A cross-sectional evaluation of the Medical Student Symposium at the Canadian Ophthalmological Society Annual Meeting: a quality improvement survey

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Background: Canadian medical school curricula have traditionally been limited in their exposure to ophthalmology. A Medical Student Symposium (MSS) was developed to introduce students to the specialty, teach clinical skills, and help students to seek future opportunities within ophthalmology. Our aim is to provide a model for other specialties to meet the evolving and diverse educational needs of medical trainees.

Methods: Medical students were invited to participate in a 3-hour free in-person symposium held at the Canadian Ophthalmological Society (COS) Annual Meeting in June 2023. The symposium was divided into three sections: a 30-minute keynote speaking session, hands-on workshops, and resident mentoring sessions. A cross-sectional quality improvement survey was administered to medical students who attended. Descriptive statistics were used to analyze the survey responses.

Results: In total, 70 participants attended the symposium. Of these, 61 participants (87.1%) responded to the survey. The majority of attendees (67.8%) of participants expressed that attending the COS MSS would enhance their applications to ophthalmology residency. With regards to knowledge acquisition, 85.3% and 75.4% of students noted that the MSS improved their didactic and procedural knowledge of ophthalmology, respectively. An overwhelming majority of attendees (95.1%) stated they would recommend the COS MSS to medical students interested in ophthalmology, and 91.6% noted they would attend again.

Conclusions: Our study demonstrated that a MSS is a valuable platform to enhance medical students' exposure and knowledge of the field of ophthalmology. The MSS model can be applied as a novel medical education opportunity to increase exposure to medical specialties and inclusion of junior trainees at national conferences.

Keywords: Ophthalmology; symposium; medical students; medical education

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Introduction

Exposure to ophthalmology is limited in Canadian medical school education. In fact, 64% of residents in all training programs reported limited exposure to ophthalmology, and 80% of first-year family medicine residents did not feel comfortable managing ocular complaints (1,2). Despite the importance of early exposure to ophthalmology in developing an interest in the field, many trainees feel that the current curriculum falls short in providing students with adequate exposure or preparation for application to ophthalmology residency (1-3). However, creating educational sessions which acknowledge individual students' needs and enhance their exposure to a specialty presents a barrier in undergraduate medical education. Symposia is a proposed solution to this educational gap, offering an interactive environment with various learning platforms to address the diverse learning needs of medical trainees.

The Canadian Ophthalmological Society (COS) Annual Meeting is the largest ophthalmology meeting in the country. In 2022, 1,236 ophthalmologists, eye care professionals, and trainees attended the in-person meeting (3). Increasingly, there is a focus on catering to the rising generation of ophthalmologists evidenced by the advent of the Young Ophthalmologist (YO) symposium at the American Academy of Ophthalmology (AAO) Annual Meetings and recent COS Annual Meetings. Yet, previous COS Annual Meetings have not included any sessions targeted specifically towards medical students. As a result, the inaugural COS Medical Student Symposium (MSS) was hosted as part of the 2023 COS Annual Meeting in collaboration with the COS Foundation, Council of Canadian Ophthalmology Residents (CCOR), and the Canadian Ophthalmology Student Interest Group (COSIG).

The shift towards student-centered learning, rather than primarily didactic teaching, has been shown to foster deeper engagement, critical thinking, and enhanced practical skills (4). Accordingly, the aim of this study is to evaluate the utility and strengths of student-directed symposia, and provide a reproducible model to other specialties to meet the evolving and diverse educational needs of medical trainees. We present this article in accordance with the SURGE reporting checklist (available at https://amj.amegroups.com/article/view/10.21037/amj-23-223/rc).

Highlight box

Key findings

- The Canadian Ophthalmological Society (COS) Medical Student Symposium (MSS) enhanced participants' exposure to ophthalmology and improved participants' didactic and procedural knowledge.
- Majority of attendees believed attending the MSS would enhance their ophthalmology residency applications.
- Over 95% of attendees would recommend the MSS to other medical students, and over 90% would attend again.

What is known and what is new?

- Canadian medical school curricula traditionally provide limited exposure to ophthalmology, leading to a gap in knowledge and interest in the specialty.
- The COS MSS provided a valuable platform for medical students to gain exposure to ophthalmology, addressing the existing educational gap.
- The symposium introduced innovative approaches to enhance students' learning experiences, such as near-peer mentoring and hands-on workshops, contributing to deeper engagement and practical skill development.

What is the implication, and what should change now?

- The success of the COS MSS suggests a need for similar initiatives in other specialties to meet the evolving educational needs of medical trainees.
- Medical schools should consider integrating symposia and interactive learning opportunities into their curricula to provide students with exposure to various specialties and practical skills not extensively covered in traditional medical education.
- Continued efforts are needed to promote and expand participation in such symposia, ensuring broader access for all medical students nationwide.
- Longitudinal studies are recommended to assess the long-term impact of symposia on students' attitudes towards specialties, clinical skill acquisition, and residency application outcomes.

Methods

The MSS was divided into three sections: a 30-minute keynote lecture by an esteemed leader in academic ophthalmology and physician wellness on "Lessons you might not learn on your path to becoming a doctor", four 12-minute hands-on clinical skills workshops, and three 15-minute resident mentoring sessions (appendix available at https://cdn.amegroups.cn/static/public/amj-23-223-1.pdf). Workshops and mentoring sessions were led by ophthalmology resident physicians from across the country. Skills covered in the workshops included assessment of extraocular muscle alignment, intravitreal injection using a simulator, indirect ophthalmoscopy, tonometry, approach to acute angle closure glaucoma, and approach to the neuro-ophthalmology exam. Attendance was free for all registrants

Table 1 Respondent characteristics and financial considerations (n=61)

Demographics	N (%)
Medical school graduation year	
2022 or earlier[†]	3 (4.9)
2023	5 (8.2)
2024	19 (31.1)
2025	24 (39.3)
2026 or later	10 (16.4)
Are you applying to ophthalmology residency?	
Yes	59 (96.7)
No	2 (3.3)
If yes, do you have a backup/parallel plan? (n=59)	
Yes	38 (64.4)
No	20 (33.9)
Not sure	1 (1.7)
Financial considerations	
What is your current debt load? (CAD)	
$0	7 (11.5)
$25,000 or less	10 (16.4)
$25,000–75,000	18 (29.5)
$75,000–150,000	12 (19.7)
Over $150,000	7 (11.5)
Prefer not to answer	7 (11.5)
How much personal expense did you incur to attend the COS meeting? (CAD) (n=60)	
Under $500	10 (16.7)
$500–1,000	19 (31.7)
$1,000–2,000	26 (43.3)
Over $2,000	3 (5.0)
Prefer not to answer	2 (3.3)

[†], respondents in attendance that have graduated in 2022 or earlier are either in a research fellowship/gap year following medical school. COS, Canadian Ophthalmological Society; CAD, Canadian dollars.

of the Annual Meeting, with a maximum of 100 registrants for the MSS to maintain quality assurance.

A 24-question quality improvement survey was distributed to attendees (n=70) at the end of the symposium (appendix available at https://cdn.amegroups.cn/static/public/amj-23-223-2.pdf). The survey was initially designed by medical students and then subsequently reviewed, modified, and validated by two ophthalmologists and two ophthalmology residents. The survey aims to not be inherently biased by using evidence-based scales such as Likert scales developed similar to those in the literature (5,6). Survey participation was voluntary, and no compensation was provided for participation. Ethics board approval was exempt given that this survey was for quality improvement purposes.

Statistical analysis

Descriptive analysis was conducted on the survey data. Data was summarized using frequencies and percentages for categorical variables.

Results

A total of 61 survey responses (87.1% response rate) were received. The characteristics of the respondents are described in *Table 1*.

The majority of attendees (85.3%) reported that the symposium contributed to their didactic ophthalmology knowledge, and 75.4% reported that the symposium contributed to their procedural knowledge in ophthalmology. An overwhelming majority of attendees (95.1%) would recommend the symposium to medical students interested in ophthalmology. Additionally, the majority of attendees (67.8%) believed that attending the symposium would improve their application to ophthalmology residency. The symposium itself was also well received by attendees: participants felt that it addressed a gap in their current knowledge and opportunities and an overwhelming majority (91.6%) noted that they would attend again. The results of the survey are further depicted in *Figure 1*.

Discussion

Conferences provide a valuable opportunity for medical students to gain exposure to a field of interest and improve their clinical skills. They provide exposure to peer mentorship through interactions in dynamic workshops and mentorship sessions. We chose a near-peer mentorship model, such that residents primarily delivered the small-group sessions, based on previous initiatives showing the benefit in allowing medical students to feel comfortable

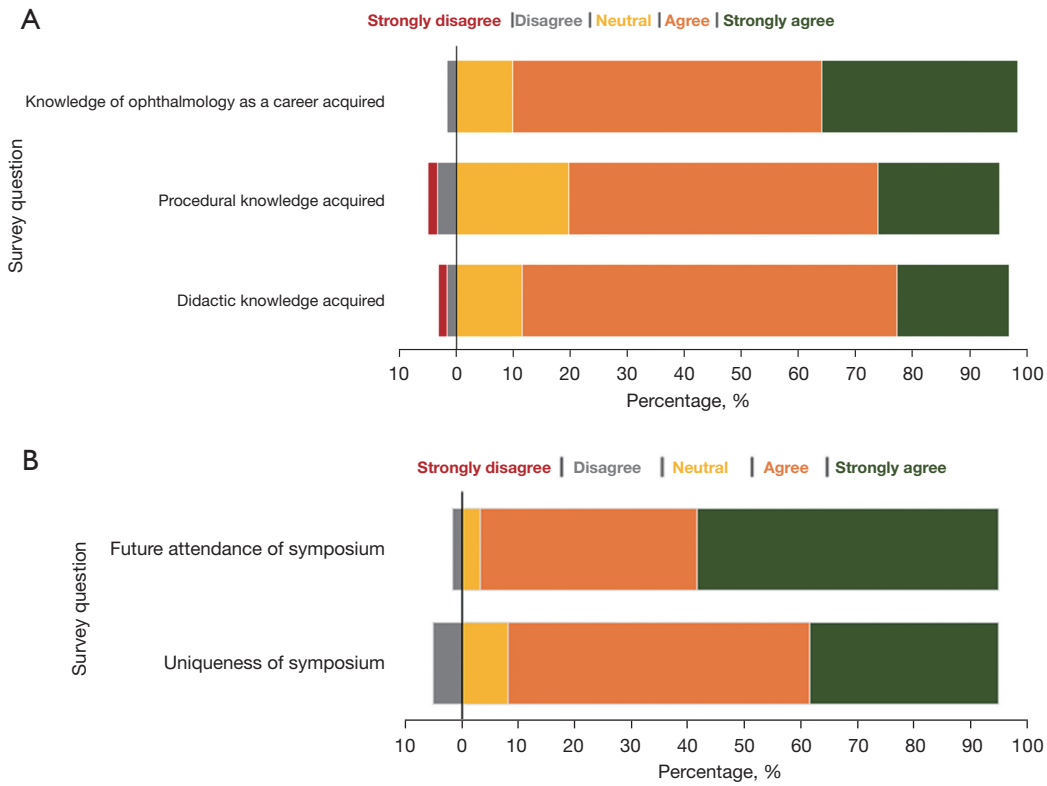

Figure 1 Perception of attendees of the COS MSS. (A) Knowledge acquisition. (B) Uniqueness and future attendance. COS, Canadian Ophthalmological Society; MSS, Medical Student Symposium.

asking questions and create a more congenial learning environment (5,6).

The current Canadian medical school curriculum is limited in the degree of ophthalmology exposure in both pre-clerkship and clerkship years, especially compared to other surgical subspecialties, lending to a gap in knowledge and interest in the specialty (7). Trainee-specific symposia are effective methods to expose students to specific medical specialties. In 2022, a virtual orthopedic surgery symposium was created to expose students to research and knowledge about the field. Survey results demonstrated that participants had a greater knowledge of orthopedic surgery subspecialties and the daily life of an orthopedic surgery resident, and had more connections in the specialty after the event (8). Other disciplines such as minimally invasive surgery and teaching trauma-informed care have similarly developed medical student symposia demonstrating that such programming positively affect students' knowledge, understanding, and career development opportunities while helping them to better cultivate physician competencies relating to the specialty (9,10).

Our study findings demonstrate a similar positive impact of this symposium for medical student attendees, providing a unique opportunity for networking, knowledge acquisition, didactic learning, mentorship, and dissemination of knowledge. Attendees were provided the unique opportunity to work with national ophthalmology residents at a single event. Consequently, increased networking opportunities were made available to increase access to resident-medical student relationships, in addition to a range of perspectives from trainees at advanced stages in training. This concept was further beneficial through the informal mentorship offered during Question & Answer periods, whereby medical students gained insight on residency applications and practice through small-group discussions. While many participants were already interested in ophthalmology (96.7%), our survey results demonstrate that the symposium was well received by attendees. Participants not only felt the symposium addressed a gap in their current knowledge and opportunities, but a large proportion noted that they would attend again. These findings emphasize the potential benefits of collaborative symposia on medical trainee

education to address in medical curricula and highlighting practical skills useful for various residency programs. Additionally, in previous medical symposia, the best received aspects were the practical workshops, emphasizing the importance of integrating practical skills not extensively encountered in medical school (11,12). Our symposium addressed this by implementing resident-led hands-on workshops to help students develop practical skills that they can apply during their electives and improve on through residency.

Further longitudinal studies could help understand the impact of the symposium on future attitudes towards ophthalmology, long-term clinical skills acquisition, and residency application outcomes. Given financial and logistical limitations in attending the symposium, the surveyed sample may not represent all medical students interested in ophthalmology. Future advertising efforts should target all medical students nationwide, rather than those already showing an interest in ophthalmology.

Conclusions

The inclusion of a MSS at the COS Annual Meeting was a valuable educational and career development opportunity for medical students interested in ophthalmology. The survey revealed that the symposium enhanced students' knowledge of the specialty and perceived ophthalmic clinical skills. Overwhelmingly, participants reported that they would attend the symposium in the future and recommend it to other trainees. Moreover, the success of this endeavor exemplifies for other specialties the benefits of developing similar programs to meet the evolving and diverse educational needs of medical trainees.

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Footnote

Reporting Checklist: The authors have completed the SURGE reporting checklist. Available at https://amj.amegroups.com/article/view/10.21037/amj-23-223/rc

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Conflicts of Interest: All authors have completed the ICMJE uniform disclosure form (available at https://amj.amegroups.com/article/view/10.21037/amj-23-223/coif). The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. Ethics board approval was exempt given that this survey was for quality improvement purposes. Individual consent for this survey was waived.

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