Royal Australasian College of Surgeons

# Survey report

Breaking barriers; developing drivers for female surgeons

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Committed to Indigenous health

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# Preface

The Royal Australasian College of Surgeons (RACS) is committed to understanding and addressing the circumstances that women face when considering a career in surgery in Australia and New Zealand. This is part of the RACS Diversity and Inclusion Plan and Building Respect Improving Patient Safety strategies we have initiated.

A key element of the RACS Diversity and Inclusion Plan is to increase the numbers of female surgeons. To inform this work, a survey was conducted aimed at identifying perceptions and experiences when considering a surgical career in Australia and New Zealand.

The Survey report *Breaking barriers; developing drivers for female surgeons* asked questions about demographics, perceived barriers and drivers in various medical specialties, in medical school, in lifestyle considerations, in profession considerations and about Surgical Education and Training.

In comparison to other medical specialties, surgery was perceived as having the highest barriers for women. The top driver that emerged from this survey related to delivering the surgical needs of patients.

Additional key drivers highlighted were the professional ambition of respondents, the remuneration potential of a surgical career, the intellectual challenge of surgery and the interest in experiencing available and emerging technologies in surgery. A lack of time for dependents, hobbies and leave (travel) were also raised, as well as a perception of inflexibility within the Surgical Education and Training Program.

The survey targeted female medical students and non-vocational junior doctors. We received almost 1700 responses from male, female and "other" sex participants, but have presented responses from female and "other" sex respondents.

# RACS supports diversity in surgery

Diversity, in all its dimensions, will improve the profession of surgery and the College, and our profession will be strengthened by our ongoing efforts to ensure our surgical workforce reflects the diverse communities we serve.

Diversity and inclusion are part of the wider work we are undertaking in the College to build a culture of respect in surgery.

We are working towards:

- inclusive culture and leadership excellence
- gender equity
- inclusion of diversity groups
- diverse representation on Boards and in leadership roles, and
- benchmarking and reporting.

The College is committed to expanding the number of women in surgical training and to ensuring the training programs do not disadvantage them. Since half the medical graduates are now female, there is a need to attract the best graduates to surgery, and the College is actively pursuing that goal.

We are working on the following initiatives to increase diversity and inclusion across the College:

- RACS has and continues to advocate and work toward a target of 40 per cent representation of women on boards and committees.
- Together with the Royal Australasian College of Physicians, the Australian and New Zealand College of Anaesthetists, the Royal College of Physicians and Surgeons of Canada, the Australian and New Zealand College of Psychiatrists, RACS has signed and committed to the United Nations Women's Empowerment Principles Statement.
- RACS is advancing the availability and take-up of flexible training, including

actions to minimise barriers for all Trainees, recognising the impact flexibility can have on surgeon wellbeing and a diverse workforce.

- To improve the participation, leadership and treatment outcomes for women across all of RACS's Global Health programs and processes, Global Health is undertaking a gender analysis across its programs.
- To break down some of the barriers to becoming a surgeon, RACS offers scholarships for aspiring Aboriginal, Torres Strait Islander and Māori surgeons as well as International Medical Graduates who are asylum seekers or who have previously been refugees.
- All research scholarship applications now include a question on gender desegregation to ensure research outcomes are appropriate for all people.
- The Foundation for Surgery Board is hosting an Unconscious Bias in Philanthropy workshop to ensure unconscious bias is minimised in all philanthropic decision making.
- To ensure the accessibility of philanthropic funding and scholarships is maximised, an unconscious bias review of key scholarship communications and processes will be conducted this year.
- RACS is working to establish national ear and hearing care services that are accessible and inclusive to the Samoan population, alongside local disability groups and the Ministry of Women, Community and Social Services. RACS aims to ensure services provided both at primary and tertiary level are targeting those with the greatest barriers to treatment and ongoing care.



# Abstract

### Introduction

One-third of applicants to the RACS Surgical Education and Training (SET) program are female, whereas female students represent about 55 per cent of Australian and New Zealand medical schools. This is the largest quantitative study (N=1670) of female medical students and female junior doctors (who are not on a training program) about a surgical career. Specifically, the study investigates the negative barriers and positive drivers that women face when considering a career in surgery, conducted in 2019. The aim is to achieve greater gender diversity in SET and beyond, in accordance with previous RACS research in this area.

### Method

A seven-point Likert scale with a weighted average (W.A) between 0 and 6 was used to report the findings. A W.A of greater than 3.5 may be considered a driver and a W.A of 2.5 or less may be considered a barrier. W.A between 2.5 and 3.5 is neutral (both barriers and drivers that may cancel each other out). This enabled us to rank (i) 12 medical professions and (ii) 43 rating statements in four contexts (within university, lifestyle/ choices, the surgical profession and SET).

"I am very pleased to see this initiative and look forward to seeing action taken to dramatically increase the number of female surgeons."

- Survey participant

### Results

Of 12 listed medical professions, for women, six professions were drivers (the best was General Practice with W.A = 5.2), five were neutral and surgery, with W.A = 0.8, was the only career seen as an overall barrier for women. The results were almost identical for women who selected their top career as surgery (47% of respondents) or not (53% of respondents).

Of the 43 rating statements, for women, on average, 12 (28 per cent) were overall drivers, 16 (37 per cent) were neutral and 15 (35 per cent) were overall barriers. Most drivers were from 'Surgery as a profession' context and most barriers were related to 'Lifestyle/ choices'. The top five drivers were surgical needs of patients (W.A = 4.7), self-drive in surgery (W.A = 4.5), potential income (W.A = 4.4), intellectual requirements of surgical practice (W.A = 4.2) and surgical technologies (W.A = 4.2). The top five barriers were time for family/ friends (W.A = 1.0), current or future dependents/ children (W.A = 1.0), time for hobbies/interests (W.A = 1.2), time for vacation/leave (W.A = 1.3) and flexibility of SET (W.A = 1.4). The last one was interesting as over 90 per cent of respondents had never applied for SET.

The comments referenced several themes that led to barriers. These themes occurred at university, during hospital placement and during hospital employment. Common themes included: poor culture (discrimination, bullying, sexism and harassment), unsolicited gendered advice ('boys club', assumptions about ability, future children and family life), lack of SET transparency and flexibility (communications, application process, costs and inflexibility of part-time options once on the program) and lack of quality mentors. Peers at university, tutors, lecturers, junior doctors, surgical trainees and surgeons/ consultants (both male and female) caused barriers for most women who were surveyed.

### Conclusion

Understanding the medical students and junior doctors' complex barriers and drivers has been an important step towards the goal of a balanced and diverse future surgical workforce. More work is required to encourage women to pursue a career in surgery. The next steps require attention, action and multiple approaches from several key groups, including RACS, Australian and New Zealand hospitals and universities and other interested stakeholders.

Actions may be related to policies and procedures, complaints handling, clearer communications and marketing, research groups, education about discrimination, bullying, sexism and harassment, implementing more flexibility in SET and creating local meetings/ interest groups to promote surgery to women.

RACS, hospitals, universities and other relevant stakeholders are urged to consider the findings of this research and their implications, to identify practical strategies that may inform the next iteration of the RACS' Diversity and Inclusion plan and inform their own plans to further increase diversity in the surgical workforce.



# Survey report

### Introduction

The Royal Australasian College of Surgeons (RACS) is committed to understanding and addressing the circumstances that women face when considering a career in surgery in Australia and New Zealand. This is part of the Diversity and Inclusion Plan and Building Respect strategies initiated over the last several years. While approximately 55 per cent of students in Australian and New Zealand medical universities are female, in 2018, only a third of applicants for the RACS SET program were female.

### Aim

RACS is determined to continue to minimise barriers and develop and enhance the drivers to increase the proportion of women who apply for and are selected into surgical training. Negative perceptions and experiences are defined as *barriers* (obstacles, pain points) to a surgical career. Positive perceptions and experiences are defined as *drivers* (support, motivators).

### Background

The 2018 report "Exploring women's views on a career in surgery" was a RACS pilot study in conjunction with Australian National University. Forty-five women (11 medical students, 15 medical graduates, and 19 non-surgical doctors) were interviewed and the data was analysed using qualitative methodologies. One of the recommendations was to create and deploy a quantitative study for female medical students and junior doctors (not in a training program), about their perceptions of a career in surgery. The biggest challenge was reaching out to over 10,000 female medical students and thousands of junior doctors in Australia and New Zealand.

### Method

RACS worked with Australian and New Zealand surgeons, hospitals, the Women in Surgery committee, a Project Reference Group of Trainee surgeons, various interest groups and 22 universities to promote the survey on social media, via printed posters and newsletters. The survey was open from 9 May to 3 June 2019. The 1695 responses exceeded the statistical target of 371 responses and RACS social target of 1000 responses.

The survey had four parts:

- 1. Introduction (five demographic questions)
- Drivers and barriers for women in selected medical professions (single question)
- 3. Personal drivers and barriers about surgery (12 questions with 43 ratings) in the context of
  - a. university (three questions, 12 ratings)
  - b. lifestyle/ choices (three questions, 10 ratings)
  - c. the perception about the surgical profession (three questions, 13 ratings)
  - d. Surgical Education Training (SET) (three questions, seven ratings)

4. Demographics (eight questions) Missing data was treated as missing; survey imputations were not used. The analysis is mainly quantitative, focusing on weighted averages (described further in the next section) and other summary statistics. The comments were analysed using qualitative methods to determine themes; extensive qualitative methods have not been used.



# Analysis and discussion

# Perceptions of drivers and barriers for females in selected medical specialties

The first question on sex identified 1667 females, 25 males and 3 "other" sex. All feedback was welcome and read, however this report will focus on female and other respondents (N=1670), as published in the survey.

According to the demographic information, the respondents were representative by state and country in Australia and New Zealand with slight over-representation from Tasmania. Over 63 per cent of respondents were medical students (23 per cent in the first half of their medical degree, 31 per cent in the second half of their degree, 9 per cent in postgraduate studies), 35 per cent were junior doctors and 2 per cent were 'Other'. When the respondents were asked for their single medical career preference, 47 per cent selected a career in surgery and 53 per cent selected non-surgical careers, thus enabling perceptions and experiences about a career in surgery from different perspectives.

Respondents were asked to consider all the drivers and all the barriers for several popular medical careers, for all women, putting them on a balancing scale and deciding if the item was an overall driver or barrier. For example, they were shown Figure 1 and asked to rate each career.

Each of the seven-point scale categories was mapped from six (high driver) to zero (high barrier) with three as neutral (equal barriers and drivers). Then a weighted average (W.A) was calculated to measure and rank items from strongest driver to strongest barrier. A W.A of greater than 3.5 may be considered a driver and a W.A of 2.5 or less may be considered a barrier. Scores closest to six correspond to highest drivers and scores closest to zero correspond to highest barriers.

A surgical career was the highest barrier for women, with a W.A of 0.8 (shaded dark orange), as seen in Figure 2. The highest driver for women was General Practice with a W.A of 5.2. In fact, from the 12 careers, half were drivers, five of 12 were neutral and surgery was the only overall barrier. This pattern was observed in both groups of respondents – those who selected surgery as their preferred career and those who chose another medical career as their preferred career. The same scale was used for the 43 statements in the next section, to identify the top five drivers and top five barriers for a career in surgery.

"Surgery is an amazing, wonderful career and to see more female surgeons gracing the halls of the hospital would be inspiring."

- Survey participant

# Top drivers and barriers for women considering a surgical career

The seven-point scale in Figure 1 was used to rate 43 rating statements across four contexts (university, lifestyle, profession and SET). However, for these questions, the respondents were asked to reflect on *their own experience/views* (opposed to their perception for all women). From these ratings the top five drivers and barriers were identified. The top driver to surgery for women was delivering the surgical needs of patients.

# The top driver to surgery for women was delivering the surgical needs of patients.

Additional key drivers were professional ambition of respondents, remuneration potential of a surgical career, intellectual challenge of surgery and interest in experiencing available and emerging technologies in surgery. Importantly, in the delivery of gender equity, the primary perceived barrier was the lack of protected time for family and friends. A lack of time for dependents, hobbies and leave (travel) were also raised, as well as a perception of inflexibility within the SET Program.

#### Figure 1 Seven-point scale of high driver to high barrier



#### Figure 2: Group perceptions and experiences about various medical professions

General Practice	5.2	
Paediatrics / Child medicine	4.2	
Psychiatry	4.0	
Dermatology	4.0	
Obstetrics Gynaecology	3.7	
Radiology	3.6	
Anaesthesia	3.2	
Adult medicine/Physician	3.2	
Ophthalmology	3.0	
Emergency medicine	2.8	
Intensive care medicine	2.6	
Surgery	0.8	
	o 3 Weighted Average	
	🗖 Driver 🔳 Neutral 📕 Barrier	

# Analysis and discussion (cont)

# Perceptions of drivers and barriers for females in university

In the context of university, the W.As ranged from 2.2 to 3.5, yielding one driver, five neutrals and six slight barriers. To improve the perception of a career in surgery, more events, conferences and surgical advocacy during university may encourage more women towards a surgical career, especially if the events could involve female surgeon consultants. The cost of medical school was the largest barrier to surgery in the context of university. Entering surgery can take many years post university, then another several years training before becoming a consultant. Perhaps there is pressure to pay down student loans which can be achieved more quickly in other specialties. Universities and governments may want to explore the impact of fees on medical careers. It is recommended that RACS continues to reduce the financial burden to those on their journey to surgical training and beyond.

There also seems to be a cultural issue as the attitudes and behaviour of both peers and academic staff at university, seem to cause or influence negative perceptions for females in surgery. For example, in the open-ended comments, additional anecdotes were mentioned such as:

- the need for more female surgeon role models
- more formal teaching of surgery including improving anatomy classes and lecturers who are passionate about surgery
- sexism and 'boys club' being told that having a family and a career in surgery was impossible, lecturers and

mentors actively discouraging surgical careers, poor treatment of female students while on placement e.g. sexist remarks by registrars, surgeons' refusal to teach female students while on placement, etc.

While many experiences towards a surgical career were inappropriate, there were some experiences that seemed to be presented with positive or neutral intention but ultimately may have caused negativity towards a career in surgery

### Perceptions of drivers and barriers for females in lifestyle choices and circumstance

In the context of lifestyle and personal circumstances, as seen in Figure 4, the W.As ranged from 1.0 to 4.5, yielding two drivers, two neutrals and six barriers. Despite the perceptions about surgery, respondents rated their personal drive, ambition and interest in surgery as a driver towards a surgical career. From the statistics in this survey, we observe that just under half the respondents were interested in a career in surgery, meaning the ambition is present before entering surgical training. We can also infer that the positive ambition is negatively affected by many factors by the time women apply for surgical training.

One's confidence to perform surgical skills or tasks was an overall driver for a career in surgery. One's confidence to perform surgical skills or tasks was an overall driver for a career in surgery. This was interesting because other research such as the New Fellows Survey, reported that women had low self confidence in their surgical skills. In this research, it is more of a driver, meaning women seem to believe they could be surgeons according to their skills.

The attitude and behaviour of parents, relatives and spouse or partner was neutral when considering a surgical career. However, the spouse's career, future living location, current and future dependents as well as time (for vacation/ travel, hobbies, family and friends) were a perceived barrier to a career in surgery.

In the open-ended comments, there were many concerns about planning for a career and family, lack of flexibility for parental duties, lack of parttime options and mention of limited parental leave available to surgical Trainees and consultants. The theme of support network was mentioned as a barrier: maintaining friends, family and relationships is important for participants.

Respondents were genuinely worried about their physical and mental health, the lack of surgical career flexibility, expected long hours (especially oncall hours) and frequent moves during training. Some participants commented on the lack of regional and rural surgical training options and the time required to get onto SET.

#### Figure 3: Personal perceptions and experiences about medical school

Surgical advocacy, events, promotions, conferences during university	3.5	
Surgical content within your university course	3.0	
Availability/contact with MALE surgical specialist/ consultant during medical school	2.9	
Entry into medical school	2.8	
Attitude/behaviours of mentors towards surgery during medical school	2.7	
Duration of medical course	2.7	
Distance of campus and clinical rotations to where you live	2.5	
Availability/contact with FEMALE surgical specialist/ consultant during medical schoolEmergency medicine	2.4	
Flexibility of medical course	2.4	
Attitude/behaviours of lecturers/clinical tutors/specialists towards surgery during medical school	2.3	
Attitude/behaviours of peers towards surgery during medical school	2.3	
Cost of medical school	2.2	
	0	3

#### Figure 4: Personal perceptions and experiences about lifestyle and related circumstances

Self-drive/ambition/interest in surgery	4.5		
My confidence to perform surgical skills/tasks	3.7		•
Parents/guardians/relatives attitude/behaviour towards surgery	3.2		
Spouse/partner attitude/behaviour towards surgery	3.0		
Spouse/partner career/location/personal constraints	2.1		
Location preference/where you prefer to live	1.9		
Time for vacation/annual leave/travel	1.3		
Time for hobbies/interests	1.2		
Current or future dependents/children	1.0		
Time for family/friends	1.0		
(	)	3	

Weighted Average

📕 Driver 📲 Neutral

Barrier

# Analysis and discussion (cont)

# Perceptions of drivers and barriers for females in perception about the profession

In the context of surgery as a profession, the W.As ranged from 2.9 to 4.7, yielding nine drivers, four neutrals and no overall barriers, as seen in Figure 5. The strong drivers in this section can be further promoted to encourage more women in surgery. Some of the strong drivers were surgical needs of patients (W.A = 4.7), potential income of a surgeon (W.A = 4.4), intellectual requirements to be a surgeon (W.A = 4.2) and the emerging technology in surgery (W.A = 4.2). Interestingly, the location of surgical practice had a W.A of 3.0, making it neutral. When compared to the previous comments, location of other contexts came up as barriers.

In the comments section, some barriers came up that have been mentioned previously such as overt and covert sexism, bullying, harassment and discrimination of women by surgical Trainees, Fellows and consultants. There are perceptions and experiences of a toxic culture within surgical teams, that surgeons are uncaring toward patients, the time to get onto SET and the time being unprotected and taken advantage of as unaccredited registrar positions.

Some interesting drivers were that the job is hands-on, that surgery treats the patient's problem immediately and that it is challenging and rewarding. Another driver was the potential to work in underprivileged areas or developing countries as well as being a pioneer/ future role model in a male-dominated field. "Toxic departments with open daily sexism against women in surgery still exist and the culture of fear allows them to continue un-reported in broad daylight to keep shocking and deterring our bright female candidates."

- Survey participant

## Perceptions of drivers and barriers for females in selection into Australia and New Zealand vocational Surgical Education and Training (SET)

In the context of SET, the W.As ranged from 1.4 to 2.9, yielding no drivers, one neutral and seven overall barriers, as seen in Figure 6. Interestingly, when this data was cross-tabulated with Q22 (how many times participants applied to SET; None N=830), the statistics were very similar, meaning these ratings are mainly perceptions rather than direct experience. However, these perceptions are strong. RACS must continue to advocate for flexible training with hospitals.

Within the comments the same themes were identified as described previously; job security after the training program, flexible training, that SET is complex, and the entry requirements constantly change, costs of courses and exams to get onto SET and the many years spent in unaccredited positions before SET.

Please see the appendices for more information about the demographics.

#### Figure 5: Personal perceptions and experiences about the surgical profession

Surgical needs of patients	4.7
Potential income	4.4
Intellectual requirements of surgical practice	4.2
Available and emerging technologies in surgery	4.2
Prestige of surgery	4.1
Opportunity for teaching / research in surgery	4.0
Integrity of surgical practice	3.9
Collegiality / teamwork	3.8
Job security / career growth of surgery	3.7
Surgical advocacy / awareness outside of medical school	3.3
Location of surgical practice	3.0
The role of RACS (Royal Australasian College of Surgeons)	3.0
The role of the specialty medical boards	2.9
	0 3

#### Figure 6: Perceptions of the SET program in Australia and New Zealand

	Weighted Avera	age	
	0	3	6
Flexibility of SET	1.4		
Application process to enter SET	1.8		
Location of surgical training positions	1.8		
Availability / timing of hospital rotations	1.8		
Cost of SET to you	1.9		
Duration of SET	2.0		
Guidelines / information of how to enter SET	2.5		
The Role of RACSTA (RACS Trainees' Association)	2.9		

Driver Neutral Barrier

# Limitations and conclusion

### Limitations

The limitation of this study is that the participants were self-selected. Because over half were not interested in a career in surgery, it may have reduced the selection bias. Another limitation and consideration for future work is that this survey is about diversity for female medical students and junior doctors. It would be interesting to study barriers and drivers of women (and other diversity groups) pre-medical school, in SET, surgical Fellows and former Fellows. Another limitation is that barrier for someone may be a driver for someone else (neutrals) which were not addressed in this research; these could be researched further.

# Conclusion

A career in surgery is competitive because compared to many other specialties, there are fewer places per year. Entry into SET is based on medical and interpersonal merit. Women and all diversity groups are encouraged to apply. SET entry requirements and respective communications could be improved by RACS. Unconscious bias can limit diversity so it is important to understand it and try to minimise it.

Universities, RACS, Surgical Specialty Boards and some hospitals have taken steps to reduce gender bias. They should continue building a positive culture in their workplaces. For example, they might review their policies, procedures and communication strategies to ensure their surgical related programs are flexible, affordable and clear. Staff and students should be educated about discrimination, bullying and sexual harassment and be empowered to report it without fear of repurcussion. All surgeons, surgical Trainees, junior doctors, university staff and medical students could reflect how their words, advice and experiences may impact those around them. Are they enabling and empowering others to pursue their medical career or are they causing unnecessary barriers? This applies for surgery and all medical career paths.

RACS, hospitals, universities and relevant stakeholders are urged to consider the findings of this research and their implications, to identify practical strategies that may inform the next iteration of the RACS Diversity and Inclusion plan and inform their own plans to further increase diversity in the surgical workforce.

Repeating this study in two to four years, after some intervention, is recommended. This would measure any improvements in barriers/ drivers, and if perceptions to surgery have changed over time.

"Despite the challenges women face in surgery, I think it is almost comforting that it is spoken about so widely."

- Survey participant



# Appendix

Some demographic questions were compulsory and presented at the start of the survey, but most demographics were presented at the end of the survey as optional questions. Hence the sample size (N) of each question may vary.

# Age and location of respondents

Respondents were asked what year they were born. 815 participants responded with the oldest born in 1956 (age 64) and youngest born in 2002 (age 18) with median birth year 1993 (age 27). Approximately 15 per cent of respondents were born between 1985 to 1989 (age 31 to 35), 41 per cent of respondents were born between 1990 and 1994 (age 26 to 30) and 35 per cent of respondents were born in 1995 to 1999 (age 21 to 25).

Respondents were asked to nominate their location at time of completing the survey. There is a slight overrepresentation from Tasmania and New Zealand, but all other areas match population data. The seven people in Other were not asked to specify their

Figure 7: Location of respondents (N = 1664)

location; they were most likely outside of Australia and New Zealand at the time or perhaps they did not want to identify their location.

# Current career status and university

Over 63 per cent (N=1670) of respondents were medical students (first half of the degree, second half of the degree and postgraduate), as seen in Figure 8. There were 35 per cent who identified as junior doctors and a handful of Other, who did not specify their career status. Other was included in the analysis presented here. A further N=1020 respondents selected their combination of demographics in terms of if they were studying, working, searching for employment, on leave or providing care to a dependent or relative. Respondents were presented with several scenarios and asked to select all that apply, as seen in Table 1

However, a linear view of demographic attributes is limiting. An analysis of combinations of these demographic attributes yielded over 80 variations of respondents' circumstances.

30%

New Zealand	13.3%		
NSW	26.0%		
VIC	20.9%		
QLD	15.5%		
SA	8.7%		
WA	6.5%		
TAS	6.1%		
ACT	1.4%		
NT	0.9%		
Other	0.6%		
	0	10%	20%

The top combinations were:

- "Studying full-time (any area)" without any other selection (384 people)
- "Working full-time medical setting" + "Employed in a public hospital" (115 people)
- "Working full-time medical setting" without any other selection (80 people)
- "Studying full-time (any area)" +
  "Working in a non-medical setting" (62 people)
- "Employed in a public hospital" without any other selection (47 people)

This shows that personal circumstances are complex and supports the need for flexibility in surgery and other medical careers.

All 22 universities offering medical degrees in Australia and New Zealand were represented by 911 respondents within this study. Eighteen of 22 universities had at least 23 responses or more, Bond University and James Cook University had 18 responses each, Flinders university had 17 responses and Australia National University had 11 responses. The top five universities represented 38 per cent (N=911) of responses. These were Monash University (Victoria), University of Otago (New Zealand), University of Tasmania, University of Sydney (New South Wales) and University of Melbourne (Victoria).

There were 737 respondents who provided which year they graduated or will graduate from their primary medical degree. Approximately 2 per cent graduated before 2010, 10 per cent graduated between 2010 to 2014, 46 per cent graduated between 2015 to 2019 and 42 per cent plan to graduate after 2020.

#### Figure 8: Current career status of respondents (N=1670)

Other	1.	6%			
JunDoc - 4+ years clinExp	8.	8%			
JunDoc - 2 - 4 years clinExp	11	.9%			
JunDoc - O - 2 years clinExp	14	1.3%			
MedStu - postgrad	9.	4%			
MedStu - 2nd half deg	30	).6%			
MedStu - 1st half deg	23	3.4%			
	0	10%	20%	30%	40%

#### Table 1: Popular demographic attributes

Answer choices of (N=1020 respondents)	Per cent	Ν
Studying full-time (any area)	64.1	654
Working full-time in a medical setting	28.5	291
Employed in a public hospital	27.5	280
Working in a non-medical setting	9.4	96
Working part-time in a medical setting	6.9	70
Studying part-time (any area)	6.3	64
Providing care to a child, dependent/s, sick relative with a partner or support person	4.6	47
Employed in a private hospital	2.8	29
Searching for employment	2.8	28
Employed in a non-hospital health setting	2.1	21
On parental/carer leave	1.2	12
On extended personal leave (3+ months)	0.4	4
Providing care to a child, dependent/s, sick relative as the sole caretaker	0.4	4

# Appendix (cont)

### **Career aspirations**

Respondents were asked what their single preferred career is, with an offered selection of 13 popular career responses from existing research, plus an Other option. Over 53 per cent of respondents were interested in non-surgical degrees with the most popular career choices Adult Medicine/Physician, Obstetrics/ Gynaecology, Paediatrics, and General Practice, as seen in Figure 9.

Given that under half of respondents were interested in a career in surgery, the view, perceptions and experiences expressed by the respondents may be objective, even though the respondents were self-selected. It is possible and likely that career preferences will change over time.

Respondents were asked when they first considered a surgical degree (N=1670). Figure 10 shows 22 per cent of respondents first thought about being a surgeon during childhood, before or

Figure 9: Preferred medical career of respondents

What is your preferred medical career? N=1670

during secondary school (age 19). About 57 per cent first considered a surgical career during medical school, 7 per cent first considered a surgical career after graduation and 14 per cent had not considered a surgical career yet.

All respondents were also asked to select up to three surgical specialties they might consider as a career (N=1007) as seen in Figure 11. The top three surgical specialties of interest to women were General, Plastic and Reconstructive, and Paediatric surgeries. This may give some surgical specialties an opportunity to reflect on how they can better advertise their specialty to women. For example, there are few Paediatric surgery places but many more Orthopaedic places. If the same thing that attracts women to certain specialties is highlighted in larger specialties, then women may be better equipped to see the career pathway in different specialties.

When thinking about how a surgical rotation may influence the interest

47 % Surgery 53 % Non-surgery	
From 53 per cent of non-surgical caree	rs, 881 were interested in:
Adult medicine/	17.6%
Obstetrics Gynaecology	15.4%
Paediatrics	14.8%
General Practice	14.1%
Other	10.2%
Emergency medicine	10.0%
Psychiatry	3.0%
Ophthalmology	2.5%
Intensive care medicine	2.5%
Dermatology	2.5%
Radiology	1.2%
	0

in a surgical career, 84 per cent of respondents (N=951) had their first surgical rotation during their undergraduate degree, 12 per cent were planning their surgical rotation soon. The other four per cent either had their first surgical experience after their degree, were not offered a surgical rotation or elected not to have a surgical rotation.

## Surgical Education and Training (SET) perceptions

There were 91 per cent respondents (N=909) who had never applied for the SET program. The remaining nine per cent had applied to SET. Because the two groups had vastly different sample sizes (830 versus 79), statistical comparisons between these groups could not be performed. However, it is evident that the negative experiences of those who apply for SET are negatively influencing those who have not applied for SET yet.

"Despite pursuing a surgical career throughout my medical degree and junior years, I have made the decision to transition to emergency medicine training. I can't achieve a sustainable, supported work/life balance amenable to having a family."

#### Figure 10: First considerations of a career in surgery (N = 1670)



#### Figure 11: Popular surgical specialties for women (N = 1007)

General Surgery	59.5%	6			
Plastic and Rec Surgery	38.8%	/ 0			
Paediatric Surgery	31.4%	/ 0			
Orthopaedic Surgery	25.4%	0			
Cardiothoracic Surgery	17.6%	0			
Otolaryngology	16.5%	6			
Vascular Surgery	14.0%	0			
Urology	13.8%	6			
Neurosurgery	13.29	6			
Not sure	11.9%	6			
	0	20%	40%	60%	ş

#### Figure 12: How many times have you applied for SET (N = 909)

None	91	.3%				
Once	4.1	.%				
Twice	2.6	5%				
Three times	0.	9%				
More than three times	1.1	.%				
	0	20%	40%	60%	80%	100%

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– Survey participant

# About RACS

The Royal Australasian College of Surgeons (RACS) is the leading advocate for surgical standards, professionalism and surgical education in Australia and New Zealand.

RACS supports the ongoing development, maintenance of expertise and lifelong learning that accompanies the surgical practice of more than 7,000 surgeons and 1,300 surgical trainees and International Medical Graduates.

RACS promotes, teaches and assesses standards across nine surgical specialties in Australia and New Zealand: Cardiothoracic surgery, General surgery, Neurosurgery, Orthopaedic surgery, Otolaryngology Head-and-Neck surgery, Paediatric surgery, Plastic and Reconstructive surgery, Urology and Vascular surgery.

RACS surgeons are highly qualified specialists and stay up-to-date with the latest developments in their area of skill. They have considerable knowledge and provide the best possible care to their patients.

With a proven commitment to lifelong learning and the highest standards of professionalism, Fellows of RACS offer caring, safe and comprehensive surgical care.

Being a Fellow of RACS (FRACS) requires ongoing learning and maintenance of knowledge and skills demonstrated through Continuing Professional Development (CPD) programs ensuring that Fellows not only maintain competency but also continuously build on and improve their clinical knowledge and skills to provide high quality contemporary healthcare to the public.





