

RCPCH State of child health: short report series

# 2017 workforce census overview

Published January 2019



# Contents

<b>1</b>	<b>Introduction</b>	<b>4</b>
<b>2</b>	<b>Acknowledgements</b>	<b>5</b>
<b>3</b>	<b>Key facts about the paediatric workforce</b>	<b>6</b>
<b>4</b>	<b>Recommendations</b>	<b>7</b>
4.1	Plan the child health workforce	7
4.2	Recruit and train more paediatricians	7
4.3	Incentivise the paediatric workforce	8
4.4	Attract more overseas-trained doctors and health professionals	8
4.5	Plan for and expand the non-medical workforce	8
<b>5</b>	<b>Findings</b>	<b>9</b>
5.1	Consultant demand	9
5.2	Career grade doctor numbers	10
5.3	Factors influencing workforce demand	11
5.4	Factors influencing workforce supply	18
5.5	Trainee supply requirements	22
5.6	Service structure and pressures	22
<b>6</b>	<b>Methodology and response rate</b>	<b>26</b>
<b>7</b>	<b>References</b>	<b>27</b>

# 1. Introduction

*“There are significant gaps in the child health workforce that threaten our ability to improve health outcomes for our CYP [Children and Young People]. To truly deliver a workforce fit to respond to the needs of CYP, there needs to be a significant expansion in the child health workforce.”<sup>[1]</sup>*

The child health workforce across the United Kingdom is suffering from the same planning problems, underfunding and staffing issues as the rest of the health workforce.<sup>[2]</sup> There is growing evidence that workforce problems are affecting the delivery of high quality, safe paediatric services in each of the UK countries. In England, a recent NHS Improvement report identified workforce problems as the main contributor to poor ratings of paediatric services by the Care Quality Commission (CQC).<sup>[3]</sup> Furthermore, child health staff in Emergency Departments report that workforce shortages were their top concern in a winter pressures survey conducted by RCPCH.<sup>[4]</sup>

The Royal College of Paediatrics and Child Health (RCPCH) calls for senior policy makers across the UK to develop and implement a strategic child health workforce plan so that safe and sustainable care is delivered for children and young people (CYP).<sup>1</sup> Whilst this is wider than the paediatric workforce, issues in the recruitment and retention of paediatricians threaten the safety of our children’s health and well-being. To highlight issues and identify solutions, the RCPCH will be releasing a series of reports on the state of the paediatric and child health workforce throughout 2019, supported by data from the College’s 2017 Workforce Census.

The RCPCH is encouraged that the NHS Long Term Plan for England, published in January 2019<sup>[5]</sup>, makes robust recommendations for child health and commits to establish a national workforce group which will include the Royal Colleges. It is essential that the RCPCH’s workforce findings and recommendations are used to inform workforce and service planners of the key pressures facing paediatrics. RCPCH welcomes a long-term approach to workforce planning that will enable the development of new ways of working and facilitate the development of system wide approaches to deliver child health services.

In this first report of the series we provide a UK-wide overview of the findings from the census and make recommendations in 5 key areas:

1. Planning the child health workforce
2. Recruiting, training and retaining more paediatricians
3. Incentivising the paediatric workforce
4. Attracting more overseas-trained doctors and health professionals
5. Planning for and expanding the non-medical workforce

Further reports will focus on the workforce in each of the four UK nations, safeguarding provision, the workforce in paediatric specialties and Specialty and Associate Specialist (SAS) doctors.

The reports will be supported by the following Census Resources on the RCPCH [website](#):

- An interactive dashboard of paediatric workforce data which allows users to apply filters and customise for their own use and interest.
- A set of detailed tables in Excel format for those who wish to see further breakdowns of the census data.
- An explanation of how we arrived at our estimate of consultant workforce demand and supply of trained doctors.
- The census data collection methodology and response rate.

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<sup>i</sup> Children includes infants. Paediatric services care for children up to the age of 18, and sometimes up to the age of 25 if there are complex health needs.

## 2. Acknowledgements

The RCPCH would like to thank clinical directors, clinical leads and everyone who submitted data to the census, conducted from autumn 2017 to summer 2018. Your input is invaluable in allowing the College to provide evidence-based recommendations and ensure the pressures facing the child health workforce are prioritised. Dr Carol Ewing, RCPCH Vice President for Health Policy, has provided essential guidance in the production of this report.

The RCPCH acknowledges the hard work of all the staff who have been involved in designing the workforce census, collecting and cleaning data, analysing the findings and producing the reports.

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## 3. Key facts about the paediatric workforce

### Career grade workforce

- The consultant paediatric workforce in the UK grew from 3996 in 2015 to 4306 in 2017 or 3756.9 to 3997.1 in terms of Whole Time Equivalents (WTE). There was a 7.8% rise in headcount and 6.4% rise in terms of WTE.
- Consultant growth between 2015 and 2017 was highest in England at 8.2% (or 6.7% WTE). The headcount growth rates in Scotland (5.0%), Wales (5.1%) and NI (5.4%) are all lower than England.
- RCPCH currently estimates that demand for paediatric consultants in the UK is around 21% higher than 2017 workforce levels, an increase of approximately 850 WTE consultants is required.
- SAS doctor numbers are now only 51.9% of the total reported in the RCPCH Census of 2001.
- The proportion of consultants in community child health posts in 2017 was 17.4% of the consultant workforce, a reduction from 18.5% in 2015.
- 53.5% of consultants in UK were women in 2017, an increase from 51.6% in 2015.
- Less than full time working (LTFT) among paediatric consultants in the UK increased to 24.2% in 2017, from 21.5% recorded in 2015.

### Trainees

- In 2018, women represent over 77% of paediatric doctors in training.
- 22.2% of paediatric trainees are now working LTFT.
- Across the UK 87.5% of ST1 posts were filled in 2018 compared to 89.6% in 2017.
- There is a 11.1% rota vacancy rate on tier 1 (junior), 14.6% on tier 2 (middle grade).
- RCPCH estimate that there is a need to recruit approximately 600 doctors into ST1 training posts each year for approximately the next 5 years.

### Service pressures

- Overall, 84% of respondents in the UK said that paediatric training posts and gaps pose a significant risk to their service or to children, young people and their families.
- There was recognition among respondents that pressures facing paediatrics are interlinked with problems and shortages across the NHS, especially Emergency Care, Child and Mental Health Services (CAMHS) and primary care.
- In 2017, 89.9% of NICUs had a separate tier 3 (consultant) rota compared to 92.6% in 2015.

## 4. Recommendations

### 4.1 Plan the child health workforce

- There has been an incoherent and inconsistent approach to planning for the child health workforce.
- NHS Improvement (NHSI)/Health Education England (HEE), Health Education and Improvement in Wales (HEIW), NHS Education for Scotland (NES) and the Department of Health and Social Care in Northern Ireland must develop a bespoke child health workforce strategy for their individual countries.
- Each strategy must identify all the child health workforce to meet the needs of CYP including medical, midwifery, nursing, allied health professionals, pharmacists, health visitors and school nurses.
- The plan must model the paediatric and child health workforce at least up to 2030 based on what future services will look like and existing service demand projections.
- The strategy must be sufficiently robust to deliver professional and service standards.
- The strategy must acknowledge and support differential participation rates and the development of portfolio careers to enable retention of staff.
- RCPCH is prepared to work with all agencies in a constructive and collaborative manner to secure the workforce strategy.

### 4.2 Recruit and train more paediatricians

The RCPCH supports the Royal College of Physicians call <sup>[6]</sup> to double the number of medical students. In addition, the RCPCH wants to see:

- a) The UK government and the governments in Northern Ireland, Scotland and Wales increase in the number of paediatric trainee places in the UK to 600 in each training year for the next 5 years.
- b) The UK government and the governments in Northern Ireland, Scotland and Wales fund an additional year of General Practice (GP) training. This additional year must include paediatric and child health training for all GP trainees as proposed in the RCGP curriculum submission in 2016. The extended programme would be subject to approval by the General Medical Council.
- c) The Department of Health and Social Care must expand the Medical Training Initiative scheme, which provides doctors from outside the UK to train and develop their skills in NHS.
- d) NHS Employers (HEE, and equivalent workforce planning bodies in Scotland, Wales and Northern Ireland) and the Deaneries must support existing SAS grade doctors and their professional development, ensuring that this important part of the child health workforce is recognised as a viable, attractive alternative career pathway. Improved recognition of SAS doctors' seniority is important to improve attitudes and morale. Furthermore, it is essential that the SAS grade is included in the workforce planning of HEE, and equivalent bodies of the devolved nations.

### 4.3 Incentivise the paediatric workforce

Pay premia have been used in other hard to recruit medical specialties. Paediatrics is now facing severe shortages with falling applications and recruitment challenges.

- a) The Department of Health should offer flexible pay premia to paediatric trainees as a

recruitment incentive into the paediatric specialty and for hard to recruit areas, including remote and rural settings.

- b) The Department of Health should offer flexible pay premia to paediatricians who return to clinical practice after successfully undertaking a pre-agreed period of approved academic research and those who take time out of clinical practice to undertake other recognised activities that may be of benefit to the wider NHS.

## 4.4 Attract more overseas-trained doctors and health professionals

Paediatrics has historically been reliant on the skills and expertise of doctors from outside the UK. Any new migration system needs to take account of the value and contribution the health and social care sector provides to the UK economy and its population, looking beyond pay as a proxy for 'skill' and 'value'. This will enable recognition of the range of roles we might need to recruit to including world class medical researchers, nurses and Advanced Clinical Practitioners.

- a) The Home Office must place paediatric consultants, trainees and SAS doctors on to the shortage occupation list.
- b) The Home Office must commit to permanently removing the tier 2 cap so that the UK attract paediatricians with the right skills into the NHS.

## 4.5 Plan for and expand the non-medical workforce

The delivery of paediatric services to children and young people and their families requires a multidisciplinary workforce.

- a) NHSI/HEE, HEIW, HES and the Department of Health and Social Care (NI) must develop a national career strategy for advanced clinical practitioners including Advanced Nurse Practitioners in neonatology and paediatrics, and Physician Associates.
- b) The RCPCCH will collaborate with the Faculty of Physician Associates and educational funders and providers to develop post qualification fellowships in paediatrics, to emulate the mature model in the USA. This will facilitate career growth and increase workforce options.



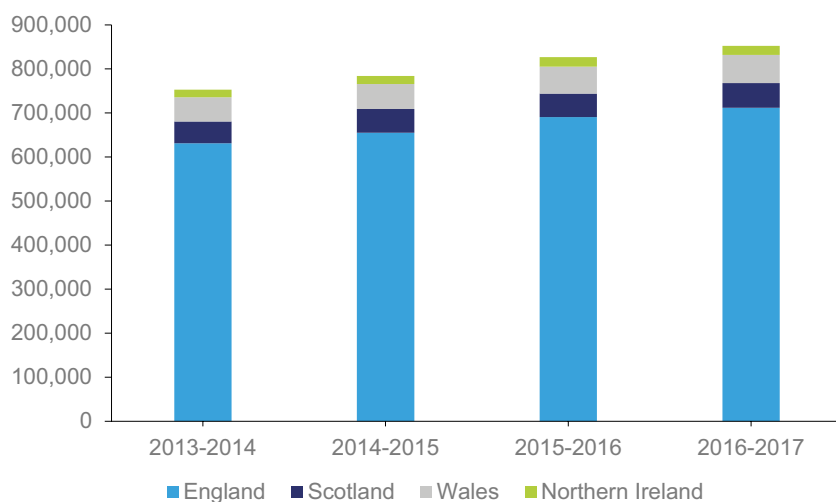
## 5 Findings

### 5.1 Consultant demand

RCPCH currently estimates that the demand for paediatric consultants in the UK outstrips 2017 workforce levels by around 21%. That is, an increase of approximately 850 WTE consultants above the 2017 workforce is required to meet demand. This is to ensure service standards are met and services are provided safely, particularly when coping with the increased demand for childhealth services. Some of the elements driving demand are:

- The growth in paediatric emergency admissions<sup>ii</sup>, see Figure 1. Between 2013/14 and 2016/17, emergency admissions in England rose 12.7%, from 631500 to 711805 <sup>[7]</sup>. In Scotland, over the same period, emergency admissions rose 13.1%, from 49370 to 55862 <sup>[8]</sup>. In Wales, emergency admissions rose 17.2%, from 54627 to 64002 <sup>[9]</sup>. And in Northern Ireland, emergency admissions rose 17.8% from 17762 to 20922 <sup>[10]</sup>.
- The level of admissions seen in some units mean that double rotas are increasingly needed.
- The College's 2017 Facing the Future Audit <sup>[11]</sup> showed that only 48% of children admitted to the paediatric department with an acute medical problem are seen by a consultant paediatrician within 14 hours of admission. Our estimate therefore calculates demand in general paediatrics based on providing consultant resident cover for 12 hours per day and 7 days a week.
- NHS England data show that Paediatrics compliance with the standard for first consultant review within 14 hours is one of the lowest among medical specialties. <sup>[12]</sup>
- Not all Neonatal Intensive Care Units (NICUs) meet the British Association of Paediatric Medicine standard <sup>[13]</sup> stating that NICUs should have separate rotas. In 2017, 89.9% of NICUs had a separate tier 3 (consultant) rota compared to 92.6% in 2015.
- In 2017, the College and the British Association for Community Child Health (BACCH) published Covering all Bases <sup>[14]</sup> which found that there was a need for substantial increase in the community child health medical workforce. This is necessary to meet the current and anticipated demand due to a rising number of co-morbidities, long delays in diagnosis for autism and ADHD, and growing safeguarding concerns.

**Figure 1. Number of finished admission episodes (FAE) in England, Scotland, Wales and Northern Ireland for emergency admissions in paediatrics, 2013-14 to 2016-17.**



ii An emergency admission in hospital episode statistics (HES) is defined as an admission which is unpredictable and at short notice because of clinical need.

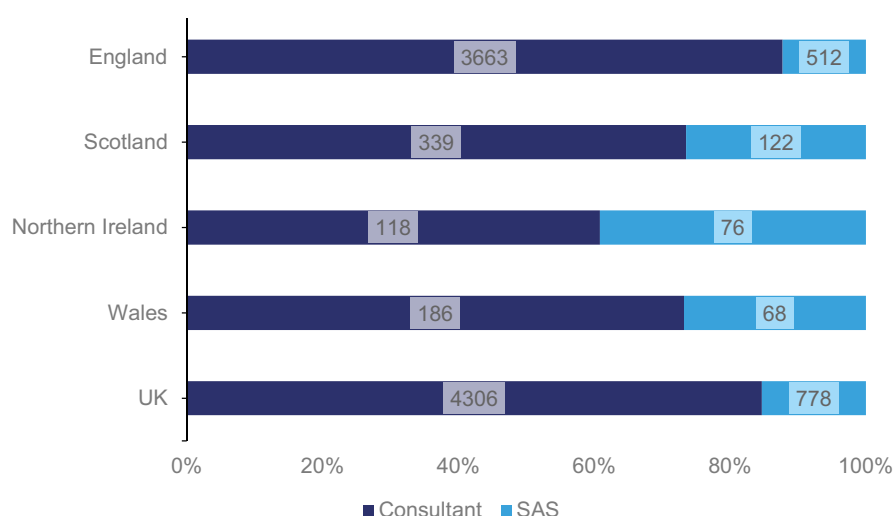
Further information about how we have calculated and estimated demand numbers for the paediatric consultant workforce can be found in Census Resources on our website.

## 5.2 Career grade doctor numbers

The consultant paediatric workforce in the UK grew from 3996 in 2015 to 4306 in 2017 (Figure 2), or 3756.9 to 3997.1 in terms of Whole Time Equivalents (WTE). This represents a 7.8% rise in headcount and 6.4% in terms of WTE in the two years since the last RCPCH Census, in 2015. The increase in headcount between 2013 and 2015 was similar at 7.5%.

Because of the growth in less than full time working, for every additional consultant in the paediatric workforce between 2015 and 2017, the whole time equivalent increase is only 0.77 WTE.

**Figure 2. Headcount number and percentage of consultant and SAS grade doctors by country.**



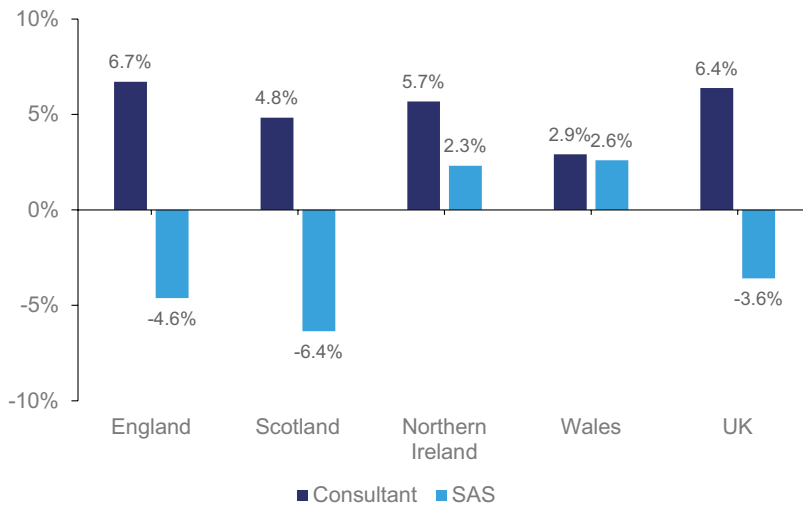
Consultant growth between 2015 and 2017 was highest in England at 8.2% (or 6.7% WTE). The headcount growth rates in Scotland (5.0%), Wales (5.1%) and NI (5.4%) are all lower than England. In terms of WTE, the growth rate in NI is slightly higher than headcount (5.7%) and the growth in Scotland (4.8%) is similar to headcount. The difference in Wales between a headcount rise of 5.1% headcount but only a 2.9% growth in WTE indicates a considerable rise in less than full time working. See Figure 3.

Between 2015 and 2017 there was a decline in average programmed activities (PAs) in consultant contracts for direct clinical care (DCC) PAs from 7.6 to 7.4. This seemingly small reduction is the equivalent of 80 WTE consultants, thus further negating some of the growth in numbers.

Staff, Associate Specialist and Specialty (SAS) doctors continued to decline in number, as seen in every census since 2001, with only 778, or 646 WTE reported in 2017. This represents a 3.7% decline in headcount and 3.6% in WTE since 2015. This is a smaller magnitude of decline than in previous censuses, but SAS doctor numbers are now only 51.9% of the total number of SAS doctors reported in the RCPCH Census of 2001.

SAS doctor numbers declined more steeply in England (-4.8%, -4.6% WTE) and Scotland (-3.9%, -6.4% WTE), compared to Northern Ireland where there was a small increase of 1.3% (2.3% WTE) and Wales where SAS doctor headcount number remained the same (2.6% increase in WTE). See Figure 3.

**Figure 3. Percentage change from 2015 to 2017 in WTE of consultant and SAS grade doctors.**

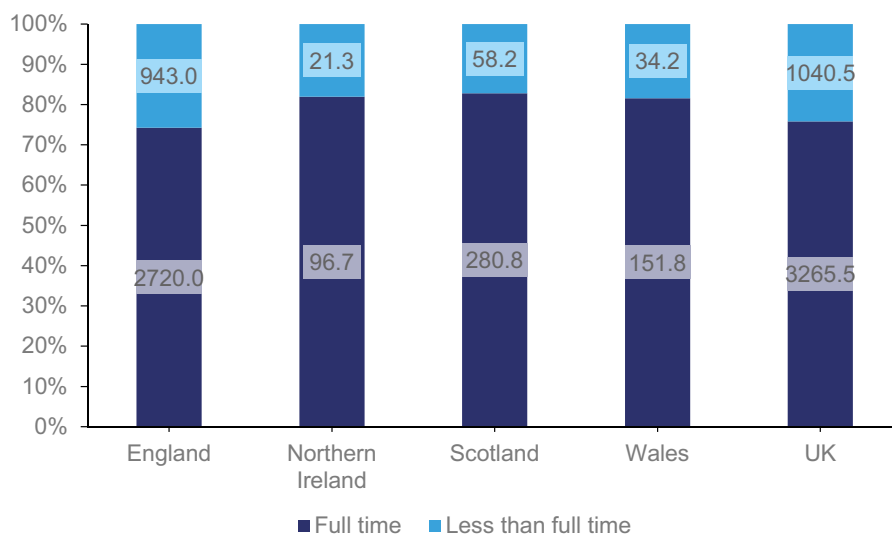


## 5.3 Factors influencing workforce demand

### 5.3.1 Less than full time working

Less than full time working (LTFT) among paediatric consultants in the UK increased to 24.2% in 2017, from 21.5% recorded in 2015. In 2017, 35.6% of female consultants and 10.7% of male consultants in the UK worked LTFT. The proportion of LTFT consultants is highest in England at 25.7% and lowest in Scotland at 17.2%.<sup>iii</sup> See Figure 4.

**Figure 4: Full time and less than full time consultants (WTE) by nation in 2017.**



For SAS doctors, LTFT working is more common; 45.8% of SAS doctors were working less than full time in 2017 compared to an estimated 47.4% in 2015, with the highest proportion in Scotland at 54.9% and Northern Ireland at 54.4%. In Wales, only 36% of SAS doctors worked LTFT.

<sup>iii</sup> Estimates of LTFT working in 2017 are weighted based on a response rate of 73% for consultants (an improvement from 2015 census data where the response rate regarding contract time was 61%) and 82% for SAS doctors.

Less than full time working varies considerably according to the job type of the paediatrician. 32.4% of community child health consultants work less than full time compared to 17.3% of generalists and 11.2% of paediatric subspecialists.

### 5.3.2 Gender changes in the workforce

The proportion of the paediatric consultant workforce who are women continues to increase. In 2017, 53.5% of consultants in UK were women, an increase from 51.6% in 2015. In terms of WTE, 52% were women in 2017. Scotland reported the highest proportion of women consultants at 56% (54.2% WTE) and Wales the lowest at 45.7% (44.8% WTE).

**Figure 5. Proportion of women consultants by country, from 2013 to 2017.**



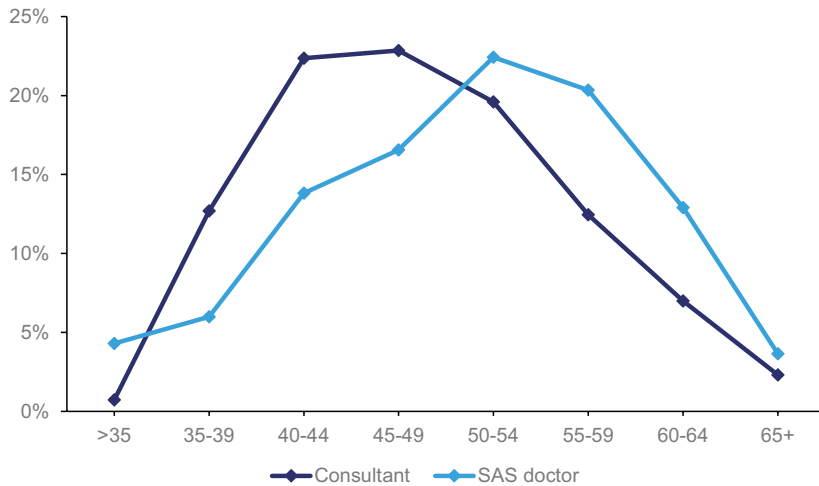
The proportion of paediatric SAS doctors who are women is higher than for consultants. In the UK in 2017, 78.2% of paediatric SAS doctors were women. There has been little change in the proportion of female SAS doctors over time, with 76.8% in both 2013 and 2015.

In 2018, women represent over 77% of paediatric doctors in training, an increase from 70% in 2012 [15].

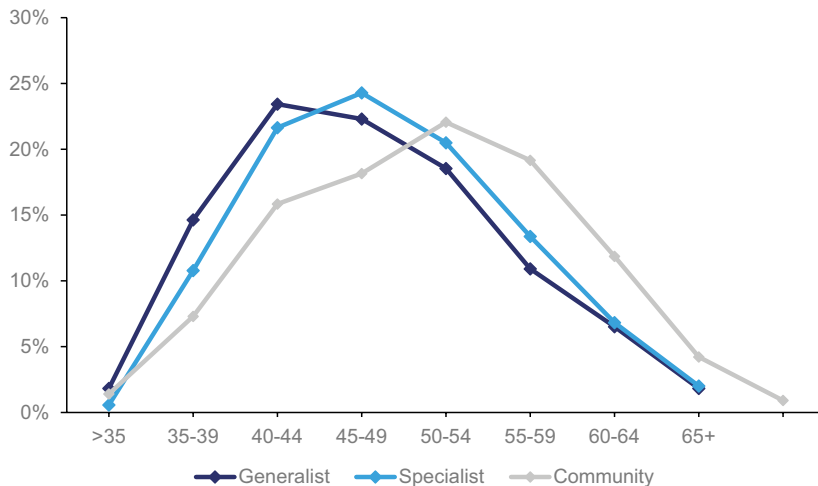
### 5.3.3 Age characteristics of the workforce

The modal age group of consultants is 45 to 49, whilst the modal age group of SAS doctors is 50 to 54. Figure 6 shows the proportion of consultant and SAS grade doctors in each age band, and illustrates that SAS doctors tend to be older than consultants. The number of SAS doctors has greatly reduced from 1501 in 2011 to 778 in 2017 (see Census Resources on the website for further details), and the age trends in Figure 6 indicate that on current trends SAS doctors will continue to decline in number as they retire without replacements. Figure 7 shows the headcount number of consultants by age group and job type, and illustrates that community child health consultants tend to be older than generalists or specialists.

**Figure 6. Percentage of consultants and SAS doctors in each age group in 2017.**



**Figure 7. Percentage of consultants by job type and age group in 2017.**

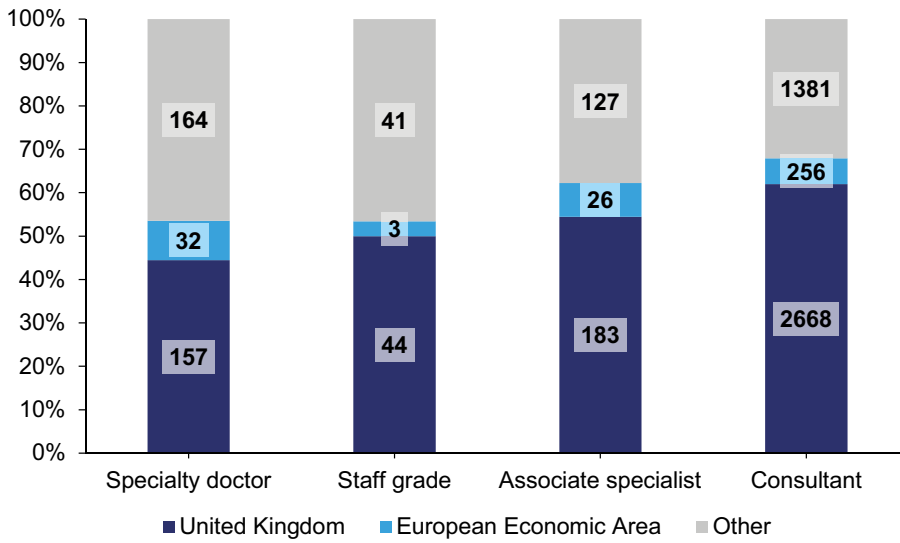


### 5.3.4 Place of Primary Medical Qualification (PMQ)

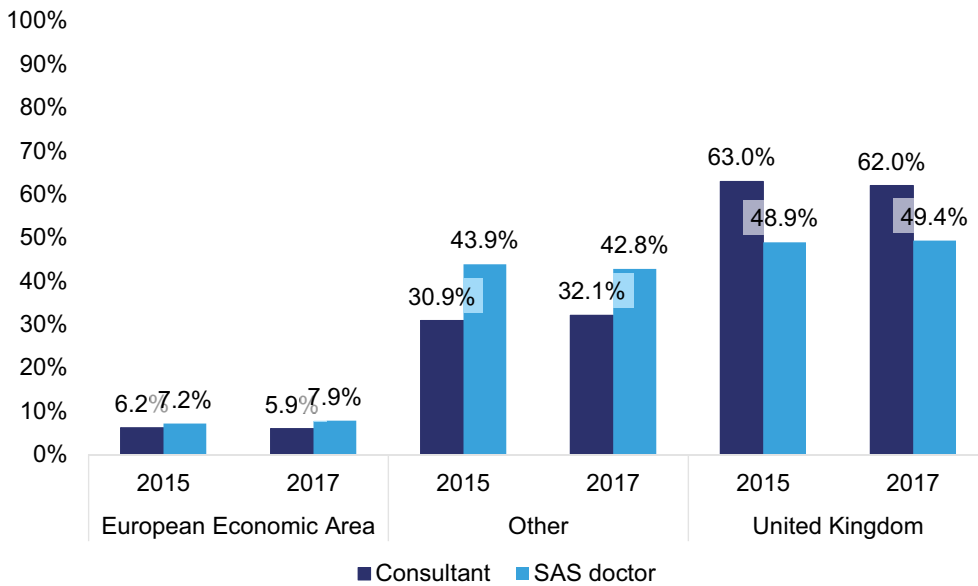
Of paediatric consultants working in the UK, 62.0% obtained their primary medical qualification in the United Kingdom, 6.0% graduated in the European Economic Area (EEA) and 32.1% graduated in other parts of the world. The majority of SAS paediatric doctors (51%) did not obtain their primary medical qualification in the UK (7.8% from the EEA and 42.8% from other non-UK countries). See Figure 8 and Figure 9.

The number of non-UK graduates working as trainees fell from 1247 (34.4%) in 2012 to 690 (18.5%) in 2018 [5]. The number of applicants to paediatric training from the EEA fell from 97 in 2015 to 41 in 2017; a 58% fall in two years [7].

**Figure 8. Headcount number of doctors by place of primary medical qualification and grade in 2017.**



**Figure 9. Trends in PMQ by grade group (consultant or SAS doctor), comparing 2015 and 2017 data.**



### 5.3.5 Consultant PAs

The proportion of consultants working 12 or more programmed activities (PAs) rose from 5% to 6.3% between 2015 and 2017. The proportion working fewer than 10 PAs has increased to 23.8%. Calculating the number of paediatricians working fewer than 10 PAs is an alternative way to measure less than full time working, but results in a small difference to the LTFT rate quoted in 5.3.1 above.<sup>iv</sup>

The average number of PAs in consultant contracts is 10.1, which is the same as the average in 2015. Average PAs vary according to job type; ranging from 9.2 for community child health consultants to 10.5 for subspecialty paediatricians. However, there has been an increase from 10.8 to 11 PAs amongst full time consultants. To reduce the average number of PAs to the BMA contract recommendation of 10 PAs <sup>[16]</sup> would require an additional 188 consultants.

### 5.3.6. Competition for consultant and SAS posts

When an Advisory Appointment Committee (AAC) takes place, an RCPCH representative attends to support the quality assurance. Data from AAC outcome forms can provide information about the competition level for consultant grade posts. However, because it is not a statutory requirement for Foundation Trusts to follow the AAC process and there is a tendency for non-return of forms when a vacancy is not filled, there is some under-reporting of vacancies.

Notwithstanding these concerns, there are some clear trends as shown in the data analysed for a 10-month period between September 2017 and July 2018. There is considerably less competition for community consultant posts with an average of only 1.3 applicants compared to 3.1 for general and 3.8 for other specialist posts (Table 1). However, there was only one community post which was unfilled (7%) at AAC compared to 15% for general paediatrics. Because the sample size is small however, appropriate weight should be given to these findings.

**Table 1. Appointments for consultant and SAS grade posts from September 2017 to July 2018 by job type. Data from AAC (Advisory Appointment Committee) Outcome forms.**

Job Type	Average Applicants per Post	Total Applicants	Posts Advertised	Appointments Made	Unfilled Posts	% Unfilled
<b>Community</b>	1.3	19	15	14	1	7%
<b>General</b>	3.1	162	52	44	8	15%
<b>Specialist</b>	3.8	150	40	39	1	3%

Across the UK, there are considerable differences in the number of applicants for consultant posts, indicating both the popular regions for consultants to work in and those areas where it is more difficult to recruit. The average applicants per post is only 1.3 in Northern Ireland and 1.4 in East Midlands and rises to 7.0 in North West London. Paediatric AACs in Scotland are administered by the Royal College of Physicians of Edinburgh, therefore data is not currently available.

iv. The PAs calculation excludes 383 consultants for whom there is whole time equivalent information but no details about PAs

**Figure 10. Average number of applicants per post by region, for consultant and SAS grade posts from September 2017 to July 2018.**



### 5.3.7 Consultant vacancies by country

There were 210.0 headcount vacancies recorded in 2017, down from 253 in 2015. Furthermore, there were 201.1 total WTE vacancies in 2017, down from 241.5 in 2015.

Across the UK, the consultant vacancy level was 3.7% of the total consultant workforce, and the SAS vacancy level was higher at 6.4%. Northern Ireland had the highest proportion of vacancies of the four nations, at 11.0% for consultants and 11.8% for SAS doctors. See Table 2.

The vacancies reported in this section reflect the established posts not filled. They do not give an indication of the shortfall against the College standards, rather they are the shortfall against the workforce establishment of the organisation. The gap between the 2017 workforce and that required to meet standards is considerably larger (see section 5.1 Consultant demand).

**Table 2. Headcount (HC) vacancies and vacancy % levels, by nation and grade group. Percentages as a proportion of each nation’s overall workforce.<sup>v</sup>**

	England		Northern Ireland		Scotland		Wales		UK total	
	HC	%	HC	%	HC	%	HC	%	HC	%
<b>Consultant</b>	130.1	3.6%	13	11.0%	9	2.7%	8	4.3%	160.1	3.7%
<b>SAS doctor</b>	32.8	6.4%	9	11.8%	5	4.1%	3	4.4%	49.8	6.4%
<b>Total</b>	163.0	3.9%	22	11.3%	14	3.0%	11	4.3%	210.0	4.1%

### 5.3.8 Job Type

Job types were divided into the three groups, General, Community and Specialist.<sup>vi</sup> The proportion of consultants in Generalist roles was 41.7% (1797) in 2017, slightly down from 42.5% (1694) in 2017.

v. Organisations in Scotland, Northern Ireland and Wales returned complete vacancy information. In England, 140 out of 168 organisations responded (83.3%). The vacancies in England were weighted up to reflect this response rate.

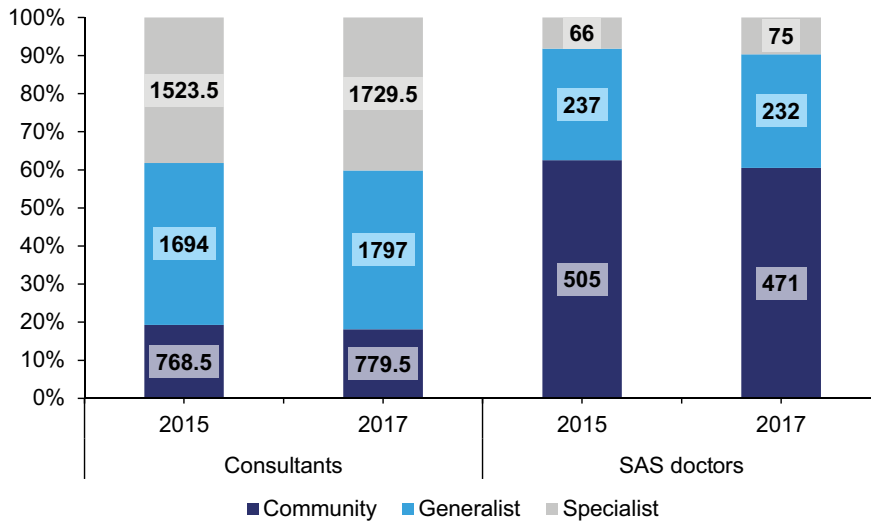
vi. See Census Resources for further detail about the grouping of job types conducted for this analysis.



The proportion of consultants in specialist roles in 2017 was 40.2% (1729.5), a slight increase from 38.2% (1523.5) in 2015. Whereas, the proportion of consultants in community child health posts in 2017 was 18.1% (779.5), a reduction from 19.3% (768.5) in 2015.

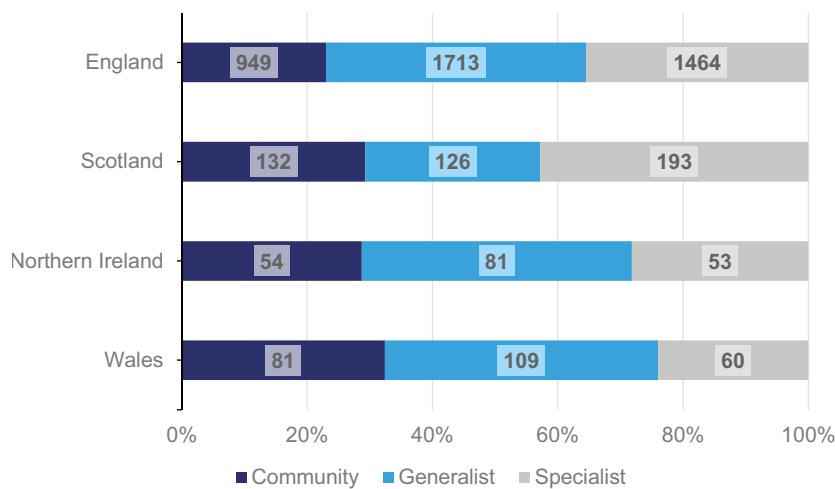
The job type breakdown for SAS grade doctors is different to that for consultants; most SAS doctors work in community child health services (60.5% in 2017), a slight decrease from 62.5% in 2015. There has been an increase in the proportion of SAS doctors working in a specialist post, from 8.2% in 2015 to 9.6% in 2017 (Figure 11).<sup>vii</sup>

**Figure 11. Number of consultants and SAS doctors by job type, comparing 2015 and 2017.**



Looking at all career grade doctors (consultants and SAS combined), the majority in terms of headcount in England (41.0%) are generalists, whereas in Scotland the majority are specialists (41.9%). Wales has the highest proportion of community child health doctors in the four nations (31.9%), see Figure 12.

**Figure 12. Headcount numbers of all career grade doctors by job type and nation in 2017.**



In Scotland, 51.6% (339) of consultants are specialists compared to 31.2% in England. Further information about consultants and SAS grade doctors, by nation and job type, is available in Census Resources on the website.

vii. Doctors classified as "50% general / 50% community" were split between Community and Specialist groupings for this analysis.

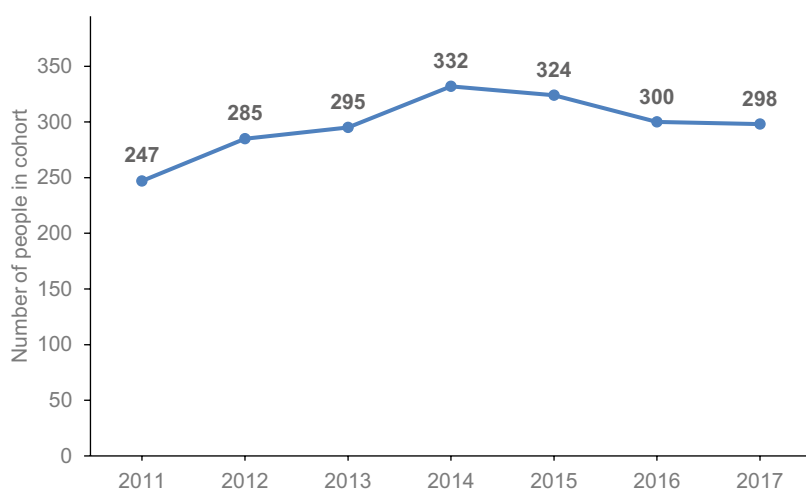
## 5.4 Factors influencing workforce supply

### 5.4.1 New Certificate of Completion of Training (CCT) and Certificate of Eligibility for Specialist Registration (CESR) holders

There has been minimal change in the number of new paediatric CCT and CESR holders each year (see Figure 13).<sup>viii</sup> There was a gradual increase between 2009 and 2014, but numbers have fallen slightly each successive year. The College conducts a yearly survey of new CCT and CESR holders, one year on from their certification, to identify career pathways and views on transition to consultant posts.

Findings from the 2016 cohort survey indicate that that it is becoming a buyer’s market for new CCT and CESR holders. There has been an increase of those who are working in the same specialty as their specialist registration with the GMC, from 77% in 2015 to 89.2% in 2016. Furthermore, fewer doctors are working in a different region from their training region after CCT: 31.7% of 2015 cohort respondents and 27.7% of 2016 cohort respondents.

**Figure 13. Number of individuals who obtained a CCT or CESR in Paediatrics, 2011 to 2017.**



### 5.4.2 Doctors in Training

According to GMC data <sup>[15]</sup> the headcount number of doctors in training in paediatrics and child health increased by 2.7% between 2012 and 2018. As 22.2% of paediatric trainees are now working LTFT this represents a whole time equivalent fall of 2.5%.

### 5.4.3 Recruitment into paediatric training

Rota shortages have not been helped by difficulties in recruiting and falling rates of applications for paediatric specialty training. Overall, across the UK 87.5% of ST1 places were filled in 2018 compared to 89.6% in 2017. These are the first 2 years in which recruitment fill rate has fallen below 90% and where posts have needed to be re-advertised. Allowing recruitment only once a year limits the ability to fill gaps as they arise, and this is compounded by decreasing numbers of SAS doctors and the visa rules which make it difficult to fill such posts.

viii. Data about CCT and CESR cohorts obtained from the RCPCH membership database.

When Paediatric Clinical directors were asked about workforce pressures 84% of respondents in the UK said that unfilled paediatric training posts and gaps pose a significant risk to their service or to children, young people and their families.

#### 5.4.4 Rota gaps and vacancies

The Census asks clinical leads to provide information about the number of rota vacancies for each service tier. It also asks for vacancies broken down by the main types of rota: general paediatrics, neonatal and for combined general/neonatal (depending on the set up in each unit). The rates are shown in Table 3.

These data show a 11.1% vacancy rate on tier 1, 14.6% on tier 2 and 7.5% on tier 3 (consultant) rotas. Vacancy rates are highest for combined general/neonatal training rotas – 14.1% on tier 1 and 17.1% on tier 2. Vacancy rates have increased since the 2015 census which showed 6.3% vacancy rate on tier 1, 13.7% on tier 2 and 7.1% on tier 3 rotas.

The 2017 Census vacancy rates were not as high as those recorded in the RCPCH rota gaps and vacancies report of early 2017<sup>[17]</sup>, when we estimated there were 23.7% gaps on tier 2. This difference in findings may be due to different samples of units responding to each survey, the timing of the surveys (the Census data relates to autumn, whereas the rota gaps survey is undertaken in winter). Comments made in some of the Census returns also indicate that respondents may have been unsure whether to include gaps due to out of programme activity (particularly maternity leave). Thus, vacancies may be underestimated if they were not included in some organisation's returns.

Despite these reservations, the vacancy rates found are still cause for considerable concern. The GMC National Training Survey for 2018 shows that paediatric is one of the specialties with greatest pressures e.g. approximately 48% of paediatric trainees consider intensity of work heavy or very heavy, this is only exceeded by emergency medicine and medicine and approximately 65% of paediatric trainees feel somewhat, to a high degree or a very high degree burnt out by their work, placing it 4th of 11 specialties <sup>[18]</sup>.

There has also been a decline in the number of vacant posts on rotas filled by locums compared to the 2015 census. For middle grade rotas the percentage of vacancies filled by locums has decreased from 58.2% in 2015 to 42.8% in 2015 and on tier 1 the proportion fell from 56.5% to 55.6% indicating that organisations are less able to find locum cover.

Vacancy rates have been calculated for District General Hospitals (DGHs) only, i.e. excluding tertiary/training hospitals. As might be expected, this results higher vacancy rates, highlighting where shortages are most keenly felt.

**Table 3. Estimated WTE of vacancies, vacancy rate and locum fill by rota tier and service.<sup>ix</sup>**

	Est. WTE of vacancies	Est. vacancy rate	Est. vacancy rate for DGHs only	% filled by locum (all)
<b>Tier 3 (Consultant)</b>				
<b>General paediatrics</b>	33.8	8.3%	10.0%	79.6%
<b>General/neonatal</b>	63.8	7.7%	7.7%	58.0%
<b>Neonatal medicine</b>	18.1	9.9%	4.9%	66.3%
<b>Total</b>	<b>115.7</b>	<b>7.5%</b>	<b>7.8%</b>	<b>65.6%</b>
<b>Tier 2 (Middle grade)</b>				
<b>General paediatrics</b>	35.7	10.1%	12.1%	42.3%
<b>General/neonatal</b>	121.2	17.1%	17.1%	48.6%
<b>Neonatal medicine</b>	39.9	13.7%	14.5%	25.8%
<b>Total</b>	<b>196.8</b>	<b>14.5%</b>	<b>15.6%</b>	<b>42.8%</b>
<b>Tier 1 (Junior)</b>				
<b>General paediatrics</b>	40.0	7.7%	8.5%	59.3%
<b>General/neonatal</b>	101.4	14.1%	14.3%	57.7%
<b>Neonatal medicine</b>	40.2	10.1%	10.7%	46.7%
<b>Total</b>	<b>181.6</b>	<b>11.1%</b>	<b>11.9%</b>	<b>55.6%</b>

Facing the Future states that there should be 10 whole time equivalent posts on training rotas, Table 4 shows that although tier 1 rotas are on average close to meeting this standard, tier 2 rotas only have an average of 9 staff, and there are particular shortfalls on the neonatal only rotas. Caution must be taken with this data, as the averages are slightly skewed upward by double rotas at hospitals with large workloads (i.e. 2 trainees in service at one time).

60% of all rotas have fewer than 10 WTE; 68% on tier 2. Having fewer doctors and other staff on the rota inevitably means there is less time for trainees for teaching, research and carrying out audit and other quality improvement work. The RCPCH standard of 10 WTE is used because of analysis undertaken by the Academy of Medical Royal Colleges for how many doctors are required to protect adequate training time and comply with the Working Time Regulations <sup>[9]</sup>.

ix. WTE of vacancies is weighted to account for missing responses.

**Table 4. Average WTE and proportion of rotas with less than 10 staff, by rota tier and service.**

	General paediatrics	General / neonatal	Neonatal medicine	Total
<b>Average WTE</b>				
<b>Other (non-standard)</b>	-	10	7.1	8.6
<b>Tier 1 (Junior)</b>	10.3	10.2	8.5	9.8
<b>Tier 2 (middle grade)</b>	9.5	8.9	9.1	9.0
<b>Tier 3 (consultant)</b>	10.2	9.7	7.2	9.3
<b>Total</b>	<b>10.0</b>	<b>9.6</b>	<b>8.2</b>	<b>9.4</b>
<b>Proportion of rotas with less than 10 staff</b>				
<b>Other (non-standard)</b>	-	-	100.0%	50.0%
<b>Tier 1 (Junior)</b>	48.7%	50.7%	72.7%	55.3%
<b>Tier 2 (middle grade)</b>	72.0%	65.8%	71.4%	68.0%
<b>Tier 3 (consultant)</b>	58.1%	48.8%	90.0%	59.3%
<b>Total</b>	<b>57.9%</b>	<b>54.9%</b>	<b>78.8%</b>	<b>60.5%</b>

#### 5.4.5 Other workforce groups in paediatrics and child health: Advanced Nurse Practitioners, Physician Associates and GP Trainees.

RCPCCH is supportive of an increased skill mix where other types of appropriately trained and competent non-medical and other medical groups can support paediatric services. Our census shows that only (60.6%) of organisations employed Advanced Nurse Practitioners (ANPs) in 2017, unchanged from 60.3% in 2015. The RCPCCH support ANPs so that they can use e-portfolio for their training at reduced membership rates. See Table 5.

Only 5 of the 160 responding organisations (3.1%), all in England, employ Physician Associates; the same number as in 2015. There was a total of 7.6 WTE Physician Associates recorded in 2017, down from 9 WTE in 2015.

The proportion of GP trainees recorded as working on junior paediatric rotas has remained virtually identical between 2015-2017 at approximately 28%.

**Table 5. Units employing ANPs by country**

	Count of units with ANPs	% of units with ANPs	Estimated total WTE	Average WTE ANPs per unit
<b>England</b>	81	58.7%	378.3	3.8
<b>Northern Ireland</b>	5	100.0%	22.0	4.4
<b>Scotland</b>	9	81.8%	72.8	8.1
<b>Wales</b>	2	33.3%	7.0	3.0
<b>Total</b>	97	60.6%	491.3	4.2

## 5.5 Trainee supply requirements

The GMC's report, the State of Medical Education and Practice in the UK 2018 <sup>[15]</sup> recognises the workforce shortages across professions working in the NHS. For the paediatric consultant workforce to reach the RCPCH's calculated demand level, increases are needed in trainee numbers to ensure greater levels of less than full time working and attrition from training are mitigated. Importantly, we need to increase the recruitment of trainees to ensure compliance with Facing the Future Standards <sup>[20]</sup>, to alleviate rota shortages.

Given the current lack of growth in other workforces to support paediatric services and little expected changes in configuration of services, we estimate that there is a need to recruit approximately 600 doctors into ST1 training posts each year for approximately the next 5 years. This estimate accounts for the growth in less than full time working, prevailing rates of out of programme activity and reflects the high level of attrition we have seen throughout the training programme. Full details of how the trainee requirement is calculated can be found in Census Resources on our website.

## 5.6 Service structure and pressures

### 5.6.1 Paediatric inpatient units

There were 189 paediatric inpatient units in 2017, unchanged from the number recorded 2015. There was also no change in the number of paediatric outpatient units: 230. Children were seen in the emergency department of 211 out of 242 hospitals with paediatric services, and there was a dedicated children's emergency department in 105 organisations. In summary, the configuration of acute paediatric services changed very little between 2015 and 2017.

In 2017, more inpatient units (151; 79.9%) provided information about closures due to staffing shortages than in 2015 (131 units). Fewer units in 2017 reported that they had to close, and the average number of occasions the unit had to close fell from 2.9 in 2015 to 2.5 in 2017, Table 6.

**Table 6. Inpatient unit closures to new admissions by country, year to 30 September 2017<sup>x</sup>**

Nation	No. units closed 1 or more times	Average No. times unit closed	Max No. times closed	Total responses
England	27	1.6	30	117
Northern Ireland	2	1.8	8	8
Scotland	5	9.8	85	14
Wales	5	3.3	15	12
<b>Total</b>	<b>39</b>	<b>2.5</b>	<b>85</b>	<b>151</b>

### 5.6.2 Neonatal Intensive Care Units (NICUs)

There are 192<sup>xi</sup> neonatal units in the UK, compared to 194 in 2015. Of the 2017 units, 59 are Level 3 (Neonatal Intensive Care Unit), 86 are Level 2 (Local Neonatal Unit) and 46 are Level 1 (Special Care Unit).

x. The high number of closures at one hospital in Scotland has skewed the mean upwards.

xi. One organisation did not provide information about NICUs

As RCPCH have found in previous censuses, not all neonatal intensive care units meet the British Association of Paediatric Medicine standard stating that NICUs should have separate rotas. In 2017, 89.9% of NICUs had a separate tier 3 (consultant) rota, compared to 92.6% in 2015. See Census Resources for further details.

### 5.6.3 Neonatal unit closures

In 2017, more neonatal units (150; 78.5%) provided information about closures due to staffing shortages than in 2015 (112 units; 57.7%). The proportion of units reporting that they had to close fell from 41.1% to 38% (Table 7), but the average number of occasions a unit had to close increased from 4.1 to 4.7.

**Table 7: Neonatal unit closures to new admissions by level of unit, year to 30 September 2017, UK**

	Average No. times closed	Max No. times closed	No. units closed 1 or more times	% units closed	Total responding units
<b>Level 1 (Special Care Unit)</b>	1.8	20	13	34.2%	38
<b>Level 2 (Local Neonatal Unit)</b>	5.9 <sup>xii</sup>	147	28	40.6%	69
<b>Level 3 (Neonatal Intensive Care Unit)</b>	5.3	75	16	37.2%	43
<b>Total</b>	<b>4.7</b>	<b>147</b>	<b>57</b>	<b>38.0%</b>	<b>150<sup>xiii</sup></b>

### 5.6.4 Workforce pressures

Census respondents were asked to “select the service and workforce pressures or issues that you feel pose a significant risk to your service or to children, young people and their families.” Respondents could select more than one response to the question. Overall, 84% of respondents in the UK<sup>xiv</sup> said that paediatric training posts and gaps pose a significant risk. 76% of respondents in the UK selected clinical workload, and 74% selected nursing, allied health professionals and other staff shortages.

In Northern Ireland, the top three most selected workforce pressures, with 100% of respondents selecting all three, were:

- i) Difficulty recruiting paediatric non-consultant, non-training grade staff;
- ii) Clinical workload; and
- iii) Paediatric training post vacancies and gaps.

In Wales, the top three pressures were:

- i) Difficulty recruiting paediatric non-consultant, non-training grade staff;
- ii) Patient/Public expectations of services; and
- iii) Paediatric training post vacancies and gaps.

xii. The high number of closures at one Local Neonatal Unit has skewed the mean upwards.

xiii. 41 neonatal units did not respond to this question

xiv. 166 organisations respondent to this question: 143 (85%) in England; 11 (100%) in Scotland; 5 (100%) in Wales; 7 (100%) in Northern Ireland.

In Scotland, the top three workforce pressures were (percentage of trusts who selected the pressure shown in brackets):

- i) Nursing, AHP and other staff shortages (90.1%);
- ii) Paediatric training post vacancies and gaps (81.8%); and
- iii) Patient/Public expectations of services (81.82%).

Finally, in England the top three workforce pressures were:

- i) Paediatric training post vacancies and gaps (81.8%);
- ii) Clinical workload (76.2%); and
- iii) Nursing, AHP and other staff shortages (73.4%).

See Figure 14 for workforce pressure responses by nation.

Further themes around workforce pressures arose in the free-text responses to this question.<sup>xv</sup> Such as the high levels of pressure on Child and Adolescent Mental Health Services (CAMHS) and its impact on paediatric services:

*“Issue with CAMHS services: under pressure - lack of inpatient beds for acutely psychotic child. Lack of adapted properties for disabled children: this prevents early discharge into supported community care. Time is spend liaising with housing and social care.”*

Respondents also referred to pressures in the wider healthcare system, such as primary care, having a knock-on effect to paediatrics

*“Pressures in the Emergency Department affect the whole hospital and mean longer waiting times for children. A shortage of GPs and a lack of GPs working out of hours leads to inexperienced nurses, paramedics and pharmacists seeing children in out-of-hours centres without back-up. This leads to more referrals to paediatrics and this is a risk.”*

There were also concerns about organisational structures:

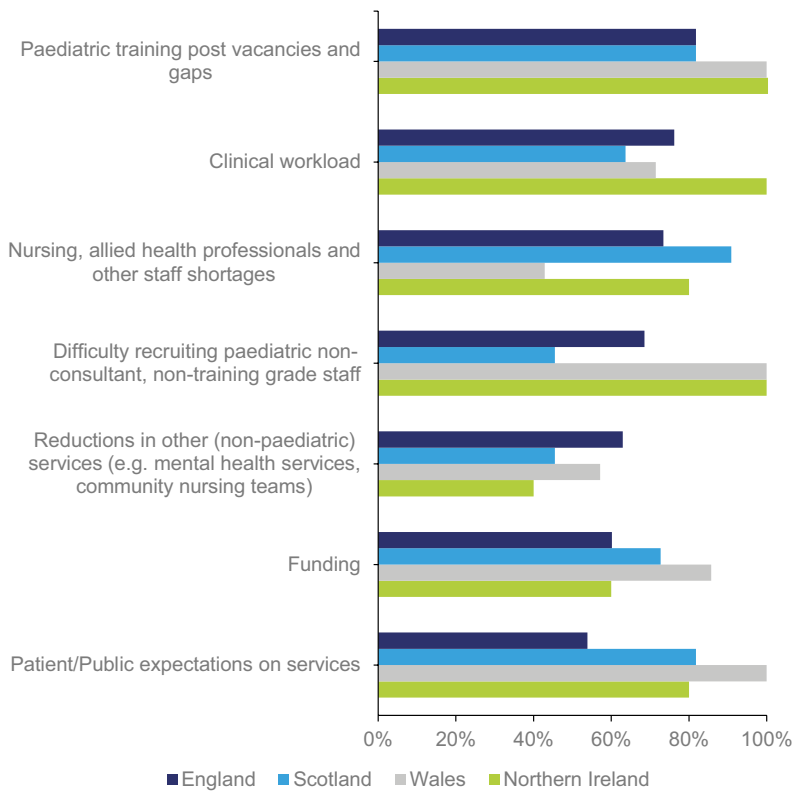
*“The ability of smaller units surrounding us to maintain both core paediatrics and subspecialist work load is of concern. There is already a drift towards our larger unit but no planning of resources – we would need mainly beds and trainees to support this. The STP is aware of the issues but meaningful engagement is lacking from partner trusts.”*

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xv. Respondents gave consent to their quotes being used in anonymised form



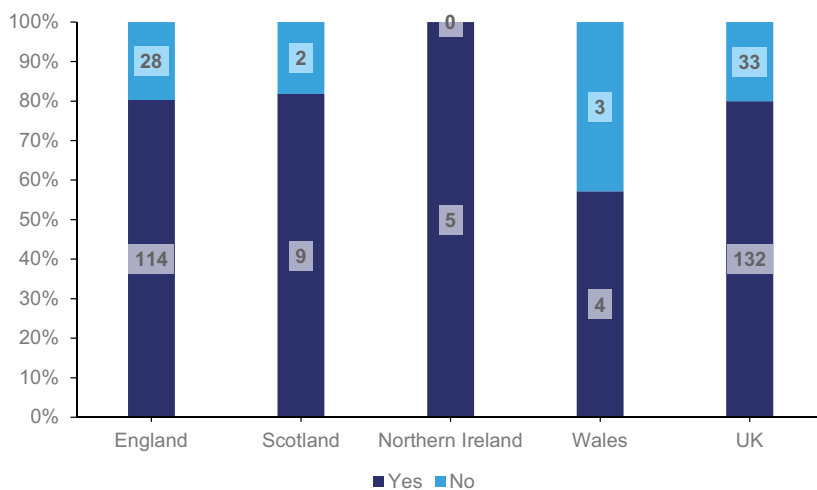
**Figure 14. Top 7 workforce pressures in the four nations, by proportion of respondents who selected each option.**



### 5.6.5 Children’s champion by country

In 2017, 17.3% of organisations in the UK<sup>xvi</sup> did not have a board-level lead or champion for children’s services, an improvement on 2015 where it was 22%. See Figure 15.

**Figure 15. Number and proportion of organisations who had a children’s champion, by nation.**



xvi. 26 organisations did not respond to this question, all in England.

## 6 Methodology and response rate

80.6% (156/191) of core hospital and staffing information was completed or validated by the clinical lead/director (see Census Resources for further detail). Some responses were missing to individual questions within the census, for example information on the number of unit closure days was difficult to obtain. Response rates to individual questions are reported in footnotes beside the relevant analysis throughout the report.

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