Eur J Vasc Endovasc Surg (2015) 49, 448–454

The Vascular Surgery Workforce: A Survey of Consultant Vascular Surgeons in the UK, 2014

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WHAT THIS PAPER ADDS

This study provides the first detailed analysis of the new specialty of vascular surgery as practiced in the UK, providing data on human and job characteristics, scope of practice, hospital environment/resources, wellbeing, and job satisfaction.

Objective: The purpose of this study was to describe the demographics, training, and practice characteristics of consultant vascular surgeons across the UK to provide an assessment of current, and inform future prediction of workforce needs.

Methods: A questionnaire was developed using a modified Delphi process to generate questionnaire items. The questionnaire was emailed to all consultant vascular surgeons ($n = 450$) in the UK who were members of the Vascular Society of Great Britain & Ireland.

Results: 352 consultant vascular surgeons from 95 hospital trusts across the UK completed the survey (78% response rate). The mean age was 50.6 years old, the majority (62%) were mid-career, but 24% were above the age of 55. Currently, 92% are men and only 8% women. 93% work full-time, with 60% working >50 hours, and 21% working >60 hours per week. The average team was 5 to 6 (range 2–10) vascular surgeons, with 23% working in a large team of ≥8. 17% still work in small teams of ≤3. Over 90% of consultant vascular surgeons perform the major index vascular surgery procedures (aneurysm repair, carotid endarterectomy, infra-inguinal bypass, amputation). While 84% perform standard endovascular abdominal aortic aneurysm repair (EVAR), <50% perform more complex endovascular aortic therapy. The majority of vascular surgeons "like their job" (85%) and are "satisfied" (69%) with their job. 34% of consultant vascular surgeons indicated they were "extremely likely" to retire within the next 10 years.

Conclusions: This study provides the first detailed analysis of the new specialty of vascular surgery as practiced in the UK. There is a need to plan for a significant expansion in the consultant vascular surgeon workforce in the UK over the next 10 years to maintain the status quo.

Article history: Received 16 October 2014, Accepted 11 November 2014, Available online 24 December 2014

Keywords: Vascular surgery, Workforce planning, UK, Training, Healthcare planning, Healthcare assessment

INTRODUCTION

Vascular surgery in the UK was established as a new surgical specialty by an Act of Parliament in 2012.[1,2] In many European countries, vascular surgery has been an independent specialty for several years.[3]

Despite being one of the smaller surgical specialty workforces, vascular surgeons treat a disease that is the number one cause of death in the UK, affecting the fastest growing segment of the nation's population, that is atherosclerosis in the elderly. The new generation of vascular surgeon will need to have a range of new skills consummate with the scope of modern vascular surgical practice to encompass vascular medicine, open surgery, and endovascular therapy.

Workforce planning is the process by which an organisation ensures it has the right number of employees with the right knowledge skills and behaviours in the right place, at the right time. Bodies such as the Centre for Workforce Intelligence (CfWI) work in conjunction with the Royal Colleges, the Specialty Associations and the National Health Service to plan for the future needs of the health service.[4]

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1078-5884/$ – see front matter

http://dx.doi.org/10.1016/j.ejvs.2014.11.008

The Vascular Society of Great Britain & Ireland (VSGBI) has previously made recommendations on the standards for a vascular surgery service in their document "The Provision of Vascular Services 2012".[5] Using a self-reported questionnaire, the aim was to describe the demographic, training, and practice characteristics of consultant vascular surgeons across the UK. A secondary goal was to assess surgeons' workload and job satisfaction.

METHODS

A literature review did not identify any previously validated questionnaires, and therefore a *de novo* questionnaire was developed. A preliminary list of items was developed by the study coordinator (DWH), and a modified Delphi process was used to generate and reduce additional items. Owing to the small population size, face and content validity were addressed by soliciting one or more vascular surgeons from each postgraduate training region within the UK to provide feedback on questionnaire content. The Vascular Surgery United Kingdom Workforce survey was designed using a common web-survey platform (SurveyMonkey) and contained 86 questions covering the following domains: Personal Characteristics (Q1–6); Job Characteristics (Q7–38); Vascular Surgery Practice (Q39–52); Hospital Resources (Q53–68); Professional Activities (Q69–77); Work-life Balance (Q78–86). Responses were collected anonymously and pooled.

All 450 ordinary members of the VSGBI who worked in the UK (i.e. excluding the Republic of Ireland) were invited (via email) to participate in the survey in September 2013, and reminders were sent out again in December 2013 and January 2014. As of January 2014, responses had been received from 352 members (78%).

Statistical analysis

Data were verified by the data coordinator (DWH) before importing them into SPSS software version 15.0 for analysis. The primary analysis was a descriptive summary, including calculation of frequencies, means, and standard deviations (SD) where appropriate. The Cronbach's alpha was calculated to assess internal consistency and reliability of scales for measuring the same construct. Two group comparisons were performed using two-tailed independent Student *t* tests. Multiple group comparisons were performed using one-way analysis of variance (ANOVA).

RESULTS

Completed surveys were received from every postgraduate medical training deanery in the UK (across 95 NHS hospital trusts), so that the results reflect both regional and national practices in vascular surgery throughout England, Scotland, Wales, and Northern Ireland.

Human characteristics

The current UK Vascular Surgery Consultant Workforce has a mean age of 50.6 years (SD 9.1), with a normal age-distribution. The majority were mid-career, and between the ages of 41 and 55 years, but 24% were aged >55 years. Overall, 92% were men and only 8% women. Almost all currently practising vascular surgeons had obtained training in a specialist vascular surgery unit, with 84% having spent 3 or more years in specialist training, while 42% obtained additional out-of-programme experience (OOPE) in vascular surgery (57% outside of the UK) (Table 1).

Job characteristics

Respondents described themselves as vascular surgeons (74%) or general and vascular surgeons (26%). None identified themselves as general surgeons. Over 77% of respondents indicated that >75% of their workload involved vascular surgery (Table 2). The vast majority (93%) reported an official training role, and the majority of units (55%) had at least one vascular surgeon with a university academic position. However, only 7% of respondents described themselves as being a clinical academic. Most (93%) worked full-time. Female vascular surgeons were more likely to work part-time, (16% female versus 7% male, $p < 0.05$). The average number of weekly programmed activities (PAs), or sessions (typically 4 hours, morning or afternoon) was 12 (range 6–16). The majority of vascular surgeons (88%) worked more than the standard 10 PA consultant contract, 60% estimated that they worked >50 hours per week, while 21% worked >60 hours per week. Half of all survey respondents indicated that they would be willing to carry out

Table 1. Human characteristics of vascular surgeons in the UK.

Human characteristics	No. (%)[a]
Age, mean (SD), years ($n = 349$)	50.6 (9.1)
Age distribution, years ($n = 349$)	
≤40	46 (13.1)
41–45	58 (16.6)
46–50	81 (23.2)
51–55	79 (22.6)
56–60	62 (17.8)
61–65	21 (6.0)
≥65	2 (0.6)
Sex ($n = 345$)	
Male	319 (92.5)
Female	26 (7.5)
Training in specialist vascular surgery unit ($n = 328$)	
None	3 (0.9)
1 year	5 (1.5)
2 years	44 (13.3)
3 years	113 (34.2)
≥4 years	165 (50.0)
Out-of-programme experience (OOPE) in vascular surgery ($n = 328$)	139 (42.4)
OOPE in vascular surgery, location ($n = 139$)	
UK	60 (43.2)
Republic of Ireland	3 (2.2)
Europe	3 (2.2)
North America	19 (13.7)
Australia or New Zealand	54 (38.8)
OOPE in endovascular training fellowship ($n = 329$)	85 (25.8)

[a] Unless otherwise indicated.