

# The changing UK paediatric consultant workforce: report from the Royal College of Paediatrics and Child Health

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## **ABSTRACT**

**Objectives:** To determine if there had been changes in the size of the UK paediatric workforce and working patterns between 1999 and 2013.

**Design:** Analysis of prospectively collected data sets.

**Setting:** UK consultant paediatricians.

**Interventions:** Data from the Royal College of Paediatrics and Child Health's workforce census from 1999 to 2013 and the annual surveys of new paediatric Certificate of Completion of Training (CCT) and Certificate of Equivalence of Specialist Registration (CESR) holders between 2010 and 2013.

**Main outcome measures:** Paediatric consultant numbers, programmed activities (PAs) and resident shift working.

**Results:** The UK paediatric consultant workforce grew from 1933 in 1999 to 3718 in 2013. Over the same time period there was a decline in the number of consultants with a primary academic contract from 210 to 143. There was an increase in the proportion of consultants who were female (40% in 1999 to 50% in 2013,  $p < 0.01$ ). The median number of PAs declined from 11 in 2009 to 10 in 2013 ( $p < 0.001$ ) as did the median number of PAs for supporting professional activities (2.5 to 2.3,  $p < 0.001$ ). In 2013, 38% of new consultants in general paediatrics or neonatology were working resident shifts. Between 2009 and 2013, the proportion of less than full time working consultants rose from 18% to 22%, which was commoner amongst female consultants (35% versus 9%).

**Conclusions:** The paediatric consultant workforce has doubled since 1999, but more are working less than full-time. The decline in those with a primary academic contract is of concern.

## **INTRODUCTION**

There have been changes to the UK policy landscape and to service delivery. These include implementation of a 48 hour working week [1], UK service standards requiring increased consultant presence [2], the UK government's manifesto promise for a seven-day NHS service delivery [3], migration (both professional and population), reconfiguration of acute services to fewer units and greater integration between community/primary care and hospital/secondary care.[4]. We, therefore, hypothesized that the composition and characteristics of the paediatric consultant workforce would have changed. Our aim was to test that hypothesis by analysing data from two main sources; the biennial workforce censuses of the Royal College of Paediatrics and Child Health (RCPCH) [5] and studies of doctors achieving Certificate of Completion of Training (CCT) or Certificate of Eligibility for Specialist Registration (CESR).[6]

## **METHODS**

Data were analysed from the biennial workforce censuses which have been undertaken since 1999.[5] For each census, clinical leads/directors in each UK organisation providing paediatric medical services were asked for details of their staff and services. The questions asked included the sex, full time status, job type, place of primary medical qualification and the number of programmed activities (PA) and supporting professional activities (SPA) for each paediatric consultant. The Consultant Contract of 2003 [7] redefined consultant contracts in terms of programmed activities (PAs). A PA is a unit of work lasting four hours during core time (7am to 7pm weekdays) and three hours at all other times. Programmed activities (PAs) are allocated into two groups, Direct Clinical Care (DCC) and Supporting Professional Activities (SPAs).[7] In paediatrics, Direct Clinical Care includes outpatient clinics, ward rounds, emergency duties, on-site medical cover, multi-disciplinary meetings about patient care and administration directly related to patient care. Supporting Professional Activities include continuing professional development, teaching and training, audit, job planning, appraisal, research and clinical governance activities. Data were also

gathered from new CCT and CESR holders in paediatrics and paediatric subspecialties in the UK between 2010 and 2013. They were contacted by email and invited to participate in a survey using SurveyMonkey™ approximately 12 months after the end of their CCT award year. Information on the grade and specialty of the CCT holders, the location and full time status of their work, their views on resident shift working, future career expectations, transition to consultant roles and support required from the RCPCH was obtained. Data from those sources and the RCPCH training records were analysed. Data on trainees' intentions to work less than full time on completion of training were obtained from the RCPCH 2007 Cohort Study.[8] In addition, the number of international medical graduates and less than full time trainees in the workforce were obtained from the General Medical Council (GMC) and less than full time career intentions of foundation doctors from the UK Foundation Programme Office.[9] To examine trends in the job types of consultant paediatricians, we determined from the GMC records the registered specialty of every doctor who obtained a CCT or a CESR in paediatrics and paediatric subspecialties between 2010 and 2013. The specialities were divided into three groups: general paediatrics, community child health and specialist paediatrics (which comprised of 16 subspecialties).

## Analysis

To determine whether differences were significantly significant, the Z test, the Mann Whitney U test or Chi square as appropriate was used.

## RESULTS

The response rates to the eight censuses undertaken between 1999 and 2013 ranged from 95% to 99%. One thousand one hundred and forty eight doctors obtained a CCT (n=1067) or CESR (n=67) in paediatrics or paediatric subspecialties between 2010 and 2013. The response rate to the annual surveys varied from 57% to 82% (Table 1).

### **Paediatric consultant numbers**

Between 1999 and 2013, the number of paediatric consultants in the UK grew by 92%, from 1933 to 3718, an average annual growth of 5%. During the same period, there was a decrease in the numbers of consultants with a primary academic contract from 210 to 143 (Figure 1). In the 2013 census, there was an average of 8.4 whole time equivalents on the 198 acute general or combined general/neonatal consultant paediatric rotas. Only 8% (n=69) of new CCT/CESR holders moved abroad between 2010 and 2013, 62% (n=43) of whom went to Australia, India or Canada. Seven hundred and twelve doctors (88%) had obtained consultant posts within the first year of being eligible to do so. The mean number of applications made before obtaining a substantive consultant post was 1.4 for female doctors and 1.9 for male doctors. Only 30% of doctors used the six months grace period of employment at the end of their training time.

### **Gender**

There had been a rise in the proportion of consultants who were women from 784 (40%) in 1999, 1522 (47%) in 2009 and 1851 (50%) in 2013 ( $p < 0.01$ ). In 2014, 2743 (76%) of doctors in paediatric training were female compared to 72% in 2012 and 74% in 2013.[9] Fifty-four percent of new CCT/CESR holders in 2010-2013 were female.

### **Full time and less than full time working**

There had been an increase in less than full time paediatric consultants from 564 (18%) in 2009 to 555 (22%) in 2013 ( $p = < 0.001$ ). A greater proportion of female compared to male consultants were working less than full time (35% versus 10%,  $p = < 0.001$ ).

### **International medical graduate**

In the consultant paediatric workforce, international medical graduates increased from 861 (25%) in 2009 to 1126 (30%) in 2013 ( $p = < 0.001$ ). Fifty-three percent of respondents to the

survey of new CCT holders 2010 and 52% in 2013 were graduates from outside of the UK and European Economic Area.

### **Programmed activities**

The median contracted programme activities (PAs) declined from 11.0 in 2009 to 10.0 in 2013 ( $p<0.001$ ) and the median PAs for supporting professional activities declined from 2.5 in 2009 to 2.3 in 2013 ( $p<0.001$ ).

### **Future career expectations**

Seventy-nine percent of new CCT holders in 2013 expected that they would in the future be more involved in Trust/service management and 40% to be undertaking roles for the RCPCH.

### **Resident working**

Data from the CCT/CESR follow up surveys demonstrated that it was common for newly qualified consultants in general paediatrics or neonatology to work resident shifts (Table 2).

The RCPCH rota vacancies and compliance survey of winter 2014/15 highlighted that 443 (30%) of the overall general paediatric and neonatal consultant workforce were working resident shifts.

### **Type of paediatrician**

Comparison of the GMC specialty registration of those achieving CCT/CESR between 2010 and 2013 to the job types of the consultant workforce recorded in the 2013 census demonstrated significant differences in the specialty of the new consultants to the overall consultant workforce (Table 3). A greater proportion of new CCT/CESR holders (65%,  $n=740$ ) were registered for general paediatrics than the proportion of the overall consultant workforce (41%,  $n=1543$ ) ( $p<0.001$ ), but a lower proportion (6%,  $n=68$ ) were registered for community paediatrics compared to (19%,  $n=608$ ) of the overall consultant workforce

( $p < 0.001$ ). In addition, a lower proportion of new CCT/CESR holders (30%,  $n=334$ ) were registered for subspecialties compared to in the overall consultant workforce (41%,  $n=1487$ ) ( $p < 0.001$ ). CCT/CESR registration, however, may not accurately reflect the final speciality as 16 of 148 new holders who were registered in general paediatrics were shown in the 2013 survey to be in subspecialty roles.

## **DISCUSSION**

We report an almost doubling of paediatric consultant numbers between 1999 and 2013, increases in the number of female consultants and less than full time consultants, a reduction in the length of the average working week and an almost halving of the number of consultants with a primary academic contract. The latter reduction is of concern and was previously highlighted in the RCPCH's Turning the Tide report.[10] The RCPCH has taken a number of steps to address this problem, including supporting the British Association of Perinatal Medicine's initiative to develop research training for all trainees.[11] The RCPCH launched an Infant, Children and Young People's Research Charter at the 2016 RCPCH Annual Conference to support all those who wish to engage with children and young people in research. A research funding database has been established which is available on the RCPCH website. The RCPCH has supported the establishment of the United Kingdom Child Health Research Collaboration to explore how funders of child research could work together to support increasing research capacity.

Our results suggest that opportunities to obtain a consultant post have not diminished as reflected by the low numbers of applications required by new CCT holders to obtain a consultant post. Furthermore, relatively few of new CCT holders had relocated to posts outside the UK. Similar data were obtained from CCT holders of the Royal College of

Physicians demonstrating that over the period 2009 to 2015, the proportion of new CCT holders going overseas was between 3% and 5%.[12]

In 2001, 1410 (76%) of consultants were exceeding the European Working Time Directive of 48 hours per week [1] and 1527 (70%) were in receipt of intensity payments.[13] The British Medical Association (BMA) described a model contract for full time consultants of 10 PAs of which 7.5 should be for direct clinical care and 2.5 for supporting professional activities (SPAs) such as continuing professional development (CPD), supervision of trainees, research, audit, leadership and management, and clinical governance. This model was supported by the RCPCH [14] and has been widely adopted by Trusts employing paediatricians. Using that model and to meet RCPCH safety standards for acute general paediatric services [2], taking into account greater awareness of work-life balance amongst trainees and new consultants [15], recognising the risks of excessive hours [16] and allowing for prospective cover of 20%, at least eight general paediatric consultants are required for a full rota. That calculation was based on a consultant being present and available 12 hours a day and seven days per week at times of peak activity. In addition, that a consultant would lead two medical handovers per day and the “unit” had 15 consultant-led general paediatric clinics a week. The 2013 census demonstrated overall the recommendation had been met with an average of 8.4 whole time equivalents on the 198 acute general or combined general/neonatal consultant paediatric rotas in the UK.

Data from the General Medical Council (GMC) [17] highlighted that in 2014 10% of all doctors in training were less than full time, but 21% in paediatrics. In paediatrics between 2012 and 2014 there has been an increase of 20% in non full time working. An increased intention to work less than full time was highlighted by data from the RCPCH cohort study of doctors who began paediatric training in 2007.[18] After seven years of training, 48% of the



cohort said they would like to work less than full time upon completion of training, 60% of female trainees wished to work less than full time.

We have demonstrated 27% and 43% of new CCT holders in 2010 and 2013 respectively were working resident shifts. Several drivers have led to an increase in consultant resident shift working including compliance with the European Working Time Regulations, the RCPCH acute service standards to provide timely senior care [2], recommendations from a number of Coroner's reports into the deaths of infants and children, the publication of NHS Services seven days a week forum in 2013 [3] and as a sustainable solution to the crisis of gaps in paediatric Tier 2 (middle grade) rotas.[18] Paediatrics has, and continues to be, at the forefront of using resident shift working systems for consultants and encourages services to use team job planning as a way of addressing the balance between resident shift and non- resident shift consultant working patterns.[19] A survey in 2014 found that amongst all levels of paediatric trainees there was an acceptance of the need for more consultant presence in the hospital, but many commented that this makes paediatrics a less attractive specialty for lifestyle reasons.[20] There is, however, an expectation that a paediatrician's career will develop and change as it progresses and the RCPCH has set out options for a phased career in the Paediatrician's Handbook.[21]

The RCPCH census demonstrated a significant rise in the proportion of IMGs in the consultant workforce between 2009 and 2013 with over 30% of the consultant workforce in 2013 being an international medical graduate. It is, therefore, of concern that the RCPCH's ST1 to ST4 recruitment data for 2015 shows that only 100 (20%) of those recruited were international medical graduates. Recent changes to immigration legislation, such as the removal of the higher specialty training post (ST4) in paediatrics from the UK shortage occupation list in April 2013 [22], may lead to fewer international medical graduates in the workforce. Indeed, data from the 2015 GMC's State of Medical Education and Practice in the

UK Report [17] highlighted a decrease in the proportion of international medical graduates in the paediatric training workforce from 26% in 2012 to 19% in 2014.

We have demonstrated a reduction in the average number of PAs for supporting professional activities. This runs counter to new consultants' expectations of their future involvement in Trust/service management and undertaking roles for the RCPCH. The RCPCH with the Nuffield Council has emphasized the importance of paediatricians having protected time to be part of Research Ethics Committees.[23]

Compliance with standards for acute general paediatric services has increased the demand for "generalists" [24] and hence the high numbers of general paediatricians gaining CCT is, therefore, welcome. The reduction in the proportion registered for community paediatrics, however, is worrying. Hopefully the introduction in 2015 of community child health to the RCPCH scheme to allow trainees to compete for nationally available subspecialty training programmes (the National Training Number grid scheme) [25] will eventually increase the numbers of community child health subspecialists. In addition, the RCPCH has developed a number of post-CCT Special Interest Modules (SPIN) enabling consultants to develop their specialisms post-CCT.

This study has many strengths. Data were available biannually from 1999 and from new CCT/CESR award holders annually over a four year period. The response rates from the eight censuses ranged from 95 to 99%. Data were used from supplementary sources to ensure that the results reflected those from the whole workforce.

In conclusion, we have demonstrated a doubling of paediatric consultant numbers since 1999, but more are working less than full time. The reduction in both the numbers of consultants with a primary academic contract and the average number of PAs for supporting professional activity are of concern. Paediatricians may be less able to engage in research,

educational, quality improvement, leadership and advocacy activities designed to improve the outcomes of infants, children and young people may be limited.

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### **What is already known on this topic**

- There has been implementation of a 48 hour working week.
- UK Service standards require an increased consultant presence.
- There has been reconfiguration of acute paediatric services to fewer units.

### **What this study adds**

- Paediatric consultant numbers have doubled since 1999.
- More consultants are working less than full time.
- There has been approximately a halving of those with a primary academic contract.

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**Table 1: CCT and CESR holders survey response rates by year**

Year	Number of doctors identified as obtaining CCT or CESR in paediatrics or paediatric subspecialties	Number of respondents to the RCPCH surveys
2010	319	270 (82%)
2011	247	141 (57%)
2012	285	198 (70%)
2013	295	214 (73%)

**Table 2: New CCT holders working resident shifts**

	Working in general paediatrics or neonatology	Working resident shifts n(%)
2010	149	61 (41%)
2011	70	19 (27%)
2012	105	37 (35%)
2013	97	42 (43%)
Total	421	159 (38%)



**Table 3: Comparison of type of paediatrician of new CCT/CESR holders with the overall workforce by speciality**

The data are presented as n (%)

	Registered subspecialties of new CCT/CESR holders in 2010-2013	Paediatric consultant workforce 2013
Community paediatricians	68 (6%)	697 (19%)
General paediatricians	740 (65%)	1534 (41%)
Other subspecialty paediatricians	334 (29%)	1487 (40%)

**Figure 1: Paediatric consultant growth in the UK: 1999-2013 – Adapted from RCPCH**

**Medical Workforce Census 2013 [1]**

- ▲ Total number of consultants
- ◆ Consultants without an academic contract
- Consultants with an “academic” contract