

**Title:** The Impact of Previous Cardiology Electives on Canadian Medical Student Interest and Understanding of Cardiology

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Contributor Role	Role Definition	Authors					
		1	2	3	4	5	6
<b>Conceptualization</b>	Ideas; formulation or evolution of overarching research goals and aims.	X	X	X	X		
<b>Data Curation</b>	Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later reuse.	X	X	X	X		
<b>Formal Analysis</b>	Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data.	X	X				
<b>Funding Acquisition</b>	Acquisition of the financial support for the project leading to this publication.						
<b>Investigation</b>	Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection.	X					
<b>Methodology</b>	Development or design of methodology; creation of models	X	X	X	X		
<b>Project Administration</b>	Management and coordination responsibility for the research activity planning and execution.	X	X				
<b>Resources</b>	Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools.	X					
<b>Software</b>	Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components.						
<b>Supervision</b>	Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.					X	
<b>Validation</b>	Verification, whether as a part of the activity or separate, of the overall replication/reproducibility of results/experiments and other research outputs.	X					
<b>Visualization</b>	Preparation, creation and/or presentation of the published work, specifically visualization/data presentation.	X					
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8  
9 **Discussion Points:** For social media. These must be 280 characters with spaces or less, and may take the  
10 form of questions or statements. Our Social Networks specialist will select one or create another one based on  
11 these points.

- 12 1. Medical students have a low understanding of career-related factors associated with cardiology  
13 practice.
- 14 2. Students with prior cardiology electives are more likely to select cardiology as a top specialty choice.
- 15 3. Students valuing personal interest in the medical conditions managed by a specialty were more likely  
16 to be interested in cardiology than those who valued high income potential, high status, and acceptable  
17 work hours.

18  
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24

**ABSTRACT.****Background:**

Most Canadian medical schools do not have mandatory cardiology rotations. Early exposure to clinical cardiology aids career navigation, but clerkship selectives are chosen during pre-clerkship. This study investigates whether prior elective experiences affect medical student interest as well as understanding of cardiology before clerkship selections.

**Methods:**

A literature search was conducted using Google Scholar, Embase and PubMed to create an evidence-based cross-sectional survey. The anonymous questionnaire was distributed to 122 second-year medical students at a Canadian medical school via *Opinio*, an online survey platform. Students were assessed on their interest and understanding of cardiology practice using a 5-point Likert Scale. Descriptive statistics, Chi-Square analysis and Cramer's V were used to assess the relationship between previous elective experience, medical student interest, and understanding of career-related factors pertaining to cardiology.

**Results:**

Fifty-three of 122 (43%) students responded to the survey. Overall, 26 (49.1%) students reported cardiology interest, while it was a preferred specialty for 9 (17.0%). Medical students reported low understanding of duration of patient relationships (n=14, 26.4%), spectrum of disorders (n=13, 24.5%), and in-patient care (n=11, 20.8%) associated with cardiology practice. Students with prior cardiology electives had increased understanding of in-patient care ( $\chi^2 = 4.688$ , *Cramer's V* = 0.297,  $p = 0.030$ ) and were more likely to select cardiology as a top specialty choice ( $\chi^2 = 7.983$ , *Cramer's V* = 0.388,  $p = 0.005$ ); however, cardiology electives prior to clerkship did not increase subjective student interest in cardiology in this study population ( $\chi^2 = 1.345$ , *Cramer's V* = 0.159,  $p = 0.685$ ).

**Conclusion:**

Pre-clerkship medical students have a low understanding of cardiology practice. Increasing pre-clerkship exposure to cardiology may help students confirm cardiology as a top career choice before clerkship selectives are chosen.

**Key Words:** Medical education, cardiology, career choice, medical students

## 1 INTRODUCTION.

2  
3 Career choices made in medical school have long-term consequences. Up to 14% of physicians report regret  
4 with their career choice.<sup>1,2</sup> This is particularly salient for Canadian medical students interested in pursuing a  
5 career in cardiology, as they must complete 4 years of internal medicine residency training before further  
6 cardiology subspecialty training.<sup>3</sup> While other subspecialties in internal medicine also require the completion of  
7 this initial phase of training, it is becoming more common that Cardiologists pursue subspecialty fellowship  
8 training after residency to adapt to the increasing complexity of patient care and the newest procedural  
9 approaches (Figure 1).<sup>4,5</sup> The pursuit of a career in cardiology can represent a long and arduous path which  
10 medical students must recognize when making career decisions.<sup>4</sup>

11  
12 Choosing a career path is a difficult decision for medical students.<sup>6,7</sup> Some students initially have ideas about  
13 specialties, but these change for most students throughout their undergraduate medical education due to  
14 preferences for lifestyle, perceived competence, and clinical exposure.<sup>8-10</sup> Canadian undergraduate medical  
15 education consists of a pre-clerkship phase with a larger emphasis on didactic teaching, followed by clerkship  
16 training in various clinical settings. In pre-clerkship, formal clinical experience is acquired through electives, in  
17 which students have weekly protected time with a selected preceptor to explore a specialty of their choosing.  
18 Students then enter clerkship rotations and begin selectives, in which students experience a select number of  
19 specialties in a fixed number of weeks. For instance, for a mandatory clerkship rotation such as internal  
20 medicine, students can request selectives in medical specialties of their interest.

21  
22 Dalhousie students participate in three term-long electives during pre-clerkship. However, the timing and  
23 availability of pre-clerkship electives vary across Canadian medical schools, and some institutions do not offer  
24 formal electives. Yet, all Canadian medical students must choose their medical clerkship selectives during their  
25 last pre-clerkship year of training. This bears considerable implications on defining their clinical exposure and  
26 the opportunities to obtain reference letters for residency applications.<sup>11</sup> Despite the nuances of career planning,  
27 most Canadian medical schools do not provide mandatory rotations in cardiology, leaving potentially interested  
28 students with a lack of exposure to the specialty. Additionally, 40% of the ~1,500 cardiologists in Canada are  
29 55 years of age or older, highlighting the importance of maintaining rates of student interest in cardiology as a  
30 career to mitigate future physician shortages.<sup>12</sup> To further this issue, cardiology is a field which has been rapidly  
31 evolving, leading to insufficient medical student understanding of the specialty.<sup>13,14</sup>

32  
33 Despite the complex advancements in cardiology, there is limited research surrounding medical students'  
34 understanding and interest in the specialty.<sup>15-17</sup> Existing literature suggests that students are interested in  
35 cardiology due to factors such as high income potential and status among colleagues.<sup>14</sup> However, no studies  
36 have been conducted to examine these factors among Canadian medical students. To address this gap, a  
37 survey was developed to examine the interest and understanding of cardiology as a specialty among 2<sup>nd</sup> year  
38 medical students.

## 1 MATERIALS AND METHODS.

### 3 *Study Design*

4 A literature search was performed using PubMed, Google Scholar and Embase to guide the creation of an  
5 evidence-based questionnaire between December 7<sup>th</sup>, 2019 to January 3<sup>rd</sup>, 2020. Reference lists of included  
6 studies were manually searched. Keywords are listed in Figure 2. Articles entered a first round of screening by  
7 the primary investigator and two co-investigators independently by title and abstract to capture studies that  
8 investigated student perceptions of cardiology. Studies were included if they examined undergraduate medical  
9 student interest or understanding of cardiology. Non-English studies and those examining postgraduate medical  
10 trainee perceptions were excluded. Conflicts were resolved by the supervising investigator (Figure 2).

11  
12 The second round of screening was completed by the primary investigator and co-investigators independently  
13 by performing full text reviews of remaining articles. Conflicts were resolved by the supervising investigator.  
14 Similar inclusion and exclusion criteria were applied, yielding a total of 3 articles (Figure 2). In addition to studies  
15 investigating the general career-related factors which medical students consider when exploring specialties,  
16 these articles were used to create a survey. All investigators collaborated to generate a final list of career factors.

### 18 *Setting & Participants*

19 Medical student interest and understanding of cardiology was analyzed using a cross-sectional approach by  
20 surveying 2<sup>nd</sup> year medical students at Dalhousie University in Halifax, Nova Scotia, Canada. Respondents had  
21 experienced three mandatory electives prior to completing the survey. All students who wished to pursue  
22 cardiology electives were able to secure one. Participants of the study were applicants to a 2-week elective  
23 summer program at Dalhousie Medicine designed to improve transition to clerkship through a combination of  
24 specialty and skills exposure.

25  
26 Electronic surveys were distributed via email and were administered using *Opinio* (Object Plant, Oslo, Norway).  
27 Data was collected anonymously through a secure web browser during a four-week study period from January  
28 13<sup>th</sup> to February 9<sup>th</sup>, 2020. Participation in the study was voluntary with no exclusion criteria applied. Students  
29 submitted their informed consent with survey completion.

### 31 *Variables & Assessment*

32 The primary objective of this study was to establish student interest and understanding of cardiology prior to  
33 clerkship. The secondary objectives were to determine relationships between student demographic factors,  
34 career factor preference and prior elective exposure with interest in cardiology to identify trends within students  
35 interested in the specialty.

36  
37 The survey was designed to include demographic questions such as age, gender, education, desired practice  
38 location, and rural versus urban upbringing (Supplementary Material). Previous clinical elective exposure and  
39 specialty interest were also assessed. Using a 5-point Likert scale, students reported their understanding of  
40 career factors pertaining to cardiology such as the spectrum of medical issues treated, common procedures  
41 performed, income potential (for Canadian cardiologists), and other features associated with the general

1 practice of cardiology and the patient population served. The following scale for understanding of career factors  
2 pertaining to cardiology was used: 1 – Very Low, 2 – Low, 3 – Neutral, 4 – High, 5 – Very High.

#### 3 4 *Bias*

5 The survey was purposefully worded to mitigate bias and all data collected was anonymous. The survey  
6 questionnaire was evaluated using the instrument provided by Strengthening the Reporting of Observational  
7 Studies in Epidemiology (STROBE). Research ethics approval was provided by the Nova Scotia Health  
8 Authority Research Ethics Board (File No. 1023087). This study investigates medical student interest and  
9 understanding of cardiology practice and is part of a larger study aimed at quality improvement of a 2-week  
10 elective program through procedural skills exposure, elective experience and simulation training.

#### 11 12 *Data Analysis*

13 With a response rate of 44%, a total of 122 students were surveyed to attain a sample size of 53 responses to  
14 identify pre-clerkship student interest and understanding of cardiology with a 10% margin of error. Incomplete  
15 or missing responses were not included in statistical analysis.

16  
17 Survey data was exported into IBM Statistical Package for the Social Sciences (SPSS) software (Version 25,  
18 IBM, New York, United States) and demographic characteristics were expressed using descriptive analysis as  
19 frequencies and percentages. Participant ratings of their understanding of career-related factors pertaining to  
20 cardiology practice were considered high for Likert-scale values of 4 and 5. Ratings were considered low for  
21 respondent results of 1, 2, or 3.

22  
23 Chi-square tests were used to analyze the relationship between demographic factors and interest in cardiology  
24 using Cramer's V, as well as for analysis between previous elective experience and understanding of career  
25 factors associated with cardiology. A reliability analysis was performed using Cronbach's  $\alpha$  to assess the internal  
26 consistency of the cardiology perception factors scale using all 9 items with a minimum acceptable  $\alpha$  of 0.7. A  
27 90% confidence interval was used for determining statistical significance, set at  $p < 0.10$ .

## 1 RESULTS.

### 2 3 *Demographics*

4 A total of 53 (45.7%) Canadian 2<sup>nd</sup> year medical students from Dalhousie University responded to the survey  
5 (Table 1). Of all respondents, 32 (60.3%) were female, 27 (50.9%) were between 20-24 years of age, and 37  
6 (69.8%) indicated that their highest level of education was a Bachelor's degree. Cronbach's  $\alpha$  demonstrated  
7 that the questionnaire met acceptable reliability,  $\alpha = 0.852$ . All items were worthy for retention as  $\alpha$  was reduced  
8 when any single item was removed.

### 9 10 *Student Interest in Cardiology*

11 Student interest in cardiology was moderate at a mean of 3.34/5.00 (90% CI, 3.08 – 3.59)  $\pm$  (SD, 1.108). Overall,  
12 26 (49.1%) students had an interest in cardiology, with cardiology being a top career choice among 9 (17%)  
13 participants (Table 1). Seven (13%) students participated in a previous clinical elective in cardiology with over  
14 half of these students also ranking their interest in cardiology as "High" or "Very High". Previous cardiology  
15 electives did not increase student interest in the specialty ( $\chi^2 = 1.345$ , *Cramer's V* = 0.159,  $p = 0.685$ ; Table 2).  
16 However, students with previous cardiology electives were more likely to select cardiology as a top specialty  
17 choice compared to those without a prior elective experience ( $\chi^2 = 7.983$ , *Cramer's V* = 0.388,  $p = 0.005$ ).

18  
19 When analyzing the impact of student demographics on cardiology interest, there was a significant increase in  
20 cardiology interest in those with an urban upbringing compared to those that were from a rural setting ( $p = 0.037$ ;  
21 Table 2). Students  $\geq 27$  years of age also had an increased interest in cardiology ( $p = 0.027$ ). Of all students  
22 who indicated a "High" or "Very High" interest in cardiology, 20 (76.9%) students desired to work in a  
23 hospital/academic-based practice compared to a community-based career ( $p = 0.016$ ; (Table 2). Factors such  
24 as education obtained, marital status, having children, or desired practice location had no effect on cardiology  
25 interest (Table 2).

### 26 27 *Career Influencing Factors and Cardiology Interest*

28 Students that valued high interest in the medical conditions treated by a specialty ( $p = 0.009$ ), having a strong  
29 relationship with a cardiologist mentor ( $p = 0.088$ ) and long-term patient relationships ( $p = 0.072$ ) were more  
30 likely to report increased interest in cardiology (Table 2). Students valuing other factors such as acceptable  
31 weekly hours, high income potential, status among colleagues and long-term patient relationships did not have  
32 an increased interest in cardiology (Table 2).

### 33 34 *Student Understanding of Cardiology as a Career*

35 Students were most confident in their understanding of the higher level of status among colleagues (Mean  $\pm$   
36 SD: 3.66  $\pm$  0.96) and income potential (3.53  $\pm$  1.05) associated with cardiology practice (Table 3). Students  
37 indicated low levels of understanding of the duration of patient relationships (2.92  $\pm$  0.76), urgency of care (2.92  
38  $\pm$  0.87), the spectrum of disorders in the field (2.96  $\pm$  0.73) and the proportion of in-patient care (3.08  $\pm$  0.83).

### 39 40 *Previous Elective Exposure and Understanding of Career-Related Aspects of Cardiology*

1 Previous elective experiences in cardiology increased student understanding of the proportion of in-patient care  
2 ( $p = 0.030$ ). However, the understanding of weekly work hours, income potential, spectrum of disorders,  
3 common procedures, patient population and duration of patient relationships associated with cardiology was  
4 unaffected by elective experience (Table 4).

5  
6 *Career Interest in Cardiology and Understanding of Career-Related Aspects of Cardiology*

7 Students with career interests in cardiology also reported a greater understanding of the proportion of in-patient  
8 care ( $p = 0.021$ ) as well as the patient population associated with cardiology practice ( $p = 0.011$ ). Career interest  
9 in cardiology otherwise did not impact student-reported understanding of a cardiologist's weekly work hours,  
10 income potential, spectrum of disorders managed, nor common procedures performed (Table 5).

11



**DISCUSSION.**

This study examined the perceptions of Canadian undergraduate medical students in their second year of training at Dalhousie University. Students generally demonstrated a low understanding of cardiology practice. Students with an interest in cardiology were moderately more likely to value having an interest in the medical conditions treated in a given specialty, compared to those without cardiology interest. Students with prior electives in cardiology were more likely to select cardiology as a top career choice compared to those without previous clinical time in cardiology. Elective exposure has been previously shown to increase student interest in that specialty,<sup>18,19</sup> However, to our knowledge this is the first Canadian study demonstrating that elective exposure is associated with increased likelihood of medical student selection of cardiology as a top career choice, which is pertinent for Canadian medical students as clerkship selectives are chosen during pre-clerkship training.

Demographic factor analysis demonstrated that age  $\geq 27$  years was associated with greater interest in cardiology which align with studies showing that cardiology applicants tend to be of increased age compared to other medical specialties.<sup>20</sup> Although an interesting finding, due to the relatively low sample size of this study, further investigations are required to fully determine the reasons why cardiology attracts older students. Furthermore, students with an urban upbringing were more interested in pursuing cardiology than their rural counterparts, which to our knowledge has yet to be reported. This may reflect decreased exposure to specialty cardiology practice in rural settings secondary to either expanded scope of general internists, or decreased access to cardiology care for these populations.<sup>21-25</sup> As students tend to return to the communities they were raised in, undergraduate medical schools may increase admissions to students from rural communities to improve rural physician recruitment. While our results do not support that elective experience increases medical student interest in cardiology as a specialty, rural medical students may be a unique group due to differences in exposure to specialties in medicine. Future studies may examine whether elective experience impacts rural students differently than urban students, as the latter group comprised the majority of our study population.

Cardiology was a specialty with substantial cohort interest as almost half of the students were interested in cardiology. However, less than one fifth of students ranked cardiology in their top 3 career choices. A similar discrepancy between interest in cardiology practice and desire to pursue the specialty has been described previously, as perceived competitiveness and inflexible hours may be a deterrent to medical students choosing cardiology as a career despite high interest.<sup>15</sup> This high baseline interest may further explain why having an elective in cardiology had minimal impact on career interest in the specialty, but significantly increased student selection of cardiology as a top career choice. Other studies demonstrate a slightly lower rate of medical students selecting cardiology as a top career choice, though geographical differences in upbringing and training may account for this difference.<sup>26</sup>

Students valuing personal interest in the medical conditions managed by a specialty were more likely to be interested in cardiology. Participants who valued high income potential, high status, and acceptable work hours had no correlation with cardiology interest. This suggests that medical students are not primarily attracted to cardiology for the lifestyle-related factors of the profession, but because of sincere interest in the medicine and

1 pathology associated with cardiovascular disease. Furthermore, students valuing long-term patient relationships  
2 were more likely to be interested in cardiology, a result which to our knowledge has yet to be reported.

3  
4 Students were most confident in their understanding of the status and income potential associated with  
5 cardiology yet reported lower levels of understanding of the range of medical conditions seen by cardiology. As  
6 this cohort of students had already submitted their medicine subspecialty selections for clerkship rotations,  
7 some students may not have had sufficient cardiology exposure before determining their rotation preferences,  
8 which may have career implications. To improve early career navigation among medical students, increasing  
9 early clinical exposure to cardiology in pre-clerkship training may help students discern whether they simply find  
10 cardiology interesting as a specialty, or if they would select it as a top career choice. This is supported by the  
11 finding that students with a previous elective in cardiology were more likely to choose cardiology as a career,  
12 and as such clinical electives may help students gain a deeper understanding of the pathology associated with  
13 cardiology practice.

14  
15 Student understanding of in-patient cardiology care was low, and as these students had already received their  
16 formal classroom teaching on the diagnosis and management of cardiovascular diseases, didactic teaching  
17 may not sufficiently teach students how much in-patient care is involved in cardiology practice, as well as what  
18 conditions would be managed on an in-patient ward. Furthermore, students with previous cardiology electives  
19 had higher understanding of in-patient cardiology care compared to those without electives. As students with  
20 prior cardiology electives were more likely to choose cardiology as a career, the authors postulate that a greater  
21 understanding of in-patient cardiology care may entice students toward choosing a career in cardiology.  
22 Qualitative studies should be conducted to distinguish whether this finding is better explained by a pre-existing  
23 inclination toward cardiology as a specialty among medical students with prior cardiology electives. To support  
24 early career navigation among medical students, undergraduate medical schools may look toward promoting  
25 student-led programs that enable students to gain clinical exposure to medical specialties outside of traditional  
26 undergraduate medical curricula, as these initiatives may increase student interest in these specialties.<sup>18,19,27</sup>

27  
28 The strengths of this study include the assessment of career-related factors of cardiology used in previous  
29 literature.<sup>16,17</sup> Additionally, the decision to assess the interest and understanding of students at the end of their  
30 pre-clerkship curriculum addresses the fact that medical students make career-impacting decisions early in their  
31 training without being fully informed. Using a cross-sectional approach, this study provides insight into medical  
32 student understanding at the pre-clerkship level which reflects clinical pre-clerkship exposure. Moreover,  
33 medical student interest in cardiology and understanding of the profession is under-represented in the literature  
34 in general. Limitations of this study include the small sample size, as student respondents were a subgroup  
35 from a single institution in Canada, which may affect the generalizability of the results. Furthermore, the use of  
36 a survey presents the potential for volunteer bias which would have resulted in a misrepresentation of students  
37 interested in cardiology in our sample, although the proportion aligns with those in previous studies.<sup>15-17</sup> Due to  
38 the nature of this study, it is possible that the experiences of clerkship may be more impactful on cardiology  
39 interest compared to interest at the pre-clerkship level. Additionally, student interest in Cardiology at the pre-  
40 clerkship level may not directly translate to future pursuit of Cardiology. To address this limitation, further

1 longitudinal studies should be performed to follow pre-clerkship students into residency. In addition, larger-scale  
2 studies conducted at institutions in other areas of Canada may improve the generalizability of these findings.

3  
4 Pre-clerkship medical students generally have a low understanding of cardiology practice, though have a high  
5 interest in the specialty. Though cardiology interest was not increased through elective experiences, students  
6 were more likely to rate cardiology as a top specialty with prior cardiology electives. Given the timing of clerkship  
7 selectives, Canadian medical students desiring to confirm whether cardiology is a top career choice may  
8 consider pursuing a cardiology elective in pre-clerkship. Canadian undergraduate medical schools may consider  
9 the incorporation of pre-clerkship electives to ensure the availability of this opportunity for career navigation  
10 among their students.

11

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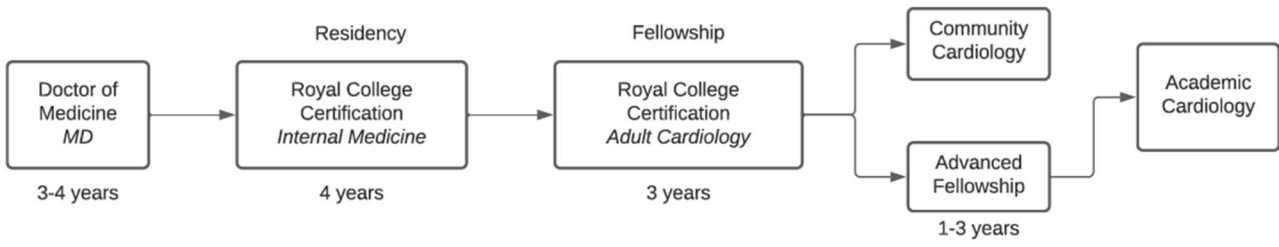
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1 **FIGURES AND TABLES.**

2

3 **Figure 1.** Training path to becoming a cardiologist in Canada.

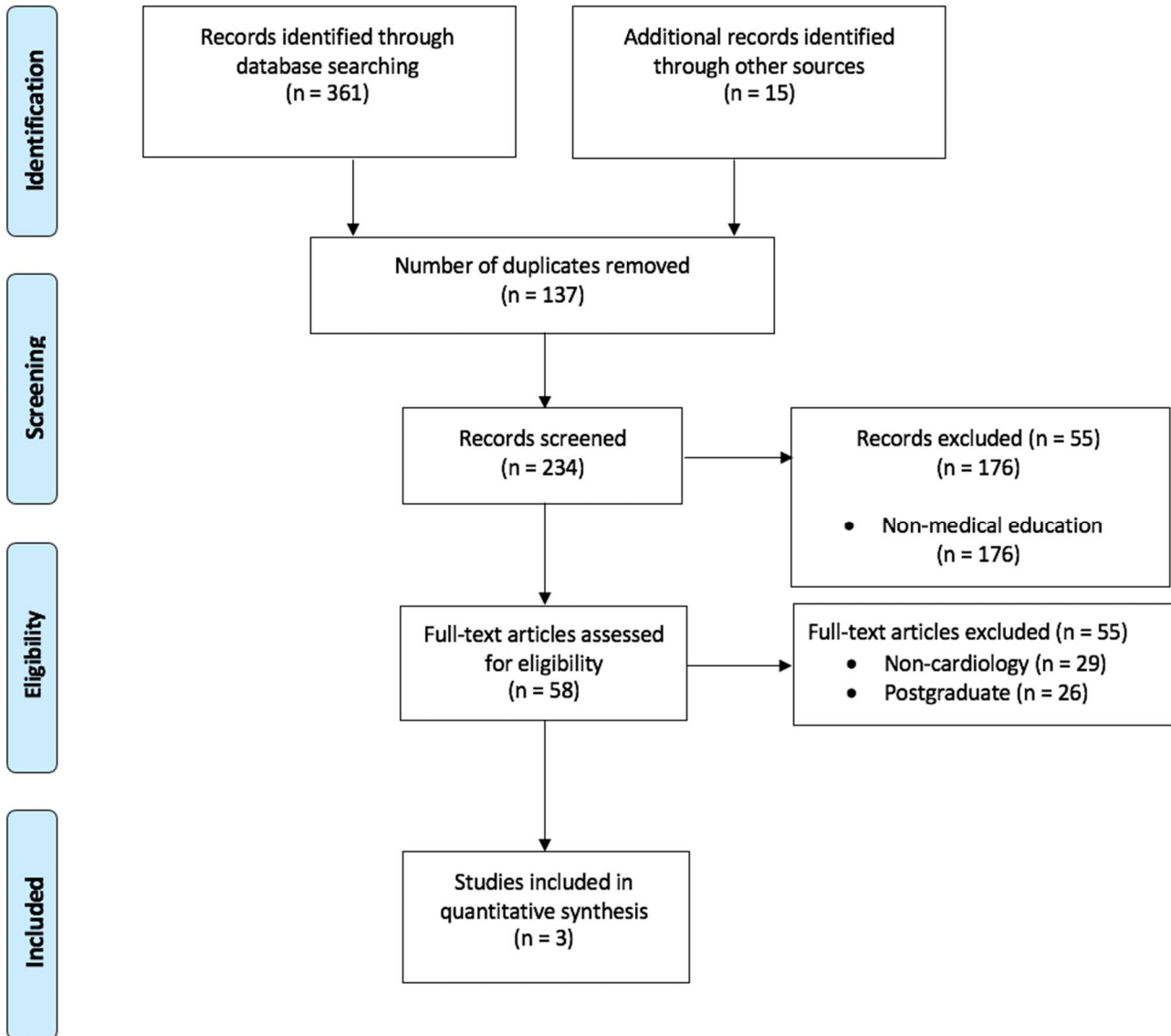


4

5

1 **Figure 2:** Literature Search. Keywords included “medical student”, “medical students”, “cardiology”, “career  
 2 choice”, “career choices” and “career navigation”. “cardiology service”, “decision making”, “career planning”,  
 3 “career mobility”, and “medical student.”

4



5

6

1 **Table 1:** Demographic Characteristics of Respondents (*N* = 53)  
2

	Frequency (n)	Percentage (%)
<b>Gender</b>		
Male	21	40
Female	32	60
Undisclosed	0	0
<b>Age</b>		
20-24	27	51
25-26	15	28
27+	11	21
<b>Education</b>		
Bachelor's	37	70
Graduate	16	30
<b>Marital Status</b>		
Single	40	75
Common Law	5	9
Married	7	13
Other	1	2
<b>Upbringing</b>		
*Urban	46	87
**Rural	7	13
<b>Desired Practice Location</b>		
*Urban	46	87
**Rural	7	13
<b>Desired Practice Setting</b>		
Community	13	25
Hospital	21	40



<b>Academic</b>	17	32
<b>Other</b>	2	4
<b>Prior Elective in Cardiology</b>		
<b>Yes</b>	7	13
<b>No</b>	46	87
<b>Considering Cardiology as a Career</b>		
<b>Yes</b>	9	17
<b>No</b>	44	83

1 \*Urban: Population >1000

2 \*\*Rural: Population <1000

3

1 **Table 2:** The Impact of Demographic, Career Factors and Previous Cardiology Electives on Interest in  
 2 Cardiology

Factor	$\chi^2$	Cramer's V	P-value
<b>Demographics</b>			
<b>Gender</b>	0.154	0.054	0.695
<b>Age</b>	0.468	0.094	0.494
<b>Education</b>	0.475	0.095	0.491
<b>Marital Status</b>	0.774	0.121	0.379
<b>*Upbringing</b>	4.337	0.286	*0.037
<b>Desired Practice Location</b>	0.124	0.048	0.725
<b>Desired Practice Setting</b>	12.177	0.479	*0.016
<b>Career Factors</b>			
<b>Acceptable Weekly Hours</b>	0.167	0.056	0.682
<b>High Income Potential</b>	0.034	0.025	0.854
<b>Status Among Colleagues</b>	1.615	0.175	0.204
<b>Urgency of Care</b>	0.475	0.095	0.491
<b>Medical Conditions Treated</b>	6.839	0.359	*0.009
<b>Strong Relationship with Mentor</b>	2.908	0.234	0.088
<b>Patient Population</b>	0.339	0.080	0.560
<b>Long-Term Patient Relationships</b>	3.228	0.247	0.072
<b>Previous Cardiology Elective</b>	1.345	0.159	0.685

4 \*Urban upbringing

5 Cramer's V scores were considered as follows: 0-0.25 (weak), 0.25-0.5 (moderate), 0.5-1 (strong).

6

1 **Table 3:** Student Understanding of Career-Related Factors in Canadian Cardiology Practice using a Likert  
 2 Scale.

<b>Aspects of Cardiology</b>	<b>Mean (90% *CI)</b>	<b>Standard Deviation</b>
<b>Quantity of Weekly Hours</b>	3.36 (3.15 - 3.57)	0.901
<b>Income Potential</b>	3.53 (3.29 - 3.77)	1.049
<b>Status Among Colleagues</b>	3.66 (3.44 - 3.88)	0.960
<b>Urgency of Care</b>	2.92 (2.72 - 3.13)	0.874
<b>Proportion of In-Patient Care</b>	3.08 (2.88 - 3.27)	0.829
<b>Spectrum of Disorders</b>	3.19 (2.98 - 3.40)	0.900
<b>Common Procedures</b>	3.32 (3.07 - 3.57)	1.070
<b>Patient Population</b>	3.23 (3.03 - 3.42)	0.847
<b>Duration of Patient Relationships</b>	2.92 (2.75 - 3.10)	0.756

3 \*CI – Confidence Interval  
 4

1 **Table 4:** The Impact of Previous Electives on Understanding of Career-Related Aspects of Cardiology

2

<b>Aspects of Cardiology</b>	<b><math>\chi^2</math></b>	<b>Cramer's V</b>	<b>P-value</b>
<b>Quantity of Weekly Hours</b>	0.183	0.059	0.669
<b>Income Potential</b>	0.092	0.042	0.761
<b>Status Among Colleagues</b>	0.030	0.024	0.863
<b>Urgency of Care</b>	1.306	0.157	0.253
<b>Proportion of In-Patient Care</b>	4.688	0.297	*0.030
<b>Spectrum of Disorders</b>	0.001	0.005	0.974
<b>Common Procedures</b>	0.089	0.041	0.765
<b>Patient Population</b>	0.008	0.012	0.929
<b>Duration of Patient Relationships</b>	0.426	0.090	0.514

3 Cramer's V scores were considered as follows: 0-0.25 (weak), 0.25-0.5 (moderate), 0.5-1 (strong).

4

1 **Table 5:** The Impact of Career Interest in Cardiology on Understanding of Career-Related Aspects of  
 2 Cardiology

3

<b>Aspects of Cardiology</b>	<b><math>\chi^2</math></b>	<b>Cramer's V</b>	<b><i>P</i>-value</b>
<b>Quantity of Weekly Hours</b>	0.018	0.019	0.893
<b>Income Potential</b>	0.468	0.094	0.494
<b>Status Among Colleagues</b>	0.151	0.053	0.697
<b>Urgency of Care</b>	1.355	0.160	0.244
<b><i>Proportion of In-Patient Care</i></b>	5.307	0.316	*0.021
<b>Spectrum of Disorders</b>	0.006	0.010	0.941
<b>Common Procedures</b>	0.454	0.093	0.500
<b><i>Patient Population</i></b>	6.526	0.351	*0.011
<b>Duration of Patient Relationships</b>	0.004	0.009	0.947

4 Cramer's V scores were considered as follows: 0-0.25 (weak), 0.25-0.5 (moderate), 0.5-1 (strong).