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How can we improve retention of doctors

Fox A[1], Smith A[1], Murphy C[1], Bussmann N[1], McCallion N[1,2]

1. Department of Neonatology, The Rotunda Hospital, Dublin
2. School of Medicine, Royal College of Surgeons in Ireland, Dublin

Abstract

Aims

Recruitment of trained doctors is challenging, particularly in certain high intensity specialities. This has come to the fore in recent years in the aftermath of the Covid 19 pandemic. The recent balloting of NCHDs for industrial action has highlighted the dissatisfaction among doctors. Understanding what is important to medical students could help us create work environments and conditions that match their expectations. This study aims to describe the factors that are important to medical students when considering their career and speciality choice.

Methods

This was a prospective, observational study. An anonymous, qualitative, multiple-choice survey was completed by medical students.

Results

One hundred and forty-nine medical students completed this survey. Half of students reported having selected a specific speciality to pursue. 'Interest in the medical speciality' was listed as the most influential factor. One hundred and two students (68%) rated 'lifestyle/working patterns' and 109 (73%) students rated a 'positive experience of a clinical post' as other highly influential factors.

Discussion

Medical students think carefully about their career choice. Their choice is influenced by an interest in a speciality coupled with a positive working environment with increasing emphasis on work life balance. Policy makers need to consider these factors to improve doctor retention.

Introduction

Recruitment into both training and consultant posts has been problematic for many specialties over recent years. Emigration of trainees has been a significant problem, for example emigration to Australia doubled between 2009 and 20181. Reduced salaries and deteriorating working conditions since 2008 have been cited as factors influencing the high rate of doctor emigration from Ireland[2,3]. Although many doctors return, there are both NCHD and consultant recruitment problems[3] The Irish Health Service has seen much upheaval in recent years as a consequence of the global pandemic and national cyberattack. The pandemic appears to have reinforce Irelands pre-existing emigration issues[8]. Doctors through all stages of seniority report having difficulty with work life balance[3], which continues in impact on job satisfaction and mental health.

Speciality specific information will provide more detail and inform policies for current doctors, but that might also inform planning for future specialists and practitioners[4].

The Bland Model of Career Choice was developed in 1995 following a comprehensive summaries of medical student career choice. The Bland Model demonstrated that the process of choosing a career is a fine balance between expected future career needs of the individual and the perception of the characteristics of a specialty[4]. This model also highlighted how the educational program has a strong influence on career choice. This model is still used today however we must recognise that it was developed to assess why medical students choose primary care and it may not be appropriate to extrapolate it for use in other specialities.

The paediatric sub-specialty of neonatology has been affected by these staff retention and emigration issues. Neonatology is a rapidly evolving intensive care specialty with strong links to research. A national framework for paediatric and neonatal service provision in Ireland was published in July 2013.[5] It reported that 'the number of neonatologists dedicated to providing neonatology services was below what one would expect when compared to international standards of care'. The Neonatology subspeciality training scheme commenced in 2017, graduating the first trainees in July 2020. Trainees progress through paediatric basic specialist and then core higher specialist training, before branching into the neonatology-specific program. Addressing both the positive and more negative perspectives of potential future trainees is important when recruiting into the specialty, however data on the factors influencing both graduates and medical students is lacking. As trainee demographics change, with increased graduate entry programs and changes to gender balance[6,7], understanding may facilitate both national and speciality specific work practice changes to respond to the needs of the future work force.

The aim of this research was to determine the factors influencing medical student opinions and decisions about their future career, with particular reference to careers in neonatology.

Methods

This was a prospective, observational study performed at the Rotunda Hospital, Dublin from October 2019 to May 2020. An anonymous, qualitative, multiple choice survey was completed by medical students on a voluntary basis. The medical students were attending the Rotunda Hospital, Dublin for their clinical placement in Neonatology in the academic year of 2019/2020. The survey was anonymous and no identifiable information was collected from the students. The results of the surveys were collated and analysed for trends in attitudes towards career choice.

Results

Due to the international Covid 19 pandemic not all students from this academic year group were available to survey.

Demographic findings

One hundred and forty-nine medical students completed this survey. One hundred and thirty-seven students identified whether they were graduate entry (GEM) or non-graduate entry students (Figure 1). Of this 137, 44 (32%) students were on the GEM programme. Eighty-six (58%) of the overall cohort identified themselves as female, 60 (40%) as male and 3 (2%) did not specify, with similar gender distributions observed in both GEM and non-GEM subgroups. The majority of students were in the 18-25-year-old age category, this accounted for 74% of the group, with 22% in the 26-30 and 5% over 30 years group. The group of students surveyed were spread across four academic years. Twenty-three percent were in third year, 51% were fourth year students and 26% were a mix of fifth- and sixth-year students. Of note 71% of graduate entry medical students had done additional medical exams (USMLEs) indicating a strong interest in pursuing post graduate medical training in the United States of America. Many students, both direct and graduate entry, had previous medical experience through a previous career, clinical placement or research as outlined in Figure 1.

Gender	**Total**	**Male N (%)**	**Female N (%)**	**Unspecified N (%)**
All	149	60 (40)	86 (58)	3 (2)
Direct Entry	93	37 (40)	55 (59)	1 (1)
Graduate Entry	44	18 (41)	24 (55)	2 (4)
Unspecified	12	5 (42)	7 (58)	0 (0)
Age Bracket	**Total**	**18-25** N (%)	**26-30 N (%)**	**30+ N (%)**
All	148	110 (74)	32 (22)	6 (4)
Direct Entry	92	86 (94)	5 (5)	1 (1)
Graduate Entry	44	15 (34)	25 (57)	4 (9)
Unspecified	2	9 (75)	2 (17)	1 (8)
Year of Study		**N (%)**		
Year 3		34 (23)		
Year 4		75 (51)		
Year 5 or 6		39 (26)		
Additional medical Exams	**No**	**Yes**	**USMLE S1**	**Other**
All N=140	79 (56)	61 (44)	61 (44)	0 (0)
Direct Entry N=88	60 (68)	28 (32)		
Graduate Entry N=41	12 (29)	28 (71)		
Unspecified N=11	7 (64)	4 (36)		
Additional Experience	**Yes N (%)**	**Clinical elective/ experience N (%)**	**Previous Career N (%)**	**Research N (%)**
All N=148	37 (25)	13 (9)	5 (3.3)	17 (11.4)
Direct Entry N=92	16 (17)	8 (8.6)	0 (0)	7 (7.6)
Graduate Entry N=44	17 (39)	4 (9)	4 (9)	8 (18.1)
Unspecified N=12	4 (33)	1 (8.3)	1 (8.3)	2 (16.6)

Figure 1: Demographics of cohort

Mentoring

Students were questioned about the role of mentorship in their career choice. Thirty seven out of 146 (25%) students reported having a mentor. The majority of those with a career mentor, 27 (79%), reported that their mentor influenced their career choice.

Factors Influencing Career Choice

When questioned about what individual factors will influence their future career choice the medical students reported 'Interest in the medical speciality' as the most important factor overall (Figure 2). One hundred and two students (68%) rated 'Lifestyle/working patterns' and 109 (73%) students rated a "positive experience of a clinical post" as factors significantly influencing their choice of speciality. Ninety eight students (66%) reported 'Delivery of training' as highly influential in their decision making process. The requirements for international fellowships and future consultant post prospects were also important considerations.

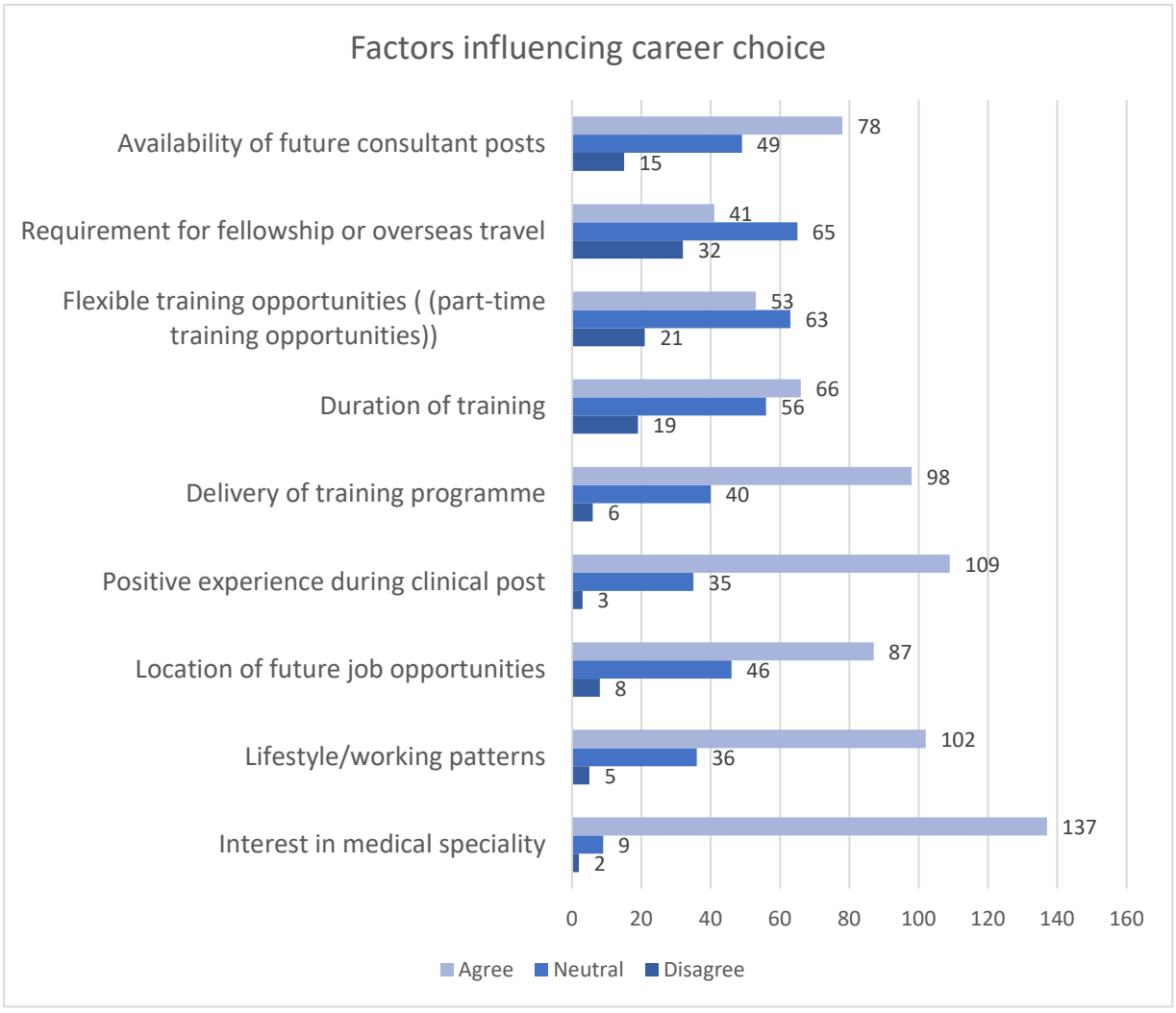

Figure 2: Factors influencing career choice

Career Choice

Half of students reported having selected a specific speciality to pursue. Eighty-six (58%) students reported having an interest in specialising in paediatrics. Of these 86 students, 33 (38%) reported a specific interest in neonatology.

Attitudes towards working in Neonatology

When specifically considering a career in Neonatology, students ranked the potential to have a significant emotional impact on patients, and teamwork, as the two most important considerations (Figure 3). Ninety-one students (61%) ranked 'Emotional impact' as the most attractive factor of the specialty with 74 (50%) students ranking teamwork an important factor when considering neonatology as a long term career. Sixty-six (44%) of respondents indicated that the procedural aspect of neonatology was an important and interesting aspect of the specialty. Students documented a positive attitude towards training and consultant working patterns in neonatology and 61 (41%) students reported the perception of availability of future consultant posts in the specialty as a favourable consideration.

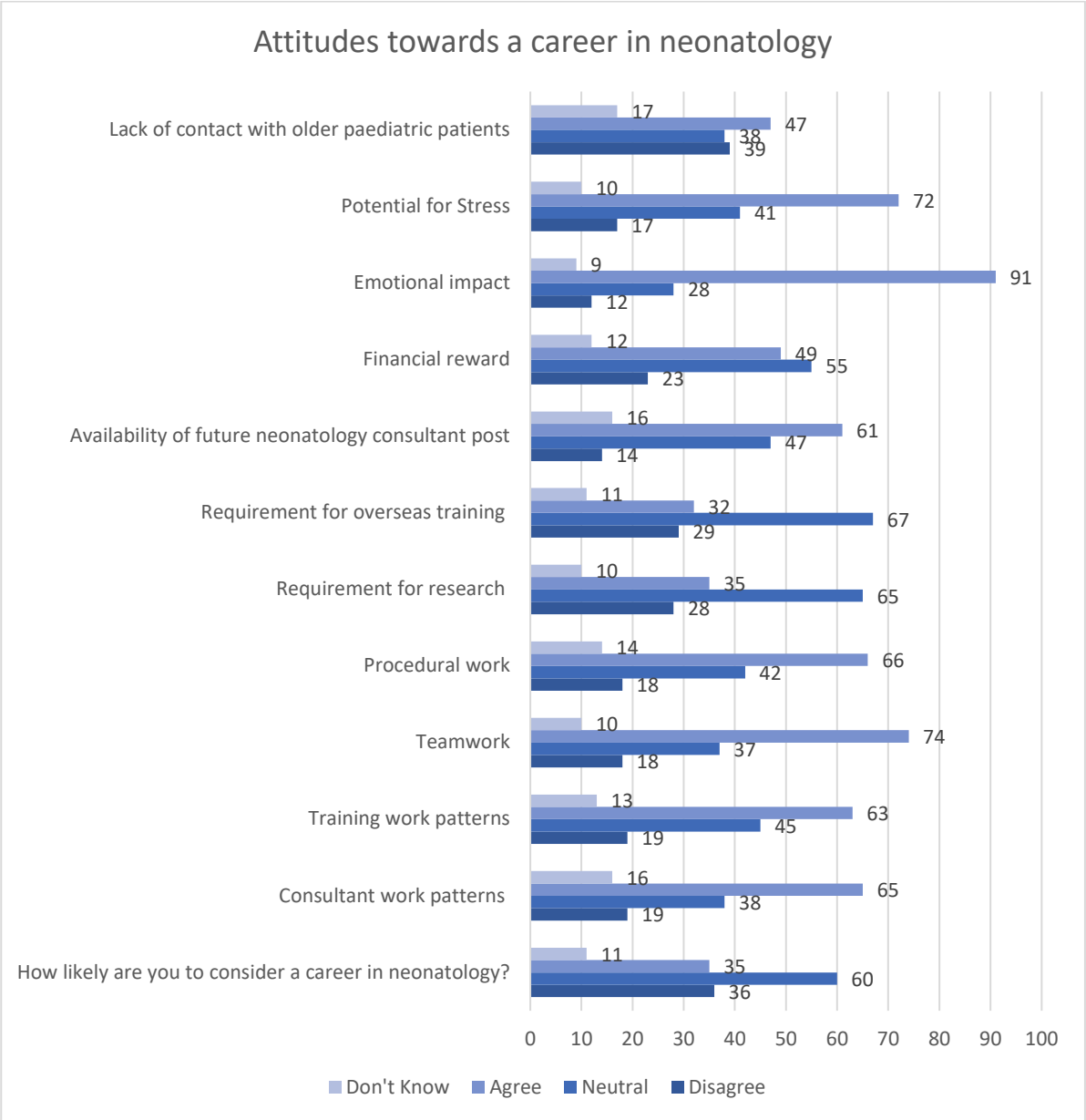

Figure 3: Attitudes towards a career in neonatology

Discussion

The aim of this study was to investigate the factors that influence medical students when selecting their career speciality and how this may impact their decision to choose a career, and a career in Neonatology in particular. We enrolled 149 students who were undertaking their Neonatology student placement in the Rotunda Hospital, Dublin. Students reports several key factors impacting their decision making when choosing a subspecialty to pursue. Our survey divided these into general factors affecting career choice and specific factors relating to a career in Neonatology. The majority of students reported that 'Interest in the medical specialty' was the most vital factor influencing their choice of specialty. Other factors which ranked high in importance for students included a 'Positive experience during clinical post', 'Lifestyle/working patterns', the 'Delivery of a training programme' and 'Availability of future consultant posts'. Fifty-eight percent of our students reported having an interest in paediatrics with 38% of this group reporting an interest in neonatology. This demonstrates a strong platform for the promotion and development of medical student interest in neonatology. The factors which were most influential for promoting interest in neonatology included the ability to have an 'Emotional impact' over their careers, the teamwork aspect of the specialty, the potential to train overseas, opportunities for procedural work and positive attitudes toward trainee and consultant work practices.

This survey has also highlighted the issue of mentorship. It demonstrates the positive impact of mentorship but also the absence of mentorship for most students during their medical training. Of those who reported having a mentor, 79% felt that this mentorship influenced their decision making. Specialties could bolster student interest by developing mentorship programmes, through clinical attachments and research opportunities.

This study highlights several issues influencing medical student career decisions. As this survey was conducted at a single time point in their medical training we are unable to comment on how such factors may evolve or change over time. The survey was taken during a neonatology rotation, which will likely have influenced the overall popularity of this small specialty. The influences on student decision making noted at this discrete point in time may become more or less relevant as they progress through their undergraduate and postgraduate training. Longitudinal data on both changing attitudes and ultimate career choice would be helpful in determining how these findings translate into postgraduate recruitment. The next stage of this study is to survey doctors at different stages of their career in paediatrics and neonatology to determine what factors maintain doctors' interest in the speciality, and what drives doctors to change career path.

This survey has highlighted aspects that are important to our future doctors. Armed with this knowledge, policy makers have new tools to grow and develop a work place and training opportunities that meets the expectation of those required to fill them. The study has given insight into how medical students view a career in Neonatology.

Neonatologists can capitalise on this initial interest and develop it further to attract high quality, motivated candidates in the future. This may be achieved by highlighting factors that medical

students have identified as positive. In addition, discussions about training options, practical demonstrations of procedural skills and establishing mentorship programmes may help to promote the specialty with undergraduates. The needs of medical students and trainee doctors need to be made a priority by policy makers and training bodies a like if we want to retain our passionate highly educated Irish trained doctors.

Declarations of Conflict of Interests:
None declared.

Corresponding Author:
Dr Aine Fox,
Department of Neonatology,
The Rotunda Hospital,
Dublin,
Ireland.
E-Mail: aine.fox22@mail.dcu.ie

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Neonatology Medical Student Questionnaire

PLEASE INDICATE YOUR ANSWER BY CIRCLING THE APPROPIATE ANSWER

This questionnaire should take no longer than 5 minutes to complete

A Few questions about you:

- What gender are you? Male Female
- Are you a graduate entry medical student? Yes No
- What age bracket are you? 18-25 26-30 31-35 36-40+
- What year of study are you in? Year 1 Year 2 Year 3 Year 4 Year 5 or 6
- Have you completed any additional medical examinations? Yes No
  USMLE Step 1 USMLE Step 2 CS USMLE Step 2 CKl
  Canadian Boards
- Have you had any paediatric experience outside of your Paediatric rotation? Yes No
  If yes please indicate the type of experience
  Research Clinical Elective Previous career

Mentorship:

- Have you had a paediatric mentor/supervisor? Yes No
- If yes, did they influence your career decision? Yes No
- Who has influenced your career decisions? _____

Selection of Career Speciality:

Factors that influence my choice of speciality:

(0=strongly disagree 5= Strongly agree)

• Interest in medical speciality	0	1	2	3	4	5
• Lifestyle/working patterns	0	1	2	3	4	5
• Location of future job opportunities	0	1	2	3	4	5
• Positive experience during clinical post	0	1	2	3	4	5
• Delivery of training programme	0	1	2	3	4	5
• Duration of training	0	1	2	3	4	5
• Flexible training opportunities	0	1	2	3	4	5
• *(part-time training opportunities)*						
• Requirement for fellowship or overseas travel	0	1	2	3	4	5
• Availability of future consultant posts	0	1	2	3	4	5
• Is anyone in your family a paediatrician	0	1	2	3	4	5

- Other _____

Career Choice:

- Have you decided on a career speciality? Yes No
- Are you considering a career in paediatrics? Yes No
- If yes, please state the area of paediatrics are you interested in?

General	Cardiology	Respiratory
Gastroenterology	Endocrine	Dermatology
Allergy	Neonatology	Oncology

Other please specify _____

Career in Neonatology:

(0=strongly disagree 5= Strongly agree)

- How likely are you to consider a career in neonatology?

0 1 2 3 4 5 don't know

What factors would influence your decision to consider a career in neonatology?

- Consultant work patterns 0 1 2 3 4 5 don't know
- Training work patterns 0 1 2 3 4 5 don't know
- Teamwork 0 1 2 3 4 5 don't know
- Procedural work 0 1 2 3 4 5 don't know
- Requirement for research 0 1 2 3 4 5 don't know
- Requirement for overseas training 0 1 2 3 4 5 don't know
- Availability of future neonatology consultant post

0 1 2 3 4 5 don't know

- Financial reward 0 1 2 3 4 5 don't know
- Emotional impact 0 1 2 3 4 5 don't know
- Potential for Stress 0 1 2 3 4 5 don't know
- Lack of contact with older paediatric patients 0 1 2 3 4 5 don't know

Please give your impression to the following statements:

(0=strongly disagree 5= Strongly agree)

- Neonatology NCHDs have a good quality of life 0 1 2 3 4 5 don't know
- Neonatology Consultants have a good quality of life

0 1 2 3 4 5 don't know

- The lifelong commitment of call in neonatology is excessive

0 1 2 3 4 5 don't know

- Research opportunities are a motivating factor for a career in neonatology

0 1 2 3 4 5 don't know

- The consultant hands on aspect of neonatology is attractive to me

0 1 2 3 4 5 don't know

- A career in neonatology is financially rewarding

0 1 2 3 4 5 don't know

- A career in neonatology is emotionally rewarding

0 1 2 3 4 5 don't know

- How important do you think oversea training is for a career in Neonatology?

0 1 2 3 4 5 don't know

- Do you plan to train in Ireland Yes No
- If yes, do you plan to do some training overseas Yes No
- Were you aware there is sub-speciality training for Neonatology in Ireland? Yes No
- If yes, what do you know about this programme? _____

- Does the sub-speciality training for Neonatology influence your decision to do this speciality? _____

Many thanks for taking the time to participate in this study!