

PMB Pharmacist Study

2008

Technical Appendix

Presented to:

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Presented by:

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Table of Contents

	<u>Page</u>
1.0 INTRODUCTION	1
2.0 QUESTIONNAIRE DESIGN	3
2.1 Questionnaire Layout.....	3
2.2 Topics Covered.....	6
3.0 SAMPLE DESIGN.....	7
3.1 Universe.....	7
3.2 Lists	7
3.3 Sample Selection.....	7
4.0 DATA COLLECTION	10
4.1 Mailing Schedule	10
5.0 RESPONSE RATES	11
6.0 CODING AND EDITING	12
7.0 ASCRIPTION OF MISSING DATA	13
8.0 WEIGHTING.....	14
9.0 SPECIAL CIRCUMSTANCES.....	17
10.0 DEFINITIONS.....	20
11.0 STATISTICAL SIGNIFICANCE.....	24

1.0 INTRODUCTION

In 2007, PMB Print Measurement Bureau, contracted with Maritz Research (formerly Maritz: Thompson Lightstone & Company) to conduct a survey of pharmacists across Canada to measure their readership of selected publications. PMB is a tri-partite organization representing publishers, advertisers, and advertising agencies.

A target of 700 completed questionnaires (500 with retail pharmacists and 200 with hospital pharmacists) was set for the 2008 study. This was to be combined with a similar sample in 2006 for a total two-year minimum sample of 1,400. This report for 2008 is based on the data collected during the years 2006 and 2007. (When referring to this Study the year 2008 will be used, as distinguished from the fieldwork years.)

A total of 9 publications were measured in the 2008 study. The publications included,

- general publications (4);
- regional publications (3); and,
- reference publications (2).

The regional publications were all published in French. The reference publication was published in both French and English. Therefore, in total, the study covered 5 English publications and 4 French publications.

An overall response rate target of 35% was set for the study. To achieve this response rate, pharmacists were offered an incentive in the form of a personalized cheque for \$20.

For the 2006 mailing, a total of 1,750 questionnaires were mailed commencing on the 20th January, 2006.

Of the 1,750 questionnaires mailed, 36 were returned as undeliverable. A total of 683 completed questionnaires were received; this represents a response rate for 2006 of 39.8%. An additional 13 completed questionnaires from the 2006 mailing were received after the close of data entry. These were added to the 2008 combined study.

For the 2007 mailing, a total of 1,750 questionnaires were mailed by the 26th July, 2007, followed by a planned a second mailing of 250 questionnaires (30th August, 2007.) When it became apparent that the target of 700 completed questionnaires might not be reached, a third mailing of 200 questionnaires (25th September, 2007) was launched.

A total of 713 completed questionnaires were received, from the total of 2,200 questionnaires mailed in 2007, and these were added to the 2006 sample. There were 30 returned as “undeliverable.” This represents a response rate for the 2007 mailing of 32.9%.

The total of 1,409 questionnaires over the two years represents an overall response rate of 36.3%.

The purpose of this technical appendix is to report on the execution of the study. This includes questionnaire design and layout, sampling, response rates, coding and editing rules, weighting, and ascription of missing data.

2.0 QUESTIONNAIRE DESIGN

The questionnaire was designed to present representative covers of all the publications being measured together with a series of questions related to readership of each publication. A copy of the final questionnaire is presented under the “Questionnaire” tab.

Questions in the survey covered not only readership but also other topics such as prescriptions filled, information about practices at the pharmacy, accredited continuing education courses taken, consulting with doctors about prescriptions, and sources of information for pharmaceutical products.

2.1 Questionnaire Layout

In addition to the cover representation, the title of each publication is presented together with the publishing frequency. Publications are grouped in the questionnaire according to the type of publication (general, region, and reference).

The questions pertaining to readership appear on the left-hand side of each page. Other questions covering areas such as the pharmacy type, years in practice, job function, practicing hours per week, consultation with physicians about prescriptions and sources of information for pharmaceutical products are placed at the back of the questionnaire.

A separate questionnaire is included to collect information on the number of prescriptions recommended or filled by each pharmacist for each of a select group of drugs. A copy of the single page questionnaire used to collect the prescription data is presented under the “Questionnaire” tab.

Following is a summary of the questionnaires used in this study and the language of the publications included.

<u>Questionnaire Version</u>	<u>Language of Publication</u>
English questionnaire (Atlantic, Ontario, West)	English publications only
English questionnaire (Quebec)	English & French publications
French questionnaire	English & French publications

For all publications that had the title appearing in both English and French on the cover, the title was presented in French in all questionnaire versions printed in French.

A total of 9 publications (including the reference publication) were covered in the 2007 fieldwork mailing. The list of publications that appeared in the mailing, and the order in which they appear in each version of the questionnaire, is presented in Table 2.1.1.

Table 2.1.1

Order of Publications by Rotation – English Canada

<u>Publication Title</u>	ROT. 1	ROT. 2	ROT. 3	ROT. 4
	V01	V02	V03	V04
Canadian Pharmacists Journal	1	4	1	4
Pharmacy Post	2	3	2	3
Pharmacy Practice	3	2	3	2
The Canadian Journal of Hospital Pharmacy	4	1	4	1
Compendium of Pharmaceuticals and Specialties	F1	F1	L1	L1

Note: “F1” – appears first in all rotations, whereas “L1” – appears last in all rotations.

Order of Publications by Rotation – English Quebec

<u>Publication Title</u>	ROT. 1	ROT. 2	ROT. 3	ROT. 4
	V05	V06	V07	V08
Canadian Pharmacists Journal	1	4	7	4
Pharmacy Post	2	5	6	3
Pharmacy Practice	3	6	5	2
The Canadian Journal of Hospital Pharmacy	4	7	4	1
L'Actualité pharmaceutique	5	1	3	7
Pharmactuel	6	2	2	6
Québec Pharmacie	7	3	1	5
Compendium of Pharmaceuticals and Specialties	F1	F2	L1	L2
Compendium des produits et spécialités pharmaceutiques	F2	F1	L2	L1

Note: “F1” – appears first in all rotations, whereas “L1” – appears last in all rotations

Table 2.1.1 (cont'd)

Order of Publications by Rotation – French Canada

Publication Title	French Title (French Canada only)	ROT. 1	ROT. 2	ROT. 3	ROT. 4
		V09	V10	V11	V12
Canadian Pharmacists Journal	Revue des pharmaciens du Canada	1	4	7	4
Pharmacy Post	Pharmacy Post	2	5	6	3
Pharmacy Practice	Pharmacy Practice	3	6	5	2
The Canadian Journal of Hospital Pharmacy	Le Journal canadien de la pharmacie hospitalière	4	7	4	1
L'Actualité pharmaceutique	L'Actualité pharmaceutique	5	1	3	7
Pharmactuel	Pharmactuel	6	2	2	6
Québec Pharmacie	Québec Pharmacie	7	3	1	5
Compendium of Pharmaceuticals and Specialties	Compendium of Pharmaceuticals and Specialties	F1	F2	L1	L2
Compendium des produits et spécialités pharmaceutiques	Compendium des produits et spécialités pharmaceutiques	F2	F1	L2	L1

Note: "F1" – appears first in all rotations, whereas "L1" – appears last in all rotations.

2.2 Topics Covered

The readership segment of the questionnaire covered a number of different topics. These included:

- out of every four issues, number usually read or look through
- how much of the last issue read
- amount of time read or looked into the last issue
- rating of the publication on three elements (“helps me keep up-to-date”, “valuable for information on clinical issues” and “is valuable for CE (Continuing Education)”)

In addition to the readership questions, the questionnaire also covered a number of other topics. These included,

- pharmacy type
- years in practice
- job function
- practicing pharmacy (hours per week)
- # prescriptions your pharmacy fills
- # prescriptions you personally fill/ sign
- accredited continuing education courses (CE)
- consultation with a physician about prescriptions (excluding Rx renewals)
- sources of information for pharmaceutical products

The questionnaire also included a separate page to collect data on the number of prescriptions products recommended to either physicians or patients and the number of prescriptions filled, or signed, in an average week.

3.0 SAMPLE DESIGN

3.1 Universe

The universe for the PMB Pharmacist Study was defined as all pharmacists in Canada practicing either in hospitals or retail.

3.2 Lists

The sample was drawn from the Dendrite Pharmacist database. This list was also used to define the universe for all provinces except Quebec.

The Dendrite database identifies a total of 2,922 retail pharmacists and 686 hospital/ long-term care pharmacists in the province of Quebec. However, the l'Ordre des pharmaciens identifies 4,953 retail pharmacists and 1,197 hospital/ long-term care pharmacists who have checked "OK to receive publications." Therefore, the results from Quebec were weighted to the numbers provided by the l'Ordre des pharmaciens.

3.3 Sample Selection

The survey specifications were based on a random sample disproportionately allocated by two factors:

- job function: retail, hospital
- region/ language: Atlantic, all French, Quebec English, Ontario and Western Canada

The objective of the sampling plan was to ensure that a sufficient number of pharmacists were interviewed in each of 10 reporting cells to allow for reasonable statistical stability.

The study required that there would be a sufficient number of returns from pharmacists whose principal language of business was French. Therefore, a quota was established that, of the 700 completed surveys, at least 300 were from pharmacists whose principal language of business was French.

Quotas were also established to ensure that a sufficient number of completed surveys were received from each of the four regions (Atlantic, Quebec, Ontario, and Western Canada.)

The sample was selected so that reports, or user accesses, by function (hospital/ retail) within the following regions are possible: Atlantic, Quebec - Total, Total - French,

Ontario, and Western Canada. This level of detail required that 10 separate cells be established (2 x 5) and separate samples drawn for each.

For the purposes of sampling, the total number of pharmacists in the hospital and retail functions in Canada was established at 18,113. The universe of pharmacists in each of the cells was derived from the list supplied by Dendrite and is shown in Table 3.3.1

A matrix was created in which the selected list was distributed by job function (hospital/retail) and by region and language. Based on the distribution of pharmacists across the cells, the in-tab numbers required for each column and row of the matrix, and the target of a 35% response rate in total, a sample size for each cell was determined. The total number of pharmacists in each cell of the matrix, and the sample size, provided a sampling interval for that cell. A random starting point was determined for each cell, and every Nth name after that selected.

Since the study had minimum targets of 700 completed responses and a response rate of 35% overall, it was necessary to generate a sample of 2,000 eligible pharmacists. The initial sample was released in two phases (1750 and 250 piece mail outs.) Table 3.3.2 shows the initial sample by cell.

However, during the period allowed for the return of completed questionnaires, it became apparent that the response rate of 35% would not be achieved and therefore the target level of 700 completed questionnaires would not be reached. Therefore a second sample was selected of 200 names drawn from the pharmacists not selected for the initial sample.

The distribution of this augment sample, together with the initial sample, is presented in Table 3.3.3

Table 3.3.1
Universe of Pharmacists

<u>Job Function</u>	<u>Total</u>	<u>Atlantic (E)</u>	<u>Quebec (E)</u>	<u>French Canada</u>	<u>Ontario (E)</u>	<u>Western Canada (E)</u>
Retail	15,005	1,403	111	2,854	5,398	5,239
Hospital	3,108	271	35	664	1,160	978
Total	18,113	1,674	146	3,518	6,558	6,217

Table 3.3.2
Initial Sample of Pharmacists

<u>Job Function</u>	<u>Total</u>	<u>Atlantic (E)</u>	<u>Quebec (E)</u>	<u>French Canada</u>	<u>Ontario (E)</u>	<u>Western Canada (E)</u>
Retail	1,500	119	15	650	362	354
Hospital	500	27	9	250	113	101
Total	2,000	146	24	900	475	455

Table 3.3.3
Initial and Augment Sample of Pharmacists

<u>Job Function</u>	<u>Total</u>	<u>Atlantic (E)</u>	<u>Quebec (E)</u>	<u>French Canada</u>	<u>Ontario (E)</u>	<u>Western Canada (E)</u>
Retail	1,600	123	16	700	386	375
Hospital	600	35	9	300	137	119
Total	2,200	158	25	1000	523	494

4.0 DATA COLLECTION

Prior to the initial mailing, publishers were requested to provide cover representations in electronic format. After applying the representations to the questionnaire, each publisher was asked to verify the representation and indicate any changes that should be made. Requested revisions were made and new proofs sent back to the publishers for approval.

The mailing of the questionnaire was designed to appear attractive to the pharmacist, or receptionist. Each package contained,

- a die cut envelope embossed with the logo
- personalized introductory letter on coloured letterhead
- questionnaire printed in four colours
- separate form for the prescribing data
- personalized cheque
- pre-paid postage return envelope
- gold seal embossed with “*Your Opinion Counts*” to close the package
- commemorative stamp

4.1 Mailing Schedule

The initial mailing was completed on 26th.July, 2007. Additional mailings went out on 30th August, and 25th September, 2007. Returns were closed on 19th October, 2007.

5.0 RESPONSE RATES

Of the 1,750 questionnaires mailed in 2006, 36 were returned as undeliverable. The 683 completed questionnaires received in time to be included in the tabulations for the study represented a 39.8% response rate. An additional 13 questionnaires were received after the close of data entry. These questionnaires have been added to the 2007 study. Together with the original 683 completed questionnaires, this increases the response rate for the 2006 mailing to 40.6%.

In the 2007, a total of 713 completed questionnaires were received from the mailings total of 2,200. There were 30 undeliverables in 2007. This represents a response rate of 32.9%.

Together, the two waves achieved an overall response rate of 36.3%.

Response rates differ by several factors including job function.

Table 5.1.1 highlights the response rate by job function for the total sample of 1,409.

Table 5.1.1

Response Rate by Job Function

<u>Specialty</u>	<u>Mailed</u>	<u>Undelivered</u>	<u>Returned</u>	
	#	#	#	%
Retail	2,851	52	976	34.9
Hospital	<u>1,099</u>	<u>14</u>	<u>433</u>	<u>39.9</u>
Total	3,950	66	1,409	36.3

6.0 CODING AND EDITING

As questionnaires were received, they were checked for completeness and the survey identification number entered. This information was used to track the completed questionnaires in order to prepare weekly progress reports.

A program was written for the data entry phase to include several validation elements:

- responses entered are within the valid range for the question;
- skip patterns are followed (e.g. if “no” to reading of a particular publication then there should be no subsequent questions answered for that publication); and,
- responses entered are logical in comparison with other responses.

Questionnaires that did not meet these criteria were reviewed. The maximum error rate allowed for any data element is 0.5%.

During the data entry phase, a number of situations arose which required modification to the data entry process. These adjustments were reviewed with PMB and, following approval, implemented.

Question 3 (Publication Rating)

Pharmacists were asked to rate publications that they claimed to read on three attributes. Some of these attributes were missed and not rated. If missed, the response to the attribute was coded as “*not stated.*”

Classification

Some pharmacists provided multiple responses to the question “*what is your type of pharmacy?*” Multiple responses were allowed to this question.

Prescribing Data

Some pharmacists did not return this single page. Those not returning this information were ascribed data from other respondents based on their job function and average number of prescriptions filled, or signed, in an average day (information collected in the main questionnaire).

Job Function - % of time you spend on each of the following ...

Responses that summed within the range of 90% to 110% were accepted. Responses outside this range are considered as “Not Stated”

7.0 AScription OF MISSING DATA

Of the 1,409 completed questionnaires, 58 were returned without the prescribing data section completed. This represents a completion rate of 95.9%.

There are a number of options in survey research to handle missing data of this type. One of the most common methods is to assign a “*not stated*” value to all of the questions in the associated survey. This method assumes that those who did not return the questionnaire are similar in the distribution of their attitudes and behaviour to those who responded.

In media research, a more common method of handling non-response to a section of a survey is to match a respondent who completed that part of the survey with a respondent who did not complete the section. The matching process is usually based on characteristics that everyone answers and which are related to the missing data.

For this survey, data for respondents who did not complete the prescribing data form were ascribed from a matching respondent who did provide responses. The matching process was based on the job function and the average number of prescription items written, or signed, per day. If more than one “donor” was matched with an “acceptor” respondent then the “donor” was selected at random from the available candidates. As each donor was matched with an acceptor, the donor was tagged. If another respondent required a similar donor then the tagged donor was removed from the list of possible candidates before another random donor was selected from the list of matches.

8.0 WEIGHTING

A total of 1,409 completed questionnaires were received, entered through the data entry system, and used in the tabulations. Only those questionnaires received prior to 19th October, 2007 were included in the tabulations. The distribution of the 1,409 completed interviews within each of the cells in the sampling plan is presented in Table 8.1.

The data were weighted to match the original distribution of 18,113 pharmacists from which the sample was drawn, and adjusted for Quebec, to the total of 6,150 as presented by the l'Ordre des pharmaciens. To achieve this distribution, the data were weighted by:

- job function (retail/ hospital);
- region;
- language;

The total number of pharmacists covered by the study was 20,655.

A distribution of the interviews by the major variables reported in the study is presented in Table 8.2 and Table 8.3.

Table 8.1

Completed Interviews by Sample Cell

<u>Job Function</u>	<u>Total</u>	<u>Atlantic (E)</u>	<u>Quebec (T)</u>	<u>Other French</u>	<u>Ontario (E)</u>	<u>Western Canada (E)</u>
Retail	976	124	386	13	214	239
Hospital	433	40	221	6	81	85
Total	1,409	164	607	19	295	324

Table 8.2

Unweighted Readers by Publication
(All Pharmacists)

	Number of Issues Usually Read					Total	Scaled
	<u>4 of 4</u>	<u>3 of 4</u>	<u>2 of 4</u>	<u>1 of 4</u>	<u>< 1 of 4</u>		
ENGLISH							
Canadian Pharmacists Journal	333	160	169	145	172	979	595
Pharmacy Post	395	134	125	122	183	959	611
Pharmacy Practice	569	200	149	120	153	1,191	843
The Canadian Journal of Hospital Pharmacy	141	48	67	82	114	452	245
FRENCH							
L'Actualite Pharmaceutique	443	83	48	13	15	602	534
Pharmactuel	164	39	29	34	34	300	221
Quebec Pharmacie	455	82	52	16	10	615	548

Table 8.3

Distribution of Interviews for Reference Publications
(Unweighted and Weighted)

	<u>Unweighted</u>	<u>Weighted</u>
Refer/ Read		
Daily	449	7,239
Weekly	635	9,402
Monthly	190	2,515
# Times/ Week		
Over 30 times	47	675
16 – 30 times	146	2,293
6 – 15 times	529	8,041
< 6 times	596	8,495

9.0 SPECIAL CIRCUMSTANCES

1. Combined Titles

“Compendium of Pharmaceuticals and Specialties” and “Compendium des produits et spécialtés pharmaceutiques” are reported as a single publication.

2. Job Function

“Job Function – Hospital and Retail Pharmacists” was edited to match the Dendrite classification.

3. Prescription Form – Drug categories/Treatment Areas & Reporting

The Prescribing Form underwent substantive changes for the 2008 Study:

- “Treatment areas” were eliminated and “OTC” (Over-The-Counter) drug categories were added to the general “Drug Categories” list (in the “Recommendations” portion only.) These have only one-year’s worth of data, and will not be reported in the 2008 Study.
- Some former “Treatment Areas” became part of the “Drug Categories” through a name change. The old 2006 and new 2008 names will be combined and reported this year.
- New drugs were added to the list of “Drug Categories” and others were dropped. Having only one-year’s worth of data, these will not be reported in the 2008 Study.

(For details see: Table 9.1)

4. Questionnaire Changes

The “Job Function” question section has a new response category, under the “percentage of time spent” portion, added for the 2008 Study: “Doing CE lessons” (located before the last category in the list: “Other”.) This addition, in its first year, will not be reported in the 2008 Study.

The “Accredited Continuing Education Courses (CE)” section of the questionnaire has been changed for the 2008 Study – the list of CE activities has been expanded and re-worded. These additions, in their first year, will not be reported in the 2008 Study. (For details see: Table 9.2)

Table 9.1

Prescribing Information Comparison

In the first column below, 4 drug categories from 2006 have not been repeated in 2008 (as noted: italicized*). In the second column, 2 drug categories and all OTC products are new in 2008 (italicized*). These data will not be released in Pharmacist Study 2008. In the third column the reported drug categories, those found in both 2006 and 2008, are shown. (Numeric codes refer to the line # in 2006 + the line # in 2008)

#	Pharmacist 2006 Prescribing Form	#	Pharmacist 2008 Prescribing Form	#	Pharmacist 2008 Reported Categories
	Treatment Areas		Drug Categories		Drug Categories
1	Arthritics	1	<i>Alzheimer's Therapy*</i>		
2	Depression / Psychiatric Conditions	2	Analgesics	1	Analgesics (9+2)
3	Diabetes	3	<i>Antianginals*</i>		
4	Erectile Dysfunction	4	Antiasthmatics	2	Antiasthmatics / Bronchodilator / Inhaled Steroids (18+4)
5	<i>Heart Conditions*</i>	5	Antiarthritics	3	Antiarthritics / Arthritics (1+5)
6	Migraines	6	Antibiotics	4	Antibiotics (10+6)
7	<i>Obesity*</i>	7	Anticholesterol	5	Anticholesterol (11+7)
8	<i>Osteoporosis*</i>	8	Antidepressants	6	Antidepressants / Depression / Psychiatric Conditions (2+8)
		9	Antidiabetics	7	Antidiabetics / Diabetes (3+9)
	Drug Categories	10	Antihistamines	8	Antihistamines (13+10)
9	Analgesics	11	Antihypertensives	9	Antihypertensives (14+11)
10	Antibiotics	12	Antimigraine Therapy	10	Antimigraine Therapy / Migraines (6+12)
11	Anticholesterol	13	AntiParkinson Therapy	11	AntiParkinson Therapy (15+13)
12	<i>Antifungals*</i>	14	Antistroke Therapy	12	Antistroke Therapy (16+14)
13	Antihistamines	15	Antivirals	13	Antivirals (17+15)
14	Antihypertensives	16	Contraceptives	14	Contraceptives (19+16)
15	AntiParkinson Therapy	17	Dermatologicals	15	Dermatologicals (20+17)
16	Antistroke Therapy	18	Erectile Difficulties	16	Erectile Difficulties / Erectile Dysfunction (4+18)
17	Antivirals	19	Gastro Therapy	17	Gastro Therapy (21+19)
18	Bronchodilator/Inhaled Steroids	20	Hormonal Therapy	18	Hormonal Therapy (22+20)
19	Contraceptives	21	Oncology Therapy	19	Oncology Therapy (23+21)
20	Dermatologicals	22	Smoking Cessation Therapy	20	Smoking Cessation Therapy (24+22)
21	Gastro Therapy				
22	Hormonal Therapy		OTC*		
23	Oncology Therapy	23	<i>Pain Relief*</i>		
24	Smoking Cessation Therapy	24	<i>Cough/Cold Preparations*</i>		
		25	<i>Vitamins and Supplements*</i>		
		26	<i>Natural Health Remedies*</i>		

Table 9.2

Continuing Education Question Section Changes between Studies

2006 Study Version CE Question

ACCREDITED CONTINUING EDUCATION COURSES (CE)	TAKEN PAST YEAR
Yes.....	<input type="checkbox"/> ₁
No.....	<input type="checkbox"/> ₂
Number in past year:	
CE Insert in Pharmacy Publication	_____
CE Direct Mail Program	_____
Attended Courses / Conferences	_____
Internet CE	_____

2008 Study Version CE Question

ACCREDITED CONTINUING EDUCATION COURSES (CE)	TAKEN IN PAST YEAR
Yes	<input type="checkbox"/> ₁
No	<input type="checkbox"/> ₂
Of the CE courses that you took, how many did you...	Write in number in past year
- See a print version CE distributed via a pharmacy publication, read the print version and fax or mail the answer card	_____
- See a print version CE distributed via a pharmacy publication, read the print version and answer online	_____
- See a print version CE distributed via a pharmacy publication, read the online version and answer online	_____
- Read and answer online without any print CE version	_____
- Attend a live CE event	_____

10.0 DEFINITIONS

10.1 Average Issue Audience

For this report, readership was calculated using the “*frequency of reading*” question. Theoretical probabilities are assigned to each category to reflect readership based on the claimed frequency of reading. The probabilities assigned for this report are,

4 out of 4	1.00
3 out of 4	0.75
2 out of 4	0.50
1 out of 4	0.25
Less often than 1 out of 4	0.125
Never look into an issue	0.00
Never – do not receive	0.00

For the reference publications, readership was defined as “*refer to, or read*” daily, weekly, or monthly.

10.2 Universe Definition

The universe for this study comprises of pharmacists from the Dendrite list. The Dendrite list includes a total of 18,113 pharmacists of whom 15,005 are in retail and 3,108 in hospitals. For the purposes of weighting, the number of pharmacists in Quebec was balanced to that provided by the l'Ordre des pharmaciens – a total of 6,150 (4,953 in retail and 1,197 in hospitals.)

Dendrite (plus l'Ordre for Quebec)	
Hospital	17,036
Retail	3,619
Total	20,655

10.3 Average Page Exposure

Average page exposure is estimated from the product of the readership and the proportion of pages read. For example, if a respondent claims to have read all issues (4 out of 4) and to read about 50% of the pages, then the average page exposure for this respondent would be 50% for this publication.

Average page exposure takes into account the frequency of reading and the proportion of pages read. The following table (Table 10.3.1) shows the average page exposure for each combination of frequency of reading and proportion of pages read. There are 13 unique values for average page exposure. Codes for each unique value are provided in the codebook and the database.

Table 10.3.1

Q2A		Q1. Probability of Reading					
% Pages read		4 of 4	3 of 4	2 of 4	1 of 4	< 1 of 4	Never
Response	Value	1.000	0.750	0.500	0.250	0.125	0.000
All	1.000	1.000000	0.750000	0.500000	0.250000	0.125000	0.000000
Most	0.750	0.750000	0.562500	0.375000	0.187500	0.093750	0.000000
Half	0.500	0.500000	0.375000	0.250000	0.125000	0.062500	0.000000
Quarter	0.250	0.250000	0.187500	0.125000	0.062500	0.031250	0.000000
Very little	0.125	0.125000	0.093750	0.062500	0.031250	0.015625	0.000000
Not Stated	0.000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

10.4 Calculation of Averages

Averages are consistently calculated in PMB volumes and computer access.

- Time Spent Reading
- Qualitative Questions: Helps keep me up to date/ Is valuable for information on clinical issues/ Is valuable for CE (Continuing Education)/ Valuable information resource (Compendium only)
- Years in Current Field of Practice
- Number of hours per week pharmacist practices pharmacy
- Number of prescriptions filled per average day (by pharmacy)
- Number of prescriptions filled per average day (by pharmacist)
- Sources of information for pharmaceutical products (usefulness rating)
- Job Function (percent of time spent)
- Number of accredited continuing education courses (CE) taken
- Number of times in an average week consult with a physician about prescriptions
- Percent of consultations with physician resulting in a change to the prescription
- Number of times in an average month refer to sources of information for pharmaceutical products
- Number of prescription recommendations pharmacist made per week (separate sheet)
- Number of prescriptions pharmacist filled/ signed per week (separate sheet)

For exact details of midpoint values used see Table 10.4 below:

Table 10.4 – Calculation of Averages

Time Spent Reading

Less than 10 minutes	5.0
10 – 20 minutes	15.0
21 – 30 minutes	25.5
1/2 – 1 hour	45.0
Over 1 hour	90.0
Not Stated	Excluded

Four Qualitative questions*

1	1.0
2	2.0
3	3.0
4	4.0
5	5.0
Not Stated	Excluded

***Four qualitative questions**

Valuable information resource (Compendium only)
 Helps keep me up to date
 Is valuable for information on clinical issues
 Is valuable for CE (Continuing Education)

Years In Practice

Less Than 5	2.5
5-10	7.5
11-20	15.5
21-29	25.0
More Than 30	33.0
Not Stated	Excluded

Hours Pharmacist Practices Pharmacy

Less Than 10	5.0
10- 20	15.0
21-30	25.5
31-40	35.5
41-50	45.5
51 or more	55.0
Not Stated	Excluded

**# Prescriptions Pharmacy Fills
(Average Day)**

Less than 100	50.0
101-150	125.5
151-200	175.5
201-300	250.5
301-400	350.5
401+	450.0
Not Stated	Excluded

**# Prescriptions Pharmacist Fills
(Average Day)**

Less than 50	25.0
51-75	63.0
76-100	88.0
101-150	125.5
151-200	175.5
201-300	250.5
301+	350.0
Not Stated	Excluded

**Sources of Information for
Pharmaceutical Products
(Usefulness Rating)**

1	1.0
2	2.0
3	3.0
4	4.0
5	5.0
Not Stated	Excluded

Job Function (% of time spent)

0	0.0
1	0.01
...	
...	
99	0.99
100	1.00
Not Stated	0.00

Table 10.4 – Calculation of Averages (cont'd)

Times Consult with Physician about Prescriptions (Average per Week)

0	0.0
1	1.0
2	2.0
...	
...	
990	990.0
Not Stated	Excluded

% Of Consultations with Physician Resulting in a Change

0	0.0
1	0.01
...	
99	0.99
100	1.00
Not Stated	0.00

Sources of Information for Pharmaceutical Products

(# Referred to in an Average Month)

0	0.0
1	1.0
2	2.0
...	
990	990.0
Not Stated	Excluded

Prescription Recommendations Pharmacist Made Per Week (Yellow Sheet)

None	Excluded
1-5	3.0
6-10	8.0
11-15	13.0
16 or more	20.0
Not Stated	Excluded

Prescriptions Pharmacist Filled/ Signed Per Week (Yellow Sheet)

None	Excluded
1-19	10.0
20-39	29.5
40-79	59.5
80+	100.0
Not Stated	Excluded

11.0 STATISTICAL SIGNIFICANCE

Results from any survey based on a sample of the population are estimates whose accuracy is based on the sample size and the level of response (or in the case of the PMB Pharmacists, the readership level). Following is a chart, which indicates how the confidence level changes with sample size and the observed percent (or readership levels). The data shown are for a single population at the 95% confidence level.

CONFIDENCE INTERVAL FOR A PROPORTION

(At the 95% Confidence Level)

Sample Size	Magnitude of Observed Percent									
	5% 95%	10% 90%	15% 85%	20% 80%	25% 75%	30% 70%	35% 65%	40% 60%	45% 55%	50% 50%
50	6.0	8.3	9.9	11.1	12.0	12.7	13.2	13.6	13.8	13.9
75	4.9	6.8	8.1	9.1	9.8	10.4	10.8	11.1	11.3	11.3
100	4.3	5.9	7.0	7.8	8.5	9.0	9.3	9.6	9.8	9.8
125	3.8	5.3	6.3	7.0	7.6	8.0	8.4	8.6	8.7	8.8
150	3.5	4.8	5.7	6.4	6.9	7.3	7.6	7.8	8.0	8.0
175	3.2	4.4	5.3	5.9	6.4	6.8	7.1	7.3	7.4	7.4
200	3.0	4.2	4.9	5.5	6.0	6.4	6.6	6.8	6.9	6.9
225	2.8	3.9	4.7	5.2	5.7	6.0	6.2	6.4	6.5	6.5
250	2.7	3.7	4.4	5.0	5.4	5.7	5.9	6.1	6.2	6.2
275	2.6	3.5	4.2	4.7	5.1	5.4	5.6	5.8	5.9	5.9
300	2.5	3.4	4.0	4.5	4.9	5.2	5.4	5.5	5.6	5.7
325	2.4	3.3	3.9	4.3	4.7	5.0	5.2	5.3	5.4	5.4
350	2.3	3.1	3.7	4.2	4.5	4.8	5.0	5.1	5.2	5.2
375	2.2	3.0	3.6	4.1	4.4	4.6	4.8	5.0	5.0	5.1
400	2.1	2.9	3.5	3.9	4.2	4.5	4.7	4.8	4.9	4.9
425	2.1	2.9	3.4	3.8	4.1	4.4	4.5	4.7	4.7	4.8
450	2.0	2.8	3.3	3.7	4.0	4.2	4.4	4.5	4.6	4.6
475	2.0	2.7	3.2	3.6	3.9	4.1	4.3	4.4	4.5	4.5
500	1.9	2.6	3.1	3.5	3.8	4.0	4.2	4.3	4.4	4.4
525	1.9	2.6	3.1	3.4	3.7	3.9	4.1	4.2	4.3	4.3
550	1.8	2.5	3.0	3.3	3.6	3.8	4.0	4.1	4.2	4.2
575	1.8	2.5	2.9	3.3	3.5	3.7	3.9	4.0	4.1	4.1
600	1.7	2.4	2.9	3.2	3.5	3.7	3.8	3.9	4.0	4.0
650	1.7	2.3	2.7	3.1	3.3	3.5	3.7	3.8	3.8	3.8
700	1.6	2.2	2.6	3.0	3.2	3.4	3.5	3.6	3.7	3.7
750	1.6	2.1	2.6	2.9	3.1	3.3	3.4	3.5	3.6	3.6
800	1.5	2.1	2.5	2.8	3.0	3.2	3.3	3.4	3.4	3.5
850	1.5	2.0	2.4	2.7	2.9	3.1	3.2	3.3	3.3	3.4
900	1.4	2.0	2.3	2.6	2.8	3.0	3.1	3.2	3.3	3.3
950	1.4	1.9	2.3	2.5	2.8	2.9	3.0	3.1	3.2	3.2
1000	1.4	1.9	2.2	2.5	2.5	2.7	3.0	3.0	3.1	3.1
1500	1.1	1.5	1.8	2.0	2.2	2.3	2.4	2.5	2.5	2.5
2000	1.0	1.3	1.6	1.8	1.9	2.0	2.1	2.2	2.2	2.2

Based on this table, if the readership of a publication is 45% and the sample size 1,000, then the readership could be expressed as 45% ± 3.1%. The estimate of the readership would be between 41.9% and 48.1%.