle pharmacy taking up one corner of the store.
• Low dispensary walls to give open feeling.
• Separate area for prescription compounding - visible to public - generates interest.
• Work islands rather than linear counter for dispensing.
• Fixtures are low to provide better sight lines and emphasize store signage.

**Layout Recommendations**
The older “linear” pharmacy is not productive: a typical linear layout along the side wall or rear wall, with prescriptions in at one end of a long counter and prescriptions out at the other approximates an assembly line.

More contemporary designs emulate a kitchen concept with work islands in the middle of the dispensary, which is located behind the pharmacist- patient interaction area. Workflow may be circular around the island or transferred from front to back. The refrigerator is located in the middle to decrease the steps involved. For compounding areas, make sure that all supplies are within reach.

At the patient interaction area, prescriptions are dropped off and counseling/dialogue provided. The work area behind the customer interaction area is where dispensing occurs. Computer terminals are located in the customer interaction area to facilitate access to patient profiles. The distribution process should be separated from the cognitive process.

Locate the cash register away from the prescription pick up area to minimize interruptions to the pharmacist while counseling patients.

**Private Counseling Areas**
An effective way to assess whether your practice offers the necessary degree of privacy to your patients is to ask yourself if you would feel comfortable discussing your own personal health issues in your practice; would you feel your privacy was adequately respected and protected?

Regardless of the time and energy and resources invested in private counseling areas, these areas become useless if the pharmacist has inadequate communication skills. Although not the subject of this toolkit, pharmacists who need to improve these skills can avail themselves of a variety of courses and programs offered in each province.

Private counseling areas range from private rooms to semi-private counseling booths/areas. There is controversy over the necessity and effectiveness of private rooms over semi-private counseling areas. Use of semi-private/open consultation booths addresses the concerns that patients may have about
being summoned into walled rooms that may seem inconvenient and create embarrassment at being singled out.

One leading edge practitioner suggested offering “a ‘private’ area which is not private. A separate room is not necessary and may intimidate some patients; a barrier that separates both visually and for sound is necessary”. Another commented that “separate rooms do not usually work; physical barriers/partitions better meet the need for privacy and convenience. It is our experience that customers do not like a confined area, but prefer a semi-private counseling area. One learns to talk quietly.”

Other practitioners support the need for a private room, but disagree on visibility: “The ideal would be a relatively soundproofed separate room with lots of clear glass so that other customers could see that a private consultation was taking place.” Another view was summarized as “Patients seem to prefer a separate room without windows (i.e. physician examining rooms don’t have windows). To some, this may raise the risk of patient harassment charges - but the pharmacy can be structured in such a way as to offer privacy without the inherent risks associated with ‘seclusion’.”

General suggestions for private counseling areas include:

- All counseling areas should have acoustic privacy. A number of options exist for providing privacy:
  - Counseling booths at a 45-degree angle to the dispensary with sound panels or opaque glass.
  - Semi-private areas attached to the dispensary on one end for stand-up interaction, with chairs and table for private interaction at the other end of the dispensary.
  - Semi-private booth adjacent to the prescription pick-up area.
  - Office spaces can double as private counseling areas.
  - Semi-private counseling area may be an extension of the reception counter - separated by walls that reach the ceiling giving the area a distinct sense of privacy.
  - Ensure ready access to reference library and patient profile.
  - Chairs and a table provide space for counseling tools and a seated session may reassure the patient that the pharmacist has made time to counsel them.
  - Often family members are with the patients, so the area must accommodate them as well.
  - The choice depends on the dynamics of each individual store.

**Resources**

“Physical Barriers to the Practice of Pharmaceutical Care in the Retail Setting”
Fortner et al evaluated seven pharmacy designs from across Canada, working with students from the Canadian Association of Pharmacy Students and Interns and the College of Pharmacy and Nutrition, University of Saskatchewan. The report provides sample floor plans with discussions of strengths and weaknesses of each. It also describes 14 identified physical barriers to pharmaceutical care, including:

- Elevated dispensary: prevents a relationship of trust to develop because it places the patient and pharmacist on unequal footing;
- Location of cash register: patients remain concerned about cost and don’t hear what’s being said until after they’ve paid - separate payment from counseling area;
- Lack of space;
- Location of dispensary within the store: travelling to the back of a large store for patients in a hurry is a barrier;
- Lack of privacy: patients prefer privacy -- can use counseling booth, an alcove in the counter or simply a desk in a location where there is a reasonable amount of privacy - Ideally the pharmacist has access to the patient’s profile while speaking with the patient;
- Height of shelves: decreased accessibility of pharmacist who can’t be seen. Also the pharmacist should be able to see easily throughout the store - lower shelves create a more open and inviting atmosphere;
- Height of the counter in front of the dispensary: if the patient and pharmacist can’t make eye contact, the patient won’t ask questions. The pharmacist should be able to see patients and offer assistance;
- Location of the computer: need access to patient profile at prescription drop-off, pick-up and counseling area;
- Aisle width: must not prevent people from reaching dispensary (e.g. wheelchairs, baby carriages, walkers);
- Need for comfortable waiting area: provision of patient-focused care may increase time it takes and thus may increase waiting time;
- Pharmacists appearance: white jacket vs. more casual - no consensus; determine according to clientele;
- Parking availability: need access to the pharmacy and time to wait to receive pharmaceutical care;
- Atmosphere: warm and inviting to allow for patients to open up and develop relationship of trust;
- Wheelchair accessibility: correct door width, minimal floor obstacles and accessible washrooms.
The Report, complete with blueprints, is available from the Saskatchewan Pharmaceutical Association.

Other Information Sources

US experiment with two-tier dispensary
Pharmacy Practice describes an experimental two-level dispensary designed to minimize interruptions during dispensing process. The double-decker design is intended to allow one pharmacist and several technicians to fill prescriptions in distraction free area while another pharmacist provides patient counseling on the busier lower level.

Optimal Dispensary Function
Janke (1997) provides advice on analyzing pharmacy systems to optimize dispensary functioning for the provision of Pharmaceutical Care.

Bibliography

1. Alberta Pharmaceutical Association, Standards of Practice, 1996
2. Drugs and Pharmacies Regulation Act, 1996, Ontario
5. Setting the Pace. CPhA/Apotex PACE Innovative Practice Award 1998; (1) 1
13. Fortner K. Physical Barriers to the Practice of Pharmaceutical Care in the Retail Setting. CAPSI; College of Pharmacy, University of Saskatchewan.


Professional Services Area

Introduction
Pharmacy standards define the requirement for a professional services area that is distinct from the rest of the pharmacy, to ensure that a pharmacist is always available to discuss self-selection of medications with patients. Patients should have the impression that pharmacists must be involved in the selection of drugs. To this end, drugs must be located near the dispensary, with sundries located further away. Provincial legislation varies on the actual distance requirements from the dispensary.

Pharmacists can meet this standard through several mechanisms described in this unit.

Reviewers emphasized that attitudes are at least as important, if not more important, than the physical delineation of a professional services area. All dispensary personnel must display a professional attitude and look for opportunities to assist patients.

Standards of Practice
This Resource chapter supports in general Standard #6 of NAPRA’s “Model Standards of Practice for Canadian Pharmacists”. (Note: This is no longer the most current Model of Standards. Therefore, some information may no longer be up-to-date.)

“The pharmacist manages drug distribution by performing, supervising or reviewing the functions of selection, preparation, distribution and storage of drugs to ensure the safety, accuracy and quality of supplied products.”

Leading Edge Practitioner Suggestions
General suggestions for the professional services area from “leading edge” pharmacists include:

- Ensure that the professional services area is clearly visible!
- The area is defined more by the personality, availability and professionalism of staff pharmacist than by any physical arrangement of space.
- It should be well organized, neat and not cluttered with signs.
- Select products carefully; “it is not necessary to carry every brand”.
- Avoid “mass merchandising, dump bins, sales” in the professional services area.
- Keep stands and displays to a minimum to reduce clutter and enhance professional appearance.
- Reduce noise from overhead speakers, canned music, etc.
- Lower lights (note that some practitioners expressed concern about seniors’ ability to read labels and information in low-light settings).

Practitioners and graduating pharmacy students also described success with “roaming pharmacists” assigned to the professionals services area, specifically to assist patients in drug selection. Taylor et al (1995) demonstrated that proactive pharmacist intervention in drug selection results in more questions asked by patients and more influence by pharmacists on choice of medications.

More information on resources for redesign and renovation is available in the Unit on Facilities, Equipment, Supplies; Workflow and Re-design.

Saskatchewan Pharmaceutical Association’s – “Professional Services Area”

The Saskatchewan Pharmaceutical Association developed a guideline document to assist pharmacists to identify several methods for delineating the Professional Services Area including:
• Use of drug caution codes;
• Variation in Décor - wall graphics, colour change in walls;
• Variation in Flooring - carpet vs. tile different floor colour, contrasting border, raising or lowering floor height;
• Variation in the ceiling - stippled vs. tile, higher or lower;
• Lowered canopy or valance/false front;
• Variation in Fixtures - shelving units of different height, contrasting colour, facing a different direction;
• Use of lighting which creates difference;
• Use of additional signage;
• Suitable physical barrier.

Sample floor plans are included in this concise two-page document prepared March 1986.

**Bibliography**

1. “Professional Services Area” SPhA, 1986

The Effect of a Front-shop Pharmacist on NPM Consultations
Michael Stevenson, Pharmacy Student and
Jeff Taylor1, MSc, Assistant Professor

Introduction
Pharmacists are in an ideal situation to assist consumers in selecting non-prescription medications (NPMs/OTCs). In spite of this, authors have expressed concern over the frequency of consumer-pharmacist interaction during the selection of such products, stating that pharmacists should do more for consumers in this area [1-3]. It is assumed that “more” means people should receive assistance more frequently during product selection.

How will (or should) this increase come about? Achieving an increase will necessitate that either pharmacists make more offers or, consumers ask more frequently for assistance. At present consumers generally ask for NPM-related advice. [4-6] Consumer-initiated interaction may continue to be the sensible approach in that it would be practical for pharmacists to offer help to every consumer considering a product. It is also unlikely that consumers want or need advice during every purchase. If this is to be the model, then consumers who desire information and wish to discuss their concerns with a pharmacist must feel at ease to do so.

This unfortunately may not be the case. [7] While reports indicate that many consumers want more information than they currently receive, some also hesitate to ask for it. Several factors are likely important in determining whether consumers will seek out pharmacists for advice. [8-9] Alternatively, the barriers that inhibit this process have also been discussed. [10-12] One such barrier is the prescription counter, a fixture considered a hindrance to the counseling process. The extent to which it is a hindrance has never been described, especially for consumers considering the purchase of a NPM.

Several authors have considered putting a pharmacist in front of the prescription counter. [6,13-15] This in some respects removes the prescription counter from the interactive process. Any change in the rate of interaction as a result of such a step may be a measure of the degree to which interaction is normally impeded. The pharmacists of Kennebocasis Drugs in New Brunswick (Canada), for example, found that 67 percent of the people given advice by a front-shop pharmacist would have self-selected had that pharmacist not been in the aisle at the time of their purchase.

Based on the anecdotal interest shown for the idea of a front-shop pharmacist and questions over whether consumers may hesitate to ask for advice, the following study was carried out.

Methods
Consumers in a single pharmacy were observed as they considered the purchase of select NPMs. Observations were carried out from 4:00 to 6:59 p.m., seven days a week, for four straight weeks (October 31 to November 27, 1993). Staff pharmacists were told that a study to determine how many consumers ask for advice on NPMs was in progress.

During the first week, a pharmacy student discreetly observed the rate of interaction normally occurring between consumers and pharmacists. This observer was dressed in street clothes and appeared to be another shopper, except that he carried a clipboard. As consumers considered the purchase of a product, interaction with any pharmacy personnel was noted using methods previously described. [5] When the selection process ended, consumers were categorized as those who did not receive advice (self-selectors) and those who did (advice-receivers). For the latter group, the source of the advice was recorded as was the initiator of the encounter. Information provided on product location, price, or availability was not considered “advice”.
During the second week, an additional pharmacist (front-shop pharmacist, FSP) was stationed directly in front of the prescription counter in close proximity to the products under study. This pharmacist wore a white coat, a nametag, carried a clipboard, and had never worked at the study site. Regular pharmacist shifts in the dispensary did not change during this period. As consumers entered the NPM area, the FSP would browse past the person under the guise of facing products or ordering stock, yet trying not to appear too busy. Attempts were made to establish eye contact with as many consumers as possible. However, the pharmacist would only say “Hello” if eye contact was established; no offer of assistance was made. If called upon to answer a question pertaining to one of the NPMs in the study area, it was answered. Dispensary pharmacists were free to offer assistance to consumers or respond to questions, if that was usual behavior. The FSP recorded data for this part of the study, not the student observer.

During week three, the student observer again determined the baseline interactive rate, under the same conditions as week one.

For the final week, the FSP was again stationed in front of the prescription counter. The same methodology as week two was followed, with one change - an offer of assistance was issued to consumers (as often as possible) as they considered the selection of a product. This occurred as “Hello, I am a pharmacist. Can I help you?” The offer was not directed to people casually walking by, but to those who stopped in front of the NPMs under study and appeared to consider a product.

The pharmacy selected for this study was located in a strip mall on one of the city’s busiest streets. It carried health and beauty aids, post office services, and food products. Between 100 and 150 prescriptions were filled per day. Excluding storage space, the building covered approximately 850 m². Pharmacists were on duty from 8:00 a.m. to midnight - one on the early shift and one on the evening shift. Except on weekends, a pharmacy technician was on duty when observations were being made.

Products shelved directly in front of the prescription counter and down one aisle were considered within the scope of the study; cough and cold products, products for allergic rhinitis, oral analgesics, muscle relaxants, vitamins and minerals, hemorrhoidal preps, diet aids, enteral nutrition products, external analgesics, sleep aids and stimulants.²

**Results**

Over the 28 days of operation, 577 consumers were observed (43 percent male; 57 percent female). The number of people observed for the consecutive weekly periods were 118, 166, 139 and 154. These consumers purchased (or considered) 701 study-related products. Each episode with a product was called a transaction.

Table 1 depicts the number of transactions that occurred during each week, as well as the percentage involving advice. The percentages are based on the total number of transactions (n=701) observed rather than the total number of consumers (n=577).
Table 1. Rate of consumer-pharmacist interaction

<table>
<thead>
<tr>
<th>Week</th>
<th>Total number of transactions</th>
<th>Dispensary pharmacist</th>
<th>Technicians and clerks</th>
<th>Front-shop pharmacist</th>
<th>Total</th>
<th>Events with advice (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>148</td>
<td>18</td>
<td>03</td>
<td>N/A</td>
<td>21</td>
<td>14.2%</td>
</tr>
<tr>
<td>2</td>
<td>202</td>
<td>05</td>
<td>00</td>
<td>33</td>
<td>38</td>
<td>18.8%</td>
</tr>
<tr>
<td>3</td>
<td>169</td>
<td>15</td>
<td>02</td>
<td>N/A</td>
<td>17</td>
<td>10.1%</td>
</tr>
<tr>
<td>4</td>
<td>182</td>
<td>02</td>
<td>00</td>
<td>57</td>
<td>59</td>
<td>32.4%</td>
</tr>
</tbody>
</table>

Although the presence of the FSP led to an increase in the rate of interaction, the change (4.6 percent) from week one (14.2 percent) to week two (18.8 percent) was not significant. The rate of interaction for week four (32.4 percent), however, was significantly greater than that of weeks one and three. The extent consumers received advice during week two was also significantly greater than that of week three.

Over the entire four-week period, 21.6 percent (n=87) of transactions involving women occurred with advice while 16.1 percent (n=48) of male-associated transactions involved advice.

During weeks two and four, the FSP handled the majority of study-related questions and in addition, 69 product-and-service-related questions considered outside the scope of the study. While clerks and technicians only gave advice in five situations, they also assisted in finding products for several consumers (considered self-selection).

During week four, an effort was made to offer assistance to all consumers considering study-related product selections. Over this time, 154 consumers were observed, with 67 offers of assistance made by the FSP. Thirty-four people approached the FSP before assistance could be offered. No interaction took place with 53 of the 154 consumers; these consumers selected a product and quickly left.

Not everyone offered help accepted it. Subsequent to the 67 offers, the following took place: 26 rejected the offer of assistance; 7 rejected the offer initially but later asked for advice; 9 accepted assistance for product location only; 8 accepted assistance for product location and later asked for advice; and 17 accepted the offer and received advice.

Table 2 describes the type of products selected (or considered) by the consumers. This study took place during the early part of winter; therefore, it was not surprising that the main type of product purchased were those for colds.
Table 2. Number of products per category (n=701)

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cough/cold</td>
<td>275</td>
</tr>
<tr>
<td>Analgesics</td>
<td>165</td>
</tr>
<tr>
<td>Vitamins</td>
<td>126</td>
</tr>
<tr>
<td>No product</td>
<td>55</td>
</tr>
<tr>
<td>Single-entry antihistamines</td>
<td>26</td>
</tr>
<tr>
<td>Muscle relaxants</td>
<td>14</td>
</tr>
<tr>
<td>External analgesics</td>
<td>13</td>
</tr>
<tr>
<td>Sleep aids/stimulants</td>
<td>12</td>
</tr>
<tr>
<td>Diet aids/enterals</td>
<td>7</td>
</tr>
<tr>
<td>Hemorrhoidal products</td>
<td>6</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>2</td>
</tr>
</tbody>
</table>

Many consumers (n=55) did not purchase a product while in the pharmacy and could conceivably been excluded from the study. However, it was felt that a purchase was not a prerequisite for inclusion. These consumers appeared to consider a product in the same manner as those who eventually made a purchase. Their actions were therefore included in the results. People who appeared to be “browsing” while waiting for prescriptions were excluded.

**Discussion and Limitations**

Placing an extra pharmacist into the non-prescription product area of this pharmacy led to 4.6 to 8.7 percentage points (depending on baseline chosen) more consumer-pharmacist interaction. As this measure corresponded in some respects to the “removal” of the prescription counter from the interactive process, the range of increase seen may be indicative of the extent it acts as a barrier. It appears that for a small number of consumers, the path (from a physical point of view) to the regular dispensary pharmacists was not ideal. Logically, pharmacists may be more accessible to NPM consumers when not behind the counter.

While mentioned in a number of references on patient counseling, the extent a prescription counter might act as a hindrance to interaction between pharmacist and patient has never been documented. Morris et al did find patients that felt this fixture was not a problem, but also a group that said it would.[16] A British report found less public tendency for seeking information when pharmacists were restricted to the dispensary, regardless of whether the pharmacist was simply screened or actually closed off from public view.[17]

The prescription counter may be considered an impediment to interaction, but the presence of the FSP alone did not raise the rate of interaction by a tremendous amount. Another factor appears to be more important in increasing the rate of interaction. As a result of offering assistance, an increase of 18.2 to 22.3 percent occurred over baseline.

Since most consumers receive advice on NPMs through asking, those who do desire information and wish to discuss their concerns with a pharmacist must feel at ease to do so. Based on the over two-fold increase in interaction observed during week four, a degree of hesitation appears evident with the consumers of this study. Had the baseline rates equaled the rate for week four, it might be plausible to suggest that all those who want advice, do indeed ask for it. The act of offering may have signaled to the consumers that the pharmacist was indicating readiness to help with their concern(s).

While the prescription counter and consumer hesitation have been singled out for discussion, other possible explanations for the increase in interaction should be considered: 1) the FSP looked friendlier than the regular pharmacists; 2) there was more anonymity with an unknown pharmacist; 3) consumers felt it would be faster to ask the FSP for assistance than the regular pharmacists; 4) consumers were
more apt to consider a pharmacist as a reference source on seeing/hearing them talk to other NPM consumers; and 5) consumers accepted offers of advice to be polite.

Pharmacy selection for this study was critical. If one was chosen where very little NPM counseling took place, but with high traffic volume, the effect of the FSP could have been tremendous. Conversely, one where pharmacists were constantly assisting people may have yielded little effect. We carefully considered the selection of sites available, and chose one we felt was fairly common to the city. The limitations of such a decision must be considered when examining the results.

The presence of the student observer and FSP may have altered the behavior of pharmacy personnel and consumers visiting the pharmacy. The student observer minimized the effect on consumers by discreetly observing people from a distance. Regarding pharmacists, a concern existed at the start of the study that they might offer more assistance to improve the numbers. The behavior of the regular dispensary pharmacists did not appear to change, validated by the limited number of offers they initiated. It is felt that the FSP had little effect on regular pharmacists, except that they handled less NPM-related questions. Clerk involvement in helping consumers find products may have been significantly curtailed, however.

Recording of data during weeks two and four by the FSP is an important limitation. The potential existed to be busy with one consumer and lose eye contact with others also under observation. Limiting observation to only three hours per day was also a limitation.

A factor that may have affected the results was the season in which the study was completed. Consumers were observed in early winter, a peak period for cough and cold activity. People may behave differently with respect to seeking advice during other months of the year. Also, it has been shown that people ask for advice on different products at different rates [18-22] and therefore the product mix can influence the rate of interaction observed.

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2 NPMs within these categories kept behind the counter were considered part of the study. These included codeine-containing products (cough/cold, analgesics, skeletal muscle relaxants) ibuprofen, and two single-entity antihistamines.

3 Combination antihistamine-decongestant products could have been used by allergy sufferers as well as those complaining of cold symptoms. Out of convenience, these products were classified within the cough and cold category. Single entity antihistamines were categorized separately, however.
“Recycling” and Disposal of Dispensed Drugs

Introduction

Responsible environmental practices encompass the management of drugs as well as materials purchased, used and disposed such as plastics, paper and glass. The focus of this unit is on drug management; however, pharmacists are encouraged to implement effective environmental policies and procedures for all aspects of purchasing and waste management.

Tools and resources available to assist pharmacists in practicing in an environmentally responsible manner are found in the literature, in resources available from a number of provincial and regional pharmacy associations and from the pharmaceutical industry. These sources stress the importance of optimal drug utilization and of educating patients about the use of their medications in order to decrease the risk of drug misadventure and ultimately to prevent waste.

Recycling of drugs is generally illegal. In some provinces, drugs in sealed, unopened containers may be recycled if they have been returned from a controlled environment such as a long-term care facility. The environmental opportunity relates to reduction, re-use or recycling of the packaging, and appropriate disposal of the unused drugs.

More important than reducing the waste is identifying and addressing the underlying reason for it. Is the patient non-compliant and if so, why? Pharmacists are in an ideal position to assess and act on the individual patient’s reasons for returning medication and to assist in the safe disposal of unwanted drugs. Waste should be prevented wherever possible, through trial prescription programs, dispensing of smaller quantities, and education of patients, prescribers, government and the pharmaceutical industry on the cost of waste.

Although there appears to be little financial incentive for patients to return unused medication and packaging, or for pharmacists to dispose of these materials appropriately, pharmacists who are known to practice in an environmentally responsible manner are seen as community-minded, and may benefit from enhanced consumer loyalty.

Standards of Practice

Practice Unit #10 supports in general Standard #5 of NAPRA’s “Model Standards of Practice for Canadian Pharmacists”. (Note: This is no longer the most current Model of Standards. Therefore, some information may no longer be up-to-date.)

“The pharmacist manages drug distribution by performing, supervising or reviewing the functions of selection, preparation, distribution and storage of drugs to ensure the safety, accuracy, and quality of supplied products.”

Specifically, this unit supports Operational Sub-Component #5.2.2 and Operational Component #5.5 of the Standards.

Benefits of Responsible Environmental Practice

Reviewers noted that there is significant benefit to patients in appropriate recycling and disposal programs. In general, benefits include:

- Decreased medication is available for abuse and accidents
- Reduced potential for environmental damage
- Increased safety associated with improved syringe disposal
• Decreased costs to the system through decreased waste
• Prevention of inadvertent use of expired medication
• Prevention of adverse events which occur when patients take medications prescribed for someone else, or take medications that were discontinued previously
• Community appreciation for providing reliable, responsible disposal of medications in an organized and convenient way
• Self-satisfaction for pharmacists.

Issues and Concerns
Issues cited by graduating pharmacists and leading edge practitioners included:

• In some provinces, there is no consistent pick-up of items for disposal.
• Physician sampling practices result in significant packaging waste.
• Need for health care professionals and the pharmaceutical industry to work together to decrease this waste.
• Pharmacists want pharmaceutical companies to accept returned packaging and share in the costs of disposal. (One idea for this is an allowance for disposal based on percent of purchases from the manufacturer.)
• Need better public awareness. In spite of existing programs in some provinces, people still simply throw drugs in the garbage or flush them down the toilet.
• Cost is another concern; many of the costs for these programs are borne by pharmacists.

Pharmacists’ Role
The role for pharmacists in this area is significant. As one pharmacist stated, “if we sell it, we are responsible for collecting and disposing it as well”. Elements of the role for pharmacists include:

• Establishing a disposal process, possibly in conjunction with associations, manufacturers and other community pharmacists
• Establishing a program for the return and disposal of unused drugs which includes:
  o Encouraging patients to return their drugs to the pharmacy
  o Collecting expired, discontinued and unused drugs from patients
  o Tabulation and documentation of volume of waste and rationale/causes/sources for waste
• Using this information to support the need for waste reduction programs and attract or maintain sponsorship

Elements of Successful Programs
Successful drug disposal programs include the following elements:

• Convenience for customers
• Public awareness through advertising and promotion of the service
• Funding for waste disposal
• Organized collection centre
• Standard methods and facilities
Individual initiative
Continuing support from professional associations and their partners/sponsors

Existing programs and resources include province-wide disposal services, provincial and regional “Medication Cabinet Cleanup” campaigns, patient education materials and medication review tools.

Ongoing Disposal Programs

Alberta Pharmaceutical Association
The ENVIRx program encourages consumers to take unused medications back to Alberta pharmacies for environmentally safe disposal. Ultimately the unused drugs are transported to incinerators. The program provides posters, brochures, a pharmacist information guide and warning labels for waste containers. ENVIRx is aimed at managing post-consumer waste, not returns. The program is run through APhA with funding from the Alberta Government and Pharmaceutical Industry.

Saskatchewan Pharmaceutical Association
SPhA works with Biomed Recovery and Disposal, a company that collects and disposes pharmaceutical waste directly from community pharmacies. The program includes posters reminding consumers to return all outdated, expired and unwanted drugs and sharps.

British Columbia Pharmacy Association
Post-Consumer Pharmaceutical Stewardship Association works with British Columbia Pharmacy Association to offer the B.C. Medications Return Program (MRP) as a province-wide waste disposal program that encourages consumers to take unused medications back to pharmacies across the province. The pharmacists store the returned medications in a secure container until they are picked up and transported to a waste management facility for destruction. The program was launched in October 1996 and is fully paid by the pharmaceutical and consumer health products industries. The program supplies posters, brochures, flyers, a pharmacist information guide and labels for containers. MRP is aimed at managing post-consumer waste, not returns.

The College of Pharmacists of British Columbia
The College lists companies in BC that collect expired pharmaceuticals, chemicals, prescription drugs and household wastes.

Ontario, Manitoba and British Columbia
Browning Ferris Industries (BFI) offers a contract waste disposal system in Ontario, Manitoba and BC. The company takes returned medications and/or sterile preparation waste collected in pharmacies and incinerates them.

Regional Medicine Cabinet Clean up Campaigns

Windsor and Essex County
This region circulates a pamphlet for free safe disposal of used needles and medicine chest cleanup campaign.

Sudbury and District Pharmacists’ Association
The region offers a cleanup campaign, and has published data collected as part of the campaign. Extrapolated, the total cost of waste across Canada is estimated to be as high as $113,381,687. The data collected supports the effectiveness of these campaigns.
Ottawa Carleton Pharmacists’ Association  
This region offers a Medicine Clean Up Campaign that includes letters to patients, data collection sheet for medicine cabinet cleanup month and commitment to participate form.

Other Resources and Programs

Apotex’s “Time to talk”  
This program includes a “brown bag medication review form” to assist in identifying medications for return and disposal.

Canadian Feed the Children and Canadian Medicine Aid Program  
Unused drugs can be made available to third world countries through various programs including CANMAP. The World Health Organization has published guidelines for drug donations, which outline acceptable contributions in terms of shipping medications to third world countries. The guidelines are supported by four core principles:

1. A drug donation should benefit the recipient to the maximum extent possible.
2. A donation should be given with full respect for the wishes and authority of the recipient, and be supportive of existing government policies and administrative arrangements.
3. There should be no double standards in quality: if the quality of an item is unacceptable to the donor country, it is also unacceptable as a donation.
4. There should be effective communication between the donor and the recipient; donations should be sent on expressed need and should not be sent unannounced.

The World Health Organization guidelines also state that only drugs that have not been previously dispensed and with at least a year remaining in their expiration date are considered acceptable.

CSHP Guidelines for Responsible Environmental Practices  
Although this guideline document speaks to responsibilities of hospital pharmacists, it has application in the community setting since it provides guidelines for reduction in waste for all dosage forms, for general reduction in waste of administrative materials/paper, drug information systems, computer supplies and purchasing policies.

Other ideas

- Consider incorporating a question into your callback patient follow up to ask about unused or expired drugs and encourage patients to return these items to the pharmacy at their next visit.
- Consider including a “returned drugs bag” with new prescriptions.
- Purchase in bulk when possible.
- Work with manufacturers on the return of packaging for recycling.
- In provinces where trial prescription programs have been introduced, significant decrease in waste (and associated cost) has been demonstrated.

Bibliography

2. Goddard H. It’s not easy being green Can Pharm J 1991: May; 244

5. Guidelines for Responsible Environmental Practices for Hospital Pharmacy, Canadian Society of Hospital Pharmacists 1994.
**SPhA Professional Service Areas**

A Publication of the Saskatchewan Pharmaceutical Association

March 1986

*An Opportunity For Professionalism*

The Concept

The Professional Practice Committee of the Saskatchewan Pharmaceutical Association has been considering the issue of control over the distribution of non-prescription drugs. Council has accepted the Committee’s proposed Professional Services Area (PSA) concept and has adopted the accompanying Bylaw. The concept reflects SPhA’s contemporary pharmacy practice philosophy.

Major features of the PSA Bylaw are:

1. Definition of the PSA,
2. Inclusions within and exclusions from the area,
3. Delineation of the area from the remainder of the premises,
4. Enforcement.

The PSA Bylaw is mandatory for all new Pharmacies. Except for “Dispensing-Only Pharmacies”, the deadline for compliance by existing pharmacies is April 1, 1986. “Dispensing-Only Pharmacies” are exempted and are defined as “a Pharmacy wherein the practice of pharmacy is limited to dispensing prescriptions and providing associated professional services and products and which do not contain a conventional front store”.

**Objectives**

1. Demonstrate pharmacist control over the sale of non-prescription medicine in Pharmacies so that the profession may continue to justify exclusivity of sale,
2. Clearly define the specific area of the pharmacy in which the public will recognize the place where professional services are offered,
3. Provide pharmacists with a new and unique marketing tool in playing a leading role in supplying health services,
4. View the PSA as an excellent opportunity to enhance the contemporary role of a pharmacist as a concerned health care professional.

**The Definition**

The PSA means the area in each licensed pharmacy which includes the dispensary and all shelves, displays or fixtures bearing drugs and other items as permitted and which shelves, displays or fixtures are in an area in the vicinity of the dispensary so that they are under the audio and visual control of the pharmacist (Section 14.2.1.6 of the Bylaws).

**Inclusions and Exclusions**

All drugs restricted to sale in Pharmacies must be included in the PSA. Other health-related products, such as first aid supplies, surgical appliances and animal health supplies may be included. However, non-health related items, such as cards, gifts, tobacco products and cosmetics must be excluded from the
PSA. The PSA shall be under the personal attendance and supervision of a pharmacist unless an approved Lock and Leave Permit has been granted and is in operation.

Displays within the PSA must not contain any non PSA items; conversely, PSA products may not be merchandised outside the PSA.

**Delineation**

The PSA must be a well-defined single area under the audio and visual control of a pharmacist and differ significantly from the remainder of the premises.

The PSA shall be delineated from the remainder of the premises by:

1. The display, on the boundary of the PSA, a “Professional Services Area” sign of suitable size, and;
2. Using one or more optional methods such as the use of “Drug Caution Code”, variation in flooring, ceiling, decor, fixtures, lighting, or additional signs or by physical separation.

**Options**

If more than one additional method has been adopted, each method used will have to fulfill its particular requirement as described in the Bylaw.

1. Drug Caution Code provides for the labeling of OTC products within the PSA with a code which corresponds to a cautionary statement posted on a sign within the PSA. All appropriate products in the PSA shall be individually coded.

This program is a professionally rewarding mechanism for establishing lines of communication with the consumer and re-establishing the pharmacy as the logical source of both prescription and non-prescription drugs. To encourage greater consumer participation in the program, all the available Drug Caution Code material should be used and displayed. This includes the use of shelf-talkers, posters, pamphlets and decals.

2. Variation in decor includes any change in the decor, such as furniture, wall coverings or painted walls. Examples of acceptable alternatives include:

   1. Use of special wall graphics encompassing the designated area to indicate a change in product availability to be found within the PSA.
   2. A significant change in the colour of those walls surrounding the PSA resulting in an area where the colour differs from that of the remainder of the store.

3. Variation In Flooring involves a significant change in the Flooring found within the boundary of the PSA and would include:

   1. The use of a carpeted PSA I the remainder of the store is finished with floor tiles.
   2. The use of similar flooring material but incorporating a significant different floor colour within the PSA.
   3. The use of a bold, contrasting border which clearly outlines the PSA boundary.
   4. The raising or lowering of the floor of the entire PSA including the dispensary.

4. Variation In the ceiling includes such options as:
1. The use of different ceiling material such as a stippled ceiling within the PSA if the remainder of the store is finished in tile.

2. The raising or lowering of the ceiling within the bounds of the PSA.

3. Adoption of a lowered canopy or false front (valance) which would outline the entire PSA in a clear, definite fashion.

5. Variation in Fixtures used within the PSA offers additional options for compliance such as:

   1. The use of shelving units of contrasting height, either a significant reduction or increase in the height of the units found within the PSA.

   2. The use of shelving units of contrasting colour different from the remainder used in the store.

   3. The turning of the existing fixtures found in the PSA to face a different direction—either at right angle or some other angle.

6. The use of lighting offers the following possible options:

   1. Utilization of different lighting fixtures within the PSA.

   2. The raising or lowering of the PSA lighting fixtures.

   3. The use of contrasting or different light intensities.

7. The use of additional signing to indicate the location of the various product sections and product categories within the PSA is an option easily incorporated. To further delineate the PSA, it is recommended that the colour of the signs used within the PSA should differ significantly from other in-store signing and be unique to the PSA. This concept could be accomplished by the simple reversal of the colours of the signs used in the PSA. Thus, corporate in-store colours could be retained and yet give the PSA a unique series of signs. A description of each major product group would be necessary to fulfill this option. Examples of “Cough and Cold”, “Laxatives”, “Analgesics” indicate such product locations. There are many other product grouping signs available. The number of signs used would depend on store and department size.

The use of the approved PSA sign measuring four inches by forty-eight inches is mandatory and may be supplemented with other store or corporate signing.

8. A suitable physical barrier to separate the PSA from the remainder of the premises is another available option. Those pharmacies with an approved “Lock and Leave” permit have met the necessary additional requirement.

Due to the number of options available in complying with this bylaw, each pharmacy will have its own unique PSA features.

**Enforcement**

To ensure complete adherence to all aspects of the PSA, monitoring of Pharmacies will be carried out through the regular field operations of this Association. As with other standards, compliance with the PSA bylaw is a standard for licensure of a pharmacy.