



**Saskatchewan
Drug
Information
Service**

Annual Report

April 1, 2011 – March 31, 2012



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EXECUTIVE SUMMARY

The Saskatchewan Drug Information Service (SDIS) has been providing healthcare professionals and consumers with timely access to current, relevant, evidence-based information on drug therapy since 1974. Its core service is the provision of on-request drug information via two toll-free telephone lines, one dedicated to healthcare providers (the professional line) and the other to the general public (the consumer line). The telephone lines are staffed by licensed pharmacists 365 days a year. SDIS also has an essential role in the College of Pharmacy & Nutrition undergraduate program and contributes to continuing education programs for practicing pharmacists and other healthcare providers. In addition, SDIS accepts contracts from other healthcare organizations for drug information-related projects.

ON-REQUEST DRUG INFORMATION

During the past fiscal year (April 1, 2011 to March 31, 2012), SDIS received a total of 7178 calls, a modest increase of four percent over the previous year's total. Of this number, 2505 calls were received by the professional service and 4673 by the consumer service.

Healthcare Professional Service Utilization

Eighty-one percent of calls to the professional arm of the service were placed by pharmacists (community, hospital, academic). Calls from physicians, nurses and other healthcare professionals accounted for the remaining 19 %. Over 50 % of calls originated in Saskatoon and Regina. The remainder came from over one hundred different communities. The nature of information most frequently requested was dosage, therapeutic use (drug of choice), interaction, formulation, adverse reaction, and general information. Responses were provided to 90 % of callers within 24 hours of the initial call.

Consumer service

Thirty-nine percent of consumer line calls (1811) were placed during regular office hours (8 AM to 5 PM, Monday to Friday) and 61 % (2862) during the on-call shifts (5 PM – 12 midnight, 7 days a week). The typical daytime caller was a woman between 50 and 64 years of age; the typical evening caller was a woman between 30 and 49 years of age. Calls were placed from every health region within the province with 56 % of evening calls and 67 % daytime of calls originating in Saskatoon and Regina. The most common question categories were adverse reaction, drug interaction, general information, therapeutic use (drug of choice) and

dosage/administration. Referral from the Saskatchewan HealthLine was responsible for 41 % of in-office and 75 % of on-call requests for information. Repeat callers accounted for 32 % of in-office and 11 % of on-call requests.

Quality Assurance and Improvement

An auditing process to evaluate the consumer information arm of the service was initiated in 2010-11 and involved both internal and external reviewers. Response accuracy and quality of conclusions were rated as good to excellent for the majority of calls handled by SDIS consultants. The auditing process provides reassurance that SDIS continues to deliver excellent service to callers and also suggests how we can make improvements to the service.

EDUCATION /INFORMATION DISSEMINATION

SDIS staff delivered lectures and tutorials to pharmacy and nutrition students on various drug information topics including drug interaction, drug toxicology, and drug information retrieval. SDIS also provided on-site experiential training to third and fourth year pharmacy students.

For practicing healthcare professionals, SDIS provided pharmacotherapeutic information via the SDIS Drug News (electronic and hard copy), presentations at healthcare professional events and articles in pharmacy newsletters and magazines. For consumers, SDIS posted information on current question themes under Consumer Hot Topics (Question of the Week) on the SDIS website.

The SDIS website is becoming an important venue for drug information. It features newsletters on current therapeutic issues for healthcare professionals and information on “hot topics” for consumers. In addition, SDIS maintains the Minor Ailment prescribing guidelines for pharmacists and the Drug Shortage database which contains lists of backordered drugs and suggestions on how to manage shortages.

NEW ACTIVITIES / CHALLENGES

SDIS was involved in several new projects in 2012-13:

- Prescribing guidelines for oral antibiotics for the Saskatchewan Association of Optometrists
- Collaboration with PACT (newsletter, website link)
- Website host for the English language national database for drug shortages as of November, 2011.

- Prepared and presented a proposal to the Canadian Drug Shortages working group for the permanent site for reporting national drug shortages
- Evening on-call service was made available to healthcare professionals as well as consumers.
- Two pilot projects investigating the feasibility of SDIS doing medication assessments for patients receiving compliance packing.

GOVERNANCE

The annual SDIS Advisory Board annual meeting was held August 11th, 2011. The board consists of representatives of the major stakeholders of the service. It assists SDIS in meeting its goals and objectives. At the board's request, SDIS continues to work on a new strategic plan. The results of this process will be taken to the next board meeting June 27th, 2012.

PRIORITIES FOR 2012-13

- Maintain timely and quality on-request drug information service for healthcare professional and consumer callers.
- Initiate strategies prioritized at the strategic planning workshop in March, 2012.
 - Establish a committee to formulate a funding action plan.
 - Set up a searchable database of queries and responses on the SDIS website.
- Complete a five year strategic plan for the service
- Look for opportunities to partner with emerging healthcare initiatives
- Investigate opportunities to collaborate with other drug information services
- Expand quality assurance procedures to include healthcare professional calls.
- Additional priorities will be added as suggested by the Advisory Board at the annual meeting in June, 2012.

TABLE OF CONTENTS

| | |
|--|----|
| 1. Introduction..... | 6 |
| 2. Core Service | |
| 2.1 Healthcare Professional Service..... | 8 |
| 2.2 Consumer Service..... | 12 |
| 3. Education..... | 18 |
| 4. Consultation / Contract Work..... | 19 |
| 5. Collaborations..... | 20 |
| 6. Promotion / Fundraising..... | 21 |
| 7. Strategic Planning..... | 21 |
| 8. Advisory Board..... | 22 |
| 9. Priorities..... | 22 |
| 10. Financial Report..... | 23 |
| 11. SDIS Personnel..... | 23 |
| Appendix I Financial Reports..... | 24 |
| Appendix II Donations Pharmacies / Pharmacists | 26 |

1. INTRODUCTION

1.1 Background

In September of 1974, the College of Pharmacy and the College of Medicine at the University of Saskatchewan established Dial Access, the first province-wide drug information service in Canada. This telephone query service continues to be offered to healthcare professionals in Saskatchewan as an arm of the Saskatchewan Drug Information Service (SDIS). A toll-free number (1-800-667-3425) is maintained to provide easy access for callers in all areas of the province. The service is staffed in office Monday to Friday, 8 AM to 5 PM, by licensed pharmacists who research and respond to queries. On-call service is now available 5 PM – midnight daily. Question templates on the SDIS website (www.druginfo.usask.ca) allow callers to leave queries at their convenience 24 hours a day.

The Consumer Drug Information Centre was initiated in 1990 as a one-year pilot project for residents of Saskatoon and area. Funding for the project was provided by a grant from the Saskatchewan Minister of Health based on a recommendation of the Advisory Committee on the Safe Use of Medicines. In January of 1991, the centre was expanded to cover the entire province via a toll-free telephone line (1-800-665-3784) and approval was granted for subsequent years of operation. The consumer line office hours are Monday to Friday, 8:00 AM to 5:00 PM. On-call service between 5:00 PM and 12:00 AM midnight was initiated in December, 2007 as a pilot project in collaboration with the HealthLine. The pilot project identified a demand for evening hours drug information and SDIS was contracted to provide this service. In addition to telephone access, consumers can submit queries by leaving voicemail messages or by filling out the question template available on the SDIS website (www.druginfo.usask.ca).

In 2001, the Dial Access Drug Information Service and the Consumer Drug Information Centre were consolidated into one organization, the Saskatchewan Drug Information Service (SDIS), in order to simplify administration and maximize the use of available resources.

1.2 Goals and Objectives of the Service

1.2.1 Healthcare Professional Information Service

- Upon request, provide pharmacists and other healthcare providers in Saskatchewan access to objective, current and concise information on drugs and drug therapy, in a timely manner.
- To provide continuing education related to drugs and drug therapy to healthcare professionals in the province.
- To serve as an experiential training site for pharmacy students, pharmacy residents and postgraduate students.
- To enhance interdisciplinary collaboration and the public image of healthcare professionals.
- To contribute to the advancement of knowledge in the area of drug information.

1.2.2 Consumer Information Service

- To provide Saskatchewan healthcare consumers with immediate access to objective, current and concise information on drug-related questions.
- To direct patients with serious adverse reactions and other problems to adequate medical follow-up.
- To provide and enhance educational and training programs for a variety of healthcare consumer audiences.
- To develop a comprehensive database of information by gathering epidemiological information regarding drug-related problems in the community. This information can be used to assist regional planning agencies.

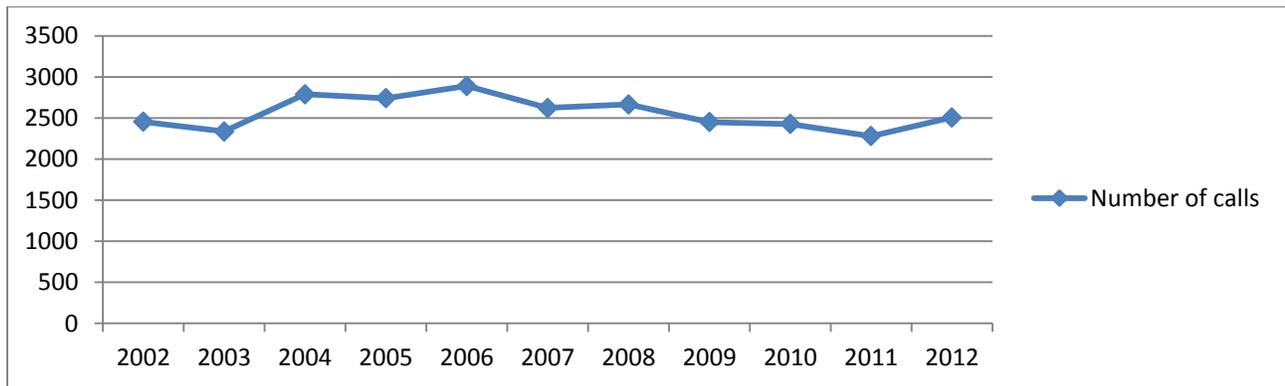
2. CORE SERVICE

2.1 Healthcare Professional Service April 1st, 2011 to March 31st, 2012

a) Number of Calls Received

The Saskatchewan Drug Information Service (SDIS) professional line responded to total of **2505** requests for information in 2011-12, an increase of 225 calls (11 %) compared to the previous year. Call volumes for the past ten years are shown in Figure 1. Call numbers appear to have plateaued at approximately 2500 calls per year.

Figure 1: Number of healthcare professional calls by year



b) Profession of Callers

The majority of calls (71 %) were from community pharmacists. Nursing (public health, travel clinics, etc.) was the next largest group, accounting for 10 % of the professional calls, followed by physicians and hospital pharmacists at 5 % respectively. Table I lists the number and percentage of calls placed by each profession. These figures are relatively consistent with those from previous years.

Table I: Calls by Profession

| Profession | Number (%) | Profession | Number (%) |
|----------------------|------------|--------------------|------------|
| Community pharmacist | 1775 (71) | Nurse | 253 (10) |
| Hospital pharmacist | 127 (5) | Physician | 129 (5) |
| Pharmacists (other) | 58 (2) | Nurse practitioner | 22 (1.5) |
| Pharmacy student | 50 (2) | Other | 66 (2.5) |
| Pharmacy instructor | 25 (1) | | |

c) Geographical Location of Callers

As detailed in Table II, requests for information over the past year came from 93 different communities across Saskatchewan. In addition, there were 21 calls from healthcare professionals practicing outside of Saskatchewan. As would be expected, the majority of calls originated in Saskatoon and Regina. Healthcare providers in Saskatoon accounted for 33 % of calls and in Regina 22 %. These percentages have been fairly consistent over the past several years.

Table II: Location of Healthcare Professional Service Callers

| SASKATCHEWAN | | | |
|-----------------------------|---|------------------------|--|
| Number of Calls | Community | Number of Calls | Community |
| 829 | Saskatoon | 17 | Battleford |
| 539 | Regina | 16 | Wadena |
| 94 | Prince Albert | 13 | Carrot River |
| 85 | Lloydminster | 11 | Foam Lake, Kindersley |
| 78 | Unity | 10 | Fort Qu'Appelle, Luseland, Maidstone |
| 75 | Yorkton | 9 | Leader, Watrous |
| 60 | Nipawin | 8 | Broadview, Kelvington |
| 50 | Moose Jaw | 7 | Assiniboia, Meadow Lake , St. Wahlberg |
| 45 | Indian Head | 6 | Biggar, La Ronge, Moosomin |
| 44 | Weyburn | 5 | Kerrobert, Oxbow, Rosetown, Spiritwood |
| 39 | Tisdale | 4 | Carlyle, Esterhazy, Eston, Outlook, Rocanville, Rosthern, Wynyard |
| 32 | North Battleford | 3 | Birch Hills, Bruno, Canora, Cupar, Cut Knife, Duck Lake, Warman |
| 31 | Turtleford | 2 | Bengough, Black Lake, Carnduff, Gravelbourg, Grenfell, Hafford, Isle a la Crosse, Ituna, White Wood, Wolseley |
| 25 | Estevan, Melfort | 1 | Alameda, Arborfield, Arcola, Balcarres, Christopher Lake, Cumberland House, Grandville, Hepburn, Imperial, Kipling, Lafleche, Lanigan, Leoville, Lucky Lake, Macklin, Naicam, Punnichy, Radville, Raymore, Redvers, Rose Valley, Shaunavon, Southey, Strasbourg, Stonoway, Wakaw, Watson, White City, Yellow Quill |
| 22 | Shellbrook, Swift Current | | |
| 18 | Melville | | |
| OUTSIDE SASKATCHEWAN | | | |
| Number of Calls | City/ Province | | |
| 31 Out of Province Calls | Berwick, NS, Calgary AB, Edmonton AB, Flin Flon MB, Hamilton ON, Hay River NWT, Hinton AB, Kelowna BC, Laval QB, Lethbridge AB, Markham ON, Montreal QB, Niagra Falls ON, Osoyoos BC, Richmond BC, Rocky Mountain House BC, Salmon Arm BC, Stettler AB, Toronto ON, Vancouver BC, Winnipeg MB | | |

d) Contact Method

Telephone continues to be the most popular method of accessing the drug information service. Eighty-nine percent of calls from health care professionals were placed by telephone. Of these, 79 % were answered in person by SDIS consultants and 21 % were left on voicemail. Two hundred twenty-eight questions (9 %) were submitted electronically, consistent with the percentage of questions submitted by this route the previous year.

e) Nature of Information

The most common question categories were dosage, therapeutic use, formulation, interaction, adverse reaction and general information. Only two percent of questions involved herbal products.

A detailed list of the nature of professional calls by number and frequency is shown in Table III.

Table III: Nature of Information Requested by Healthcare Professionals

| Nature of Request | Number | Percentage |
|--|--------|------------|
| Dosage | 335 | 13 |
| Therapeutic Use/ Drug of Choice | 320 | 13 |
| Interaction | 259 | 10 |
| Formulation | 200 | 8 |
| Adverse reaction | 187 | 7 |
| Administration | 150 | 6 |
| Availability | 150 | 6 |
| General information | 131 | 6 |
| Other | 122 | 5 |
| Precautions | 84 | 3 |
| Pediatric | 70 | 3 |
| Pregnancy | 68 | 3 |
| Stability | 67 | 3 |
| Identification | 61 | 2 |
| Lactation | 58 | 2 |
| Kinetics | 44 | 1.5 |
| Coverage/legalities | 41 | 1.5 |
| Contraindications | 38 | 1.5 |
| Abuse, toxicity, pharmacology, new product | | < 1 % |

f) Time Required to Answer Requests

The amount of time per call spent on research for individual calls ranged from zero to more than four hours per question. Table IV provides a comparison of research times over the past nine years. Since 2003, there has been a marked increase in the percentage of calls requiring more extensive research.

Table IV: Research Time Required Per Call

| TIME (min.) | 2003-04 | 2004-205 | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 |
|-------------|---------|----------|---------|---------|---------|---------|---------|---------|---------|
| ≤15 | 72 % | 59.5 % | 57 % | 56 % | 54 % | 57 % | 59 % | 53 % | 57 % |
| 16 – 30 | 19 % | 28 % | 24 % | 24 % | 26 % | 25 % | 23 % | 25 % | 13 % |
| 31 – 60 | 7.5 % | 11 % | 12.5 % | 13 % | 14 % | 12 % | 13 % | 15 % | 22 % |
| > 60 | 1.5 % | 1.5 % | 6.5 % | 7 % | 6 % | 6 % | 5 % | 7 % | 8 % |

Answers were provided to most callers (90 %) the same day the question was submitted. When appropriate, additional documentation concerning the request was sent to the caller by postal mail, facsimile or email.

g) Difficulty of Questions

As of October 1, 2009 DI consultants were asked to start rating the difficulty of each question. This is a component of the quality assurance audit (Section 2.3). Twenty-seven percent of questions during the past year required extra research or interpretation in order to provide an appropriate response. (Table V)

Table V: Difficulty Rating of Questions

| Difficulty Rating | 2009-10 Number (%) | 2010-11 Number (%) | 2011-12 Number (%) |
|--|--------------------|--------------------|--------------------|
| 1 = not difficult; straight forward question | 1004 (83 %) | 1782 (79 %) | 1819 (73 %) |
| 2 = required additional research and/or interpretation | 199 (16 %) | 444 (20 %) | 662 (26 %) |
| 3 = required extensive search and some interpretation | 7 (1 %) | 24 (1 %) | 24 (1 %) |
| 4 = required extensive search and extensive interpretation | 1 | 0 | 0 |

h) On-Call Service for Healthcare Professionals

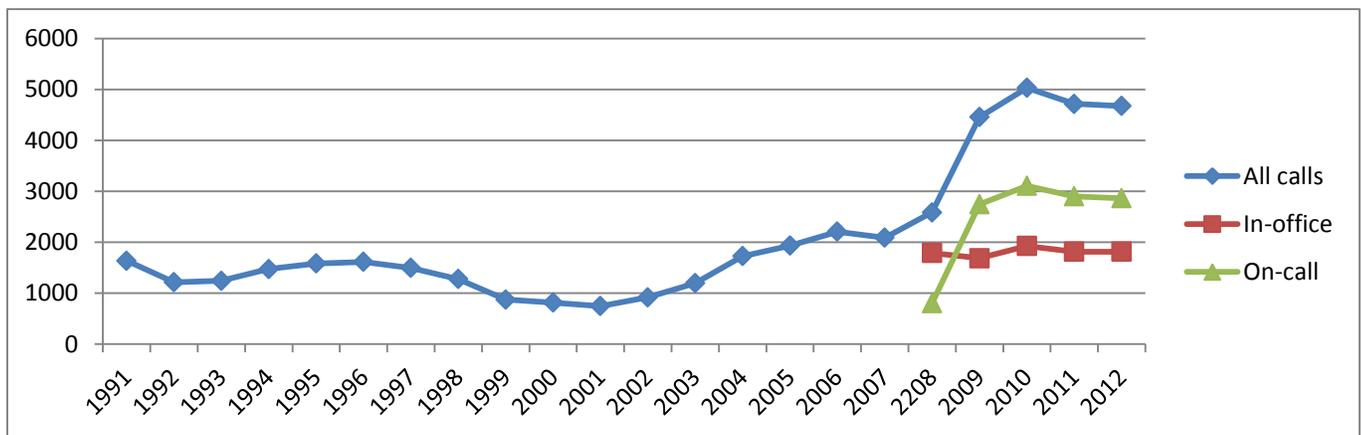
One hundred forty-five calls from healthcare professionals were placed during on-call hours. This is slightly more than received during this time period the previous year. We have not extensively advertised evening availability for professional calls so many healthcare professionals may not be aware of the on-call service.

2.2 Consumer Service April 1, 2011 to March 31,2012

a) Number of Information Queries

A total of **4673** calls were received by the SDIS consumer line, slightly fewer than the total received during the previous year (4713). Figure 2 illustrates the trends in annual call totals since the inception of the consumer information service in 1991. The annual totals reflect variations in the hours of service provided over the years. The steep increase beginning in 2007 corresponds to the initiation of evening on-call service for the consumer line. During office hours (8:00 AM – 5:00 PM, Monday through Friday), 1811 calls were received, virtually the same number as in the previous year (1813). During evening hours (5 PM – 12 AM daily), 2862 calls were received, slightly fewer than in 2010 – 11 (2900).

Figure 2: Number of consumer calls by year

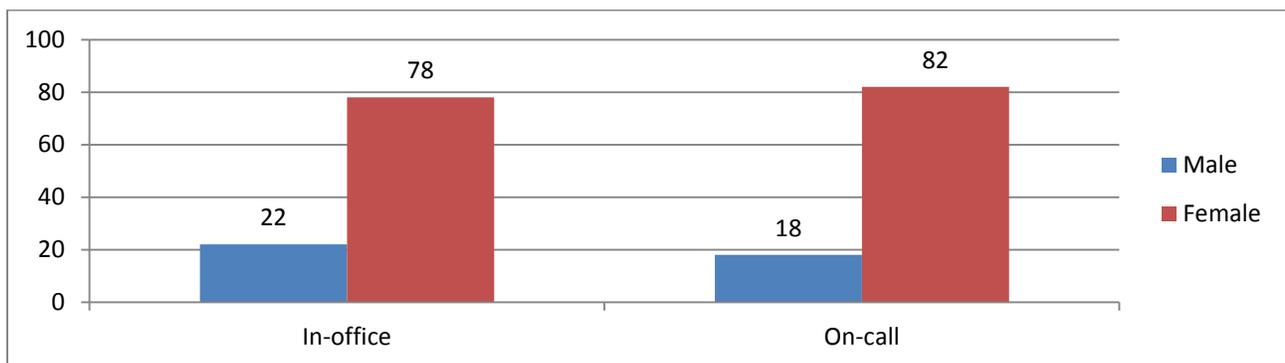


b) Caller Demographics

Sex

As in previous years, the majority of callers, both during the day and in the evening, were women. (See Figure 3.) The gender ratio of calls has remained relatively stable at approximately 4:1 female to male for the past 10 years.

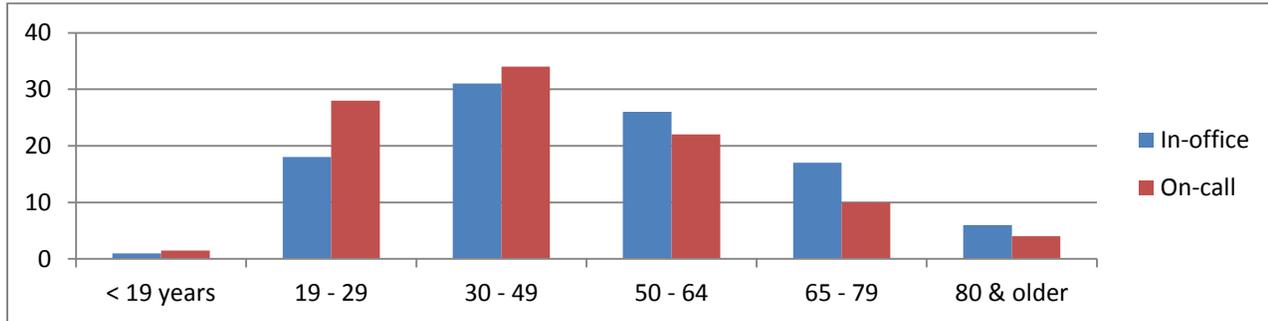
Figure 3: Sex of caller (in percentages)



Age

The distribution of age categories for daytime callers is similar to that in previous years. Figure 4 compares the ages of callers during daytime and evening hours. Callers in the evening tended to be younger than daytime callers.

Figure 4: Age of callers (in percentages)



c) Geographical Location of Callers

Table VI details call numbers by regional health authority. As in previous years, the highest percentage of calls originated in the Saskatoon region (47 % of in-office calls; 33 % of evening calls) and the Regina Qu'Appelle region (19.5 % of in-office calls; 24 % of evening calls). Calls were placed by residents from over 200 communities situated within the other Saskatchewan health authorities. For a map of Saskatchewan Health Authorities, go to <http://www.health.gov.sk.ca/health-regions-map>. This information helps the service identify areas of low utilization and suggests targets for future promotion.

Table VI: Consumer Calls by Regional Health Authority

| Regional Health Authority | Daytime Calls Number (%) | Evening Calls Number (%) |
|---------------------------|--------------------------|--------------------------|
| Athabasca | 2 | 2 |
| Cypress | 91 (5.5 %) | 85 (3 %) |
| Five Hills | 43 (2.5 %) | 148 (6 %) |
| Heartland | 62(3.5 %) | 101(3.5 %) |
| Keewatin Yatthe | 4 | 25 (1 %) |
| Kelsey Trail | 27 (1.5 %) | 112 (4 %) |
| Mamawetan Churchill River | 23 (1.5 %) | 82 (3 %) |
| Prairie North | 88 (5.5 %) | 200 (7.5 %) |
| Prince Albert Parkland | 88 (5.5 %) | 169 (6 %) |
| Regina Qu'Appelle | 326 (19.5 %) | 641 (24 %) |
| Saskatoon | 797 (47 %) | 854 (32 %) |
| Sun Country | 44 (2.5 %) | 116 (4 %) |
| Sunrise | 91 (5.5 %) | 168 (6 %) |

d) Contact Method

Most questions were submitted by telephone (95 % during office hours; 99.5 % during the evening). Calls were answered in person by a drug information consultant 88 % of the time during the day and 91.5 % of the time during the evening. Thirty-six questions were submitted through the SDIS website, significantly more than the seven email requests in the previous year.

e) Nature of Information Requested

Table VII details the different categories of consumer information requests by frequency and time of call (daytime and evening hours). Dosage / administration was the most frequently requested type of information during the evening while adverse reaction was the most common during the daytime hours.

Table VII: Summary of Calls by Nature of Information

| Nature of Request | Daytime Hours Number (%) of Calls | Evening Hours Number (%) of Calls |
|---|--|--|
| Adverse reaction | 366 (20 %) | 418 (14 %) |
| Interaction | 256 (14 %) | 446 (15.5 %) |
| General information | 254 (14 %) | 471 (16 %) |
| Therapeutic use / drug of choice | 200 (11 %) | 219 (7.5 %) |
| Dosage / administration | 187(10 %) | 658 (23 %) |
| Lactation | 92 (5 %) | 138 (5 %) |
| Pregnancy | 72 (4 %) | 196 (7 %) |
| Other - availability, coverage, formulation, identification, kinetics, stability, contra-indication, etc. | 22.5 % | 12 % |

Ten percent of daytime calls involved herbal or complementary products. Only two percent of evening callers inquired about herbal products.

f) Severity of Inquiry

All consumer requests for drug information are subjectively ranked as to the potential severity of the situation from which the question arises. Most of the calls, daytime and evening were classified as “not serious”.

Table VIII: Severity of Consumer Calls

| Severity Rating | Description | In-office Number (%) of Calls | On-call Number (%) of Calls |
|----------------------|---|-------------------------------|-----------------------------|
| Not serious | No further action required | 1691 (93 %) | 2519 (88 %) |
| Potentially serious: | Information immediately available is provided, caller is referred to appropriate healthcare professional | 113(6.5 %) | 336 (11.75%) |
| Serious | Caller is referred immediately to the Saskatchewan Poison Centre or nearest hospital emergency department | 7 (0.5 %) | 7 (0.25 %) |

g) Time Required to Answer Requests

Tables IX and X provide a breakdown of the time required to research and discuss consumer questions. When requested, additional information was sent to callers by mail or facsimile. More time is spent researching calls received in the office than for calls received during the evening on-call shifts. This likely reflects the different nature of calls received. For example, a higher percentage of questions in the evening involve dose and administration. These questions tend to be fairly straight forward and require minimum research. During the day there are a higher percentage of calls about therapeutic use and herbals and these issues often require more extensive research.

Table IX: Research Time Per Call

| Time Required Per Question | Daytime Calls | Evening Calls |
|----------------------------|---------------|---------------|
| 0 – 5 minutes | 1015 (56 %) | 2253 (79 %) |
| 6 – 10 minutes | 429 (24 %) | 437 (15 %) |
| 11 – 15 minutes | 159 (9 %) | 93 (3 %) |
| 16 – 30 minutes | 151 (9 %) | 24 (1 %) |
| 31 – 60 minutes | 50(3%) | 12 (0.5 %) |
| More than 60 minutes | 5 | 2 |

Table X: Discussion Time Per Call

| Time Required Per Question | Daytime Calls | Evening Calls |
|----------------------------|---------------|---------------|
| 0 – 5 minutes | 984 (54 %) | 1573 (55 %) |
| 6 – 10 minutes | 554 (31 %) | 892 (31 %) |
| 11 – 15 minutes | 164 (9 %) | 289 (10 %) |
| 16 – 30 minutes | 99 (5 %) | 103 (4 %) |
| 31 – 60 minutes | 9 (0.5 %) | 5 |
| > 60 minutes | 1 | 0 |

h) Difficulty of Questions

Consumer line consultants are also asked to rate question difficulty (Table XI). The majority of questions placed during 2011 – 2012 were rated as “not difficult”. Percentages for the different difficulty categories were similar for calls received in-office and during evening on-call shifts.

Table XI: Difficulty Rating of Questions

| Difficulty Rating | In-office # (%) | On-call # (%) |
|--|-----------------|---------------|
| 1 = not difficult; straight forward question | 1655 (91 %) | 2647 (92 %) |
| 2 = required additional research and/or interpretation | 147 (8 %) | 210 (8 %) |
| 3 = required extensive search and some interpretation | 9 (0.5 %) | 5 |
| 4 = required extensive search and extensive interpretation | 0 | 0 |

i) Source of Consumer calls

To determine the most effective strategies for promotion of the SDIS consumer line to Saskatchewan residents, callers were asked how they learned about the service. Figures 5 and 6 summarize the answers provided to this question in 2011 – 2012. During regular office hours, repeat callers and referrals from HealthLine were the most frequent sources of calls. In the evening, most of the calls were referrals from HealthLine.

Figure 5: Source of In-office Calls

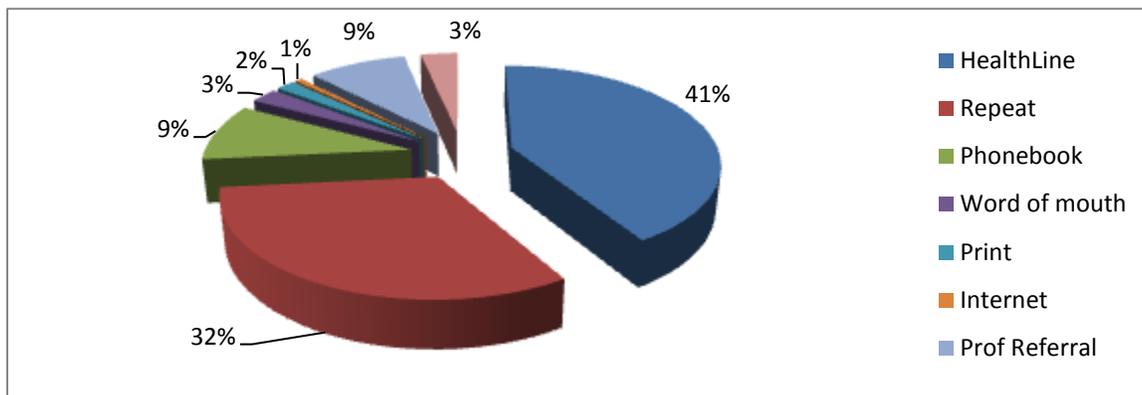
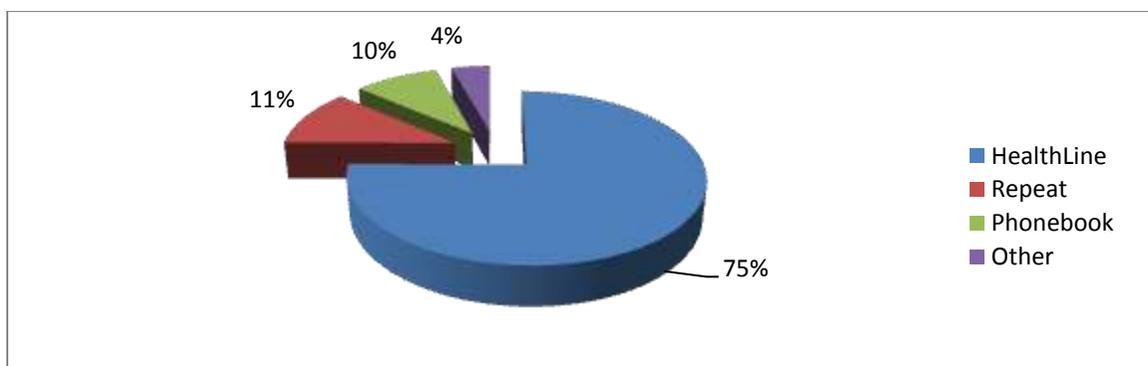


Figure 6: Source of evening calls



2.3 Follow-up calls

Drug information consultants followed up on 101 calls during the 2011 – 2012 year. Consultants are asked to follow up with all serious and potentially serious calls to ensure caller safety.

2.4 Quality Assurance and Improvement

We have initiated a quality assurance program using an audit template adapted from the MUN School of Pharmacy. In office SDIS staff use this process to assess responses provided during the on-call evening shifts. Accuracy and quality of conclusions consistently ranked as good to excellent for more than 80 % of calls over the past year. These results provide reassurance that SDIS consultants are providing quality information to our callers. As well, information provided by the audits targets areas which could be improved, such as the resources being used or the documentation process.

3. EDUCATION

a) College of Pharmacy and Nutrition Undergraduate Curriculum

SDIS personnel provided lectures, tutorials and experiential training to students in the College of Pharmacy and Nutrition as detailed below:

- NUTR 440.6: Clinical Nutrition – 1 lecture on “Food – Drug Interaction” (*K. Jensen*).
- PHAR 372.2: Research Methods and Evidence-Based Practice – computer lab tutorials on “Electronic Drug Information Resources” and “Evaluation of Internet Information” (*K. Jensen*); Problem-Based Learning Tutorials (*L. Hupka, G. Nijjar*)
- PHAR 418.2 Issues in Pharmacy I – 3 lectures on toxicology (*C. Bell*).
- PHAR 455.7: Pharmacotherapeutics I - 3 lectures on “Principles of Drug Interaction” (*K. Jensen*); 1 lecture on “Adverse Drug Reactions” with Nancy Saunders, Co-ordinator of the AR Program (*K. Jensen*)
- PHAR 472.2: Evidence-Based Practice – Computer lab tutorials on “Evidence-Based Medicine Resources” (*K. Jensen*) and “Collecting Data for a Drug Information Request” (*C. Bell, K. Jensen*); 1 lecture on “Drug Information for Consumers” (*K. Jensen*).
- PHAR 400.1: Pharmacy Skills IV – Orientation and supervision of third year students in an introductory experience in drug information research.
- PHAR 557.6: Pharmacotherapeutics III - 3 lectures on toxicology (*C. Bell*).
- PHAR 565.2: Drugs in Pregnancy – 1 lecture (*C. Bell*).
- PHAR 580.16: Structured Practice Experience – SDIS provided a specialty practice site for three fourth year student rotations.

b) Continuing Education

SDIS disseminated current pharmacotherapeutic information to pharmacists and other healthcare providers in a variety of forms:

- Newsletters mailed to Saskatchewan pharmacies and posted under Drug News page on the SDIS website (http://druginfo.usask.ca/healthcare_professional/drug_news.php).
 - Vol. 28, No. 2 Smoking Cessation in Special Populations
 - Vol. 28, No. 3 Insulin Administration Misadventures
 - Vol. 28, No. 4 Citalopram Interactions
 - Vol. 29, No. 1 ACEIs/ARBs in First Trimester of Pregnancy
 - Vol. 29, No.2 Galactagogues
- Articles in the Saskatchewan Pharmacists Association and Canadian Society of Hospital Pharmacists – Saskatchewan Branch newsletters (*C. Bell*)
- Article in Canadian pharmacy journal - Insect Repellants: Buzz off! Pharmacy Practice June 2011 (*K. Jensen*)
- Presentation to Saskatoon Travel Clinic Nurses – Immunomodulation (*C. Bell*)
- Minor Ailments: Guidelines for minor ailment prescribing are posted on the SDIS websites. SDIS also continues to work with CPDP (Continuing Professional Development for Pharmacists program) to deliver training to pharmacists on minor ailments prescribing. One day training workshops were held in Saskatoon and Regina in June, 2011 and repeated again in Saskatoon in Sept., 2012.

c) Consumer Education

Hot Topic Consumer Questions posted on the SDIS website. Examples include:

Q. Is saw palmetto a good choice to treat my BPH?

Q. I have already had shingles. Does this mean I am immune to future episodes of shingles, or should I still get the vaccine to prevent a recurrence?

Q. Can I use products with DEET to repel mosquitoes, ticks and other insects while I am pregnant?

Q. Does using sunscreen cause cancer?

Q. I had heard that calcium supplements can increase the risk of having a heart attack. Is this true? I thought calcium was good for a person!

d) Summer Research Student

- Ryan Fung, a third year pharmacy student, set up a pilot project designed to test the feasibility of SDIS handling medication assessments required for community pharmacy compensation for compliance packaging. Although only one pharmacy agreed to participate in the study, the pharmacy owner reported that the process worked well and was very useful.
- SDIS and Dr. David Blackburn will share a third year pharmacy student, Marlys LeBras, for summer research in the coming summer. She will evaluate a pilot project which involved SPEP students doing compliance packaging medication assessments for patients selected by Home Care.

4. CONSULTATION / CONTRACTS

- Annual review and updates of the information in the drug therapy section of the Canadian Lung Association website funded by the Lung Association of Saskatchewan.
- Maintained and updated minor ailment prescribing guidelines posted on the SDIS website.
- Maintained and expanded the Saskatchewan Drug Shortages database on the SDIS website. This database includes information on managing shortages and alternatives for unavailable drugs.
- Hosted the English language national database of drug shortages. This was set up as an interim measure while the Drug Shortages working group determines what information should be included and what organization should host the site. Karen and Yvonne presented a proposal for SDIS to be the permanent host in January 2012 but new developments in the drug shortage situation since then have delayed a decision.
- Developed prescribing guidelines for approved oral medications for the Saskatchewan College of Optometrists. These are now posted on the Saskatchewan Association of Optometrists website.
- RxFiles has contracted SDIS to review selected RxFiles charts in advance of the new edition of the Charts scheduled to be released in the summer of 2012.

5. COLLABORATIONS

a) Saskatchewan HealthLine

The HealthLine, a 24 hour toll-free telephone health advice service staffed by registered nurses, was established by Saskatchewan Health in 2003. Callers with drug-related questions are referred by HealthLine nurses to their physicians, their pharmacies, or the SDIS consumer information line. In December 2007, SDIS was contracted by HealthLine to provide on-call service on the consumer drug information line between 5:00 PM and 12 midnight daily. The contract for the on-call service has been transferred to the Saskatchewan Prescription Drug Plan (SPDP) and will become part of the annual grant SPDP provides to SDIS in an amendment to the 2012-2013 contract.

Calls to HealthLine are triaged by HealthLine nurses and callers with drug-related questions are referred to their pharmacy, physician or SDIS. Calls can be transferred directly to an SDIS consultant by HealthLine nurses. The collaboration between the two services works very well for several reasons. The information provided by the nurses and DI consultants is often complimentary. The nurse can transfer information already collected from the caller which limits repetitive questions. The nurse can brief the DI consultant on any concerns or recommendations. This alerts the DI consultant to potential problems and provides the opportunity to reinforce recommendations. The on-call model of service gives pharmacists the opportunity to work from home. It allows SDIS to employ pharmacists who might not otherwise be able to work professionally, thus providing greater flexibility for pharmacists to co-ordinate work and family and at the same increasing utilization of pharmacy human resources.

b) RxFiles Academic Detailing program

SDIS and the RxFiles collaborate on drug information research and newsletter distribution. SDIS consultants investigate drug information questions for RxFiles academic detailers and review RxFiles charts and newsletters. These charts and newsletters, in turn, provide an invaluable resource for SDIS. SDIS consultants were also invited to attend the RxFiles training days on upcoming detailing topics.

c) PACT

PACT (Partnership to Assist with Cessation of Tobacco) was developed in 2004 from the need to support public health campaigns aimed to reduce tobacco-related harm. It has developed into a comprehensive tobacco cessation strategy that any health care professional can use in virtually any practice site. PACT provides the training and tools to support both brief and intensive tobacco cessation interventions. PACT and SDIS worked together over the past year to update PACT guidelines and publish and distribute a newsletter on smoking cessation in special populations.

Several SDIS staff members are PACT certified consultants. The PACT website features an Ask the Expert link which takes the viewer to the SDIS website.

d) Committee/Group membership

Karen Jensen is a member of the Saskatchewan College of Pharmacists Professional Practice Committee, the Interdisciplinary Advisory Committee on Prescriptive Authority and the Baby Friendly Initiative Coalition. In addition Karen also worked with the CAN-ADAPTT Smoking Cessation Clinical Practice Guideline development group and participated in HealthLine visioning summits.

6. PROMOTION / FUNDRAISING

- An advertisement for SDIS was included in the Pharmacists Association of Saskatchewan two-page promotion for Pharmacy Awareness Week in the Saskatoon Star Phoenix and Regina Leader Post in February 2012.
- SDIS displayed a poster presentation at the PAS (Pharmacists Association of Saskatchewan) conference, April 2011 and the Drug Therapy seminar, March 2012.
- Heather Dawson, College of Pharmacy & Nutrition Development Officer, and Karen Jensen worked together on the annual fund-raising campaigns. Online applications were submitted to a few pharmaceutical companies in July 2011. Letters requesting donations were mailed to Saskatchewan pharmacies in January, 2012.

7. STRATEGIC PLANNING

As requested by the Advisory Board, SDIS has undertaken a strategic planning process. The first step was an environmental scan which included searching the literature for recent developments and trends in drug information services and contacting several Canadian and American drug information centres. This information provided background information for two internal planning sessions involving SDIS staff and administration held in April and May, 2011. The goals and strategies developed in these meetings were presented at the 2011 Advisory Board meeting.

The Board recommended a wider stakeholder consultation and an external strategic planning workshop was organized for March 16, 2012. The following people participated in the full day workshop: Yvonne Shevchuk, SDIS director; Paul Melnyk, Chair PAS; Karen Jensen, SDIS manager; Carmen Bell, SDIS consultant, David Hill, Dean, College of Pharmacy & Nutrition; Lori Postnikoff, SCP; Roberta Wiest, Director, HealthLine; Bruce Coates, IT, UofS; Brian Geller, Director of Professional Affairs, SMA, Mandi Haulter, SPEP student, Dawn Martin, Executive Director, PAS; Brenda Schuster, CSHP – SK branch, Doug Spitzig, Prescription Review Program Manager, CPSS; Michael Hewitt, 4th year pharmacy student; Loren Regier, RxFiles; Zeba Ahmad, community pharmacist, fundraising expertise; Grace Rieder, community pharmacist. Two areas, fundraising and updating technology, were identified as needing immediate attention. Action plans were prepared to address these issues. A report on the workshop will be presented at the next Advisory Board meeting.

8. ADVISORY BOARD

The purpose of our Advisory Board is to ensure that SDIS is meeting its goals and objectives. Advisory Board members for the year 2011 – 2012 were:

- Saskatchewan College of Pharmacists – Ray Joubert
- Saskatchewan Health – Kevin Wilson
- Canadian Society of Hospital Pharmacists (SK Branch) – Christina Swiatecki
- Canada’s Research-Based Pharmaceutical Companies – Theo Pauls (Pfizer Canada Inc.)
- College of Pharmacy and Nutrition – Yvonne Shevchuk
- Community Pharmacy Representative – Grace Rieder

The annual meeting of the Advisory Board was held on August 11^h, 2011. The following priorities were set at the meeting:

- Complete strategic planning for the drug information service. (See Section 7.)
- Find new sources of funding for the service. (See Section 7.)
- Look for opportunities to partner with other healthcare initiatives. *(Karen and Yvonne had an introductory meeting with Brian Geller, Director of Professional Affairs, SMA. At his suggestions, we are looking for a pilot project to demonstrate the value of SDIS as a resource for physicians.)*
- Expand quality assurance procedures to include healthcare professional calls. *On-call DI consultants were offered the opportunity to audit responses to healthcare professional calls during their shifts at a fee of \$10 per question. This initiative was not very successful so we are now looking at other strategies to evaluate the quality of professional line responses. We have had initial discussions with PADIS and DPIC and are waiting for feedback from their administration on reciprocal evaluation.*

We greatly appreciate the valuable advice and support the board members provide us, both at the annual meeting and throughout the year.

9. PRIORITIES FOR 2012 - 2013

- Maintain timely and quality on-request drug information service for healthcare professional and consumer callers.
- Initiate strategies prioritized at the strategic planning workshop in March, 2012.
 - Establish a committee to formulate a funding action plan.
 - Set up a searchable database of queries and responses on the SDIS website.
- Complete a five year strategic plan for the service.
- Look for opportunities to partner with emerging healthcare initiatives.
- Investigate opportunities to collaborate with other drug information services.
- Expand quality assurance procedures to include healthcare professional calls.
- Additional priorities will be added as suggested by the Advisory Board at the annual meeting in June, 2012.

10. FINANCIAL REPORT

The 2011-2012 Financial Statements are attached (Appendix I).

We wish to express our sincere appreciation to all the organizations and people who provided financial support for the Saskatchewan Drug Information Service over the past year:

- Saskatchewan Health, Prescription Drug Services Branch
- Saskatchewan College of Pharmacists
- Canadian Society of hospital Pharmacists – Saskatchewan Branch
- College of Pharmacy and Nutrition, University of Saskatchewan
- Pharmacists Association of Saskatchewan
- RxFiles, Saskatoon Health Region
- The pharmacies and pharmacists listed in Appendix II.

11. SASKATCHEWAN DRUG INFORMATION SERVICE (SDIS) PERSONNEL 2011 – 2012

11.1 Director: Dr. Yvonne Shevchuk PharmD, BSP

11.2 Manager: Karen Jensen MSc, BSP

11.3 Drug Information Consultants:

In-office staff

- Carmen Bell BSP
- Lisa Hupka BSP
- Gurpreet Nijjar BSP
- Terry Damm BSP
- Alana Berg BSP

On-call consultants

- Aldona Torgunrud BSP
- Dorothy Sanderson BSP
- Jean Macpherson BSP
- Audrey McLelland BSP
- Charlene Chursinoff BSP
- Amanda Kongawi BSP
- Melanie Hepp BSP
- Loren Regier BSP
- Terry Damm BSP
- Shannon Appel BSP

**Annual report prepared by Karen Jensen, Manager
May, 2012**

**APPENDIX I
FINANCIAL REPORT**

| | Budget 2011 –12 ¹ | Actual 2011-2012 | Budget 2012-13 | Budget 2013-14 |
|------------------------------------|------------------------------|----------------------|----------------------|----------------|
| REVENUE | | | | |
| Sask Health - SPDP | 182,700 | 282,700 ¹ | 285,624 | 291,000 |
| SCP | 49,000 | 49,000 | 49,000 | 50,000 |
| RQHR | 100,000 | 36,661 ¹ | 0 | 0 |
| Donations - Pharmacy | 30,000 | 31,281 | 30,000 | 30,000 |
| Donations - Industry | 8,000 | 0 | 0 | 0 |
| Contracts | 60,000 | 9,950 ² | 40,000 | 40,000 |
| Sundry | 0 | 1,268 | 1,500 | 1,500 |
| Subtotal | 429,700 | 410,860 | 406,124 | 411,500 |
| EXPENDITURES | | | | |
| Salaries | 348,000 | 348,075 | 374,000 ³ | 377,000 |
| Quality Assurance | 2,500 | 0 | 1,000 | 1,000 |
| Office supplies | 500 | 88 | 250 | 250 |
| Books | 1,500 | 90 | 500 | 500 |
| Printing | 2,500 | 1,606 | 2,000 | 2,000 |
| Telephone and Fax | 7,000 | 6,266 | 6,500 | 7,000 |
| Postage | 1,000 | 1,428 | 1,500 | 1,500 |
| External services | 50 | 90 | 100 | 100 |
| Website design and maintenance | 200 | 0 | 2,500 ⁴ | 2,500 |
| Advertising and Promotion | 1,500 | 610 | 1,000 | 1,000 |
| Hospitality / working lunches | 250 | 127 | 250 | 250 |
| Strategic Planning | 250 | 1,732 | 0 | 0 |
| Membership fees & dues | 4,000 | 3,028 | 4,000 | 4,200 |
| Registration conferences/workshops | 1,000 | 581 | 1,000 | 1,000 |
| Software licenses | 10,500 | 9,024 | 9,500 | 10,000 |
| Travel | 1,000 | 0 | 1,000 | 1,000 |
| Computers | 0 | 50 | 524 | 1,000 |
| Equipment | 500 | 0 | 500 | 500 |
| Subtotal | 382,250 | 372,795 | 406,124 | 411,500 |
| REVENUE LESS EXPENDITURES | 47,450 | 38,065 | 0 | 8,700 |

Balance Sheet as of March 31, 2012

| | |
|---|---------------|
| Opening balance April 1 st , - 2011 | -32,828 |
| Revenue – expenditures Apr 1 st , 2011 – Mar 31 st , 2012 | 38,065 |
| Balance March 31st, 2012 | 5,237 |

Notes:

1. The budget and financial report for the on-call and office services have been combined. The on-call service has been funded by Sask Health-SPDP since August, 2011.
2. We weren't able to reach our target for new contract income this year but we have done some preliminary work which could result in better results for the coming year. A fundraising committee was recommended by the strategic planning group to assist the service in generating new income.
3. The salaries item in the 2012-13 budget includes a 2 % increase to in-office and on-call staff plus an additional 0.4 FTE for casual office staff.
4. We plan to switch the SDIS website from Dreamweaver to Cascade and anticipate this will cost approximately \$2500 (item in the 2012-13 budget). Also since the website is becoming an more important forum for SDIS service, a higher amount has been budgeted for this item in 2013-14.

APPENDIX II
Donations from Saskatchewan pharmacies / pharmacists
2010 – 2011

| Pharmacy Name | Location |
|-----------------------------------|-----------------|
| Granger Drugs | Bruno |
| Townsend Drugs | Wynyard |
| River Heights Drugs | Regina |
| Rose Valley Pharmacy | Rose Valley |
| My Pharmacy | Prince Albert |
| Medi Centre Pharmacy | Prince Albert |
| Lehmann Enterprises | Rosthern |
| Midtown Medical Pharmacy | Saskatoon |
| Carrot River Pharmacy | Carrot River |
| Loon Lake Pharmacy | Loon Lake |
| Lorne Drugs | Regina |
| Rosthern Pharmacy | Rosthern |
| Gravelbourg Drugs | Gravelbourg |
| College Ave Drugs | Regina |
| Stueck Pharmacy | Leader |
| Cheetham's Pharmacy | Saskatoon |
| Shellbrook Pharmacy | Shellbrook |
| Henders Drugs | Estevan |
| Shopper's DrugMart , Herold Court | Saskatoon |
| Edmunds Pharmacy | Tisdale |
| Pharmasave 407 | Melville |
| Main Street Pharmacy | Moose Jaw |
| Medicine Shoppe 33rd St | Saskatoon |
| Loucks Medi-Health Pharmacy | Yorkton |
| Rubicon Pharmacy | Weyburn |
| Kelvington Rx Pharmachoice | Kelvington |
| Friesen Drug Ltd. | Rosthern |
| Watrous Pharmacy | Watrous |
| Raymore Pharmacy | Raymore |
| Earl's Pharmacy Ltd | Saskatoon |
| Coteau Hills Pharmacy | Beechy |
| Slobodian Pharmacy | Porcupine Plain |
| R & C Drugs | Regina |
| Medical Arts Pharmacy | Saskatoon |
| Spiritwood Pharmacy | Spiritwood |
| Valley Drug Mart | Fort Qu'Appelle |
| Sapara's Drug Mart | Esterhazy |

| Pharmacy Name | Location |
|------------------------------|------------------|
| Dragan Drugs | Indian Head |
| Elrose Pharmacy | Elrose |
| Medicine Shoppe 5th Ave | Saskatoon |
| Luseland Pharmacy | Luseland |
| Broadway Ave Pharmacy | Saskatoon |
| Lakeview Pharmacy | Saskatoon |
| Fisher's Drug Store | North Battleford |
| Wakaw Pharmacy | Wakaw |
| Rocanville Drug Mart | Rocanville |
| Foam Lake Pharmacy | Foam Lake |
| Midway Pharmacy | Davidson |
| Prescription Works Pharmacy | Big River |
| Redberry Pharmacy | Hafford |
| Towers Pharmacy | Regina |
| Lansdall Pharmacy | Maple Creek |
| Hearn's Pharmacy | Yorkton |
| Laurier Drive Pharmacy | Saskatoon |
| Battleford Drug Mart | Battleford |
| Stapleford Pharmacy | Regina |
| Sametz Pharmacy | Ituna |
| Co-op Pharmacy Circle Dr | Saskatoon |
| Medicine Shoppe 20th St W | Saskatoon |
| Medicine Shoppe Broadway Ave | Saskatoon |
| Wynyard Pharmacy | Wynyard |
| Rubicon Pharmacies | |
| Delta Co-op | Unity |
| Gray Chemists | Prince Albert |
| Canora Pharmacy | Canora |
| London Drugs | |
| Wadena Drugs | Wadena |
| Kimberley Smith | Regina |
| Medicine Shoppe 8th St | Saskatoon |
| Galloway's Pharmacy | Central Butte |