Ulster Med J 2021;**90(2):**101 - 106

Medical Education

Performance of Queen's University Belfast graduates at core and speciality application

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Accepted: 5th January 2021
Provenance: Externally peer reviewed

Abstract

Introduction:

The general medical council (GMC) conducts the National Training Survey (NTS) annually. Part of the survey illustrates the statistics of United Kingdom medical school graduates in core and speciality application. We aimed to review the speciality training application and performance of graduates of Queen's University Belfast (QUB), and compared with graduates of medical schools in England, Scotland, and Wales.

Method:

The progression reports from the GMC NTS 2016-2019 were accessed on the GMC website. All data available were extracted in April 2020. The mean results for all graduates of 33 UK medical schools in Northern Ireland, England, Scotland, and Wales were collated from the NTS. Applications to the seven specialities with the greatest number of posts available across the UK were analysed.

Results:

No differences were noted in the majority of the application stages when comparing graduates from QUB with other UK medical school graduates. However, QUB graduates were less likely to be invited for an interview when applying for core surgical training AND receive an offer for Core Anaesthetic and ACCS Training. QUB graduates were less likely to apply for General Practice training.

Conclusion:

Our study evaluates the performance of QUB graduates compared to other UK medical graduates in core/speciality application. Based on our findings, QUB and postgraduate deaneries may consider focussing on strengthening applications for aspiring surgeons, improving interview performance for anaesthetics and ACCS applicants, and attracting trainees to pursue a career in General Practice.

Key Words

Career progression, Speciality training, National training survey

Introduction

In the United Kingdom (UK), medical school graduates are required to complete a two-year foundation programme before applying for specialist training positions. Despite an increasing number of medical graduates choosing not to apply immediately for core/speciality training, nearly 90% of doctors will still enter core or speciality training within three years of completion of the foundation programme.[1]

Speciality training pathways can take 3 to 8 years before obtaining the certificate of completion of training (CCT). The training period can be longer for several reasons including less than full-time training (LTFTT), out of programme research, career break, undertaking fellowship(s), and working overseas.[1]

The General Medical Council (GMC) has conducted the National Training Survey (NTS) annually since 2006 to monitor and report on the quality of postgraduate medical education and training in the UK. Further information regarding speciality and core training applications has been made available from 2016.[2] More than 75,000 doctors in GMC approved training posts completed the NTS in 2019, making this one of the largest postgraduate training surveys.[3]

We aimed to review the core and speciality training applications using the NTS data, specifically focused on the performance of Queen's University Belfast (QUB) graduates in the seven clinical specialities with the greatest number of posts available across the UK, and whether there were any performance differences when compared to graduates of medical schools in England, Scotland, and Wales.

Method

The progression reports from the GMC NTS 2016-2019 were accessed on the GMC website.[2] All data available were extracted and analysed in April 2020. Information on the stages of core or speciality application was obtained 1. Position applied for, 2. Applicant invited to attend an interview, 3. Applicant attended interview, 4. Applicant appointable to a position.

The mean results for all graduates of 33 UK medical schools in Northern Ireland, England, Scotland, and Wales were collated from the NTS for applications to the seven

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specialities with the greatest number of posts available across the UK - General Practice; Core Medical Training; Core Surgical Training; Core Anaesthetic and Acute Care Common Stem (ACCS) Training; Paediatrics; Obstetrics and Gynaecology; and Clinical Radiology.

Once collated, these data were compared with emphasis on variation between QUB and the other UK graduates. We aimed to review the speciality training application and performance of graduates of QUB in the seven specialities listed above, and whether there were any differences when compared to graduates of medical schools in England, Scotland, and Wales.

The NTS reported their data in the following categories: 1. Above outlier at 95% Confidence interval (CI), 2. Not an outlier, and 3. Below outlier at 95% CI. The data are presented in both box and whisker plot and numerical table. The number of applicants, mean, 95% lower and upper confidence interval were provided for all the 4 stages of application. Outliers (defined as below 2 confidence intervals) are highlighted in red in the NTS and regarded as statistically significant.

Results

984 QUB graduates completed the 2-year foundation programme and applied for core and/or speciality training positions from 2016-2019, with a range from 237 to 244 applicants per year. In comparison, a total of 27,397 graduates from the rest of the UK medical schools applied from 2016-2019, ranging from 6,699-7,001 applications per year. Table 1 shows the number of Foundation Year 2 (FY2) doctors who applied for nationally recruited specialities from QUB compared to the UK total per year.

Table 1: Number of FY2 doctors who applied for nationally recruited specialities from QUB compared to the UK total per year from 2016-2019.

Year	FY2 doctors who applied for nationally recruited specialities	
	QUB	Total
2016	263	7,264
2017	240	7,217
2018	244	6,943
2019	237	6,957
Total 2016-2019	984	28,381

Tables 2-8 show the mean percentage of candidates at all four stages of the application process for Core Medical Training; Core Surgical Training; Core Anaesthetic and ACCS Training; General Practice; Paediatrics; Obstetrics and Gynaecology; and Clinical Radiology, respectively. For the majority of factors considered, graduates from QUB were equivalent to other UK medical school graduates , with Core Medical Training, Paediatrics, Obstetrics and Gynaecology, and Clinical Radiology.

Outliers were noted in the following categories. First, QUB graduates were less likely to be invited to the interview stage for core surgical training (Table 3). For those who had attended an interview for Core Anaesthetic and ACCS Training (Table 4), they were less likely to receive an offer. It is also important to highlight that QUB graduates were less likely to apply for training programs in General Practice and less likely to be appointable to these positions after being interviewed (Table 5).

Table 2: Mean percentage of candidates at each stage of the application process for Core Medical Training based on the country of their medical school (for primary medical qualification) for years 2016-2019. Statistically significant results are highlighted in red.

Core Medical Training				
Stage	Country of medical school			
	Northern Ireland (QUB)	Wales	England	Scotland
Applied	16.9	12.6	15.4	15.5
Invited to interview	86.7	89.7	89.5	93.2
Attended interview	100.0	100.0	99.9	100.0
Appointable to position	85.4	91.0	91.5	89.1

Table 3: Mean percentage of candidates at each stage of the application process for Core Surgical Training based on the country of their medical school (for primary medical qualification) for years 2016-2019. Statistically significant results are highlighted in red.

Core Surgical Training				
Stage	Country of medical school			
	Northern Ireland (QUB)	Wales	England	Scotland
Applied	7.7	8.2	9.7	10.0
Invited to interview	80.3	94.4	92.0	90.3
Attended interview	100.0	100.0	99.3	99.3
Appointable to position	82.0	61.9	75.4	73.0

Table 4: Mean percentage of candidates at each stage of the application process for Core Anaesthetic and ACCS Training based on the country of their medical school (for primary medical qualification) for years 2016-2019. Statistically significant results are highlighted in red.

Core Anaesthetic and ACCS Training				
Stage	Country of medical school			
	Northern Ireland (QUB)	Wales	England	Scotland
Applied	6.8	5.0	6.8	6.4
Invited to interview	94.0	92.6	93.3	88.6
Attended interview	100.0	100.0	99.7	100.0
Appointable to position	64.0	63.5	81.5	80.1

Table 5: Mean percentage of candidates at each stage of the application process for General Practice based on the country of their medical school (for primary medical qualification) for years 2016-2019. Statistically significant results are highlighted in red.

General Practice				
Stage	Country of medical school			
	Northern Ireland (QUB)	Wales	England	Scotland
Applied	19.1	17.7	23.6	20.1
Invited to interview	91.5	96.4	93.2	94.3
Attended interview	100.0	100.0	99.9	99.7
Appointable to position	87.2	93.5	93.3	91.0

Table 6: Mean percentage of candidates at each stage of the application process for Paediatrics based on the country of their medical school (for primary medical qualification) for years 2016-2019. Statistically significant results are highlighted in red.

Paediatrics				
Stage	Country of medical school			
	Northern Ireland (QUB)	Wales	England	Scotland
Applied	2.8	2.9	3.5	3.0
Invited to interview	92.9	93.5	94.5	95.9
Attended interview	100.0	100.0	99.9	100.0
Appointable to position	92.3	100.0	94.7	92.6

Table 7: Mean percentage of candidates at each stage of the application process for Obstetrics and Gynaecology based on the country of their medical school (for primary medical qualification) for years 2016-2019. Statistically significant results are highlighted in red.

Obstetrics and Gynaecology				
Stage	Country of medical school			
	Northern Ireland (QUB)	Wales	England	Scotland
Applied	1.8	1.5	2.6	2.2
Invited to interview	100.0	93.8	92.1	90.5
Attended interview	100.0	100.0	100.0	100.0
Appointable to position	88.9	93.3	84.4	86.6

Table 8: Mean percentage of candidates at each stage of the application process for Clinical Radiology based on the country of their medical school (for primary medical qualification) for years 2016-2019. Statistically significant results are highlighted in red.

Clinical Radiology				
Stage	Country of medical school			
	Northern Ireland (QUB)	Wales	England	Scotland
Applied	2.9	2.3	3.4	2.8
Invited to interview	75.9	72.0	85.1	84.6
Attended interview	100.0	94.4	99.7	100.0
Appointable to position	63.6	47.1	77.3	79.2

Discussion

There were no differences in the performance of QUB graduates compared to graduates of other UK medical schools in recruitment and selection to training pathways with the exception of the following. QUB medical graduates were:

- Less likely to be invited to interview for Core Surgical Training
- Less likely to be appointable to the position for Core Anaesthetic and ACCS Training
- Less likely to apply for General Practice - similar results were noted in Scotland and Wales
- Less likely to be appointable to the position for General Practice

Queen's University Belfast graduates were less likely to be invited to interview for Core Surgical Training positions; with only 80.3% of applicants being invited to interview from 2016-2019 compared with a minimum of 90.3% of applicants graduating from medical schools in other UK nations. However, once they were invited for an interview, no differences were noted in terms of their performance and likelihood of obtaining a training position. Core Surgical Training has an indicative duration of 24 months, requiring a certain set of competencies and exams to be completed before progression to a surgical specialist training post, and remains the pathway for most surgical trainees to pursue a career in surgery (except for cardiothoracic surgery, and trauma and orthopaedic surgery (in Scotland only)).[4]

Applications for Core Surgical Training are competitive (competition ratio of 2.93 in 2019)[5], with portfolio requirements including degrees additional to a primary medical qualification, research publications, and multiple mandatory courses.[6,7] With a self-assessment of a candidate's portfolio being one of the prerequisites to interview[8], poor scoring of self-assessments may have contributed to the reduced likelihood of graduates from QUB being invited to interview for Core Surgical Training - there is no literature available on this topic and further research is required.

Graduates from QUB were less likely to be appointed to Core Anaesthetic and ACCS Training, with only 64.0% of those who interviewed being appointable to a position. Core anaesthetic training is a 24-month programme, whereas ACCS (Acute Care Common Stem) is a 36-month programme with the final 12 months dedicated purely to anaesthetics.[9] The application process for anaesthetic ACCS positions consists of a portfolio station, a presentation station, and a practical skills station.[10] Further coaching support for applicants may improve performance at interview. ACCS training was introduced in 2007, designed to develop competent multi-skilled acute physicians to manage patients with multimorbidity from 'door to discharge'.[11]

Queen's University Belfast graduates were both less likely to apply for General Practice (only 19.1%), and less likely to be appointable to the position following the interview (only 87.2%). It is worth noting that similar results are noted for Scottish and Welsh graduates, suggesting a national issue in General Practice recruitment in attracting UK graduates.

There is a documented shortage of General Practitioners

throughout the UK, acknowledged by the Royal College of General Practitioners (RCGP)[12], with particular emphasis on Northern Ireland[13]. The Royal College of General Practitioners in Northern Ireland (RCGPNI) released an action plan in 2015, entitled "Delivering change for general practice: A strategy for improving patient care in Northern Ireland"[14], to specifically target the shortage. Part of this strategy aimed to increase the General Practice workforce in Northern Ireland by the year 2020 by "rebalancing" the trainee uptake to increase the number of doctors following the General Practice training pathway - the relatively low proportion of QUB graduates QUB applying to General Practice from 2016-2019 reinforces the need to address this issue.

The importance of recruiting trainees into General Practice has been emphasised in England and despite retirements of senior clinicians there were more General Practitioners in March 2019 than March 2018, largely attributed to the increased number of trainees joining the speciality.[15]

The importance of making certain roles more attractive has been compared to the need to pay bankers large amounts of money to retain their services.[16] This raises the question of which factors would need to be changed to make certain training pathways more attractive. A study examining factors that were critical to attracting NHS foundation doctors into speciality or core training in Scotland, found that the most influential factor was the location, which is an unmodifiable factor, however, supportive culture and working conditions were the next most influential factors - these could be targeted in specialities which are struggling with recruitment, such as General Practice.[17]

General Practice applications were found to be the only speciality in which gender affected three components of selection and recruitment i.e. likelihood of making an application, the likelihood of receiving an offer, and the likelihood of accepting an offer - with women being significantly more likely to apply, more likely to receive an offer, and more likely to accept said offer.[18] Exploration of why there is a significant difference between genders, specifically in General Practice applications, may help to instruct further efforts to increase overall applications to General Practice training posts by graduates of Northern Irish medical schools.

In addition to the observations noted regarding graduates from QUB, there were some points of interest for graduates of medical schools in Wales (Cardiff University and Swansea University). Graduates from these Welsh medical schools had a low rate of appointability after interview in Core Surgical Training, Core Anaesthetic and ACCS Training, and Clinical Radiology, suggesting the area of improvement is different in each region Universities and foundation schools have to reflect and improve the curriculum locally/regionally based on the NTS feedback.

The limitations of this study include the limited existing research available, making interpretation of the results difficult. The gender, age, and socioeconomic data were not available - these data would have been useful to include in the analysis.[19, 18] Factors for not choosing a speciality or being less likely to be appointable are not available, instead, we report trends and highlight areas where QUB graduates performed less well in comparison to other UK medical graduates. These trends are important for medical schools and postgraduate deaneries to evaluate and appropriately modify the curriculum in the interest of workforce planning. For example, QUB has increased the length of General Practice placements in their curriculum. Increased exposure to General Practice in the undergraduate medical curricula is supported by the British Medical Association as part of the strategy to increase recruitment to General Practice training[20], although increased exposure alone may not encourage students to pursue a career in General Practice if that experience is not positive.

Conclusion

In summary, this study evaluates the performance of QUB graduates compared to other UK medical graduates in core/speciality application. Based on our findings, QUB and postgraduate deaneries may consider focussing on strengthening applications for aspiring surgeons, improving interview performance for anaesthetics and ACCS applicants, and attracting trainees to pursue a career in General Practice. Undergraduate and postgraduate training programmes in the United Kingdom should reflect on the NTS for speciality recruitment, curriculum design, career support, and make appropriate adjustments.

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