Evaluation of Canadian urology residency and fellowship program websites

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ABSTRACT

Introduction: There is growing use of online resources in the postgraduate medical education application process to provide applicants program-specific details, thus allowing for informed decision-making. Given the variability and non-standardized electronic training descriptions and objectives, our goal was to assess the availability of program information through program websites for both residency and fellowship urology programs across Canada.

KEY MESSAGES

- Program websites for residency and fellowship programs in Canada are an important resource for applicants.
- Information on program websites should be standardized to ensure equal access to essential program information.

Methods: Using the Canadian Residency Matching Service (CaRMS) and the Canadian Urological Association (CUA) websites, we compiled a list of all Canadian urology residency and fellowship programs. We reviewed all programs' website using a 40-item tool based on seven subcategories, including education, application process, faculty information, trainee/fellow information, research and extra-curricular activities, wellness, and both benefits and career planning. Each website was reviewed by two trained reviewers. Any inter-reviewer discrepancy was resolved by a third-party reviewer.

Results: Among 13 Canadian urology residency programs, all had program websites and met 48% of the criteria evaluated. None of the residency program websites reported information on work hours, surgical caseload statistics, or equity diversity and inclusion/community initiatives. Among 37 Canadian urology fellowship programs, 10 programs did not have websites, and the remaining 27 program websites met 28% of the criteria evaluated. Scores were highest for the application process subcategory, while scores were lowest for the wellness and benefits/career planning subcategories among both residency and fellowship programs.
Conclusion: With growing reliance and dependence on web resources to access residency and fellowship program information, there is a clear need to standardize and improve Canadian training websites for prospective applicants.

INTRODUCTION

There is a growing use of online resources in the post-graduate medical education application process.[1] Applicants will often consult program websites to better inform themselves of the institutions strength and weaknesses prior to their application cycle.[2] The importance of these websites was demonstrated in a recent study where most surveyed respondents reported that the online content strongly influenced their decision to apply to a specific program.[3] The suspension of visiting electives during the COVID-19 pandemic has made it such that program websites have become even more critical for applicants to identify the programs that align best with their personal needs, values, and goals, as there is reduced opportunity to experience the programs in-person and limited interaction with program committee members during the application process.[1,4]

When applying to residency or fellowship programs, candidates should be provided with standardized information; however, this is generally not the case. Such lack of standardization and access to all program details certainly adds complexity to the application process and exacerbates disparities.[5] Residency and fellowship website evaluations for specialties such as obstetrics and gynecology, general surgery, and cardiothoracic surgery, as well as American urology programs were recently carried out with hopes of improving and standardizing the quality and quantity of information provided to applicants.[5-11] Urology is a competitive surgical specialty both at the fellowship and residency level. In the last few years, the Canadian Residency Matching Service (CaRMS) website reported that the ratio of applicants to available residency positions was consistently around 2:1, consistently ranking urology amongst the most competitive specialties to match to.[12] To the best of our knowledge, only one previous study evaluated urology residency program websites.[5] However, they did not evaluate Canadian websites and did not include fellowship programs in their publications. As such, we sought to evaluate the comprehensiveness of Canadian urology residency and fellowship programs.

METHODS

This study was exempt from institutional review board approval as the data was collected from publicly available sources.

Data collection

Using the CaRMS website, a list of all Canadian urology residency programs was compiled. Using this list, official residency program websites were then identified.[13] To compile the list of fellowship websites, the Canadian Urology Association (CUA) website was used.[14] In addition, program administrators were contacted to ensure that no fellowship programs were omitted. No language restrictions were used when including websites for review. Websites were reviewed between July 2022 and March 2023.

Website evaluation

Using website evaluation scales that were developed to evaluate residency and fellowship websites within other medical fields, a modified 40-item tool was developed after consultation with a small group of medical students and residents[5-7,9-11]. This scoring system included seven subcategories identified as important information that would be useful to a medical student/resident during the application process. These subcategories were education, application process, faculty information, trainee/fellow information, research & extra-curricular activities, wellness, and both career benefits & planning. If the item was present on the program's website, it was given one point. A total score was then calculated over a possible maximum score of forty. The detailed list of the items examined can be found in Table 1**.** Both fellowship and residency websites were evaluated using the same scoring criteria.

Once the 40-item tool was developed, each reviewer was trained by independently scoring the same two randomly selected websites to ensure consistent scoring among all reviewers. Once these scores were finalized, the discrepancies were discussed and clarified as a team to ensure consistent scoring for the remaining websites. Information that was not found on the program's website but was only present on other third-party websites, was considered incomplete unless users were directed to a specific third-party website. Following the training process, each website was evaluated by two independent reviewers, with discrepancies resolved with the help of a third reviewer.

Statistical analyses

Descriptive statistics were used to report the scoring of each residency and fellowship website.

RESULTS

Residency

A total of 13 Canadian urology residency programs were identified on the CaRMS website and were evaluated (Table 2). All 13 residency programs had a corresponding program website. On average, amongst Canadian residency programs, 48% of the 40-item criteria were met. Faculty

information and application process were the highest scoring subcategories at 77% and 67%, respectively. The lowest scoring subcategories were Wellness and Benefits, and Career Planning subcategories at 8% and 31%, respectively. When reviewing specific criteria, none of the residency program websites reported information on work hours, surgical case load statistics (i.e. number of certain procedures performed), or Equity Diversity and Inclusion/Community initiatives.

Fellowship

After consulting the CUA website and program administrators, a total of 37 Canadian urology fellowship programs were identified (Table 3). Among the 37 fellowship programs, 10 did not have program websites. Of those that did have official program websites, the average overall score was 28%. Application Process and Faculty were the highest scoring subcategories at 56% and 38% respectively. The lowest scoring subcategories were Wellness and Benefits & Career Planning at 6% and 3%, respectively.

DISCUSSION

There is a growing demand for online resources by residency and fellowship applicants since the COVID-19 pandemic and restrictions on visiting electives. Ensuring that program information is easily accessible online enhances equity in the application process providing all applicants with equal access to information regardless of personal connections. As such, we sought to review the websites of all Canadian urology residency and fellowship programs. We found that program websites for Canadian urology fellowship/residency programs often contain essential information such as program description, selection criteria, and faculty information; scoring highest for these subcategories. However, potential applicants rely on program websites for more detailed information to inform their decision-making process [3]. In fact, when considering a broader range of criteria, our study demonstrates that both residency and fellowship program websites are generally deficient, with the average scores failing to reach 50% of evaluated criteria.

When looking at specific subcategories amongst residency programs, the Wellness subcategory scored lowest. While this could represent underreporting, it could also be signalling of the lack of wellness initiatives formally integrated into Canadian residency programs. With the growing importance surrounding residency wellness, a recent study showed increasing integration of wellness programming into urology residency programs in the United States[15]. A similar study should be performed in Canadian urology programs to clarify if such integration is also occurring and is simply not represented on program websites. Another subcategory that lacked clear information was Benefits and Career Planning. Information such as salary, vacation days, etc., are elements considered by applicants and should be clearly stated on program websites. Alternatively, program websites could redirect potential applicants to the CaRMS website where salary information is centralized and detailed based on provincial agreements[16]. When looking at specific criteria, no information was available on any residency program

websites regarding working hours and surgical case load statistics. These elements are of particular importance as they indirectly reflect risk for burnout and surgical exposure respectively, factors which could impact an applicant's program choice[5,17].

When looking at fellowship programs, information was generally less readily available. Unlike the CARMS website, which contained an exhaustive list of all Canadian residency programs, no such list exists for Canadian urology fellowship programs with only a non-exhaustive list available via the CUA. Furthermore, amongst the Canadian fellowship programs, only 74% had formal websites detailing their program. In comparison, all 13 Canadian urology residency programs had a corresponding website. Previous studies in the United States have reported more than 96% of residency/fellowship programs having official websites for specialties such as urology, general surgery, cardiology, and interventional radiology[5,6,8,10]. In the Canadian context, fellowship programs would benefit from a centralized and exhaustive listing directory, as well as an increase in accessibility through the creation of formal program websites.

Beyond standardized program websites, other forms of information dissemination are available and could be valuable for both programs and future resident/fellow candidates. One such tool, is the virtual open house. Virtual open houses could potentially offer more information than a standardized program website and would also allow direct interaction between future candidates and the program's faculty. However, given that virtual open houses are single events offered at specific times, they cannot replace the accessibility afforded by an updated and standardized website.

Limitations

There were several limitations to our study. First, no standardized score exists to evaluate program websites. Our score was adapted from previous studies and criteria were retained based on relevance to the context of Canadian residency/fellowship urology programs. Second, criteria definitions could be interpreted subjectively. In an effort to minimize inter-rater variability, we performed training on two websites and had a third reviewer for any website that had discrepant scores. Third, there is no comprehensive list of Canadian urology fellowship programs. As such, certain programs may be missing from our analysis. In addition, we specifically analyzed websites between July 2022 and March 2023. Any updates after the study period were not reflected in our analysis. Finally, it was impossible to determine if absence of information on the program's website was due to poor website conception or if the missing element represented lack of integration in the program (ex: wellness programs).

CONCLUSIONS

Given the growing reliance on online resources to access information pertaining to residency and fellowship programs, improving Canadian urology residency and fellowship program websites represents a potential opportunity to better reach interested applicants.

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FIGURES AND TABLES

Table 1. Urology program scoring criteria (40-item scoring tool divided into seven subcategories)
Education program (10 points)
Program description
Curriculum
Rotation schedule
Call schedule
Work hours
Evaluations
Journal club, grand rounds, simulations
Training site description
Surgical statistics case load
Simulation programs
Application process (6 points)
Program director name
Number of fellows accepted
Contact email
Application requirements
Deadline and important dates
Selection criteria
Faculty (5 points)
Faculty list
Faculty photo
Faculty biography
Faculty publications
Faculty contact
Trainees (6 points)
List
Photo
Bio med school
Contact
Alumni list
Alumni current positions
Research/extracurricular activities (5 points)
Research opportunities
List of current research projects

Past research projects
Research support resources available
Equity diversity inclusion (EDI)/community initiatives
Wellness (3 points)
Mental health/support resources
Resident wellness days, team activities
Event calendar
Benefits and career planning (5 points)
Salary
Vacation
Maternal leave mentioned
Paternal leave mentioned
Career planning resources
Overall total (40 points)

Table 2. Canadian urology residency program scoring (scores in percentages per subcategory and overall)								
	Education program	**Application process**	**Faculty**	**Trainees**	**Research and extracurricular**	**Wellness**	**Benefits and career planning**	**Overall**
Dalhousie University	60%	67%	100%	100%	80%	67%	0%	68%
Western University	70%	33%	100%	67%	80%	100%	20%	65%
University of British Columbia	60%	83%	100%	67%	40%	67%	40%	65%
University of Ottawa	70%	83%	60%	50%	40%	67%	0%	55%
Queen's University	60%	17%	100%	83%	80%	0%	0%	53%
University of Toronto	30%	100%	100%	50%	60%	0%	0%	50%
University of Alberta	70%	100%	40%	0%	40%	33%	20%	48%
McMaster University	60%	33%	100%	33%	60%	0%	0%	45%
Université Laval	60%	83%	100%	0%	20%	0%	0%	43%

McGill University	70%	33%	100%	0%	40%	0%	0%	40%
University of Manitoba	60%	100%	0%	0%	40%	33%	20%	40%
Université de Montréal	50%	67%	0%	0%	40%	33%	0%	30%
Université Sherbrooke	20%	67%	100%	0%	0%	0%	0%	28%
Average	57%	67%	77%	35%	48%	31%	8%	48%

Table 3. Canadian urology fellowship program scoring (scores in percentages per subcategory and overall)								
Fellowship program	**Education program**	**Application process**	**Faculty**	**Curriculum trainees**	**Research and extracurricular**	**Wellness**	**Benefits and career planning**	**Overall**
University of Toronto Pediatric Urology	30%	67%	80%	33%	80%	0%	0%	43%
Laval University Urologic Oncology	50%	83%	100%	0%	20%	33%	0%	43%
Western University Urologic Oncology	70%	83%	40%	0%	60%	0%	0%	43%
University of Toronto Female Pelvic Medicine and Reconstructive Surgery	40%	67%	80%	17%	60%	0%	0%	40%

University of Toronto Endourology and Minimally Invasive Surgery	50%	50%	80%	33%	40%	0%	0%	40%
McGill University Female Pelvic Medicine and Reconstructive Surgery	50%	83%	20%	0%	40%	0%	40%	38%
University of Toronto Urologic Oncology	10%	83%	100%	17%	60%	0%	0%	38%
McGill University Andrology	50%	83%	20%	0%	40%	0%	20%	35%
University of Alberta Pediatric Urology	60%	67%	40%	0%	20%	0%	20%	35%

Northern Ontario School of Endourology and Medicine Minimally Invasive Surgery	50%	50%	0%	0%	60%	67%	0%	33%
McGill Urologic Oncology	50%	67%	20%	0%	40%	0%	0%	30%
University of Toronto Andrology	40%	17%	80%	17%	40%	0%	0%	30%
Western University Endourology	40%	83%	40%	0%	20%	0%	0%	30%
University of Alberta Transplant	50%	50%	40%	0%	40%	0%	0%	30%
University of Alberta Reconstruction	20%	67%	40%	0%	60%	33%	0%	30%

McGill University Pediatric Urology	40%	67%	20%	0%	40%	0%	0%	28%
Western University Andrology	20%	50%	60%	0%	60%	0%	0%	28%
Western University Prosthetics and Reconstructive Urology	10%	50%	80%	33%	0%	0%	0%	25%
McGill University Sexual Medicine and Genitourinary Reconstructive Surgery	30%	67%	0%	0%	40%	0%	0%	23%

University of Calgary Functional and Reconstructive Urology	30%	67%	0%	0%	20%	0%	0%	20%
Western University Kidney Transplant	20%	67%	0%	0%	40%	0%	0%	20%
University of Manitoba Andrology	20%	17%	60%	0%	20%	0%	0%	18%
University of Ottawa Urologic Oncology	20%	33%	0%	0%	40%	0%	0%	15%
University of Ottawa Pediatric Urology	10%	33%	0%	0%	20%	33%	0%	13%
University of British Columbia Urologic Oncology	30%	0%	0%	33%	0%	0%	0%	13%

University of Calgary Urologic Oncology	0%	17%	20%	0%	40%	0%	0%	10%
University of Calgary Pediatric Urology	0%	50%	0%	0%	0%	0%	0%	8%
Averages	33%	56%	38%	7%	37%	6%	3%	28%