

A Survey of Selected Issues Involving Pharmacy Technician Training in Canada

Elan Paluck, Timothy Stratton, Marianne Greer

ABSTRACT

A non-random, snowball sampling technique was used to survey eleven Canadian pharmacy technician training programs and thirteen pharmacy regulatory and voluntary bodies on issues surrounding pharmacy technicians. A 100% response rate was achieved in the

questionnaires which targeted issues such as nomenclature, certification, accreditation, and education of pharmacy technicians. Survey results indicate that while many provincial pharmacy regulatory boards have addressed issues such as the nomenclature and workplace role of pharmacy technicians, there is a lack of consensus and discussion in the areas of certification, accreditation, and responsibility for continuing education.

Key Words: pharmacy assistant, pharmacy technician

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RÉSUMÉ

On s'est servi d'une technique d'échantillonnage non aléatoire en boule de neige pour sonder les participants à onze programmes de formation en techniques pharmaceutiques et les membres de treize organismes de réglementation officiels ou associations professionnelles sur les questions qui touchent les techniciens en pharmacie. Les questionnaires ont obtenu un taux de réponse de 100 p. 100 et portaient sur divers aspects comme la nomenclature, la certification, l'agrément et la formation. Les résultats du sondage révèlent que si bon nombre de régies provinciales se sont attaquées à diverses questions comme la nomenclature et le rôle des techniciens au lieu de travail, on ne peut parler de consensus pour ce qui est de la certification, de l'agrément et de la responsabilité en matière d'éducation permanente, autant de points qui n'ont pas été suffisamment débattus.

Mots clés: adjoint du pharmacien, techniciens en pharmacie

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INTRODUCTION

Due to chronic pharmacist shortages in the United States and some parts of Canada^{1,2} and increasing economic constraints on health care budgets², the use of pharmacy technicians has increased out of necessity. Their use, however, has not been without resistance. Apart from legal and regulatory barriers that have been slow to change, many pharmacists, employers, and educators are uncertain as to the role of the pharmacy technician³⁻⁶. The delay in generating a consensus regarding pharmacy technician utilization may be directly related to the personal and professional fears of some

pharmacists. The primary concerns surrounding technician use are that technicians will cause a loss of pharmacists' jobs^{4,9}, jeopardize public safety⁵⁻¹⁰, and increase the pharmacist's liability^{2,6,7,11}.

Extensive literature review revealed little information on Canadian pharmacy technicians. Analysis of the American literature, however, uncovers seven major issues involving pharmacy technicians: nomenclature, education and training, accreditation, certification, function, legal/regulatory status, and licensing of pharmacy technicians. The present study selectively chose to explore the

first four of these issues:

1) Nomenclature: The literature search revealed that in Canada, a national consensus in the area of technician nomenclature is lacking;

2) Education and Training of Technicians: Informal, on-the-job training has typically been the most prevalent method of training pharmacy technicians. With changing pharmacist roles and advances in pharmaceutical technology, however, this trend is changing. In the U.S., many pharmacists (particularly hospital pharmacists), believe formal training of technicians in a community college or technical school to be su-

perior to on-the-job training^{8,12-14}. In Canada, the number of pharmacists supporting mandatory, formal education is rising. A 1972 referendum sponsored by the Ontario College of Pharmacists (OCP) revealed that while 85% of respondent pharmacists favoured some type of training, only 16% of these favoured formal training¹⁵; however, by 1989, 47% of pharmacists favouring training requirements for technicians in Ontario favoured mandatory formal training with a practical component (personal communication with the Ontario college of Pharmacists' Director of Education, 1991).

3) Accreditation, and 4) Certification: Accreditation is the official process of endorsing or approving a program which has met certain predetermined qualifications. In contrast, certification is a process by which a nongovernmental agency grants recognition to an individual who has met certain predetermined qualifications¹².

The American Society of Hospital Pharmacists (ASHP) has developed a mechanism to accredit pharmacy technician training programs in the United States⁴. Currently, there are 30 ASHP-accredited technician training programs in the U.S.¹⁶. In Canada, although most community colleges are accredited, there is no mechanism to accredit pharmacy technician training programs, which would ensure the quality of the program itself.

Because graduation from an accredited training program does not necessarily ensure the competence of the individual technician, certification is gaining popularity. Various forms of certification exams are emerging in Canada. The South Winnipeg Technical Centre offers a "challenge exam" which is similar to a certification exam;

and in Quebec, the Ministry of Education allows persons who have been employed as a pharmacy technician for more than one year to obtain a pharmacy technician diploma. These processes are neither true certification processes, nor true licensure processes, as they are granted through a governmental agency and not the regulatory body of pharmacy, and are not required for a technician to practice.

Licensure, due to its legal and professional implications, is an issue apart from certification. "Licensure is the granting of formal permission from a government authority to participate in a profession"¹². Primary justifications for licensure are to protect the public from dishonest and incompetent practitioners, raise the entry standards for the profession, and to provide public assurance that each licensed person possesses the required skills and knowledge to practice. Critics, however, contend that licensure is simply a process to limit entry into the work force in order to bring about a higher salary level through limited competition¹⁷.

Canada does not license pharmacy technicians at this time. The majority of pharmacists and pharmacy regulatory bodies in the U.S. oppose the licensing of pharmacy technicians^{8,11,12}. Licensure is further complicated because a Board of Pharmacy's authority is usually limited specifically to the examination and licensing of pharmacists. Therefore, it would be necessary to seek legislative authority for the licensing of technicians¹¹.

The importance of technicians in modern pharmacy practice is growing; yet research pertaining to pharmacy technicians in Canada is scant. The present survey was undertaken to acquire descriptive,

baseline data on issues surrounding pharmacy technicians in Canada.

METHODS

In July of 1991, pharmacy technician educators and pharmacy leaders in Canada were surveyed. A questionnaire, "The Pharmacy Technician Training Program Survey", was mailed to coordinators or principal instructors of pharmacy technician training programs in Canada (Table I). The exact number of programs available in Canada is not known, due to the rapid proliferation of privately-run programs within the last few years, especially in Ontario¹⁸. Therefore, a non-random snowball sampling technique¹⁹ was used to locate participants for this survey. In this method, training programs known to the investigators or the provincial pharmacy regulatory bodies were queried about the existence of other programs. In total, 11 technician program educators or coordinators were surveyed. The Pharmacy Technician Training Program Survey sought information such as the cost of tuition and books, enrolment and graduation rates, and the attitudes of respondents toward issues such as certification, accreditation, and continuing education.

A separate questionnaire, "The Regulatory Bodies' Survey", was mailed to the ten provincial pharmacy regulatory bodies, and three professional pharmacy associations: the Canadian Society of Hospital Pharmacists (CSHP), the Canadian Pharmaceutical Association (CPhA), and the Canadian Association of Pharmacy Technicians (CAPT). This questionnaire sought data concerning the respondents' attitudes toward, and current position of their organization on selected pharmacy technician issues. In Nova Scotia, the

pharmacy regulatory body forwarded the questionnaire to Nova Scotia's voluntary pharmacy association, based on a belief that the province's lack of formal recognition of technicians would impede the regulatory body's ability to participate in the study.

To maximize the response rate, both surveys were initiated with a telephone call to participants²⁰. After the first mailing, three fol-

low-up procedures were undertaken; an initial follow-up telephone call, a second mailing or telefacsimile of the questionnaire, and a final reminder telephone call.

Two important limitations may influence the results of this survey. First, the data presented are self-reported, which can result in bias²¹. That is, respondents were made aware in the introductory letter that survey results were be-

ing gathered with the intent of publication. Social desirability, or a respondent's propensity to answer a question in the "politically correct" manner may have influenced the survey's results.

A second limitation of the survey may affect the validity of the results. Survey participants were asked to respond on behalf of their organizations or associations. However, many of the issues ex-

Table I. Characteristics of Pharmacy Technician Training Programs Surveyed

Program	Years in Operation	Funding Source	Yearly Admissions	Yearly Graduates	Employment Rate	Cost/Session	Cost/Week
Vancouver Community College (BC)	17	Gov't	40	40	95%	\$ 700	\$31.82
Red Deer College (Alta)	15	Gov't	44	40	80%	\$1300	\$30.23
South Winnipeg Technical Centre (Man)	9	Private	24	20	85%	\$ 150*	\$3.85
Robertson Career College (Man)	1	Gov't	50	30	~	\$6008	\$125.00
Humber College (Ont)	20	Gov't	98	70	95%	\$1300	\$30.23
St. Clair College (Ont)	20	Gov't	40	30	97%	\$1000	\$31.25
Algonquin College (Ont)	10	Gov't	30	25	>90%	\$1650	\$50.00
Cambrian College (Ont)	1	Gov't	25	12	75%	\$1400	\$41.18
Ecole de Formation Professionnelle de Chateauguay (Que)	4	Gov't	120	90	>90%	\$150	\$5.00
New Brunswick Community College (NB)	2	Gov't	12	10	90%	\$1000	\$25.00
Nova Scotia Pharmacy Technician Training Program (NS)	2	Gov't	20	15-16	50-71%~	\$0.00	\$0.00**
Total	N/A		503	382	N/A	N/A	N/A
Mean	9		46	35	86%	\$1423	\$36.23

* program can be part of grade XII year; therefore, tuition is waived. Supply costs are \$150 for high school students and \$500 for adults.

**work re-entry program; tuition waived. Gov't cost is approx. \$300/week (includes program costs as well as unemployment benefits paid to student).

~ data unavailable due to the novelty of the program

amined in the survey had not been addressed by the respondents' organizations. Therefore, the responses provided may reflect the respondents' beliefs rather than the organizations' positions.

RESULTS

The response rate for each questionnaire was 100%. The survey results according to the four pharmacy technician issues examined are as follows:

1) Nomenclature: The titles

"pharmacy technician" and "pharmacy assistant" are the two names approved by pharmacy regulatory bodies for technicians in Canada. Of the two terms, "pharmacy technician" is the most frequently used;

2) Education and Training: Canadian pharmacy technician training programs range in length from five months to one year with an average length of nine months. Each training program surveyed provided a practical component ranging in length from four to eight

weeks. On average, practical components in Canadian technician training programs are eight weeks in duration.

Costs for pharmacy technician training programs are given in Table I. Program costs have been broken down into weekly costs to allow for variations in program length. Figures shown are for tuition, books and other learning supplies, and do not include expenses indirectly related to the programs, such as accommod-

Table II. Prerequisites for Entrance into Pharmacy Technician Training Programs in Canada

	Grade 12 or Equivalent	Sciences	Mathematics	English or French	Computer Skills	Career Investigation	Personal Interview	Bondable	Reference Letters	Typing/Keyboarding Skills	First Aid Course	Aptitude Testing
1. Vancouver Community College	*		*	*	*					*		
2. Red Deer College	*	*	*	*		*	*		*	*		*
3. South Winnipeg Technical Centre	*	*					*			*		
4. Robertson Career College	*	*					*	*				*
5. Humber College	*	*	*									*
6. St. Clair College	*	*	*				*				s	s
7. Algonquin College	*	*	*								s	*
8. Cambrian College	*	*	*	*						*	a	
9. Ecole de Formation Professionnelle de Chateauguay	*		*	*								
10. New Brunswick Community College	*	*	*				*					
11. Nova Scotia Pharmacy Technician Training Program	*		s				*					

*= required for admission
 s= suggested for admission
 a= to be completed prior to graduation

ation.

The number of students accepted into each program annually ranges from 12 to 120 (Table I). Based on the number of graduates per year, program completion rates vary from 48% to 100%. Canadian technician training programs enjoy a high employment or placement rate, with the average being 86% (range 60% to 97%).

Prerequisites for admission into pharmacy technician training programs in Canada are given in Table II. All training programs surveyed require a Grade 12 diploma or its equivalent, and eight of the programs require science courses such as chemistry or biology for entrance. Two programs require an active career investigation by the applicant in which a half day must be spent in a pharmacy; a report regarding the experience is sub-

mitted with the application.

Nine of the pharmacy technician programs surveyed had members of the provincial regulatory body participating on an advisory committee. Advisory committees are formed to represent pharmacy's interests in the development and/or provision of technician training (Table III).

The most commonly studied subjects in Canadian technician training programs are pharmacy mathematics; hospital and community pharmacy dispensing; computer use; aseptic technique; pharmacology/drug therapy; and drug purchasing and inventory control (Table IV). Subjects less frequently covered are English, pathology, first aid, and pharmaceutical chemistry.

Continuing education for pharmacy technicians is available in at

least six provinces in Canada (Table V). The majority of continuing education available for pharmacy technicians is provided by local chapters of CAPT or CSHP. Although none of the provincial regulatory bodies offer continuing education for pharmacy technicians, most believed that continuing education was necessary and/or beneficial in ensuring the competence of technicians;

3) Accreditation: The majority of pharmacy technician training program educators/coordinators surveyed supported the idea of a national accreditation process for technician training programs (Table V). Provincial pharmacy regulatory bodies, however, are not in agreement on this issue; one regulatory body was in favour of a national accreditation program and

Table III. Roles of Provincial Regulatory Bodies in Pharmacy Technician Training Programs

PROGRAM	ROLES			
	Advisory Committee	Guest Lecturers	Employment Assistance	No Role
1. Vancouver Community College	x			
2. Red Deer College	x			
3. South Winnipeg Technical Centre	x			
4. Robertson Career College				x
5. Humber College	x	x		
6. St. Clair College	x	x		
7. Algonquin College	x			
8. Cambrian College	x			
9. Ecole de Formation Professionnelle de Chateauguay	x	x		
10. New Brunswick Community College				x
11. Nova Scotia Pharmacy Technician Training Program	x		x	

four regulatory bodies did not comment on national accreditation, as the issue had not yet been addressed;

4) Certification: Three pharmacy regulatory bodies and one professional association favoured a certification program for pharmacy technicians (Table V). However, greater support for certification was found among the coordinators and/or educators in pharmacy technician training programs. Eight (73%) favoured certification, and the remaining 27% of respondents were undecided on the issue.

DISCUSSION

While numerous articles chronicle the history of pharmacy technicians in the United States^{1,7,22,23}, few have examined pharmacy technician issues in Canada¹⁵. In 1972, Canada's first community college-based pharmacy technician training programs began in Ontario, one at Humber College in Etobicoke, and one at St. Clair College in Windsor²⁴. Within four years, Vancouver Community College in British Columbia and Red Deer College in Alberta began offering similar programs. It is estimated that there are over 17

pharmacy technician training programs currently operating in Canada.

In 1976, CSHP developed a "Statement of Functions of Pharmacists and Non-Professional Personnel in Hospital Pharmacy in Canada"²⁵. This document delineates the functions within the hospital environment that should be performed by a pharmacist only, those that could be performed by an assistant under the supervision of a pharmacist, and those that could be performed by an assistant without supervision provided adequate procedures were in place.

Table V. Response to Issues Studied in the Survey

		Response			
	Certification	National Accreditation	Offer CE for Techs	Believe CE to be Beneficial for Techs	May Offer CE for Techs
Regulatory Body					
B.C.	No	No Comment	No	No	No
Alta.	Yes	No Comment	No	Yes	No
Sask.	Yes	No	No	Yes	No
Man.	No Comment	No Comment	No	Yes	No Comment
Ont.	No	Yes	No	Yes	No
Que.	Yes	No	No	Yes	No
N.B.	No	No	No	Yes	No
N.S.	No	No	No	Yes	Yes
P.E.I.	No	No	No	No	No
Nfld.	*	*	*	*	*
CSHP	No Comment	Yes~	No(a)	Yes	Yes
CPhA	Yes~	Yes~	No~	Yes~	Yes~
CAPT	Yes	Yes	Yes	Yes	N/A
Training Program					
Vancouver	Undecided	No	—	—	—
Red Deer	Yes	Yes	—	—	—
S.W.T.C.(b)	Yes	Yes	—	—	—
Robertson(c)	Yes	Yes	—	—	—
Humber	Yes	Yes	—	—	—
St. Clair	Yes	Yes	—	—	—
Algonquin	Yes	Undecided	—	—	—
Cambrian	Yes	Yes	—	—	—
E.F.P.C.(d)	Yes	Yes	—	—	—
New Brunswick	Undecided	Yes	—	—	—
Nova Scotia	Undecided	Yes	—	—	—

(a) through local chapters only
 (b) South Winnipeg Technical Centre
 (c) Winnipeg, Manitoba
 (d) Ecole de Formation Professionnelle de Chateauguay
 ~ Not an official policy of the organization
 * Declined to partipate as technicians are not recognized

In 1983, CAPT was founded to further the education and interests of pharmacy technicians in Canada²⁶. By 1989, CAPT had over 400 members throughout Canada. Local chapters are currently active in British Columbia, Alberta, Manitoba, and Ontario²⁷. In 1987, Quebec members left CAPT because of language difficulties and organized their own association, *L'association Québécoise des Assistants Techniques en Pharmacie*²⁷.

The OCP established a Task Force on Dispensary Assistants in 1989 to examine the qualifications, nomenclature, supply, and regulation of pharmacy technicians. As part of the Task Force review, a questionnaire was distributed to all College members in October of 1989 (N=7,400). Two hundred and fifty-one individual pharmacists and seven pharmacist groups responded to the survey (4% response).

According to the Director of Education, the primary findings of the study revealed that:

1) 53% of respondents did not support minimum training requirements for pharmacy technicians, 47% favoured mandatory formal training that included a practical component;

2) 85% of respondents favoured a standard title "dispensary assistant" by community pharmacists, and "pharmacy technician" by hospital pharmacists;

3) 61% supported establishment of a pharmacist-to-technician ratio in the workplace. Based on these findings, the Task Force recommended to the OCP in 1990 that uniform standards for pharmacy technicians be established and that the term "pharmacy technician" be used for auxiliary personnel meeting these qualifications. Furthermore, the Task Force recommended against the

establishment of ratios, and that pharmacy technicians neither be professionally regulated nor licensed²⁸.

Similarly, CSHP in 1989 established a Task Force to review the relationship between CSHP and pharmacy technicians. Current terms of reference for the Task Force were approved by Council in 1992 and include the development of a document outlining minimum training standards for pharmacy technicians, and an investigation into the feasibility of developing a component of CSHP educational programs directed to pharmacy technicians.

To assure a steady supply of trained technicians able to meet pharmacy's requirements, it is advantageous for the profession to maintain an advisory role in pharmacy technician training programs. One objective of "The Pharmacy Technician Training Program Survey" was to examine the involvement, if any, that provincial pharmacy regulatory bodies played in technician training programs. Table V reveals that in all but two cases, the respective provincial pharmacy regulatory board played an official role. However, there is reason to believe that the number of programs not utilizing an advisory committee may actually be higher than 18%; at least six privately-run programs which opened and closed their doors within the last four years did not have regulatory body support. Furthermore, since the time of this study the investigators have learned of four other technician training programs. In general, most of these programs lack endorsement or input from the provincial pharmacy regulatory body. Pooling these numbers raises the estimated number of programs operating without regulatory body guidance up to 45%.

Nine technician program educator/coordinators surveyed supported the idea of a national accreditation process. Accreditation, as one respondent stated, would aid students attempting to choose a college, provide maximum employment mobility for technicians, and help accredited program graduates gain acceptance by pharmacists.

A respondent opposed to a national accreditation process questioned the advantages of such a program, as most technician programs are currently offered in accredited community colleges. Furthermore, this respondent believed that the maintenance of adequate standards was a function currently provided by the program's advisory committee. The respondent's concerns are valid but raise additional issues. First, an accredited college is not synonymous with an accredited program, and neither will ensure that the profession of pharmacy has any influence in developing competencies for the programs' graduates. Secondly, if adequate standards are to be maintained by a training program's advisory committee, who fulfils this function in the absence of an advisory committee? As many as 45% of Canadian technician training programs may be operating without an advisory committee. Furthermore, it is unknown if advisory committees which are in place conduct any type of evaluation designed to measure the training programs' results.

The Pharmacy Technician Training Program Survey also examined curriculum content in Canadian technician training programs. The study did not intend to qualitatively evaluate the curriculum, but to explore topics currently receiving attention in Canadian pharmacy technician

training programs. No attempt was made to examine the adequacy of the programs' curricula; further research into curriculum content variations in Canadian programs is needed.

Continuing education is available for pharmacy technicians in six Canadian provinces. Respondent beliefs and expectations concerning continuing education for technicians varied dramatically amongst the regulatory bodies, professional associations, and training program educators. Although most respondents endorsed the concept of continuing education for pharmacy technicians, one respondent believed that the limited technical functions of pharmacy technicians could be updated in the practice setting. Another respondent commented that "the ultimate responsibility for technician competence rests with the pharmacist". Focusing on semantics, a third respondent stated that the term "competency" implied professional judgement, which was not the technician's role.

In conclusion, although many provinces have addressed the issue of nomenclature of pharmacy technicians, there is a lack of consensus and discussion occurring in the areas of certification; accreditation, and responsibility for the education/training and continuing education of pharmacy technicians. Respondents representing Canadian pharmacy technician training programs generally favour certification, accreditation, and continuing education programs as a means of ensuring a steady supply of competent and qualified technicians for the profession of pharmacy. It is hoped that the exploratory, descriptive data presented here will generate

hypotheses and stimulate Canadian research in this area. Future areas for research are numerous and include curriculum variations among Canadian pharmacy technician training programs, as well as the job satisfaction, job performance, task differentiation, and wage differences in formally versus informally trained technicians. ☒

REFERENCES

1. ASHP Task Force on Technical Personnel in Pharmacy. Toward a well-defined category of technical personnel in pharmacy. *Am J Hosp Pharm* 1987;44:2560-5.
2. Ryan M. The pharmacy technician—an occupation in search of consensus. *Am J Hosp Pharm* 1989;46:496-505.
3. Anderson RW. Technicians and the future of pharmacy. *Am J Hosp Pharm* 1987;44:1593-7.
4. Epstein D. Pharmacy technicians: where do they fit in? *Drug Top* 1988;132(12):26-31.
5. Bowles GC Jr. Technicians could help pharmacists more if state laws would let them. *Mod Hosp* 1973 (Nov);121:106.
6. Gebhardt F. California board hears pros and cons of pharmacy technicians. *Drug Top* 1988;132(4):16,21.
7. Whalen FJ. Supportive personnel training and management. In: McLeod DC, Miller WA, eds. *The Practice of Pharmacy*. Cincinnati; Harvey Whitney Books; 1981.
8. Anon. Members endorse training for pharmacy technicians. *Am Pharm* 1990;NS(30):2:99-100.
9. Vandel JH. A board member's viewpoints on the technician issue. *Am J Hosp Pharm* 1989;46:545-7.
10. Anon. Young pharmacists tackle technician issue in Texas. *Drug Top* 1988;132(6):14-5.
11. Bowles GC Jr. Issues in the supervision and legal control of pharmacy technicians. *Am J Hosp Pharm* 1989;46:541-5.
12. Phillips CS, Ryan MR, Roberts KB. Current and future delegation of pharmacy activities to technicians in Tennessee. *Am J Hosp Pharm* 1988;45:577-83.
13. Govern VL, Birdwell SW, Sherrin TP. Attitudes of Ohio hospital pharmacists toward pharmacy technicians. *Am J Hosp Pharm* 1991;48:1228-33.
14. Stolar MH. National survey of hospital pharmacy technician use. *Am J Hosp Pharm* 1981;38:1133-7.
15. Segal H. Pharmacy assistants: work profile and assessment or those trained on-the-job. *Can Pharm J* 1974;15:323-5.
16. ASHP Newsletter 1991 (April); 24(1):6
17. Sorkin AL. Some economic aspects of pharmacy manpower. *Am J Hosp Pharm* 1989;46:527-33.
18. Ontario College of Pharmacists Council Report for January 25-26, 1988 meeting.
19. Henry GT. *Practical Sampling*. Newbury Park: Sage Publications, 1990.
20. Jackson W. *Research Methods: Rules for Survey Design and Analysis*. Scarborough, Ontario: Prentice-Hall Canada, Canada Inc, 1988.
21. Streiner DL, Norman GR. *Health Measurement Scales: A Practical Guide to Their Development and Use*. New York: Oxford University Press, 1991.
22. ASHP. Final report of the ASHP task force on technical personnel in pharmacy. *Am J Hosp Pharm* 1989;46:1420-9.
23. Anderson RW. Technicians and the goal of excellence. *J Pharm Technol* 1990;6:169-73.
24. Kotack C. Pharmacy assistants. *Can Pharm J* 1972;105:23,26
25. CSHP. Statement of Functions of Pharmacists and Non-Professional Personnel in Hospital Pharmacy in Canada. 1976.
26. CAPT information pamphlet. (Enclosed in their membership application kits).
27. Canadian Association of Pharmacy Technicians Newsletter. 1988; 5(1):1-5.
28. Ontario College of Pharmacists. Council Minutes. Oct., 1990.