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CARDIOTHORACIC SURGERY WORKFORCE REPORT 2025

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A REPORT BY THE SOCIETY FOR CARDIOTHORACIC SURGERY IN GREAT BRITAIN & IRELAND AND THE SPECIALTY ADVISORY COMMITTEE

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Executive Summary

Cardiothoracic surgery is constantly evolving with the introduction of new technologies to improve the quality of care delivered to its patients. The specialty demands highly specialised skills, extensive training, and unwavering dedication. The surgeons, nurses, and allied healthcare professionals comprising this workforce are the cornerstone of our ability to deliver excellence for patients with heart and chest disease in the United Kingdom and the Republic of Ireland. Maintaining a robust and skilled cardiothoracic surgical workforce is paramount to ensuring high-quality, timely, and accessible care for patients requiring specialised cardiothoracic surgical interventions.

Much has changed since the publication of the previous joint SCTS-SAC Workforce Report in 2019 [1]. The impact of the COVID-19 pandemic has played a significant role in the challenges faced by cardiothoracic units around the country, with resultant staffing shortages and burnout, compounded by industrial action, producing prolonged waiting times and the challenging landscape that we all work in.

In addition, the composition of the surgical workforce has changed considerably with an increasing contribution to the delivery of care to patients undergoing cardiothoracic surgery from the Extended Surgical Team (EST), supporting medically qualified colleagues, and growing numbers of trust-appointed doctors & specialty doctors**,** who contribute so much to the daily activities within a cardiothoracic unit and are a crucial part of the modern cardiothoracic surgical workforce.

This workforce report provides contemporary cardiothoracic surgical workforce data across all four nations of the UK and the Republic of Ireland, including surgeons (consultants, surgeons in training, trust-appointed doctors & specialty doctors) and members of the EST. Regional variations in the surgical workforce are apparent where centres have responded differently to local challenges according to geography or existing infrastructure.

Following the Kennedy Report from the Royal College of Surgeons of England, the increasing diversity of ethnicity within our specialty and a continuing trend for more women in our surgical workforce are reassuring [2]. Maintaining a robust and sustainable workforce, however, is challenging, and this report highlights the pressures facing the specialty, including recruitment and retention issues and the impact of an ageing workforce.

As part of the NHS 10-year plan, the UK government is determining how to deliver an NHS fit for the future, creating a truly modern health service designed to meet the needs of our changing population. The findings of this report will be crucial for informing strategic decision-making, workforce planning, and the development of effective policies on cardiothoracic surgery, including future investment in our specialty.

We are deeply indebted for the hard work of all those who have contributed to this report, including the dedicated professionals working within cardiothoracic surgery and Emma Piotrowski for her support in collating this document. We hope this report will serve as a valuable resource for all stakeholders and contribute to the ongoing efforts to strengthen the cardiothoracic surgery workforce for the next decade and beyond.

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The Cardiothoracic Workforce in the United Kingdom & Ireland

The following report is based on data from 50 cardiothoracic centres across England, Wales, Scotland, Northern Ireland, and the Republic of Ireland (Figure 1). It reflects the cardiothoracic workforce as of March 2025.

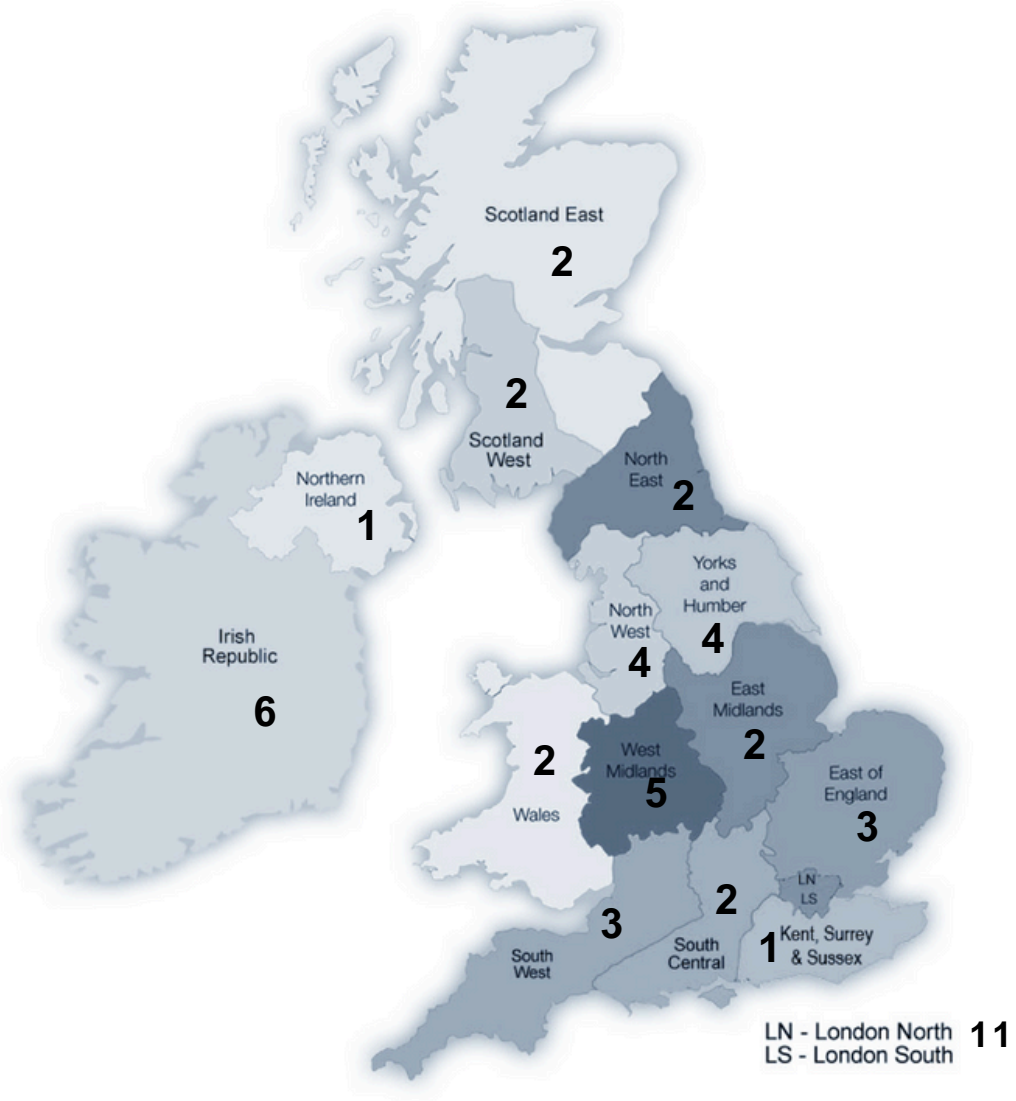

Figure 1: The Number of Cardiothoracic Centres in Regions of the United Kingdom & Republic of Ireland. A Full List of Every Unit is Listed in Appendix 1.

Consultant Workforce

Consultants by Specialty

There are 474 consultant surgeons across all cardiothoracic specialties in the UK and Republic of Ireland. Adult Cardiac Surgery remains the largest specialty with 248 consultants (52%), followed by Thoracic Surgery with 153 (32%) and Congenital Surgery with 47 (10%).

There are 26 consultants (5%) with a mixed practice in Adult Cardiothoracic Surgery. 51 consultants are involved in Transplantation, including 38 cardiac surgeons, four thoracic surgeons and nine congenital surgeons. These findings are illustrated in figure 2.

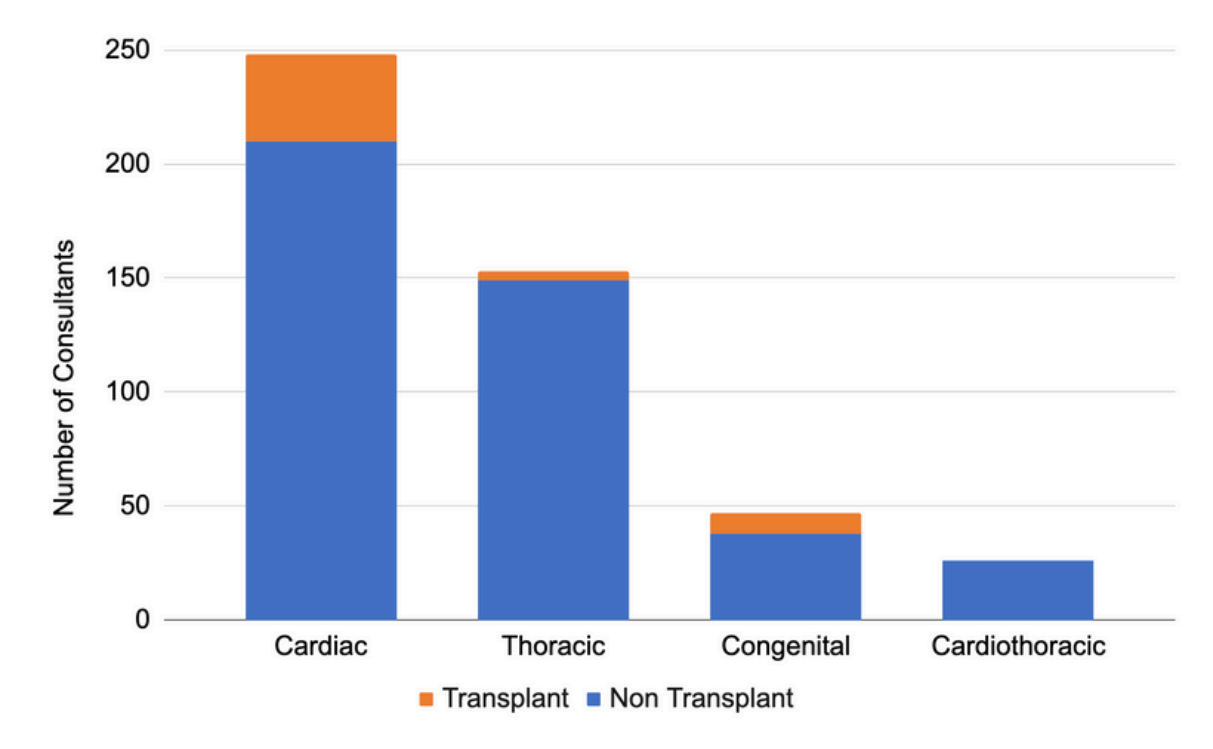

Figure 2: Consultant Cardiothoracic Surgeons By Specialty

England has the most consultants across all specialties. In Cardiac Surgery, the majority of consultants practise in England (86%), followed by Scotland (5%), the Republic of Ireland (4%), Northern Ireland (3%), and Wales (2%). Thoracic Surgery has a similar trend, with most consultants practising in England (87.6%), followed by Wales (4.6%), Scotland (2.6%), Northern Ireland (2.6%), and the Republic of Ireland (2.6%). Mixed-practice cardiothoracic surgeons are distributed almost equally across England (27%), the Republic of Ireland (27%), Scotland (23%), and Wales (23%).

There are no longer any mixed-practice surgeons in Northern Ireland.

England has the highest proportion of congenital surgeons (87%), followed by Scotland (6.5%) and the Republic of Ireland (6.5%). Most transplant consultants practise in England (75%), followed by the Republic of Ireland (17%) and Scotland (8%). Wales and Northern Ireland have no paediatric cardiac or cardiothoracic transplant centres.

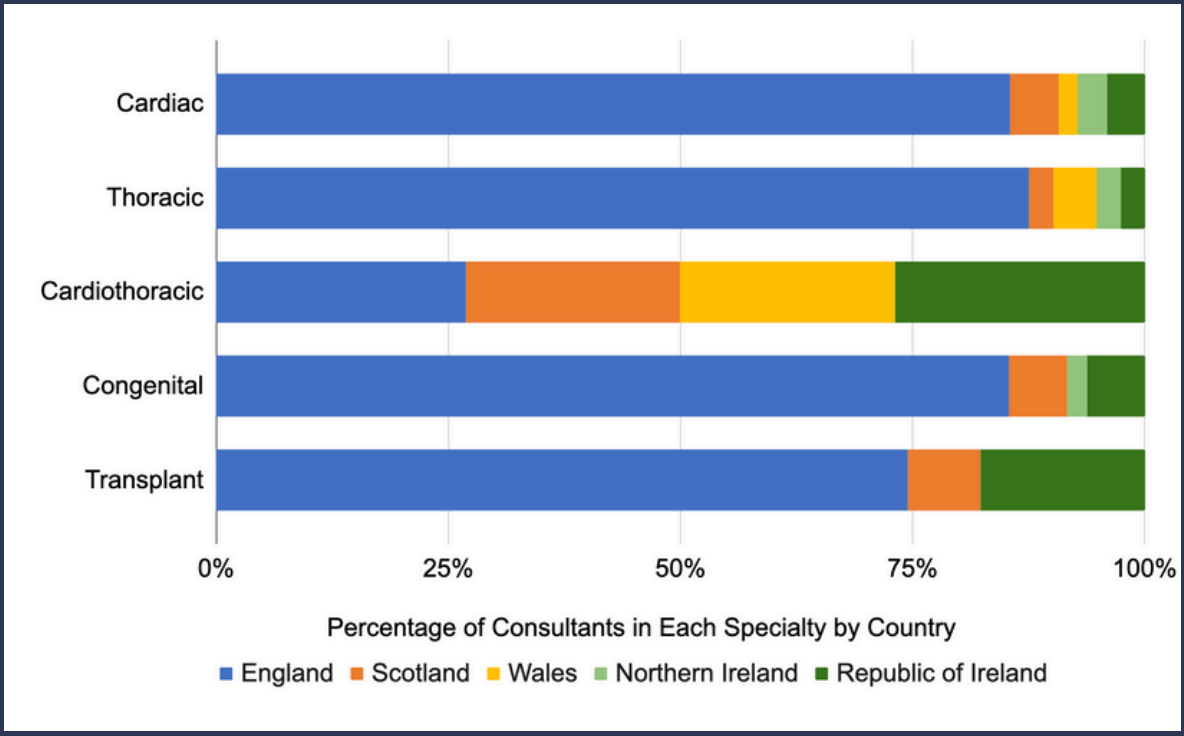

Figure 3: Consultant Cardiothoracic Workforce By Specialty & Country

Consultant Workforce

Gender by Country

Overall, 416 (88%) consultants are male and 58 (12%) female. The Republic of Ireland has the highest proportion of female consultants (5 out of 24, 21%), followed by Northern Ireland (2 out of 12, 17%), Wales (2 out of 18, 11%), England (42 out of 394, 11%), and Scotland (2 out of 26, 8%).

Figure 4 explores this data and provides a country comparison.

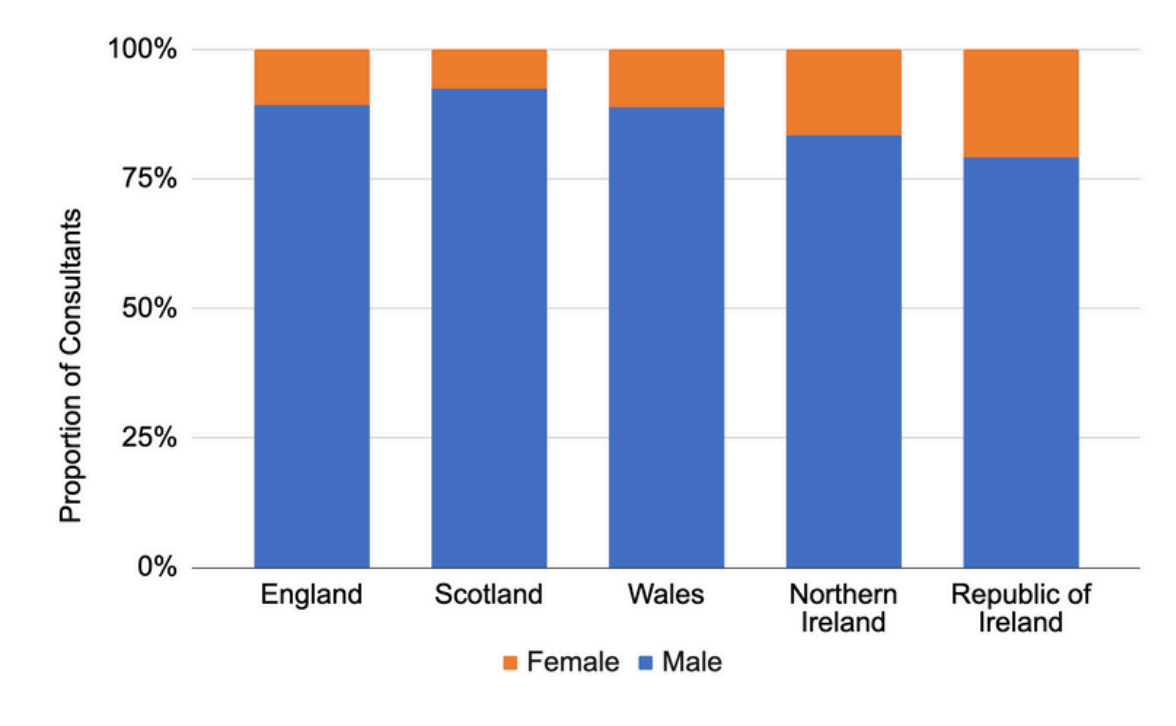

Figure 4: Proportion of Consultants by Gender and Country

Consultant Workforce

Gender by Subspecialty

Thoracic Surgery has the greatest proportion of female consultant surgeons (28 out of 153, 18%), followed by Congenital Surgery (5 out of 47, 11%), Transplantation (5 out of 51, 10%), and Adult Cardiac Surgery (20 out of 248, 8%). There are no female mixed-practice cardiothoracic surgeons in the UK and Republic of Ireland.

Figure 5 provides a comparison of gender across each Specialty.

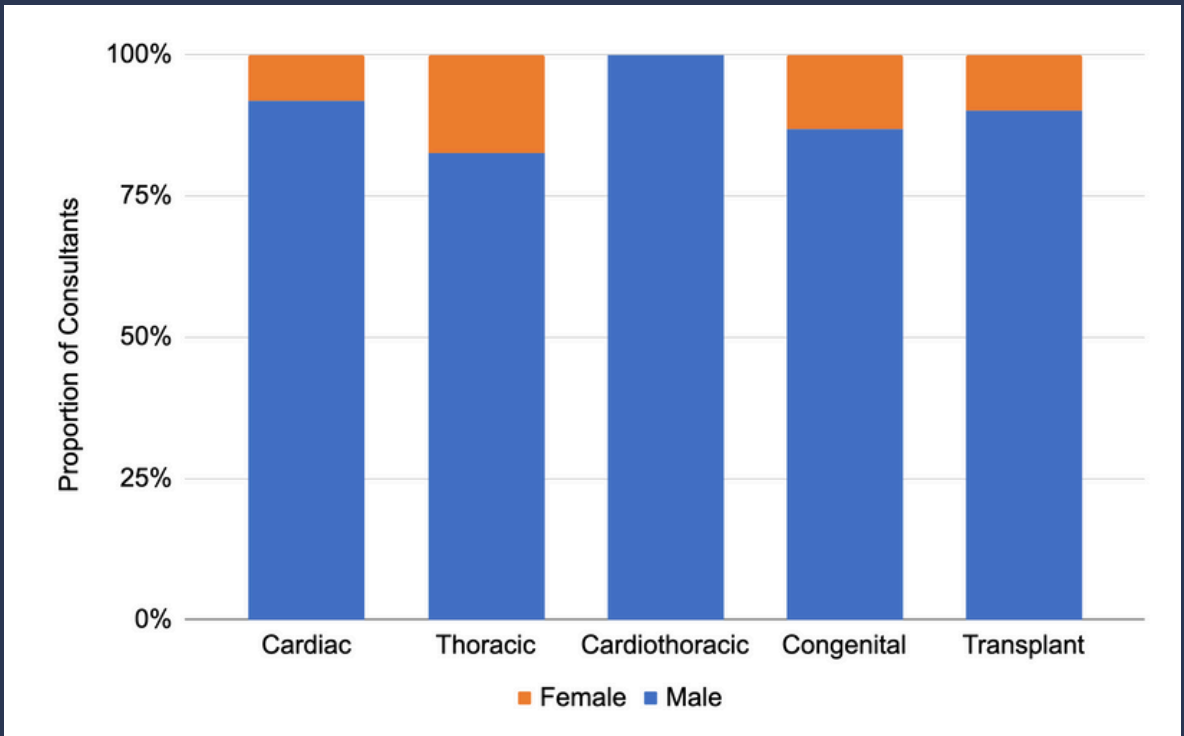

Figure 5: Proportion of Consultants by Gender and Specialty

Consultant Workforce

Age

Most consultants in Adult Cardiac Surgery and Thoracic Surgery lie in the 41-50 years cohort, whereas most mixed practice consultants are older (55-60 and 61-65 years), reflecting the expansion in the consultant workforce over the last decade and increasing specialisation.

Figure 6 illustrates the age distribution in each specialty.

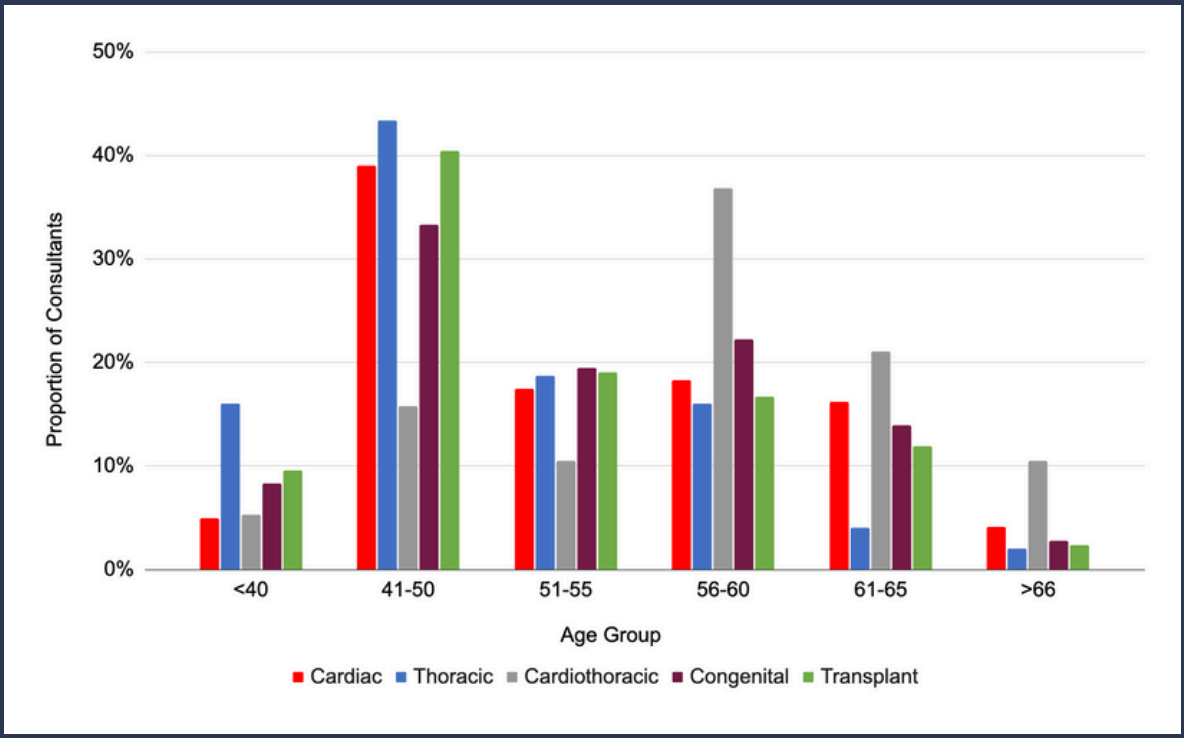

Figure 6: Age Distribution by Specialty

Consultant Workforce

Ethnicity

Most consultant surgeons in the specialty identify as White (51%), followed by Asian/Asian British (35%). In Thoracic Surgery and Congenital Surgery, there is a predominance of surgeons that identify as White compared with Asian/Asian British, whereas in Cardiac Surgery and mixed-practice Cardiothoracic Surgery, there is a similar number of surgeons that identify as these ethnicities.

In all subspecialties, there is only a small representation of Black (3%), Mixed (2%) and Other ethnic groups (9%). Figure 7 illustrates the ethnicity distribution in each specialty.

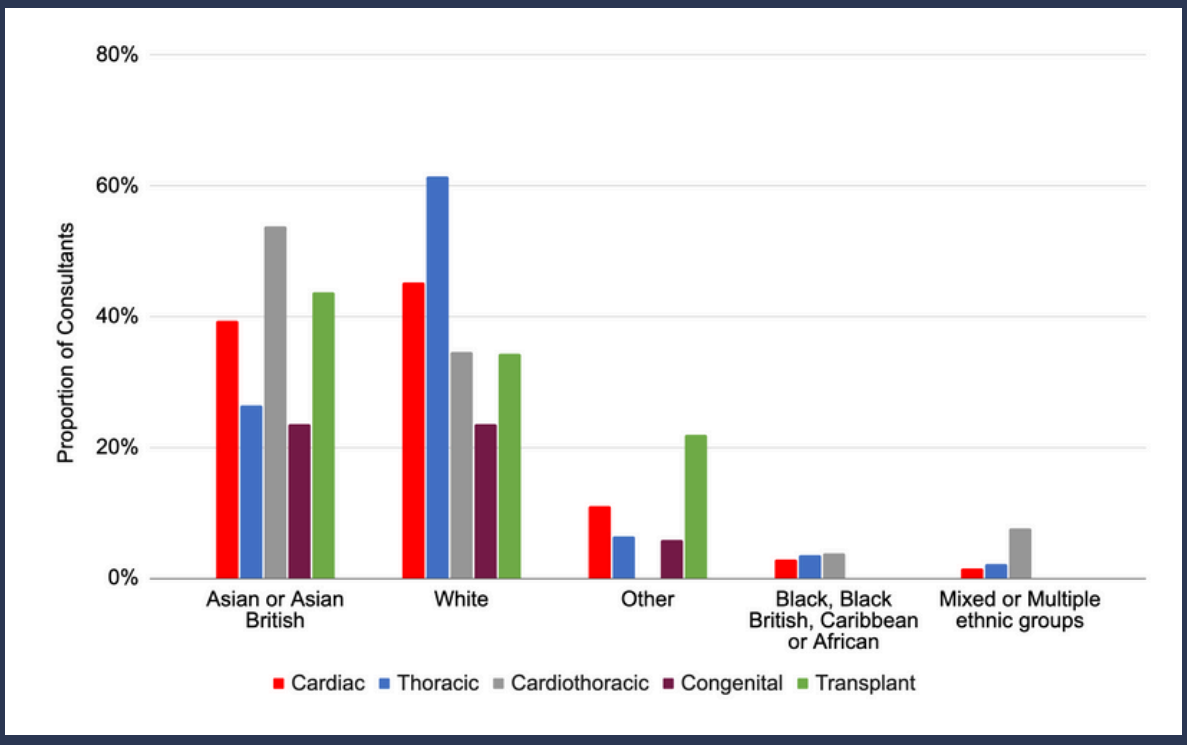

Figure 7: Ethnicity Distribution by Specialty

Consultant Workforce

Appointment type

Overall, 87% of consultant posts in cardiothoracic surgery across the UK and Republic of Ireland are substantive and 9% are locum. Only 4% of posts are academic, with eight adult cardiac, eight thoracic, and three congenital university appointments.

Figure 8 provides a cross specialty comparison of appointment types.

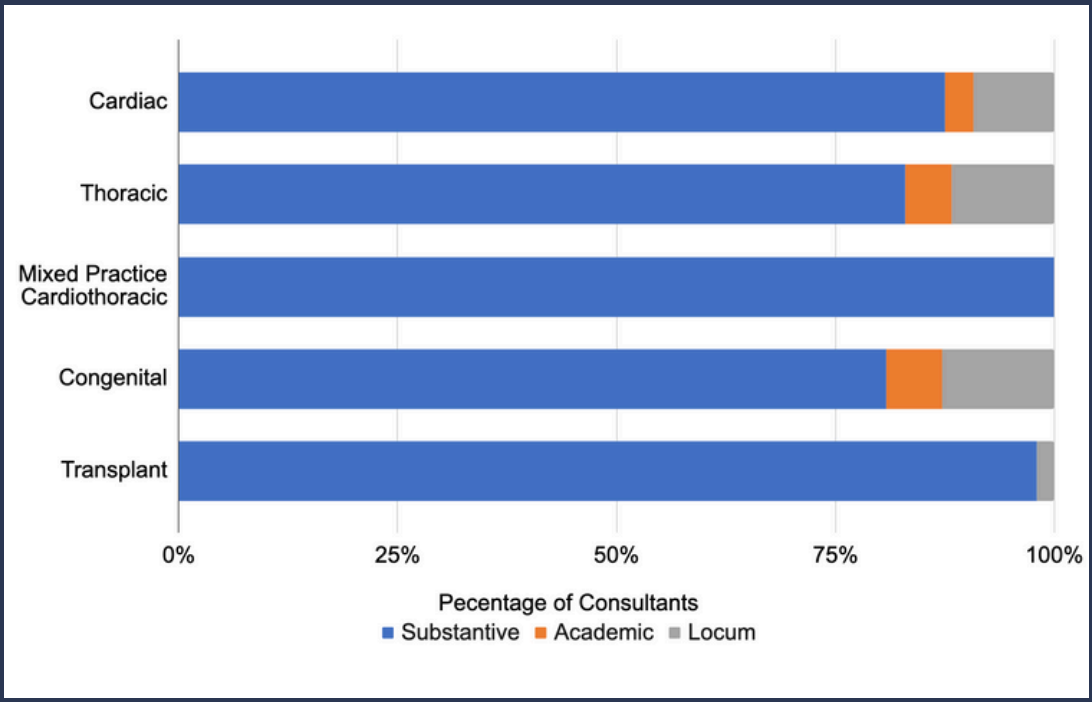

Figure 8: Substantive, Academic & Locum Appointments by Specialty in the United Kingdom & Republic of Ireland

Consultant Workforce

Consultant Retirements

Over the next five years, the number of consultant retirements is expected to vary widely across each of the specialties and by region. Cardiac Surgery will have the largest number of retirements, with around 60 consultants (24%) projected to retire, followed by Thoracic Surgery, with around 18 expected retirements (12%).

Congenital Surgery and Transplantation are projected to have fewer than 10 retirements each. Figure 8 provides a cross specialty comparison of projected retirements.

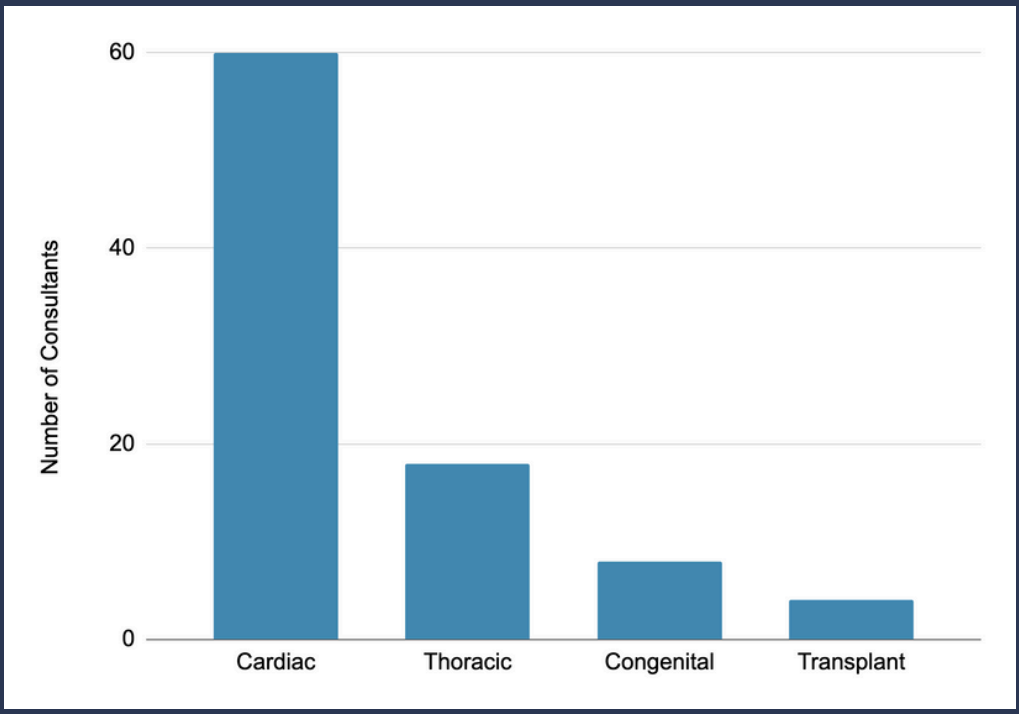

Figure 9: Potential Consultant Retirements in the Next 5 years by Specialty

Consultant Workforce

Potential New Posts

Submissions from the units suggest that cardiothoracic departments are considering advertising up to 59 consultant posts across the UK and Republic of Ireland in 2025. These are subdivided into 26 Adult Cardiac, 25 Thoracic, six Congenital and two Transplant posts. Most of these posts will be advertised in England, with smaller numbers in Wales, Scotland, and the Republic of Ireland.

Figure 10 illustrates the number of consultant posts to be advertised in 2025 in each of the specialties.

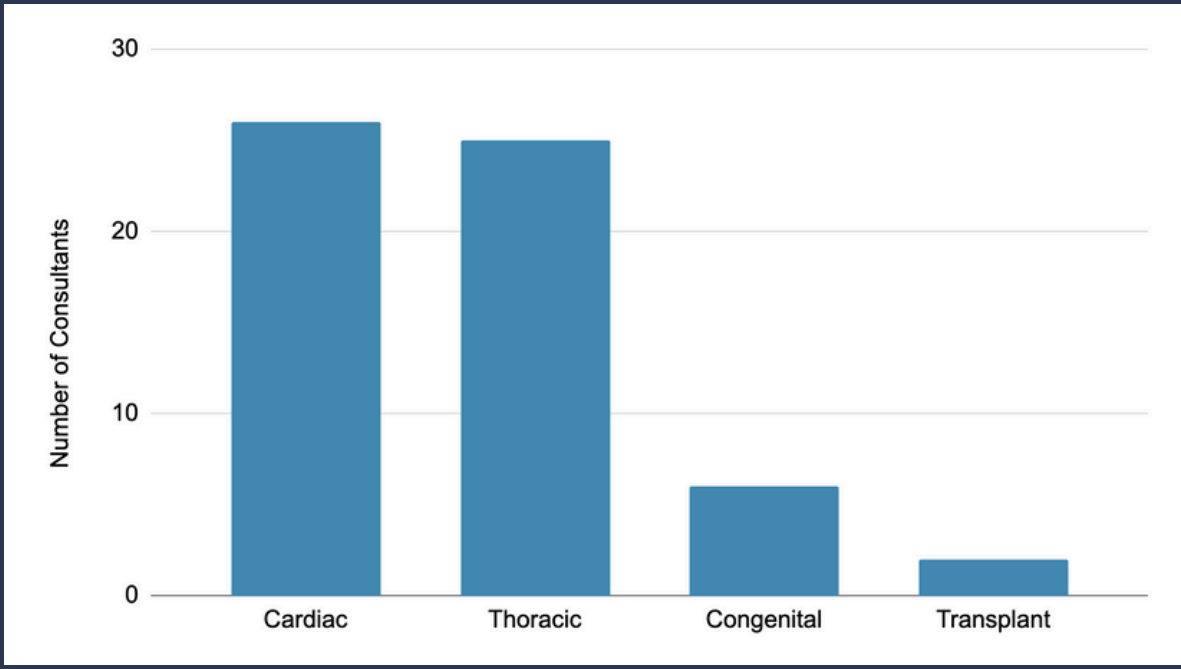

Figure 10: Potential Consultant Posts to be Advertised in 2025 by Specialty

Adult Cardiac Surgery

Age & Gender Distribution

There are 248 consultant cardiac surgeons, of whom 228 (92%) are male and 20 (8%) are female.

39% of consultant cardiac surgeons are aged 41-50 years, with similar smaller numbers in the 51-55, 56-60, and 61-65 cohorts

Not unexpectedly, there are few consultant cardiac surgeons aged younger than 40 years or older than 66 years (Figure 11).

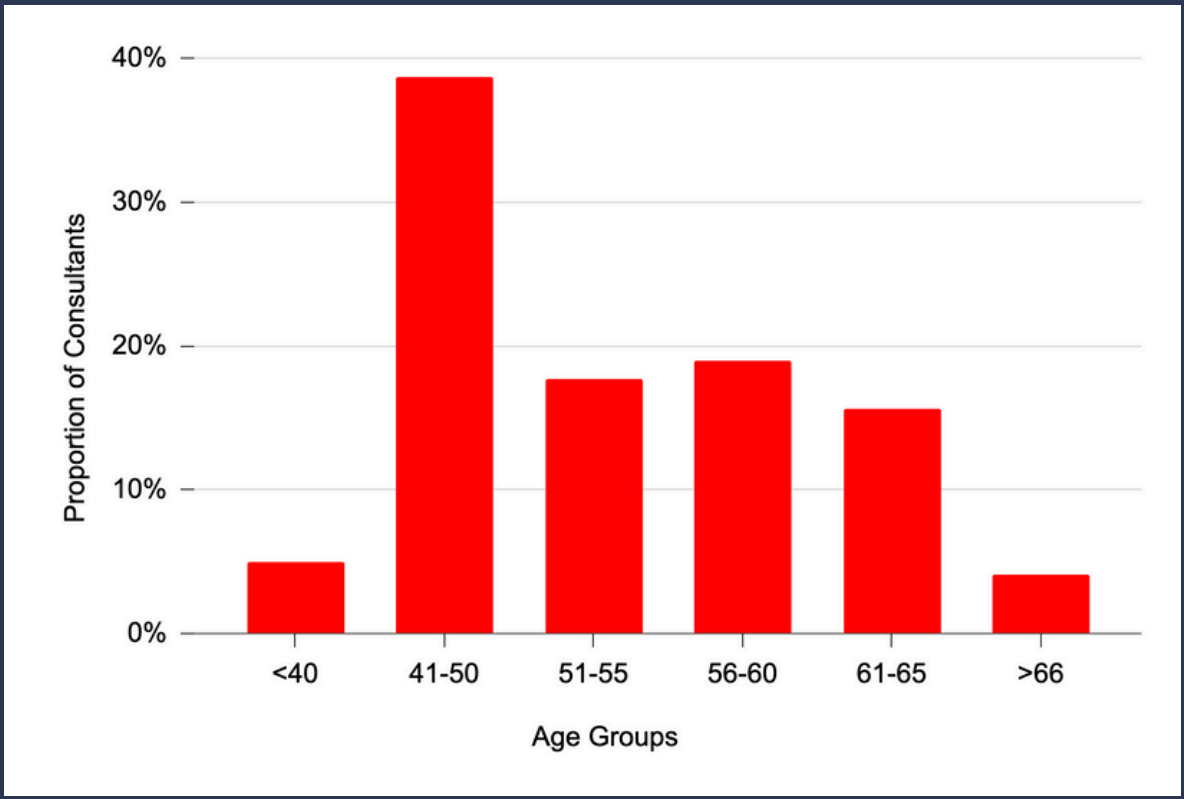

Figure 11: Age Distribution Among Consultant Cardiac Surgeons

Adult Cardiac Surgery

Ethnicity

Most consultant cardiac surgeons identify as White or Asian/Asian British, with a combined 85% of surgeons from these two categories. The number of surgeons from Black, Mixed, or Other ethnic groups, however, is considerably smaller.

Figure 12 illustrates these findings.

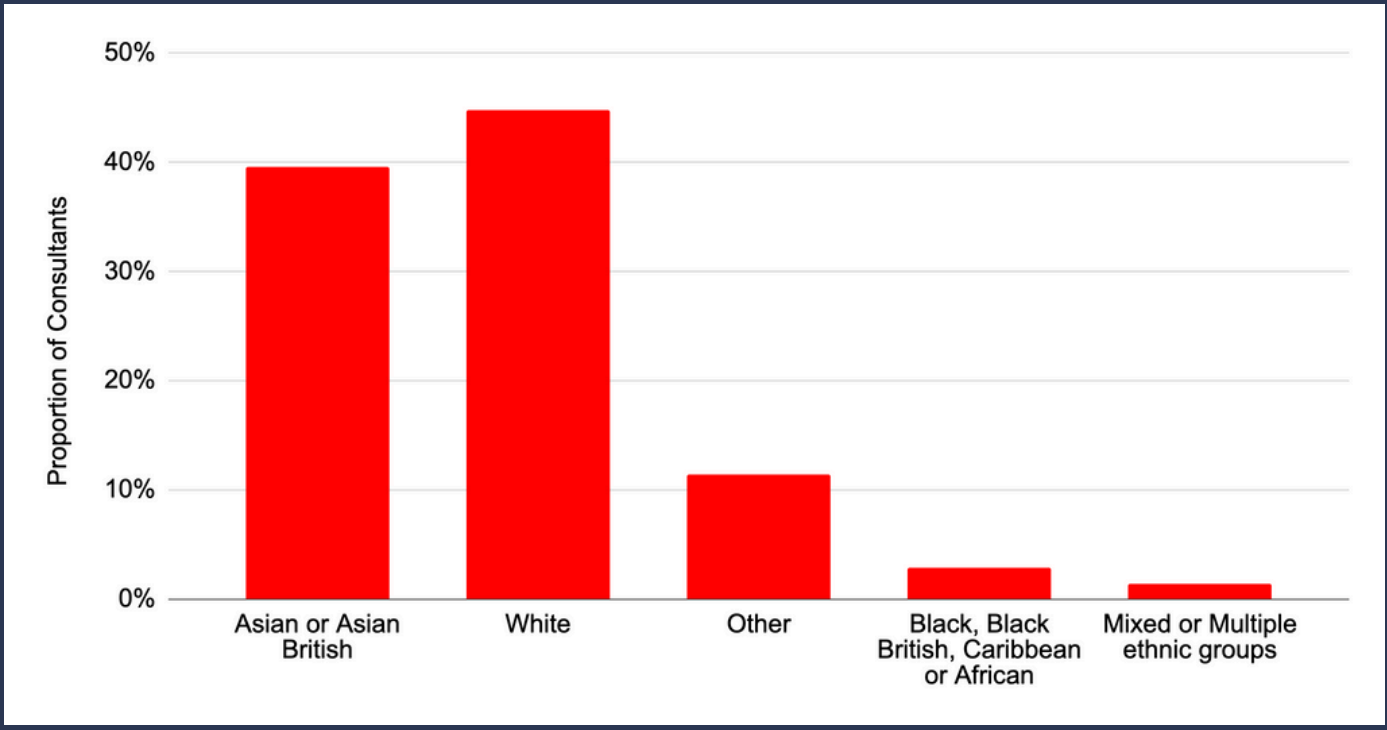

Figure 12: Ethnicity Distribution Among Consultant Cardiac Surgeons

Adult Cardiac Surgery

Subspecialty Interest

The most common subspecialty interests within Adult Cardiac Surgery are thoracic aortic surgery and mitral valve surgery, with 66% of surgeons expressing a primary interest in these areas (Figure 13). Fewer consultant cardiac surgeons reported coronary revascularisation, transplantation, or minimally invasive cardiac surgery as their primary interest.

Very few adult cardiac surgeons expressed a primary interest in transcatheter interventions, ACHD, pulmonary thromboendarterectomy, or pericardiectomy. In the Republic of Ireland, consultant cardiac surgeons commonly perform all aspects of cardiac surgery, including congenital surgery.

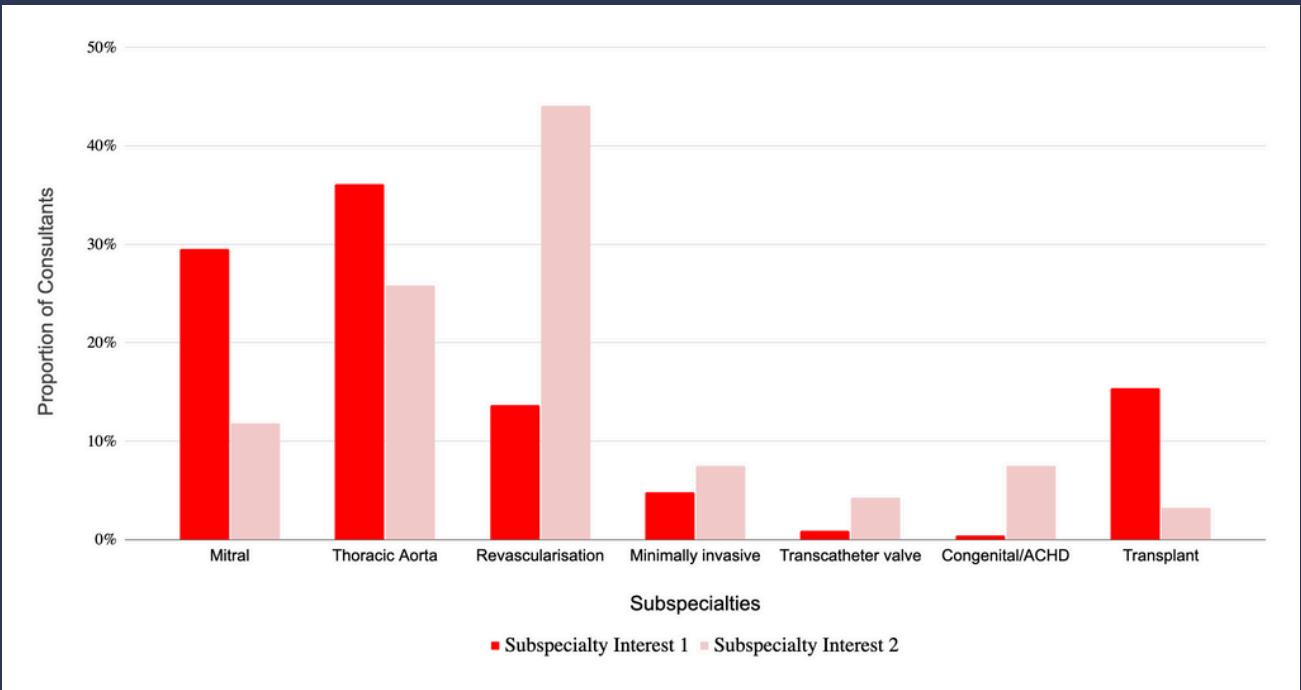

Figure 13: Subspecialty interest Among Consultant Cardiac Surgeons

Adult Cardiac Surgery

Programmed Activities

Most consultant cardiac surgeons have 10-12 or 12-14 weekly programmed activity (PA) job plans, reflecting the intense workload within the specialty. A small proportion (8%) of consultant cardiac surgeons are employed for more than 14 PAs, with a similar number working less than 10 PAs.

These findings are illustrated in figure 14.

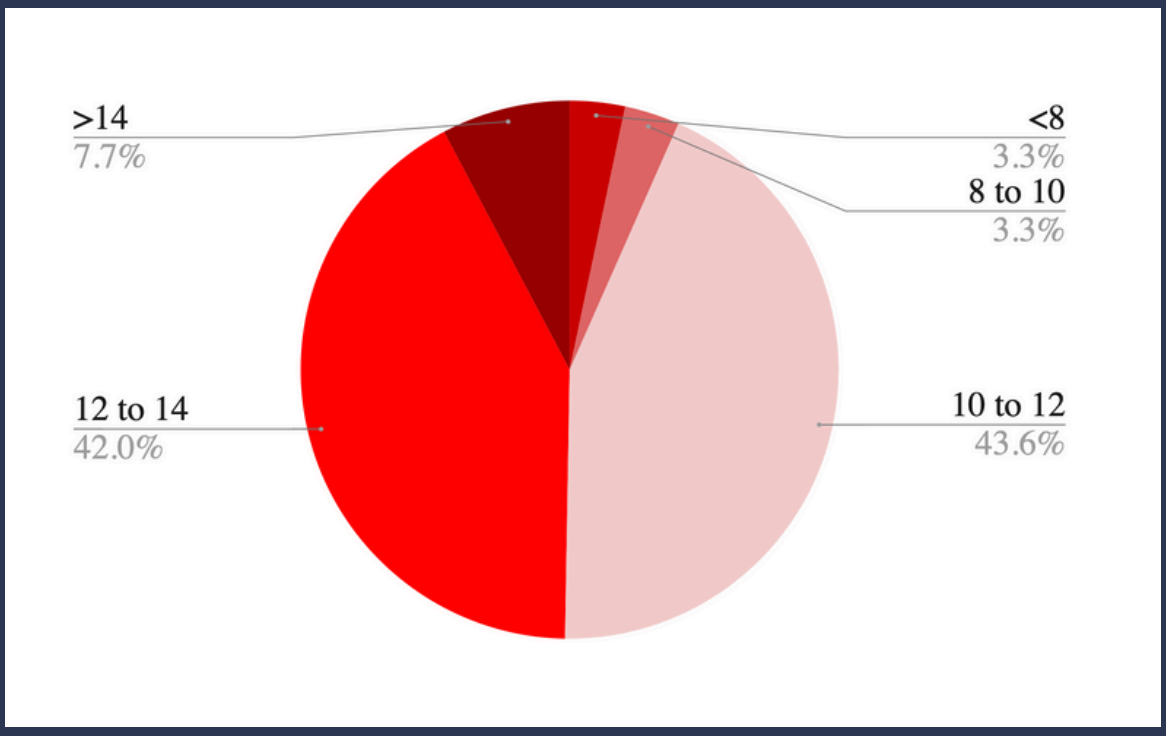

Figure 14: Programmed Activities Among Consultant Cardiac Surgeons

Adult Cardiac Surgery

Weekly Operating Sessions

Consultant cardiac surgeons most commonly operate four sessions per week (two full days), with most of the remaining surgeons operating between two and three sessions per week. A small number of surgeons operate less than two sessions per week on average.

The spread of operating sessions per week among consultant cardiac surgeons are illustrated in figure 15.

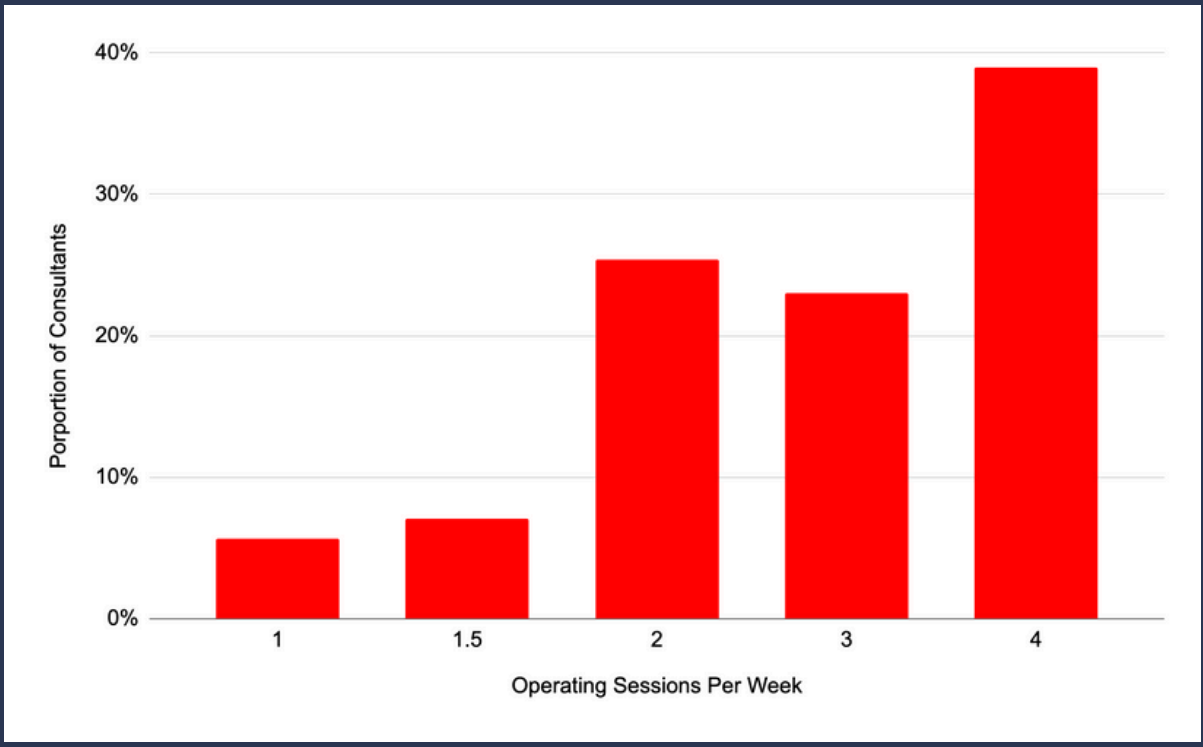

Figure 15: Operating Sessions Per Week Among Consultant Cardiac Surgeons

Adult Cardiac Surgery

On-Call Frequency

The most common general adult cardiac on-call rota frequencies are 1 in 6 or 1 in 7, with a combined 49% of surgeons in these categories. These are followed closely by on-call rotas of 1 in 8 (17%) and 1 in 5 (15%). A smaller proportion are on-call more often than 1 in 5 or less often than 1 in 10.

A few surgeons (< 5%) do not participate in a general cardiac on-call rota with most of those over the age of 60 (Figure 16).

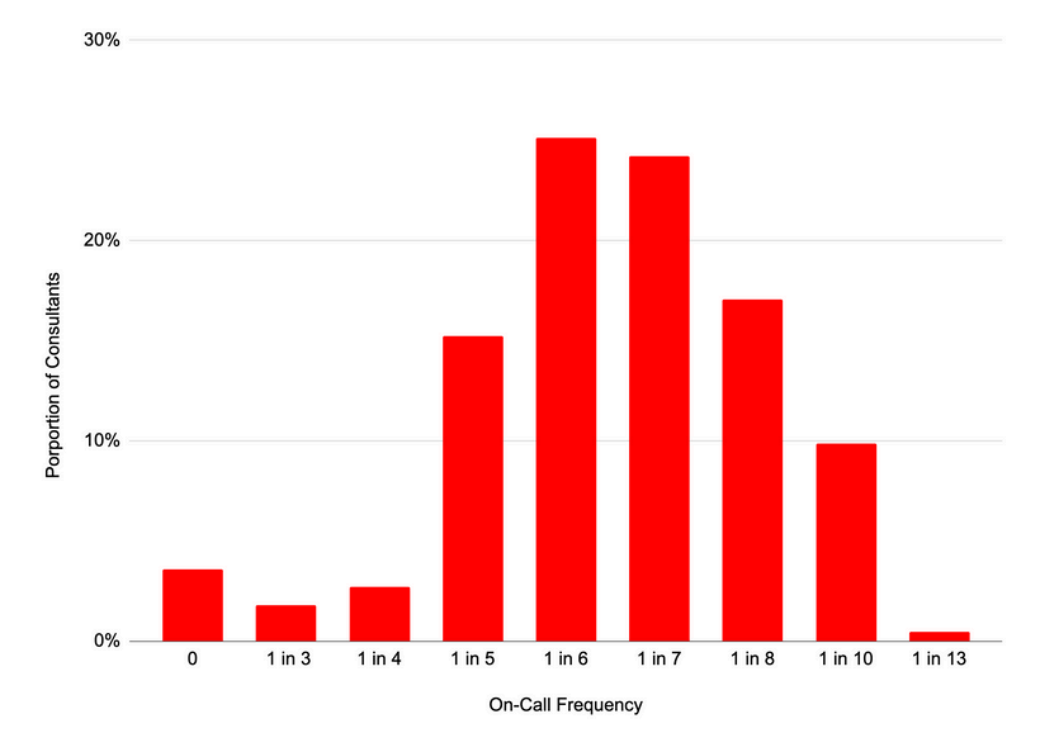

Figure 16: On-Call Frequency Among Consultant Cardiac Surgeons

Thoracic Surgery

Age & Gender Distribution

There are 153 consultant thoracic surgeons, of whom 125 (82%) are male and 28 (18%) are female. 43% of consultant thoracic surgeons are aged 41-50 years. 16% of consultants are younger than 40, 19% are aged 51-55 years, and 16% aged 56-60 years, reflecting a good distribution of age and experience across consultant thoracic surgeons.

Thoracic surgery consultants have on average an earlier age of appointment compared with adult cardiac surgery. There are few consultants aged older than 60 years (Figure 17).

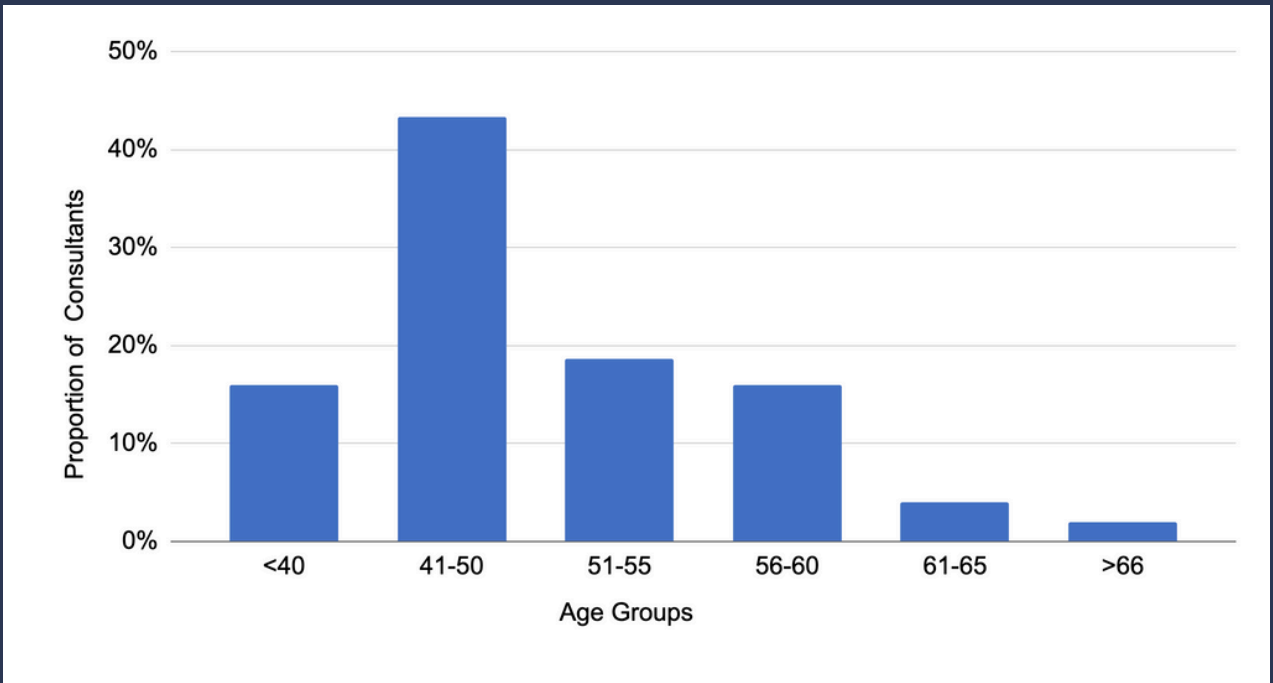

Figure 17: Age Distribution Among Consultant Thoracic Surgeons

Thoracic Surgery

Ethnicity

61% of consultant thoracic surgeons identify as White and over 25% as Asian/Asian British. Fewer surgeons are from the Black, Mixed, and Other ethnic groups.

Figure 18 illustrates the distribution of ethnicities among consultant thoracic surgeons.

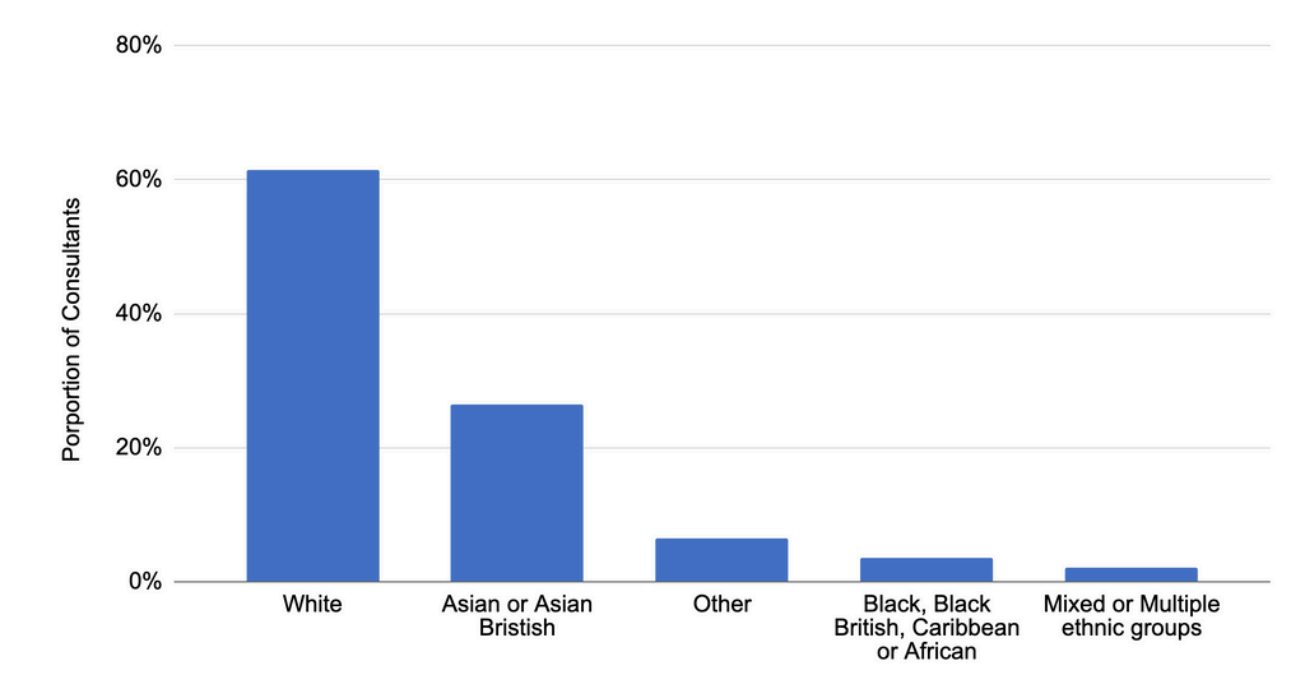

Figure 18: Ethnicity Distribution Among Consultant Thoracic Surgeons

Thoracic Surgery

Subspecialty Interest

A substantial proportion of thoracic surgeons focus on robotic surgery as their primary subspecialty interest (48%), reflecting evolving practice in thoracic surgery. Lung volume reduction surgery (LVRS), chest wall/sarcoma, and airway management are other common interests for 10-25% of surgeons.

Very few thoracic surgeons declared a primary interest in mesothelioma and transplantation (Figure 19).

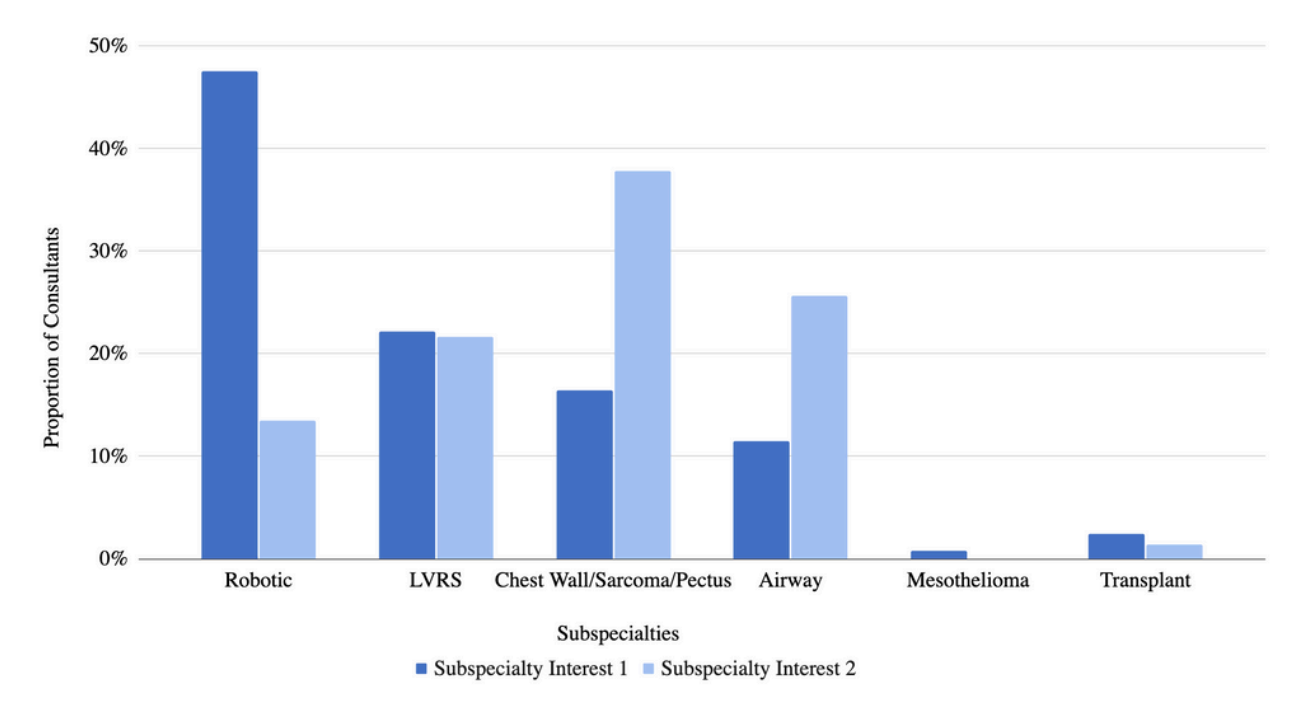

Figure 19: Subspecialty Interest Among Consultant Thoracic Surgeons

Thoracic Surgery

Programmed Activities

Almost two-thirds of consultant thoracic surgeons (60%) have 10-12 PA job plans, and just over one-third (36%) have a more onerous 12-14 PA job plans. A small number of consultants undertake more than 14 PAs, and a similarly small number work less than 10 PAs.

Figure 20 highlights these findings.

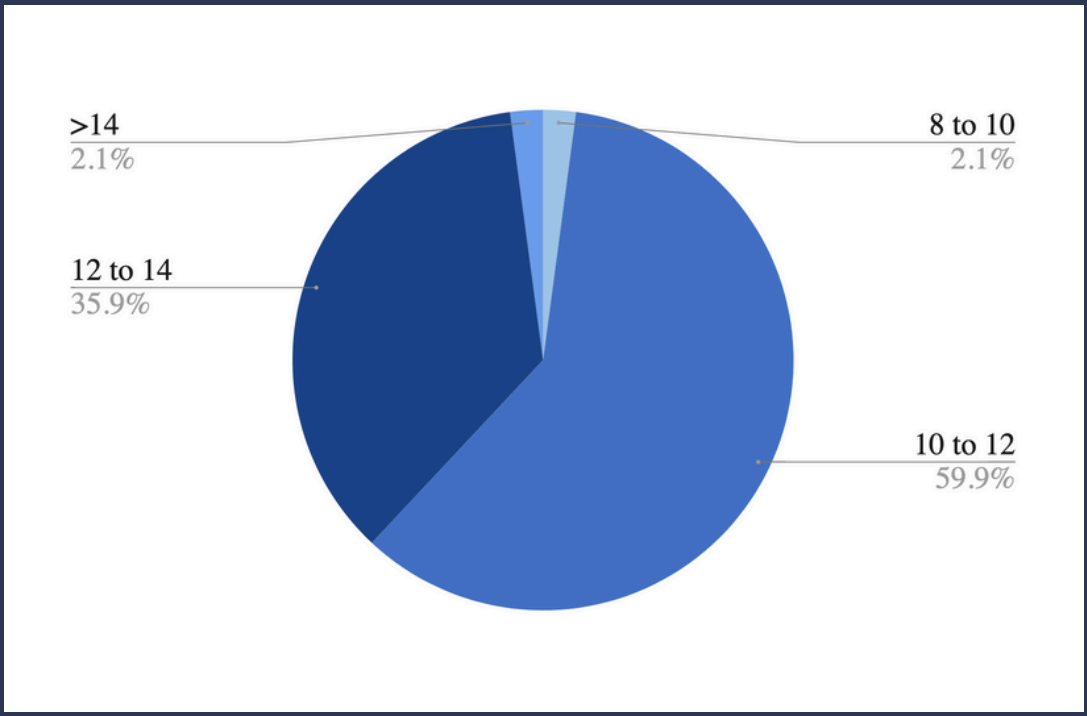

Figure 20: Programmed Activities Among Consultant Thoracic Surgeons

Thoracic Surgery

Weekly Operating Sessions

There is a spread of operating patterns amongst consultant thoracic surgeons, with two operating sessions a week (one full day) being the most common, followed by three operating sessions per week. A meaningful number of surgeons work 4 and 1.5 operating sessions per week.

Figure 21 highlights these findings.

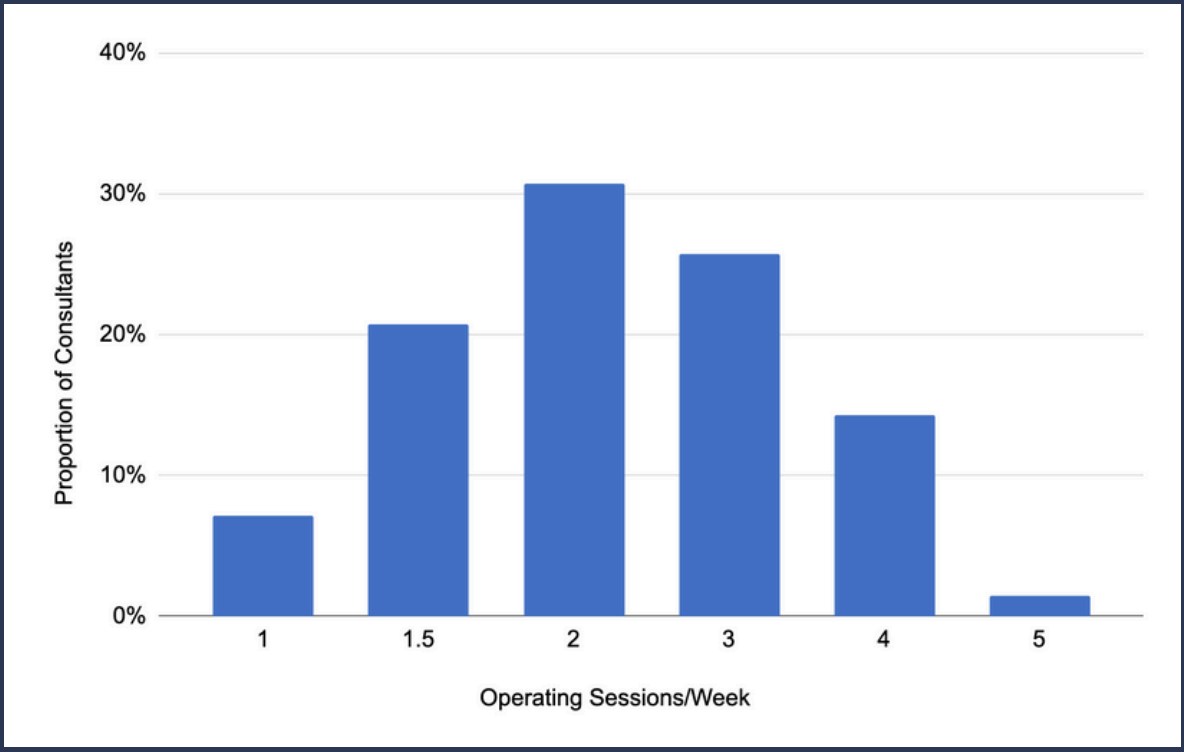

Figure 21: Distribution of Weekly Operating Sessions Among Consultant Thoracic Surgeons

Thoracic Surgery

On-Call Frequency

Most consultant thoracic surgeons are on call 1 in 4 to 1 in 6, with over 60% of surgeons in these categories. A few consultants are on call more often than 1 in 4, and some surgeons partake in on-call rotas less onerous than 1 in 7.

Figure 22 highlights the distribution of on-call frequencies among consultant thoracic surgeons.

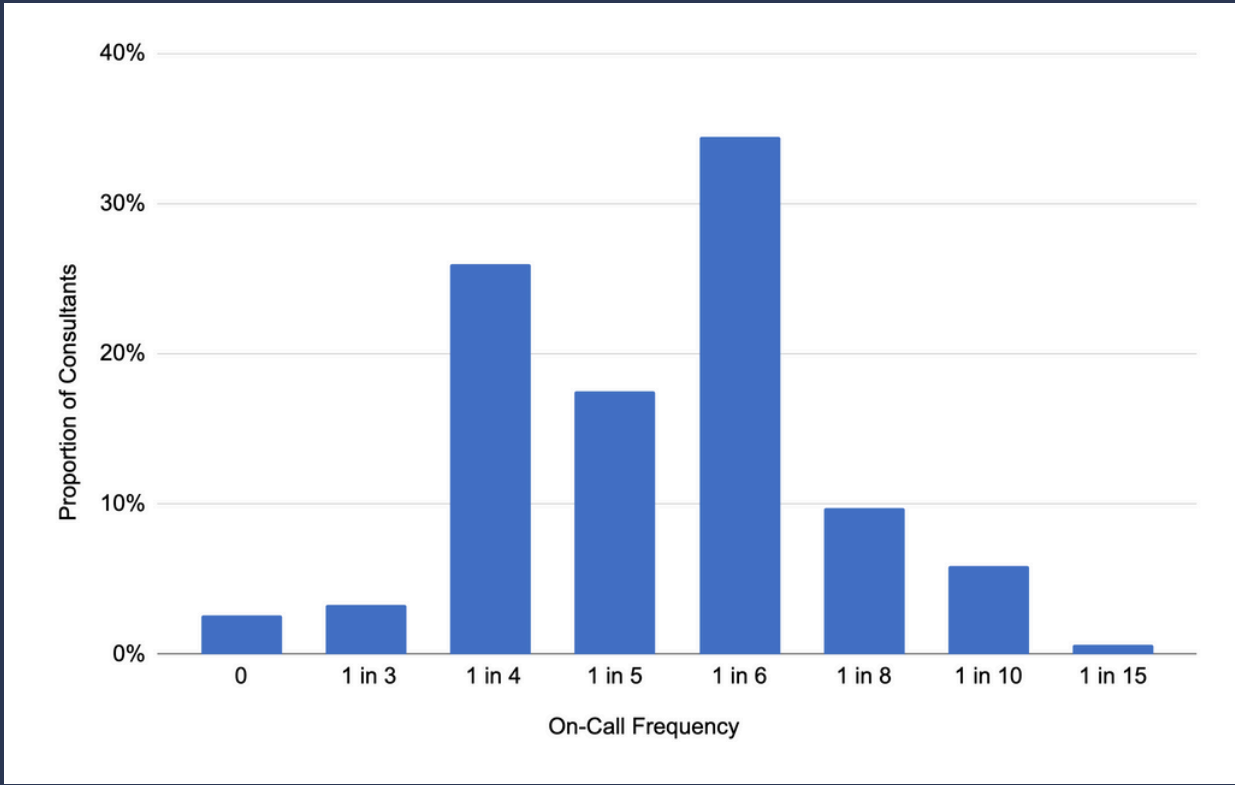

Figure 22: On-Call Frequency Among Consultant Thoracic Surgeons

Mixed-Practice Cardiothoracic Surgery

Age & Gender Distribution

All mixed-practice consultant cardiothoracic surgeons in the UK and Republic of Ireland are male.

Over half of mixed-practice cardiothoracic surgeons are aged 56-65 reflecting increasing subspecialisation with the majority of more recent consultant appointments advertised as pure cardiac or thoracic surgery.

A few mixed-practice surgeons are working beyond the age of 66 years. Figure 23 highlights these findings.

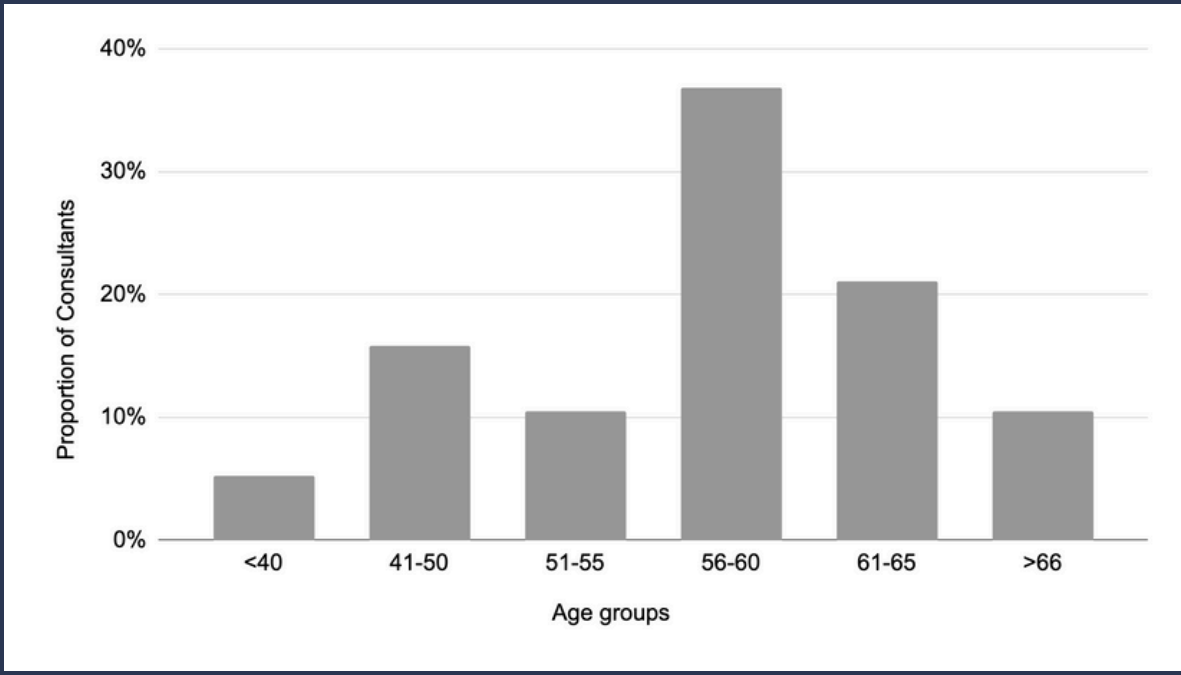

Figure 23: Age Distribution Among Consultant Cardiothoracic Surgeons

Mixed-Practice Cardiothoracic Surgery

Ethnicity

Most mixed-practice cardiothoracic surgeons identify as Asian/Asian British or White, with few from Black and Mixed ethnic groups.

Findings are shown below in figure 24.

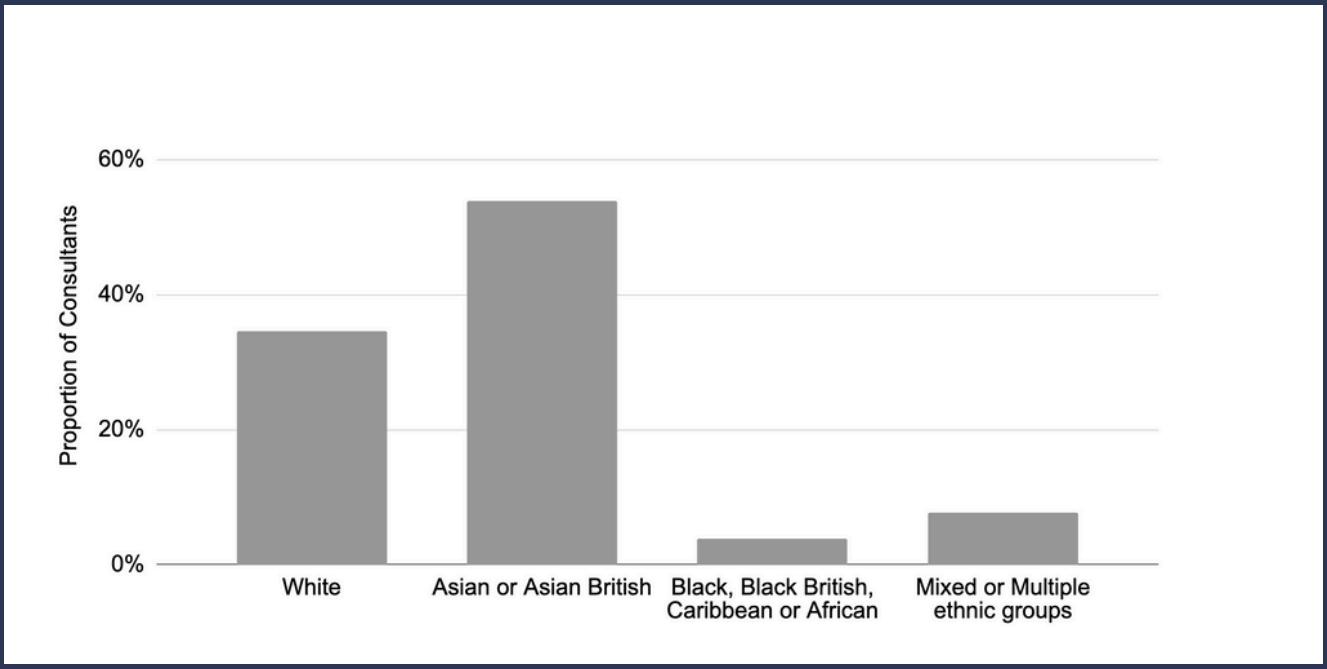

Figure 24: Ethnicity Distribution Among Consultant Cardiothoracic Surgeons

Mixed-Practice Cardiothoracic Surgery

Subspecialty Interest

Mitral valve surgery and coronary revascularisation are the most common primary interests for mixed-practice cardiothoracic surgeons, followed by thoracic aortic surgery and minimally invasive cardiac surgery.

The most common second subspecialty interest is robotic thoracic surgery. These data show that most mixed-practice cardiothoracic surgeons have a primary interest in cardiac surgery (Figure 25).

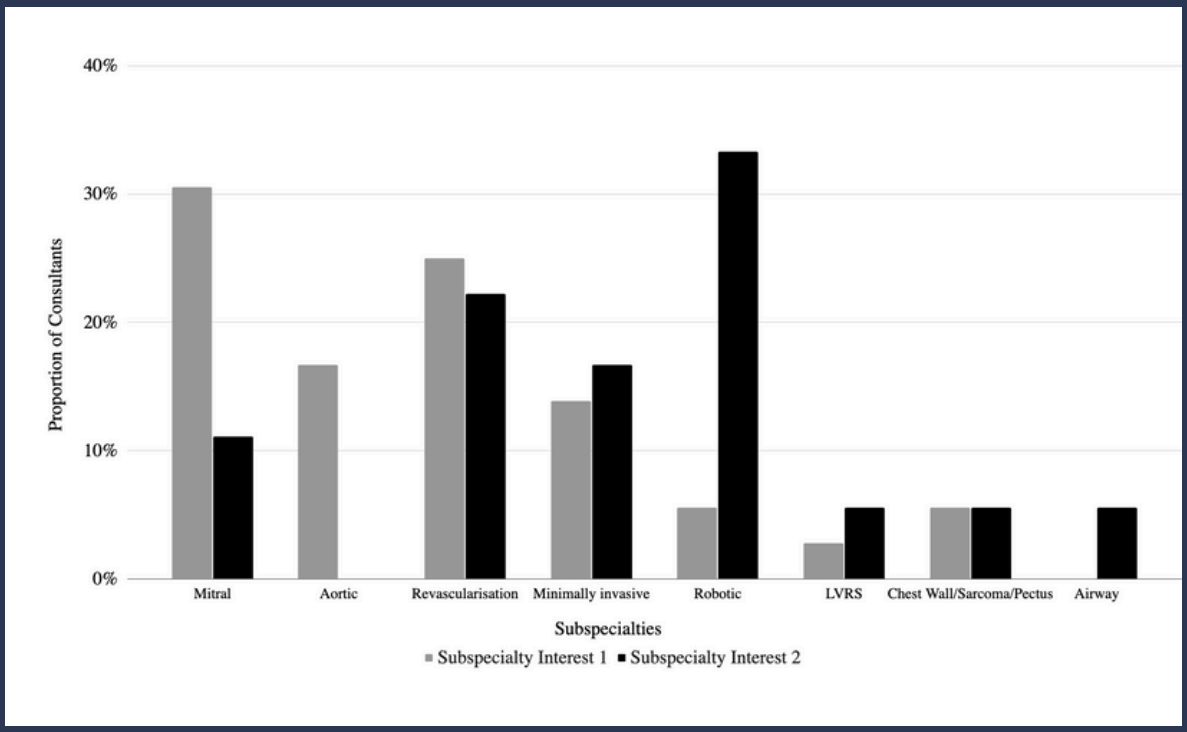

Figure 25: Subspecialty Interest Among Consultant Cardiothoracic Surgeons

Mixed-Practice Cardiothoracic Surgery

Programmed Activities

61% of mixed-practice cardiothoracic surgeons have 12-14 PA job plans, and 30% have 10-12 PA plans, acknowledging the additional burden of working across two subspecialties.

No cardiothoracic surgeons declared job plans less than eight or more than 14 PAs, as shown in figure 26.

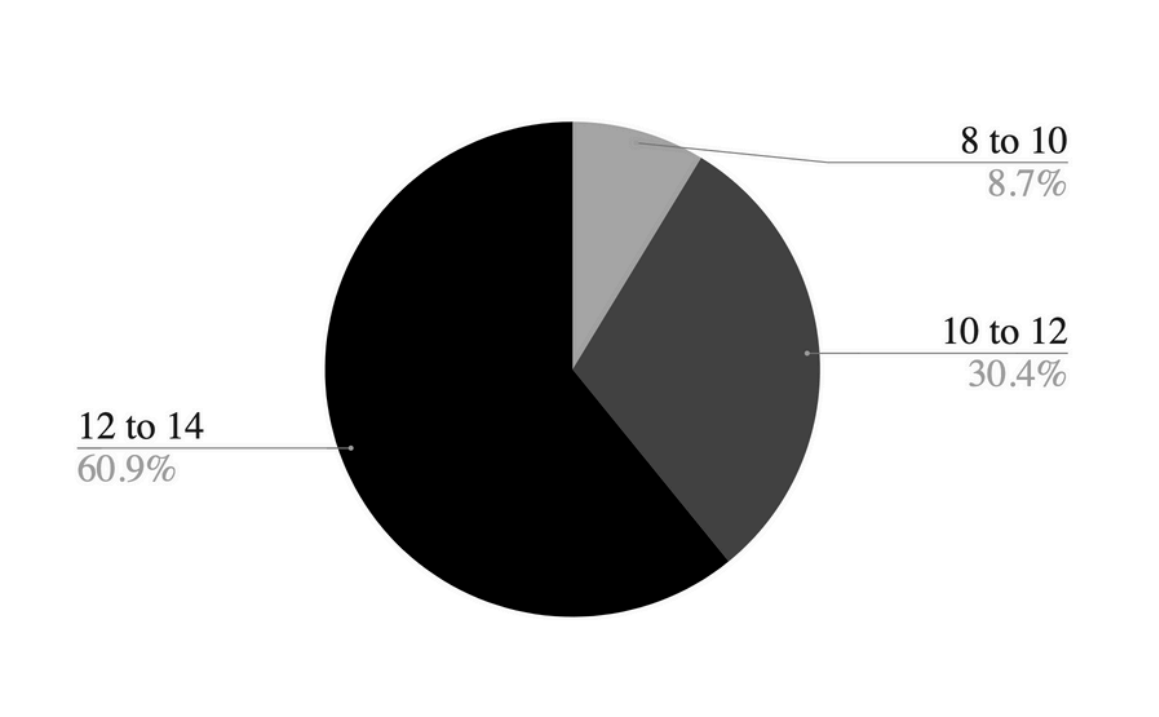

Figure 26: Programmed Activities Among Consultant Cardiothoracic Surgeons

Mixed-Practice Cardiothoracic Surgery

Weekly Operating Sessions

70% of mixed-practice cardiothoracic surgeons operate four sessions per week (two full days), with a smaller number operating two, five, or six sessions per week.

The distribution of operating sessions per week are illustrated in figure 27.

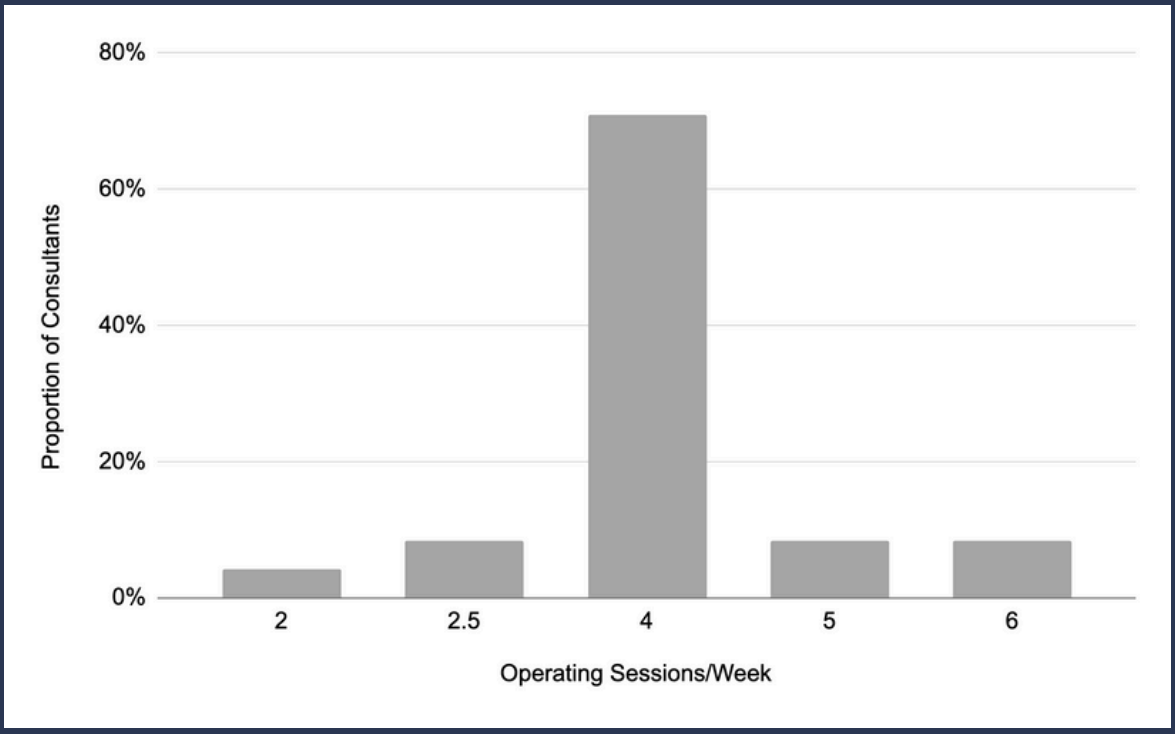

Figure 27: Operating Sessions Per Week Among Consultant Cardiothoracic Surgeons

Mixed-Practice Cardiothoracic Surgery

On-Call Frequency

Most mixed-practice cardiothoracic surgeons are on call 1 in 4 to 1 in 5, with smaller numbers on call more often than 1 in 4 or less than 1 in 6.

Figure 28 shows the distribution of on-call frequencies among consultant cardiothoracic surgeons.

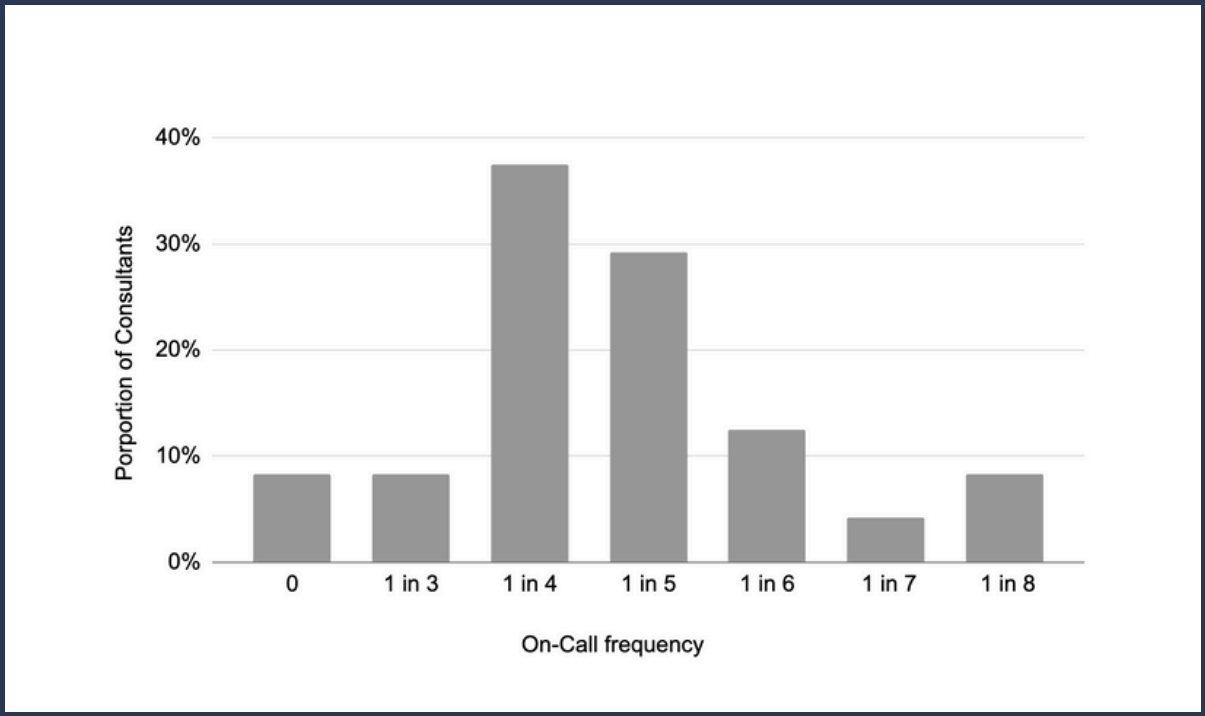

Figure 28: On-Call Frequency Among Consultant Cardiothoracic Surgeons

Congenital Surgery

Age & Gender Distribution

There are 47 consultant congenital surgeons, of whom 42 (89%) are male and five (11%) are female. The majority of congenital surgeons (34%) are in the 41-50 category. There are fewer surgeons in the 51-55 (20%), 56-60 (23%) and 61-65 (14%) cohorts.

Overall the data indicates an even age distribution of congenital surgeons. There are a smaller number of surgeons younger than 40 and none older than 65 years. Figure 29 displays these findings.

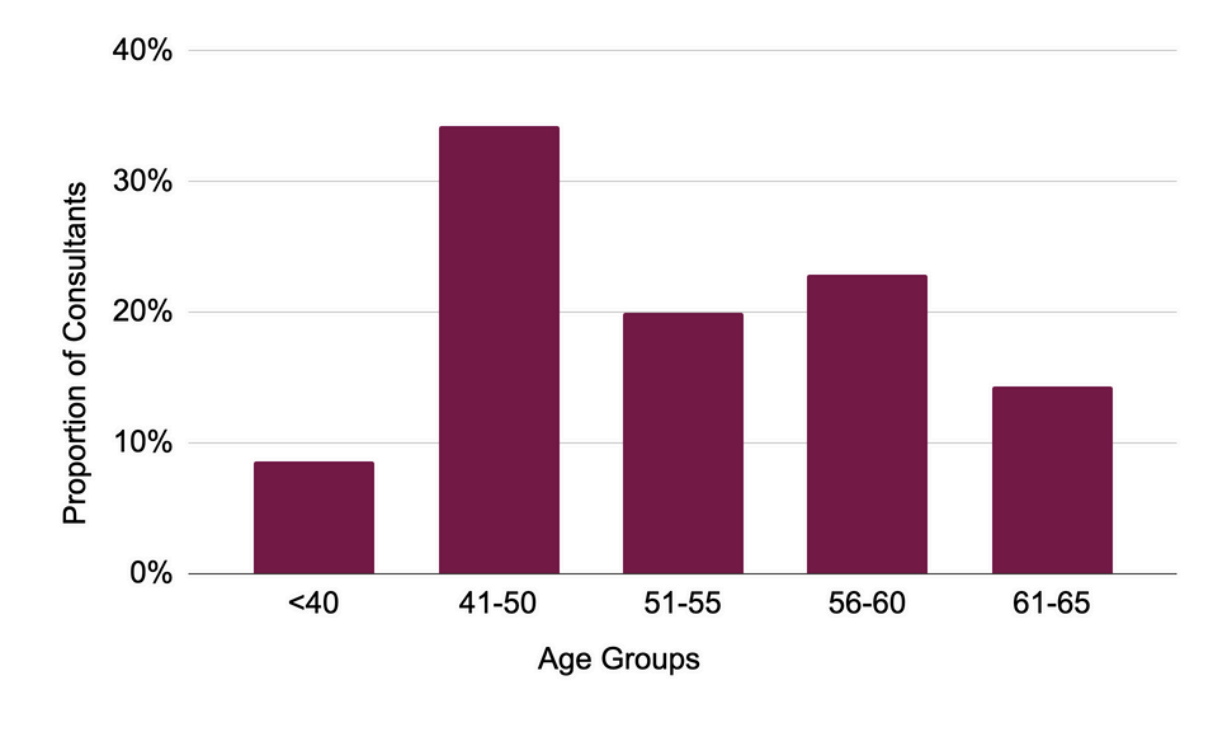

Figure 29: Age Distribution Among Consultant Congenital Surgeons

Congenital Surgery

Ethnicity

71% of consultant congenital surgeons identify as White (Figure 29). The second largest ethnic group is Asian/Asian British (23%), with a few surgeons from Other ethnic backgrounds (6%).

Figure 30 illustrates the ethnicity distribution among consultant congenital surgeons.

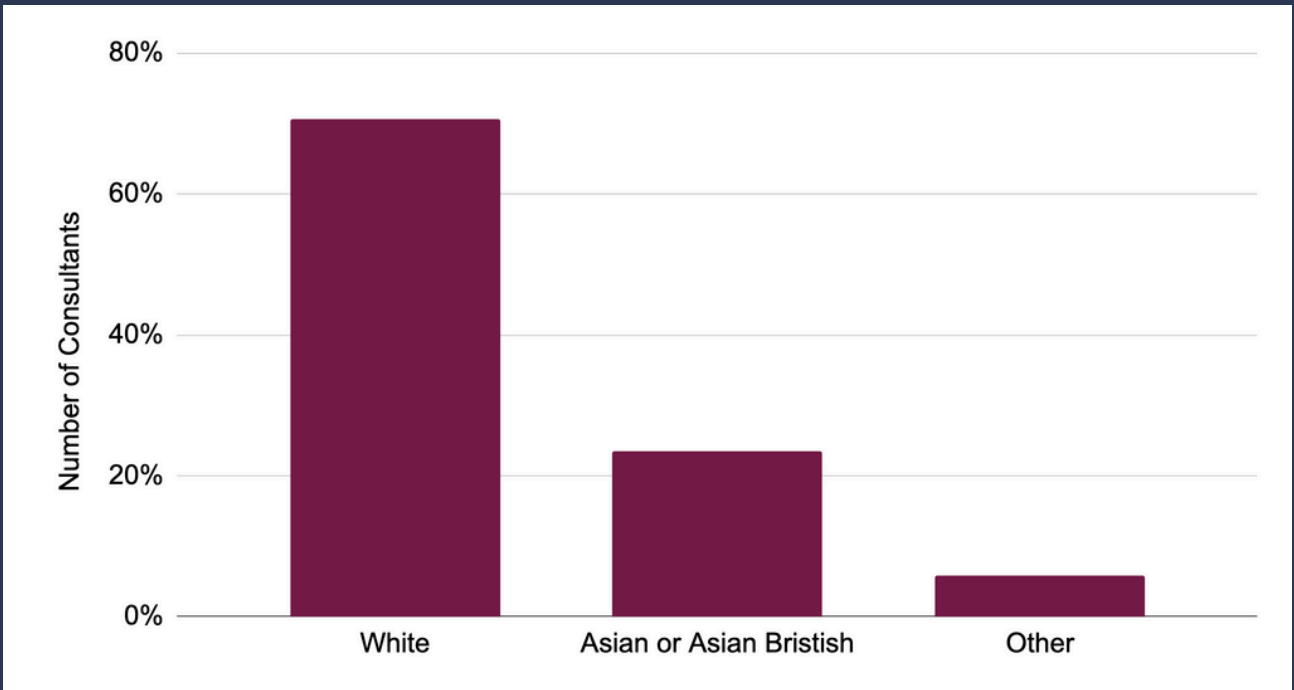

Figure 30: Ethnicity Distribution Among Consultant Congenital Surgeons

Congenital Surgery

Subspecialty Interest

Nine consultant congenital surgeons in England and the Republic of Ireland declared an interest in transplantation, three in chest wall surgery, two in minimally invasive surgery, and one in airway surgery. One consultant is a full-time academic with no clinical activity. The remaining consultants did not declare a subspecialty interest.

Programmed Activities

Most consultant congenital surgeons have 12-14 PA (60%) or 10-12 PA (32%) job plans. A minority undertake less than 8 PAs per week. This is illustrated in figure 31.

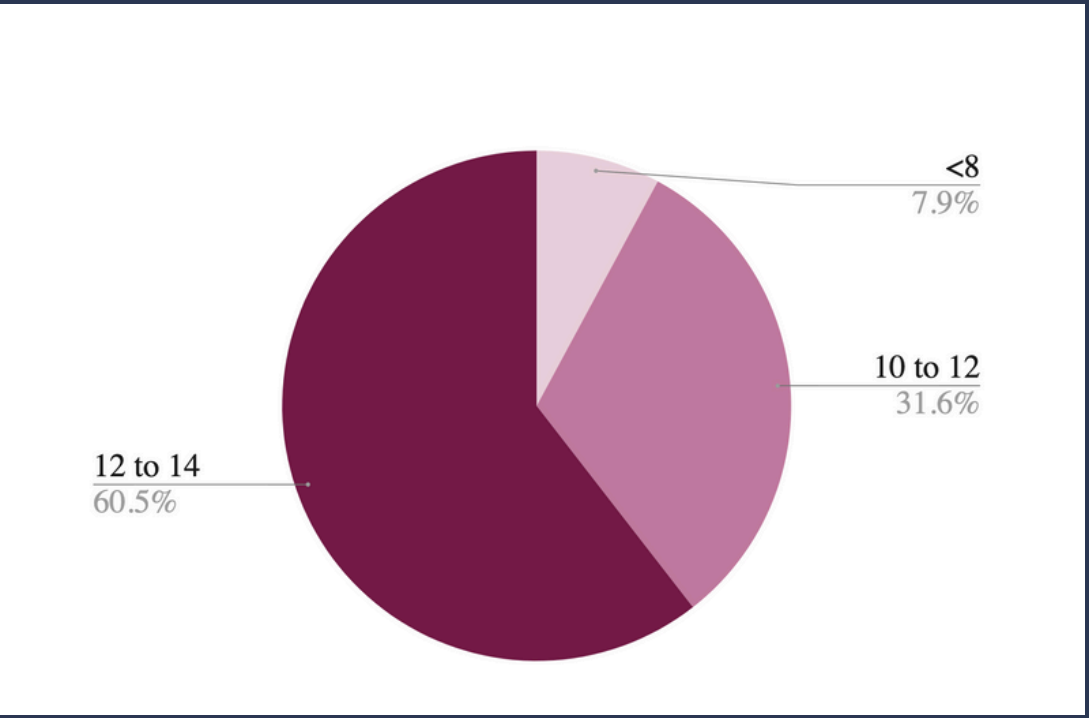

Figure 31: Programmed Activities Among Consultant Congenital Surgeons

Congenital Surgery

Weekly Operating Sessions

The majority of consultant congenital surgeons operate two or four sessions per week; one consultant operates one session per week.

Figure 32 displays the distribution of operating sessions among consultant congenital surgeons.

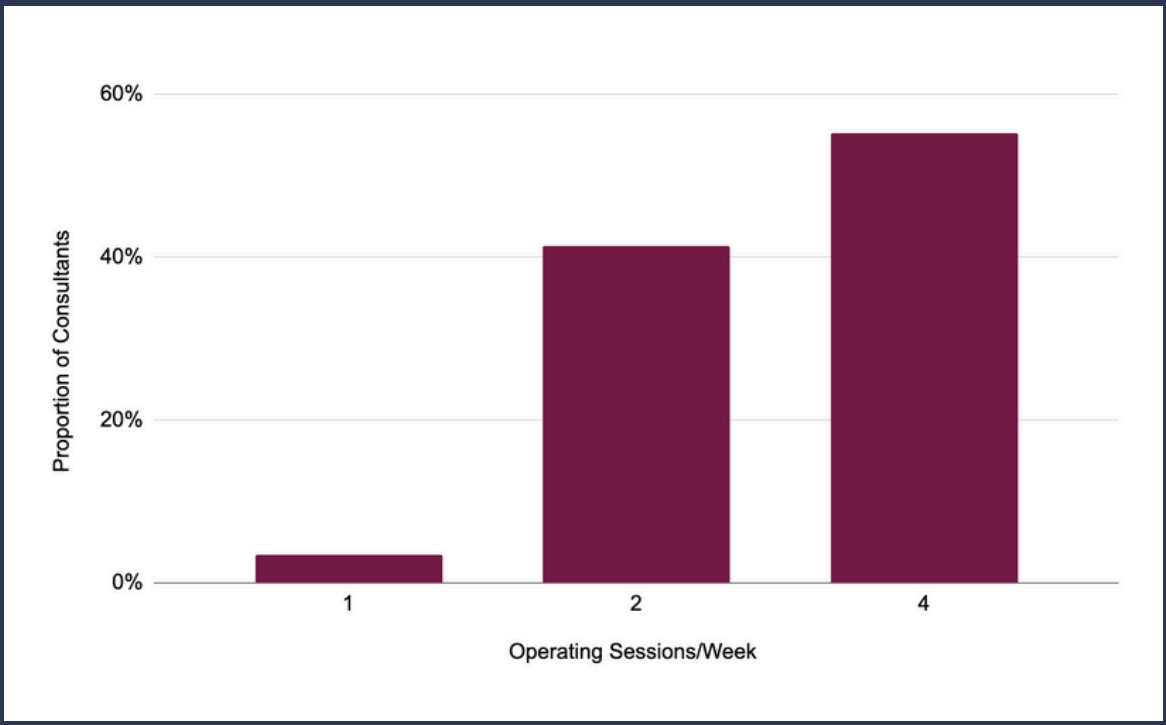

Figure 32: Operating Sessions Per Week Among Consultant Congenital Surgeons

Congenital Surgery

On-Call Frequency

44% of consultant congenital surgeons are on call 1 in 4, but just over one-third undertake a more onerous on-call rota of 1 in 2 or 1 in 3, reflecting the small consultant workforce in most congenital centres.

A few consultants do not take part in the on-call rota (Figure 33), the majority of which are in the 56-60 age group.

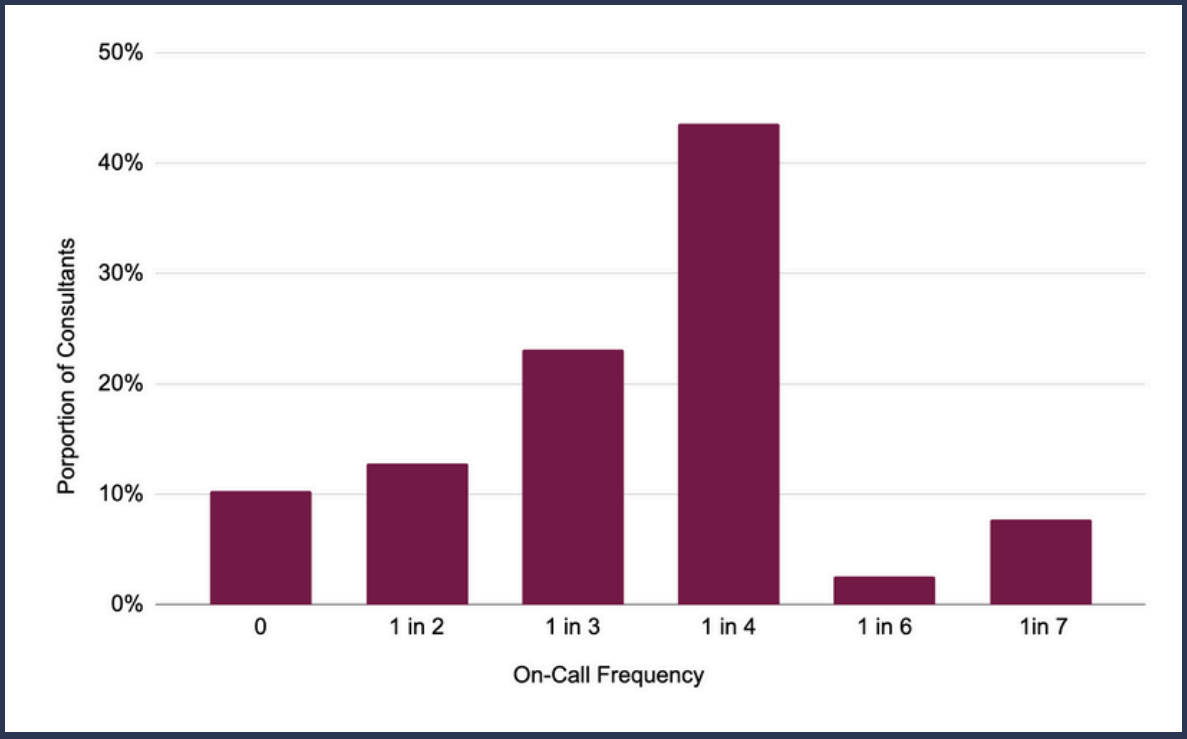

Figure 33: On-Call Frequency Among Consultant Congenital Surgeons

Transplantation

Age & Gender

There are 51 consultant surgeons in cardiothoracic transplantation across the UK and Republic of Ireland, with 38 in England, nine in the Republic of Ireland, and four in Scotland, of whom 46 (90%) are male and five (10%) are female. 38 are adult cardiac surgeons, nine are congenital surgeons, and four are thoracic surgeons.

The majority of consultant transplant surgeons are in the 41-50 years age group (45%, Figure 34). This is followed by the 51-55 (21%), and 56-60 (18%) cohorts. There are few consultants aged younger than 40 and even fewer aged older than 66 years.

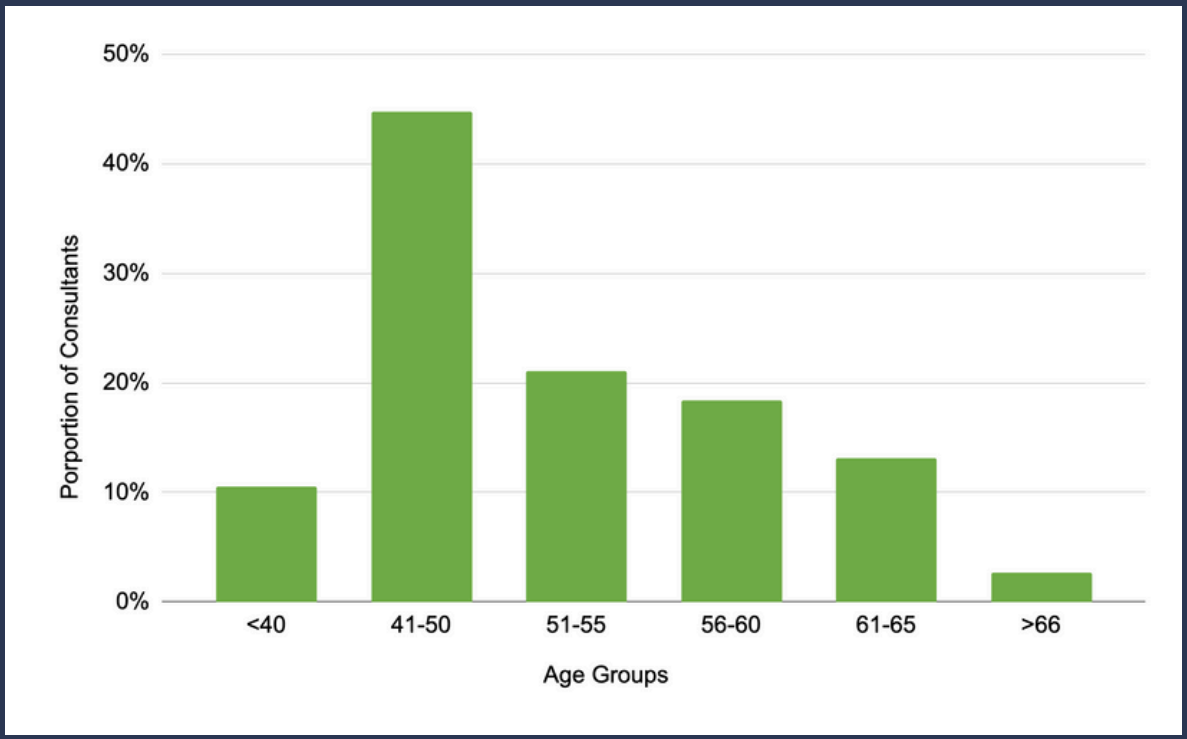

Figure 34: Age Distribution Among Consultant Transplant Surgeons

Transplantation

Ethnicity

Transplant consultants identify most commonly as Asian/Asian British (44%), followed by White (34%) and Other ethnic backgrounds (22%).

There are no consultant transplant surgeons of Black, Black British, Caribbean or African origin. These findings are shown in figure 35.

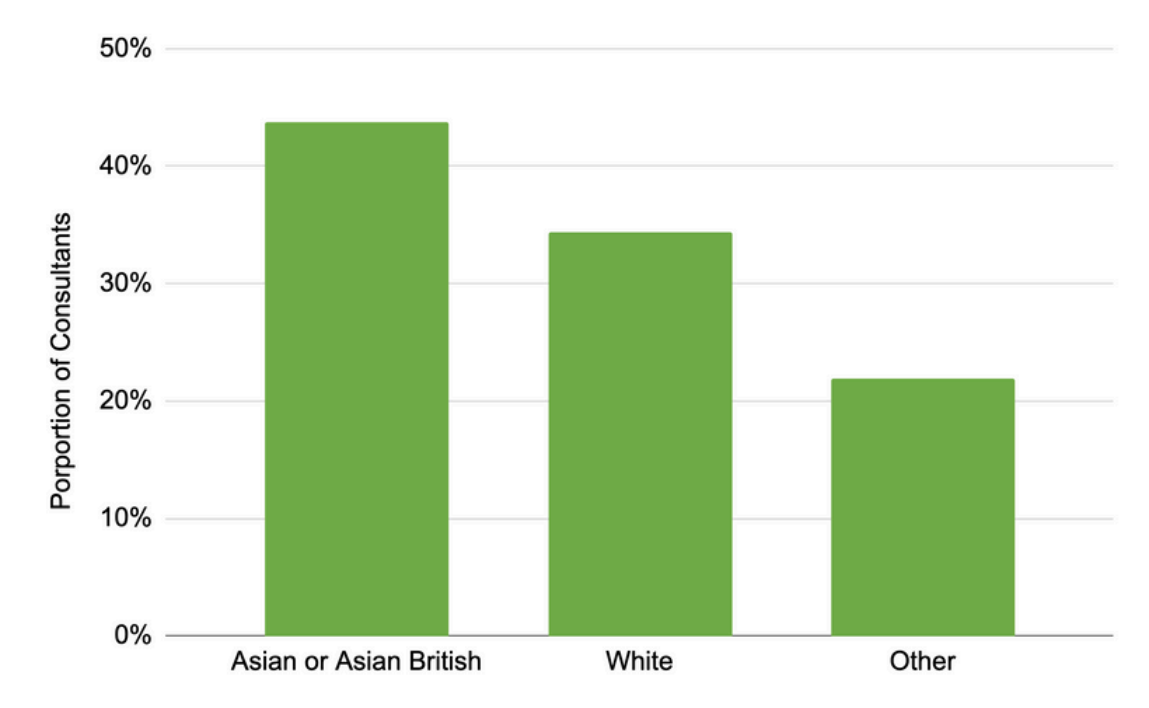

Figure 35: Ethnicity Distribution Among Consultant Transplant Surgeons

Transplantation

Programmed Acitivities

Almost half of consultant transplant surgeons have a 10-12 PA job plan and around one-third have a 12-14 PA plan. A small proportion of consultant transplant surgeons perform less than 8 or more than 14 PAs.

The distribution of PAs among consultant transplant surgeons is highlighted in figure 36.

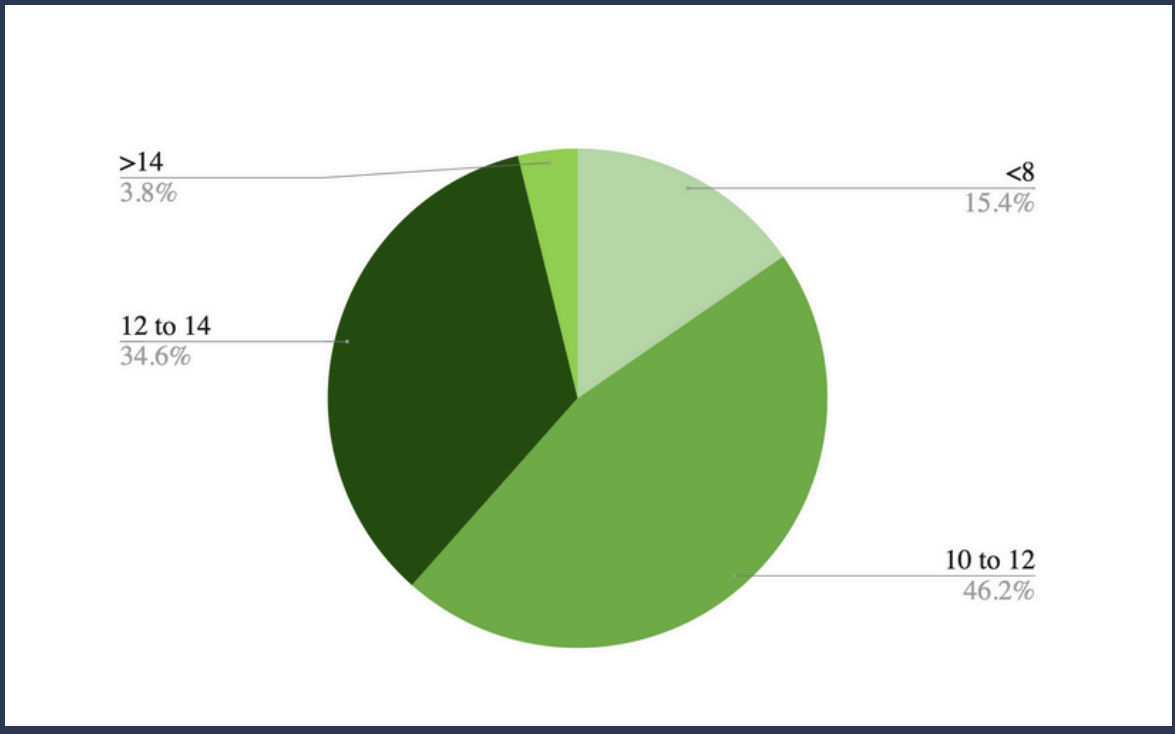

Figure 36: Programmed Activities Among Consultant Transplant Surgeons

Transplantation

Weekly Operating Sessions

Most consultant transplant surgeons have less than four elective operating sessions per week (two full days), reflecting the substantial out-of-hours commitment required for organ retrieval and implantation.

The distribution of operating sessions per week among consultant transplant surgeons is highlighted in figure 37.

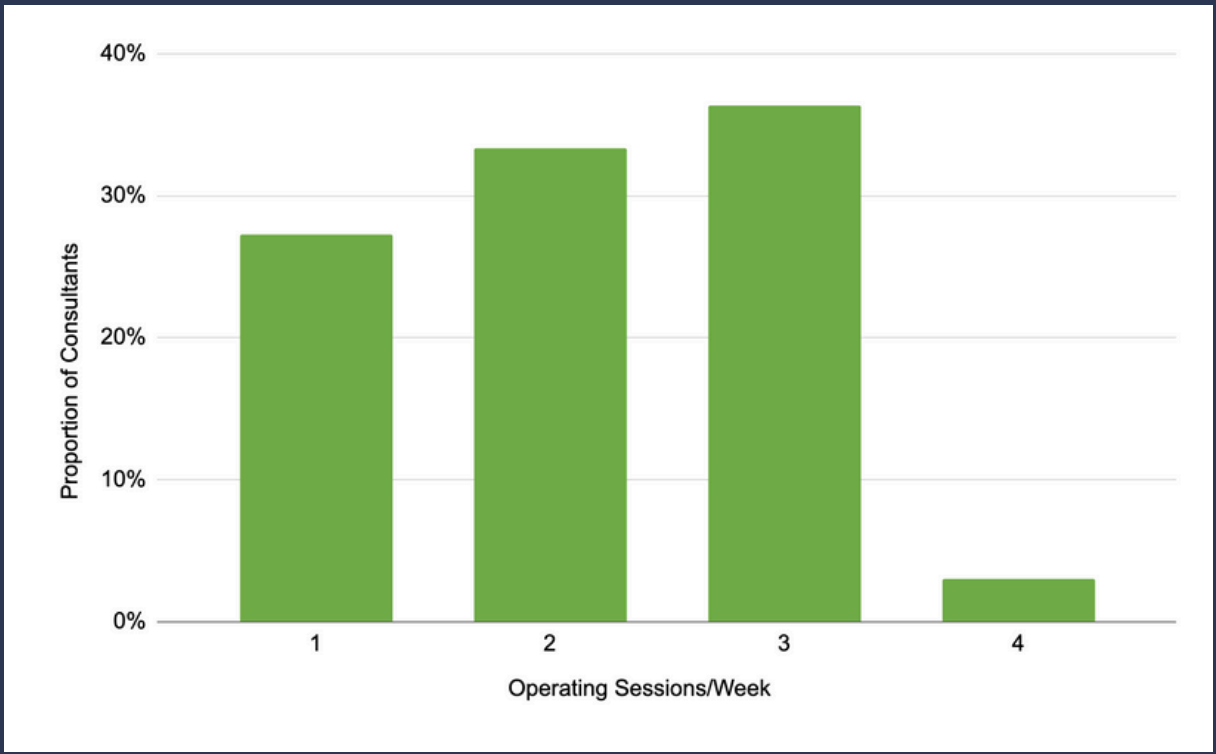

Figure 37: Operating Sessions Per Week Among Consultant Transplant Surgeons

Transplantation

On-Call Frequency

On-call rota frequencies for consultant transplant surgeons are variable, reflecting the different base specialties (adult cardiac, thoracic, or congenital), unit staffing, and commitments to other non-transplant rotas.

The most common frequency is 1 in 7, but almost one-quarter of transplant surgeons are on-call more often than 1 in 5 (i.e. 1 in 4 or more). This is illustrated in figure 38.

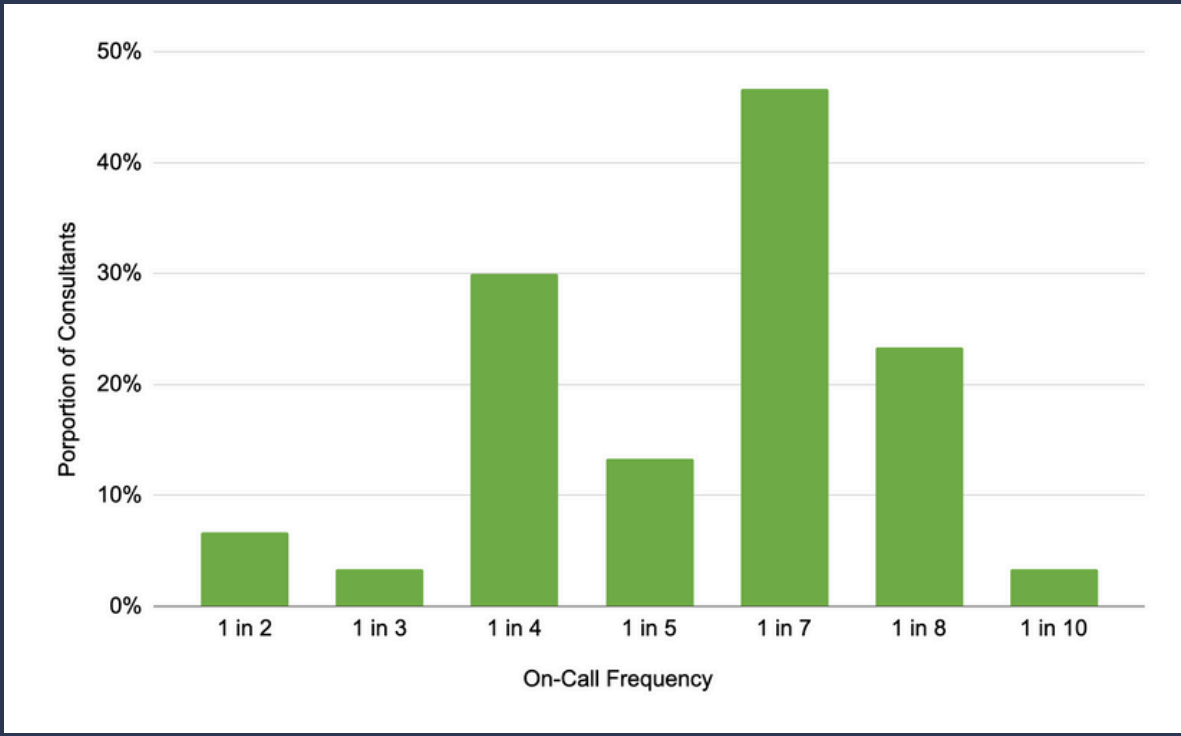

Figure 38: On-Call Frequency Among Consultant Transplant Surgeons

Nationally Appointed Resident Doctors

Overview

There are 141 nationally appointed resident doctors in cardiothoracic surgery holding a National Training Number (NTN) across the UK and Republic of Ireland, including 107 in England, eight in Scotland, six in Wales, six in Northern Ireland, and 14 in the Republic of Ireland.

The distribution of NTNs across training grades [3] shows a predominance of senior Phase 3 resident doctors (Figure 39). There are 56 doctors reported to be in Phase 3 (ST6-8), 40 in Phase 2 (ST4–ST5), and 44 in Phase 1 (ST1–ST3). Currently, there are 16 NTN resident doctors out of programme (OOP) for research or additional experience, and a small number of resident doctors are on parental leave.

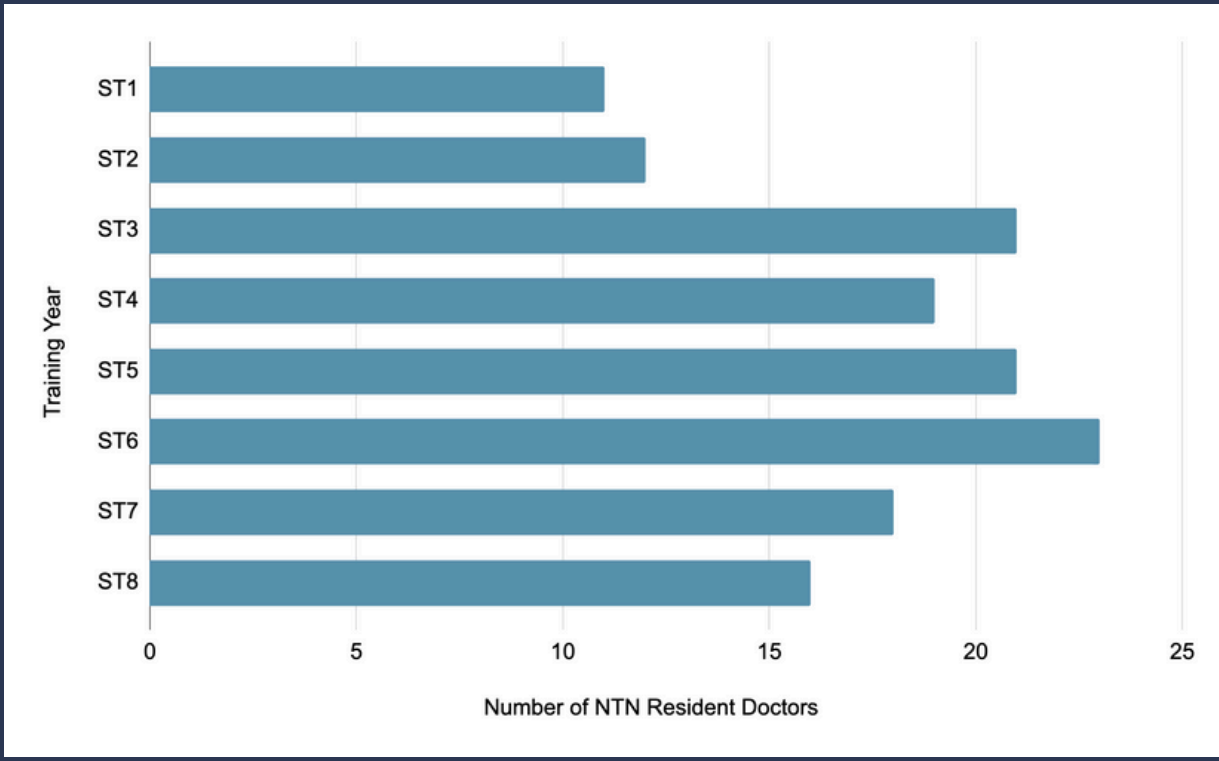

Figure 39: Number of NTN Resident Doctors by Training Year in the UK & Republic of Ireland

Nationally Appointed Resident Doctors

Gender Distribution

Across all phases of training, 96 (68%) of nationally appointed resident doctors are male and 45 (32%) are female. Females are most common in Phase 2 (ST4–ST5) with 45%, compared with 36% in Phase 1 (ST1–ST3) and 24% in Phase 3 (ST6-8).

The distribution of gender by training year is illustrated in figure 40.

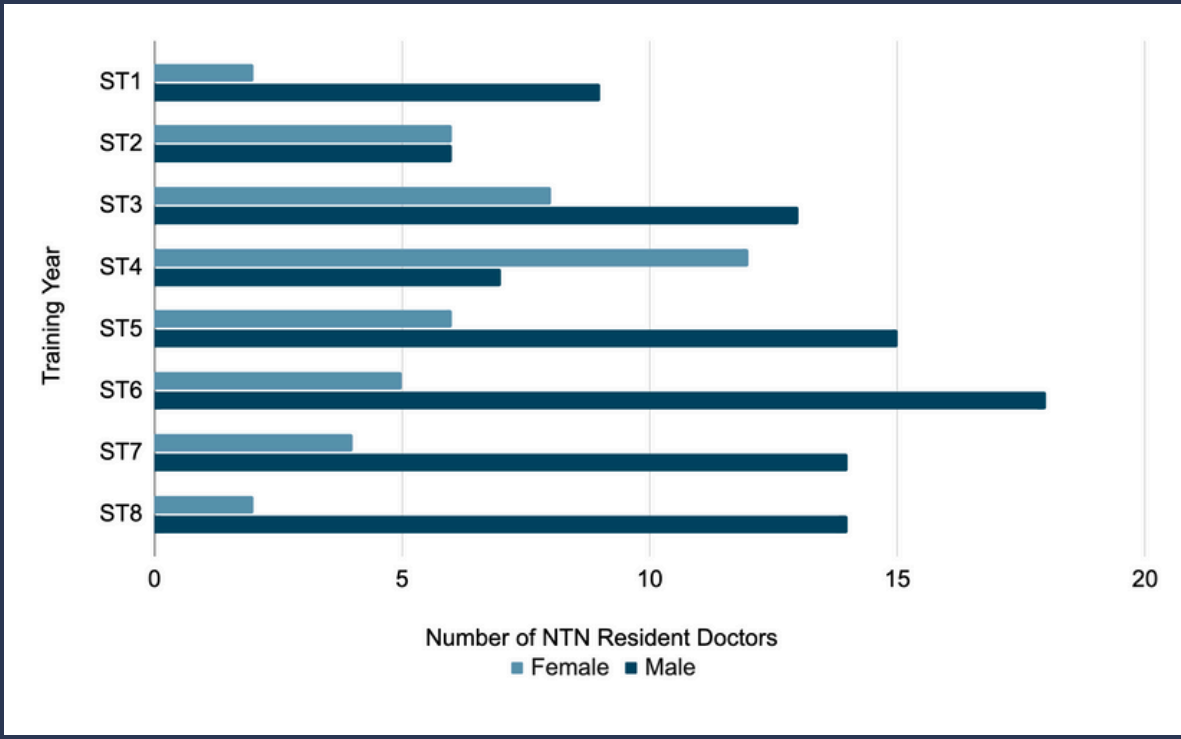

Figure 40: Number of NTN Resident Doctors by Gender in Each Training Grade

Nationally Appointed Resident Doctors

Intended Specialty

Of the 141 nationally appointed resident doctors, 66 (47%) have indicated an interest in pursuing a career in Adult Cardiac Surgery, 50 (35%) in Thoracic Surgery, six (4%) in Transplantation, and five (4%) in Congenital Cardiac Surgery.

At the time of the survey, 14 NTN resident doctors (10%) were undecided about their planned specialty as shown in figure 41.

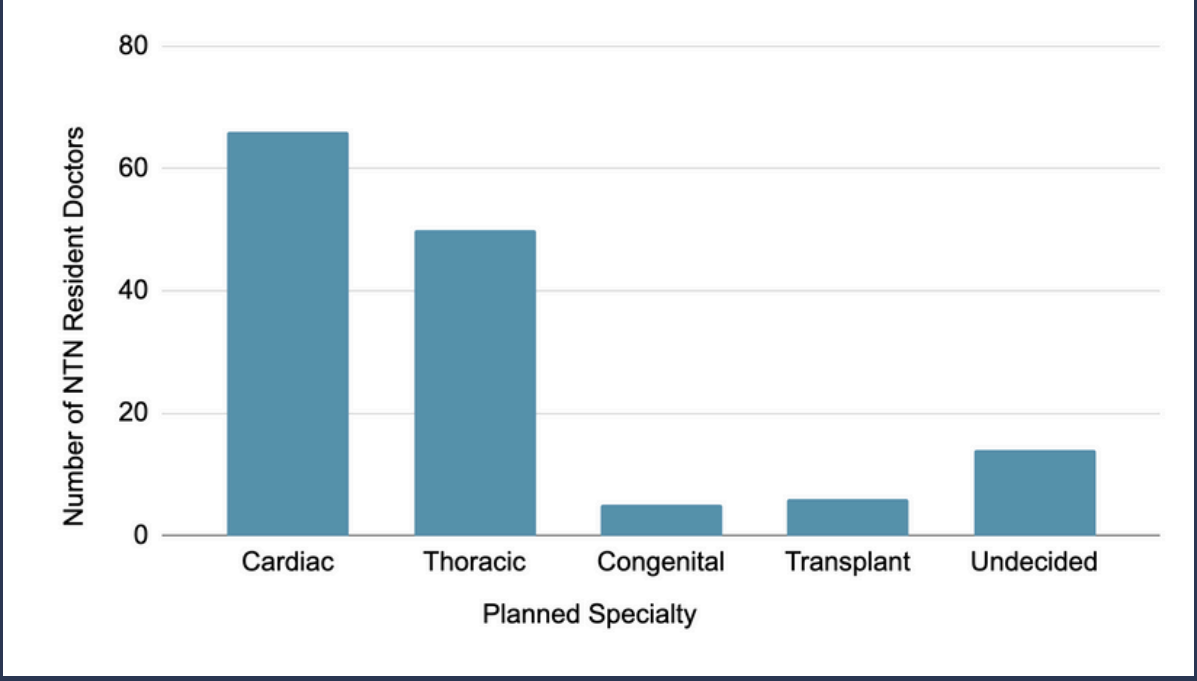

Figure 41: Intended Specialty Among NTN Resident Doctors

Nationally Appointed Resident Doctors

Intended Specialty by Phase of Training

Since specialisation in Cardiac Surgery or Thoracic Surgery is declared in Phase 2 of training, but further subspecialisation and training in Congenital Cardiac Surgery and Transplantation are not undertaken until Phase 3, an additional analysis explored specialty intention by phase of training (Figure 42).

The table below shows the more accurate assessment of the number of trainees expected to achieve a Certificate of Completion of Training (CCT) in each specialty among the current cohort of resident doctors.

Specialty	Phase 1	Phase 2	Phase 3
Cardiac	**21**	**18**	**27**
Thoracic	**15**	**14**	**19**
Congenital	**1**	**2**	**3**
Transplant	**2**	**2**	**3**

Figure 42: Specialty Intention by Phase of Training

Nationally Appointed Resident Doctors

Intended Specialty by Gender

Specialty intentions differed by gender. Almost half (44%) of female NTN doctors expressed an interest in Thoracic Surgery compared with around a quarter (27%) in Cardiac Surgery.

Male NTN resident doctors preferred Cardiac Surgery (56%) more than Thoracic Surgery (32%, Figure 43). Both genders had less interest in Congenital Cardiac Surgery or Transplantation (<5% each).

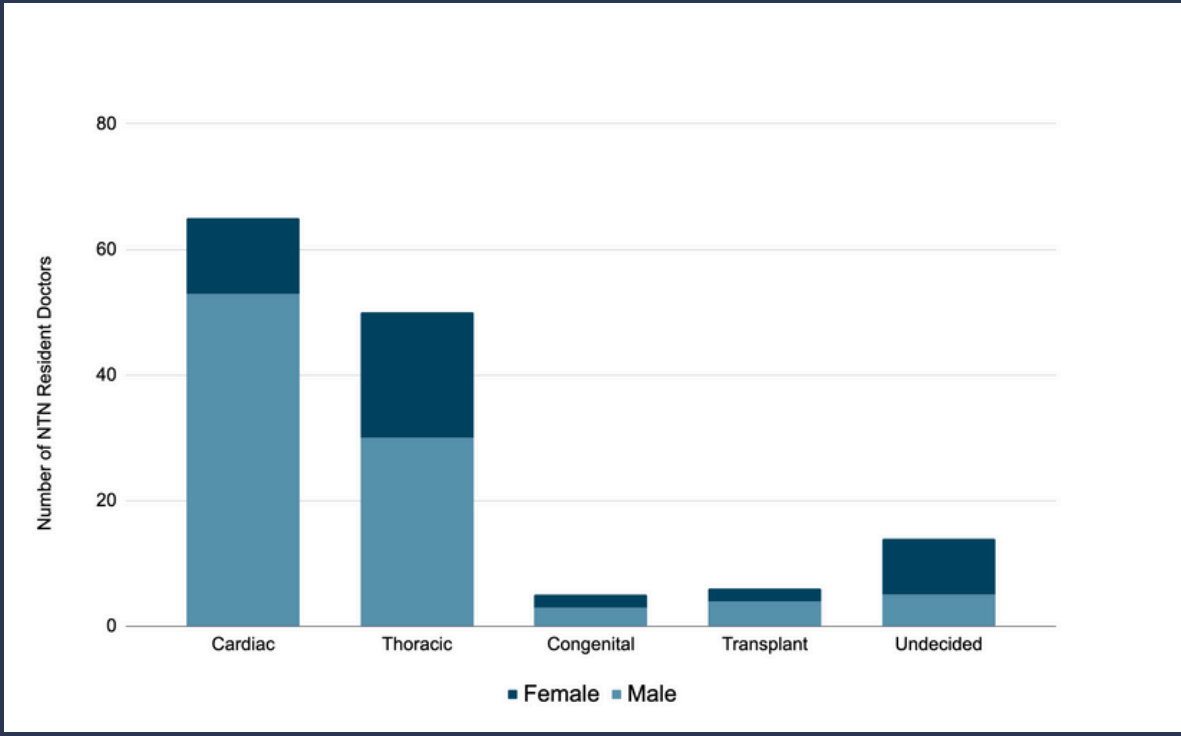

Figure 43: Specialty Intention by Gender

Nationally Appointed Resident Doctors

NTN Doctors by Deanery

There are notable regional differences in the number and gender balance of NTN resident doctors in each Deanery (Figure 44).

London (23), the North West (15), and the Republic of Ireland (14) are the largest training programmes, and Wessex (5) is the smallest.

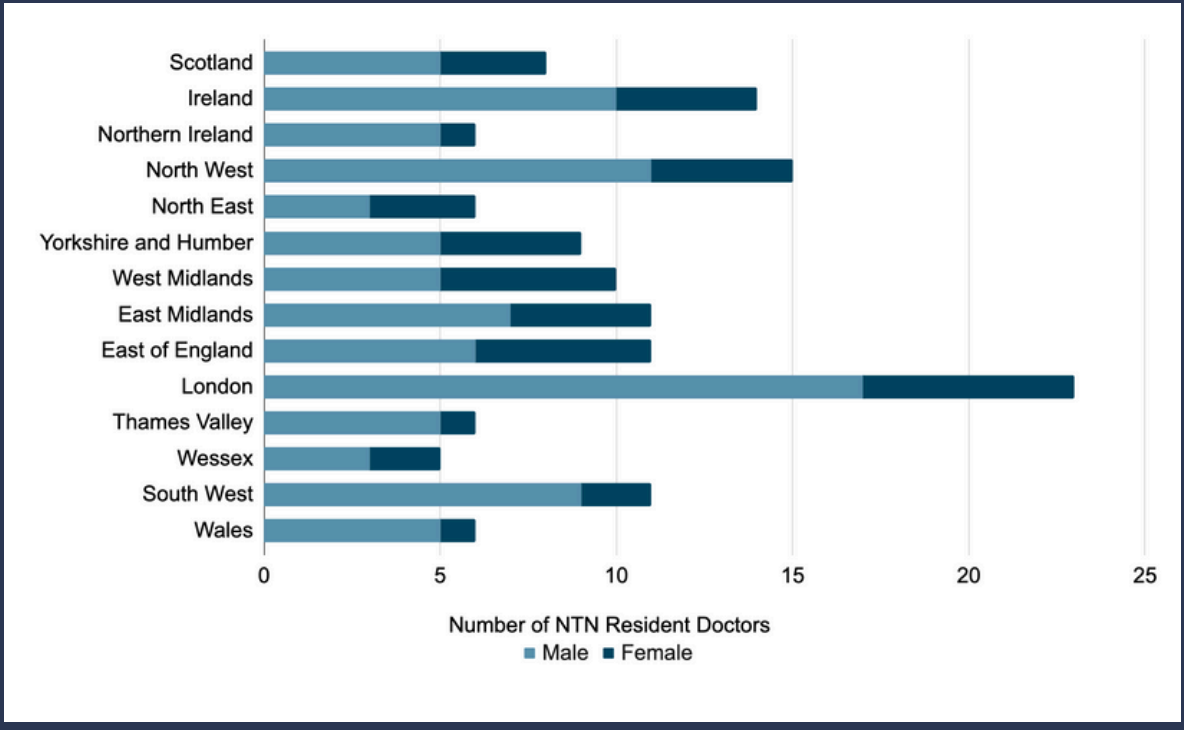

Figure 44: Gender Among NTN Resident Doctors in Each Deanery

Nationally Appointed Resident Doctors

NTN Doctors by Training Grades in Each Deanery

As well as the largest training programme, London has the highest proportion of Phase 3 resident doctors (ST6-8).

In contrast, other regions such as Wales, the South West, and the North East show a more balanced distribution across all training grades. The East of England, Northern Ireland, and Scotland have more resident doctors in Phase 1 (ST1–ST3) as shown in figure 45.

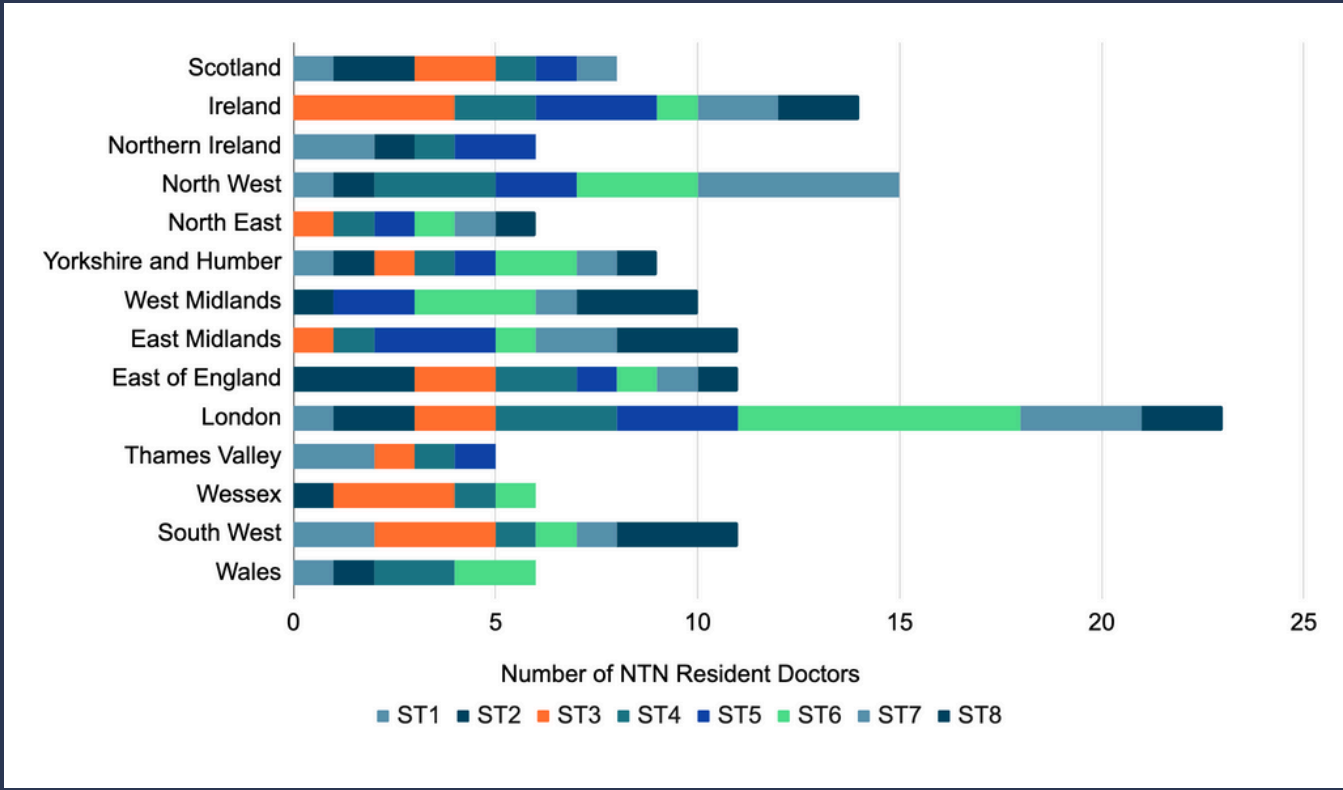

Figure 45: NTN Resident Doctor Training Grades in Each Deanery

Nationally Appointed Resident Doctors

Intended Specialty by Deanery

The intended specialty of nationally appointed resident doctors varies across training programmes, and not all programmes offer local experience in Congenital Surgery or Transplantation. Cardiac and Thoracic Surgery predominate in all regions, although there is currently no declared interest in Thoracic Surgery in the East of England Deanery.

An interest in Congenital Surgery is only expressed in regions that have Congenital Surgery as part of the rotation. Interest in Transplantation is high in the East of England Deanery but also declared by resident doctors in the North West, East Midlands, and Thames Valley (Figure 46).

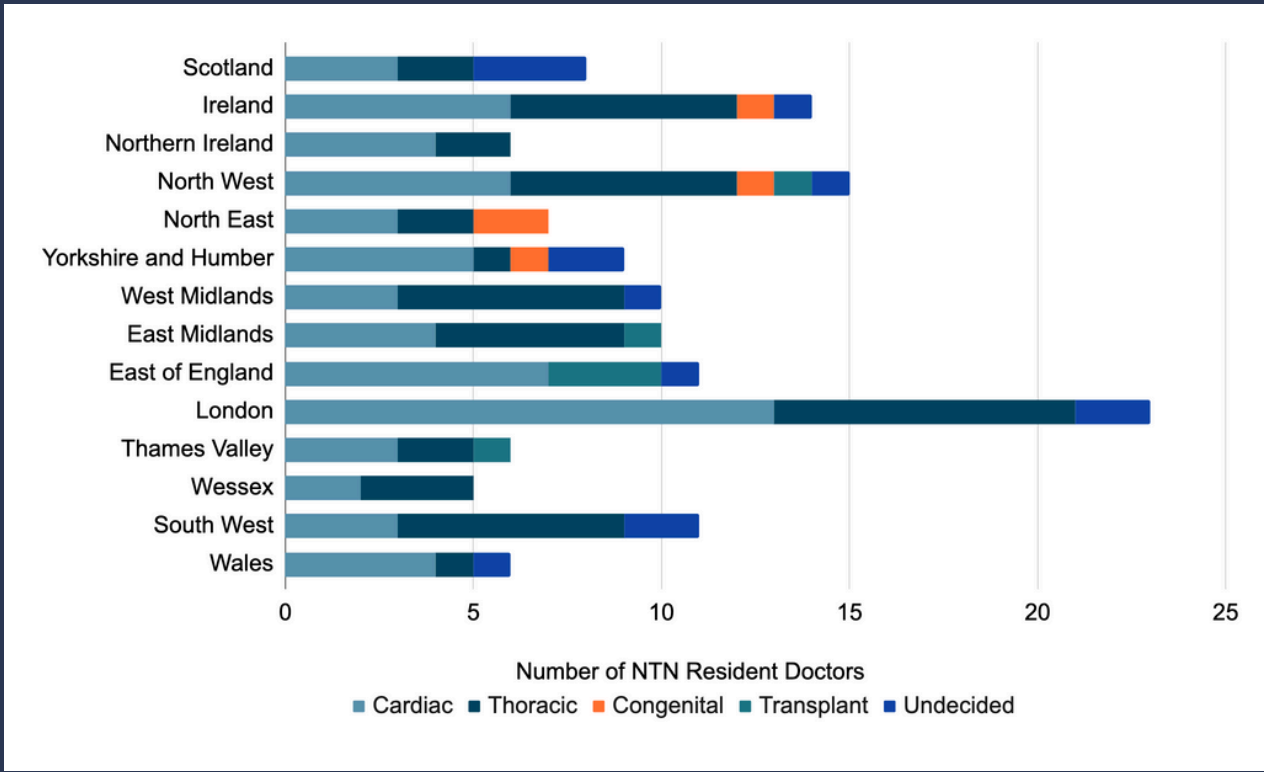

Figure 46: Intended Specialty in Each Deanery

Trust Appointed Doctors & Specialty Doctors

Overview

The employment of Trust Appointed Doctors and Specialty Doctors in cardiothoracic surgery mirrors the consultant workforce, with the majority in Cardiac Surgery followed by Thoracic Surgery.

Both groups of doctors play essential roles in delivering clinical services across these specialties. Trust Appointed Doctors outnumber Specialty Doctors in all four specialties as shown in figure 47.

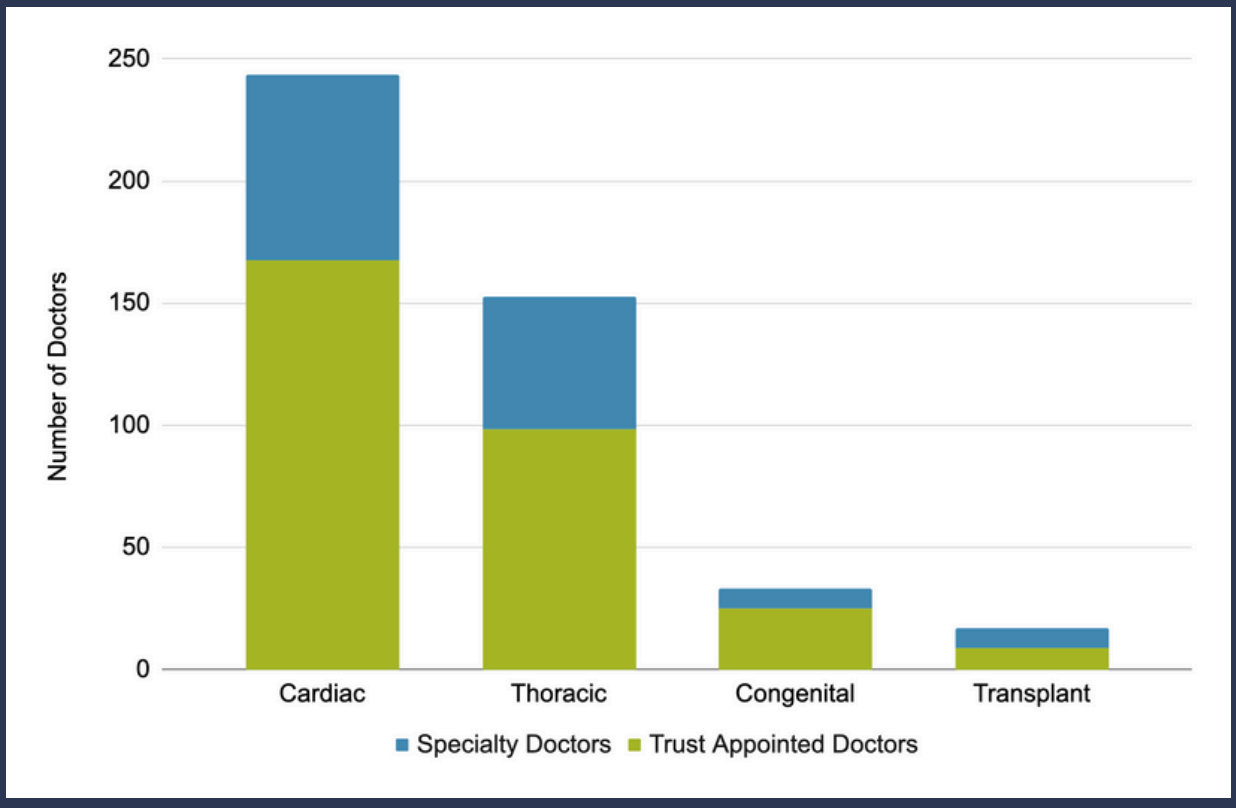

Figure 47: Trust Appointed and Specialty Doctors in Each Specialty

Nursing & Allied Health Professionals

Overview

An invaluable number of advanced practitioners work in cardiothoracic surgery, including Nurse Practitioners, Surgical Care Practitioners, and Physician Associates. These practitioners play a central role in delivering care to patients undergoing cardiothoracic surgery as part of the Extended Surgical Team.

The majority work within cardiac surgery (including transplantation), with a significant number in thoracic surgery and a smaller number in congenital surgery (Figures 48 and 49). Whilst the figures in these charts summarise the data submitted from surgical centres, we believe there are significantly greater numbers of advanced practitioners in the specialty. From the data submitted, there are only 13 Physician Associates practicing in cardiothoracic surgery.

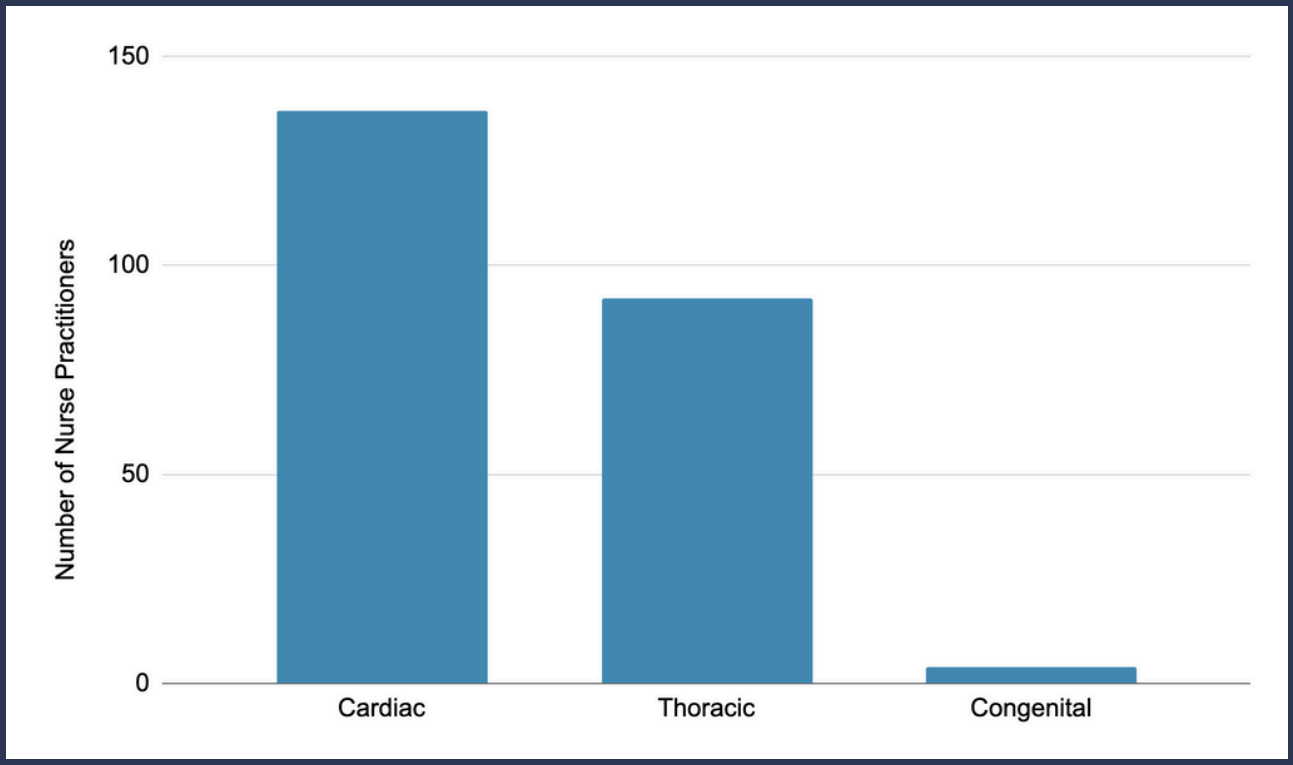

Figure 48: Nurse Practitioners by Specialty

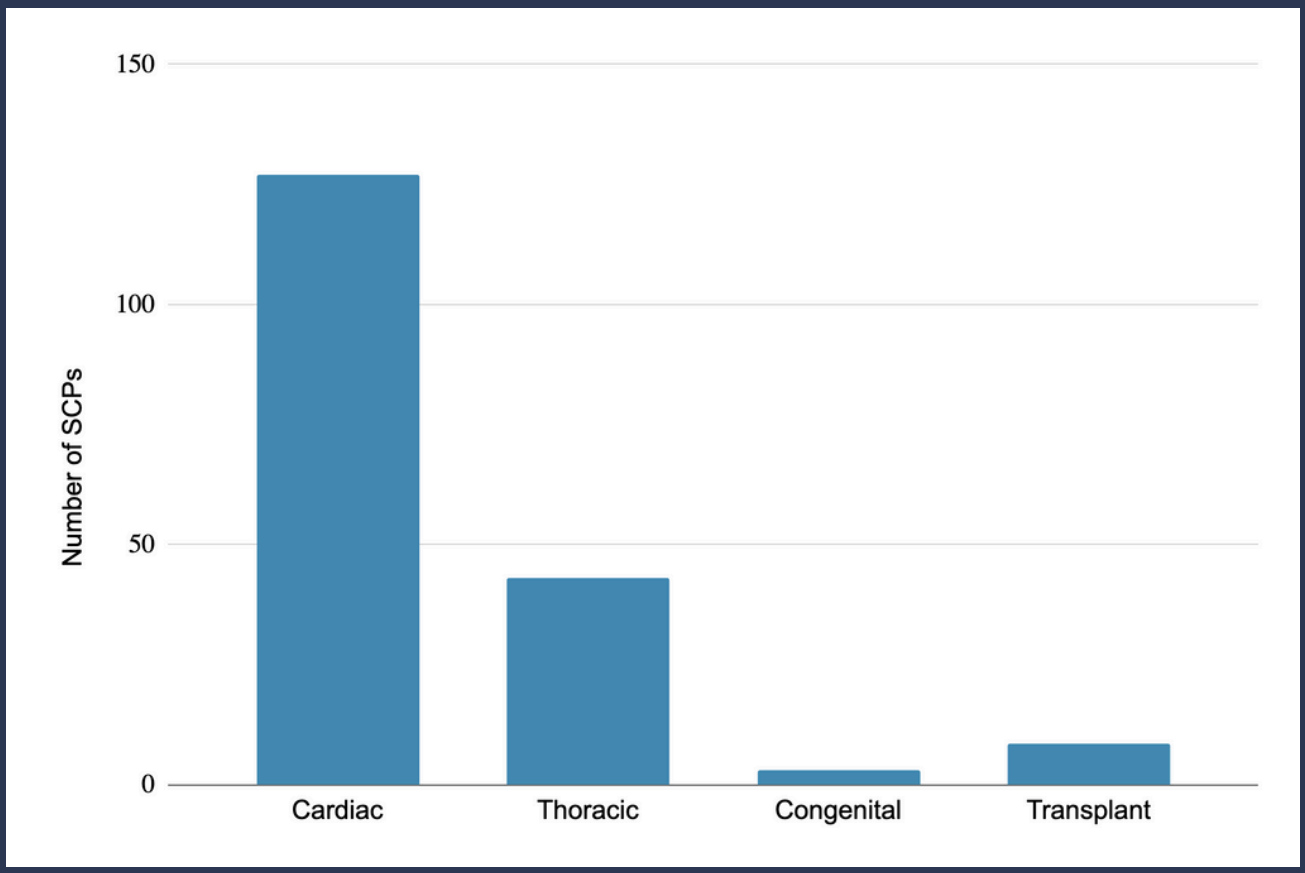

Figure 49: Surgical Care Practitioners by Specialty

References

01 Society for Cardiothoracic Surgery (2019) Workforce Report. Available at https://scts.org/_userfiles/pages/files/sctsworkforcereport2019.pdf

02 Royal College of Surgeons (2021) Diversity, Equity & Inclusion Report. Available at https://www.rcseng.ac.uk/-/media/Files/RCS/About-rcs/About-our-mission/RCS-England-diversity-report-11-August.pdf

03 Intercollegiate Surgical Curriculum Programme (2021) Cardiothoracic Surgery Curriculum. Available at https://www.iscp.ac.uk/media/1108/cardiothoracic-surgery-curriculum-aug-2021-approved-oct-20.pdf

Appendix A:
UK and ROI Cardiothoracic Units

Region	Unit(s)
East Scotland	Aberdeen Royal Infirmary Royal Infirmary of Edinburgh
West Scotland	Golden Jubilee National Hospital, Glasgow Royal Hospital for Sick Children, Glasgow
Northern Ireland	Royal Victoria Hospital, Belfast
Northeast	James Cook University Hospital, Middlesborough Freeman Hospital, Newcastle
Yorkshire & Humber	Castle Hill Hospital, Hull Leeds General Infirmary Northern General Hospital, Sheffield St James's Hospital, Leeds
Northwest	Alder Hey Children's Hospital, Liverpool Liverpool Heart and Chest Hospital Wythenshawe Hospital, Manchester Blackpool Victoria Hospital
East Midlands	Glenfield Hospital, Leicester Nottingham City Hospital

Region	Unit(s)
West Midlands	Queen Elizabeth Hospital, Birmingham Birmingham Women's and Children's Hospital Royal Stoke University Hospital University Hospital Coventry New Cross Hospital, Wolverhampton
East of England	Royal Papworth Hospital, Cambridge Norfolk & Norwich Hospital Basildon Hospital
London	Royal Brompton Hospital Harefield Hospital Hammersmith Hospital Guy's Hospital St Thomas' Hospital Evelina Children's Hospital Great Ormond Street Hospital University College London Hospital Kings College Hospital St George's Hospital St Bartholomew's Hospital
Wales	University Hospital of Wales Morriston Hospital, Swansea
Southwest	Bristol Royal Hospital for Children Bristol Royal Infirmary Derriford Hospital, Plymouth
Wessex	Southampton General Hospital

Region	Unit(s)
Thames Valley	John Radcliffe Hospital, Oxford
Kent, Surrey and Sussex	Royal Sussex County Hospital, Brighton
Republic of Ireland	The Mater Hospital, Dublin St James's Hospital, Dublin Cork University Hospital Galway University Hospital

Appendix B: Unit Acknowledgements

We thank the following colleagues and unit representatives below for their generous support in compiling the information summarised in this report.

Region	Cardiothoracic Unit(s)	Unit Representative(s)
Scotland	Aberdeen Royal Infirmary Royal Infirmary of Edinburgh Golden Jubilee Hospital & Royal Hospital for Sick Children, Glasgow	Hussein El-Shafei Vipin Zamvar Kasra Shaikhrezai
Northern Ireland	Royal Victoria Hospital, Belfast	Pushpinder Sidhu
Northeast	James Cook University Hospital, Middlesborough	Ian Paul
Yorkshire & Humber	Castle Hill Hospital, Hull Leeds General Infirmary Northern General Hospital, Sheffield St James's Hospital, Leeds	Mahmoud Loubani Vasileios Tentzeris Giuseppe Pelella Sotiris Papaspyros Renata Greco Richard Milton

Region	Cardiothoracic Unit(s)	Unit Representative(s)
Northwest	Alder Hey Children's Hospital, Liverpool	Ramesh Kutty
	Liverpool Heart and Chest Hospital	Haytham Sabry
	Wythenshawe, Manchester	George Whittaker Eustace Fontaine
	Blackpool Victoria Hospital	Bejoy Philip
East Midlands	Glenfield Hospital	Giovanni Mariscalco Apostolos Nakas
	Nottingham City Hospital	Anas Boulemden Nathan Burnside
West Midlands	Queen Elizabeth Hospital, Birmingham	Eshan Senanayake Babu Naidu
	Birmingham Women's and Children's Hospital	Tim Jones
	Royal Stoke University Hospital	Shilajit Ghosh
	University Hospital Coventry	Tom Barker
	New Cross, Wolverhampton	Stephen Billing

Region	Cardiothoracic Unit(s)	Unit Representative(s)
East of England	Royal Papworth Hospital, Cambridge	Narain Moorjani Aman Coonar
	Norfolk & Norwich Hospital	Waldemar Bartosik
	Basildon Hospital	Alessia Rossi
London	Royal Brompton Hospital	Mario Petrou Silviu Buderi
	Harefield Hospital	Jullien Gaer Nizar Asadi
	Hammersmith Hospital	Marco Scarci
	Guy's Hospital	Juliet King
	St Thomas' Hospital	Sara Volpi Michael Sabetai
	Evelina Children's Hospital	Conal Austin
	Great Ormond Street Hospital	Nagarajan Muthialu
	University College London	Davide Patrini
	Kings College Hospital	Alia Noorani Donald Whitaker
	St George's Hospital	Aziz Momin Ian Hunt
	St Bartholomew's Hospital	Henrietta Wilson

Region	Cardiothoracic Unit(s)	Unit Representative(s)
Wales	University Hospital of Wales Morriston Hospital, Swansea	Malgorzata Kornazewska Afzal Zaidi
Southwest	Bristol Royal Hospital for Children Bristol Royal Infirmary Derriford Hospital, Plymouth	Shafi Mussa Cha Rajakaruna Igor Saftic Clinton Lloyd Adrian Marchbank
Wessex	Southampton General hospital	Walid Mohamed Dimitrios Pousios Lukasz Veres Antonio Ravaglioli
Thames Valley	John Radcliffe Hospital, Oxford	Rana Sayeed
Kent Surrey & Sussex	Royal Sussex County Hospital, Brighton	Damian Balmforth

Region	Cardiothoracic Unit(s)	Unit Representative(s)
Republic of Ireland	The Mater Hospital, Dublin	Karen Redmond
	St James's Hospital, Dublin	Gerard Fitzmaurice
	Cork University Hospital	Kishore Doddakula
	University Hospital Galway	Ronan Kelly

We have extracted information from the 2024 SCTS BORS report and online resources for the two centres unable to submit data to create a report as complete and accurate as possible.

Appendix C: SAC & TPD Acknowledgements

We are grateful to Tim Jones, Mark Jones, and the following Specialty Advisory Committee (SAC) Liaison Members, and Training Programme Directors (TPDs) for submitting information on resident doctors. We are also grateful to the SCTS Trainee Representatives who supported this process.

Region	Training Programme Director	SAC Liaison Member
Scotland	Mark Danton	Mahmoud Loubani
Northern Ireland	Niall McGonigle	Shahzad Raja
Northeast	Ian Paul	Steven Wooley
Yorkshire & Humber	Mahmoud Loubani	Elizabeth Belcher Neil Roberts
Northwest	Antony Walker	Kasra Shaikhrezai
East Midlands	Adam Szafranek	Shakil Farid
West Midlands	Shilajit Ghosh	Hunaid Vohra

Region	Training Programme Director	SAC Liaison Member
East of England	Ravi De Silva	Mark Jones Espeed Koshbin
London	Prakash Punjabi Kamran Baig	Dheeraj Mehta
Wales	Pankaj Kumar	Sri Rathinam Neil Cartwright
SouthWest	Hunaid Vohra	Shilajit Ghosh
Wessex	Szabolcs Miskolczi	Ravi De Silva
Thames Valley	Antonios Kourliouros	Ravi De Silva
Republic of Ireland	Ronan Ryan	Justin Nowell

Appendix C: Methodology

A survey was sent in November 2024 to all units in the United Kingdom and the Republic of Ireland via SCTS members. Further follow-up with BORS Unit Representatives and other colleagues who may not have been SCTS members was undertaken so that almost all units had submitted a response to the survey by March 2025. The survey questions are illustrated in figures 50, 51 & 52. Permission was granted by the British Association of Plastic, Reconstructive and Aesthetic Surgeons (BAPRAS) to review their survey and this helped inform the range of questions asked within the cardiothoracic survey.

During the same time period an additional survey was sent to all TPD and SAC Liaison Members for each training region in the UK and Republic of Ireland. Summary information had been provided by the SCTS trainee representatives and the TPDs were asked to verify the details with the support of the SAC Liaison Member as required.

The responses from these surveys were collated and analysed as detailed in the report.

Hospital name				
Healthcare Region				
Unit Representative				
Contact number				
Email				
Please enter total numbers for:	**Thoracic**	**Cardiac**	**Congenital**	**Transplant**
Substantive Consultant				
Academic Consultant				
Locum Consultant				
Unfilled Consultant posts				
Potential Consultant Retirements in next 5 years				
How many:	**Thoracic**	**Cardiac**	**Congenital**	**Transplant**
Consultant posts likely to be advertised in 2025?				
New posts as opposed to replacement appointments?				
	Thoracic	**Cardiac**	**Congenital**	**Transplant**
Specialty doctors				
Trust doctors				
Allied Health Professionals	**Thoracic**	**Cardiac**	**Congenital**	**Transplant**
Surgical Care Practitioners				
Physician Associates				
Nurse Practitioners				
Have any medical students visited your unit in 2024?				

Figure 50: Workforce Survey Section 1 (Anonymous Information Relating to Unit Workforce)

Gender	M or F	**Subspecialty interest**	**Cardiac** 1=Mitral
Age	1=<40 2=41-50 3=51-55 4=56-60 5=61-65 6=>66		2=Thoracic Aorta 3= Revascularisation 4= Minimally invasive 5=Transcatheter valve 6=Congenital/ACHD 7=Transplant
Job Plan PAs	1=<8 2=8-10 3=10-12 4=12-14 5>14		**Thoracic** 8=Robotic 9=LVRS 10=Chest wall / Sarcoma / Pectus 11=Airway 12=Transplant
Operating sessions **On call frequency (1 in number)**	One session=half-day	**Ethnic group (ONS census 2021)**	1= Asian or Asian Bristish 2= Black, Black British, Caribbean or African 3=Mixed or Multiple ethnic groups 4=White 5=Other
Specialty	1=Cardiac 2=Thoracic 3=Cardiothoracic	**GMC/IMC Recognised trainer**	Y or N
		External roles	1=NHS 2=Royal College 3=Examiner 4=SCTS 5=SAC 6=Other

Figure 51: Survey Key (Anonymous Information Relating to Consultants)

Gender	Age	Job Plan PAs	Operating sessions/week	General on call frequency

Specialty	Subspecialty interest 1	Subspecialty interest 2	Ethnic group

Figure 52: Workforce Survey Section 2 (Anonymous Information Relating to Consultants)

QUESTIONS? CONTACT US.

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