A workforce in crisis: a case study to expand allied ophthalmic personnel

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ABSTRACT • RÉSUMÉ

Objective: To examine how the development of allied ophthalmic personnel training programs affects human resource capacity.
Design: Using a qualitative case study method conducted at a single Ontario institution, this article describes 6 years of establishing a 2-tiered allied ophthalmic personnel training program.
Participants: The Kingston Ophthalmic Training Centre participated in the study with 8 leadership and program graduate interviews.
Methods: To assess regional eye health workforce needs, a case study and iterative process used triangulations of the literature, case study, and qualitative interviews with stakeholders. This research was used to develop a model for establishing allied ophthalmic personnel training programs that would result in expanding human resource capacity.
Results: Current human resource capacity development and deployment is inadequate to provide the needed eye care services in Canada. A competency-based curriculum and accreditation model as the platform to develop formal academic training programs is essential. Access to quality eye care and patient services can be met by task-shifting from ophthalmologists to appropriately trained allied ophthalmic personnel.
Conclusion: Establishing formal training programs is one important strategy to supplying a well-skilled, trained, and qualified ophthalmic workforce. This initiative meets the criteria required for quality, relevance, equity, and cost-effectiveness to meet the future demands for ophthalmic patient care.

Objet : Examiner l'impact de l'élaboration des programmes de formation de personnel médical en ophtalmologie sur la capacité en ressources humaines.
Nature : Fondée sur une méthodologie qualitative appliquée dans un établissement unique en Ontario, cette étude décrit l'établissement, sur six ans, d'un programme de formation de personnel médical en ophtalmologie en deux volets.
Participants : Huit responsables et des diplômés du Kingston Ophthalmic Training Centre ont participé à l'étude en se prêtant à un entretien.
Méthode : Pour évaluer les besoins régionaux de personnel en soins oculaires, nous avons utilisé, dans le cadre d'une étude de cas et d'un processus itératif, des triangulations de la littérature, de l'étude de cas et d'entretiens qualitatifs avec des parties prenantes. Ces travaux ont servi à élaborer un modèle pour la création de programmes de formation de personnel médical qui renforceraient la capacité en ressources humaines dans le domaine de l'ophtalmologie.
Résultats : La formation et le déploiement de ressources humaines sont actuellement inadéquats pour combler les besoins en services de soins oculaires au Canada. Un modèle de formation et d'accréditation fondé sur les compétences, pouvant servir de plateforme pour l'élaboration de programmes de formation formels, est essentiel. On peut assurer l'accès à des soins oculaires et à des services aux patients de qualité en confiant à du personnel médical dûment formé des tâches actuellement accomplies par les ophtalmologistes.
Conclusions : L'instauration de programmes de formation formels représente une stratégie importante pour constituer un effectif ophtalmique hautement qualifié. Cette initiative satisfait aux critères de qualité, de pertinence, d'équité et d'efficience essentiels pour combler les besoins futurs en matière de soins ophtalmiques.

INTRODUCTION

A large regional disparity in the number of Canadian ophthalmologists compared with a rapidly aging population implies an upcoming crisis in vision care delivery. In 2013, Bellan et al. reported a current ratio of 3.35 ophthalmologists per 100 000 people.[1] The study's evidence-based method indicated that a ratio of 3:100 000 is a reasonable target. However, the Canadian population is aging, with the Baby Boomer generation soon reaching >65 years. Projections show this outpacing the present ophthalmologist ratio by more than 4 times. More alarming, and acting as our call to action, is the projected 34% decrease in the ratio of ophthalmologists to population aged >65 years.[1,2]

A regional disparity is found, with Alberta, Manitoba, Newfoundland/Labrador, Saskatchewan, and the territories below Bellan's accepted ratio.[1] Calgary is a good example of the potential manpower crisis. With a 2015 population of approximately 1.3 million people (and a greater referral drawing area), Calgary is short of 10–15 ophthalmologists according to Bellan's ratio.[3,4]

The Royal College of Physicians and Surgeons of Canada and other ophthalmologic stakeholders increased

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Table 1——Current and identified need for training programs by level

Training Program Level	Training Program	Percentage of Respondents Indicating Need
Ophthalmic assistant	Centennial College, Toronto	34
	Southern Alberta Institute of Technology, Calgary	
Ophthalmic technician	Hotel Dieu Hospital, Kingston	23
Orthoptist	British Columbia Children's Hospital, Vancouver	23
	Saskatoon Health Region, Saskatoon	
	IWK Health Center/Dalhousie, Halifax	
Ophthalmic medical technologist	IWK Health Center/Dalhousie, Halifax	20
	University of Ottawa, Ottawa	
	Stanton Territorial Health Authority, Yellowknife	
	Alberta Health Services/Rockyview Hospital, Calgary	
	Hotel Dieu Hospital, Kingston	

the number of positions available to train ophthalmologists.[1,2] However, this is unlikely to address the future large patient numbers requiring visual care. Eye care is also provided by optometrists and nonophthalmologist physicians. Recent scope of optometric practice changes affect vision care delivery but cannot be accurately quantified at this time.[1]

Allied ophthalmic personnel (AOP—a cadre of midlevel eye health workers formally recognized by the World Health Organization) have not been adequately utilized in the Canadian ophthalmic scope of practice, although task-shifting to AOP is a long-standing practice.[5–8] Strategies to increase patient access and improve care in response to the ophthalmologist shortage for urban and rural populations are to enhance present practice and efficiency by greater task-shifting (transferring responsibilities) to highly skilled AOP.[6] In a 2011 study by Astle et al., over 80% of Canadian ophthalmologists surveyed responded that increasing the numbers and using certified AOP contributed to increased productivity and efficiency.[6]

Performing medical and diagnostic tasks under an ophthalmologist's direct supervision, AOP have skills ranging from performing measurements, administering medications, assisting in patient care, and carrying out administrative duties. By delegating time-consuming patient tasks (i.e., gathering patient data) to AOP, the ophthalmologist can efficiently deal with patient diagnosis and treatment, thus significantly increasing productivity.

Although Canadian ophthalmologists support task-shifting, a fundamental issue is the AOP shortage to successfully meet growing demands. In this article, the authors present the case of Hotel Dieu Hospital, Kingston, Ontario, establishing a 2-tiered AOP training program as a model to assist the Canadian Ophthalmological Society (COS) and its membership to increase the ophthalmologic workforce; identify skills, knowledge, training needs; and address future recruitment, training, and retention strategies. This model can be used for a national Canadian strategy to build eye care capacity.

Literature Review

Are properly trained and certified AOP crucial to solving our home-grown Canadian ophthalmologic care crisis? The answer is 2-fold. First, the question can be answered by examining 2 landmark evidence-based studies published by Woodworth et al. (U.S.) in 2008 and a similar study by Astle et al. (Canadian) in 2011.[6,9] Both studies compared practice productivity and performance attributes of noncertified versus certified AOP. The research demonstrated remarkably similar results, with certified and institutionally trained AOP greatly enhancing the quality and productivity of ophthalmic academic and private practices.

Jointly conducted by the COS, Joint Commission on Allied Health Personnel in Ophthalmology (JCAHPO), Canadian Society of Ophthalmic Medical Personnel (CSOMP), and Canadian Medical Association (CMA), the Canadian quantitative study surveyed the COS membership (15% response rate) and engaged focus groups. Results were presented to the Association of Canadian University Professors in Ophthalmology (2010) and published in the *Canadian Journal of Ophthalmology* (2011).

Findings showed that well-trained, certified AOP significantly improved patient follow-up, increased the number of patients seen per hour, reduced patient complaints, and improved effective patient flow.[6] AOP improved patient triage screening and were able to effectively trouble shoot patient care problems while improving rapport. Increased doctor productivity leads to overall improvement in patient satisfaction with medical and surgical outcomes.

Of responding ophthalmologists, 26% planned to increase staff in their practices, with 61% indicating difficulty in recruiting new AOP.[6] The COS membership had high awareness of the 11 Canadian AOP training programs, yet identified the need for additional programs with 51% indicating that additional programs should be established and 11% responding that more programs are not needed.[6] Table 1 presents data on the current training programs and need for new training programs. Of responding AOP, a correlation was found between certification and retention: 97% were certified—49% averaged over 16 years; 40% averaged 6–15 years in the profession. In the Association of Technical Personnel in Ophthalmology's 2015 Salary and Compensation Report, over 3600 AOP (5% Canadian AOP) averaged 17 years in ophthalmology and 10 years with the same employer, averaging 35% greater career longevity than noncertified AOP.[10]