

General Practice Patterns and Workload Distribution B.C. Optometrists Core Group

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A government appointed task force in British Columbia investigated and made recommendations on the delivery of vision care services in that province¹. Alternative means of delivery were considered within role definitions of optometrists and ophthalmologists and their respective workloads. During these deliberations, the paucity of information on optometric practice patterns became evident. However, one of the recommendations of the Task Force was aimed at increasing optometric workload. The underlying premise of this recommendation was the under-utilization of optometric manpower.

This recommendation and others emphasized the need for current information on optometric practice. Availability of practice patterns information could provide the basis for more rational planning in the future, including redistributing responsibilities or designating new responsibilities of optometrists.

SURVEY

In the summer of 1978, the au-

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thors conducted a survey of all *active* practitioners in the province. It was anticipated that the information gained would provide better understanding of optometric practice and certain attitudes of the optometrists. The usable response rate to the survey was 84% with a geographically representative sample. A detailed analysis of the overall responses is published elsewhere.²

The authors, upon further deliberation and with particular consideration of the workload issue, decided to analyze the data by looking at a specific subsample of respondents. The original sample was partitioned to isolate what was labelled the "Core Group," comprising 33% of all practitioners in the province (54). It was selected on the basis of:

1. Graduation on or before 1976 (the respondents were to answer questions on the basis of 1977 practice year. Thus this factor would ensure at least a full year in practice prior to being included in the subsample).
2. Working 45 weeks or more per year.
3. Working 35 hours or more per week (excluding lunch and travel time).

4. Spending 40% or more time performing oculo-visual assessments.

These criteria were assumed to isolate what might be called full-time equivalent practitioners. The assumption was that these individuals would represent busier practices operating at generally higher workload levels. This data would provide knowledge on practice factors more reflective of optimum work levels and more accurately reflect potential for modification in practice activity.

RESULTS

The significant questions asked of the optometrists are shown at the beginning of each category outlining the results.

A. Demography

The age distribution of the core group highlights the encroaching retirement of a large proportion of these practitioners (Figure 1). Their median age of 52 emphasizes this point. The age ranged from 27 to 67 years.

The geographic distribution of these practitioners, by community size, is not significantly different

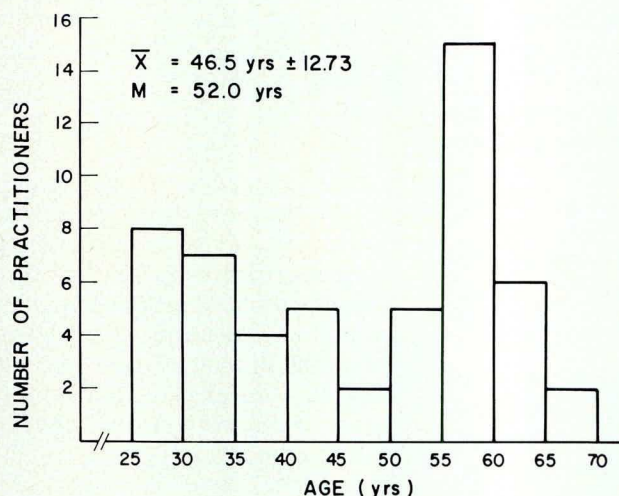


Fig. 1 AGE DISTRIBUTION OF OPTOMETRISTS
B.C. CORE GROUP

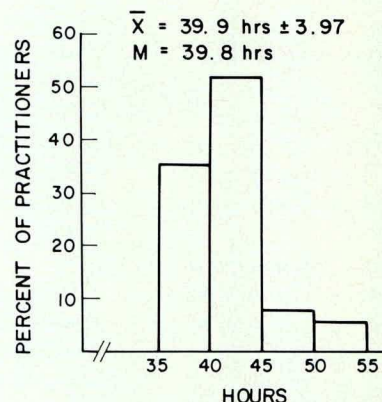


Fig. 2 DISTRIBUTION OF HOURS WORKED/WEEK
B.C. CORE GROUP

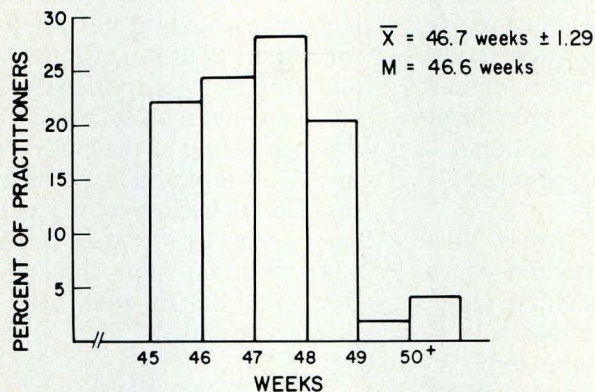


Fig. 3 DISTRIBUTION OF WEEKS WORKED / YEAR
B.C. CORE GROUP

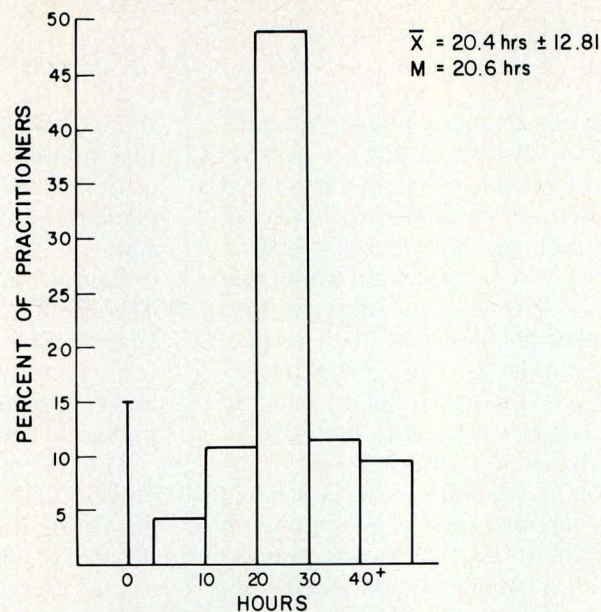


Fig. 4 DISTRIBUTION OF TIME SPENT IN FORMAL
CONTINUING EDUCATION — B.C. CORE GROUP

from the general body of respondents ($\chi^2 = 0.094$) (Table 1).

Size of Community	Practitioners	
	Core N(%)	All N(%)
5,000 +	2 (3.7)	3 (3.6)
10,000 +	8 (14.8)	13 (15.7)
20,000 +	15 (27.8)	21 (25.3)
50,000 +	9 (16.7)	13 (15.7)
100,000 +	20 (37.0)	31 (37.3)

Table 1: Distribution of practitioners by Community Size — B.C. Optometrists.

B. Mode of Practice

Of this core group, 63% were in solo practice with the balance in group practice or partnerships. In addition, 33% of these practitioners operated satellite practices devoting 25% of their time to these practices.

Time:

What is the average number of hours you work per week? (excluding travel and lunch time) _____ Hours

How many weeks did you work last year? (Be sure to exclude two weeks of statutory holidays in addition to your vacation). _____ Weeks.

These practitioners worked on the average 40 hours per week (excluding lunch time) with 13% working between 45 and 55 hours (Figure 2). Analysis of community size and

number of hours worked showed little consistency. However, it could be said that fewer practitioners, from communities of less than 20,000 population (40% of this group), worked 40 hours or more per week than practitioners from larger communities (approximately 70% of the latter group). The work year extended beyond 47 weeks for half the core group with 52% working between 46 and 48 weeks per year (Figure 3).

The core group of practitioners spent on the average 20.5 hours in continuing education activities, although 15% did not take any continuing education during 1977 (Figure 4). It should be noted that continuing education was not mandatory during 1977.

Consulting:

Are you serving in the capacity of an optometric consultant _____, a clinician _____, or both _____, (check one).

Please indicate the area in which you have served as a consultant and/or clinician and the amount of time that you devoted to these activities.

Only 11% of the core group spent any time in community or consulting services such as school screenings, examinations at geriatric institu-

tions, hospitals, etc. This is a low value but it might be presumed that since this group was selected on the basis of activity in practice they would be less likely to provide services outside of their practice.

C. Delegation

How many assistants/secretaries (not including opticians) are in your office(s) in total? _____ (increments of 1/2)

What proportion of their time is related to general office duties? _____%

What proportion of their time is related to optometric activities?

(i.e. ordering Rx's, C.L. training, frame selection) _____%

TOTAL _____%

Fifty percent of the core group of practitioners employed approximately 1.5 or more auxiliaries/secretaries (Figure 5). On the average the practitioners estimated that their secretary/assistants spent 60% of the time in administrative activities and 40% in delegated functions (eg. ordering prescriptions, checking prescriptions, etc.).

Dispensing:

Does your office provide a dispensing service? _____ YES _____ NO

Do you employ opticians in your

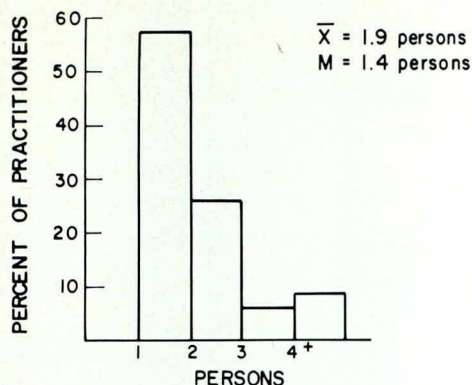


Fig. 5 EMPLOYMENT OF SECRETARY / ASSISTANTS BY OPTOMETRISTS - B.C. CORE GROUP

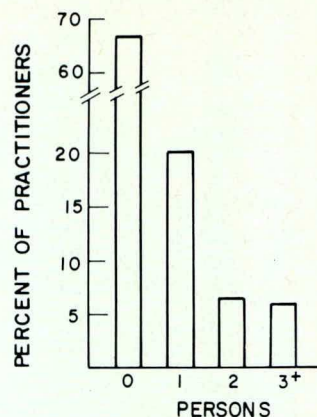


Fig. 6 EMPLOYMENT OF OPTICIANS BY OPTOMETRISTS - B.C. CORE GROUP

practice? YES NO

If so, how many?

If you currently provide dispensing services in your office, would you be willing to relinquish dispensing completely if your practice activities could be increased in other areas? (ie. contact lenses, visual exams) YES NO

If NO, would you be more willing to relinquish dispensing completely if dependent opticians were licensed? YES NO

If you provide a dispensing service in your practice, and do not wish to relinquish it completely, would you be willing to relinquish the dispensing to an optician working for you in your office?

Only 6% of the core group did not provide dispensing services for their patients. Of the practitioners providing dispensing services 33% employed one or more opticians. The question was asked of the willingness of practitioners to relinquish dispensing completely if their professional activities could be increased in other areas. Only 24% indicated a willingness to relinquish these services. In addition, those optometrists who responded negatively were asked their willingness to relinquish this service completely if opticians were licensed. To this question only 22% of the original *no* respondents agreed. (Fig. 7 not shown). Thus a total 38% would be willing to assign dispensing to opticians. However, 87% responded positively to delegating this activity to opticians employed in the office.

D. Distribution of Workload

Please estimate your usual (average) allocation of time spent in the professional activities listed below so that the sum of the estimates add up to 100%. Only indicate the amount of your PERSONAL TIME spent in these activities. Indicate 0% along activities in which you have no involvement. Please review this list first, then place your estimates in the space to the right of each category.

- Major visual examinations — MSC Code #2899 %
- Re-checks and Minor examinations — MSC Code #2898 %
- Tonometry only — MSC Code #2897. %
Note: Please remember to indicate the percentage (%) of your **PERSONAL TIME**.
- Associated dispensing of your prescriptions %
- Office Administration (your time) %

- Contact lens diagnosis and fitting %
 - Contact lens training (insertion, removal, etc.) %
 - Contact lens re-checks %
 - Orthoptics — diagnosis and treatment . %
 - Sub-normal (Low) vision diagnosis and treatment %
 - Research and teaching (including school presentations) %
 - Consultations (Total percent time spent in the activities listed in #13) %
 - Dispensing of other's prescriptions . . . %
 - Other (specify) %
- TOTAL** %

Vision care services in British Columbia are partially funded under

Activity	Mean	Time (%)		Mean (% zero excluded)
		Mean	Median	
Oculo-Visual Assessment	60.8	60.0	—	—
Minor Examination	6.2	5.0	—	(2)
Tonometry	1.1	1.0	1.3	(15)
Associated Dispensing	8.2	6.0	9.0	(9)
Contact Lenses				
Dx and Fitting	7.3	5.4	7.9	(9)
Training	3.3	3.0	4.0	(17)
Rechecks	5.7	5.0	5.9	(6)
Office Administration	5.2	5.0	5.9	(13)

Table 2: Percent of Optometrists' Time Spent in Various Professional Activities — B.C. Core Group.

Activity	Mean	Time (%)		Mean (% Zero Excluded)
		Mean	Median	
Dispensing — Others	0.6	—	1.4	(56)
Visual Training	0.4	0.5	1.2	(65)
Low Vision	0.4	0.5	1.4	(67)
Community	0.2	—	0.4	(87)
Research & Teaching	0.1	—	1.3	(91)

Table 3: Percent of Optometrists' Time Spent in Various Professional Activities — B.C. Core Group.

the provincial health care scheme. Those services being funded are essentially diagnostic procedures and include:

1. Oculo-visual assessments or complete eye examinations.
2. Minor examinations or rechecks.
3. Tonometry only.

All other professional service fees are borne directly by the patient-consumer.

Practitioners were requested to respond to the proportion of time devoted to various professional activities on the basis of their practice in 1977 (Tables 2,3). To allow analysis, only for those practitioners who spent time in these various activities, the tables include the means where individuals not spending any time (zero time) have been excluded.

Diagnostic Services:

The responses to workload distribution revealed that these practitioners devoted on the average approximately 61% of their time to major eye exams. On the basis of a 40 hour work week this would be 24 hours. Only 6% of the practitioners devoted 80% or more of their time to this activity (Figure 8). Generally the older practitioners spent more time in this activity than the younger ones. Approximately 36% of the practitioners age 50 and over were spending 70% of their time perform-

ing oculo-visual assessments. In comparison only 6% of the practitioners less than age 40 spent the same amount of time.

Minor examinations and rechecks required between 5 and 20% of the time of half the core group (Figure 9).

Tonometry required a minimal amount of the practitioner's time. The median was found to approximate 1% with a high of 5% of office time. Of the core group, 15% stated they did not spend any time performing recheck tonometry.

Only 9% of the core group did not devote any time to dispensing services associated with their own prescriptions. On the average they spent 8% of their time in this activity (3 hours/week) (Figure 10).

Contact Lenses:

Contact lens diagnosis and fitting required approximately 7% of practitioners time (3 hours), with 10% of practitioners spending between 15 and 30% of their time in these services (6-12 hours). However, rechecks required slightly less time, approximately 6%. Whereas 9% of these practitioners did not diagnose or fit contact lenses only 6% did not evaluate contact lens fits (Figure 11).

Administration:

Administration required 5% of the practitioner's time (2 hours/

week). 13% of the practitioners did not devote any time to this, presumably these may be younger practitioners who are junior members of a practice. The top end of the range was 30%.

Other Services:

Other diagnostic and treatment services required minimal amounts of practitioner's time as outlined (Table 3).

Discussion

British Columbia includes a land mass of 366,255 square miles and has a population approximately 2,500,000. The ratio of vision care professionals to population is 1:20,000 for ophthalmologists and 1:15,000 for optometrists. An over-representation of ophthalmology is indicated according to the World Health Organization which suggests an optimum ratio of 1:30,000. This over-representation of ophthalmology is suggested as one of the factors contributing to reduced optometric workload.

A study by Langer found Ontario optometrists, in 1969, spent approximately 43% of their time performing major visual examinations.³ Whereas, the B.C. core group spent 61% of their time in this activity. The B.C. results indicate a proportionate increase in basic diagnostic activities compared to 1969, perhaps

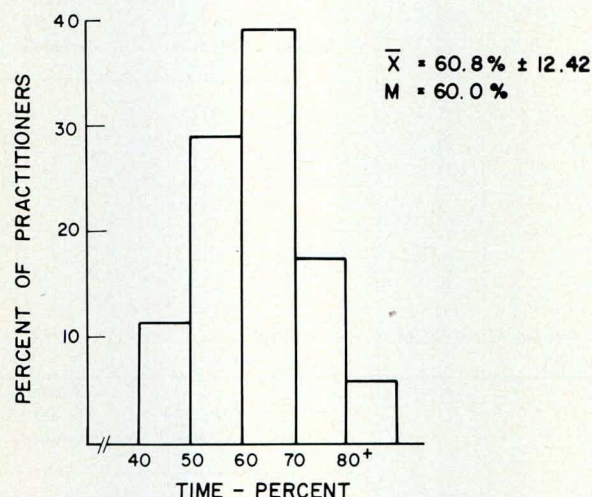


Fig. 7 DISTRIBUTION OF PERCENT OF TIME SPENT IN MAJOR OCULO-VISUAL ASSESSMENTS
B. C. CORE GROUP

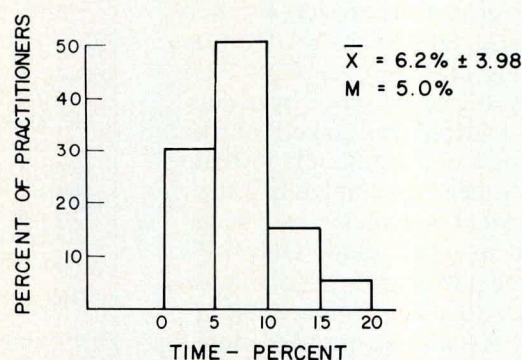


Fig. 8 DISTRIBUTION OF TIME SPENT IN RECHECKS AND MINOR EXAMINATIONS
B. C. CORE GROUP

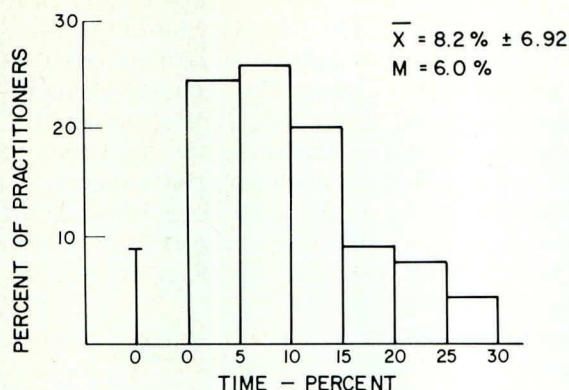


Fig. 9 DISTRIBUTION OF TIME SPENT IN ASSOCIATED DISPENSING ACTIVITIES B.C. CORE GROUP

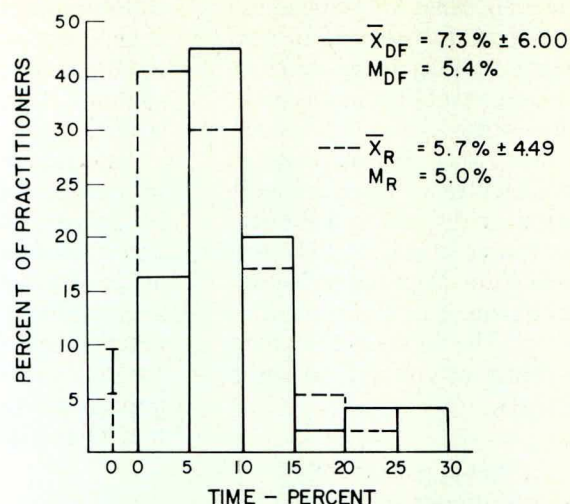


Fig. 10 DISTRIBUTION OF TIME SPENT IN CONTACT LENS DIAGNOSIS/FITTING AND RECHECK B.C. CORE GROUP

as a result of government sponsored insurance schemes. In addition, the older B.C. optometrists were generally devoting more time to examination activities. This may be a reflection of more active practices due to practice development and the delegation of activities thus allowing more time for this service. Though the younger practitioners devoted less time to examination activities, they also devoted less time to dispensing activities, which indicates that they were spending more time in other services, such as contact lenses.

The allocation of the optometrist's time, as a provider of a complete service to a patient, includes consideration of the examination and dispensing or treatment services. The core group of optometrists indicated that they spent 69% of their time in this regard. A study reported in the B.C. Vision Care Task Force Report suggests that 1750 patients could be seen yearly for complete examinations including dispensing, if the proportion of time allotted for these activities was 70%.

A recent analysis of optometric services,⁴ in British Columbia, paid by the provincial health insurance plan, indicated that full-time equivalent optometrists (144) were reim-

bursed for an average 1600 services in 1976-77.* This value includes visits for complete and partial examinations and specific tonometry services, as previously outlined. Re-analysis of this data to isolate 54 of the more active optometrists** reveals the mean number of billed services for this group as 2113 with a range of approximately 1600 to 3200 services. Needless to say, the assumption that these randomly selected optometrists match the survey core group of 54 is tenuous, but assuming so provides a basis for looking at capacity.

As noted, the randomly selected group of optometrists were providing approximately 2100 paid services on an annual basis. Based on data from other jurisdictions approximately 85% of these services are for oculo-visual assessments. However, in British Columbia 93% of the total services provided were for primary eye examinations.*** The core group of optometrists on this basis, would be performing on the average approximately 1950 complete examinations per year. Thus, at least for the core group the workload would appear optimal

(providing the assumptions are valid). Further increases in capacity would require delegation of other duties (to assistants or opticians) or shortening of examination time. Both options require consideration of the effect on quality of care. Other options would include increased work hours or weeks.

The distribution of time for contact lens associated activities was indicated as 16% approximately. However, about 3% of the practitioner's time was spent on training with the balance (13%) on diagnosis, fitting and rechecks. Again this value appears as a significant increase from the 1969 Ontario data indicating allocation of 9% of the optometrist's time.³ Though 9% of the B.C. practitioners did not provide contact lenses only 6% did not do rechecks. Thus, it appears inevitable that knowledge of contact lens therapy is crucial for almost all practitioners if they fit contacts or not. Whether time devoted to this phase of practice will continue to increase rests with future developments in the contact lens field.

Dispensing of spectacles and dispensing of other's prescriptions consumed on the average 9.4% of the practitioner's time. It also is interesting to note that 44% of the B.C. core group provided dispensing services for prescriptions written by other vision care practitioners. The value of devoting this amount of time to activities which can be delegated to

** These 54 were an 84% random sample of the 65 optometrists with the highest workload.

*** Personal communication from the President of the British Columbia Optometric Association, based on data from the year ending March 31, 1977.

*Full-time equivalent optometrists, as classified by the Medical Services Commission in B.C., are those individuals billing \$10,000 or more during the year.

ancillary help may be construed as questionable. However, the general attitude of optometrists with respect to delegation of dispensing activities plays an important part in this area. It is interesting to note, however, that optometrists in Saskatchewan in 1972 indicated that they spent 14% of their time in dispensing activities. The lower value in B.C. in 1977 may be an indication of optometry's gradual relinquishing or delegation of this activity. The merits of this trend are currently of concern to some optometrists.

The fact that approximately 65% of these practitioners indicated they did not devote any time to orthoptics or low vision is disconcerting. Perhaps this can be rationalized, at least for orthoptics, by saying that the optometrists may be prescribing prism, lens or home therapy, which does not require specific additional practitioner office time, in lieu of in-office orthoptics. This is an area that requires further investigation in order to establish practitioner behavior. Perhaps it is an area for optometric educators to assess in light of optometric curricula.

The minimal time devoted to consulting or clinical community activities is exceptionally low (0.2%). This may be attributed on one hand to busy practitioners not being interested or having time, and on the other hand, the general reticence of other health professionals to deal with optometrists. Since optometry generally has been taught at institutions where little exposure to other health disciplines occurs a barrier is

established. The lack of educational exposure means other health professionals are poorly informed of the optometrists' role and responsibilities. This fact leads to distrust, suspicion and questioning of the ethics of optometrists.⁵ Thus, attempts by optometrists to gain access to health care institutions (long term care facilities, geriatric or psychiatric institutions) would be viewed skeptically by the medically oriented system. Though these barriers are slowly receding it requires active approaches by optometrists to further rectify this situation.

Conclusion

It appears that the core group of optometrists, isolated for this study, may be functioning at optimal workload levels. Means of increasing capacity, at least amongst these optometrists, is restricted to several options which may be unacceptable if quality of care is affected. However, by delegation of activities to auxiliary personnel some increase in workload possibly can be accomplished.

The optometrists in this study represent only one-third of B.C. optometrists. Attempts to increase the workload of the remaining two-thirds rest with optometrists themselves becoming more active in community/consulting activities. Though barriers exist towards participation of optometrists in health care facilities these can be lessened by informing (educating) other health professionals as to optometry's role (capabilities). In addition,

the recommendation such as made by the B.C. Vision Care Task Force that inter-referrals between physicians and optometrists be permitted and encouraged can be fully appreciated only with individual cooperation. Thus, the major onus rests with the profession of optometry (practitioners) to educate and inform other health care practitioners. Access at the institutional level can then lead to improved relationships and increased professional activity.

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9. *The Health Disciplines Act, 1974: Statutes of Ontario, 1974*, Chapter 47, amended 1975; Chapter 63, August 1975 96 (i) The Council of the College is given power to make regulations "authorizing persons other than members to perform specific acts in the practice of optometry under the supervision or direction of a member."