

Paper

# The Effect of Modernising Medical Careers on Foundation Doctor Career Orientation in the Northern Ireland Foundation School

O'Donnell ME<sup>1&2</sup> Noad R,<sup>1</sup> Boohan M,<sup>3</sup> Carragher A<sup>4</sup>.

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## ABSTRACT

**Objectives** Modernising Medical Careers (MMC) emerged in response to acknowledged problems in training in the Senior House Officer grade. The objective of this study was to assess the effect of the Foundation Year 2 (F2) training programme on career orientation in the Northern Ireland Deanery.

**Methods** A prospective survey-based study was conducted for all F2 doctors participating in the Northern Ireland Foundation Programme. Career orientation was investigated using the Specialty Choice Inventory 45 (SCI45) at the start (Q1) and end (Q2) of the F2 year. Specialty choice was collated after the outcome of specialty recruitment in 2008.

**Results** There were 231 F2 doctors in programme during the first F2 year in 2006-2007. 147 (M=65, F=82) and 106 (M=55, F=51) completed questionnaires at Q1 and Q2. Male F2 doctors scored significantly higher in the *action orientation* (54.0 vs. 50.0,  $p<0.001$ ) and *need for assertiveness* (53.0 vs. 48.0,  $p=0.005$ ) subscales at both time points as well as Q1 *detail is crucial* (57.0 vs. 51.0,  $p=0.014$ ) and Q2 *independent specialty* (53.0 vs. 46.0,  $p=0.016$ ). Female F2 doctors scored significantly higher in the *educating patients* subscale at both time-points (44.0 vs. 46.0,  $p=0.009$  and 46.0 vs. 47.0,  $p=0.03$ ). Analysis of SCI45 subscale scores suggested that males tended to favour the surgical specialties while females favoured the care of the elderly and paediatric specialties. Overall only 29% of doctors were successfully appointed to a specialty in which they had expressed an interest at Q1 whilst 47.8% were selected to specialist training for their declared specialty interest at Q2.

**Conclusions** Despite introducing MMC with a coordinated UK wide specialty application process (MTAS), a detrimental effect on their career orientation was not evident. Pragmatic career choices based on lifestyle may be the reason why female doctors expressed a preference for care of the elderly and paediatrics while their male colleagues favoured acute, more surgically biased specialties.

**Keywords** Career, Choice, Doctor, Junior, Specialty.

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## INTRODUCTION

The introduction of Calman style training in 1995 and MMC more recently, has resulted in a perceived reduction in career flexibility. Generally the view is held that initial career choice is of the utmost importance for doctors in the early phase of their training.<sup>1,2</sup> Recent reforms in higher specialist training have resulted in a single entry point to a time-limited training programme and consequently foundation year 2 (F2) doctors now feel the need to choose a run-through specialty program immediately after their foundation training.

The first few years of a doctor's career provide clinical exposure, which can influence their longer term choices before they settle on a final career path. This exposure is a major determinant of the future supply of doctors in many specialties. Reports have suggested that the quality and quantity of career advice and information available to junior doctors has been inadequate and in some instances may be misleading in content.<sup>3-6</sup> As a consequence, doctors in training can have a relatively poor understanding of the scope of some specialties and their career opportunities. In particular

they may be unfamiliar with consultant-level work in some specialties. The culmination of curriculum and specialty selection modernisation has prompted the need for more specific career advice and support.<sup>7</sup>

Edwards *et al* (1997) reported that 67% of doctors were working in the specialty that had been their first choice towards the end of their first year after leaving medical school. More than 20% were not working in the specialty that had been their first choice at the end of their third year after qualification from medical school.<sup>8</sup> Although it can be feasible to change specialties, this is not easy. The final career choice for a junior doctor is influenced by variables which include the medical school environment and exposure to specialties as an

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Department of Vascular and Endovascular Surgery, Belfast City Hospital<sup>1</sup>, Faculty of Life and Health Sciences, University of Ulster<sup>2</sup>, Department of Medical Education, Queen's University Belfast<sup>3</sup> and Northern Ireland Foundation School, Northern Ireland Medical and Dental Training Agency<sup>4</sup>, Northern Ireland.

Correspondence to Mr O'Donnell

E-mail: modonnell904@hotmail.com

undergraduate, personal perceptions of specialties, personal interests and experiences, vocational interests and attitudinal factors.<sup>9-14</sup> In certain situations, the junior doctor may not always have control over their final decision.<sup>15</sup> Baldwin *et al* (1991) reported that career choices in hospital medicine are spread across different stages. Twenty percent make their choice at medical school, while an additional 15% make their choice during the first post-qualification year with a further 20% made in the second year and another 20% made in the third year after qualification. The remaining 25% make their decision up to four years after qualification.<sup>16</sup> These figures support the findings of Isobel Allen (1996) who identified that at 4 years post-registration, 60% of male doctors and fewer than 50% of female doctors were working in the specialty that they had initially chosen when they obtained full GMC registration.<sup>3</sup>

Previously, specialties such as General Practice experienced a decline in the percentage of doctors choosing it as a long-term career choice.<sup>17,18</sup> However, recent events relating to the medical recruitment crisis experienced in 2007 and the lack of career progression in certain specialties have increased the popularity of General Practice as a long term career choice.<sup>7</sup> Moreover, further evidence has suggested that the quality and quantity of advice and information available in the UK has been generally inadequate and often misleading in content.<sup>3,4</sup> Fortunately, the incorporation and integration of the Generic Skills course for all F2 doctors has an opportunity to provide both direct career guidance through career symposiums and modules or indirectly through peer and tutor-led career discussion.

When considering selection processes in terms of the specialty, the current system requires decisions to be made without the benefit of having seen the trainee in a clinical setting over a number of years. The specialty committing its training slots and training resources to a junior doctor needs to feel reassured that the doctors they choose, have the attributes and attitudes that will enable them to complete the training process and function well in their consultant roles. More importantly the specialty has to consider that a high attrition rate or failure of trainees to reach the required standard could have detrimental effects on the specialty.

The objectives of this study were to assess the diversity of career intentions at the start of the F2 training programme and to see if junior doctors changed their initial career choices after completion of the F2 training programme.

## METHODS

Northern Ireland F2 doctors (2006-2007) were invited to participate in a prospective survey-based cohort study. A verbal explanation of study aims and objectives combined with written information was provided to F2 doctors while attending training modules of the generic skills course which the Northern Ireland Foundation Programme offers to provide these early years doctors a "head start". Each questionnaire was administered by a generic skills tutor at the start (Q1-August to September 2006) and end (Q2-June to July 2007) of the academic year at the Northern Ireland Medical and Dental Training Agency (NIMDTA) which is located distant from the clinical environment. A further electronic email trawl was conducted to increase questionnaire completion rates. Due

to the assessment of a specific cohort of doctors in a single deanery, there was no comparator or control group assessed.

## SUBJECTIVE CAREER INTENTIONS

The current career interest of the F2 doctor was recorded combined with their current F2 rotation divided into 3 periods; August to November 2006, December 2006 to March 2007 and April 2007 to July 2007.

## OBJECTIVE CAREER ASSESSMENT

The SCI45 Specialty Choice Inventory was developed by Janet Grant in 1996 as a validated interactive tool which utilises psychometric testing to help medical students and junior doctors select a specialty that best fits with their own attitudes, aspirations, and personal characteristics to assist in career choice or career envisioning for these doctors in training.<sup>7</sup> As F2 doctors also complete other mandatory questionnaires as part of the generic skills programme, it was decided to use only one objective career assessment tool which would be completed at both Q1 and Q2.

The SCI45 Inventory requires the user to comment on 130 statements beginning: "I want to work in a specialty that ...". The user then has the option of choosing an appropriate response using a Likert scale ranging from "strongly disagree," "disagree," "agree," or "strongly agree". The 130 inventory items are organised into 12 dimensions of attributes which act to discriminate between 45 possible medical specialties. From the candidate scores of 12 different subscales, the SCI45 programme recommends approximately 10 specialties which best and least fit that individual's profile (Table 1).<sup>7</sup>

## FOUNDATION PROGRAMME COMPLETION DEMOGRAPHICS

In January 2007, the outcomes of the electronic Medical Training Application Service (MTAS) specialty recruitment process for this cohort of doctors were collated by NIMDTA.

## STATISTICAL ANALYSIS

This was completed using the SPSS statistical package (Version 13 SPSS®inc. Chicago, USA). Descriptive statistics for baseline variables were presented as mean (standard error of the mean-SEM) or median (interquartile ranges-IQR).

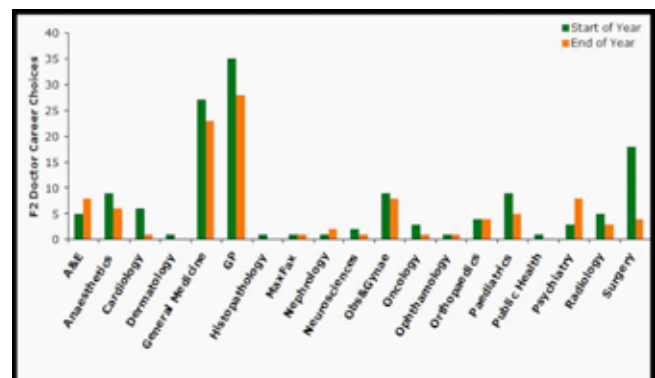


Fig 1. Specialty choices by F2 doctors at the start and at the end of the year expressed as a percentage of F2 doctors interested in the specialty compared to the total questionnaires completed for each time-point.

TABLE 1

Difference in SCI45 subscale scores for male and female F2 doctors at the start and at the end of the academic year (median, IQR).

FACTOR	START OF YEAR			END OF YEAR		
	Male	Female	P-Value	Male	Female	P-Value
Action Orientation	54.0 (49.0-59.0)	50.0 (43.0-54.0)	<0.001	52.0 (48.0-59.0)	47.0 (43.0-55.0)	0.003
Academic Orientation	52.0 (48.0-59.5)	51.0 (48.0-54.0)	0.10	46.0 (42.0-57.0)	52.0 (43.0-56.0)	0.39
Minor Specialty	50.0 (40.0-55.0)	50.0 (45.0-55.0)	0.30	50.0 (45.0-50.0)	50.0 (45.0-55.0)	0.92
Detail is Crucial	57.0 (48.0-62.0)	51.0 (46.0-59.0)	0.014	54.0 (48.0-59.0)	51.0 (43.0-57.0)	0.11
Working in Teams	58.0 (51.0-63.0)	60.5 (53.3-65.0)	0.29	54.0 (47.0-58.0)	54.0 (51.0-61.0)	0.26
Working with Children	48.0 (43.5-51.0)	48.0 (44.3-51.8)	0.67	48.0 (45.0-51.0)	48.0 (42.0-54.0)	0.82
Educating Patients	44.0 (40.5-47.0)	46.0 (43.0-51.0)	0.009	46.0 (41.0-51.0)	47.0 (44.0-51.0)	0.03
Coping with Uncertainty	47.0 (42.0-51.0)	44.0 (40.0-49.0)	0.30	44.0 (40.0-47.0)	44.0 (40.0-49.0)	0.46
Independent Specialty	53.0 (46.0-59.0)	53.0 (46.0-59.0)	0.54	53.0 (46.0-59.0)	46.0 (46.0-53.0)	0.016
Need for Assertiveness	53.0 (48.0-58.0)	48.0 (41.0-55.0)	0.005	55.0 (46.0-60.0)	50.0 (41.0-55.0)	0.007
Routine Working	53.0 (45.0-57.0)	53.0 (48.0-57.0)	0.69	50.0 (45.0-57.0)	53.0 (48.0-60.0)	0.22
Out-of-Hours Working	50.0 (45.0-57.0)	50.0 (42.0-55.0)	0.32	50.0 (42.0-55.0)	45.0 (40.0-57.0)	0.91

Differences between male and female foundation doctor scores were calculated separately at Q1, Q2 and for doctors who completed the questionnaire on both occasions using the independent sample t-test. The mean percentage change for questionnaire indices at Q2 was compared to Q1 using the formula  $[(Q2 - Q1) / Q1]$ . When doctors completed both questionnaires, each parameter was analysed independently for differences between Q1 and Q2 using the paired samples t-test. All statistical tests were 2-sided and differences were considered significant if the p-value was <0.05.

## RESULTS

There were 231 F2 doctors in the Northern Ireland Foundation Programme during the 2006-2007 academic year. 147 (63.6%, M=65) and 106 (45.9%, M=55) completed questionnaires 1 and 2 at the start and end of the academic year while 69 (29.9%, M=33) doctors completed both questionnaires. There was no difference in age between male and female F2 doctors with mean ages 26.9 (SEM 0.40) and 26.1 (SEM 0.28) years respectively ( $p=0.09$ ). The majority of doctors had graduated from Queens University Belfast in July 2005. Most of these F2 doctors had entered University directly from second level education.

## SUBJECTIVE CAREER CHOICE

F2 doctors documented a Q1 preference for general practice, general medicine and surgery compared to dermatology, histopathology, nephrology, ophthalmology, orthopaedic and maxillofacial surgery. Nine F2 doctors did not indicate a preference. F2 doctors continued to document a preference for general practice and general medicine at Q2 compared to cardiology, maxillofacial surgery, neurosciences and ophthalmology (Figure 1).

## SPECIALTY COMBINED INVENTORY SCORES

Male F2 doctors scored significantly higher in Q1 *action orientation*, *detail is crucial* and *need for assertiveness* subscales whereas female F2 doctors scored significantly higher in the *educating patients* subscale. Males scored significantly higher in Q2 *action orientation*, *independent specialty* and *need for assertiveness* subscales whereas females scored significantly higher in the *educating patients* subscale. There was no difference between genders for any of the other subscales at Q1 or Q2 (Table 1).

When the SCI45 scores were compared for all doctors who completed both questionnaires, there was no significant

TABLE 2

Final career destination and training grades for F2 doctors with comparison to initial career choices at the start and end of the academic year.

NUMBER OF DOCTORS	START OF YEAR (Q1)	END OF YEAR (Q2)	FINAL SPECIALTY	TRAINING GRADE
2	GP x 1      Surgery x 1	A&E x 1      GP x 1	<b>Emergency Medicine (A&amp;E)</b>	ST1 x 1      FTSA x 1
5	Anaesthetics x 3 Cardiology x 1 Surgery x 1	Anaesthetics x 3 Cardiology x 1 Surgery x 1	<b>Anaesthetics</b>	ST1 x 5
17	A&E x 1 Anaesthetics x 2 Cardiology x 3      GP x 4 Medicine x 1 Nephrology x 1 Obs&Gynae x 1 Oncology x 1 Orthopaedics x 2 Psychiatry x 1	A&E x 2      GP x 4 Medicine x 5 Nephrology x 1 Obs&Gynae x 1 Oncology x 1 Orthopaedics x 1 Psychiatry x 1 Radiology x 1	<b>Core Medical Training</b>	ST1 x 11      FTSA x 6
13	A&E x 3      GP x 7 Histopathology x 1 Radiology x 1      Surgery x 1	GP x 12      Surgery x 1	<b>General Practice (GP)</b>	ST1 x 13
1	Surgery x 1	Obs&Gynae x 1	<b>Obstetrics and Gynaecology</b>	ST1 x 1
1	Ophthalmology x 1	Ophthalmology x 1	<b>Ophthalmology</b>	ST1 x 1
4	GP x 1      Medicine x 1 Paediatrics x 2	GP x 1      Paediatrics x 3	<b>Paediatrics</b>	ST1 x 3      FTSA x 1
3	GP x 1      Medicine x 2	Psychiatry x 3	<b>Psychiatry</b>	ST1 x 3
1	Anaesthetics x 1	Radiology x 1	<b>Radiology</b>	ST1 x 1
1	Surgery x 1	Orthopaedics x 1	<b>Surgery</b>	FTSA x 1
4	Medicine x 2      Obs&Gynae x 1 Paediatrics x 1	Cardiology x 1      Medicine x 1 Paediatrics x 1 Radiology x 1	<b>No Specialty Training Position</b>	Home x 4
4	Cardiology x 1 Ophthalmology x 1 Paediatrics x 1      Radiology x 1	Cardiology x 1      Medicine x 1 Paediatrics x 1 Radiology x 1		Travelling x 4
7	Foundation Year 2	Foundation Year 2		Not Eligible for Specialty Training x 7
2	A&E x 1      GP x 1	A&E x 1      Psychiatry x 1		Did not apply x 2
4	GP x 1      Medicine x 1 No record x 2	GP x 1      Psychiatry x 1 No record x 2		Unknown x 5

difference in the specialty subscales between Q1 and Q2, apart from *detail is crucial* and *working in teams* which were significantly higher at Q1 (54.0 vs. 51.0,  $p=0.022$  and 58.0 vs. 54.0,  $p=0.026$ ). When the mean percentage change from baseline was assessed separately for the male and female F2 doctors who completed both questionnaires, a significantly higher score was identified in the male doctors for *independent specialty* (8.2% vs. -4.9%,  $p=0.018$ ). There was a trend for an improvement in the *minor specialty* subscale for the males with a mean change from baseline of

15.4% vs. -0.7% ( $p=0.06$ ) and also for an improvement in the *need for assertiveness* subscale for females of 4.2% vs. -3.8% ( $p=0.06$ ). However, these trends were not statistically significant (Figure 2). There was no difference in the mean percentage change from baseline for the other subscales.

An overview of all three best fit career choices suggested a preponderance for the more elective specialties such as infectious disease, immunology, psychiatry and dermatology in comparison to more acute specialties such as emergency

medicine, anaesthetics, cardiology and surgery. There was no difference demonstrated between these specialty choices at Q1 or Q2. An overview of all three least fit career choices suggested an aversion to specialties associated with a more acute or practical base. These predominantly included the surgical and neuroscience specialties. Surprisingly, general medicine and the non-emergency psychiatry and palliative care specialties were also deemed least fit specialties for a significant proportion of this cohort of F2 doctors. There was no difference demonstrated between the best and least fit specialties at Q1 or Q2.

### FINAL CAREER CHOICE

Further analysis of career choice with correlation to final specialty appointments was performed for the 69 F2 doctors who completed both questionnaires. When F2 doctors interested in a specialty at Q1 were compared to the actual number appointed to that specialty, anaesthetics (50%), general practice (43.8%) and core medical training (42.9%) had a higher percentage of end of year appointments. All F2 doctors interested in emergency medicine, obstetrics and gynaecology, psychiatry and radiology at Q1 were unsuccessful in their appointment to their chosen specialty. In total, only 29.0% of doctors were successfully appointed to a specialty that they had been interested in at the start of the year (Table 2).

At the end of the year, an increased success rate of 47.8% was demonstrated for doctors selected to specialist training

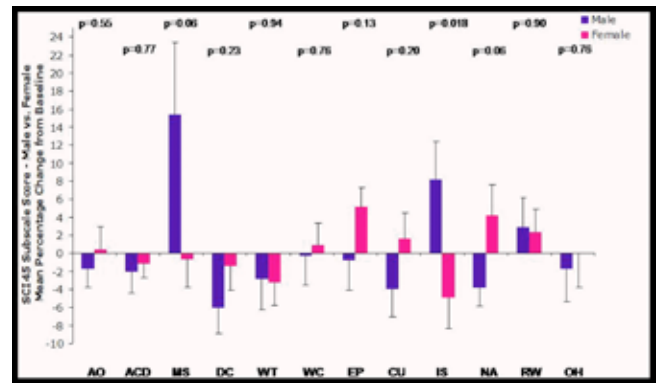


Fig 2. Mean percentage change from baseline in SCI45 subscale scores for male and female F2 doctors who completed both questionnaires at the start and at the end of the academic year (mean, SEM) (AO=Action Orientation, ACD=Academic Orientation, MS=Minor Specialty, DC=Detail is Crucial, WT=Working in Teams, WC=Working with Children, EP=Educating Patients, CU=Coping with Uncertainty, IS=Independent Specialty, NA=Need for Assertiveness, RW=Routine Working and OH=Out-of-Hours Working).

for their declared specialty interest. Anaesthetics (100%), ophthalmology (100%), general practice (63.2%), core medical training (58.3%), obstetrics and gynaecology (50%), paediatrics (60%) and psychiatry (50%) all had better success rates for chosen specialty appointments than emergency

TABLE 3

Number of F2 doctors appointed to their chosen specialty compared to the total number of F2 doctors interested in the specialty at the start and at the end of the academic year [Others included F2 doctors who still had to complete their F2 foundation year (n=7) as well as F2 doctors with insufficient data (n=2)].

SPECIALTY	START OF YEAR			END OF YEAR		
	Number of F2 doctors interested in specialty			Number of F2 doctors interested in specialty		
	Appointed	Total Number	% employed	Appointed	Total Number	% employed
Emergency Medicine	0	5	0	1	4	25
Anaesthetics	3	6	50	3	3	100
Core Medical Training	6	14	42.9	7	12	58.3
General Practice	7	16	43.8	12	19	63.2
Histopathology	0	1	0	0	0	0
Obstetrics and Gynaecology	0	2	0	1	2	50
Ophthalmology	1	2	50	1	1	100
Paediatrics	2	4	50	3	5	60
Psychiatry	0	1	0	3	6	50
Radiology	0	2	0	1	4	25
Surgery	1	7	14.3	1	4	33.3
Others	N/A	9	N/A	N/A	9	N/A
Totals	20	69	29.0	33	69	47.8

TABLE 4

Breakdown of specialty training vs. fixed-term training appointments for F2 doctors in Northern Ireland who completed both questionnaires (n=69).

SPECIALTY	SPECIALIST TRAINING APPOINTMENT	FIXED-TERM TRAINING APPOINTMENT	TOTAL APPOINTMENTS	SPECIALIST TRAINING % OF TOTAL	FIXED-TERM TRAINING % OF TOTAL
Emergency Medicine	1	1	2	50	50
Anaesthetics	5	0	5	100	0
Core Medical Training	11	6	17	64.7	35.3
General Practice	13	0	13	100	0
Obstetrics and Gynaecology	1	0	1	100	0
Ophthalmology	1	0	1	100	0
Paediatrics	3	1	4	75	0
Psychiatry	3	0	3	100	0
Radiology	1	0	1	100	0
Surgery	0	1	1	0	100
<b>Total</b>	<b>39</b>	<b>9</b>	<b>48</b>	<b>81.3</b>	<b>18.7</b>

medicine (25%), radiology (25%) and surgery (33.3%) (Table 3).

Table 4 demonstrates the breakdown of specialist training and fixed-term specialty appointments (FTSA) for the different specialties in Northern Ireland. From a total of 48 potential appointments for this cohort of F2 doctors (n=69), Northern Ireland provided 39 (81.3%) specialty training posts and 9 (18.7%) FTSA. Most specialties apart from surgery (0%) offered a greater than 50% chance of a specialty training position with the majority providing a 100% rate for specialty training appointments.

## DISCUSSION

The Northern Ireland experience with this first cohort of F2 doctors has shown that predominant career choices favoured the consideration of the mainstream specialties of general medicine, practice and surgery. However, other specialties were also considered at the start of the F2 academic year, despite the fact that most of the F2 doctors had not experienced work related patterns in these specialties. Such specialties included emergency medicine, anaesthetics, obstetrics & gynaecology, paediatrics and radiology. With the advent of foundation training, F2 doctors are now exposed to a wider variety of specialties in their second year post-qualification. Despite the influence of these specialties, their subjective career choices remained similar at the end of the year with general medicine and general practice featuring highly in their choices. More specialised disciplines (obstetrics, paediatrics and radiology) were also considered at Q2. However, surgery and its sub-specialties no longer appeared as popular a choice. It is unclear why such a definite reduction was evident but perhaps the experience of longer working hours in a more arduous specialty despite the European Working Time

Directive (EWTD) has played a part. However, it may be that knowledge of a reduction in future surgical job prospects accounted for the reduction in surgical interest. It must be acknowledged that completion demographics for the 2 time-points were different with completion rates of 63.6% and 45.9% respectively and therefore a questionnaire completion bias must also be considered.

Lambert *et al* (2003) assessed doctors' reasons for rejecting initial specialty choices as long-term careers. Their questionnaire-based study assessed all graduates, who qualified in 1996 and 1999 from UK medical schools. It was completed during their first postgraduate year with 5633 respondents from a possible 7971 surveyed. At the end of the pre-registration house officer (F1) year, 1,947 (34.4%) of these doctors had rejected previous considered career choices while 1,871 (33.1%) had provided their reasons for career choice rejection.<sup>19</sup> Similar to our study, the mainstream specialties were heavily favoured with 23%, 22% and 21% choosing the medical, general practice and surgical specialties respectively with a lower number of doctors choosing specialties such as anaesthetics (7%), emergency medicine (3%), obstetrics & gynaecology (3%), paediatrics (6%) and psychiatry (4%).<sup>19</sup>

Lambert *et al* (2003) also reported that the medical and surgical specialties were heavily rejected by this group of doctors with 22% and 30% of doctors eschewing these specialties after their first year of qualification.<sup>19</sup> Quality of life was the main reason provided by 50% of doctors who rejected the hospital medical or surgical specialties and paediatrics, whereas only a small proportion of those rejecting GP or psychiatry provided quality of life as a reason. Doctors who rejected general practice or psychiatry cited lack of enjoyment of job content as their reason. Poor working

relationships appeared to be a factor for those rejecting the surgical specialties or obstetrics & gynaecology. Concern regarding training and the examinations required varied by specialty and were highest amongst those rejecting the medical specialties. When considering all 1871 doctors who provided reasons for rejecting their specialty, 48% and 40% cited quality of life and lack of job enjoyment respectively while concern regarding career paths (24%), training and examinations (14%), working relationships (13%), self appraisal (6%) and personal influences (6%) were other reasons cited.<sup>19</sup>

More recently, Stern (2005) suggested possible reasons for career choice amongst F1 doctors at the start, middle and end of their first year post-qualification which included; own personal experiences (40%), house officer working experiences (27%), advice of a senior doctor (7%), consultant work pattern (7%), personal preference (4%), intercalated degree experience (4%), the specialty enjoyment (3%), availability of consultant posts (2%), family reasons (2%), tutor's advice (1%), research (1%) and the influence of an undergraduate special study module (1%).<sup>20</sup> Although our study assessed potential career choices, it was limited somewhat by the lack of assessment of possible career rejection choices or actual reasons for such career choices. However, use of the SCI45 inventory allowed an assessment of both best and least fit career recommendations which revealed a preponderance for the more elective specialties and an aversion to specialties associated with a more acute or practical base.

When assessing career choices objectively, the SCI45 inventory analyses a profile of skills and aspirations of the individual which are then presented in 12 different subscales. When these subscale scores were analysed according to examples of high and low scoring specialties, as described by Borges *et al* (2002), male F2 doctors appeared to favour the surgical specialties particularly plastic surgery and urology as well as obstetrics & gynaecology.<sup>21</sup> These scores further indicated a lower interest in psychiatry, occupational medicine, care of the elderly, genito-urinary medicine and laboratory based specialties whereas female F2 doctors tended to favour care of the elderly and paediatrics rather than the laboratory based specialties.

When the SCI45 scores were compared for doctors who completed the questionnaires on both occasions, there was no significant difference in the specialty subscales, between Q1 and Q2, apart from *detail is crucial*, *working in teams* and *independent specialty* which were significantly higher at Q1. This variation in only 3 out of 12 specialty subscale scores would suggest that an objective assessment of career attributes using the SCI45 did provide an accurate method to assess personal profiles of the skills and aspirations of the individual at a specific point in their career development. However, it should be emphasised that although the subtype scores remained relatively stable there was still scope for variation of specialty subscale scores particularly the *detail is crucial*, *working in teams* and *independent specialty* where a reduction in scores at the end of the year may indicate a trend away from the more surgically orientated disciplines.

The assessment of informal career guidance methodology is more difficult and highly dependant on both the intra-

and inter- personal relationship of the F2 doctor with their foundation school appointed educational supervisors. It is also important to realise the influence of work-associated peers, hospital based campaigns and the wider media in career aspirations. From this study it is unclear how influential these factors were and as such these factors should be acknowledged. However, only a single cohort of doctors was assessed and it was hoped that whatever influence did occur would be uniform within the group as we considered our study group to be a single population.

Although this study did not subjectively assess other important means of career guidance, this cohort of doctors did appear to be more privileged than previous generations due to the availability of both hospital and deanery based advisers at the dedicated F2 generic skills course. However, Stern (2005) reported that most young doctors have decided on their future careers around the mid-point of their first year of qualification. Experience in the workplace, both undergraduate and postgraduate helped doctors decide on their future career.<sup>20, 22</sup> They also suggested that formal career advice sessions 6-months into the F1 year added little to final career aspirations. Only 8% of those previously undecided had by that time made a career decision. However, it is important to note that 21% had changed their career choice, subsequently.

Stern (2005) also stated that 89% of junior doctors assessed thought the SCI45 program was useful whilst 43% felt the deanery website was a useful source of career advice.<sup>20</sup> They concluded that these less personal and more computer-based methods of career advice were seen in a more positive light than other activities such as one-to-one tutor led sessions. However, it should be noted that 40% also found career advice sessions useful. Therefore, there does not appear to be any absolute method to impart career advice and that multiple sources may be the most optimal mode depending on the actual specialty.

Although we have subjectively and objectively assessed career aspirations for this cohort of F2 doctors, it is important to discuss and reflect upon their chosen career choices for further specialty training. This study showed that this cohort of F2 doctors were more likely to have a successful appointment to their specialty of choice at the end of the academic year than at the start of the year. It has been demonstrated that that only 29% of doctors were successfully appointed to their declared career choice compared to 47.8% at the end of the year. A higher success rate for appointments of choice at Q1 and Q2 were reported in a number of specialties including anaesthetics and general practice. However, all F2 doctors who declared an interest in emergency medicine, obstetrics and gynaecology, psychiatry and radiology at Q1 were unsuccessful in their appointment to their chosen specialty while appointments based on Q2 choices also remained low particularly in emergency medicine (25%), radiology (25%) and surgery (33.3%).

It is also important to realise the differentiation between dedicated training positions compared to FTSA's. We reported that from a total of 48 potential appointments (n=69), Northern Ireland provided a total 39 (81.3%) of specialty training posts and 9 (18.7%) FTSA's. Most specialties apart from surgery (0%) offered a greater than 50% chance of a

specialty training position with the majority providing a 100% rate for specialty training appointments (Table 4).

It would be useful to conduct this study at the very beginning of medical school with annual assessments rather than completion on multiple occasions in a single year. These assessments could then continue throughout medical school, the foundation programme and further into the junior doctor's career. In the longer term, it would be important to follow this cohort of F2 doctors to ascertain clinical progress and final career disposition. One of the major strengths of this study was the assessment of a fixed cohort of doctors who were exposed to a uniform Foundation Programme. Although this study was limited through confinement to a solitary deanery without randomisation, the authors believe a true representation of the F2 doctors for the period of the study was obtained. However, similar to previous studies, it is unclear as to the influence of a potential selection bias in this selected group of doctors as only 63.6% of the total cohort chose to complete the questionnaires.

Although it would be impractical to attempt to initiate randomisation of foundation doctors to receive or omit the Generic skills careers module, a cross-sectional study incorporating a different deanery would be very useful in investigating the actual effect of a foundation school compared to different methodologies. However, this may also have ethical ramifications as it is important for optimisation of junior doctor training and development particularly within the first few years following qualification. Although we have previously used the SCI45 assessment tool, an updated version SCI-69 is now available. In addition, other aspects of career choice could be assessed using the Career Decision Scale (CDS) which measures anxiety associated with career indecision.<sup>23</sup>

## CONCLUSION

There are many factors known to influence a doctor's career choice. Teasing apart the personality traits and aligning these with specific medical specialty interests followed no predictable pattern. Despite the 'triple whammy impact' of introducing MMC with a coordinated UK wide specialty application process (MTAS) on the first cohort (2005-2007) of Foundation doctors, a detrimental effect on their career orientation was not evident. In the end, pragmatic career choices based on lifestyle may be the reason why female doctors veer towards care of the elderly and paediatrics, while their male colleagues favour more acute surgically biased specialties.

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