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Future proof

The impact of parental and caring responsibilities on surgical careers

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Commissioned and supported by

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Summary

Introduction

A committed and inclusive approach to attracting, supporting and retaining a diverse workforce is an essential part of addressing the staffing crisis – the most significant challenge facing the NHS today. However, many staff are struggling to manage their work and non-work commitments, with the House of Commons Health and Social Care Committee highlighting issues facing NHS staff with parental and caring responsibilities.[1] A recent independent report on diversity and inclusion in surgery that the Royal College of Surgeons of England commissioned – the Kennedy Review[2] – highlighted support for working parents as a key issue, and the College has, as a result, committed to a programme of work in this area.

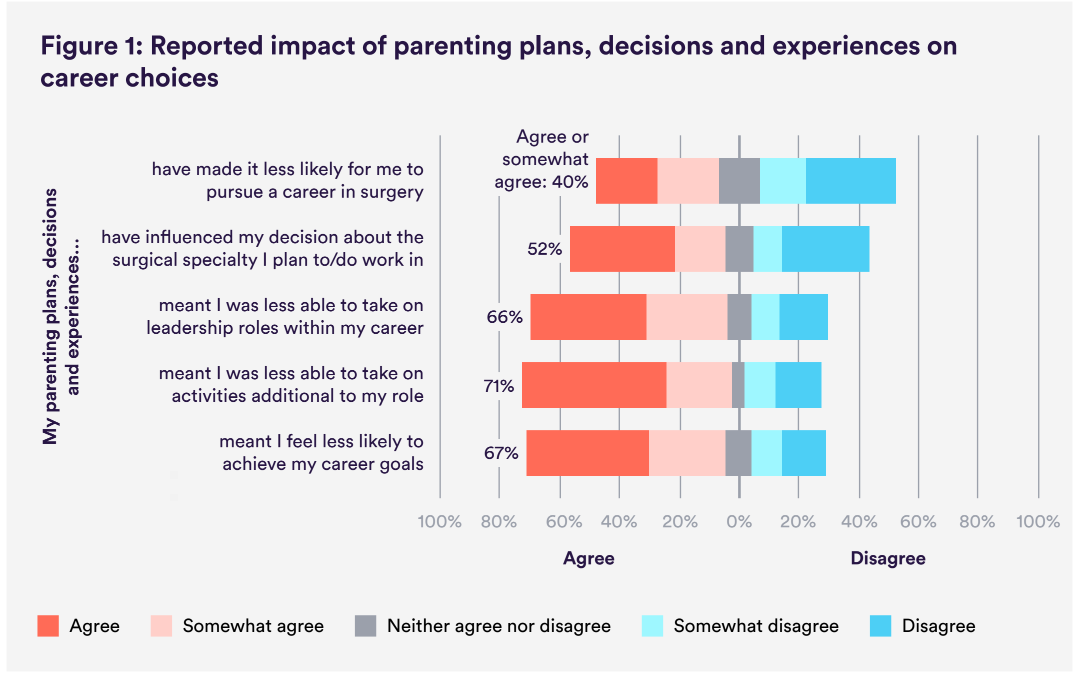
The Royal College of Surgeons of England commissioned the Nuffield Trust to explore the impact of parental and caring responsibilities on participation, progression and experience in surgical careers. Our research included a literature review, policy analysis, a survey of those considering or in a surgical career, interviews with doctors working in surgery, a focus group with medical students and analysis of workforce data.

Although policies exist to support parents who work in the NHS, our research indicates a worrying gap between policy and reality. Some of the issues we identified are apparent across the NHS and others are experienced across wider society. But some factors make them more acute within the surgical profession such as the length of the training pathway, nature of the role and culture.

Impact on career and life choices

Considerations of parenthood can play an important role in career choice. Two in five respondents to our survey suggested that their parenting plans, decisions and experiences had made them less likely to pursue a career in surgery and more than half indicated that these had influenced their decision about the surgical specialty they plan to or do work in (see Figure 1). We also heard that parenting plans can influence *where* surgeons train or take up a post. However, parental considerations are not the only factor – breadth and depth of practice, competitiveness, culture and opportunities for career development have all been previously identified as important.[3]

Figure 1: Reported impact of parenting plans, decisions and experiences on career choices



Note: Excludes those responding 'not applicable'.
Source: Nuffield Trust survey 2022

Parental or caring responsibilities also appear to affect career progress. Around two-thirds of survey respondents suggested that their parental plans, decisions and experiences had impacted on their likelihood of achieving their career goals, of undertaking additional activities to their role – such as in academia or research – or of taking on leadership roles (see Figure 1). Analysis undertaken for this report also suggests that female doctors returning from maternity leave progress less quickly than male doctors (from early to late

specialty training and onwards to specialty doctor or consultant posts). Part-time working and other absences only partly explain this. On participation, female surgeons work closer to full-time hours after returning from maternity leave than mothers in other fields of medicine.

Having children does not appear to substantially affect the retention of doctors in the short term. Among doctors and dentists, 91% of women who go on maternity leave are still working in the NHS's acute and community sectors two years later, which is more than the percentage among doctors in general under the age of 50 over a similar time period (88%). That said, parental responsibilities are often a reason for considering leaving. Just over half of respondents to our survey (55%) indicated that their parenting plans, decisions and experiences had meant they had considered leaving their role in surgery.

For many, a career in surgery has had a tangible impact on their decisions around planning a family. Of those responding to our survey, three-quarters (76%) suggested that their career was likely to influence or had influenced when they would have children. The impact is not limited to timing, with two-thirds (65%) reporting their career having an influence on the number of children they have or would have and two in five (41%) reporting that it had an impact on whether they had or would have children, with these proportions higher still when looking just at female respondents. Previous international research has revealed challenges around fertility among surgeons, and participants in our research highlighted the perceived conflict between completing surgical training and the desire to start a family.[4]

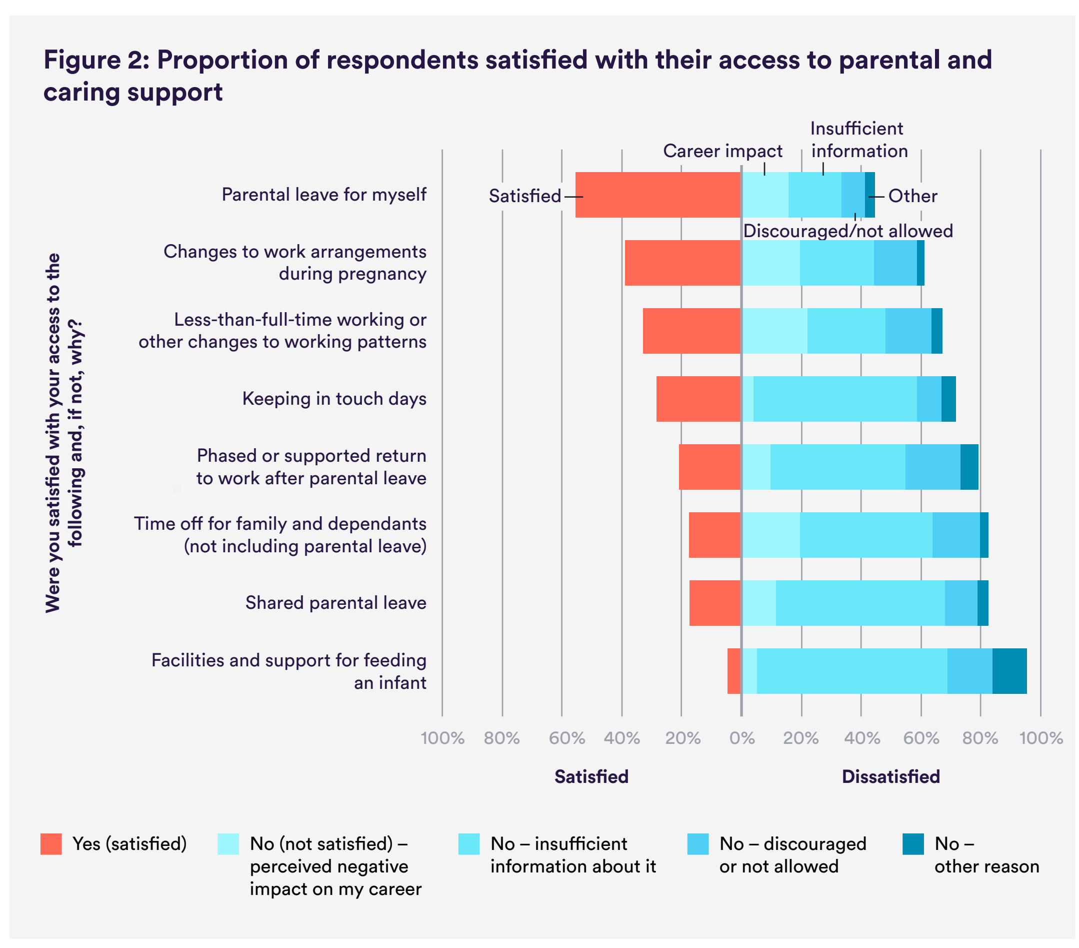
Access to contractual and legal rights

Doctors working in surgery are often not able to access the various entitlements intended to support those with parental responsibilities. For example, just 5% of respondents to our survey reported being satisfied with their access to facilities and support for feeding an infant,* while only one in five (21%) were satisfied with their access to a phased or supported return to work after parental leave.

* Such facilities and support include, for example, having places to express and store milk.

While women working in surgery take less maternity leave, on average, than in any other areas of medicine,* the majority of women responding to our survey were satisfied with access to parental leave for themselves. However, few male or female survey respondents (17%) were satisfied with access to shared parental leave (as highlighted by the red bars in Figure 2) and men were around half as likely as women to be satisfied with the length of their parental leave. There are various reasons why respondents were dissatisfied with access to support, although some common themes emerged, which we expand on below.

Figure 2: Proportion of respondents satisfied with their access to parental and caring support



Note: Excludes those who responded 'not applicable' or not needed to each specific question.
Source: Nuffield Trust survey 2022

* For example, the median is 43 weeks for those working in surgery compared with 47 weeks for those working in community/public health. Source: Institute for Fiscal Studies (2023) *Progression of Parents in NHS Medical and Nursing Careers*.

Childcare was consistently raised with us as a challenge. This is not an issue unique to doctors working in surgery, but training rotations and often long and unpredictable working days can exacerbate it. Most respondents to our survey reported that their childcare did not fit their working pattern, had inadequate spaces and was not in a convenient location. These issues may be even more pronounced for people with children with disabilities, and single parents.

Access to information and support

Poor access to clear and consistent information was a common theme throughout our research, and the most cited reason for dissatisfaction with access to things such as parental leave, less-than-full-time working and a phased return to work (see Figure 2).

Around two-thirds of our survey respondents (64%) reported that information on pregnancy at work (including risk assessments) was insufficient for their needs, with some noting that it was too "*ad hoc*" or rigid to account for evolving needs. In part, this was due to multiple sources of at times conflicting information, made more complex by having multiple employers (for example during training rotations). Some people we spoke to felt this was also partly a result of a lack of familiarity with policies to help parents, leaving them reliant on word-of-mouth suggestions rather than clear and consistent guidance.

Culture

The need for culture change was also a consistent theme. Our work suggests that there needs to be greater emphasis on how to support people as they balance their career with other interests and responsibilities, rather than seeing it as a problem or challenge.

Our survey results suggested that all too often, respondents who needed them were discouraged from accessing various entitlements or were not allowed to access them, including a phased or supported return to work (18%), time

off for family and dependants* (16%) and less-than-full-time working (15%) (see Figure 2). Some reported examples of bullying and discrimination. More generally, we heard of patterns of inflexibility, culture and service pressures that are preventing access to more appropriate and personalised support.

Increasing the participation of women in surgery is undoubtedly an important part of challenging this culture. But our work has shown that supporting parents is not just about gender. Any actions to improve the experience of people working in surgery with parenting and caring responsibilities must include everyone. 'Normalising' parenting within surgery alongside a more general acceptance of flexible working across the NHS were felt to be a key part of this.

Flexibility

A lack of flexibility was often mentioned as a challenge for those working in surgery when seeking to balance parental and work commitments. For those reporting that their parenting plans, decisions and experiences had influenced their decision to pursue a career in surgery or choice of specialty, the number, timing, predictability and flexibility of working hours were all key factors. Similarly, flexible working patterns and more flexible training pathways were – along with improved culture – the top three things highlighted in our survey as necessary to improve the experience and situation of parents working in surgery.

Several people we spoke to felt it was desirable to wait until becoming a consultant before having children, due to better career stability and autonomy in organising working hours. Frequent rotations within regions, some of which are large and require lengthy commutes, and at times living away from family, were noted as particularly difficult due to the pressure on families and practical challenges with arranging childcare, as well as the lack of autonomy over working patterns. Greater control over hours was not the only explanation given for delaying starting a family, with better pay, for example, also being given as a reason.

* Not including parental leave.

Issues around flexibility were also a concern during pregnancy. Around three-fifths of survey respondents who said they needed it reported being dissatisfied with access to changes to work arrangements during pregnancy (see Figure 2). This is having negative effects, with two-thirds of survey respondents (66%) suggesting that they worried their work schedule or duties compromised the health of their baby during pregnancy.

Variation between specialties

Some specialties appear to have particularly distinct challenges around the inclusion of those with parental and caring responsibilities. In part, this is due to the nature of the work as currently organised, with varying degrees of emergency or on-call work. This was raised as a key challenge, often relating to the ability to organise childcare. Similarly, in our conversations, certain specialties, such as neurosurgery, were referenced due to their notoriety as having particularly time-intensive and irregular working patterns. There are also apparent differences in the take-up of flexible working, with – across all medical specialties – cardiothoracic, vascular and plastic surgery all having the highest full-time average hours worked after returning from maternity leave (all, in fact, adding up to more than one full-time contract).[5]

Concluding remarks

The importance of the surgical workforce and the extent of the challenges around parenting and caring highlight the need for action. Too many (61% of survey respondents) regret the family sacrifices they have made for the sake of their career. And while a small majority of those in or pursuing a career in surgery who responded to our survey thought it was compatible with parenthood, more than a third (36%) did not. If the NHS is committed to making flexibility 'the default', and ensure that it has a diverse workforce, there is valuable learning from this work. Although there may be particular issues related to gender (and where relevant and appropriate these are highlighted throughout the report), it is important that action to address the impact of parenting and caring responsibilities within surgery includes everyone.

Most of our evidence base looked at impact around parental responsibilities, but the challenges are broader. Around one in seven respondents to our survey (16%) stated that they look after or give help/support to someone because of a disability or old age, with some such individuals reflecting on the impact of caring responsibilities on their career and *vice versa*, particularly regarding the need for flexible working patterns and support from colleagues.

Improving the experience of those with parenting and caring responsibilities who work in surgery will require concerted action from the surgical profession (including the Royal College of Surgeons of England), NHS trusts, NHS policy bodies and wider society. With this in mind, we make a number of detailed recommendations in Chapter 6, focusing on areas such as:

- the need for agreed roles and responsibilities, particularly regarding the provision of clear and consistent information on parental rights (including in relation to flexible working patterns, return to work after pregnancy and parental leave) and safe working during pregnancy
- access to support for people with parenting and caring responsibilities (such as networks, mentors and counsellors)
- action to promote an inclusive culture across surgery and the wider NHS regarding access and support for people with parenting and caring responsibilities
- action to address system constraints that make flexible working a challenge across the NHS (for example, rotas, how posts are funded and workforce projections)
- improving data on reasons for leaving and less-than-full-time working
- further research on the experience of caring and parenting responsibilities among, for example, overseas recruits and people from Black and minority ethnic groups
- engaging with medical students on perceptions of surgery as a field to work in.

1 Introduction

A committed and inclusive approach to attracting, supporting and retaining a diverse workforce is an essential part of addressing the workforce crisis in the NHS – arguably the most significant challenge facing the NHS today. However, many NHS staff are struggling to manage both their work and non-work responsibilities. The number citing work–life balance as the reason for leaving their role has quadrupled in a decade and this is now – along with retirement – the most common reason.[6]

In the face of these trends, the NHS has committed to making flexibility 'the default'.[7] A recent House of Commons Health and Social Care Committee report suggests that the participation of those with parental and caring responsibilities warrants particular attention, noting that the provision of affordable and flexible childcare, flexible working and the option of less-than-full-time working are necessary for supporting retention across the NHS workforce.[8]

A recent independent report on diversity and inclusion in surgery that the Royal College of Surgeons of England commissioned – the Kennedy Review – highlighted support for parents as a key part of this.[9] Since this review, the Royal College of Surgeons of England has initiated a programme of work in this area. As part of this, we were commissioned to explore the impact of parental and caring responsibilities on participation, progression and experience in surgical careers.

Some of the issues raised in our work – such as the desire for more flexible working patterns and finding appropriate childcare – are not isolated to surgery or even the NHS. But there are some aspects of the surgical profession that make these issues more acute. The nature of the role, often with a degree of unpredictability and long hours, as well as frequent rotations during training, potentially requiring lengthy commutes and at times living away from family, were noted as particularly difficult due to the pressure they put on families and practical challenges with arranging childcare.

There are other reasons why considerations around parental and caring responsibilities require particular attention in surgery. Perceptions – which the prevailing culture often causes – of surgery as a demanding career requiring sacrifice or 'presenteeism' can contribute to concerns that a surgical career is not compatible with parenthood. While changing, surgery has historically had a low proportion of women working in it, which may influence the culture and risk lower awareness of parental entitlements and rights. Despite some recent progress, women remain under-represented in senior roles within surgery.

About this report and our approach

Initial, exploratory research that the Royal College of Surgeons of England conducted identified several challenges for people with parenting responsibilities working in surgery and recommendations for how the College can help to make change for the better.[10] However, the extent of the problem and the wider evidence base were less well known. Our research was commissioned to fill some of these gaps and identify the extent of the issues. Our research was conducted between April and December 2022. It included:

- a review of academic literature from the UK and other countries of the Organisation for Economic Co-operation and Development (OECD)
- analysis of the current UK policy context and publicly available data
- a survey of those considering or currently in a surgical career (313 responses)*
- 15 semi-structured interviews with doctors working in surgery in different career stages and from different specialties
- a focus group with medical students
- analysis of workforce data commissioned from the Institute for Fiscal Studies.

Further details of our methodology and its limitations are provided in the Appendix.

* Where relevant and statistically significant, we report survey findings by gender. However, due to the sample size, this was not always possible.

In the rest of this chapter we provide, first, an overview of the surgical training pathway and the different surgical specialties and, second, a description of the current context around parenting and caring rights within the NHS and the UK. We then report on our findings based on the impact of parenting on our outcomes of interest: career choice and family planning (Chapter 2), pregnancy and parental leave (Chapter 3), participation and wellbeing (Chapter 4) and career progression, pay and retention (Chapter 5). We draw on both our own research and the wider evidence base. We conclude with a discussion about the wider implications of this work for the NHS and outline a series of recommendations (Chapter 6). Although our focus is primarily on England, some participants may have been reflecting on experiences from across the UK and many of the issues and recommendations we have outlined are likely to be relevant across all four countries of the UK.

Due to the need to protect the anonymity of those who took part in our research, we have not used direct quotes from our interviews. However, quotes from the focus group discussion that relate to wider perceptions of surgical careers are highlighted to illustrate key points where relevant. Unless specified, comments and observations are applicable across all career stages and specialties in surgery.

A note on language

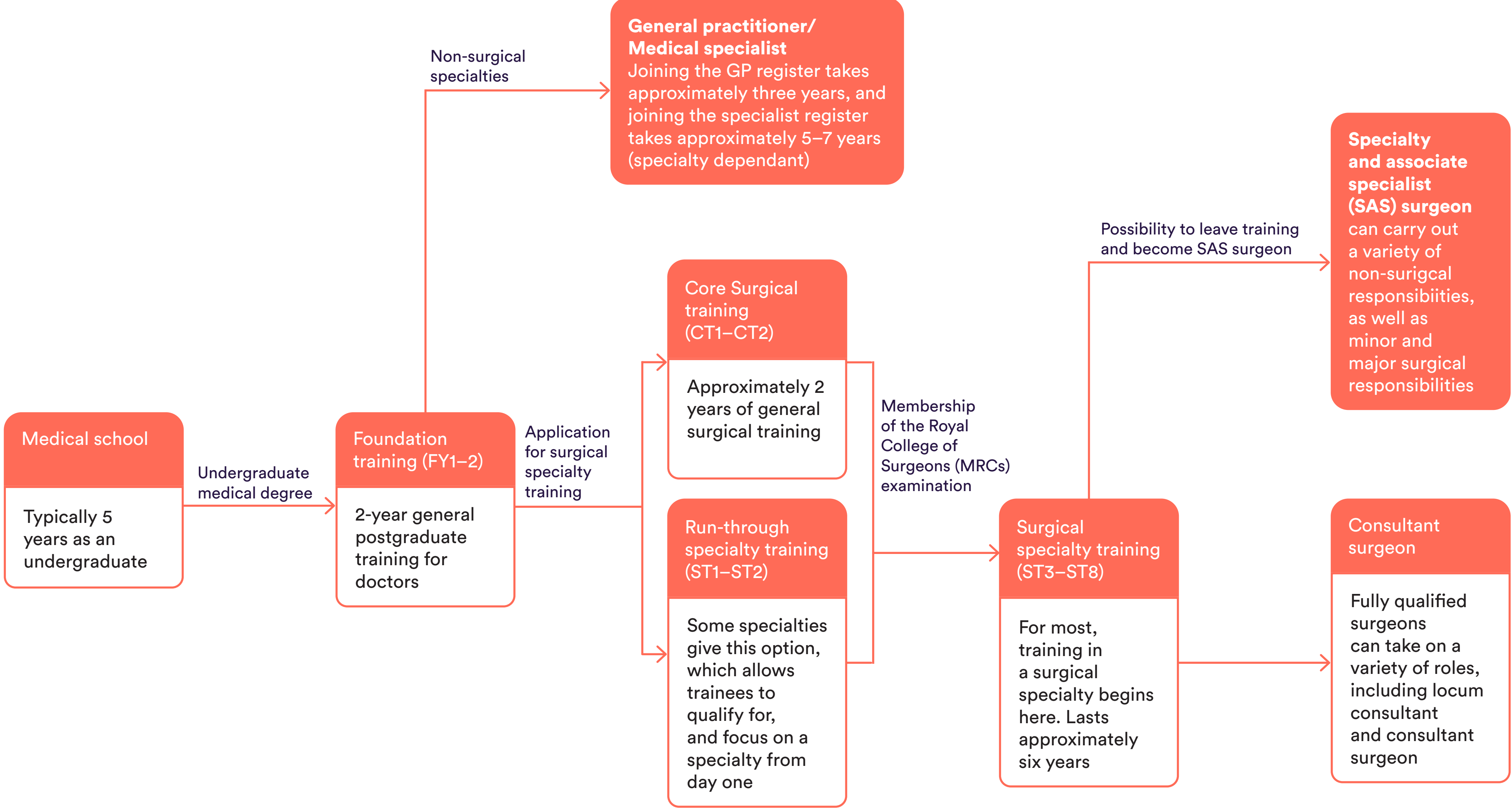
Throughout this report we have sought to echo the approach that the Royal College of Surgeons of England has taken with regard to using language that reflects inclusivity and aims to respect the current environment at the time of writing. We have tried to refrain from using gendered terms unless they reflect an underlying data source. We have refrained from using the term ‘childbearing’ so that we remain inclusive to those going through surrogacy and adoption routes.

Where referring to time away from work for parenting reasons, we have used the broad term ‘parental leave’, but where it is relevant and necessary to use specific terminology we have explained this in the text.

Overview of surgical careers

From starting medical school, if full time and without breaks, it will typically take at least 13 years to become a fully qualified surgeon (see Figure 3). Progression through surgical training is dependent on being judged to demonstrate necessary competencies.[11] Specialty training is one of the longest when compared with that in other countries.[12] Depending on the specialty, trainees are expected to rotate around different departments, which can mean moving between hospitals.

Figure 3: Standard surgical pathway in the UK



Note: The figure is intended to represent a typical surgical career and not to comprehensively reflect all career pathways.

Sources: British Medical Association,[13] Royal College of Surgeons of England,[14] NHS Health Careers,[15] Health Education England[16] and Intercollegiate Surgical Curriculum Programme[17]

There are 10 main surgical specialties, the largest being general surgery, and trauma and orthopaedic surgery. The training requirements and usual day-to-day work undertaken within each specialty vary (see Table 1). The specialties also vary in terms of the certainty of working hours, including on-call requirements to manage emergency procedures.

Table 1: Overview of surgical specialties and training requirements

Specialty	Applications per place (competitor ratio), 2021	Example procedures	Degree of emergency/ on-call work	Specific characteristics/ requirements
Cardiothoracic surgery	24	Heart transplant Heart valve repair	Some	Very competitive, with small overall number of posts
General surgery	4	Hernia repair Appendix removal	High	Largest specialty, alongside trauma and orthopaedic surgery Accounts for 31% of surgeons
Neurosurgery	16	Lumbar puncture Craniotomy (direct brain surgery)	High	Almost exclusively taken as a run-through programme
Oral and maxillo-facial surgery	7	Tooth extraction Cleft lip/palate repair	Low	Requires both a medical and a dental degree before specialty training
Otolaryngology (ear, nose and throat)	4	Tonsil removal Sinus surgery	Low	Surgeons simultaneously act as doctors – there is a high proportion of non-operative work
Paediatric surgery	7	Congenital defect repair Childhood cancers	Low	Mainly in specialised children's hospitals or paediatric units
Plastic surgery	3	Reconstructive surgery Cosmetic surgery	High	High degree of interdependency with other surgical, and non-surgical, specialties
Trauma and orthopaedic surgery	3	Major trauma Hip replacement	High	Proportion of on-call work can depend on the size of the trauma unit
Urology	4	Kidney stone removal Vasectomy	Low	Urological conditions are common among the population but most procedures are elective
Vascular surgery	4	Artery plaque removal Artery/vein widening	Some	Recently emerged as a separate specialty from general surgery

Notes: Applications per place are given for the most common point of entry for the specialty, either Specialty Training Year 1 (ST1) or Specialty Training Year 3 (ST3). The number of places varies annually according to service need.
Sources: Royal College of Surgeons of England,[18] NHS Health Careers,[19] Health Education England[20] and Intercollegiate Surgical Curriculum Programme[21]

Overview of parenting and caring rights

In the UK, employment rights for people working within the NHS are a combination of national and NHS-specific rights, and accompanying guidance (see Table 2 on page 67). These include arrangements for maternity, paternity, adoption and shared parental leave and pay. People are also entitled to time off to attend antenatal appointments and pregnant and breastfeeding women should receive a risk assessment to identify any required amendments to their working patterns. Some trusts have introduced additional policies covering leave and support in the case of premature birth, fertility treatment and bereavement. Pregnancy and maternity are also protected characteristics under the Equality Act 2010. Guidance also exists to support people returning to work such as on 'keeping in touch' days and 'shared parental leave in touch' days, and the option to request flexible working arrangements.[22]

There are also initiatives to support people working within the NHS who have parenting or caring responsibilities. For example, less-than-full-time training enables doctors to amend their working patterns where training full time is impractical or not desirable.[23] Originally, eligibility to train less than full time was only available for childcare or caring reasons and personal and professional development, but following a pilot, since summer 2022, all doctors in training in England have the right to apply to train less than full time, for a 'well-founded reason', including caring responsibilities or personal wellbeing.[24] Since 2021, NHS employees have also had the right to request flexible working arrangements from the first day of employment.[25]

An international viewpoint

Despite variation in surgical career pathways and legal support for parents, looking internationally can provide a helpful overview of the impact of parenting on surgical careers.[26] Most results in our literature review were from Germany, Japan and the United States. This different context (such as the availability of paid parental leave) is relevant when considering the generalisability of the literature. However, many countries are experiencing challenges with the recruitment and retention of the health and care workforce and recognise the need to support diversity in surgery. Where relevant, we draw on this wider evidence base.

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2 Career choice and family planning

In this chapter we look at how and why parental considerations can impact choice of career, which specialty surgeons select and where they choose to work. Conversely, we also look at how and why a career in surgery can affect decisions around parenthood, such as family planning.

Choice of surgery

Considerations of parenthood can play an important role in whether individuals pursue a career in surgery. Two in five respondents to our survey (40%) suggested that their parenting plans, decisions and experiences had made them less likely to pursue surgery. This resonates with a previous survey of medical students which found that three in five (59%) did not believe a surgical career allowed a good work–family balance, despite the vast majority feeling that this balance was an important factor in informing their choice of career.[27] This was not the only influencing factor, with considerations such as their personal interests also driving the choices of those we spoke to. Conversely, some interviewees also reflected that it had not factored in their decision-making at all. Some suggested it was because their motivation was their desire to do surgery (rather than because it was seen as 'family friendly') but also because having children was not something that was on their mind when they were needing to make their choices. Others noted that their circumstances had changed, and therefore so had the factors influencing their career or family planning decisions at different points in their lives.

Some surgeons we spoke to who had not considered parenting when choosing their career path reported that, in hindsight, they wished they had. A previous survey found that just under half of medical school graduates suggested that having or wanting to have children had influenced the branch of medicine they pursued, although this was the case for only one in five of those who

chose surgery, compared with a quarter of those in hospital doctor roles and nearly four in five of those in general practice.[28]

The impact is often higher for women. Female respondents to our survey were significantly more likely to indicate parental considerations had made them less likely to pursue surgery than male respondents (45% versus 30%). In a survey that the British Medical Association conducted, of the 61% of women who responded saying that they had been discouraged from working in a specialty because of their gender, 41% cited surgery as the specialty they were advised not to go into – this was compared with 15% of men who had been discouraged from entering a specialty based on their gender.[29] Examples were given of both medical students and trainees being discouraged from entering surgery due to it being incompatible with parenthood.

Internationally, studies have described the challenge of converting the numbers of women in medical training to women in surgery[30] and, across surgery in England in 2018, females accounted for more than half of new (foundation year) doctors but only around one in seven consultants (15%).[31] Of course, parental considerations are not the only factor. Other factors that female surgeons who engaged with our, and others', research included:[32]

- the breadth and depth of practice
- research, career and mentorship opportunities
- competitiveness
- culture (including the presence of a 'boy's club' mentality).

In one study on neurosurgery, factors such as gender diversity and attitudes towards maternity leave were considered the least important compared with things such as case variety and team camaraderie.[33]

The impact of their career on life outside work is likely becoming a more prominent career consideration for prospective surgeons. The medical students we spoke to discussed the importance of practical support and varied resources to help choices of specialty be as informed as possible. And a study in Canada found that first-year medical students contemplating a career in surgery are taking into consideration aspects such as the role of partners, the impact of pregnancy on their careers, parenting and parental leave.[34]

Choice of specialty

Considerations about parenthood also appear to play an important role in the choice of surgical specialty. More than half of respondents to our survey (52%) indicated that their parenting plans, decisions and experiences had influenced their decision about the surgical specialty they planned to or do work in. Previous work identified that female doctors had a greater preference for specialties offering 'plannable' working hours.[35] In England, the proportion of female doctors across the different specialties varies considerably with, for example, fewer than one in five (18%) in cardiothoracic surgery and in trauma and orthopaedic surgery but more than double this (43%) in oral and maxillo-facial surgery.[36] This pattern can be self-reinforcing, as reflected in our focus group discussions: "Out of [nearly 30] consultants in the hospital, there was only one other female… so I think that would put me off a bit or make me rethink, why are there not so many women going into this?" (focus group participant, medical student).

Reasons for parental responsibilities impacting career choices

A range of contributory factors explain why individuals' parenting plans, decisions and experiences influence their decision to pursue a career in surgery, or their choice of specialty. Among these, our survey respondents most commonly cited childcare (with 46% of all respondents selecting this). The other most selected options revolved around working hours – predictability (39%), flexibility (33%), when they were (33%) and the number of hours (32%) – issues that are likely to also relate to childcare arrangements. Stakeholders discussed the culture of surgeons being responsible for their own patients, which means they will not leave a procedure until it is finished. Additionally, a quarter of respondents selected length of training, and around one in five said that the way colleagues may perceive them if they have children was a main contributory factor in influencing their decision to pursue a career in surgery or their choice of specialty. This sentiment was echoed by participants in our focus group:

> [I've been] on the surgical round, I've seen how unpredictable it is. You can just end up staying so much later than initially planned…
> (Focus group participant, medical student)

> I think the public probably see surgeons as [having] more hectic a lifestyle than medics.
> (Focus group participant, medical student)

Survey respondents and interviewees reported that both what they had heard from others and personal experiences of rotations in different departments were driving concerns around the compatibility of surgery as a career with family life. Some interviewees reflected on attitudes and influences encountered in the early stages of their careers. These included people making assumptions that they did not want to have children if they were interested in surgery, or hearing female surgeons say they had given up their life and family for their career. The influence of senior members of staff was also important and varied based on gender. Some female surgeons recalled a generally dismissive attitude from senior colleagues after they had expressed an interest in surgery. The vast majority of respondents to a previous international survey had been told or heard that a surgical career is not compatible with parenthood. Females were substantially more likely than males to have been told this (80% versus 60%).[37] The British Medical Association has also noted that questions around a woman's ability to perform as well as a man in surgery due to stereotypes have also impacted career choices.[38] There was some discussion about these issues during our focus group:

> I've personally been in situations where some male doctors, again it's been true in orthopaedics, unfortunately have said things that are just not okay to say and it really puts you off the specialty because you think: Are these going to be my colleagues? Am I going to have to work with them?
> (Focus group participant, medical student)

The factors influencing career choices differ between specialties. Depending on the specialty, individuals may be required to take on board on-call/ emergency work, and those who took part in our research noted the on-call rota as a particular pinch point for balancing career and parenting responsibilities. These often long and unpredictable hours were noted

throughout as a key challenge of surgery, often relating to the ability to organise childcare. Many individuals also appear to have clear ideas of which branches of medicine and individual specialties are more family friendly, and which are less so. One focus group participant noted: “I know there are certain specialties that are more inclined to give you a better quality of life or… more of a routine… so I’ve heard a lot about general practice.” In our conversations, certain specialties, such as neurosurgery, were referenced due to their notoriety as particularly time intensive and irregular, and focus group participants linked such qualities to challenging implications for areas such as childcare and general family life.

Choice of location

Parental considerations may also influence where people choose to work. We heard through our interviews and survey that people may choose certain regions based on whether they would be able to stay in the same place for the duration of their training. But, for some specialties, the locations of training posts are limited, which individuals suggested left them with little choice or autonomy. Frequent relocation also caused practical challenges, particularly if moving away from informal childcare support and where there was the need to find and give notice on nursery places. Even where moving home was not required, starting a post at a hospital further away from home was associated with extra challenges around childcare and general family life due to increased commuting time.

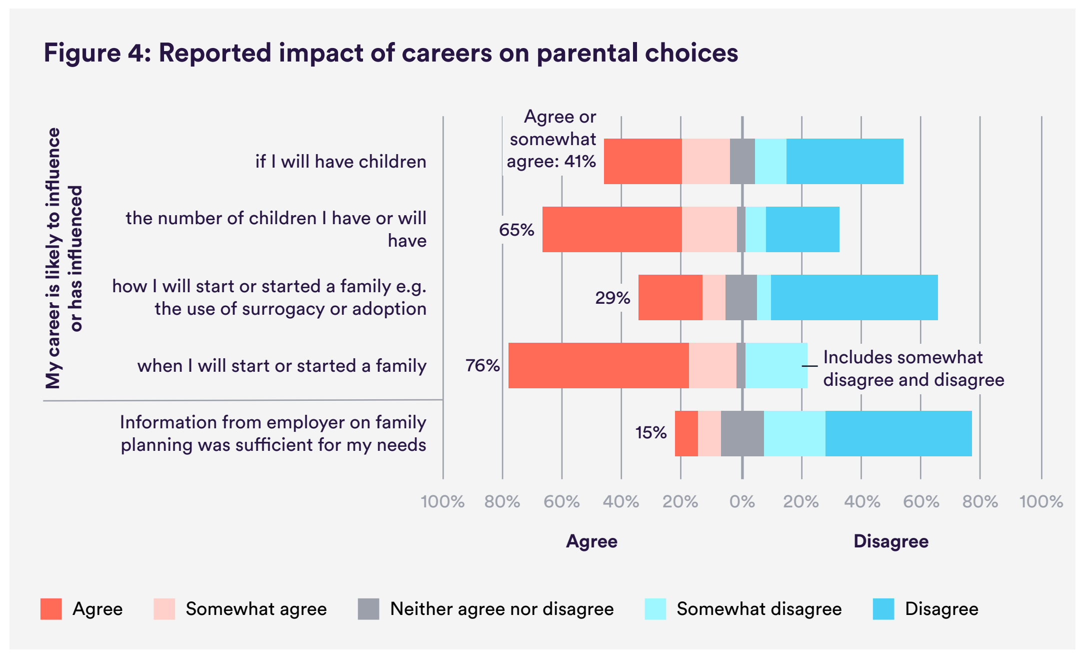
Impact on family planning

We found that a career in surgery has, for some, had a tangible impact on a variety of aspects of life outside the workplace. As we outline below, surgeons are more likely to delay becoming parents for the first time because of these career pressures, and once surgeons do decide to have children, these pressures still often exert themselves.

Of respondents to our survey, around three-quarters (76%) suggested that their career was likely to or had influenced *when* they would have children, two-thirds (65%) said it was likely to or had influenced the *number* of children

they had and two in five (41%) said it was likely to or had influenced *whether* they had children (see Figure 4). There were gender disparities too, with female respondents around 25 percentage points more likely than male respondents to indicate influence on each of these outcomes. Supporting this, a study from Ireland found that female trainee surgeons were almost half as likely as their male counterparts to have children.[39,*]

Figure 4: Reported impact of careers on parental choices



Notes: Percentages exclude those who responded 'not applicable'. For 'when I will start or have started a family', we combined scores for 'somewhat disagree' and 'disagree' due to a low base size.
Source: Nuffield Trust survey 2022

* Another study found that male surgical trainees were significantly more likely to have children before the age of 30, and that female trainees were significantly more likely to delay having children because of the demands of training. Source: Furnas HJ, Garza RM, Li AY, Johnson DJ, Bajaj AK, Kalliainen LK, Weston JS, Song DH, Chung KC and Rohrich RJ (2018) 'Gender differences in the professional and personal lives of plastic surgeons', *Plastic and Reconstructive Surgery* 142(1), 252–64. https://doi.org/10.1097/prs.0000000000004478. Accessed 5 February 2023.

Women and men in surgical specialties tend to be slightly older when they become parents compared to those in non-surgical specialties, by about eight months.[40] This is particularly noticeable in training positions, with women who are training in surgical specialties half as likely to have had a period of maternity leave five years after beginning specialty training as women in training in non-surgical specialties (20% compared with 39%).[41] The impact on family planning is not unique to surgery with, for example, women in other male-dominated specialties also typically having fewer children.[42]

Of the various contributory factors behind why our survey respondents' career influenced parental choices, working hours were often cited, with issues around the number, their timing, predictability and flexibility (see Figure 5). Impact on career progression was also commonly cited. Many doctors in surgery we spoke to said they felt it was more desirable to wait until becoming a consultant to have children, particularly for better pay, stability (hours and location) and autonomy in organising working hours. Others also specifically noted waiting to start a family until after they had completed their final examinations due to the additional pressure of balancing work and revision.

Family planning support

We identified issues around a lack of support for family planning. Most respondents to our survey did not seek support around family planning but, of those who did, less than a third (32%) felt the support they were given was sufficient. We also heard that some senior colleagues discouraged others from attempting to become a parent before finishing training and that there was a widely held perception within the surgical community that being a consultant is generally more compatible with having children than being a trainee. Some interviewees in our research who were reflecting on experiences from several years ago felt that the situation was better for parents now than for themselves, given the increased visibility of people with children and amended working patterns in surgery. But we did also hear from people reflecting on more recent experiences suggesting that, despite these developments, challenges remain.

Figure 5: Reported main contributory factors for how a surgical career affected parental choices

If your career decisions have influenced your parental choices what were the main contributory factors?

Childcare options compatible with my work
When hours are worked
Predictability of hours
Number of hours
Impact on my career progression
Flexibility of hours
Length of training
Impacts on mental health
Perceptions of others about me having children
Perceptions of others about having children
Parental leave entitlement
Impact it will have on others I work with
Impacts on physical health
Other

0% 10% 20% 30% 40% 50% 60%

Note: Values are given as a percentage of respondents who answered this question, with respondents able to select multiple factors.

Source: Nuffield Trust Survey 2022

Fertility

The timing of the decision to have children can have an impact on the experiences of individuals. Previous international research has highlighted challenges around fertility with, for example, one study finding a third (32%) of female surgeons in the United States (US) reporting fertility difficulty – three times the rate in the general population (11%) – which was attributed to surgeons being more likely to delay childbirth.[43] Another US study, specifically looking at neurosurgeons, suggested there could be high rates of fertility issues for females due to the physical challenges of the role and – for both sexes – potentially due to stress.[44] Rates for the use of assistive reproductive technologies appear to be higher among female surgeons than in the general population,[45] and this has been linked to higher age at first pregnancy,[46] although it is important to note that not all uses of these technologies are due to fertility issues.

Our interviewees and survey respondents highlighted the conflict between completing surgical training and an individual's 'biological clock'. Some noted difficulties becoming pregnant, sometimes linking this to waiting to start a family. More broadly, more than a quarter of survey respondents (29%) suggested their career will likely influence or has influenced how they will start or started a family (for example, through surrogacy or adoption), with some mentioning assistive reproductive technologies specifically.

3 Pregnancy and parental leave

In this chapter we explore the health and wellbeing of parents working in surgery during pregnancy (including partners). This includes access to risk assessments, amendments to working patterns and post-partum support. We then consider access to maternity, paternity and shared parental leave.

Health and wellbeing during and after pregnancy

Previous research has identified associations between working in surgery and pregnancy complications, although the exact reasons for this remain unclear. For example, in one study, just over two-fifths of US female surgeons surveyed had a pregnancy loss, more than twice the rate in the general population.[47] Similarly, they were almost twice as likely to have major pregnancy complications as female partners of surgeons (who were not surgeons themselves), even after controlling for age, work hours, use of IVF and multiple pregnancies.[48]

Managing pregnancy-related issues such as morning sickness (including hyperemesis gravidarum) and pelvic pain while working was noted as challenging, with some interviewees and survey respondents highlighting a lack of practical and emotional support for coping with this. Across all hospital doctors in the NHS, the number of recorded days lost due to 'pregnancy-related sickness' stood at around 16,400 days in the year to May 2022, representing a 30% rise on the corresponding period three years before.[*49]

* In the year to May 2022, doctors working in hospital and community services reported 16,376 full-time equivalent days off due to pregnancy-related disorders compared with 12,576 in the year to May 2019. Sickness absence data for doctors are typically an underestimate.

Information and risk assessments

Practice and guidance around working in surgery during pregnancy vary internationally, from stopping carrying out operations or needing to be on call early in the first trimester (for example, Italy), to working full schedules up until delivery (for example, China).[50] In the UK, things are done on an individual basis, meaning all pregnant and breastfeeding women should have a risk assessment to identify whether any adjustments to their working conditions or hours are required.[51]

But our research suggests that access to and information around risk assessments are variable. Nearly two-thirds of applicable respondents to our survey (64%) reported that information on pregnancy at work (including risk assessments) was insufficient for their needs. Some surgeons we spoke to did not have a risk assessment at all during pregnancy. Others did but found that the process or subsequent action was insufficient, too "*ad hoc*", not supportive and too rigid given evolving needs during pregnancy.

We heard of particular issues around information on working with hazardous substances during pregnancy. Some individuals found it difficult to access information about the risks of working with cement, radiation, anaesthetic gases and iodine scrub – and the onus was on them to look for this information – and therefore relied on word-of-mouth advice such as doubling up on gloves and masks and "hoping for the best". Although guidance on working with things such as radiation and lead does exist, it is not consistent, ranging from clear recommendations to referring people to individual organisational policies.[52] Similarly, international guidance on radiation also varies.[53]

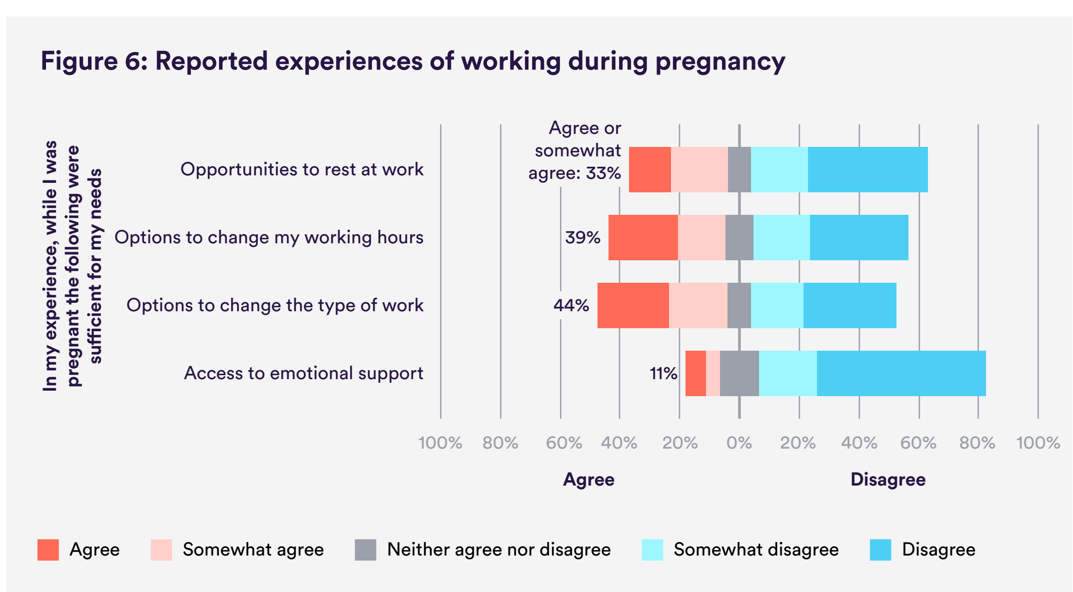
We heard that, rather than a prescriptive approach, surgeons (at all career stages) wanted clear and consistent information about what the evidence says so that they can make an informed decision about their risks, what is safe and how this should be managed throughout pregnancy. This included evidence not only on working with materials but also on working hours or the on-call rota. They also wanted an individual approach reflecting their own situation,

which also might change throughout the course of pregnancy (reflective of other international studies*).

Experience of working during and after pregnancy

Individuals' experiences working during pregnancy are widely variable, with some people feeling unable to make the changes they desire. Many doctors in our survey reported discontent with the type and timing of work during pregnancy, opportunities to rest and when they stopped working (see Figure 6). Nearly half (48%) of parents responding to our survey wished they had stopped working sooner and two-thirds (66%) suggested that they worried that their work schedule or duties compromised the health of their baby during pregnancy. People described feeling like their own health needs (and the needs of their baby) conflicted with the needs of their employer. But it is important to note that several interviewees talked about positive experiences where they felt well supported by their colleagues, and this was reflected in the survey free-text comments, albeit far from universally.

* In Germany, for example, where the rules around working during pregnancy are stricter, a survey of female surgeons found that 80% wanted the opportunity to make an individual decision on continuing surgical activities. See Knieper C, Ramsauer B, Hancke K, Woeckel A, Ismail L, Bühren A and Toth B (2014) '"Pregnant and operating": evaluation of a Germany-wide survey among female gynaecologists and surgeons', *Geburtshilfe und Frauenheilkunde* 74(9), 875–80. https://doi.org/10.1055/s-0034-1383065. Accessed 5 February 2023.



Note: Excludes those who responded 'not applicable'.
Source: Nuffield Trust survey 2022

Concerns people have about how colleagues will perceive them are a factor in considering making changes to working patterns during pregnancy. In one study, almost three-quarters (73%) of US residents (doctors in training) reported having witnessed faculty members or other residents making negative comments about pregnant trainees or 'childbearing' during training.[*,54] Our survey showed that of those who were dissatisfied with their access to amendments to working patterns, 40% of respondents were dissatisfied due to insufficient information, a third (32%) said this was due to a perceived negative impact on their career and a quarter (24%) were discouraged from accessing or not allowed to access any changes. We heard that, for some, fear of being perceived as weak, lazy or unable to do their job left them unwilling to say when they were struggling or challenge when their requests were blocked. This is apparent elsewhere too. Almost three-quarters of US surgeons in one survey who did not reduce their clinical workload avoided such requests due to fear of being considered 'weak', as well as concerns about burdening colleagues, being required to make up missed calls or having a workplace that would not accommodate such modifications.[55]

* 'Childbearing' was the term used in study.

Support for partners was also noted as lacking. Some respondents recalled not being supported or encouraged to attend antenatal appointments for their pregnant partner, and some pregnant individuals were required to take annual leave for their own appointments, despite this being a legal right.[56] For people undergoing fertility treatment, there was a recognition of the need for both parents to be supported to attend appointments such as for egg collections, and for the physical impact of that to be recognised (for example, if requiring a general anaesthetic). We also heard examples of people feeling unable to support their partner who was experiencing post-natal depression or had had a miscarriage. Several even reflected that they regretted not taking time away to support their partner but felt the nature of the work and culture prevented them from asking for it.

Some trusts have introduced policies and guidance to support those who experience stillbirth or miscarriage during pregnancy but, for those who experience such loss, too many are not sufficiently supported. At the time of writing, nine NHS trusts have signed up to the Miscarriage Association's 'Pregnancy Loss Pledge' and nine to The Smallest Things' 'Employers with Heart' charter.[57] These encourage specific policies and actions to support people who have experienced baby loss or whose babies have been born prematurely.

Individuals who were pregnant during the Covid-19 pandemic also had variable experiences. Some were removed from patient-facing duties and supported to carry on working remotely where possible (although this was more possible for some surgical specialties than others). Some interviewees and survey respondents felt well supported and protected during the pandemic. But others noted a lack of clarity within their trust and wider NHS about the rules around working during the pandemic and pregnancy, and some felt pressured to carry on with patient-facing duties.

Post-partum health and support

For mothers, a lack of support for breastfeeding (such as having places to express and store milk) was also a concern. In our survey, of those who needed access to facilities and support for infant feeding, only 5% were satisfied. Of those dissatisfied, the main reason was insufficient information (67%),

although some were discouraged from breastfeeding or were not allowed to do it (16%). Some respondents noted that they had to stop breastfeeding because of a lack of available facilities or support, which had an impact on their mental and physical health.

More generally, survey responses indicated that individuals felt that their organisation did not support them enough in relation to post-partum health. People described the challenges of working while experiencing post-natal depression and anxiety, burnout, sleep deprivation and physical challenges such as pelvic floor injury.

Access to maternity, paternity and shared parental leave

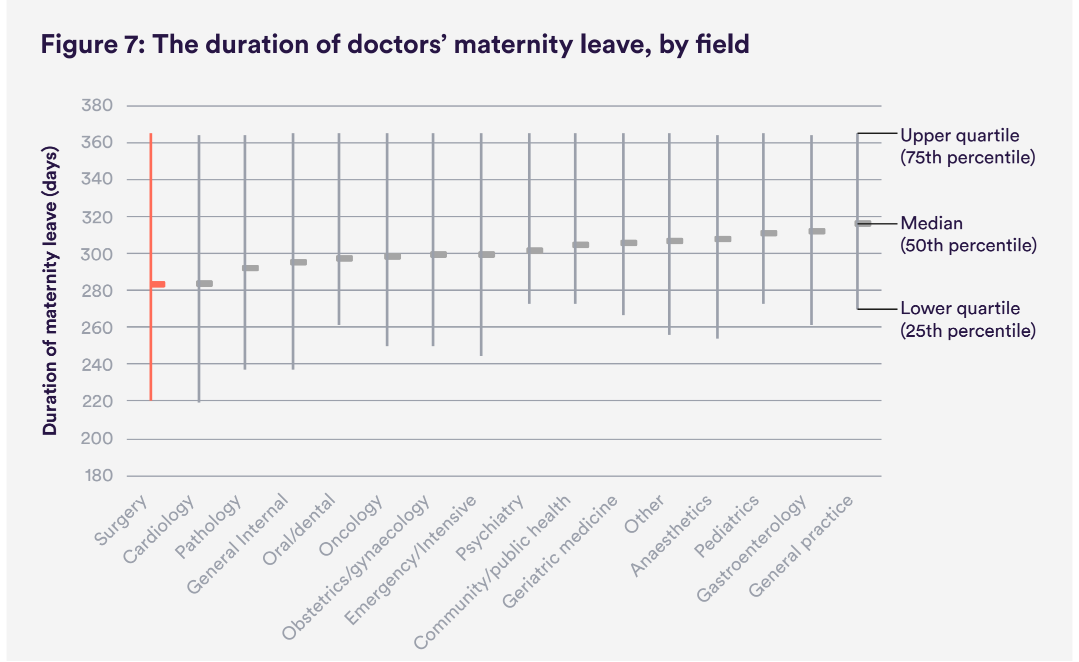
Access to paid parental leave is considered vital for supporting families. It enables mothers to recover from pregnancy and childbirth, parents to bond with their children and employees to maintain their earnings and role within the labour market.[58]

NHS staff are eligible for the NHS occupational maternity scheme if they have at least 12 months of 'continuous service'.[59] However, people in our research struggled to get clear and consistent information about eligibility and access to maternity, paternity and shared parental leave. Despite guidance on how this applies to rotational training contracts,[60] respondents in training noted frustrations around accessing information and support when moving employer. This introduced additional administrative burden and also complexities around pay, with many survey respondents reporting that they had received incorrect maternity pay and struggled to find support to resolve this.

The length of maternity leave that surgeons take is, on average, shorter than across medicine as a whole. For example, the median length of maternity leave in surgery is 43 weeks, compared with 47 weeks in community/public health; and maternity leave is typically shorter in male-dominated specialties (such as surgery and cardiology) (see Figure 7).[61] However, in our survey, nearly two-thirds of female respondents (61%) agreed that the time they had off for parental leave for their most recent child was long enough.

While not specific to surgical specialties, there is some evidence that length of maternity leave varies by characteristics, with White British or Irish doctors taking longer maternity leaves than Black and minority ethnic colleagues, particularly Black or Black British doctors. Doctors tend to take longer maternity leaves at later career stages but, within the same career stage, older mothers take shorter maternity leaves.*

Figure 7: The duration of doctors' maternity leave, by field



Notes: Emergency/intensive includes acute internal medicine. Oncology includes radiology and nuclear medicine.
Source: Institute for Fiscal Studies[62]

We identified particular challenges with shared parental leave. This has been available since 2015 and allows for a maximum of up to 50 weeks' leave to be shared between parents. But uptake generally is low, with Maternity Action suggesting it is somewhere between 3 and 4% of eligible parents.[63] Our research suggests this is also true in surgery, and that there may be additional cultural barriers preventing people from making use of this option. Most men within surgery – as is true across medicine and nursing – only take the statutory two weeks for paternity leave[64] and, in our survey, men were nearly

* For example, consultants' maternity leaves are on average 26 days longer than those of junior doctors in early specialty training. Source: Institute for Fiscal Studies (2023) *Progression of Parents in NHS Medical and Nursing Careers*.

twice as likely as women (63% versus 32%) to suggest that the time off they had for parental leave for their most recent child was not long enough.

Across all survey respondents, of those who were dissatisfied with their access to shared parental leave, 68% said this was due to insufficient information, 14% said it was due to a perceived negative impact on their career and 13% said they were discouraged from accessing it or were not allowed to access it. One interviewee reported a colleague telling them that taking shared parental leave would be “career suicide”.

There are also financial implications. Statutory shared parental leave is paid at a flat rate but some doctors – junior doctors, salaried general practitioners (GPs) and specialty and associate specialist (SAS) doctors – are eligible for enhanced pay for shared parental leave, meaning it is the same level as occupational and maternity pay. Doctors such as consultants therefore experience a financial disincentive to take shared parental leave. Both the British Medical Association[65] and the Independent Review into Gender Pay Gaps in Medicine recommend extending enhanced pay for shared parental leave to all doctors.[66]

4 Participation and wellbeing

In this chapter we examine the impact of parenting and caring responsibilities on working patterns within surgery. We begin by exploring participation after parental leave, including support for returning to work, before exploring the experience of people with amended working patterns (such as less-than-full-time training) in surgery. Finally, we consider the impact of surgical careers on life outside work, including caring for family and dependants.

Participation after parental leave

Many individuals amend their working patterns after returning to work and NHS guidance states that if an employee wishes to, employers have a duty to facilitate this, wherever possible.[67] Previous analysis has found that, across health care, many mothers switch to working part time after returning from maternity leave, and this switch is long-lasting.[68] By the time a female doctor's first child is 16 years old, they will have had, on average, breaks and periods of part-time working that equate to four years less time at work than the average male doctor at the same stage.[69]

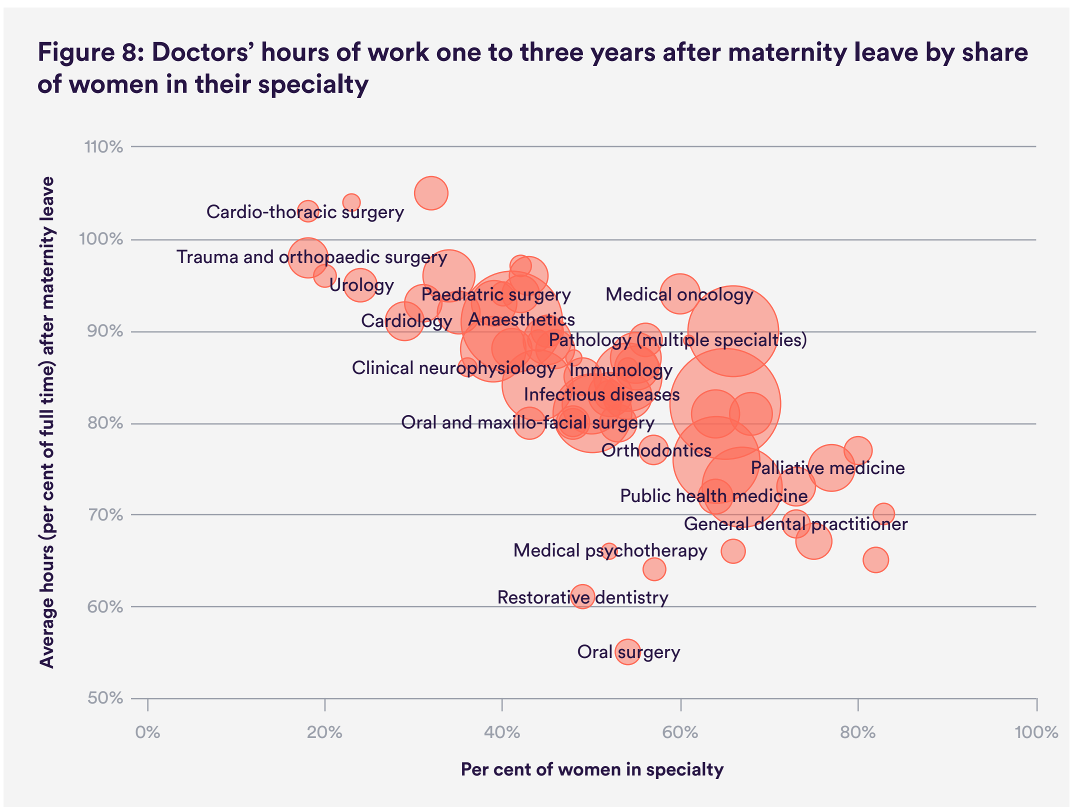
However, the impact of maternity on subsequent participation is less evident in surgery than non-surgical specialties. Analysis conducted for this study showed that mothers training in surgical specialties in fact work full time on average,* whereas those in other specialties work 87% of full time on average, which, in itself, is still high compared with mothers in other industries. Only at later career stages (specialty doctors and consultants) do we see some mothers in surgical specialties more commonly work less than full time. Part-time work following parental leave is particularly rare for men, with

* This means that the fact that some work more than full time offsets the extent to which some work less than full time.

fathers across surgical and non-surgical specialties actually working more than 100% of full time on average.

This tallies with similar, previous research, which identified that the specialties with the most full-time average hours worked after maternity leave were all surgical: cardiothoracic surgery, trauma and orthopaedic surgery, vascular surgery, plastic surgery and neurosurgery (see Figure 8). The differences were large with, for example, hours among both returning cardiothoracic surgeons and vascular surgeons estimated to be 18% of full time higher than acute internal medicine.[70]

Figure 8: Doctors' hours of work one to three years after maternity leave by share of women in their specialty



Notes: The size of each bubble relates to the number of doctors who had recently had maternity leave in that specialty (specifically it represents the number of doctor–month observations one to three years after maternity leave). The analysis also includes dentists in NHS hospital and community settings.
Source: Institute for Fiscal Studies[71]

Although the option to amend working patterns may be welcome, our research shows that not everyone desires to work less than full time. For those in training who were involved in our research, they reflected that this would add even longer to their training pathway, which they did not want. It may be that the financial implications of childcare because of the nature of surgical roles also influence the working patterns of surgeons returning from maternity leave.

Support for returning to work

The experiences of doctors returning to work in surgery were widely variable. Some had more of a transition (such as not doing any on-call work at the start or being supernumerary for rota purposes), while others were "thrown in the deep end". Only one in five respondents to our survey (21%) were satisfied with access to their phased return to work. Similarly, only around a quarter (28%) were satisfied with their access to keeping in touch days, which are intended to facilitate a smooth return to work for employees returning from maternity, adoption or shared parental leave.[72] Insufficient information was the most common reason for dissatisfaction. However, a notable minority of those who needed it were discouraged from accessing or were not allowed to access keeping in touch days (8%) and a phased return to work (18%).

Particular issues included a lack of flexibility or knowledge about when keeping in touch days could be taken and how. Some interviewees described feeling ill-prepared and out of the loop on their return and that their "skills" and "confidence" had faded, which had at times contributed to them not putting themselves forward for training opportunities. Some of these issues were exacerbated for people working less than full time due to a feeling that they had less exposure to opportunities. The value of mentors and coaches, outside an individual's own department, and the key role of trainers were noted as being a vital source of support for returning trainees, but many people in our research had not had access to these networks.

Health Education England has developed the Supported Return to Training (SuppoRTT) programme for people who return to training after three months or more away from work. The programme comprises resources tailored to particular specialties – including refresher courses, simulation training,

enhanced supervision and online learning – although the exact support available varies by region.[73] It is also possible to access funding for individuals that is supernumerary when they return. Some interviewees acknowledged that this was helpful, and work is ongoing to further enhance the offer for people returning to work in surgery to encompass non-operative skills and simulation.

However, others felt that there were no similar programmes in place for people who return to work but are not in training, including consultants who may want to support more junior colleagues as well as get support themselves.

Less-than-full-time training

The majority of doctors (71% of women and 60% of men) are junior doctors in early or late specialty training at the start of their first parental leave.[74] Less-than-full-time training enables doctors to amend their working patterns where training full time is impractical or not desirable. This is most often through a reduced number of sessions or 'slot-share' posts.[75] Originally, eligibility to train less than full time was only available for childcare or caring reasons and personal and professional development, but following a pilot, since summer 2022, all doctors in training in England have the right to apply to train less than full time, including for wellbeing or through personal choice.[76] The majority of requests for less-than-full-time training (59%) are for childcare, with a further 4% due to adult caring responsibilities.[77]

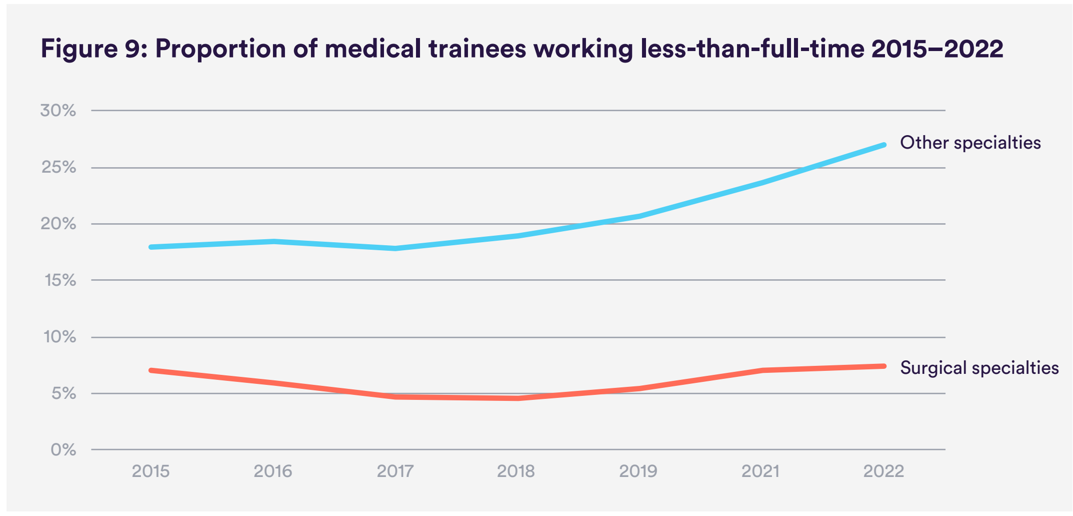
Local Health Education England offices and deaneries are responsible for determining whether someone can train less than full time and what their options are. Some employers may consider there to be a strong financial incentive to maximise the use of doctors in training. Specifically, employers receive medical placement costs of up to £44,000 as well as being reimbursed for half of the basic salary costs. To the employer, in the year to March 2022, doctors in training cost on average between £22,800 (in Foundation Year 1) and £40,600 (specialty registrar) compared with an average of £88,700 for a staff grade, specialty, associate specialist or locally employed doctor.[*,78] That

* These figures only account for salary reimbursement and do not net off any medical placement funding.

said, Health Education England told us that it has been seeking to ensure there is no financial disincentive to employ less-than-full-time trainees specifically, including through introducing top-up payments where doctors in training 'job share'.

Less-than-full-time training in surgery

The take-up of less-than-full-time training (for any reason) has plateaued in surgery. Outside surgery, the proportion has increased by half in the past seven years to 27%, whereas it remains at 7% in surgery (see Figure 9). This disparity is mirrored in training application data. Across all medical training applications for 2022, around 1 in 11 (8%) planned to apply for less-than-full-time training; however, this was much lower (1 in 27, or 4%) for surgical specialties. The five early specialty training programmes with the lowest proportion of applicants wanting to work less than full time were all surgical.[*,79]



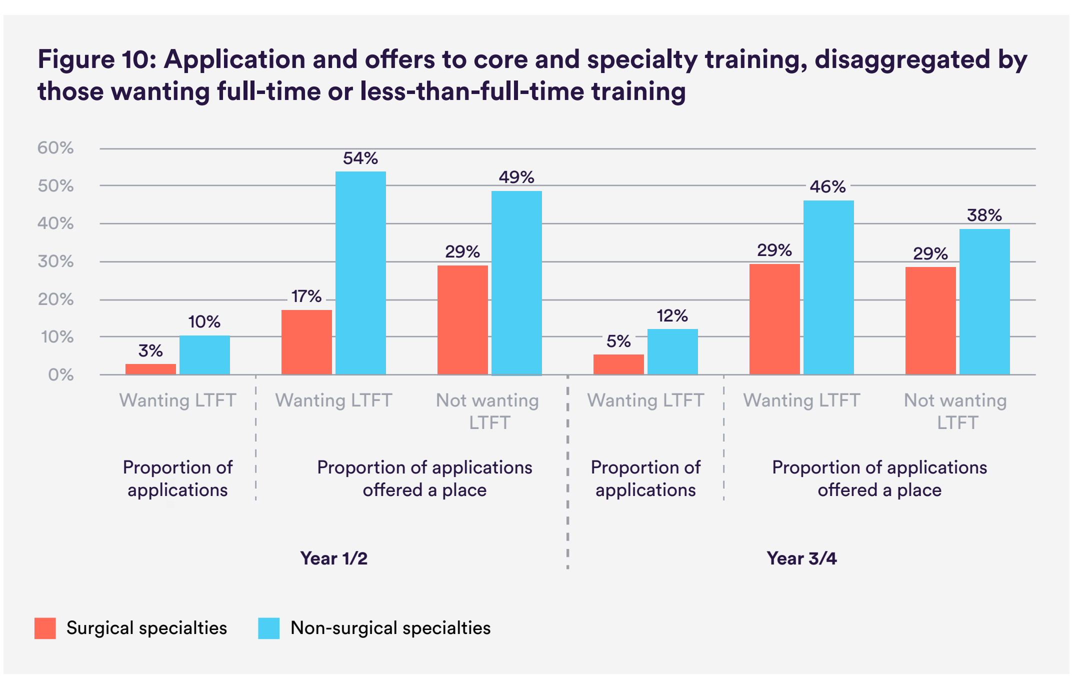
Notes: 'Other specialties' – which covers around 27,000 doctors – excludes surgery, foundation and core training. The surgical specialties category captures around 3,000 trainees. Data are for the whole of the UK.
Source: General Medical Council[80]

* Neurosurgery ST1, Neurosurgery ST2, core surgical training, cardiothoracic surgery and oral and maxillofacial surgery.

Requesting less-than-full-time training is associated with lower acceptance rates but there is some evidence of a positive impact on wellbeing. For surgical specialties, in the early stage (years 1 and 2 of specialty training posts), those wanting less-than-full-time training were less likely to be offered a place than those planning on training full time (17% compared with 29%) (see Figure 10). This disparity was not apparent, overall, at the later stage (years 3 and 4) when the proportion being offered a place was the same irrespective of whether they planned to do the training full time or not. For non-surgical specialties, on average, those wanting to train less than full time were actually more likely to be offered a place (for example, 54% compared with 49% at early specialties training). A survey that included surgeons in training suggested that, across those working less than full time, the doctors doing so because of caring responsibilities were less likely to report a high risk of burnout and – for later-stage training – reported a higher overall satisfaction score than doctors working less than full time for other reasons.[*,81]

* The proportion of less-than-full-time doctors due to caring responsibilities reporting a high risk of burnout was 31% for core specialty training (50% for other reasons) and 11% for higher surgery (specialty training years 3 and up, compared with 26% for other reasons). In core surgical training, those working less than full time due to caring responsibilities reported lower average overall satisfaction but the numbers were too small to make robust conclusions. The burnout measure is based on the work-related burnout scale as described in Kristensen TS, Borritz M, Villadsen E and Christensen KB (2005) 'The Copenhagen Burnout Inventory: a new tool for the assessment of burnout', Work and Stress 19, 192–207. www.tandfonline.com/doi/abs/10.1080/02678370500297720. Accessed 6 February 2023.

Figure 10: Application and offers to core and specialty training, disaggregated by those wanting full-time or less-than-full-time training



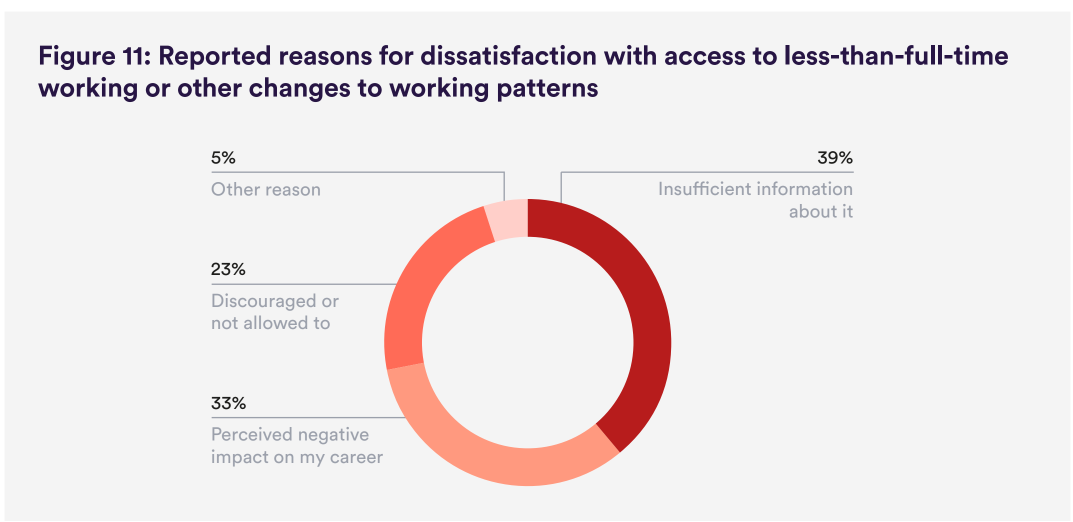
Note: LTFT = less than full time.
Source: Nuffield Trust analysis[82]

Reasons for dissatisfaction around working patterns

Transparency and consistency of requirements

Access to information was noted consistently as challenging in supporting changes to working patterns. In our survey, nearly half of respondents (46%) suggested that the information on less-than-full-time working or other changes to working patterns was insufficient for their needs. Insufficient information was the most cited reason for dissatisfaction with access to less-than-full-time working (39%) (see Figure 11). While some people in our research felt that less-than-full-time training was more straightforward if for childcare reasons compared with the other categories of eligibility, we heard of challenges, including around on-call requirements (with some expected to work a full-time on-call rota despite working less than full time) and in obtaining clear information about what they could request.

Figure 11: Reported reasons for dissatisfaction with access to less-than-full-time working or other changes to working patterns



Note: Excludes those responding that they were satisfied, 'not applicable' or 'not needed'.
Source: Nuffield Trust survey 2022

While we heard a small number of examples of job shares in our work, those who had done this found them more challenging to organise within surgical roles due to needing to match at the same level of experience, area of expertise and training needs. Furthermore, individuals felt the responsibility themselves to organise how this would work in practice.

Poor information and refused requests left some seeking assistance from their union or taking extended periods of unpaid leave to manage their parenting or caring responsibilities. This included people who made requests to change their working pattern at a later stage (for example, to care for children with disabilities).

Culture

Culture was also noted consistently as challenging in supporting changes to working patterns. Our research echoed the findings of a Royal College of Surgeons of England study, which highlighted a negative culture around working less than full time in surgery.[83] The lack of clear information exacerbated this, leaving people ill-equipped to challenge even if they wanted to. Of those needing less-than-full-time working, 15% had been discouraged from taking it or were not allowed to take it. Although some survey respondents and interviewees felt that working less than full time was more visible in surgery than it had been, there is undoubtedly a significant challenge with normalising more flexible working in surgery.

Individuals reported derisive comments from colleagues relating to their (or others') commitment or dedication to the role due to working less than full time. We also heard from individuals that there were concerns around "setting precedent" if more flexible working patterns were offered to some individuals and not others, and a perception that if they had not been able to have flexible working arrangements, why should others? In a survey of surgical trainees in the UK and the Republic of Ireland, of those who had undertaken less-than-full-time training, more than half (54%) reported experiencing undermining behaviour.[84]

These issues do not only affect women. Male survey respondents and interviewees reported pressure from colleagues around their desire to work less than full time, take shared parental leave or time away to attend hospital appointments, as well as an expectation to go into work and cover on-call rotas during their paternity leave. People also reported hearing negative comments about colleagues (both male and female) who had needed to leave work for childcare reasons.

Where people had experienced this sort of behaviour, they also felt unable to speak up or challenge, especially when the comments had come from people in senior positions in their department. There was concern that doing so would further impact their ability to progress in their career or reinforce perceptions of themselves as unsuited to a career in surgery. Although support is available (through, for example, the British Medical Association or a Freedom to Speak Up Guardian*), using it can come at significant personal, emotional cost and it was felt this only went so far in challenging what was perceived to be an ingrained culture.

* A Freedom to Speak Up guardian can support workers to raise issues that they feel unable to raise via other routes. NHS England (2022). *The national speak up policy*. www.england.nhs.uk/publication/the-national-speak-up-policy

Perceived impact on colleagues

Given the nature of how working patterns are designed, there are practical implications of working less than full time, and the effect on the employer and service provision is a factor that needs to be considered as part of requests for changes to working patterns. Wider staffing pressures, the need to fill rotas and the way posts are funded can all affect responses to flexible working requests. Interviewees talked about how conversations are often about "how to fill your slot", contributing to the culture described above.

Perceived impact on colleagues also appears to make surgeons less likely to request changes to working patterns. Those interviewed in our research reflected on the implications of their working patterns for their colleagues, such as others feeling pressured to work additional hours to cover for the gaps. People described feeling like they were letting colleagues down and "failing" as both parents and surgeons. These issues are not just relevant to people working less than full time.

Practical challenges and perceived effect on career

For individuals in training, other research has identified challenges with receiving less operative exposure relative to time worked, negative effects on job rotations and expectations of a full-time workload.[85] Surgeons we interviewed described the practical challenge of the rotations given the impact on family life and arranging childcare as well as other practical issues. The challenges included a lack of flexibility in their options (such as what percentage of full time they were able to work), fitting in all the work they needed to do within their working days and still being expected to work on their non-working days. We heard examples of trainees attending for training opportunities on their non-working days, feeling like they needed to overcompensate to demonstrate their dedication. Acquiring new skills was also recognised as being a challenge because of a lack of consistent exposure to particular procedures, and the need to travel to other locations to get this exposure created additional challenges for managing things like childcare. Some of our interviewees reflected that working less than full time was undesirable as the surgical training pathway is already long. In our survey, a third of respondents who were dissatisfied with access to less-than-full-time working said it was due to a perceived negative impact on their career.

Time off for family and dependants

NHS staff can take up to 18 weeks' unpaid parental leave per child until they are 18 and are also able to take a 'reasonable' amount of time off for dependants in an emergency.[86] However, only one in six respondents to our survey who needed time off for family or dependants (excluding parental leave) (18%) were satisfied with it. Of those who were not, the main cause of dissatisfaction was lack of information (54%), concerns that it would have a negative impact on their career (24%) and being discouraged from taking time off or not being allowed to take it off (19%). On the last of these, as with less-than-full-time working, we heard that some felt their commitment or dedication to the role were questioned when needing to be absent from work due to childcare. While doctors were aware of the potential impact on their colleagues, it is worth noting that in a global survey, 85% of surgical trainees/consultants stated they were happy or did not mind covering for colleagues on leave. Those with children were significantly more likely to be happy or not mind covering compared with those without (60% versus 40%).[87]

Impact on home life

Of those to whom the question was relevant, a majority of respondents to our survey (61%) regretted the family sacrifices they had made for the sake of their career. Surgeons provided us with examples of what this may entail, including:

- spending less time overall with their children
- missing key moments in their child's development
- career sacrifices that their partner had made
- being less able to physically and emotionally support or care for family members.

Several survey respondents and interviewees also noted needing to live apart from their partner during their career due to job location and the – at times – negative impact this had on their family life.

Specific examples were given in the context of examinations, with both interviewees and survey respondents reflecting on the impact of revising for them, and working, on their ability to spend time with their family, with one person describing it as a "lost year". People who had taken their exams whilst also caring for children reflected on the significant exhaustion, stress and burnout they had experienced.

One of the most mentioned factors was the challenge in finding adequate childcare, which was noted as particularly difficult due to surgical hours. More than half of all respondents to our survey (56%) selected childcare options compatible with work as a way in which their career had influenced parental choices. Surgeons mentioned a broad range of sources of childcare, beyond what they could provide themselves, which they had used. These included partners, other family members, nurseries, schools and part- or full-time employed individuals (for example, nannies, *au pairs* or babysitters).* The increasing normalisation of the 'dual-career' (or even 'dual-surgeon') couple is also important to note as it is likely to increase reliance on paid or informal care.[88]

We heard a range of challenges resulting from relying on these forms of care, including an inequity arising between those who have access to childcare support from family and those who do not. Several survey respondents and interviewees commented that they "could not have coped" without supportive partners (often with non-medical careers) and family members. Childcare was highlighted as an especially challenging issue for single parents.

* UK-based research has found that the partners of male hospital doctors undertook almost half of childcare in a working week, with the doctors performing only a small amount themselves (12%). Other childcare strategies were nursery (23%), paid carer (10%) and family (7%). Source: Dacre J and Woodhams C, with Atkinson C, Laliotis I, Williams M, Blanden J, Wild S and Brown D (2020) *Mend the Gap: The Independent Review into Gender Pay Gaps in Medicine in England*. Department of Health and Social Care. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/944246/Gender_pay_gap_in_medicine_review.pdf.

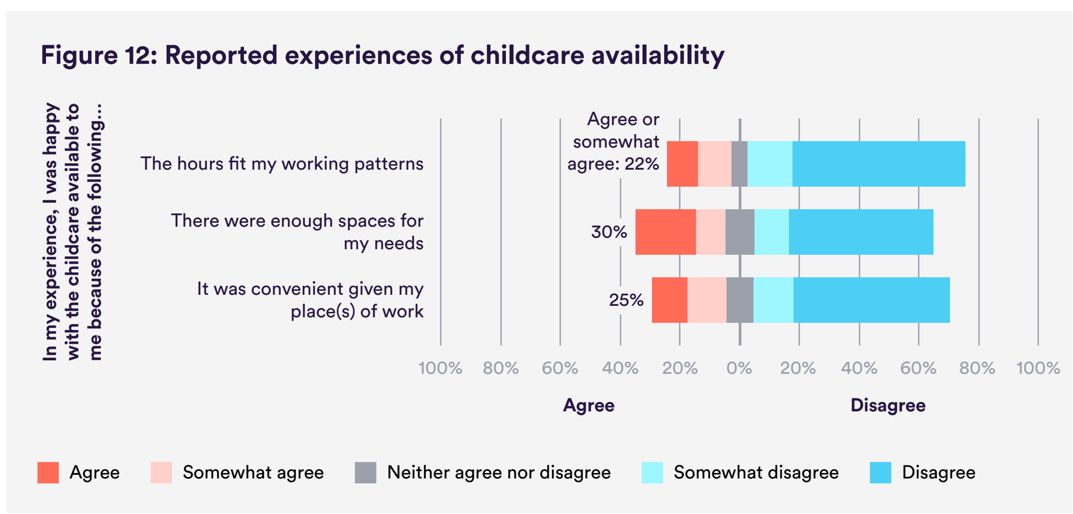
Some also raised the financial impact of paid childcare, especially for trainee surgeons with lower salaries, and how this could impact on their or their partner's participation in work. It is important to note that the issue of financial impact is by no means isolated to (or the most pronounced in) surgery, with analysis undertaken in 2022 finding that full-time nursery costs are, on average, 65% of one parent's weekly median take-home pay in England.[89]

It is not only careers that influence the extent of involvement in childcare but also often gender. While the partners of male hospital doctors perform around half of total childcare,[90] international evidence has found that the partners of female surgeons take on a lesser proportion (21%), with a reliance on other family members and school or paid care for the rest.[91] This reflects broader societal issues regarding expectations around gender roles and could be seen as an effect of men being less likely to make career sacrifices related to parenthood.

While institutional childcare options (although still often costly) are likely to be more affordable than other forms of paid support, surgeons who took part in our study often raised their incompatibility with surgical working hours. While institutions such as nurseries tend to cover standard working hours (Monday to Friday, 8am to 6pm), this fails to cater for the needs of many surgeons who work outside these hours (such as needing to arrive early to gain consent from patients). Almost three-quarters of survey respondents said childcare hours did not fit their working patterns, and also rated other aspects of the compatibility of childcare with work poorly (see Figure 12). This was raised as an issue even among the minority (43%) who had childcare facilities on hospital sites.

Additionally, surgeons mentioned difficulties arranging childcare when changing location at short notice. Being on call created acute insecurities around childcare, with some surgeons resorting to having wraparound care (for example, nannies or *au pairs*) paid to be on hand in case they were called in. Challenges grew in situations where children had additional needs, and where surgeons had long commutes to work (for example, due to rotations at hospitals further from home). Also noted was the inflexibility of work responsibilities when unexpected situations arose outside work (for example,

a child becoming ill). Where interviewees reflected on positive experiences, these were largely a result of having supportive and understanding colleagues.



Note: Percentages exclude those who responded 'not applicable'.
Source: Nuffield Trust survey 2022

5 Career progression, pay and retention

In this chapter we focus on the effects of parental and caring responsibilities on pay and career progression and opportunities within surgery. We also cover issues around the retention of doctors in surgical specialties within the NHS.

Introduction to pay

There is a strong financial incentive to progress through training grades quickly and become a consultant. For example, there is a four-fold difference between the average earnings of a first-year doctor and that of a consultant.[*,92] At a minimum, doctors training to be consultant surgeons typically spend around nine years as a 'junior doctor', although will often take longer, including where people work part time, take maternity leave or have a career break. Another notable feature of consultants' pay is the financial rewards for years in service, with a pay increment until they have been a consultant for 19 years. The result of this means there is a financial penalty, in terms of lower salary, long into surgeons' (and other consultants') careers if they delay progression. In fact, the independent review into Gender Pay Gaps in medicine in England highlighted that the nature of these pay increments was a structural penalty within women's medical careers.[93]

It is also important to note the significance of 'non-basic pay' in overall earnings. On average, around a quarter (24% in the year to June 2022) of doctors' NHS salaries is accounted for by non-basic pay. The largest component of additional NHS pay is for 'additional activity' (£14,108 for consultants and £5,123 for other doctors, on average).[94] Thereafter, the

* In the year to June 2022, the average full-time-equivalent salary for a doctor starting postgraduate medical training (Foundation Year 1 doctors) was £37,618, rising to £57,351 during core training, £65,772 as a specialty registrar and £133,162 as a consultant.

biggest components of non-basic pay differ by grade, with the next largest for consultants being medical awards and 'local payments' whereas for other doctors it is shift-work payments and band supplements.

Parental pay gap

Previous analysis has highlighted the apparent 'motherhood pay gap' in medicine. A survey found that average pay for female consultants who had taken maternity leave was around £6,600 less than those who had not, with the largest effects for those who took it during specialty training (although the sample size was small) and those who, in total, had longer lengths of maternity leave (see Figure 13).

However, the difference between mean pay for female consultants who had not taken maternity leave and male consultants was far bigger (around £22,000) than between female consultants who had and had not taken maternity leave (£6,600). But the authors point out that the gaps were not as large as might be expected given the overall gender pay gap for consultants.[95]

However, that analysis did not adjust for different ages for these groups and we can speculate that consultants who had not taken maternity leave might be, on average, younger than those who had, which would have the effect of suppressing any maternity pay gap. While those data were not specific to surgical specialties, it is worth noting that previous analysis found that after controlling for age and job-related variables, male surgeons were paid, on average, 5.5% more than their female counterparts.[96]

Figure 13: Mean pay for female consultants taking maternity leave compared to those that have not, 2018

Group	Category	Mean pay
	Men consultants	Mean pay £114,828
Timing of maternity leave	No maternity leave	Reference category; Mean pay £92,736
Timing of maternity leave	Anytime	£86,099
Timing of maternity leave	During foundation or core training	£92,802
Timing of maternity leave	During specialty training	£84,540
Timing of maternity leave	While consultant	£89,795
Periods of maternity leave	1 period of maternity leave	£89,935
Periods of maternity leave	2 periods of maternity leave	£88,570
Periods of maternity leave	3 periods of maternity leave	£93,349
Periods of maternity leave	4 or more periods of maternity leave	£84,327
Total length of maternity leave	< 12 months	£100,861
Total length of maternity leave	12–20 months	£92,067
Total length of maternity leave	20–49 months	£83,558
Total length of maternity leave	> 49 months	£82,962

Axis: -£15,000, -£10,000, -£5,000, -£, £5,000, £10,000, £15,000, £20,000, £25,000

Note: Some groups are based on small sample sizes (particularly four or more periods of maternity leave and maternity leave during foundation or core training) so may not represent an accurate estimate of the average across all doctors in these categories.
Source: Nuffield Trust analysis of survey data presented in *The Independent Review into Gender Pay Gaps in Medicine in England*[97]

Pay on parental leave

A combination of national, statutory and NHS-specific guidance covers policy on pay during maternity or adoption leave.[98]

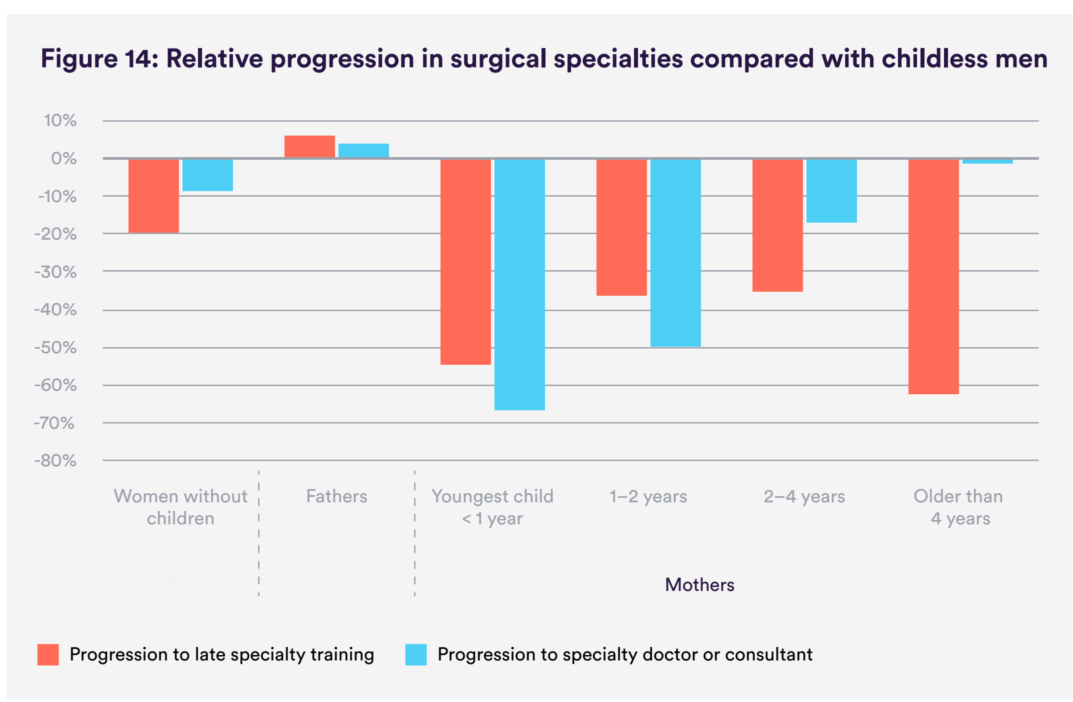
Parental – and in particular maternity – leave pay has been recognised as an issue for concern. Previous research has highlighted concerns for trainees who changed contracts at foundation and specialty stage and this created a perception that pregnancies needed to be planned around eligibility rules for maternity leave.[99] There are particular issues for those on locum consultant contracts who have reported not being eligible for maternity pay.[100] Some respondents to our survey also reported receiving incorrect maternity pay as a result of moving trust during training.

Career progression

For women working in surgery, there appears to be a substantial impact of parenthood on the pace of career progression. Even after adjusting for absences and part-time working, mothers are between one-third and two-thirds less likely (depending on the age of their youngest child) to progress to late specialty training than comparable men (see red bars in Figure 14). For the small group of mothers who begin surgical training after already having had a child during the foundation training, progression appears to be especially slow. This 'motherhood penalty' on progression is not seen across non-surgical specialties. In other areas of medicine, while mothers are less likely to progress (compared with men without children), the difference is proportional to their parental leave absences and part-time working.*

* In fact, mothers in non-surgical specialties whose youngest child is aged at least four outside surgery are actually more likely to progress from late training to specialty doctor or consultant roles than men without children, after adjusting for history of absences, part-time work and specialty. Source: Institute for Fiscal Studies (2023) *Progression of Parents in NHS Medical and Nursing Careers*.

Figure 14: Relative progression in surgical specialties compared with childless men



Notes: Figures have been adjusted for differences in age, cohort, past absences and current and past hours worked, plus differences in typical progression patterns by field and contract types. Age of youngest child refers to the time elapsed since the last maternity leave (which may be slightly higher than the actual age of the child).
Source: Institute for Fiscal Studies[101]

The evidence from the formal assessments that determine whether individuals progress to the next year of the specialty training programme – Annual Reviews of Competence Progression (ARCPs) – is more mixed. Across doctors in surgical training, compared with those working less than full time for other reasons, those reporting caring responsibilities did not have statistically significantly higher rates of unsatisfactory outcomes in their reviews in 2021.* However, both groups did have higher rates of unsatisfactory outcomes than their full-time peers.[102,†]

* In 2021, 30% of those with caring responsibilities had an unsatisfactory ARCP outcome at core surgical training grades and 9% had an unsatisfactory outcome at higher surgery grades. This compares with 29% and 10% respectively for those working less than full time for other reasons and 16% and 7% respectively for full-time trainees. An unsatisfactory outcome is defined here as outcome 2, 3, 4, 7.2, 7.3, D or E.

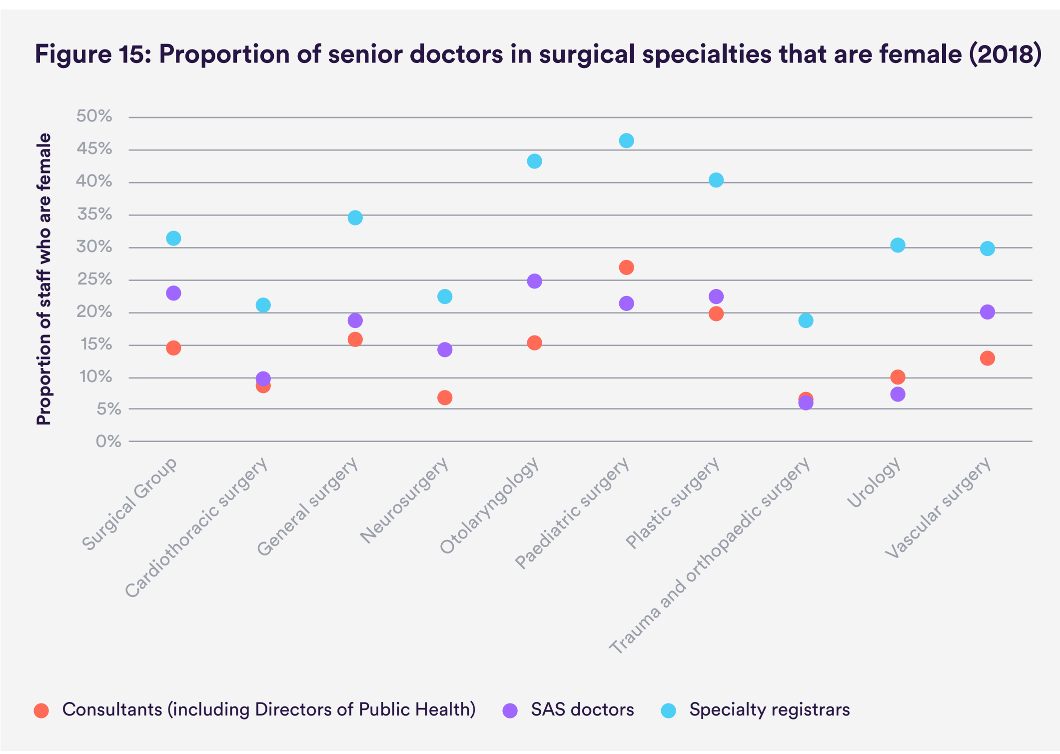
† In some cases, the differences with full-time trainees were not statistically significant, primarily due to small numbers in the less-than-full-time and caring responsibility groups, so could be affected by random chance.

The picture is broadly similar for the progression of women in surgery onwards to consultant or specialty and associate specialist (SAS) positions, although it decreases over time and is no longer apparent for those whose youngest child is older than four (see the blue bars in Figure 14). However, the decision to take up SAS positions, in particular, is poorly understood.

SAS doctors are senior doctors who are neither in a training grade nor a consultant. The term covers specialty doctors and specialist grade doctors, with at least four years of postgraduate training including two years in a relevant specialty. Such posts are typically more focused on direct patient care and are often seen as more family friendly, although there are many different reasons for choosing it as a long- or short-term career option. The Royal College of Surgeons of England's own work identified that some people were choosing to come out of their training route to become an SAS doctor to support themselves better in managing their caring responsibilities,[103] and analysis for this report found that, even after controlling for demographics and specialty, female doctors are much more likely to be in SAS as opposed to consultant posts.

Female doctors account for a higher proportion of SAS doctors in some surgical specialties (see Figure 15). For example, neurosurgery and otolaryngology (ears, nose and throat surgery) SAS doctors have historically been substantially more likely to be female than is the case for consultants in these specialties; conversely, in paediatric surgery and urology, the reverse has been true. In fact, looking just across female doctors, in otolaryngology there were six SAS doctors for every 10 consultants, which was substantially above the average across surgical specialties (four for every 10 consultants). Figure 15 also demonstrates how there are far higher proportions of surgical trainees (specialty registrars) and highlights the importance that this is translated into people with families working as surgeons at a consultant level.

Figure 15: Proportion of senior doctors in surgical specialties that are female (2018)



Notes: Data as at 31 January 2018 and based on headcount. Covers NHS hospital and community services.
Source: Nuffield Trust analysis of NHS Digital data[104]

Factors affecting career progression and pay

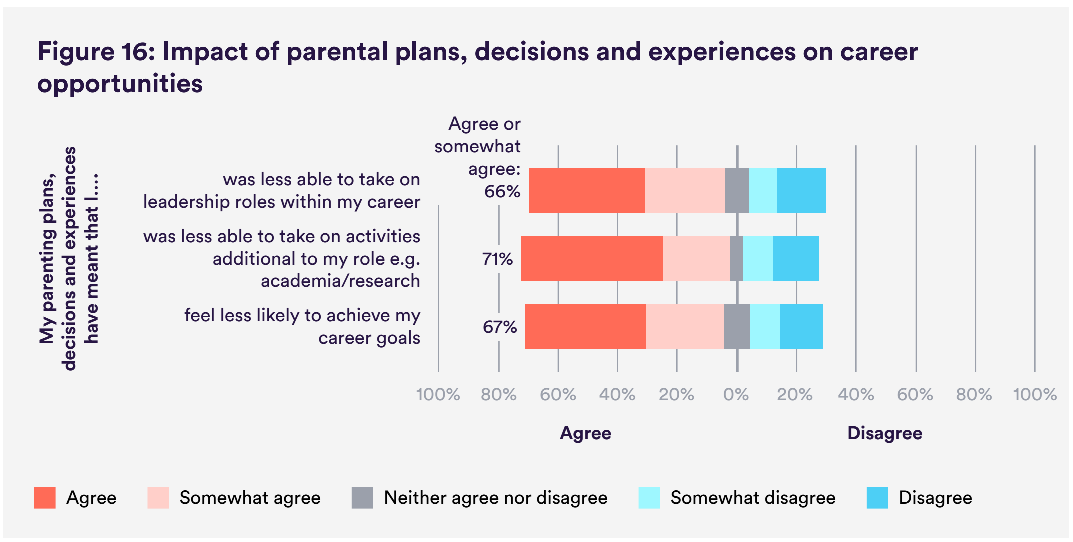
There are opportunities for other pay- and career-enhancing activities, which are often outside the NHS or out of normal working hours. These include public lecturing/speaking, research, education, consultancy, private practice and locum work. Interviewees also reflected on the desirability of things such as fellowships in order to enhance their CV, and some felt there was often pressure to do these things abroad, which introduced additional challenges for people with parenting or caring responsibilities.

In our survey, time away from work – either as less than full time or as a result of parental leave – and the ability to take on leadership and additional roles were all commonly seen as key contributory factors for parenting plans, decisions or experiences affecting career progression. However, nearly one in

four of all the people responding to our survey suggested that perceptions of others about them having children was one of the main contributory factors. In fact, we heard from one interviewee who felt the need to make it clear on their applications for consultant posts that they were not planning to have any more children so as to be seen as a "safe bet".

As the Royal College of Surgeons of England has outlined, 'voluntary and discretionary effort leading to financial and professional reward can disproportionately affect those with caring responsibilities and fixed commitments outside the workplace'.[105] Around two-thirds of respondents to our survey agreed to some extent that their parental plans, decisions and experiences had impacted on their likelihood of achieving their career goals, of undertaking additional activities to their role, such as in academia or research, or of taking on leadership roles (see Figure 16). Previous research has highlighted that 'the last-minute nature of many opportunities restricted access for those who had caring responsibilities'.[106]

Figure 16: Impact of parental plans, decisions and experiences on career opportunities



Note: Excludes those who responded 'not applicable'.
Source: Nuffield Trust survey 2022

Regarding the impact of their parenting experiences on their career progression, several interviewees reported the length of time to complete training as the key issue. But while some saw this as frustrating, others found it desirable as they felt less pressure to "catch up" with their peers. Although some people felt like their experiences (such as working less than full time) meant they missed out on training opportunities, others described the desire

to “prove people wrong” and therefore “overcompensated” and took on additional work such as research and leadership roles.

The ability to access career-enhancing opportunities can affect pay. A survey of doctors working in England suggested that men were more likely to undertake private practice and consultancy whereas women were more likely to do locum work. The amount of money received differed substantially across all the different types of activities, with a particularly notable gender pay gap for private practice (the average additional annual pay was £16,655 higher for men than women) and public lecturing/speaking (£14,804 higher). These pay gaps may relate to specialty, grade and age effects but also suggest that lower rates could be due to ‘negative perceptions of lower capability’ for women and them being less likely to successfully negotiate their rate.[107] On the latter, a survey found that the proportion of men who felt comfortable in their ability to negotiate their own pay (20%) was twice that of women (10%).[108]

These career-enhancing opportunities may also affect the likelihood of receiving clinical excellence awards, which are one of the largest components of non-basic pay. While the impact of parental or caring responsibilities on the likelihood of receiving such awards is not known, it is worth highlighting the gender gap. Previous work shows that, as of 2018, while the average value of an award for female surgeons was comparable to that of male surgeons, only 12% of awards in surgery went to women.[109] Other aspects of non-basic pay may also be subject to a greater level of negotiation.

There appears to be a need for mentoring to help doctors navigate and choose opportunities for career progression. While we heard about perceived pressure to undertake additional activities such as research, we also heard that the Covid-19 pandemic may have precipitated more opportunities for leadership, education and extra-curricular roles being online, which could make them more accessible. A previous study looking at achieving work–life balance in academic otolaryngology found that women were particularly selective and also proactive in seeking opportunities that fostered promotion, such as developing a local and national reputation and participating in leadership roles, and that participants noted that their priorities and strategies shifted depending on the age of their children.[110]

Impacts on partners' careers

Interviewees and survey respondents also reflected on the impact of their career choices on their partner's career progression and the guilt associated with that. This was most notable in more competitive specialties, which had a smaller number of training posts available, meaning more frequent relocation to meet the training requirements. While the figure for surgeons is not known, a previous survey suggested that the proportion of childcare that partners of male hospital doctors undertake is particularly high (four times that of the male doctor) whereas female doctors report undertaking more than their partner.[111]

Likelihood of leaving

Across the medical profession, retention in the NHS hospital sector following maternity leave is generally good, although our survey suggests that parental responsibilities are often a reason for considering leaving. Among doctors and dentists, 91% of women who go on parental leave are still working in the NHS's acute and community sectors two years later, which is more than the percentage among doctors in general under the age of 50 after any other two-year period (88%).[112] Moreover, there is little in the published literature to suggest that parental responsibilities are associated with a substantially higher likelihood of leaving. A previous systematic review identified only three studies – all US-based and one small scale – which looked at the effect of parental status, of which none found an increased risk of attrition.[113]

However, of every nine respondents to our survey, five agreed to some extent that their parenting plans, decisions and experiences had meant that they had considered leaving their role in surgery (55%). There was no statistically significant difference between the proportions of male and female respondents indicating they had considered leaving. Several interviewees and survey respondents also noted knowing of people who had already left surgery due to their parenting or caring responsibilities.

Across all doctors, those planning on making a career change for planned or caring leave cite work–life balance as a key reason (62% in 2021) as well as to carry out caring responsibilities (53%) and to have more non-working time (for example, to be with their family or for leisure time) (54%).[114]

Data on the reasons for staff leaving the NHS is patchy. However, of those voluntarily resigning with a known and stated reason, excluding those related to career progression,* around 6% of doctors leaving between April 2018 and September 2021 were recorded as being due to 'adult dependants', with 7% due to 'child dependants'. In absolute terms, these account for small numbers and there are no readily available data on surgeons specifically, but the data suggest that doctors overall may be more likely to leave their role because of responsibility for an adult dependant (which accounted for 3% of known/stated voluntary resignations across all staff) but less likely to leave for child dependants (8% across all staff).[115] Given the importance, more detailed research is needed to understand the effect of parental and caring responsibilities on retention.

* Relocation, promotion, a better reward package and to undertake further education and training were removed from the analysis as they are linked to career progression or typically different for doctors due to their career pathway.

6 Discussion and recommendations

This research has shown that parenting experiences and caring responsibilities can have a significant impact on individuals' careers, life choices and wellbeing. It was particularly concerning to find that several survey respondents and interviewees were unable to access, and at times were actively discouraged from using their entitlements, and some reported troubling examples of bullying and discrimination. More generally, we saw patterns of inflexibility, limited access to information and culture preventing people from accessing more appropriate and personalised support. People reported pursuing their career *in spite of* the system rather than because of it, with their experiences spurring them on to overcompensate and prove people wrong. Although we heard examples of positive experiences, these were by no means universal. Some felt that their experiences were in part a result of their team being unfamiliar with having pregnant women or people with children in their department, which inhibited their knowledge or awareness about what people were entitled to or should be able to do.

Several issues were raised regarding the nature of surgical training. Some individuals in our research had consciously decided to wait until the end of their training to start a family, reflecting wider evidence that surgeons tend to have children later. Frequent rotations, some of which can require lengthy commutes, and at times living away from family, were noted as particularly difficult due to the pressure on families and the practical challenges with arranging childcare. Although people can express preferences regarding training locations, whether these are supported is open to discretion and there was a concern that this decision may be open to bias. In addition, several interviewees reflected on the inflexibility of the assessment and examination process and the challenge this posed for people with parenting and caring responsibilities. Having said this, our findings were not isolated to those in training.

Pressures around the need to fill rotas and a perception that surgery is a career requiring sacrifice, particularly during training, are clearly factors contributing to this culture. This perception is important given that we know that early attitudes and exposure to medical careers can have a significant impact on decisions to pursue the role. From a practical perspective, there is a significant amount of work to be done to support people working in surgery who change their working patterns and are working during pregnancy and with childcare. These issues can be heightened further for single parents and parents of children with disabilities.

Addressing the gender imbalance within surgery is important. The Royal College of Surgeons of England's programme Women in Surgery (WinS) is a national initiative and network dedicated to encouraging, enabling and inspiring women to fulfil their surgical career ambitions.[116] However, a recent paper (and its reception) raised significant concerns surrounding sexual assault and harassment within surgery and surgical training, with the small surgical community being a particular challenge in enabling people to speak up and address this behaviour.[117] Although not specific to surgery, a recent report also found that experiences of sexism differed by ethnicity.[118]

But this work has shown that supporting parents is not just about gender, and indeed we heard from a number of male surgeons who had experienced challenges managing their career and parenting. All interviewees we spoke to were clear that action to improve parenting in surgery needed to be inclusive – and include everyone. The British Medical Association has highlighted similar recommendations in its report on tackling sexism in medicine, highlighting the importance of addressing gender stereotypes that women should be the primary carer and encouraging people of all genders to have access to flexible working as important actions.[119] Having role models – to increase the visibility of surgeons of all genders and specialties with parenting and caring responsibilities – is also important.[120]

Our discussions with medical students also indicate that expectations of what people want from a career in the NHS are changing, and work–life balance (whether for parenting or other reasons) is an important factor for people wanting to pursue a career in health care. Outside the NHS, a third of mothers (33%) reported an agreed special working arrangement in their job (such as flexible or term-time hours), compared with around a quarter

of fathers (24%).[121] Within the NHS, there is a commitment to consistently have more flexible working,[122] with an amendment to the *NHS Employer Staff Handbook* introducing a 'day one' right to request it.[123] This reflects the House of Commons Health and Social Care Committee's view that the provision of affordable and flexible childcare, flexible working and the option of less-than-full-time working were necessary for supporting retention across the NHS workforce.[124] Our work suggests that the emphasis needs to be on how to support people to balance their career with other interests and responsibilities rather than seeing it as a problem or challenge. In the long term, workforce planning needs to account for these changing expectations and working patterns.

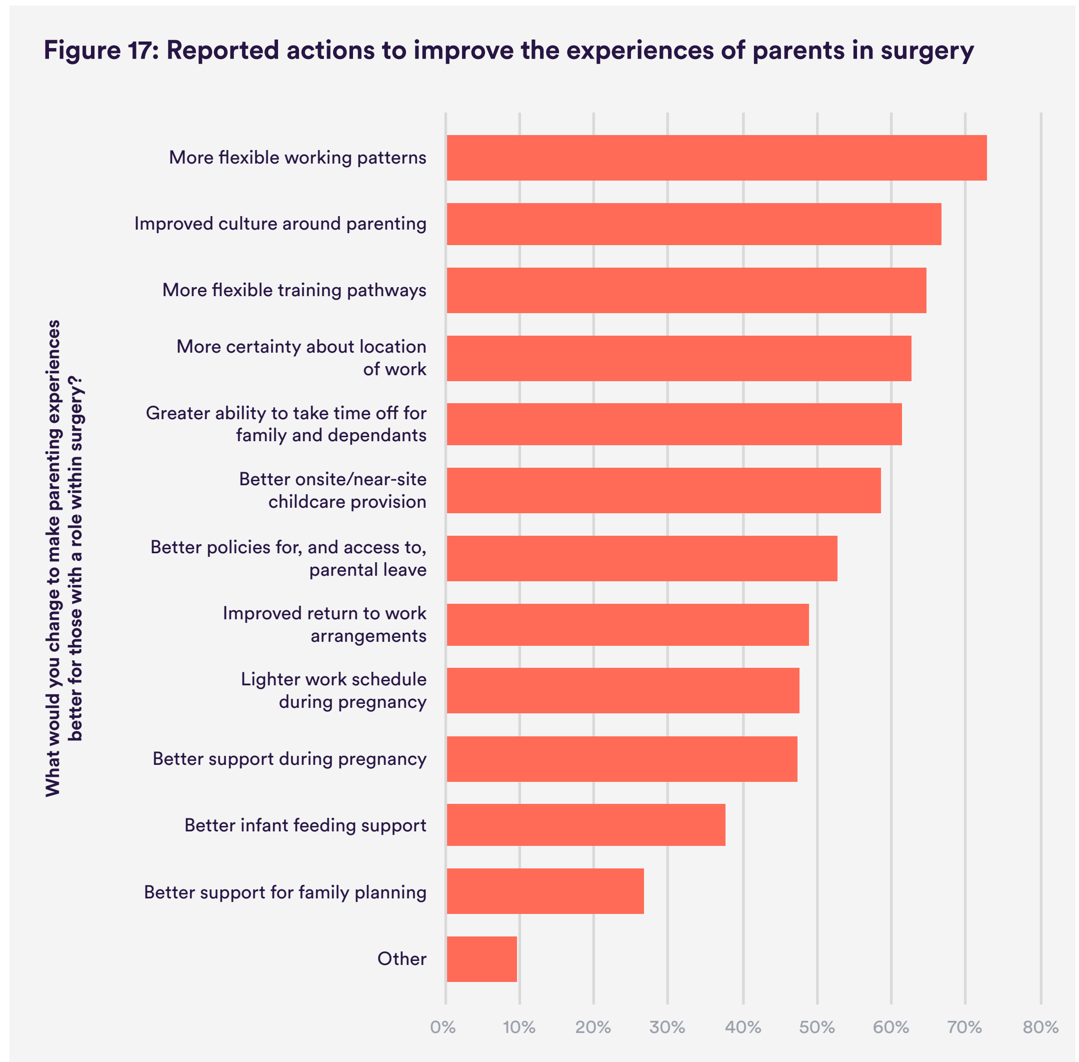
If the NHS is committed to making flexibility 'the default', improving retention and ensuring that it has a diverse workforce, there is valuable learning from this work. Some of the issues and recommendations we have identified (such as accommodating individual needs and addressing negative cultures) might be applicable to other specialties and concerns as well as parenting and caring.

Some of the issues identified cannot be resolved just within the surgical profession or even the wider NHS. Access to support for infant feeding and childcare reform, for example, are societal issues, the latter being subject to recent campaigning and protest.[125] Given the increasing number of people, both male and female, leaving the workforce due to family or caring commitments, policy action to address this is clearly needed. However, the NHS is a very large employer and its success in the inclusive and supportive employment of those with parental and caring responsibilities can potentially influence conditions in the rest of the labour market.

Recommendations

Our work suggests that it is the gulf between policy and practice that is, in part, causing issues for doctors working in surgery with parental or caring responsibilities. Improvements could and should be made. In our survey, the top three actions that respondents highlighted as necessary to improve the situation for parents working in surgery were more flexible working patterns,

improved culture around parenting and more flexible training pathways (see Figure 17).



Note: Values are given as a percentage of all survey responses, with respondents able to select multiple options.
Source: Nuffield Trust survey 2022

Addressing the issues requires concerted action from the surgical profession (including the Royal College of Surgeons of England), NHS trusts, NHS policy bodies and wider society. We now set out our recommendations.

Access to information

- The Royal College of Surgeons of England should work with surgical specialty associations to identify and communicate evidence and consistent best practice guidance on safe working during pregnancy. This should be with support and guidance from the Royal College of Obstetricians and Gynaecologists, given its expertise.

- Where possible, NHS Employers should standardise information on guidance around parenting and caring and proactively work with organisations to ensure a consistent approach.

- All NHS trust boards should seek strong assurance that their organisation:
  - provides clear, inclusive and accessible information on their policies to support people with parental and caring responsibilities, including obligations under the Equality Act 2010
  - fully equips managers – particularly in surgery – and human resources teams with the knowledge and information they need to support those with parental and caring responsibilities
  - has a robust process for ensuring that pregnant and breastfeeding employees are given a risk assessment to determine any required amendments to working patterns or roles – this should be regularly reviewed and informed by the best available guidance on, for example, safe working in surgery during pregnancy

Access to support

- The Royal College of Surgeons of England should facilitate peer support regarding parenting and caring for individuals to share experiences and challenges across different locations, career stages and specialties.

- NHS Employers and NHS England should consider developing a short training module for those in management and leadership positions who support more junior staff with parenting and caring responsibilities.

- Health Education England (soon to be part of NHS England) should continue to develop and improve the support offer, tailored to the individual needs of surgeons who return to work following time away (for parenting/caring responsibilities), which considers the nature of the role (including competencies). This should consider not only those returning to training but also all career stages and where possible allow for people to develop skills and confidence in a supported environment.

- The British Medical Association should assess whether its avenues of support for people experiencing discrimination, harassment and bullying surrounding their parenting and caring responsibilities are sufficient, including people requiring legal support.

- All NHS trust boards should seek strong assurance that their organisation:
  - provides facilities for resting and breastfeeding (and expressing milk) and clear information and signposting about how to access them
  - has considered providing childcare facilities to support their employees that account for the specific nature of medical roles
  - has considered providing dedicated support for people experiencing baby loss or going through fertility treatment.

Changes to promote and enable an inclusive culture and flexible working

- The Royal College of Surgeons of England must take decisive action to promote an inclusive culture within surgery, for example through a values statement promoted across all of its membership, and an education programme aimed at promoting flexible and inclusive working environments.

- The Royal College of Surgeons of England should work with Health Education England (soon to be NHS England) to identify case studies of positive, flexible working practices in surgery and other specialties and support employers to explore more flexible rostering options.

- The Royal College of Surgeons of England should consider providing support for those who want to return to work after a significant time away, such as access to mentors and information about options for working practices.

- The Royal College of Surgeons of England should act as an advocate for those with parental and caring responsibilities in its work with other organisations and when carrying out its own responsibilities.

- Given the importance placed on reducing avoidable uncertainty in working patterns, all NHS trusts should make a commitment on the minimum length of time that rotas are communicated in advance.

- National and regional workforce planning and projections must take account of trends in those working amended working patterns.

- All parties must work together to improve the uptake of shared parental leave within surgery (by providing access to appropriate information, addressing financial disincentives and promoting/normalising its use).

Perceptions of surgery and parenthood

- The Royal College of Surgeons of England should proactively target medical students (not just those part of surgical societies) to explore and address negative perceptions around the incompatibility of surgery as a career with parenthood and facilitate exposure to different specialties and surgical roles.

- The Royal College of Surgeons of England should identify role models with parental or caring responsibilities (across all genders and specialties) and provide access to mentors at all stages of surgical careers.

Further research and better data

- The Royal College of Surgeons of England should conduct targeted engagement with overseas recruits to understand the implications of parenting and caring responsibilities for their role (including implications for visas and recruitment).

- Better data are required across the whole NHS on the reasons people are leaving, to further understand the relationship between work–life balance and retention, broken down by specialty. Specifically, research is required to understand the impact of parenting and caring responsibilities on attrition during surgical training and careers.

- Health Education England (soon to be NHS England) should collect and analyse more comprehensive data on less-than-full-time training by region, gender and the reason why people are requesting less-than-full-time training to understand more about who is accessing (and not accessing) it.

Appendix

Table 2: Overview of parenting and caring rights in the UK

Category		Detail	Source (statutory and NHS where relevant)
Family planning	*In vitro* fertilisation (IVF)/fertility treatment	• There is currently no statutory right to time off work for IVF treatment or related sickness – it is treated as any other medical appointment/matter	British Medical Association (2021) 'Leave entitlements'. www.bma.org.uk/pay-and-contracts/maternity-paternity-and-adoption/your-rights/a-guide-for-gps-maternity-and-other-types-of-parental-leave/leave-entitlements. Accessed 7 February 2023.
Pregnancy	Risk assessments	• Employees who are pregnant, have recently given birth or are breastfeeding must have a risk assessment of their working conditions • If normal duties would put the employee at risk, alternative work should be provided	GOV.UK (no date) 'Pregnant employees' rights'. www.gov.uk/working-when-pregnant-your-rights. Accessed 7 February 2023. NHS Employers (2023) *NHS Terms and Conditions of Service Handbook* (section 15 – health and safety). NHS Employers. www.nhsemployers.org/publications/tchandbook. Accessed 5 February 2023.
	Antenatal care	• Pregnant employees have the right to paid time off for antenatal appointments and other forms of antenatal care • The partner of a pregnant employee is entitled to unpaid leave to attend two appointments	GOV.UK (no date) 'Pregnant employees' rights'. www.gov.uk/working-when-pregnant-your-rights. Accessed 7 February 2023. NHS Employers (2023) *NHS Terms and Conditions of Service Handbook* (section 15 – antenatal care). NHS Employers. www.nhsemployers.org/publications/tchandbook. Accessed 5 February 2023.
	Sickness absence	• If an employee is suffering from pregnancy-related illness during the last four weeks before the expected week of childbirth, maternity leave may commence • Outside this period (before and after maternity leave), normal sickness absence policy applies	GOV.UK (no date) 'Pregnant employees' rights'. www.gov.uk/working-when-pregnant-your-rights. Accessed 7 February 2023.

Category		Detail	Source (statutory and NHS where relevant)
Leave	Maternity leave and pay	• The statutory leave period is 52 weeks, with the first 2 weeks compulsory • Statutory Maternity Pay (SMP) is paid for up to 39 weeks and includes 90% of average weekly earnings (before tax) for the first 6 weeks and £156.66 or 90% of average weekly earnings (whichever is lower) for the next 33 weeks • Individuals are eligible for the NHS occupational maternity pay scheme if they have 12 months of continuous service with one or more NHS employers at the beginning of the 11th week before the expected week of childbirth, and have notified their intention to return to work with the NHS • It includes 8 weeks' full pay, less any SMP or Maternity Allowance (MA); 18 weeks' half pay plus any SMP or MA (providing the total does not exceed full pay); 13 weeks' SMP or MA; and 13 weeks' unpaid leave	GOV.UK (no date) 'Maternity leave and pay'. www.gov.uk/maternity-pay-leave/leave. Accessed 7 February 2023. NHS Employers (2023) *NHS Terms and Conditions of Service Handbook* (section 15 – eligibility for maternity leave and pay). NHS Employers. www.nhsemployers.org/publications/tchandbook. Accessed 5 February 2023. British Medical Association (2022) 'Maternity leave pay entitlements under the NHS scheme'. www.bma.org.uk/pay-and-contracts/maternity-paternity-and-adoption/finance/maternity-leave-pay-entitlements-under-the-nhs-scheme. Accessed 7 February 2023.
	Statutory paternity leave and pay	• There is an option to take either 1 or 2 weeks (including if the partner has multiple births) • Leave must be taken in one go and cannot start before the birth • The statutory weekly rate of Paternity Pay is £156.66, or 90% of average weekly earnings (whichever is lower)	GOV.UK (no date) 'Paternity leave and pay'. www.gov.uk/paternity-pay-leave. Accessed 7 February 2023.
	Statutory adoption leave and pay	• The statutory leave period is 52 weeks, with the first 26 weeks known as 'ordinary adoption leave' and the last 26 weeks as 'additional adoption leave' • Statutory adoption leave is paid for 39 weeks (the same as maternity pay)	GOV.UK (no date) 'Statutory adoption pay and leave: employer guide'. www.gov.uk/employers-adoption-pay-leave. Accessed 7 February 2023. NHS Employers (2023) *NHS Terms and Conditions of Service Handbook* (section 15 – adoption leave). NHS Employers. www.nhsemployers.org/publications/tchandbook. Accessed 5 February 2023.

Category		Detail	Source (statutory and NHS where relevant)
	Shared parental leave	• Eligible employees can take up to 50 weeks of leave and 37 weeks of pay • It must be taken within one year of birth (or adoption), with a minimum of 8 weeks' notice • It can be taken in blocks or in one go, at the same time or at different times • Doctors using shared parental leave will have varied levels of pay depending on the contract they are working under, with some being entitled to enhanced pay for shared parental leave (in England this includes junior doctors, specialty and associate specialist [SAS] doctors and salaried general practitioners) • Enhanced pay for shared parental leave means people can access the same pay as an employee on maternity or adoption leave	GOV.UK (no date) 'Shared parental leave and pay'. www.gov.uk/shared-parental-leave-and-pay. Accessed 7 February 2023. NHS Employers (2023) *NHS Terms and Conditions of Service Handbook* (section 15 – shared parental leave). NHS Employers. www.nhsemployers.org/publications/tchandbook. Accessed 5 February 2023.
	Parental leave	• Each parent can take up to 18 weeks for each child until the age of 18 – with a maximum of 4 weeks' unpaid leave per child in any one year, taken in blocks no shorter than a week	GOV.UK (no date) 'Time off for dependants'. www.gov.uk/time-off-for-dependants. Accessed 7 February 2023.
Returning to work	Keeping in touch days	• 'Keeping in touch' days allow employees to work a maximum of 10 days (includes both parents taking shared parental leave), consecutively or non-consecutively, during maternity or adoption leave without bringing the leave period to an end • It is optional – employee and employer must agree to it • Employees can work up to 20 days during their shared parental leave. These are called 'shared parental leave in touch' (or SPLIT) days. These days are in addition to the 10 'keeping in touch' days already available to employees on maternity or adoption leave	GOV.UK (no date) 'Employee rights when on leave'. www.gov.uk/employee-rights-when-on-leave. Accessed 7 February 2023. British Medical Association (2022) 'Returning to work and your rights as a working parent'. www.bma.org.uk/pay-and-contracts/maternity-paternity-and-adoption/return-to-work/returning-to-work-and-your-rights-as-a-working-parent. Accessed 7 February 2023.
	Returning to flexible working	• If on returning from leave an employee wishes to return to work on different hours, the NHS employer has a duty to facilitate this where possible • If this is agreed for a temporary period, it should not affect the employee's right to return to their original contract	NHS Employers (2023) *NHS Terms and Conditions of Service Handbook* (section 15 – returning to flexible working). NHS Employers. www.nhsemployers.org/publications/tchandbook. Accessed 5 February 2023.

Category		Detail	Source (statutory and NHS where relevant)
Caring	Protection from discrimination 'by association'	• Age and disability are protected characteristics under the Equality Act 2010 and a person can be protected from discrimination 'by association' if they care for someone due to age or disability	Carers UK (no date) 'Protecting yourself from discrimination'. www.carersuk.org/help-and-advice/work-and-career/protecting-yourself-from-discrimination. Accessed 7 February 2023.
	Time off for emergencies	• People are allowed a 'reasonable' time off to deal with emergencies involving a dependant • What is 'reasonable' depends on the situation • Pay depends on the individual employer	GOV.UK (no date) 'Time off for family and dependants'. www.gov.uk/time-off-for-dependants. Accessed 7 February 2023.
	Carer's leave	• The government response to the carer's leave consultation committed to introduce a right for unpaid carers to take up to a week (5 working days) of unpaid leave each year subject to certain criteria	Department for Business, Energy and Industrial Strategy (2021) *Carer's Leave Consultation: Government response*. GOV.UK. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1019841/carers-leave-consultation-government-response.pdf.
Other	Flexible working	• NHS employees have a contractual right to request flexible working from day one of employment • Employers need to consider how to support and encourage open conversations about flexible working	NHS Employers (2023) *NHS Terms and Conditions of Service Handbook* (section 33 – balancing work and personal life). NHS Employers. www.nhsemployers.org/publications/tchandbook. Accessed 5 February 2023.
	Less-than-full-time training	• Since August 2022, all doctors in training across England in any specialty have the right to apply to train less than full time for any well-founded reason, including for caring responsibilities or their welfare/wellbeing	Health Education England (no date) 'Delivering greater flexibility'. www.hee.nhs.uk/our-work/doctors-training/delivering-greater-flexibility. Accessed 7 February 2023.
	Protection from discrimination	• Pregnancy and maternity are protected characteristics under the Equality Act 2010	ACAS (no date) 'Managing your employee's maternity leave and pay'. www.acas.org.uk/managing-your-employees-maternity-leave-and-pay/discrimination-because-of-pregnancy-and-maternity. Accessed 7 February 2023.

Note: This table provides a high-level, non-exhaustive overview of relevant rights and entitlements for people with parenting and caring responsibilities within the NHS. Other provisions may apply for particular roles and contracts.

Methodology

Stakeholder conversations and policy analysis

We conducted scoping calls with individuals from national stakeholder organisations – including Health Education England, the Royal College of Surgeons of England, the British Medical Association and NHS Employers – to understand the context surrounding surgery and support for people with parenting or caring responsibilities working in the NHS.

Alongside this we conducted a review of the current statutory and NHS-specific employment rights and entitlements relating to parenting and caring. Information was obtained through the *NHS Terms and Conditions of Service Handbook*,[126] the British Medical Association, GOV.UK and the Health and Safety Executive.

We also reviewed key recent policy documents surrounding workforce development, such as the House of Commons Health and Social Care Committee report on workforce,[127] the *People Plan*[128] and *The Independent Review into Gender Pay Gaps in Medicine in England*.[129]

Contextual data analysis

We analysed an array of published and aggregated data, including from Health Education England (on the uptake of less-than-full-time training), the General Medical Council (on less-than-full-time training and retention) and NHS Digital (on workforce numbers and demographics). We conducted all analyses in Excel.

Literature review

We conducted a pragmatic review of academic and grey literature on issues relating to the impact of parenting and/or caring on surgical careers. We iteratively developed a search strategy with support from library and information services at the University of Birmingham's Health Services Management Centre. The literature search covered the following bibliographic databases: MEDLINE, HMIC ProQuest Central and the Social Sciences Citation Index.

We searched for papers published in English since 2010, in the UK, the Republic of Ireland and other countries of the Organisation for Economic Co-operation and Development (OECD). We screened all titles and abstracts based on our inclusion and exclusion criteria (see Table 3), to identify studies with the greatest relevance to the impact of parenting and caring on surgical careers. We also supplemented our search strategy with results identified through snowballing and handsearching. In total, 64 papers were included in the review.

One reviewer led the literature review, with regular discussion among the wider team. Some papers were screened more than once to ensure consistency.

Table 3: Literature review inclusion and exclusion criteria

Criteria	Include	Exclude
Publication date	Data collection and publication 2010 onwards	Research and/or publication before 2010
Countries	Any OECD country	Countries not within the OECD
Language	English	Not in English
Population	Any surgical specialty Any career stage Medical students	Non-medical professions Non-surgical specialties
Topic	Factors relating to the impact of parenting and/or caring on surgical careers (any aspect of parenthood including family planning, fertility, pregnancy and childrearing)	No mention of the effect of parenting/surgery/medical careers Exclusive focus on gender with no reference to parenting
Outcome	Impact on careers (choice of specialty/career, progression, pay, retention, participation, experience and wellbeing) Impact on life choices or experiences outside work	No mention of the impact of parenting on the relevant outcome
Methodology	Qualitative or quantitative (including literature reviews, surveys and interviews)	Personal reflections or commentary Conference abstracts

Survey

We used existing surveys identified through our literature review to develop an initial long list of potential questions to be used in the survey. The resulting long list was prioritised and tailored to our needs to create a first-draft short list. We used Microsoft Forms to develop an online survey platform to capture question responses. We also used this to provide participation information and capture consent at the beginning of the survey. The survey was piloted internally and externally (including with individuals from the Royal College of Surgeons of England and individuals from their membership at different career stages). We used feedback from this pilot stage to refine and finalise the survey.

The survey was open between 21 September and 31 October 2022 and the link was made available on both the Nuffield Trust's and the Royal College of Surgeons of England's websites. Both organisations promoted the survey through social media channels and newsletters to advertise the survey, and individuals involved in the project from both organisations used their personal networks to do the same. Anyone with access to the link to the survey could submit a response.

A total of 313 responses were submitted. We did not require those taking part in the survey to submit a response for every question. Excluding demographic questions and those on consent, the response rate for each question ranged from a maximum of 100% to a minimum of 70%, and 90% or more of the respondents completed 87% of the questions. We also looked at the distributions of the respondents' demographic information to give us a better sense of our sample. Where differences between groups are presented, we have tested for statistical significance at the 95% confidence level.

We then used R studio and Microsoft Excel to analyse the data to calculate the frequency and percentages of responses. In general, we excluded 'not applicable' from the denominators and on some occasions we also excluded other responses, as appropriate to the question being asked. For some questions, where the size of the denominators allowed, we did further analysis looking at different responses by caring status, current position, ethnicity, gender and specialty.

Interviews and a focus group

We conducted 15 semi-structured interviews with doctors across a range of surgical specialties and career stages between August and December 2022. Due to the sensitivity of the topic and the need to protect the anonymity of our interviewees, we have not provided a breakdown of their career stage or specialty.

The policy and literature review and contextual analysis informed the interview protocol, which explored interviewees' experiences regarding parenting or caring, the impact on their career and actions to improve the experience of people with parental or caring responsibilities working in surgery.

We also held one focus group discussion in November 2022 with a group of seven medical students at one university who were undecided about their specialty choice. The focus group explored the following topics:

- factors that have influenced or will influence their choice of career or specialty
- perceptions of surgery compared with other medical specialties (including about the impact of parenting)
- actions to support or encourage people to pursue a career in surgery.

Institute for Fiscal Studies analysis

We commissioned the Institute for Fiscal Studies (IFS) to examine how length of maternity and paternity leave, and rates of progression in the NHS after parents return to work, vary by specialty and staff characteristics. To do this, it used the Electronic Staff Record (ESR) – the monthly payroll database on directly employed staff in the NHS – from 2012 to 2021. This provides detailed information on the pay, hours, progression and parental leave absences of NHS staff. For doctors, the analysis looked at progression from early to late specialty training, and completion of specialty training. A more detailed summary of the approach of the IFS is given in its research report on the progression of parents in NHS medical and nursing careers, published alongside this report.[130]

Key limitations

In relation to the survey, as with any survey, response bias may limit our results, in that those who responded may have been more likely to have had negative experiences. Due to the number of responses, we were also limited in the detailed analysis we were able to do by sub-group.

Due to time limitations, we were only able to conduct one focus group with medical students. However, we supplemented the insight gained from this discussion with evidence from the wider literature.

As the focus of our research was people who had predominantly trained or worked within the UK, we were not able to explore the experiences of overseas recruits, who may have specific issues regarding supporting their families. However, we have identified this in our recommendations as an area requiring further work.

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