
PROGRESS: PROMOTING GENDER EQUALITY IN SURGERY

Report of the Gender Diversity Short Life Working Group



July 2017



RCSI

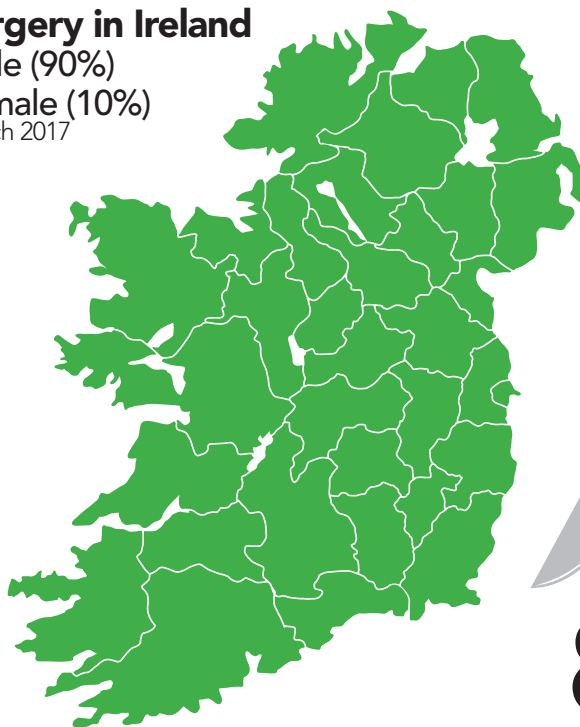


First RCSI Female Fellow –
Emily Winifred Dickson 1893

First RCSI Female President –
Eilis McGovern 2010

Surgery in Ireland

Male (90%)
Female (10%)
March 2017



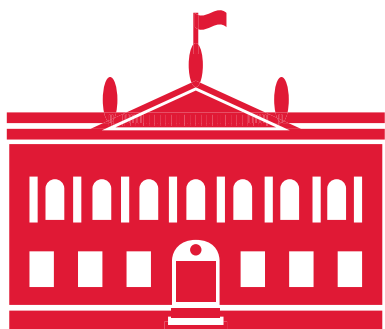
**RCSI Membership/
Fellowship**
819 Female (11%)
Male (89% - 6991)
Total 7810
June 2017

RCSI Council
17 Male
4 Female
June 2017

Specialty Surgical Training Programme

Male trainees (25)
Female Trainees (20)
Total 45
2016 Intake

Core Surgical Training Programme
Male Trainees (38)/ Female Trainees (20)
Total 58
2016 Intake



RCSI Court of Examiners
Male 156 - 89%
Female 20 - 11%
March 2017



Academic Appointments

1 Female Professor of
Surgery in Ireland
March 2017



782 Female (49%)
RCSI Undergraduate Medical School
Male (51% - 821)
Total: 1603
Feb 2016

Consultants by Specialty	% Female
Cardiothoracic	8.3
ENT	15.2
General surgery	10.7
Neurosurgery	7.1
Ophthalmic	25
Oral & Maxillo-Facial	6
Paediatric surgery	0.0
Plastic surgery	21.4
Trauma & Orthopaedics	5.1
Urology	10.3

Nov 2016

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INTRODUCTION BY THE PRESIDENT OF **RCSI**



As President of RCSI it gives me particular pleasure to endorse the final report of the Gender Diversity in Surgery Short Life Working Group (SLWG) which we instigated in late 2016.

It has been, and continues to be, our aim to ensure that the best medical graduates in the country aspire to careers in Surgery irrespective of gender.

Female medical students make up at least 50% of graduates from Medical School and yet the percentage of female Consultant Surgeons currently and historically is small.

The remit therefore of the SLWG was to investigate the reasons why the gender balance in surgery is not at least equal in the number of females versus males taking up a career in surgery.

The aim is to investigate the barriers to recruitment, both actual and perceived, and to offer potential solutions.

I feel this report has indeed addressed the issues in a professional manner and I congratulate the Chair, Ms. Debbie McNamara (Member of RCSI Council) and her committee for completing this work as requested within a six month period.

Prof. John Hyland
President RCSI
July 2017

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INTRODUCTION BY THE CHAIR OF THE WORKING GROUP



RCSI has a long tradition of excellence in surgical training and our surgeons, male and female, have over many decades earned leading positions in institutions across the world. The College has been at the forefront in developing transparent selection processes for future surgeons and is a global leader in the field of human factors in surgery. Evidence from other sectors indicates that gender diversity in organisations results in better decision-making. The profession of surgery will also benefit by ensuring the unique contributions of male and female surgeons are valued and enabled. In keeping with RCSI's mission to act at all times in the interest of patients and the quality of their care, we believe that a diverse surgical profession will better meet the needs of our patients and of society.

Our competitive and merit-based selection processes have resulted in more than 40% female participation in our surgical training programmes. These surgeons are among the brightest doctors in Ireland and our profession is greatly enhanced by their contribution. As their training body, RCSI is committed to their success and to ensuring that surgery is a profession in which male and female doctors can thrive.

A number of areas require urgent attention. The absence of female surgeons in senior academic positions is striking, given the importance of academic surgeons in training future doctors and in shaping the profession. Feedback from our trainees indicates that working conditions for surgeons during pregnancy, the supports available to those returning after periods of leave and the access of female Fellows to high quality surgical fellowship training should be improved. Career structures that enable our surgeons to vary the tempo of their professional life are required to better meet the needs of surgeons who are parents, as well as to ensure that surgeons approaching retirement can continue to contribute to our health service.

In establishing a working group on gender diversity in surgery, Professor John Hyland, President, continues RCSI's proud history of supporting women in surgery that began with the conferring of its first female Fellow, Dr Emily Winifred Dickson, in 1893. His leadership, the committed efforts of the members of the working group and the Department of Surgical Affairs, and many contributions from individual surgeons and speciality committees has enabled publication of this report. I wish to particularly acknowledge Dr Avril Hutch for her immense work as Honorary Secretary to the working group and Ms Ailín Rogers and Professor Aoife Lowery for significant personal contributions to researching and writing this report.

Ms Deborah McNamara
Chair
July 2017

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MEMBERS OF THE SHORT LIFE WORKING GROUP

Ms Deborah Mc Namara (Chair)
Professor John Hyland
Professor Laura Viani
Professor Sean Tierney
Mr David Quinlan
Ms Yvonne Delaney
Ms Patricia Eadie
Professor Aoife Lowery
Dr Aileen Rogers
Ms Nicola Cullen
Mr Paraic Behan
Mr Kieran Ryan
Professor Hannah McGee
Mr Barry Holmes
Dr Avril Hutch

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INTRODUCTION AND CONTEXT

Strategic Context

Improvement in the training and practice of surgery was the motivation for the foundation of RCSI in 1784 and in its strategy for 2016-2020, the RCSI Department of Surgical Affairs recognises the need for continual evolution. Our mission is to “to deliver excellence in Surgical Education and Training through innovative, structured and supervised training programmes that build measurable competencies across clinical skills, knowledge and behaviours to support the needs of our patients and our service partners”(1). We aspire to deliver excellence through a demonstrably fair surgical training system that attracts the best and brightest medical graduates, irrespective of gender. As our mission states, “We will at all times act in the interest of patients and the quality of their care.” Our aim is that trainees who are prepared to commit themselves to the hard work and responsibility that a surgical career requires will experience RCSI as a training body that enables their success in surgical training and ultimately in their academic and professional careers. For surgeons in practice, RCSI aims to provide a lifelong professional ‘home’ for our Fellows & Members, irrespective of gender,

through the provision of meaningful professional and collegiate support.

Drivers for Change

There are several drivers for change. First, there remains a low proportion of female consultant surgeons despite more than 20 years of gender parity among medical graduates. Women comprise more than half of the medical workforce under 35 years of age in many developed countries including Ireland but parity in the ratio of male to female medical graduates has not resulted in similar gender ratios among Irish core surgical trainees¹ (34%) or consultant surgeons (<7%) (2, 3). Reasons for this discrepancy are poorly understood but at a time when surgery is faced with recruitment challenges both globally and in Ireland, addressing factors that make surgery less appealing to female medical graduates is critical if surgery is to continue to recruit high-quality doctors.

Second, the National Review of Gender Equality in Higher Education Institutions (4) reports that gender inequality remains a characteristic of higher education in Ireland. This coincides with reports from the United States (5), Australasia (6) and the UK

(7) raising concern that the career progression and academic promotion of female surgeons differs from that of men. Similar issues are reported in Ireland (3). Overall, women represent 17.5% of clinical professors in Ireland with a significantly smaller percentage among surgeons (8). The relative success rates of male and female alumni of higher surgical training programmes at consultant recruitment in Ireland is unknown although lack of progression of females in other STEM² subjects is most prominent at this career point (4, 9).

Third, the Health Research Board (HRB) has mandated that all higher education institutions (HEIs) that it funds must meet the Equality Challenge Unit (ECU) Athena SWAN Charter Awards requirements (10). Unlike other professional training bodies, RCSI is an accredited higher education institution (HEI) and as a result the recent decision of the HRB to require that all HEIs achieve Athena SWAN gender equality accreditation by 2019 in order to remain eligible for research funding is a key driver for change if Irish surgeons are to maintain access to this important source of research funds (11).

Finally, and importantly, there is some evidence that female patients may experience unequal access to surgical and trauma services, an impact attributed in part to unconscious bias by some authors (12). There is also evidence suggesting that male and female doctors practice differently and that the needs of patients are more likely to be met by a diverse profession (13, 14). A 2017 publication in the New England Journal of Medicine (NEJM) suggests that when female doctors possess positive traits that are valued by patients, like empathy, attention to detail, good listening skills or kindness, there is a tendency to discount their significance (15).

Barriers to change include the wider societal perception of surgery as a predominantly male profession, a lack of recognition of possible impacts of gender within the profession of surgery (3), and the competitive nature of the specialty in which an increased pool of competitors for training, appointment and resources may be resisted due to self-interest.

For surgeons in practice, RCSI aims to provide a lifelong professional ‘home’ for our Fellows & Members, irrespective of gender, through the provision of meaningful professional and collegiate support.

¹ Higher surgical training data from RCSI November 2016

² STEM denotes “science, technology, engineering, mathematics, medicine”

Gender Diversity Initiatives

There is an extensive literature on organisational gender diversity initiatives (16) and surgical colleges across the globe are working to develop a surgical culture that will support a more gender-balanced profession (17, 18). Gender equality has some characteristics of a “wicked problem” (19). The Athena SWAN requirements give particular direction in the area of STEM disciplines (10), but a robust evidence base for proven gender diversity initiatives for the profession of surgery has not yet been established. While surgery has many factors in common with STEM subjects, it is characterised by a complex interplay between theory, craft and care that places both physical and mental challenges on its practitioners (20-22). These stresses are only beginning to be understood and there is little high quality evidence as to whether they affect male and female surgeons equally but there is some evidence of greater adverse effects on women doctors generally (23-25). As the national professional training body for surgery, and as a hub for surgical research, RCSI is uniquely placed to be at the forefront of this developing body of knowledge. Achieving gender diversity in the profession of surgery, especially at consultant level, is not wholly within RCSI control but nonetheless, RCSI has strong influence in a number of key areas. The current recommendations, RCSI’s first initiative in the area of gender diversity in surgery, focus primarily on interventions within our influence and aspire to achieve a balance between ambition and realism. The recommendations of the SLWG relate to opportunities that should be taken by RCSI and its Fellows to influence other medical schools and the wider healthcare environment to build a culture that is supportive of female trainees and surgeons.

Developing Recommendations for Change

In November 2016 the President of RCSI, Professor John Hyland, established a short life working group (SLWG) to “provide recommendations on how RCSI (Department of) Surgical Affairs will work to address gender diversity in surgical training and promote professional development of female medical students, surgical

trainees and surgeons.” (Appendix 1: SLWG Terms of Reference) Chaired by a member of Council, Ms Deborah McNamara, the group met for the first time in December 2016 and was mandated to deliver its recommendations within six months. As well as practising consultant surgeons from several specialties, the group’s membership includes surgical trainees, medical students, the President of RCSI, the Dean of Professional Development and Practice and the Managing Director of Surgical Affairs (Appendix 2: Membership of SLWG). The work of the group is supported by Honorary Secretary to the SLWG, Dr Avril Hutch, Assistant Programme Director at RCSI. The SLWG submitted its recommendations to the Committee for Surgical Affairs (CSA) in May 2017 and these were then forwarded to the RCSI Council for ratification in June 2017 at which point the recommendations become recognised as RCSI policy.

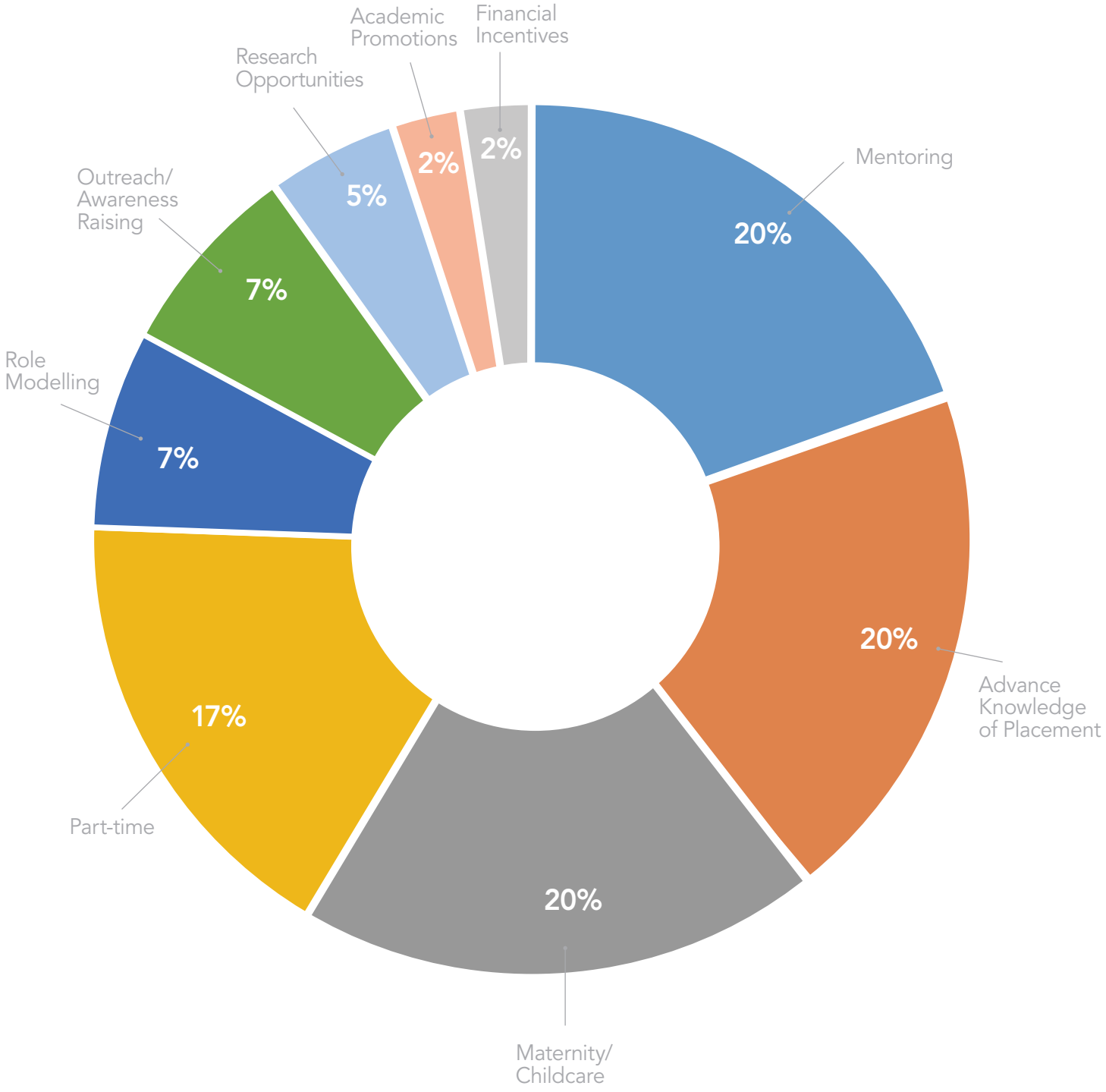
Methodology

A review of the literature and a survey of surgical trainees identified four broad themes considered important by the members of the working group. First, both the literature and Irish data indicates gender differences in the propensity of medical students and medical graduates considering a career in surgery. Recommendations that would inform and encourage female medical students considering a surgical career were proposed. Second, the importance of developing a culture that supports the needs of female surgical trainees was identified. Third, a specific requirement to consider the needs of trainees who are parents was highlighted. Finally, for the practising surgeon, it is considered important that recommendations relating to the need for professional development programmes to support and enable a diverse profession should be included. The working group meetings of December 2016 and January 2017 completed this scoping exercise and explored these themes. In parallel, a consultation process was commenced on 12 December and completed on 3 February 2017. The Chair of the SLWG wrote to all Surgical Programme Directors, Chairs of all recognised specialties of surgery, the Irish Surgical Trainee Group, the Chair of the Irish Surgical Postgraduate

Training Committee (ISPTC) and the Chair of the Committee of Surgical Affairs (CSA), and attended meetings of both ISPTC and CSA to inform them of the consultation process. An email was circulated to all surgical trainers and to all surgical trainees in RCSI core and higher surgical training programmes and the President informed the members of RCSI Council. In addition to a number of helpful discussions both at formal committee meetings and informally, six written submissions were made (including two group submissions). Results of a thematic analysis of submission content performed by Dr Hutch was reviewed at the February meeting (Graph 1) and a series of possible draft recommendations were considered by the working group. An analysis of factors that may influence the implementation of gender diversity recommendations, taking into account specific contextual factors, was performed at an early stage to guide the ongoing work of the SLWG and is summarised in Appendix 3. The draft recommendations were reviewed in their entirety by the working group at its March meeting and finalised for submission to the Committee for Surgical Affairs to complete the work of the short-life working group in accordance with its terms of reference.

The recommendations of the SLWG group on gender diversity in surgery, including references to the relevant literature and consultation feedback, are published herein as PROGRESS: PROMoting Gender Equality in Surgery. This document contains details that will assist in informing an implementation plan for the recommendations. A shorter, summary version is also published.

Graph 1: Analysis of SLWG Consultation Submissions



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RECOMMENDATIONS FOR IMPLEMENTATION

Key Recommendation

RCSI will publish an annual report measuring its progress on initiatives that promote gender diversity in surgery and provide a detailed report on progress of individual initiatives to the Committee for Surgical Affairs as a standing agenda item at least twice each year.

Summary of Recommendations

Key Recommendation	RCSI will publish an annual report measuring its progress on initiatives that promote gender diversity in surgery.	
Recommendations		What does success look like?
<p>I: Inform and encourage female medical students considering a career in surgery.</p> <p><i>Aim:</i> A reduction in perceived barriers for female medical students considering a career in surgery achieved through resources, role models and career advice.</p>	<p>Recommendation 1.1 Develop resources encouraging female and male secondary school students to consider surgical career.</p> <p>Recommendation 1.2 RCSI will maintain and circulate names of a panel of surgeons, including female surgeons, who are willing to address medical school surgical societies to provide career advice, as well as female surgical subject matter experts available as visiting lecturers.</p> <p>Recommendation 1.3 RCSI will better promote its postgraduate training programmes to women, especially highlighting improved training opportunities, workforce planning and career progression opportunities.</p> <p>Recommendation 1.4 RCSI will support nationwide surgical careers information sessions for medical students and will work with the Irish Surgical Training Group to ensure that medical students with an interest in surgery have the opportunity to meet male and female surgical trainees and surgeons at different stages of their career.</p>	<ul style="list-style-type: none"> • A reduction in perceived barriers for female medical students considering a career in surgery. • An increase in the overall numbers and gender parity of direct and graduate entry medical students applying for surgical training.

Key Recommendation	RCSI will publish an annual report measuring its progress on initiatives that promote gender diversity in surgery.	
Recommendations		What does success look like?
<p>2: Build a culture that supports female surgical trainees.</p> <p><i>Aims:</i></p> <ul style="list-style-type: none"> • Provide better information and support to trainees. • Transparently track career progression between Core Surgical Training (CST) to Higher Surgical Training (HST) to Consultant Surgeon by gender and ensure male and female HST alumni are equally likely to be appointed consultants. • Ensure equal opportunities to do high quality surgical training fellowships. 	<p>Recommendation 2.1 RCSI should ensure where possible gender neutrality in its training processes and standard operating procedures (SOPs).</p> <p>Recommendation 2.2 Individual information pack for each trainee appointed to CST including, but not limited to, maternity, paternity, parental leave & part-time training options; impact of these options on Certificate of Completion of Specialist Training (CCST) date; availability of surgical mentors; advice and options regarding re-integration after leave.</p> <p>Recommendation 2.3 Ensure trained mentors are available for all trainees, including both male & female surgeons, and encourage trainees to avail of a network of mentors.</p> <p>Recommendation 2.4 RCSI will report annually on the rate of progression of training programme alumni to surgical training fellowships and to consultant posts by gender and practice setting.</p> <p>Recommendation 2.5 RCSI will advocate for the needs of less-than-full-time (LTFT) trainees during its engagements with the Health Services Executive (HSE) and HSE National Doctors Training and Planning (NDTP) to increase LTFT training options and availability, and to improve surgical training fellowship options for female surgeons.</p> <p>Recommendation 2.6 RCSI will work with stakeholders, including the HSE, to improve surgical training fellowship options for female surgeons.</p>	<p>What does success look like?</p> <ul style="list-style-type: none"> • Progression to HST gender profile reflects CST completion. • Trainees receive the information and support they need to have a good training experience. • Male and female trainees have equal opportunities to do high quality surgical training fellowships. • Male and female HST alumni equally likely to be appointed consultants.

Key Recommendation	RCSI will publish an annual report measuring its progress on initiatives that promote gender diversity in surgery.	
Recommendations		What does success look like?
<p>3: Consider the needs of trainees who are parents.</p> <p><i>Aims:</i></p> <ul style="list-style-type: none"> • <i>Surgical trainees will receive adequate information to enable decisions about family planning and pregnancy.</i> • <i>Pregnant trainees will receive information, support and advice in a consistent way.</i> • <i>RCSI policies in relation to periods of leave for surgical trainees will be consistent and will support trainees in returning to work after such periods.</i> 	<p>Recommendation 3.1 RCSI will normally allocate training posts >12 months before commencement, provided a trainee's training performance is deemed satisfactory, and will report annually on the percentage of times this takes place, by specialty and by gender.</p> <p>Recommendation 3.2 Protected time for research and study during the normal working week is particularly important to parents and should continue to be protected. The annual trainee survey should record the percentage of trainees receiving such protected time.</p> <p>Recommendation 3.3 Ensure all trainees, upon appointment to an RCSI training programme, receive information required to protect pregnant trainees, especially as it relates to exposure to radiation and other potential hazards including on-call duties, shift length and working conditions (eg prolonged standing). This information will be provided to consultant trainers on a regular basis.</p> <p>Recommendation 3.4 RCSI will explore the development of specific recommendations related to pregnancy for submission to the HSE.</p> <p>Recommendation 3.5 RCSI will develop recommendations and SOPs regarding training contacts during and after pregnancy and will standardise back-to-work reintegration for trainees returning from a period of leave through development of SOPs applying to all specialties.</p> <p>Recommendation 3.6 RCSI will use its influence with the HSE and other stakeholders to promote policies that support surgical families in balancing their personal and professional lives.</p>	<ul style="list-style-type: none"> • Adequate notice of future post allocations to enable trainees to combine their career with their personal and family responsibilities. • Trainees, irrespective of gender or parental status, experience fairness, support and consistency in their interactions with RCSI. • Trainees have the information they require to have a healthy pregnancy and experience RCSI as a training body that supports them during their pregnancy. • Trainees on career leave are treated consistently and receive the support they require to recommence their career upon completion of their leave.

Key Recommendation	RCSI will publish an annual report measuring its progress on initiatives that promote gender diversity in surgery.	
Recommendations		What does success look like?
<p>4: Ensure RCSI Surgical Affairs professional development for practising surgeons supports and enables a diverse profession.</p> <p>Aims: <i>RCSI will support career development opportunities for its female Fellows and Members, including surgical training fellowship training and career-enhancing activities.</i></p>	<p>Recommendation 4.1 RCSI will develop a specific offering for female Fellows within the first five years after CCST</p> <p>Recommendation 4.2 RCSI will advocate for gender equality and part-time options in HSE consultant surgical appointments and will request that the HSE, the public appointments service, and hospital groups publish anonymised data on applicants and appointees to consultant surgeon posts, by gender and specialty.</p> <p>Recommendation 4.3 RCSI will seek and promote research funding to support female academic surgeons.</p> <p>Recommendation 4.4 RCSI will ensure female surgeons are considered as speakers, subject matter experts, honorary appointees, lecturers and Honorary Fellows and will test the feasibility of gender-blind application processes. Encouragement of female surgeons to participate in the professional and governance structures of the profession, particularly in Ireland, and up to and including Council of RCSI, should be a priority.</p> <p>Recommendation 4.5 Consideration of the needs of female Fellows working in non-HSE employment will be undertaken.</p> <p>Recommendation 4.6 RCSI will define quality standards for surgical training fellowships to ensure minimum achievement criteria and to enable employers to benchmark surgical training fellowships.</p> <p>Recommendation 4.7 RCSI will seek funding for a prestigious, high value, merit-based, sponsored bursary specifically designed to promote female participation in surgical training at fellowship level.</p> <p>Recommendation 4.8 RCSI will ensure gender diversity in its awards and other selection committees.</p> <p>Recommendation 4.9 RCSI will publish an annual report measuring its progress on initiatives that promote gender diversity in surgery.</p>	<ul style="list-style-type: none"> • Female surgeons have equal opportunities to participate in high quality surgical training fellowships. • Early year female Fellows are specifically supported in their career development to increase their likelihood of appointment to consultant posts and to support their academic and professional development. • RCSI demonstrates commitment to equal opportunities for our surgical training programme alumni in their professional and academic careers.

Recommendation

Inform and
encourage female
medical students
considering a
career in surgery

Key Recommendation	RCSI will publish an annual report measuring its progress on initiatives that promote gender diversity in surgery.	
Recommendations		What does success look like?
<p>I: Inform and encourage female medical students considering a career in surgery.</p> <p><i>Aim:</i> A reduction in perceived barriers for female medical students considering a career in surgery achieved through resources, role models and career advice.</p>	<p>Recommendation 1.1 Develop resources encouraging female and male secondary school students to consider surgical career.</p> <p>Recommendation 1.2 RCSI will maintain and circulate names of a panel of surgeons, including female surgeons, who are willing to address medical school surgical societies to provide career advice, as well as female surgical subject matter experts available as visiting lecturers.</p> <p>Recommendation 1.3 RCSI will better promote its postgraduate training programmes to women, especially highlighting improved training opportunities, workforce planning and career progression opportunities.</p> <p>Recommendation 1.4 RCSI will support nationwide surgical careers information sessions for medical students and will work with the Irish Surgical Training Group to ensure that medical students with an interest in surgery have the opportunity to meet male and female surgical trainees and surgeons at different stages of their career.</p>	<ul style="list-style-type: none"> • A reduction in perceived barriers for female medical students considering a career in surgery. • An increase in the overall numbers and gender parity of direct and graduate entry medical students applying for surgical training.

Background to Recommendations

Like other medical schools, RCSI medical school data shows gender parity in medical student numbers throughout all years of its programme³ but despite such demographics for several decades, a gender gap persists in surgery (3). It was agreed RCSI's focus for recruiting future surgeons should be on attracting and retaining the best candidates, irrespective of gender, recognising that many females rank among the highest achieving medical students nationally. It has been shown that female medical students tend to underestimate their technical abilities(26). Studies from the psychology literature demonstrate that the inability to see oneself as competent in a given domain may affect career choice and may contribute to under-representation of women in male-dominated fields (27, 28). Possible differing impacts of gender

on career selection by graduate entry medical (GEM) students and 'traditional' direct entry medical (DEM) students were discussed, although it was recognised that both groups include mature students. Perceptions of limitations of options for surgical careers for female GEM students in particular were cited with the main perceived deterrents to a career in surgery reported to be length of training and the age at which surgical training is completed.

Despite reasonably good exposure to surgery at undergraduate level, negative connotations of surgery were reported among medical students. Both the timing and type of exposure of medical students to surgery should be addressed. There is increasing evidence to support earlier exposure to clinical surgery because early introduction to the field of surgery

as well as recruitment strategies during the pre-clinical and clinical years of medical school can increase a student's interest in a surgical career. The type of surgical exposure also has an impact with evidence supporting more practical exposure to the realities of a surgical career, including integration with the clinical team through electives, student-selected modules and apprenticeships (29).

Availability of a formal mentoring programme for medical students could assist in selecting a career but the deficiency in the number of available female surgical role models may necessitate a national structure to ensure access to male and female mentors, depending on the individual student's needs. Many medical students did not encounter practising female surgeons in the same numbers as men at any stage during their education due to the low proportion of female surgical academics and the relatively low numbers of female surgeons in some Irish teaching hospitals.

The factors influencing medical student's choice of specialty have been investigated in four questionnaire-based surveys of medical students undertaken since 2007 and this evidence base was considered adequate by the SLWG to form the basis for recommendations

/// RCSI's focus for recruiting future surgeons should be on attracting and retaining the best candidates, irrespective of gender, recognising that many females rank among the highest achieving medical students nationally ///

³ As of February 2016, there were 1603 RCSI undergraduate medical students – 821 (51%) male: 782 (49%) female.

(30, 31) (32) (33). To summarise the evidence, 18-20% of senior medical students consider surgery as a career choice, a preference that reduces from earlier years of medical school, but fewer than 15% view surgery as a realistic career choice. This number is less in females, who are more likely to view gender as a factor influencing career advancement than males. Other factors are also considered in selecting a surgical career. Those considered more important by females include the on call schedule, standard working hours, perceived unstructured career path, undergraduate experience, future employment prospects, lifestyle after training and patient relationships. A systematic review including 38 relevant articles (34) cites the following major determinants in a medical student's decision to pursue a career in surgery: mentorship, experience in surgery, stereotypes, timing of exposure, and personal factors. In addition to the published literature, a survey of 15 female RCSI GEM students raised similar concerns. Challenges highlighted in attracting and retaining female medical students to surgery included work/life balance, length of training scheme, working hours, work environment, inability to make long-term plans due to lack of information on placements, physicality of the role and lack of a career structure. Medical students also cited that a lack of exposure to surgery and unavailability of information about a surgical career act as deterrents to a career in surgery. It was recommended that for the purposes of the SLWG report it would be most appropriate to focus on improving the undergraduate experience, developing and communicating a better structured career path and especially highlighting the future employment opportunities for female surgeons.

Promoting surgery as a career

Active promotion of surgery is required to establish surgery as an attractive career choice. This requires that medical students have early exposure to surgery and to surgical role models of all genders. Establishing a panel of surgeons and developing standardised presentation templates could raise the profile of surgery, highlighting the tangible and intangible rewards of a surgical career. Improving the undergraduate surgical teaching skills of practising surgeons, such as through the RCSI "Train the Trainers" course, could ensure that the interactions between practising surgeons

and students are of a high standard, acting as a positive experience for students. Improving communication of surgery as a career choice consistently from early in a medical student's career could be facilitated through better engagement with medical school surgical societies. Practical exposure to surgery through boot-camps, surgical summer schools, and electives would enable medical students to learn more about the surgical career in a compelling way. The Perry Initiative (<http://perryinitiative.org>) is an interesting concept, promoting surgical and engineering career choices to women. They run an outreach programme for school for female pupils and medical students consisting of a hands-on workshop, where participants perform mock orthopaedic operations and conduct biomechanical engineering experiments, while also hearing from prominent women engineers and surgeons in the field. Medical students are connected to orthopaedic surgeon mentors and like-minded peers to help support them in making an informed choice regarding a surgical career. RCSI could leverage its existing training infrastructure to maximise recruitment opportunities and could support policy development nationally. It could make research opportunities available to medical students. It could also support development of information resources helping medical students answer the question "Do you want to be a surgeon?". The need for information and events to be accessible to those in isolated locations was noted. The important role that the Irish Surgical Training Group (www.istg.ie) can play in sharing information about surgical careers and in acting as a peer mentor resource was noted and should be supported by RCSI. Similarly, the education and training functions in each of our specialties should be encouraged to contribute to these initiatives.

Understanding the preferences of female medical students

The specific needs of female medical students in selecting a career were discussed by the SLWG. The age at commencing surgical training and the duration of training means that many females are considering having a family at key points in their career pathway in surgery (3). There is some evidence that female surgical trainees have fewer pregnancies than similar stage peers in other medical disciplines (35).

Understanding how male and female surgeons balance successful careers and satisfying family lives may enable female medical students to better visualise themselves in a surgical career. The need to pitch postgraduate surgical training better to women, highlighting the improved more seamless training programme that is now available is considered important, especially when surgery is competing with shorter training programmes like general practice, medicine and anaesthesia (3). Ensuring that the needs and life cycle of female surgeons is taken into account during workforce planning engagement with the HSE is important. Career progression opportunities in surgery need to be communicated both clearly and early to female medical students.

Notwithstanding the significant role that male surgeons play as mentors and sponsors of female medical students and surgeons, the importance of female role models was a recurring theme in the SLWG analysis of barriers to female medical students selecting surgery. It was observed that in a profession with fewer than 10% female participants, improving the visibility of women could place a disproportionate burden upon a relatively small number of female surgeons. The SLWG considered a number of ways that this could be mitigated. Developing shared educational and mentorship resources, such as a syllabus and slide pack, would reduce the time needed to prepare for mentoring and training activities. The contribution of female surgeons could be captured electronically and the use of social media platforms could be explored to enable best use of scarce time and to ensure availability to medical students at remote locations. Combining such activities with other events in the College, such as annual meetings, and enabling women to select the times most suitable to them were also considerations. Trainees should receive written information about the mentoring process, equipping trainees with online content and published reference material to enable them to understand their responsibilities in the mentor-mentee relationship (36).

The image features a solid blue background with a large, stylized white letter 'R' shape. The word 'Recommendation' is written in white, bold, sans-serif font, following the curve of the vertical stem of the 'R'.

Recommendation

Build a culture
that supports
female surgical
trainees

Key Recommendation	RCSI will publish an annual report measuring its progress on initiatives that promote gender diversity in surgery.	
Recommendations	What does success look like?	
<p>2: Build a culture that supports female surgical trainees.</p> <p><i>Aims:</i></p> <ul style="list-style-type: none"> • Provide better information and support to trainees. • Transparently track career progression between Core Surgical Training to Higher Surgical Training to Consultant Surgeon by gender and ensure male and female HST alumni are equally likely to be appointed consultants. • Ensure equal opportunities to do high quality surgical training fellowships. 	<p>Recommendation 2.1 RCSI should ensure where possible gender neutrality in its training processes and standard operating procedures (SOPs).</p> <p>Recommendation 2.2 Individual information pack for each trainee appointed to CST including, but not limited to, maternity, paternity, parental leave & part-time training options; impact of these options on Certificate of Completion of Specialist Training (CCST) date; availability of surgical mentors; advice and options regarding re-integration after leave.</p> <p>Recommendation 2.3 Ensure trained mentors are available for all trainees, including both male & female surgeons, and encourage trainees to avail of a network of mentors.</p> <p>Recommendation 2.4 RCSI will report annually on the rate of progression of training programme alumni to surgical training fellowships and to consultant posts by gender and practice setting.</p> <p>Recommendation 2.5 RCSI will advocate for the needs of less-than-full-time (LTFT) trainees during its engagements with the Health Services Executive (HSE) and HSE National Doctors Training and Planning (NDTP) to increase LTFT training options and availability, and to improve surgical training fellowship options for female surgeons.</p> <p>Recommendation 2.6 RCSI will work with stakeholders, including the HSE, to improve surgical training fellowship options for female surgeons.</p>	<ul style="list-style-type: none"> • Progression to HST gender profile reflects CST completion. • Trainees receive the information and support they need to have a good training experience. • Male and female trainees have equal opportunities to do high quality surgical training fellowships. • Male and female HST alumni equally likely to be appointed consultants.

Background to Recommendations

RCSI is accredited by the Irish Medical Council to deliver the National Surgical Training Programme, the only such programme in the Republic of Ireland. The surgical training programme seeks to recruit the best trainees, regardless of gender, based on a robust and transparent selection system. Although the RCSI surgical training programme does not employ any affirmative action policy, in its strategy for 2016 to 2020 the College recognises a need to reinforce structures that promote flexible options for surgical training and to support female participation in surgery (1). In 2016, 34% (20/58) of core surgical trainees and 42% (20/45) of higher surgical training programme appointees were female. Within these figures, there is variation between specialties of surgery ranging from 0% to 20% female participation⁴. The reasons for this variation and the reasons why some specialities, like plastic surgery and ophthalmology, have a greater number of female trainees than others requires further evaluation. Attrition during training is another

area that is poorly understood but the subject of increasing study internationally (37-39). The global attrition rate among RCSI surgical trainees was low, with only 7 trainees leaving the higher surgical training programme since 2012, but there is evidence of a difference between male and female trainees (See Appendices 4, 5, 6: Gender Breakdown & Attrition of Surgical Trainees). The reasons for leaving a surgical career are varied, however both the MacCraith report (40) and RCSI Strategy 2016 - 2020 identifies the need to develop a robust and broad based trainee support and mentorship programme that will assist trainees with personal, interpersonal and professional issues (1). The work of the SLWG identified some differences in the

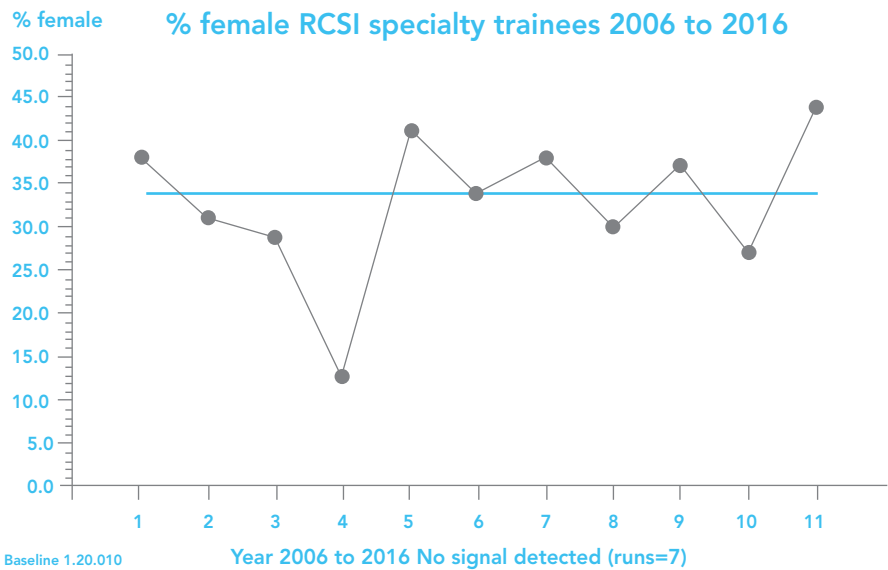
mentorship needs of male and female trainees that need to be addressed during the development of a mentorship programme for surgical trainees.

Both male and female surgical trainees and surgeons are seeking a work-life balance - a fact that has been borne out in the literature (41) When analysing the paucity of female surgeons in neurosurgery, one report discussed the need to consider lifestyle when recruiting new faculty or trainees (42). Surgical training and ultimately a career as a consultant is demanding in terms of time, impact on relationships and on family life. It requires commitment in terms of out-of-hours working, frequent house moves and a large amount of uncertainty and

// The surgical training programme seeks to recruit the best trainees, regardless of gender, based on a robust and transparent selection system //

unpredictability in day-to-day life. While the focus is often on female trainees, similar issues apply to male trainees and are particularly relevant when doctors are in relationships with fellow surgical trainees. In this area of the recommendations, the SLWG identified many areas of interest common to both male and female trainees and it was felt that possible impediments to progression for surgical trainees as a whole need to be considered and that College administrative policies as they relate to trainees generally should be reviewed.

Dr Ailín Rogers, Higher Surgical Trainee in General Surgery, completed a survey of Irish surgical trainees in November 2016. Of 103 surgical SpRs who responded, 47% were female. Two thirds were married or cohabiting, with 90% of those partners or spouses in full employment; 45% were in a relationship with other medics. Sixty-four percent of men and 81% of female surgeons placed equal emphasis on both careers. The survey shows disparities in trainee attitudes to gender with 8% of male surgeons versus 38% reporting that they had missed out on a job opportunity due to their gender. Thirty five percent of male surgeons and 59% of female surgeons agreed that women have fewer opportunities for career progression. Eleven percent of male surgeons and 45% of female surgeons reported that their gender affected their surgical training fellowship choice. Male and female trainees both reported that one or more of their surgical placements negatively impacted their personal relationships, ability to purchase a house and their personal life. Recommendations proposed by trainees included streamlined placements, consideration for personal issues, basing decisions on high quality data and providing better guidance for trainees. The SLWG placed significant weight on the feedback received from trainees and strongly concurs with their recommendation that high quality data is required to assist future evaluation of gender diversity, and other, initiatives. The SLWG recommends evaluation of implementation and effectiveness outcomes of gender diversity recommendations in keeping with best practice (Appendix 7). These outcomes should be published and reported to Council annually. Trainees also made key recommendations related



to pregnancy and parenthood outlined below under Recommendation 3 (35).

Improving quality of life for surgical trainees Issues highlighted in the trainee survey were affirmed both by the SLWG and in the feedback from the wider SLWG consultative process. It was agreed that the issue of gender diversity in surgical training needs to be broadened to discuss the impact of surgical training on the lifestyle and quality of life for both male and female trainees. It was recommended for the purposes of the SLWG report that trainees should, where possible, be provided with information about their postings at least 12 months in advance to allow them to more easily plan their lives. Moving from training unit to training unit across the country every six to twelve months is challenging, especially if it involves separation from the family. Grouping hospitals and/or years of training into closer geographical zones would minimise house and school moves for surgical families and was recommended for consideration by trainees.

It was recommended that RCSI should provide an information pack on career planning for each trainee upon commencement of their training programme. The SLWG recommend that during the early years of surgical training, RCSI should set out a training rotation that informs trainees of the location of their next placement at least one year in advance. It is acknowledged by the SLWG that difficulties sometimes arise in placement as trainees become

more senior due to the necessity to meet their training needs, logbook requirements, and Specialty interests, but also as a result of periods of maternity and other leave that by definition cannot be planned a year in advance. Notwithstanding this, as trainees proceed towards the end of their training they are more likely to be in a significant personal relationship, they may have children, and they will also be studying for intercollegiate surgical examinations, so every effort should be made to provide adequate notice of their training posts with the aim that they should generally know the location of their next training post at least one year in advance. Accepting that 100% compliance with this aspiration may not be achievable, the SLWG recommends that the percentage of trainees receiving more than one year's notice of their next training post should be reported annually by specialty and by gender.

Supporting surgical trainees

As set out above under the recommendations pertaining to medical students, the SLWG agreed that mentoring programmes were considered to be important for all surgical trainees, irrespective of gender. Mentoring has an important role in the professional development of practicing surgeons, particularly at early stages of their career. While potential networking opportunities have been underlined, a mentorship system is also considered valuable for any male and female trainees who may find themselves in difficulty during their training years. In response

⁴ Unpublished data from RCSI Department of Surgical Affairs, 2016

to a survey undertaken among plastic and reconstructive surgeons and based on the published literature, a trainee-led, peer mentoring initiative has been successfully introduced within the Irish higher surgical training programme in plastic surgery. In an initiative supported by RCSI, senior trainees have been encouraged to identify consultant mentors as they approach their exit examination or surgical training fellowship stage of training.

The value of mentorship for female surgeons considering a career in academic surgery was emphasised by both the SLWG and the consultative process and is particularly important given the scarcity of female academic surgeons in Ireland. Not only does this make it harder for female surgical trainees to envisage a successful career for themselves in academic surgery but it also reduces the visibility and status of female surgeons among medical students further embedding the view of surgery as a predominantly male profession among future generations of doctors of all specialties. Detailed consideration of this matter by Zhuge *et al.* highlights a number of possible impediments to academic progression of female surgeons including both conscious and unconscious bias as well as the availability of relatively fewer academic resources at key career points (43). Recommendations from that analysis include the following: a) Appoint more women to leadership and senior positions; b) Use visiting professorships to increase female role models; c) Encourage women to rely on multiple mentors to address distinct issues; d) Establish an association of female faculty/ trainees to use existing mentor resources efficiently; e) Recruit mentors from non-medical departments; and f) Participate in regional and national networks to link mentors with junior faculty (43). Hoover *et al.* propose that women in surgery benefit from male as well as female mentors and suggest identifying men “who understand the importance of balance between career and families” (44). Increasingly, the literature recognises that “one size does not fit all” and that using multiple mentors with different strengths and expertise may provide the best overall support to a trainee. In addition to the role of mentorship, the significance of sponsorship is now known to be important (45). A sponsor is someone who actively advocates for a female

surgeon’s career progression, using their personal influence to enable her to obtain opportunities for career development and “vouching” for her competence. Hewlitt observes that a good sponsor enables the female to make connections to senior leaders, expands her perception of what she can do, promotes her visibility, connects her to career opportunities both inside and outside of her organisation, and gives both personal and career advice. Importantly, trainees of both genders benefit from the input of both male and female surgical mentors and sponsors.

Similar to the recommendation of the MacCraith report, and as a strategic priority of the Department of Surgical Affairs, the SLWG recommends the establishment of a dedicated mentoring programme for surgical trainees. This programme should include a panel of practicing and academic surgeons to provide coaching and guidance to all surgical trainees, irrespective of gender. Creating a panel of mentors would enable mentees to self-select mentors, with an acknowledgement that multiple mentors may be required for different functions. Ensuring that at least a subset of these mentors are trained to meet the specific needs of female trainees, especially in relation to issues of maternity, is considered important.

The role of surgical training fellowships in surgical training

The necessity of undertaking a surgical training fellowship to achieve career advancement, especially as a prerequisite to achieving consultant appointment, was specifically highlighted from a number of sources during the stakeholder consultation period.

Consultants	
Consultants by Specialty	% Female
Cardiothoracic	8.3
ENT	15.2
General surgery	10.7
Neurosurgery	7.1
Ophthalmic	25
Oral & Maxillo-Facial	6
Paediatric surgery	0.0
Plastic surgery	21.4
Trauma & Orthopaedics	5.1
Urology	10.3
Nov 2016	

Table 1: Percentage of Female Consultants by Specialty

A number of aspects make this a particularly difficult requirement for female trainees, especially the need for geographic relocation of a surgeon and their family, the short duration of contracts, and low rates of remuneration. In many countries, visa conditions do not allow both members of a couple to be employed. Given that 40% of Irish surgical trainees are in relationships with other doctors (46), this factor contributes to family stress, trainee debt and may adversely impact upon the lifelong career prospects of the non-working spouse. These factors may preclude certain surgical training fellowships from being an option for surgeons who have young children or a working partner. Appropriate surgical training fellowship appointments are especially important to ensure retention of female surgeons following CCST and their subsequent transition to permanent consultant appointments. It is noteworthy that achieving security of tenure is a key milestone in STEMM subjects and multiple reports indicate that this is a time when female progression is inferior to that of their male peers (4, 9). Consultant appointment is the equivalent milestone in the surgical career. There are no longitudinal data capturing the career progression rates of alumni of the Irish higher surgical training programme, a deficiency the SLWG recommends should be corrected. As most surgical training fellowships take place after completion of HST, the matter is considered in greater detail under recommendation 4. The SLWG consider that addressing real or perceived impediments to female surgeons undertaking surgical training fellowships should be a key priority for RCSI.

Changing work patterns

Female doctors are considerably more likely to avail of less than full time (LTFT) working arrangements according to Irish Medical Council data (2) and the availability of part-time training in surgery is an important resource. The literature demonstrates that female medical students are more likely to choose a surgical path if they see other women balancing a successful career and raising a family through LTFT training. Research on women in the workplace demonstrates that most female trainees who spent time in LTFT training when their children were small, continued their training and progressed to work as full-time consultants subsequently (47-49) There

are, however, some challenges with LTFT training. The HSE flexible training scheme is sometimes over-subscribed and only available for two years to any individual trainee, with a requirement that no more than 50% Whole Time Equivalent (WTE) hours be delivered. Currently surgical training programmes are predominantly time-based instead of competency-based, with the result that working LTFT prolongs the duration of training; working 50% WTE doubles training duration in years. Close attention is required by trainers and training programmes to ensure that training is adapted to maximise the training opportunities for part-time trainees (50). The impact, if any, of LTFT on career progression and the likelihood of consultant appointment is unclear and may be changing in more recent years. A longitudinal study of 2507 doctors graduating in 1993 indicated that working LTFT at any stage during a doctor's career was associated with a reduced likelihood of becoming a consultant subsequently from 95% to 74% (9). The reasons for this are unclear but require study.

The SLWG recommends that RCSI advocates for the needs of less than full time (LTFT) trainees during engagements with the HSE. Greater flexibility in part-time and flexible training options should be considered. An option to work 80% WTE may be sufficient to allow trainees to achieve the balance they require. The SLWG also observed a need for a formal RCSI policy and clearer information with respect to LTFT training. Although an assumption is sometimes made that LTFT training is only required due to maternity issues, the consultation process revealed that LTFT options are valued by parents of young children, by individuals caring for elderly parents or family members with serious health problems, and by trainees with personal health problems that require less onerous work patterns. In each of these circumstances, the option to continue their training while dealing with personal issues may be critical in retention of talented doctors. The SLWG recommend that information on LTFT training should be made available to every trainee, irrespective of gender, upon commencing a surgical training programme.

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Recommendation

Consider the
needs of trainees
who are parents

Key Recommendation	RCSI will publish an annual report measuring its progress on initiatives that promote gender diversity in surgery.	
Recommendations		What does success look like?
<p>3: Consider the needs of trainees who are parents.</p> <p><i>Aims:</i></p> <ul style="list-style-type: none"> • <i>Surgical trainees will receive adequate information to enable decisions about family planning and pregnancy.</i> • <i>Pregnant trainees will receive information, support and advice in a consistent way.</i> • <i>RCSI policies in relation to periods of leave for surgical trainees will be consistent and will support trainees in returning to work after such periods.</i> 	<p>Recommendation 3.1 RCSI will normally allocate training posts >12 months before commencement, provided a trainee's training performance is deemed satisfactory, and will report annually on the percentage of times this takes place, by specialty and by gender.</p> <p>Recommendation 3.2 Protected time for research and study during the normal working week is particularly important to parents and should continue to be protected. The annual trainee survey should record the percentage of trainees receiving such protected time.</p> <p>Recommendation 3.3 Ensure all trainees, upon appointment to an RCSI training programme, receive information required to protect pregnant trainees, especially as it relates to exposure to radiation and other potential hazards including on-call duties, shift length and working conditions (eg prolonged standing). This information will be provided to consultant trainers on a regular basis.</p> <p>Recommendation 3.4 RCSI will explore the development of specific recommendations related to pregnancy for submission to the HSE.</p> <p>Recommendation 3.5 RCSI will develop recommendations and SOPs regarding training contacts during and after pregnancy and will standardise back-to-work reintegration for trainees returning from a period of leave through development of SOPs applying to all specialties.</p> <p>Recommendation 3.6 RCSI will use its influence with the HSE and other stakeholders to promote policies that support surgical families in balancing their personal and professional lives.</p>	<ul style="list-style-type: none"> • Adequate notice of future post allocations to enable trainees to combine their career with their personal and family responsibilities. • Trainees, irrespective of gender or parental status, experience fairness, support and consistency in their interactions with RCSI. • Trainees have the information they require to have a healthy pregnancy and experience RCSI as a training body that supports them during their pregnancy. • Trainees on career leave are treated consistently and receive the support they require to recommence their career upon completion of their leave.

Background to Recommendations

The SLWG agreed that it is necessary to make reasonable accommodations that will attract, nurture and retain the best and the brightest men and women to surgery (42). The Working Group recommended that ensuring where possible gender neutrality in training processes and SOPs should be policy. It was emphasised that issues around parenthood and family commitments applied to both male and female trainees. A recent survey of 460 trainees indicated that 40% of Irish NCHDs are in relationships with other doctors (46). It was observed in one trainee submission that perpetuating a culture whereby family commitments such as childcare are perceived as predominantly the role of the female was not advantageous in terms of promoting gender equality. It should also be noted that while the emphasis is frequently on pregnant

trainees and women on maternity leave, other statutorily protected leave such as paternity, parental, adoption and carer's leave may all result in absence from work and may require similar consideration (Appendix 8: Overview of legislation in Ireland related to parenthood, carers).

Enabling better planning by surgical trainees

Scheduling is critical for pregnancy planning and to enable trainees to meet their personal and parental responsibilities as they relate to childcare and other caring roles. The preceding recommendation relating to more than 12 months notice prior to each subsequent HST training post is a first step. Allocation of posts a number of years in advance, if possible, would allow a greater opportunity for planning for current or prospective parents, both male and female. Trainees with caring

responsibilities relating to parents or siblings would also be able to better plan for care of their dependents. The consultation feedback similarly indicated that lack of geographical certainty impacts the ability to plan for family. In addition to providing allocations in advance, it was recommended during the consultation process that it would be useful if RCSI could offer some geographically-restricted training options so that those with significant family commitments, whether male or female, could be allocated to posts which do not require them to move their family around the country. It was suggested to the SLWG that a number of trainee posts be guaranteed including both peripheral and tertiary centres within a geographical region, such as Dublin South and Wexford or Dublin North and Drogheda, might be appropriate. It was highlighted that it is important that such posts would

// Allocation of posts a number of years in advance, if possible, would allow a greater opportunity for planning for current or prospective parents, both male and female //

also include access to tertiary-level training posts. It was also considered essential that any proposed system must be fair to all trainees, whether they have children or not. Whatever mechanism of post allocation is selected should ensure that trainee preferences are taken into consideration during the allocation process, perhaps considering a more formalised role of trainee advocate in each training committee.

Pregnancy and the practising surgeon

In relation to training as a surgeon while pregnant, at present, high quality data on potential risks are lacking (35). Based on the surgical NCHD survey, 21% of trainees already have children, with a further 9% expecting their first child during the next six months. Fifty-two percent of male and 57% of female trainees reported that one or more of their surgical placements had negatively impacted their ability to start a family. The Irish survey indicated that female trainees have statistically worse adverse pregnancy outcomes during surgical training than the wives/ partners of their male counterparts ($p=0.01$), with 55.6% of female trainees and 14.3% of male trainees negatively affected. Infertility rates were no different with 22.2% female and 19.2% male surgeons equally affected ($p=ns$). Female surgical trainees take less maternity leave with only 28.6% using their full entitlement compared to 66.6% of non-surgical NCHDs. Trainees also indicated that they were specifically interested in information on parent-friendly surgical training surgical training fellowships and improved working standards in pregnancy.

The lack of guidelines on pregnancy, during maternity, paternity and adoptive leave, and for career re-entry after maternity leave for trainee surgeons was explored through the work of the SLWG. A recently published paper identified the challenges plastic surgery programme directors face in accommodating pregnant trainees. The proportion of female plastic surgery trainees in US

programmes is lower than in Ireland and there are notable differences in maternity leave policies between the two countries. However, some relevant observations were made including that only 36% of training programmes had a formal maternity leave policy and that only 50% of these policies included contingency plans for service cover. It was also observed that less than half of pregnancy policies specified on-call duty requirements, work expectations according to weeks of gestation, or the provision of flexible training rotation schedules.

The incidence of adverse pregnancy-related events reported by surgical trainees was concerning to the members of the SLWG and, while it remains the subject of further study, is considered sufficiently important that the SLWG recommends that RCSI should liaise with the HSE to emphasise the importance of ensuring safe working conditions for our trainees during pregnancy. Although the HSE as employer has a primary responsibility, the SLWG agreed that RCSI has a duty of care to its trainees and should provide advice on health and safety in the surgical workplace, encourage pregnant trainees to undertake individual risk assessments and raise awareness of employer and employee obligations under employment law. The prevailing surgical culture poses challenges for the pregnant surgeon because as high performing professionals they sometimes find it difficult to change their patterns of work. The SLWG discussed the need to help trainees recognise and cope with the changes that arise as a result of pregnancy and parenthood, particularly as many trainees are first time parents. Trainees should be encouraged to notify RCSI of being pregnant at the earliest practicable time to ensure they can avail of necessary protections and advice. A standardised and transparent policy for discussing their status with surgical trainers is required. It was considered important by the SLWG

that information relating to pregnancy should be provided to every trainee upon appointment, possibly as part of a self-care module in their surgical boot-camp, to ensure that trainees, their colleagues and their trainers have easy access to information about safe working practices in pregnancy. It was agreed that RCSI should provide standardised information regarding the following during pregnancy: a) radiation exposure; b) potential risks associated with long working hours, shift duration and on-call hours; c) potential risks associated with prolonged standing; d) physically demanding work and e) potentially harmful substances encountered by surgeons during the course of their work. It was considered by the SLWG that backfilling of posts when trainees go on maternity leave should be phased, to enable trainees in the more advanced stages of pregnancy to go off call. The HSE may require guidance from experts in obstetrics on this matter and while each workplace and training post varies, it is likely that pragmatic recommendations can be reached as an initial step. For example, it seems unreasonable that the current situation whereby trainees who are more than seven months pregnant may be rostered to work overnight shifts should continue. It also appears unwise that pregnant surgical registrars are sometimes advised to make up the call they will miss during maternity leave or later in their pregnancy, as additional call is associated with an increased risk of pregnancy complications (51). Any such general recommendations would not, of course, supercede the possibly more restrictive needs of an individual pregnant woman acting on the advice of her obstetrician.

It is recognised by the SLWG that certain concerns that arise in relation to changing norms relating to pregnancy during training must be addressed. In relation to service coverage, when a pregnant woman is unable to work or comes off call, contingency plans for service coverage should be provided and should not require the pregnant registrar's colleagues to cover her clinical and call duties, as to do so would propagate a culture of resentment toward pregnant registrars (51). The reduced availability or absence of surgical trainees, especially senior trainees working in smaller specialities, has the potential to significantly impact on service delivery and the availability

of appropriately trained locum support may be limited. Reducing trainee on call commitments has a clear financial implication for the HSE that must be acknowledged and accepted as a cost associated with having a more diverse surgical workforce. Reduced working commitments during pregnancy or while on maternity leave and the difficulties in allocating appropriate training posts may lead to insufficient training and clinical exposure for the trainee herself and has the potential to have undesirable consequences for her peers on the training programme as it may reduce availability of desirable jobs. The implementation of better working conditions for pregnant trainees requires careful consideration by each specialty to ensure practicable improvements occur.

Supporting surgeons during periods of leave

Although the statutory entitlement to maternity leave is well-established, some challenges remain. Surgical NCHDs returning from maternity leave were noted to be particularly vulnerable given the transient nature of their employment, moving posts every 6 to 12 months. At the time of returning to work after maternity leave, they may also be starting work in a new hospital. A standardised way to enable RCSI to maintain contact during leave and upon their return to surgery should be considered. Employers do not normally contact employees while on maternity leave but as a training body RCSI has a particular role to play in helping to support the trainee in their return to work and it is also important that planning in relation to future training rotations should take place. An agreed approach should be considered with the ISTG and permission sought from individual trainees, if necessary, to enable such contact. A specific issue arising from the failure of the specialist training fund to cover upskilling and refresher courses during the maternity leave period was raised by the SLWG and requires correction to enable trainees to participate in courses that may assist their return to work. The impact of less than full time work on education funding should also be reviewed. In addition to highlighting the rights of trainees to leave, the obligations of those on career leave should be standardised and explicitly stated. It is important to provide clarification and transparency to trainees on contacts they should expect from their training

body during periods of leave and on any necessary interactions prior to their reintegration post-leave. A standardised policy common to all specialty training programmes would ensure that trainees feel supported during periods of leave and would assist them in planning their return to work. Similar to some examples in the private sector, (such as mumager. ie) RCSI could consider working with the HSE to develop standard operating procedures (SOPs) around a back-to-work programme for surgical, and perhaps other trainees. This could be developed as a HSE pilot and could include components such as a clinical skills refresher course, human factors training to assist in developing skills that balance a trainee's new personal commitments with their professional career and opportunities to develop links with other trainees returning to work. The SLWG further recommended the provision of standardised back-to-work assistance to trainees, including a short period either off-call or on protected call as well as enhanced mentoring support for a period of time after return.

Needs of Surgical Families

The difficulties in obtaining affordable childcare in Ireland remains a significant impediment to full female participation in the workforce and is largely beyond the scope of these recommendations. A number of specific challenges that arise for surgical trainees and their children were strongly reflected in feedback to the SLWG and must be highlighted. The nature of surgical training necessarily includes early morning starts as well as periods where working hours are long and sometimes unpredictable. In addition to this, surgical trainees move between hospitals frequently over an eight year period, sometimes from one geographic region to another. The long waiting lists for many childcare

facilities, their short opening hours and the high costs associated with the multiple overlapping means of childcare necessary to cover a standard surgical working day are all relevant factors. Trainees particularly commented about the relative lack of crèche facilities at HSE hospitals and also reported that, when present, their opening hours did not match the working hours of surgical staff. The accessibility of these facilities to surgical NCHD staff is also important, as waiting lists to access such facilities are common thereby prioritising permanent staff. On-site crèche facilities, similar to those available in NHS hospitals, would allow more flexibility for those working full-time hours. Hospitals that facilitate surgical NCHD trainees (and indeed other staff) in meeting their childcare needs, whether on-site or off-site, have a competitive advantage in the search for talent and the HSE should consider prioritising this offering and promoting it to prospective employees and trainees. At a time when level 2 and 3 hospitals struggle to attract qualified consultants, ensuring that surgical trainees have a positive experience while working in such hospitals during their training is a good means of persuading them to consider them as future employers.

Finally, protected time for research and study during the standard working week has long been a component of higher surgical training programmes in Ireland and consultations undertaken by the SLWG reasserted its importance. Increasing research opportunities for female surgeons is essential as publications are critical career milestones and are necessary to ensure equity of access to surgical training fellowship opportunities and academic promotion. That female surgeons have fewer journal publications is indicative of wider challenges (52-54). A respondent in the

Increasing research opportunities for female surgeons is essential as publications are critical career milestones and are necessary to ensure equity of access to surgical training fellowship opportunities and academic promotion.

NCHD surgical survey observed, "as a female parent there is no such thing as down time for study or research if ones co-parent is less available than you are." Some female surgical trainees and surgeons reported less available time for research as a result of family responsibilities, so the availability of protected research and study time is important. It was recommended that RCSI should also advocate to the HSE to ensure existing provisions for trainee research time are protected.

Recommendation

Ensure RCSI Surgical
Affairs professional
development for
practising surgeons
supports and enables
a diverse profession

Key Recommendation	RCSI will publish an annual report measuring its progress on initiatives that promote gender diversity in surgery.	
Recommendations		What does success look like?
<p>4: Ensure RCSI Surgical Affairs professional development for practising surgeons supports and enables a diverse profession.</p> <p>Aims: <i>RCSI will support career development opportunities for its female Fellows and Members, including surgical training fellowship training and career-enhancing activities.</i></p>	<p>Recommendation 4.1: RCSI will develop a specific offering for female Fellows within the first five years after CCST</p> <p>Recommendation 4.2 RCSI will advocate for gender equality and part-time options in HSE consultant surgical appointments and will request that the HSE, the public appointments service, and hospital groups publish anonymised data on applicants and appointees to consultant surgeon posts, by gender and specialty.</p> <p>Recommendation 4.3 RCSI will seek and promote research funding to support female academic surgeons.</p> <p>Recommendation 4.4 RCSI will ensure female surgeons are considered as speakers, subject matter experts, honorary appointees, lecturers and Honorary Fellows and will test the feasibility of gender-blind application processes. Encouragement of female surgeons to participate in the professional and governance structures of the profession, particularly in Ireland, and up to and including Council of RCSI, should be a priority.</p> <p>Recommendation 4.5 Consideration of the needs of female Fellows working in non-HSE employment will be undertaken.</p> <p>Recommendation 4.6 RCSI will define quality standards for surgical training fellowships to ensure minimum achievement criteria and to enable employers to benchmark surgical training fellowships.</p> <p>Recommendation 4.7 RCSI will seek funding for a prestigious, high value, merit-based, sponsored bursary specifically designed to promote female participation in surgical training at fellowship level.</p> <p>Recommendation 4.8 RCSI will ensure gender diversity in its awards and other selection committees.</p> <p>Recommendation 4.9 RCSI will publish an annual report measuring its progress on initiatives that promote gender diversity in surgery.</p>	<ul style="list-style-type: none"> • Female surgeons have equal opportunities to participate in high quality surgical training fellowships. • Early year female Fellows are specifically supported in their career development to increase their likelihood of appointment to consultant posts and to support their academic and professional development. • RCSI demonstrates commitment to equal opportunities for our surgical training programme alumni in their professional and academic careers.

Background to Recommendations

Recently, concerns that gender bias may negatively affect the career progression and academic promotion of female surgeons have been expressed in the United States, Australia and the UK. The selection processes for surgical training employed by RCSI are transparent and demonstrably fair but the relative success rates of male and female alumni of RCSI higher surgical training (HST) programmes at consultant recruitment in Ireland is unknown. Lack of progression of females in other STEMM subjects is most prominent at this career transition point (4, 9). The 2016 Irish National Review of Gender Equality in Higher Education Institutions (4) reports that

gender inequality remains a characteristic of higher education in Ireland although high quality data specific to surgery and its specialties is lacking. Although it is not solely responsible for surgical practice in Ireland, with particularly important roles for both the HSE and the universities, RCSI remains an important and influential stakeholder. The SLWG recommends that RCSI Council endorses the National Review of Gender Equality in Higher Education Institutions 2016 expert group report. This includes commitment to improved promotion and progression rates for women, gender balance at senior management team level, changes to overall culture, enhanced career development opportunities,

transparent procedures and processes, senior management leadership on gender equality, representation of both men and women on key committees, and delivery of supportive childcare and carer's provisions. RCSI should undertake an assessment of female surgical representation in its leadership, its academic department of surgery, and as speakers, subject matter experts, honorary appointees, honorary lecturers and Honorary Fellows and should consider appropriate actions to address any imbalance. A number of specific issues considered to be particularly important in surgery were identified by the SLWG through its consultation process.

The role of surgical training fellowships in career progression

Career progression following HST is heavily dependent upon completion of a surgical training fellowship, especially for consultant posts in university teaching hospitals, specialist units and cancer centres. Barriers to female participation in surgical training fellowships could therefore diminish female competitiveness in consultant appointment processes. In a recent survey of 460 Irish NCHDs in training programmes, 39% of female trainees compared to 11% of male trainees agreed that gender influenced their surgical training fellowship selection ($p < 0.001$). It is noteworthy that female trainees who were married or co-habiting were significantly more likely to report an impact on their surgical training fellowship choice when compared to men or single women. Feedback during the consultation period noted that surgical families may experience significant stress during periods of surgical training fellowships because it is rare that the professional needs of both members of the couple can be equally accommodated, especially when both are doctors. In some situations, children's education or a spouse's career is disrupted, whereas in others one partner commutes to enable the family's home base to remain stable. In other circumstances, families may become separated for 1 to 2 years during surgical training fellowship training. These issues disproportionately affect female surgeons undertaking surgical training fellowship training and were noted in consultation feedback from senior female surgeons to be extremely challenging periods to manage. There is anecdotal evidence that the period between completion of HST and appointment as a consultant surgeon is a time when female surgeons do not demonstrate the same rate of career progression as their male colleagues. The SLWG agreed that the HSE and RCSI should be encouraged to publish attrition data on surgical trainees and those not yet appointed to permanent posts on an annual basis, including an analysis based on gender, and also to assess the conversion rate to consultant level (in Ireland/other jurisdictions and public/private practice).

The working group recommends that the College give detailed consideration

Families may become separated for one to two years during surgical training fellowship

to the issue of surgical training fellowships given the central role they play in the career progression of surgeons. The College should provide clear direction on necessary quality standards for surgical fellowships, including minimum clinical and academic achievement criteria, to enable employers to benchmark surgical training fellowship for the purposes of consultant recruitment processes. The purpose of quality assurance should be to develop criteria on what constitutes a "good" surgical training fellowship. This would enable trainees to ensure their proposed surgical training fellowships meet these criteria and would enable employers to understand the "value-add" expected by a good surgical training fellowship. Surgical training fellowship opportunities in the United Kingdom (UK) and European Union (EU) should be particularly highlighted, given the intrinsic challenges of undertaking surgical training fellowships in the United States, Canada and Australia for surgeons with families or a working spouse. Recognised high quality surgical training fellowship options should be developed for trainees who are unable to travel abroad and alternative means of developing necessary skills should be considered, such as funded bursaries, part-time surgical training fellowships, and summer surgical training fellowships or "observerships" for consultants after appointment. The SLWG recognises, however, that certain surgical training fellowships in international centres of excellence are held in higher regard and clarity about this matter should be provided to trainees given the importance placed upon surgical training fellowship location and institution during competitive selection for consultant posts, especially in academic teaching hospitals. The excellent returning Fellows session run annually by the ISTG in conjunction with the Charter Day meetings should be widely publicised and the lessons learned compiled as a resource for surgical trainees planning a surgical training fellowship. The SLWG proposes that RCSI should provide annual reports on the rate of progression of training programme alumni to surgical

training fellowships and consultant posts by gender and specialty to enable trainees to make good decisions about their choice of surgical training fellowship. An opportunity may exist to improve linkages between the RCSI Department of Surgical Affairs and the wider RCSI surgical training fellowship and alumni network to encourage our Fellows and alumni to engage with RCSI training programme alumni overseas. Such relationships may ease the practical difficulties associated with undertaking a surgical training fellowship. The SLWG also strongly recommends that RCSI would seek funding for a substantial bursary specifically designed to enable female participation in surgical training fellowships. An annual prestigious, high value, merit-based, sponsored surgical training fellowship award would make a substantial impact. Current figures relating to the cost of surgical training indicate that an annual bursary in the region of €70,000 would be required. In addition to enabling female trainees, especially those with children, to undertake high quality surgical fellowship training, it would provide a clear and tangible message that RCSI and the wider surgical and healthcare community values gender diversity in surgery. Alumni of such a surgical training fellowship programme would, over time, become leading figures in Irish surgery.

Understanding the needs of female Fellows

The factors that make a surgical career both possible and fulfilling for a diverse profession require consideration. The SLWG identified a need to bridge the gap between completion of training and progression to consultant appointment. It was observed that there are limited options currently in Ireland for surgeons to undertake sessional, flexible or part-time work with security of tenure and the SLWG strongly recommend that that RCSI should work with the HSE to ensure viable and fulfilling part-time options at consultant surgeon level. Female surgeons who report being "very satisfied" with their career cite the ability to undertake predictable work and to

enjoy supportive family relationships more frequently than their male counterparts (55). It was suggested during the consultation process that RCSI should reflect on the onerous rotas pertaining in many surgical posts and should use its influence with the HSE to reduce onerous rotas in general at NCHD and consultant level. In addition to supporting gender diversity in surgery, improvements in working hours for all surgeons will likely improve quality of life for all surgeons and may well have other benefits in relation to surgical performance.

It was recommended that RCSI should undertake a needs analysis for female Fellows through its Fellows, Members and Alumni Relations Office. Longitudinal tracking of HST programme alumni would enable RCSI to better meet the needs of its Fellows as they progress through their surgical career. Feedback to the SLWG indicates that early years female Fellows, in particular, have developmental needs that may differ from those of their male colleagues. Similarly, the literature indicates that male and female surgeons value different aspects of postgraduate development, for example, female surgeons who report being "very satisfied" with their career attribute their experience in large measure to strong personal networks (88%) compared to male surgeons who report the same perspective rarely (2%, $p < 0.05$) (55). Longitudinal analysis of surgical careers by gender could make an important contribution to understanding the drivers that support female retention in the surgical workplace. The value of networking and professional relationships should be emphasised in human factors training. Female surgeons should particularly be encouraged to participate in networking events. For female surgeons with young families, such events may be considered optional when compared to other competing priorities as their value is sometimes only explicit in the longer term. Mentors and sponsors should particularly encourage female trainees to develop wide personal and professional networks and RCSI should ensure that its offerings are attractive to female surgeons and scheduled at appropriate times. Women working in the "core" general surgery specialties in Austria identified that higher job satisfaction was correlated

RCSI has an important role to play in highlighting the needs of all of its Fellows, especially in the arena of policy change where other stakeholders may not fully appreciate the consequences of their interventions in the field of surgery.

with active, high-volume practices and high-quality departmental organisation (End *et al.*, 2004). Many solutions have been proposed in the literature to cultivate women's participation in leadership roles, several of which are already components of RCSI's offering to its Fellows. These include networking, leadership and negotiations training; actively providing leadership opportunities to women; and providing time for teaching and research. A further suggestion in the literature is that universities should consider the creation of part-time tenured academic positions. The part-time teaching appointments currently in place for surgical post-graduate training in the Department of Surgical Affairs might provide a model that could be applied to research-based posts by the universities and medical schools.

Traditionally, a career in surgical private practice has been an option for female surgeons upon completion of HST and was valued by many surgical specialists for the greater level of control its practitioners have over their work schedules. An unanticipated consequence of increasing medical indemnity costs has been to reduce the flexibility of this option because a career confined to private practice on a LTFT basis does not attract a reduced rate of medical indemnity and is therefore no longer economically viable in many surgical disciplines. This differs from other medical specialties which are generally associated with lower indemnity costs and therefore remain accessible to doctors working LTFT. RCSI has an important role to play in highlighting the needs of all of its Fellows, especially in the arena of policy change where other stakeholders may not fully appreciate the consequences of their interventions in the field of surgery.

Female participation in academic surgery

The SLWG noted a clear imbalance in the participation of female surgeons in academic surgery, especially at senior levels, and acknowledge that this needs to be addressed. A recent US study demonstrated that female leadership rates are low in medical colleges⁵: 47% of medical students, 46% of residents, 38% of full-time academic faculty, 21% of full-time professors, 15% of department chairs and 16% of medical school deans are female. In Surgery in the US, women comprise 22% of full-time faculty but only 1% of all department chairs. For orthopaedic surgery in the US, this number falls to zero. A recent review of women surgeon representation along the pathway to surgical academia in the US projects that at the current rate of increase, women full professors will not achieve gender parity until in 2136 (56). Women are sometimes assumed to avoid clinical and academic leadership positions because they prioritize work-life balance. Dr Patricia Numann warns against this belief in her 2011 paper: "One egregious behaviour that cannot be tolerated is not offering a woman an opportunity because you think she is too busy or will not want it" (Numann, 2011). Despite more than two decades of gender parity in medical school graduating classes and an increasing percentage of female surgical trainees, expected demographic changes in senior academic positions have not occurred. Nineteen percent of professorships in seven universities in Ireland are held by women, while half of lecturers are female (4)⁶. In the absence of equivalent Irish data for medical schools in Ireland, RCSI should use its position on the Forum of Postgraduate Training Bodies to work with other training bodies to encourage annual reporting of academic appointments in

⁵ US: Association of American Medical Colleges Report (2014)

⁶ Data excludes RCSI

academic departments of Irish medical schools by gender.

The limited data currently available indicates that women make up a small minority of assistant, associate and full professors in academic surgery positions in Ireland. There are no female Chairs of Surgery in Irish Medical Schools at present. The reasons for this decline as women advance through the ranks are multifactorial and have been investigated in qualitative, cross sectional survey and cohort studies as there has been increasing attention paid to addressing gender equity in STEM disciplines in recent years. Edmunds *et al* reviewed the empirical evidence focusing on the reasons for women's choice or rejection of careers in academic medicine. Their findings, published in *The Lancet* in December 2016 are applicable to academic surgery and indicate that there is consistent evidence for the following: women are more interested in teaching than research; participation in research can encourage women into academic medicine; women lack adequate mentors and role models; and women experience gender discrimination and bias (57). The authors also identified significant gaps in the evidence and recommend a shift in the focus of future research from individual's career choices to the societal and organisational contexts and cultures within which those choices are made.

Certainly, the synthesis of this evidence has implications for the strategic development of academic surgery – it is imperative that strategies are identified that will support the career development of female surgeons with an interest and aptitude for academic surgery in order to capitalize on the untapped leadership potential of this large segment

of our health care workforce. Progress has already been made through participation in the Athena SWAN Charter for Women in Science which encourages and recognises institutional commitment to advancing the careers of women in STEM disciplines, including medicine. Further initiatives which may address the specific barriers for women considering a career in academic surgery include the following: institutional recognition and support of clinical educators with an increase in the recognition of contribution of teaching to academic appointments and promotion. In addition to increasing the status of teaching, a focus on educational research and facilitating more crossover between teaching and research may help encourage women into careers in academia. The recognition that early exposure to research and research training can encourage women into academic medicine indicates that female surgeons who complete training at research intensive medical schools and affiliated hospitals are more likely to develop research interests and pursue careers in academic medicine. The promotion of clinician-scientist surgical training fellowship programmes such as the Wellcome – HRB Irish Clinical Academic Training (ICAT) Programme (<http://icatprogramme.org>) which provides supported and mentored academic and clinical training targeting future academic leaders, should be a priority of RCSI to encourage both female and male surgical trainees aspiring to an academic career. Career re-entry surgical training fellowships (eg. <https://wellcome.ac.uk/funding/research-career-re-entry-surgical-training-fellowships>) to support surgeons who may have taken time out of research for

purposes including family commitments should also be promoted in this regard.

While the subject of mentorship and role modelling has been addressed in previous sections, reducing the gender gap in academic surgery may require creation of a more formal sponsorship programme. This has been demonstrated by the Society of General Internal Medicine (SGIM)'s sponsorship initiative, the "Career Advising Program" which has been designed with the specific goal of helping female junior faculty successfully navigate the academic promotion process (58). The two year programme matches participants with female and male senior academics who have demonstrated an interest in supporting the success of women in medicine. Specific objectives focus on critical components of the academic promotion process including high-impact committee membership, obtaining research grants, enhancing teaching portfolios, and advancement to leadership positions among others. This is the only national level sponsorship programme in academic medicine; RCSI is well positioned to spearhead similar efforts in academic surgery, providing access to senior leaders and professional networks that are important to career advancement.

Ensuring parity in the ability of female surgeons to achieve academic milestones such as scholarships, named lectures, awards and other forms of peer recognition is important as such markers of academic achievement are important in career progression. Current selection processes were discussed by the SLWG and it was suggested that, where practicable, gender-blind application processes should be evaluated by RCSI (e.g. impact of gender on the selection process).

It is imperative that strategies are identified that will support the career development of female surgeons with an interest and aptitude for academic surgery in order to capitalize on the untapped leadership potential of this large segment of our health care workforce

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CONCLUSION

This report of the Short Life Working Group on Gender Diversity in Surgery brings together the results of an extensive literature review, a national consultation process, and an evaluation of international best practice. The working group, representing all stages of Irish surgery, from undergraduate to consultancy, has carefully considered these inputs and this document captures recommendations for progress. Particular attention has been paid to how the implementation of these recommendations can be measured and their effectiveness evaluated. We strongly recommend the publication of an annual report on gender diversity in surgery, recording in a transparent way our implementation of these recommendations and enabling future study of their effectiveness in improving gender diversity in all parts of surgery.

Many examples of good practice were identified, among them the robust, merit-based selection processes of RCSI for the recruitment of surgical trainees and the supportive mentorship provided by male and female surgeons alike. The changing demographics of the profession of surgery, including greater numbers of female surgeons, offers an opportunity to better meet the needs of patients and the Irish healthcare service. It also poses challenges to our profession and our health service to ensure that surgery is a profession in which women can thrive. RCSI is a powerful voice in setting standards and influencing surgical culture and we commend its leadership for supporting this initiative.

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APPENDICES

Appendix 1	Terms of Reference of the SLWG including meeting dates and agenda items
Appendix 2	Membership of the SLWG: Name, Title, Affiliation for each member
Appendix 3	Implementation Plan: critical analysis of contextual factors affecting successful implementation of the recommendations of the SLWG
Appendix 4	Gender Breakdown of Trainee Intake 2006 - 2016
Appendix 5	Gender Breakdown of Trainees by Specialty 2012 – 2016
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APPENDIX 1

Terms of Reference of the SLWG (including meeting dates and agenda items)

Gender Diversity in Surgery Short Life Working Group – Terms of Reference 18 November 2016

1. Mission

To provide recommendations on how the RCSI Surgical Affairs Department might work to address gender diversity in surgical training and promote professional development of female medical students, surgical trainees and surgeons.

2. Terms of Reference

The remit and items of reference for the gender diversity working group are outlined as follows:

- Review Process
 - Consider the current gender ratio of medical students, surgical trainees and surgeons in Ireland and other jurisdictions.
 - Review existing RCSI policy and processes to support gender diversity in surgical training/careers.
 - Review gender diversity initiatives in other surgical training colleges and professional bodies.
 - Consider other matters of relevance to the College in relation to gender diversity in the surgical workforce.
- Consultation Process
 - Undertake consultation process to consider how best to support those choosing a career in surgery and how RCSI might consider the different needs of male/female trainees/surgeons.
 - Consider how gender specific barriers might be overcome in the design of surgical training/careers.
 - Consider research opportunities of gender equity/equality issues in surgery in Ireland.
- Recommendations & Feedback
 - Develop a policy document outlining recommendations for RCSI Council to consider on how gender diversity in surgery might best be encouraged.
 - Liaise with relevant parties within RCSI on matters relating to implementation of gender diversity in surgery policy document.
 - Advise Council, through the Committee for Surgical Affairs on matters of national and institutional importance as they may arise in relation to gender diversity in surgery.
 - Carry out such tasks as may be required by the Council and the Committee for Surgical Affairs.

3. Reporting Structure

The Gender Diversity Working Group will report to the RCSI Committee of Surgical Affairs (CSA). A summary of key issues will be submitted to the CSA with full minutes of each meeting on a monthly basis. The CSA will return any matters of national/institutional importance to the Surgery and Postgraduate Faculties Board and/or Council.

4. Membership

The membership of the Gender Diversity Working Group is listed in table 1 below. Membership is for a six month period. The Working Group may, at its discretion, co-opt an additional two to three members with an interest in the area of gender diversity.

Table 1: Membership – Gender Diversity Working Group

Role	Representative	November 2016 – April 2016
Chairperson	Council	Ms Deborah McNamara
President of RCSI	Council	Prof John Hyland
Elected Member of Council	Council	Mr David Quinlan
Elected Member of Council	Council	Prof Laura Viani
Dean of Professional Development and Practice	Dept of Surgical Affairs	Prof Sean Tierney
Managing Director	Management Dept of Surgical Affairs	Mr Kieran Ryan
Consultant Surgeon in Practice	External	Ms Yvonne Delaney
Consultant Surgeon in Practice	External	Ms Patricia Eadie
Practicing Academic Surgeon	External	Prof Aoife Lowery
Surgical Trainee	RCSI Surgical Training Programme	Dr Ailín Rogers
Medical Student	RCSI GEM Programme	Ms Nicola Cullen
Medical Student	RCSI Undergraduate Medicine Programme	Mr Paraic Behan
Surgical Affairs Representative with equality background	RCSI COSECSA Programme	Dr Avril Hutch
Two to three co-opted members who have an interest in the area from time to time	RCSI Medical School RCSI Human Resources	Prof Hannah McGee Mr Barry Holmes

5. Meetings

Meetings will be scheduled to take place every month at a Tuesday at 5.30pm in RCSI.

Provisional dates for the forthcoming year have been arranged as follows:

- 13 December 2016
- 17 January 2017
- 21 February 2017
- 28 March 2017
- 25 April 2017

The quorum for meetings is five (5) nominated members. In the absence of the Chairperson at any meeting the most senior member of Council present may act as Chair.

6. Operational Relevance/Impact

The Gender Diversity Working Group is cognisant of the operational, administrative and financial implications of decisions taken in respect to gender diversity in surgical affairs and will report budgetary/resources requirements to the CSA for action with management.

7. Secretariat

Chairperson: Deborah McNamara

Secretary: Avril Hutch

Administrator: Surgical Affairs (tbc)

8. Revision & Renewal of Terms of Reference

It is not envisioned that this ToR will be renewed following the completion of six month period of work.

APPENDIX 2

Membership of SLWG

Role	Representative	Primary Affiliation
Ms Deborah McNamara, Chair of SLWG	Consultant General and Colorectal Surgeon	Beaumont Hospital, Dublin
Prof John Hyland	President RCSI Consultant General and Colorectal Surgeon	RCSI
Mr David Quinlan	Consultant Urologist	St Vincent's University, Dublin
Prof Laura Viani	Consultant ORL-HNS	Beaumont Hospital, Dublin; TCD; RCSI
Prof Sean Tierney	Consultant Vascular Surgeon; Dean of Professional Development and Practice	AMNCH Tallaght and RCSI
Mr Kieran Ryan	Managing Director, Department of Surgical Affairs	RCSI
Ms Yvonne Delaney	Dean, Consultant Ophthalmic Surgeon	Irish College of Ophthalmologists
Ms Patricia Eadie	Consultant Plastic, Reconstructive and Aesthetic Surgeon	St James' Hospital, Mater Private
Prof Aoife Lowery	Academic Surgeon, Associate Professor of Surgery and Consultant General, Breast and Endocrine Surgeon	University of Limerick
Dr Ailín Rogers	RCSI Higher Surgical Trainee in General Surgery	RCSI Higher Surgical Training Programme
Ms Nicola Cullen	RCSI Medical Student, Graduate Entry Medicine (GEM), Undergraduate Medicine Programme	RCSI Medical School
Mr Paraic Behan	RCSI Medical Student, Direct Entry Medicine (DEM), Undergraduate Medicine Programme	RCSI Medical School
Dr Avril Hutch	Assistant Programme Director	RCSI COSECSA Collaboration Programme
Prof Hannah McGee	Dean of the Faculty of Medicine and Health Sciences	RCSI
Mr Barry Holmes	Director of Human Resources	RCSI

APPENDIX 3

Implementation plan: critical analysis of contextual factors affecting successful implementation of the recommendations of the gender diversity in surgery short life working group

The purpose of this appendix is to critically analyse the factors likely to affect successful implementation of the recommendations of the SLWG, in particular contextual enablers and impediments unique to the Irish surgical context, and to consider strategies that may be utilised during development of the strategy that increase the probability of successful implementation of the recommendations.

Organisational Behaviour and Change Management Theory

Kotter's seminal paper emphasises the phases necessary for transformation, exploring eight reasons why organisational change efforts fail (59). Each phase is necessary in a successful organisational change initiative, although not linear, because "change has pace, momentum and phases" (60). Successful transformation harnesses a sense of urgency arising from an examination of "market and competitive" realities which is future-facing and reliant upon "aggressive cooperation" within the organisation (59). A "powerful guiding coalition" should be assembled that derives its power from the position, expertise, credibility and leadership ability of coalition members (59). In addition to developing a vision for change, strategies for achieving the vision are required. Particular emphasis is placed upon communication of the vision by all available means, most importantly through the example of change and organisational leaders (59). Empowering staff to act on the transformation vision by removing obstacles, adjusting processes, and encouraging new ways of working is a key enabler of success. Kotter recommends that performance improvement is made visible through explicit creation of "short-term wins", with clear rewards for individuals enabling change, and the utilisation of credibility built through such success to consolidate change and to drive alignment of corporate strategies to support further improvement. Kotter's final phase ensures sustainability of the transformation agenda by clearly defining its successes and by developing a leadership development and succession strategy (59). The defining activities of each phase are summarised in column 2, Table 1 of this appendix.

An alternative view to organisational transformation, applied specifically to the theme of gender diversity, places understanding of an organisation's culture more centrally. Rao and Kelleher observe that changes targeting improved gender diversity require consideration of a "web of 5 spheres of power in which power can be generated to move an organisation towards transformation" (61). The first "sphere of power" is politics, more specifically the power arising from internal and external demands for change. Considered separately, organisational politics refers to quotidian access to sources of organisational power including the access to leadership and necessary resources. Institutional culture refers to what is truly valued by an organisation, encompassing the values, history and ways of doing things that are frequently unstated but have the potential to either drive or impede change. Organisational process is defined as mechanisms through which ideas are converted to actions, converting the previous three somewhat intangible spheres into organisational action. Finally, programmatic interventions, necessary to deliver any meaningful change, use both applied learning and organisational memory to continuously improve activity in support of planned change(61). The organisational behavioural approach to improving gender diversity requires "identifying and changing the often-hidden deep structures that keep gender inequality in place in organisations" and specifically cautions that that more lasting cultural change may be "obscured by the focus on more visible changes in policies and resources" (62) (61) This resonates with deterrents to female progression reported in the surgical literature(63).

Building on this analysis of sources empowering organisational change, Henry *et al* recommend that success requires an explicit vision, measurable indicators and clear accountability (62). In addition to being visibly and consistently supported by senior leaders, financial and technical resources of the organisation must be invested. In their assessment, only a highly deliberate approach that is deeply rooted in the organisation's culture and competencies is likely to be successful; "the approach that seems to hold the most promise is where individual programme teams have clear gender-responsive objectives and direction for their specific thematic or geographic area and at the same time are contributing to a higher level and agreed organisational vision."(62).

Critical analysis of organisational context

The simplicity of Kotter's model has resulted in its wide application as a heuristic to support change management. It originated from Kotter's observations of organisational transformation programmes of corporate entities. The model assumes that most internal stakeholders are employees and anticipates a high level of influence and control over their behaviour and development as well as the ability to influence recruitment in support of the aims of the intervention. While RCSI is the national professional surgical body, its stakeholders are largely not employees and implementation of gender diversity recommendations for the profession are not uniquely within its control. Table 1 analyses factors potentially supporting and inhibiting each phase of a transformation programme to increase gender diversity in surgery using Kotter's model.

Table 1: Development of a strategy based on Kotter (1995) to support the work of a SLWG on gender diversity in surgery: forcefield analysis of factors favouring and opposing change in each phase (59)

Transformation Phase	Defining activities	Factors favouring change	Factors opposing change
Establishing sense of urgency	<ul style="list-style-type: none"> Examining market and competitive realities Identifying and discussing crises, potential crises or major opportunities 	<ul style="list-style-type: none"> Global surgical recruitment challenge; desire for wider pool Requirement for Athena SWAN accreditation by 2019 to compete for funding 	<ul style="list-style-type: none"> Competitive recruitment; limited resources; greater pool contrary to self-interest Reluctance of female surgeons to be identified with gender inequality issues: "shoot the messenger"
Forming powerful guiding coalition	<ul style="list-style-type: none"> Assembling group with enough power to lead change effort Encouraging group to work as a team 	<ul style="list-style-type: none"> Widely representative SLWG Senior leaders involved; surgical training fellowship aware of SLWG creating expectation of progress Subject matter expert 	<ul style="list-style-type: none"> Competing priorities Short lifespan of group Uncertainty of need for change among some participants/stakeholders
Developing change vision	<ul style="list-style-type: none"> Creating vision to help direct change effort Developing strategies for achieving vision 	<ul style="list-style-type: none"> Greater gender awareness in external context HEA national review provides evidence base Athena SWAN charter outlines principles 	<ul style="list-style-type: none"> Change vision favours approx. 10% of surgeons; how to engage majority?
Communicating the vision	<ul style="list-style-type: none"> Using every vehicle possible to communicate new vision/strategies Teaching new behaviours by example of guiding coalition 	<ul style="list-style-type: none"> Good communication network for surgeons 	<ul style="list-style-type: none"> No data on gender of surgeons; unable to target communications Consultant surgeons not employees of RCSI; limits influencing strategies University medical schools have competing interests
Empowering others to act on vision	<ul style="list-style-type: none"> Getting rid of obstacles to change Changing systems or structures that undermine vision Encouraging risk-taking/non-traditional ideas, activities and actions 	<ul style="list-style-type: none"> Responsible for training standards and policy; means to influence change Mechanism to collect relevant data 	<ul style="list-style-type: none"> Unable to directly reward participants in change strategy as not employees Limited influence in academic surgery; area of greatest need for change
Planning for and creating short-term wins	<ul style="list-style-type: none"> Planning for visible performance improvements Creating improvements Recognising/rewarding employees involved in improvements 	<ul style="list-style-type: none"> Several immediately actionable process change initiatives possible Guiding coalition includes members who can deliver some outcomes Some actions under control of RCSI employees 	<ul style="list-style-type: none"> Difficult to maintain focus on areas within influence; mission creep; "wicked problem" Many relevant parties not employees RCSI Process changes may not result in real change; could undermine enthusiasm
Consolidating improvements; producing still more change	<ul style="list-style-type: none"> Using increased credibility to change systems structures/ policies that don't fit vision Hiring promoting and developing employees who can implement vision Reinvigorating process with new projects, themes, change agents 	<ul style="list-style-type: none"> Successful internal change increases RCSI leverage for systemic change in academic surgical sector More diversity increases pool of future leaders of gender diversity work Action-oriented nature of specialty; will respond positively if results demonstrated 	<ul style="list-style-type: none"> Most surgeons not RCSI employees; recruitment mainly in control of HSE/universities Many limiting structures outside RCSI control
Institutionalising new approaches	<ul style="list-style-type: none"> Articulating connections between new behaviours and corporate success Developing means to ensure leadership development and succession 	<ul style="list-style-type: none"> Effective communications function available Institute of Leadership enables specific focus 	<ul style="list-style-type: none"> Gender equality in surgery not strategic priority for hospitals or HSE

The action orientation and familiarity of Kotter’s approach appeals to surgical stakeholders and its emphasis on phases creates visible implementation milestones. Although Kotter’s work remains the most highly cited in the field of change management (60), it offers little guidance on how best to explore culture in order to generate a compelling vision for change. The observation of Henry *et al* that “the approach to incorporating gender considerations should be intentional and deeply rooted in the organisational culture and competencies of the organisation” (62) is insufficiently addressed by Kotter’s model as it lacks a mechanism to define organisational culture which by its nature is intangible. “Identifying and changing the often-hidden deep structures that keep gender inequality in place in organisations is critical but often obscured by the focus on more visible changes in policies and resources” (61, 62). While culture is sometimes invisible, the so-called hidden curriculum in surgery is perceived by medical students at an early point in their training and influences career choice such that many individuals “opt-out”, not even considering a career in surgery (64). The concept of “heroic individualism”, integral to the surgical identity, represents a significant but unspoken cultural barrier to change due to the close association between heroism and male gender (61). As part of a “clumsy solution” to a wicked problem (19), Kotter’s phases add value but implementation is unlikely to be sustainable if less explicit political and cultural factors are not synchronously addressed. The Athena SWAN evaluation mechanisms recognise the need for measurable programmatic interventions and therefore assist in delivering permanent change as interventions that are purely process driven are unlikely to achieve accreditation (10). As a starting point, evaluation of the cultural mores of stakeholder groups will enable a culture change strategy to be devised.

Critical Analysis of Other Factors Affecting Implementation and Application of Learning from Implementation Frameworks

The HEA observes that “the reason why women are not to be found in the same proportion as men in the most senior positions is not because women are not talented or driven enough to fill these roles, it is because numerous factors within HEIs, conscious and unconscious, cultural and structural, mean that women face a number of barriers to progression, which are not experienced to the same degree by their male colleagues; systematic barriers in the organisation and culture within higher education institutions mean that talent alone is not always enough to guarantee success” (4). Establishment of a SLWG group to “provide recommendations on how RCSI...will work to address gender diversity” in surgery is a valuable first step but will not be sufficient to deliver lasting change. The SLWG construct injects pace and is more likely to be supported by high level stakeholders than more onerous commitments. A challenge of its short tenure is the need for rapid operationalisation as “it takes considerable time and effort to develop a sufficient level of behavioural integration for a leadership team to be effective leading change” (60). Areas amenable to influence by the SLWG, its chair and its high level supporters are mapped using Active Implementation Frameworks (AIF) in Figure 2 (65).

Figure 2: Mapping areas of responsibility for SLWG gender diversity initiative to stages using AIF

Exploration	Installation	Initial Implementation	Full Implementation	Sustainability	Innovation
assess needs	acquire resources	implementation drivers	implementation drivers	internal factors	desirable innovations
examine innovations	prepare organisation	manage change	implementation outcomes	external factors	program drift (undesirable)
examine implementation	prepare implementation	data systems	innovation outcomes	staff turnover	
assess fit	prepare staff	improvements cycles	standard practice	funding stream	
				system changes	

- Responsibility of SLWG
- Responsibility of Chair/ High levels sponsors of SLWG
- Organisational governance/ Accountability requires clarification

The analysis makes clear the need to build support to embed accountability for implementation into organisational roles and for the leadership of both the SLWG and the College itself to maintain oversight. A further mapping exercise of the planned intervention using the Quality Implementation Framework described by Meyers, Durlak & Wandersman (66) identifies a number of barriers to successful implementation (Figure 3).

Figure 3: Analysis of predicted strengths and weaknesses in implementation of a gender diversity policy for surgery using the critical steps defined in the Quality Implementation Framework (Meyers, Durlak & Wandersman 2012)

Phase	Assessment strategies	Strengths	Deficiencies
Initial considerations regarding host setting	1. Conducting needs & resources assessment	stakeholders represented	no resource assessment done; benefits of change not explicit
	2. Conducting fit assessment	iterative	methodology not explicit
	3. Conducting capacity/readiness assessment	externally driven; "imposed" readiness	does not address internal cynicism towards value of change
	4. Possibility for adaptation	sector-specific guidance	
	5. Obtaining explicit buy-in from critical stakeholders; fosters supportive community / organizational climate	clear SLWG governance	buy-in not explicit; culture not supportive
	6. Building general/organizational capacity	gender expert on staff	no gender policy unit
	7. Staff recruitment/maintenance	high influence surgical training	low influence universities/ consultants
	8. Effective pre-innovation staff training	key staff can influence many trainees	gap analysis of skills and attitudes required
Creating structure for implementation	9. Creating implementation teams	*	*
	10. Developing an implementation plan	*	*
Ongoing structure once implementation begins	11. Technical assistance/coaching/ supervision	gender expert on staff (mainly other responsibilities)	*
	12. Process evaluation	metrics defined	accountability not defined
	13. Supportive feedback mechanism	reports to Committee for Surgical Affairs	Support uncertain
Improving future applications	14. Learning from experience	Opportunistic	no knowledge management system

* none in place

First, the reason for change is not internally compelling as its prime motivator is external and although the literature is compelling (4, 62), the benefits to the profession of greater diversity have not been made sufficiently explicit and well-communicated to stakeholders. None of the literature sources reviewed in the present analysis places clear value on the provision of a compelling evidence base to persuade stakeholders of the merit of a vision for change. This may be more important in a professional stakeholder community where interventions are generally assessed in this way and should form part of the implementation strategy.

While the governance of the SLWG developing the guidelines is clear and the need for metrics is well-defined, no implementation strategy or team exists and this is a critical failing. Most significantly, a dedicated mechanism to capture and share internal knowledge, promote improvement, deliver technical assistance and build organisational capacity does not exist. Factors supporting sustainability may be categorised as competency drivers, organisation drivers and leadership drivers (67). While a staff member with gender diversity policy expertise enhances competence, it seems likely that in the absence of a designated organisational structure such as a gender diversity office to drive the adaptive and technical leadership required over the longer term, implementation of the recommendations will not be sustained (65).

Consideration of the broader societal benefit of greater diversity in the profession of surgery, and other disciplines, requires detailed analysis of outer context (68) and falls beyond the remit of a SLWG but professional bodies and HEIs could use their influence to encourage the HSE to develop supportive policies. The marked influence of the HRB 2016 policy decision requiring gender diversity accreditation as a criteria for continued funding eligibility demonstrates the powerful influence of economic factors in delivering both societal and organisational change.

APPENDIX 4

Gender Breakdown of Surgical Trainees 2006 - 2016

Programme	Year	Total appointed	Male	Female
Basic Surgical Training Programme	2007	110	72	38
Basic Surgical Training Programme	2008	121	85	36
Basic Surgical Training Programme	2009	86	60	26
Basic Surgical Training Programme	2010	83	47	36
Basic Surgical Training Programme	2011	83	57	26
Basic Surgical Training Programme	2012	82	50	32
Core Surgical Training	2013	58	37	21
Core Surgical Training	2014	56	30	26
Core Surgical Training	2015	58	36	22
Core Surgical Training	2016	58	38	20

Note: in the BST years listed we may have experienced dropouts from the listed totals in the early months of the programme

Changes to Programme names reflected above

Programme	Year	Total appointed	Male	Female
Higher Surgical Training Programmes	2006	37	23	14
Higher Surgical Training Programmes	2007	39	27	12
Higher Surgical Training Programmes	2008	34	24	10
Higher Surgical Training Programmes	2009	31	27	4
Higher Surgical Training Programmes	2010	46	27	19
Higher Surgical Training Programmes	2011	35	23	12
Higher Surgical Training Programmes	2012	39	24	15
Higher Surgical Training Programmes	2013	37	26	11
Specialty Training Programmes	2014	46	29	17
Specialty Training Programmes	2015	51	37	14
Specialty Training Programmes	2016	45	25	20

Note: Ophthalmic Surgery / ENT had 2 intakes per year in some of the years listed, ENT intakes listed up to 2014 are for Yr1-4 intakes

Changes to Programme names reflected above

APPENDIX 5

Gender Breakdown of Surgical Trainees 2006 - 2016

ENT								
ST3	ST4 (A)	ST4 (B)	ST5 A	ST5 (B)	ST6	ST7	ST8	ST8
July 16 - June 22	July 15 - June 21	Jan 15 - Dec 20	July 14 - June 20	Jan 14 - Dec 19	Jan 13- Dec 19	July 12 – June 18	Jan 11- Dec 16	July 11 - June 17
2	5	1	1	0	3	5	1	
2 Female	1 female/ 4male	0 female/ 1male	1 female/ 0 male	0 female/ 0 male	0 female/ 3 male	2 female/ 3 male	1 male	

T&O						
ST3	ST4	ST5	ST6	ST7	ST8	TOTAL Number of T&O Trainees
July 2016 - June 2022	July 2015 - June 2021	July 2014- July 2020	July 2013 - July 2019	July 2012 – July 2018	July 2011 – July 2017	
12	11	8	5	7	4	49 - in training
2 Females / 10 Males	1 Female / 10 Males	1 Female / 7 Males	0 Female / 5 Males	1 Females / 6 Males	1 Female / 3 Males	6 Females / 43 males

Urology					
ST3	ST4	ST5	ST6	ST7	ST8
July 16 - June 2022	July 15 - June 2021	July 14- July 20	July 13 - July 19	July 12 – July 18	July 11 – July 17
5	4	3	3	3	2
3 females/2 males	1 females/ 3 males	2 female/ 1 male	2 female/ 1 male	0 female/3 male	1 female/ 1 male

Cardiothoracic Surgery						
ST3	ST4	ST5	ST6	ST7	ST8	TOTAL Number of Cardiothoracic Trainees
July 16 - July 2022	July 15- July21	July 14- July 20	July 13- July 19	July 12 – July 18	July 11 – July 17	1 on ML and then surgical training fellowship
						1 on interdeanery and then surgical training fellowship
1	1	2	1	1	0	2 Female
1 Male	1 Male	1 Female /1 Male	1 Male	1 Male		

Neurosurgery						
ST3	ST4	ST5	ST6	ST7	ST8	TOTAL Number of Neurosurgery Trainees
July 16 - July 22	July 15 - July 21	July 14 - July 20	July 13 - July 19	July 12 – July 18	July 11 – July 17	
						1 x research (male)
2	1	1	1	1	1	8 Trainees incl 1 in research
0 Female /2 Male	0 Female /1 Male	1 Female /0 Male	1 Male	1Female	0 Female /1 Male	

Plastic Surgery						
1	2	3	4	5	6	
ST3	ST4	ST5	ST6	ST7	ST8	TOTAL Number of Plastics Trainees
July 16 - June 22	July 15 - July 21	July 14 - July 20	July 13 – July 19	July 12 – July 18	July 11- July 17	
						1 male on OOPT from July 2016-July 2017 (ST8)
						1 female on surgical training fellowship from 30/06/16 to 30/06/17 (ST8)
						1 male on OOPT,CCST application to be completed completed
4	6	2	5	4	1	Trainees =22 in post, 2 on surgical training fellowship 24 total
1 male / 3 female	5 male / 1 female	1 male / 1 female	1 male / 4 female	2 male / 2 female	1 male	

Paediatric Surgery						
ST3	ST4	ST5	ST6	ST7	ST8	TOTAL Number of Paediatrics Trainees
July 16 - July 2022	July 15 - July 2021	July 14 - July 20	July 13 - July 19	July 12 - July 18	July 11- July 17	
1	2	1	0	0	2	Trainees = 6
1 Female /0 Male	1 Female /1 Male	0 Female /1 Male	0 Female /0 Male	0 Female /0 Male	1 Female /1 Male	

Ophthalmic Surgery						
ST4 (Ophthalmic start at ST4)	ST5	ST6	ST7	ST8	TOTAL Number of Ophthalmology Trainees	TOTAL Number of Paediatrics Trainees
July 16 - June 21	July 15- June 20	July 14 - June 19	July 13 - July 18	see separate finish dates		
				1 female on personal leave July-Dec 16, then on surgical training fellowship Jan 17, CCST June 17		Trainees = 6
	1 female (ST5) on out of programme leave for July 2016- June 2017			2 females x CCST June 17	1 female on mat leave	
	1 male (ST5) on Out of programme experience from Jan 17 for 1 year					
4	4	5	1	4		
1 male / 3 female	2 male / 2 female	2 male / 3 female	1female	3 female/1 male		

General Surgery						
ST3	ST4	ST5	ST6	ST7	ST8	TOTAL Number of General Surgery Trainees
July 16 - July 22	July 15 - July 21	July 14 - July 20	July 13 - July 19	July 12 - July 18	July 11 - July 17	
						1 x female OOPT in Belfast, July 2016-July 2017
						1 female OOPE surgical training fellowship July 2016-July 2017 returns to the programme as a ST8 for July 2017-July 2018.
			1 x mat leave			1 female, OOPT surgical training fellowship UK, July 2016-July 2017
						1 male, OOPT surgical training fellowship, July 2016-July 2017
						1 male, OOPT surgical training fellowship in Ireland July 2016-July 2017
				1 x mat leave		
						1 female ST7, OOPT surgical training fellowship July 2016-July 2017
						1 x female ST7, OOPT on surgical training fellowship, August 2016-August 2017
14	13	12	8	3	5	
6 Female / 8 Male	6 Female / 7 Male	5 Female / 7 Male	2 Female / 6 Male	1 Female / 2 Male	2 Female / 3 Male	

Please note:

This is a condensed version of current trainees 2016-2017.

ENT for some years had 2 intakes hence A & B trainees

Ophthalmic Surgery commence at ST4 & train for 5 years

For various reasons such as Maternity Leave, Out of Programme Training or experience, retrospection granted etc. some trainees will have take longer/shorter than others to rotate through training

APPENDIX 6

SpR Attrition Rate 2012 - 2017

Specialty	Gender	Date of withdrawal	Training year at time of withdrawal
Cardiothoracic Surgery	male	April 2014	ST5
ENT	male	June 2014	ST3
Cardiothoracic Surgery	female	July 2014	ST6
General Surgery	female	July 2015	ST4
Neurosurgery	female	December 2016	ST6
General Surgery	female	January 2016	ST5
General Surgery	male	June 2016	ST3

Please note:

For various reasons such as Maternity Leave, Out of Programme Training or experience, retrospection granted etc. some trainees will take longer/shorter than others to rotate through training.

APPENDIX 7

Synthesis of information requirements supporting the probability of successful implementation of the recommendations of the gender diversity in surgery short life working group

The purpose of this appendix is to synthesise factors related to information and to define implementation and intervention outcomes indicating successful implementation, and to consider strategies that may be utilised during development of the recommendations to increase the probability of their successful implementation.

Explanation of stages of implementation in focus

The SLWG is primarily responsible for completion of the exploration stage of implementation, a stage characterised by the assessment of needs, examination of potential innovations, examination of their implementation and an assessment of their fit (67). The SLWG also has a delegated remit relating to the installation phase, namely, to prepare the implementation. An analysis of predicted strengths and weaknesses in implementation of the RCSI gender diversity initiative using the critical steps defined in the Quality Implementation Framework (69) demonstrated a series of gaps including the requirement to build general organisational capacity, the need to create an implementation team and develop an implementation plan, the need to ensure process evaluation takes place and the absence of a system that allows learning from the experience of implementation efforts to occur. While the SLWG is not itself responsible for initial implementation, full implementation, sustainability or innovation, the identified lack of organisational capacity to support gender diversity initiatives is a concern. Definition of clearly defined implementation and effectiveness outcomes for these stages will both enable successful implementation and act as a roadmap for the organisation's internal and external stakeholders in measuring progress. By ensuring that metrics evaluating these phases are included in their recommendations, the SLWG has an important means of favourably influencing the likelihood of sustained implementation (16).

The construct, membership and leadership of the SLWG is action-orientated and highly motivated, so the value of measures for the exploration phase is considered to be limited. To a great extent, the output of this phase will be the recommendation document itself. In contrast, because the SLWG completes its work by June 2017, the installation and initial implementation phases will be guided by the implementation and intervention outcomes specified. The measurement plan therefore focuses on these stages. Additionally, the data to be captured should be suitable for time-series analysis to promote full implementation and sustainability (16). SLWG discussions to date highlight a number of areas for potential research/innovation and a system to capture such insights, creating a feedback loop to influence the development of future organisational gender (and other) diversity strategies, is needed. This will require designation of a responsible staff member and is a longer term goal beyond the scope of the current analysis.

Specification of desired outcomes

The principal desired outcome of the intervention is a surgical training system that is attractive and demonstrably fair to female medical graduates, who should experience RCSI as a training body that enables their success in surgical training and ultimately in their academic and professional careers. The work-streams are designed to facilitate recommendations that will act as drivers to achieve this goal. Each is linked to implementation and effectiveness outcomes as specified (Table 1).

Table 1: Desirable implementation and effectiveness outcomes

Work-stream	Recommendations	Implementation Outcome	Effectiveness Outcome
<p>1. Inform/encourage female medical students considering surgical career</p>	<p>1.1 Develop resources encouraging female and male secondary school students to consider surgical career.</p> <p>1.2. RCSI will maintain and circulate names of a panel of surgeons, including female surgeons, who are willing to address medical school surgical societies to provide career advice, as well as female surgical subject matter experts available as visiting lecturers.</p> <p>1.3 RCSI will better promote its postgraduate training programmes to women, especially highlighting improved training opportunities, workforce planning and career progression opportunities.</p> <p>1.4 RCSI will support nationwide surgical careers information sessions for medical students and will work with the Irish Surgical Training Group to ensure that medical students with an interest in surgery have the opportunity to meet male and female surgical trainees and surgeons at different stages of their career</p>	<p>Resources prepared; on website / circulated</p> <p>Panel of female surgeons developed; listed on website; circulated at beginning each academic year</p> <p>Include on rolling agenda of meetings with ISTG</p>	<p>%female medical school entrants</p> <p>%female medical school graduates</p> <p>%female CST applicants</p> <p>%female CST appointees overall and by specialty</p>

Work-stream	Recommendations	Implementation Outcome	Effectiveness Outcome
<p>2. Build a culture that supports female surgical trainees</p>	<p>2.1 RCSI should ensure where possible gender neutrality in its training processes and SOPs.</p> <p>2.2 Individual information pack for each trainee appointed to CST including, but not limited to, maternity, paternity, adoptive, parental leave & part-time training options; impact of these options on CCST date; availability of surgical mentors; advice and options regarding re-integration after leave.</p> <p>2.3 Ensure trained mentors are available for all trainees, including both male & female surgeons, and encourage trainees to avail of a network of mentors.</p> <p>2.4 RCSI will report annually on the rate of progression of training programme alumni to fellowship and consultant posts by gender and practice setting.</p> <p>2.5. RCSI will advocate for the needs of less-than-full-time (LTFT) trainees during its engagements with the HSE and HSE NDTP to increase LTFT training options and availability and to improve surgical training surgical training fellowship options for female surgeons.</p> <p>2.6 RCSI will work with stakeholders, including the HSE, to improve surgical training surgical training fellowship options for female surgeons.</p>	<p>Development of information packet; update every June; circulation to new appointees</p> <p>Engage with ISTG to co-create mentoring programmes</p> <p>Commence annual HST alumni survey</p>	<p>Measure trainee satisfaction with information received (annual trainee survey; format to be determined by DSA)</p> <p>Measure trainee satisfaction with mentoring received (annual trainee survey; format to be determined by DSA)</p> <p>Annual report: -%female HST commencing Surgical training fellowship in preceding 12 months -%female HST applying for/ appointed to consultant post in preceding 12 months</p>

Table 1: Desirable implementation and effectiveness outcomes (continued)

Work-stream	Recommendations	Implementation Outcome	Effectiveness Outcome
<p>3. Consider needs of trainees who are parents</p>	<p>3.1 RCSI will normally allocate training posts >12 months before commencement, provided a trainee’s training performance is deemed satisfactory, and will report annually on the percentage of times this takes place, by specialty and by gender.</p> <p>3.2 Protected time for research and study during the normal working week is particularly important to parents and should continue to be protected. The annual trainee survey should record the percentage of trainees receiving such protected time.</p> <p>3.3 Ensure all trainees, upon appointment to an RCSI training programme, receive information required to protect pregnant trainees, especially as it relates to exposure to radiation and other potential hazards including on-call duties, shift length and working conditions (eg prolonged standing). This information should also be easily available to consultant trainers.</p> <p>3.4 RCSI will explore the development of specific recommendations related to pregnancy for submission to the HSE.</p> <p>3.5 RCSI will develop recommendations and SOPs regarding training contacts during and after pregnancy and will standardise back-to-work reintegration for trainees returning from a period of leave through development of SOPs applying to all specialties.</p> <p>3.6 RCSI will use its influence with the HSE and other stakeholders to promote policies that support surgical families in balancing their personal and professional lives.</p>	<p>Annual report %trainees receiving allocation 12 months before post start date</p> <p>Review all training processes and SOPs</p>	<p>Measure trainee satisfaction with post allocation process (annual trainee survey; format to be determined by DSA)</p>

Work-stream	Recommendations	Implementation Outcome	Effectiveness Outcome
<p>4. Ensure RCSI Surgical Affairs professional development for practising surgeons supports/ enables a diverse profession</p>	<p>4.1 RCSI Surgical training fellowship programmes will develop a specific offering for female Fellows within 5 years of CCST.</p> <p>4.2 RCSI will advocate for gender equality and part-time options in HSE consultant surgical appointments and will request that the HSE, the public appointments service, and hospital groups publish anonymised data on applicants and appointees to consultant surgeon posts, by gender and specialty</p> <p>4.3 RCSI will seek and promote research funding to support female academic surgeons</p> <p>4.4. RCSI will ensure female surgeons are considered as speakers, subject matter experts, honorary appointees, lecturers and Honorary Fellows and will test the feasibility of gender-blind application processes. Encouragement of female surgeons to participate in the professional and governance structures of the profession, particularly in Ireland, and up to and including Council of RCSI, should be a priority.</p> <p>4.5. Consideration of the needs of female Fellows working in non-HSE employment will be undertaken</p> <p>4.6 RCSI will define quality standards for surgical training surgical training fellowships to ensure minimum achievement criteria and to enable employers to benchmark surgical training fellowship training.</p> <p>4.7 RCSI will seek funding for a prestigious, high value, merit-based, sponsored surgical training fellowship award specifically designed to promote female participation in fellowship training.</p> <p>4.8 RCSI will ensure gender diversity in its awards and other selection committees.</p> <p>4.9. RCSI will publish an annual report measuring its progress on initiatives that promote gender diversity in surgery.</p>	<p>Perform needs analysis for early years female Fellows</p> <p>Request HSE to publish gender breakdown of applicants and appointments for surgical consultant posts</p> <p>RCSI Council to endorse National Review of Gender Equality in Higher Education Institutions 2016 expert group report</p> <p>Provide mentorship resources for surgeons seeking a career in academic surgery (including research funding and other information)</p> <p>Review current processes; introduce gender blind application where practicable</p> <p>Seek a sponsor for named Surgical Training Fellowship and update CSA on progress every 6 months</p> <p>Review issue of quality assurance of surgical training fellowships at ISPTC</p>	<p>Deliver bespoke early years mentorship programme for female Fellows</p> <p>Annual report of success rates in FRCSI(Gen) exam and CCST achievement, by specialty and by gender</p> <p>Annual report of % female surgical academic appointments per university</p> <p>Highlight research achievements of female surgical researchers in annual report</p> <p>Annual report on % of post-CCST surgical selection processes that are gender blind</p> <p>Include names of sponsorship recipients in annual report</p>

Measurement of effectiveness outcomes is challenging because of the prolonged timescales involved in surgical training. The selected effectiveness outcomes capture key stages in vocational training and should over time provide valuable metrics about surgical training in Ireland, as well as demonstrating progress towards a training system supporting gender diversity (Table 2). Many effectiveness outcomes could be measured for all trainees, male and female, although the remit of the SLWG is limited to gender diversity issues. Maintaining support for gender diversity initiatives requires careful evaluation to ensure that it does not have an unanticipated consequence of disadvantaging male trainees. All metrics should be reported by specialty and by gender, with data reported over time as recommended by Bohnet (16). An annual diversity/equality report is required; development of such capacity is considered to be a critical implementation outcome.

Table 2: Measurement of effectiveness outcomes

Recommendation	Definition of reportable effectiveness outcomes**	What does success look like?
<p>Develop resources encouraging female secondary school students to consider surgical career</p> <p>Maintain/circulate panel of surgeons (including female surgeons) -surgical careers -female surgical visiting lecturers</p>	<p>%female medical school entrants</p> <p>%female medical school graduates</p> <p>%female CST applicants</p> <p>%female CST appointees</p> <p>%female CST appointees successfully completing CST</p> <p>%female HST appointees</p>	<p>A reduction in perceived barriers for female medical students considering a career in surgery.</p> <p>An increase in the overall numbers and gender parity of direct and graduate entry medical students applying for surgical training.</p>
<p>Individual information pack</p> <p>Mentor programmes</p> <p>Progression of training programme alumni to Surgical training fellowship and consultant posts by gender</p>	<p>%trainees satisfied with information received*</p> <p>%trainees satisfied with mentoring received*</p> <p>%HSTs achieving CCST</p> <p>%success in FRCSI(Gen) exam</p> <p>%female HST commencing Surgical training fellowship in preceding 12 months</p> <p>%female HST applying for and appointed to consultant post in preceding 12 months</p>	<p>Progression to HST gender profile reflects CST completion.</p> <p>Trainees receive the information and support they need to have a good training experience.</p> <p>Male and female trainees have equal opportunities to do high quality surgical training fellowships.</p> <p>Male and female HST alumni equally likely to be appointed consultants.</p>
<p>Training posts allocated >12 months ahead</p> <p>Ensure gender neutrality in training processes and SOPs</p>	<p>%trainees satisfied with post allocation process*</p> <p>%trainees receiving allocation >12 months before start date</p> <p>%trainees experiencing fairness in selection, progression, ARCP processes*</p> <p>% of training sites which have onsite childcare arrangements</p>	<p>Adequate notice of future post allocations to enable trainees to combine their career with their personal and family responsibilities.</p> <p>Trainees, irrespective of gender or parental status, experience fairness, support and consistency in their interactions with RCSI.</p> <p>Trainees have the information they require to have a healthy pregnancy and experience RCSI as a training body that supports them during their pregnancy.</p> <p>Trainees on career leave are treated consistently and receive the support they require to recommence their career upon completion of their leave.</p>

* It was noted by the SLWG that a general measure of "satisfaction" may be excessively subjective in a trainee survey; more specific questions like "Did you speak with your mentor during the last 30 days?" may be a more reproducible means of tracking change in implementation outcomes over time

** where relevant, outcomes reported by both specialty and gender

(continued)

Recommendation	Definition of reportable effectiveness outcomes**	What does success look like?
RCSI will develop specific offering for female Fellows <5yrs post-HST Advocate for gender equality in HSE consultant surgical appointments Support female surgeons pursuing academic career Ensure female surgeons considered as speakers/subject-matter experts/honorary appointees/ lecturers/Honorary Fellows	%female Fellows <5years post-CCST participating in early years mentorship programme for female Fellows %female appointees to surgical consultant posts %female surgical academic appointments per university % of post-CCST selection	Female surgeons have equal opportunities to participate in high quality surgical training fellowships. Early year female Fellows are specifically supported in their career development to increase their likelihood of appointment to consultant posts and to support their academic and professional development. RCSI demonstrates commitment to equal opportunities for our surgical training programme alumni in their professional and academic careers.

Specification of data requirements

Measuring the outcomes of gender diversity initiatives is challenging (70) (71). A number of dimensions of gender equality are important: human capital, economic empowerment, voice and rights, and gender capacity building (ibid). Measures evaluating each dimension have been described for many spheres of activity, including healthcare, development, government and public life (ibid). Notwithstanding the multiplicity of available measures, stakeholders report that “theories of change regarding how to make sustainable progress toward gender equality are still rarely articulated in policy...design, or explored in evaluations” (70). The articulation of theory underlying change enables evaluation of the effect the technique and approach to implementation may have had on the initiative being evaluated (72). Despite this, implementers of change and implementation researchers have differing perspectives on the value of theory (ibid).

Batliwala and Pittman identify a series of outcome frameworks suitable for evaluation of gender equality policies (70). Given the limited capacity for gender outcome evaluation within the organisation at present, a causal framework identifying clear outputs, outcomes and impacts best meets the needs of this initiative. Among causal frameworks, namely logical framework, results based management (RBM) and theory of change, the RBM approach is most suitable. It places emphasis on defining the outputs (defined as “the result of implementation of an action”) and outcomes (“the result of mid-term outputs”) of an evaluation (70). The impact of an initiative is a longer-term measure and while critically important, the timescale of permanent change from this initiative is many years due to the long duration of vocational training in surgery. Of necessity, more immediate data must be captured. While theory of change is stronger at capturing context (70) and might support culture change more effectively than RBM, it requires a high level of organisational capacity that is presently lacking in the organisation. Transitioning to active implementation requires attention to quality management, a relatively time-consuming formal and informal process (73). If RCSI truly intends to commit itself to gender equality, development of a resource committed to evaluating gender diversity implementation strategies will be necessary as capturing qualitative outcomes relating to culture is challenging and requires specialist input. In many organisations, this takes the form of an equality office.

Given the temporal constraints of the SLWG timeframe and its lack of integration with existing organisational structures, aside from a reporting relationship, its key mechanism of influence in an RBM framework is clear specification of the data required for outcome reporting. Gaining support of the CSA and subsequently of Council for the reportable implementation and intervention outcomes at the same time as the recommendations increases the probability of successful implementation. Implementation outcomes are particularly important in this intervention and clearly defined timelines within the current organisational political cycle is important to maintain momentum (Table 3).

Table 3: Specification of implementation outcome data requirements by implementation stage with definition of accountability and delivery date

Recommendations	Implementation Stage	Specification of Implementation Outcome Data Requirement	Responsible	Deadline
<p>RCSI will develop resources encouraging female & male secondary school students to consider surgical career</p> <p>RCSI will maintain and circulate a panel of surgeons (including female surgeons) -to address medical school societies about surgical career -female surgical subject matter experts willing to act as visiting lecturers</p>	exploration	Resource document developed*	DSA	Q3 2017
	installation	Resource listed on website*	DSA/IT	Q3 2017
	full implementation	Number of secondary schools receiving resource annually	DSA	Q3 annually
	exploration	Expressions of interest from Fellows sought	DSA/FAMP	Q3 2017
	installation	Mechanism for circulation agreed*	DSA/FAMP	Q4 2017
	full implementation	% of Irish medical schools receiving information each year	DSA/comms	Q3 annually
<p>RCSI will develop an individual information pack for each trainee upon appointment to CST</p> <p>Mentor programmes available for all trainees and include male and female mentors</p> <p>Report on rate of progression of training programme alumni to Surgical training fellowship and consultant posts by gender</p>	exploration	Development of resource*	DSA/ISPTC	Q3 2017
	installation	Update annually*	DSA/ISPTC	Q1 annually
	full implementation	% new trainees receiving before programme start date	DSA	Q2 annually
	installation	Develop programme*		Q3 2017
	initial implementation	% female mentors		AR
<p>Allocate training posts >12 months before commencement</p> <p>Ensure gender neutrality in training processes/SOPs</p>	exploration	Agree progression criteria and rotation	ISPTC	Q4 2017
	initial implementation	%trainees >12months notice	DSA	AR
	installation	review all training processes and SOPs	DSA	Q1 2018

(continued)

Recommendations	Implementation Stage	Specification of Implementation Outcome Data Requirement	Responsible	Deadline
RCSI Surgical training fellowship programmes will develop a specific offering for female Fellows in first 5 years post-HST/CCST	Exploration	Needs analysis early years female Fellows	FAMP	Q2 2018
	installation	Develop bespoke programme		Q3 2018
Advocate for gender equality in HSE consultant surgical appointments	installation	Request HSE to publish gender breakdown of applicants and appointments for all surgical consultant posts	Council	Q3 2017
Support female surgeons pursuing academic career	initial implementation	Endorse the National Review of Gender Equality in Higher Education Institutions	Council	Q3 2017
Ensure female surgeons considered as speakers, subject matter experts, honorary appointees, lecturers and Honorary Fellows	exploration	Review of eligible invitations Review of current process	DSA	
	installation	Develop gender blind testing strategy and evaluate % of post-CCST surgical selection processes that are gender blind		run first test in Q1 2018 AR

*yes/no measures of fidelity to recommendations; AR indicates item for inclusion in annual report

Delivery of the objectives of a gender diversity initiative requires recognition and leverage of sources of organisational power (61). In addition to clear alignment with current external drivers like the Athena SWAN process, achieving implementation objectives within the next year coincides with cycles resulting from organisational politics (62). The short timeframe ensures momentum is maintained under stable leadership. Reportable outcomes are integrated into organisational process by designating responsibility to existing functions and committees. Ongoing leadership from SLWG members is important in the absence of a committed organisational equality resource. Designating an existing staff member with subject matter competence as equality lead could enhance accountability and create an additional level of organisational process to promote implementation. In the absence of this, a tracking mechanism to capture implementation activity may be appropriate (73).

Institutional culture is more difficult to address; Henry and colleagues highlight the risk inherent in focusing on visible change while ignoring organisational mores (62). The proposed intervention outcomes are structured to generate an annual report in a time-series format. An explicit link between the annual report and a recurring annual lecture or event of the College should be established to create a new “tradition” supporting gender diversity. One option is to ensure publication coincides with the Millin or Charter day meetings, major events in the College calendar, thereby explicitly linking the theme of diversity to the College’s heritage. An alternative is to publish the annual report at a fixed timepoint each year for internal use but to circulate it more widely coinciding with the Emily Dickson Lecture⁷, creating a new tradition. Creating a new connection between the RCSI annual equality report and the only named lecture honouring a female Fellow may perpetuate both although surgical culture may be influenced to a greater extent through annual focus at a surgical meeting. Irrespective of the timing of its publication, the annual report should be circulated to Council and the College and Surgery/Postgraduate Boards to ensure widespread visibility of performance in implementation to senior leadership.

⁷ Emily Winifred Dickson was enrolled as a medical student in 1887, the only female in her class, and became the first female Fellow of RCSI, conferred in 1893. The inaugural eponymous lecture took place in September 2016.

APPENDIX 8

Legislation in Ireland related to parenthood, carers

Legislation	Website	Overview
The Paternity Leave and Benefit Act 2016	www.irishstatutebook.ie/eli/2016/act/11/enacted/en/html	With effect from 1 September 2016, new parents (other than the mother of the child) are entitled to paternity leave from employment or self-employment following birth or adoption of a child provides for statutory paternity leave of 2 weeks. Individuals can start paternity leave at any time within the first 6 months following the birth or adoption placement.
Adoptive Leave Act 2005	www.irishstatutebook.ie/eli/2005/act/25/enacted/en/html	Under the Adoptive Leave Act 1995, as amended in 2005, only the adoptive mother is entitled to avail of adoptive leave from employment, except in the case where a male is the sole adopter. Since 1 March 2007 the adoptive mother is entitled to 24 weeks' adoptive leave.
Carer's Leave Act 2001	www.irishstatutebook.ie/eli/2001/act/19/enacted/en/html	The Carer's Leave Act 2001 allows employees to leave their employment temporarily to provide full-time care for someone in need of full-time care and attention. Employees are entitled to take carer's leave of at least 13 weeks up to a maximum of 104 weeks. If employees ask to take less than 13 weeks' carer's leave, your employer may refuse your request
Maternity Protection Acts 1994 & 2004	www.irishstatutebook.ie/eli/1994/act/34/enacted/en/html	<p>The Maternity Protection Acts 1994 and 2004 provide employees with statutory minimum entitlements in relation to maternity at work including maternity leave. Employees are entitled to 26 weeks' maternity leave together with 16 weeks additional unpaid maternity leave, which begins immediately after the end of maternity leave.</p> <p>Under the Maternity Protection (Amendment) Act 2004 at least 2 weeks have to be taken before the end of the week of the employee's baby's expected birth and at least 4 weeks after.</p>

09

ABBREVIATIONS

CSA	Committee for Surgical Affairs
CST	Core Surgical Trainee
DSA	Department of Surgical Affairs
HEA	Higher Education Authority
HEI	Higher Education Institute
HRB	Health Research Board
HSE	Health Service Executive
HST	Higher Surgical Trainee
IMC	Irish Medical Council
ISPTC	Irish Surgical Postgraduate Training Committee
ISTG	Irish Surgical Training Group
RCSI	Royal College of Surgeons in Ireland
SLWG	Short Life Working Group
STEMM	Science, Technology, Engineering, Mathematics, Medicine

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