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An evaluation of preparedness of foundation doctors during their first rotation in the NHS

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Abstract

Background: This paper aims to evaluate the preparedness of new foundation year one doctors (FY1) in their first rotation in the National Health Service (NHS) and identify the effects of an induction week, apprenticeship module, and how the new random allocation system impacts in wellbeing and confidence of FY1s.

Methods: An online questionnaire was completed anonymously by FY1s in North West Anglia. Thirty questions were asked relating to three topics: practical skills, wellbeing and hospital systems, to assess preparedness. Background information was also established. Data was collected and analysed.

Results: From the 37 responses (27 in Peterborough City Hospital (PCH) and nine in Hinchingbrooke Hospital), preparedness across the three categories was tested using a scale from one to five, five being very confident. 28 out of 30 (93.3%) skills showed a mean score of above three, and 11 out of 30 (36.7%) skills showed a mean score of above four.

Key Messages: This paper finds that FY1s coming from neighbouring universities showing increased levels of confidence. Preparedness differs across all categories with 'practical skills' having the highest mean scores. This paper is unable to comment on the effect of induction week and apprenticeship module with this sample size and a larger data set across different trusts would share further insight.

Keywords: Education; Medical Training; Foundation Doctor; FY1; NHS

1. Introduction

Medical schools in the United Kingdom (UK) vary greatly. From entry requirements to achievements required prior to graduation. We will only include universities that were recorded in the questionnaire. The following we believe are notable to explaining why graduate preparedness is so different when they start as FY1 doctors. Previous published papers have showed a general consensus that preparedness varies which will be discussed below.

Firstly, the course itself varies between universities, with some using a problem based or case based learning structure integrated with days to months of relevant placements while other institutions are non-clinical lecture based for the first few years, therefore patient contact time differs. Miles S. et al. focused more on earlier adjustments in the medical school curriculum that could be changed for better preparedness such as making mandatory problem/case based learning structures [1]. Given the small sample with poor representation of all medical degrees in the UK this is not analysed in this paper.

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Next, to focus on preparedness for FY1s, some universities use an apprenticeship module in the final year where students shadow doctors on their respective wards for a significant period of time to get integrated and do tasks required of an FY1. Lightman E. et al. stated student apprenticeship/assistantship modules improve preparedness and confidence, and even recommend that each student's module be matched with their prospective job [2].

Furthermore, the exams; ISCEs/ OSCEs (integrated/ objective structured clinical examination); end of module; and end of year exams also differ between institutions. Prior to this year, final examinations have been written up and officiated by the universities themselves and students scored nationwide for FY1 job opportunities. The written paper would differ in the number of questions, content, and even what year they were taken. The practical exam would also differ in content, number of stations, length of time allowed for each station and time of year taken. Such diversity of medical courses result in graduates being more or less prepared when starting as an FY1. The author believe this is why this year a new exam was introduced, called the UK Medical Licensing Assessment (UKMLA), featuring the Applied Knowledge Test (AKT) and the Clinical and Professional Skills Assessment (CPSA). By doing this the General Medical Council (GMC) 'is seeking to introduce a threshold for safe medical practice, and improve fairness and consistency in how UK students and international medical graduates are tested prior to joining the medical register'. It uses a content map that 'sets out competencies expected of a newly registered doctor about to enter the UK Foundation programme' [3], the exams themselves are therefore standardised meaning all graduates will have to be knowledgeable in the same content and in the way it is examined with the pass mark being set with internationally recognised criteria Exam style of each university is not analysed in the paper due to small sample size and poor representation of medical courses.

Another differing factor is an induction week. This comprises of a paid working week where a new FY1 is given the opportunity to do their job under direct supervision, like an internship, while the previous doctors are still employed. This clearly allows the newly employed FY1 to integrate themselves quickly and efficiently into the workplace in a safe way for both themselves and for patients. Michaelides A et al. mention that FY1 preparedness may be improved by a prolonged FY1 induction programme [4] and with Moore C.J.S. et al. even suggesting a mandatory interim period of adjusted FY1 responsibilities to better prepare graduates [5].

Finally, a new allocation process has been introduced this year triggering the reason of writing this paper. Previously, a ranked system was used with a situational judgement test (SJT) and a written paper score to place graduates in order of how well they did on these tests. This allowed for the highest scoring students to have top pick of their hospitals/programmes, this was an incentive during medical school and thus, in theory, those student would graduate more knowledgeable. From this year, the new allocation process is random - students are assigned a randomly generated number, this number stays with them during the first deanery selection and then foundation programme for two years. The reasoning behind this was to give equal opportunity to all students as strict tests may not be representative of a student's ability or personal circumstance during a minimum of four years of education as well as distributing technically high scoring FY1s around the country, not just in high popularity areas e.g. London. The results of this allocation was not well received, many stating there is no incentive to achieve highly and the cumulative percentage of applicants actually receiving their top foundation programme was reduced using the new system, with only 87.32% getting one of their top three choices, out of 18 possible foundation schools, compared to 90.10% the year prior. First choice for the new system scored 75.42% compared to 71.02% the year prior, this was the only category that scored better this year, with all remaining positions beyond first choice having a lower chance with the new random allocation system. This meant that applicants were overall less likely to receive their desired choice. A discussion can be had in favour of both [6,7].

To assess how the above changes may impact an FY1 starting in the NHS, a quantitative questionnaire was made, highlighting different challenges of the job, to see if any in particular stand out, and if different universities better prepare graduates.

2. Materials and Methods

An online questionnaire, included in the appendices of this paper, was sent to all FY1s in Hinchingbrooke Hospital and PCH using NHS emails on Outlook (Microsoft Corporation, Redmond, Washington, United States) provided to the author by the foundation school. The questionnaire used was made by Microsoft Forms (Microsoft Corporation, Redmond, Washington, United States) and required personal email authentication by each FY1 to access it, not allowing for duplicates. The questionnaire was anonymised and included a clause stating if completed, information gathered will be used for research purposes with aim to publish. It was completed during their first rotation but after a minimum of a month of work to allow for integration and assessment of ones skills (September 2024 to November 2024). Within the questionnaire the following categories were assessed; practical skills; personal wellbeing and; systems in the hospital. The data was stored and analysed on Excel (Microsoft Corporation, Redmond, Washington, United States).

Additionally, general information was asked for, such as; what university graduated from [8]; what FY1 rotation they started on; what hospital was that rotation in; did their university offer an apprenticeship module and; did their hospital offer an induction week before starting work.

The questions chosen were based off the GMC's outcomes for graduates [9].

The questionnaire used a Likert scale. The scale is as follows [10]:

- Not at all confident - cannot perform task
- Poorly confident
- Adequately confident
- Somewhat confident
- Very confident - never doubting my ability

Given the papers small sample and a survey-based approach there is room for multiple types of bias, including but not limited to; sampling bias; analysis bias; and data collection and measurement bias [11]. These were minimised in the following ways; all FY1s in both hospital were sent the email on an NHS outlook account containing the survey with the foundations schools support; multiple emails and prompts were sent during the first rotation; no further surveys were sent after the first rotation to minimise time after starting the post; the survey could be completed at any time and did not require face-to-face interview; and all responses remained anonymous. Out of 67 FY1s the response rate was 54% with 36 responses.

The mean, standard error of mean (SEM), confidence interval at 95%, and T-value were determined. The Welch t-test was also used as a robust way to compare two data sets of differing variance assuming they were normally distributed, with alpha level set at 0.05 [12]. Significance was therefore deemed at p-value of <0.05.

SEM was included here to see if this sample's mean scores could be interpreted as a reliable estimate that reflects the population mean of other FY1s starting their first rotation in the NHS [13].

3. Results

All those surveyed filled out the questionnaire in full with no data entries missed, bar one individual that only filled in the general information section without answering the one-five scale questions so this data was excluded as it cannot be analysed, therefore the number of respondents in not included in the table as they are all 35. Of the 35 FY1s surveyed (excluding the one data entry mentioned), 27 (77.1%) were in PCH (figure 1). 12 (34.3%) of FY1s graduated from a university that is in the same region region of East of England as the two hospitals in North West Anglia Trust (figure 2), with the most common first rotation, with 15 (42.9%), being General Surgery (figure 3). Five (14.3%) of FY1s were not given an apprenticeship module during university, from our data this was not deanery specific (figure 4). Finally, only 1 individual (2.9%) did not receive a hospital induction week however both hospitals did offer one (figure 5).

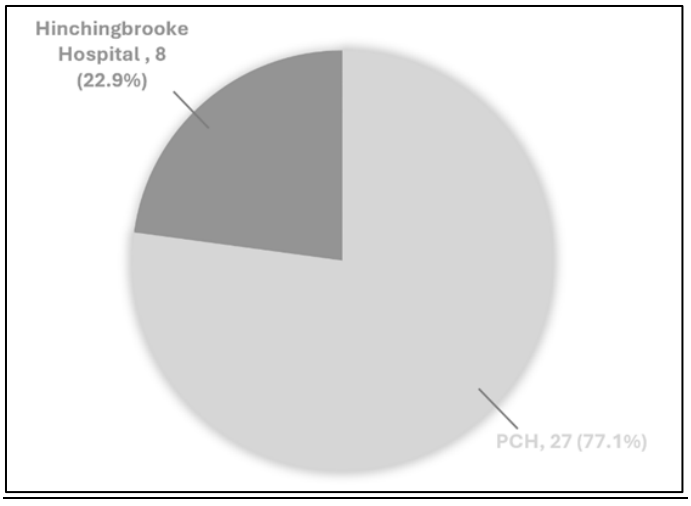

Figure 1 Pie chart showing which hospital each FY1 started on

The data has been presented as N (number of FY1s) and %. PCH: Peterborough City Hospital, FY1: foundation year one

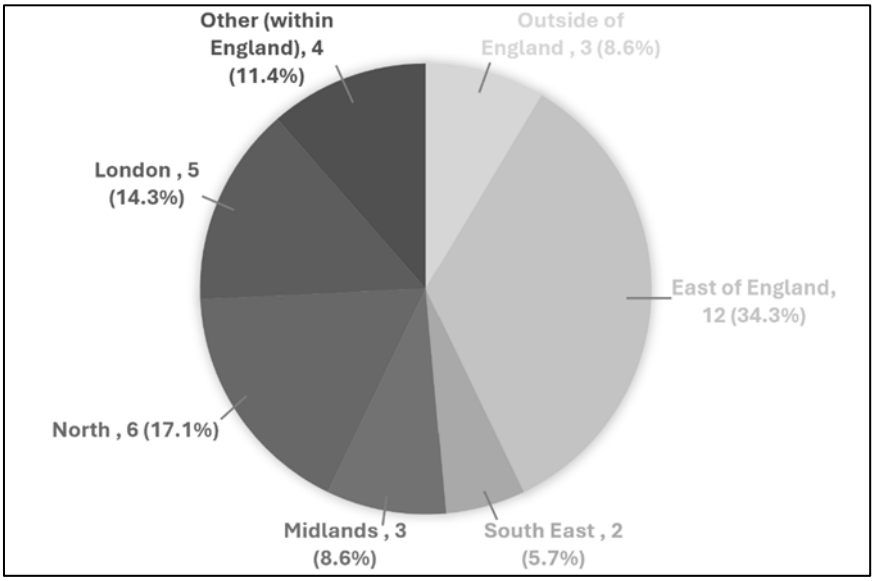

Figure 2 Pie chart showing the region of the university graduated from

The data has been presented as N (number of FY1s) and %. Hospitals were groups into regions as per foundation schools geographical distribution tables [8].

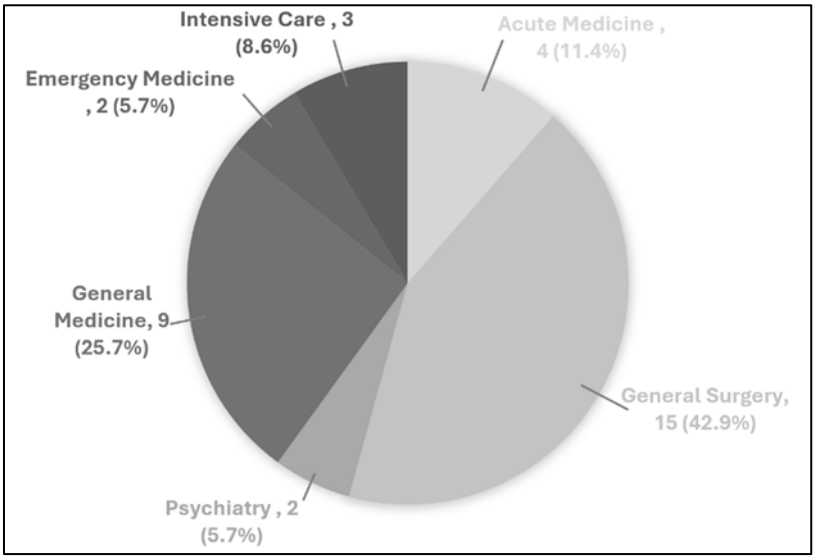

Figure 3 Pie chart showing what rotation the FY1 started on as their first job in the NHS

The data has been presented as N (number of FY1s) and %.

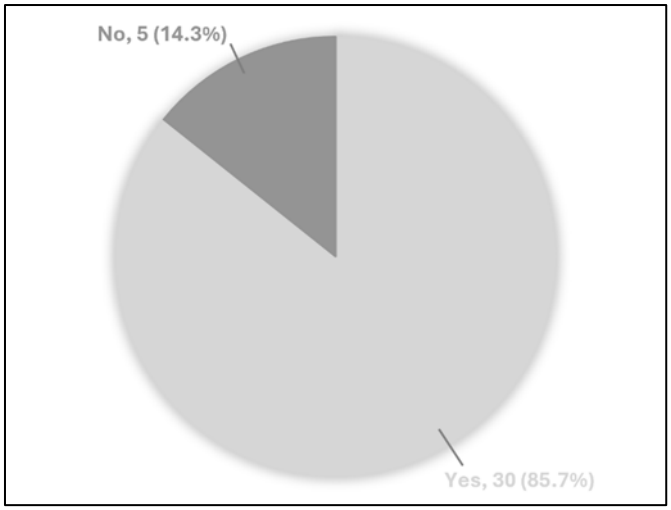

Figure 4 Pie chart showing whether their respective universities offered an apprenticeship module

The data has been presented as N (number of FY1s) and %.

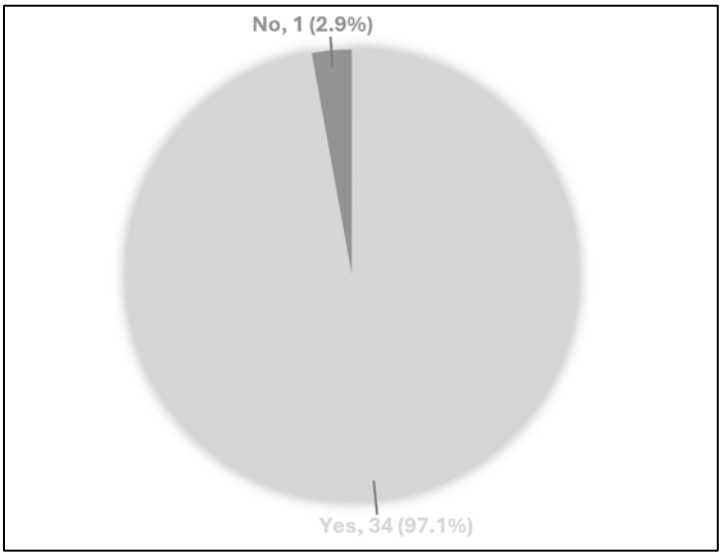

Figure 5 Pie chart showing if the hospital worked at offered an induction week

The data has been presented as N (number of FY1s) and %.

3.1. Practical skills

The category 'practical skills' had the highest scores for 'take observations': 4.800 (95% CI 4.646 - 4.954, SEM 0.080) with a standard deviation (SD) of 0.466, and 'performing urine dipstick': 4.743 (95% CI 4.560 - 4.926, SEM 0.553) with a SD of 0.553. These skills are taught in early years of medical school and thus there are multiple occasions for students to practice. The skills that scored the lowest were 'wound care': 2.771 (95% CI 2.474 - 3.068, SEM 0.154) with a SD of 0.154, and 'NG tube insertion': 2.629 (95% CI 2.322 - 2.936, SEM 0.159) with a SD of 0.928. These skills are taught later in the studies and would expect to have been practiced less (table 1).

3.2. Systems in hospital

Moving onto the category of 'hospital systems', the highest scores were given to 'access basic observations on hospital system': 4.429 (95% CI 4.175 - 4.683, SEM 0.132) with a SD of 0.767, and 'looking up blood work and images': 4.371 (95% CI 4.120 - 4.623, SEM 0.130) with a SD of 0.759. These skills are used often during any secondary care placement and are the foundation of a ward round [14]. The lowest scores were given to 'referring to different teams': 3.514 (95% CI 3.175 - 3.854, SEM 0.176) with a SD of 1.025, and 'writing in notes and accessing specific forms': 3.543 (CI 95%

3.233 - 3.853, SEM 0.161) with a SD of 0.936 (table 1). This category is specific to the two hospitals used in the study and having an apprenticeship week in these locations would be of benefit or if the system is familiar to you from a medical school close by, however even hospitals in the same deanery may use different hospital systems.

3.3. Personal wellbeing

Lastly, within the category 'personal wellbeing', the highest scores are for 'requesting annual leave': 3.886 (CI 95% 3.561 - 4.210, SEM 0.168) with a SD of 0.979, and 'knowing working hours and rest breaks': 3.571 (CI 95% 3.206 - 3.936, SEM 0.189) with a SD of 1.103. The lowest scores were given to 'finding information about requirements to complete FY1': 3.000 (95% CI 2.683 - 3.317, SEM 0.164) with a SD of 0.956, and 'knowing how to seek support': 3.200 (CI 95% 2.940 - 3.460, SEM 0.327) with a SD of 0.786 (table 1). Such skills would be taught during an induction week and to some extent on an apprenticeship module if that occurred at PCH or Hinchingbrooke Hospital. However, the location of each FY1s apprenticeship block was not included in this study, only if one occurred. We can see 97% of individuals at these two hospitals received an induction week (figure 2). Requirements of completing FY1 are standardised to the Foundation School's curriculum [15], however each hospital/trust will have its disparities and own interpretations of the guideline.

Table 1 Table of results from questionnaire with subheadings of 'practical skills', 'systems in hospital' and 'personal wellbeing'

	Total M ± SD	**SEM**	**95% CI of Total M**
Practical Skills			
Take observations (temp, RR, O2 sats, urine output, HR)	4.800 ± 0.466	0.080	4.646 – 4.954
Performing ophthalmoscopy and otoscopy	3.229 ± 0.988	0.170	2.901 – 3.556
Taking blood cultures	4.286 ± 0.848	0.145	4.005 – 4.566
Performing venepuncture and cannula	4.486 ± 0.649	0.111	4.271 – 4.701
Performing an ABG	4.257 ± 0.769	0.132	4.002 – 4.512
Performing urine dipstick	4.743 ± 0.553	0.095	4.560 – 4.926
Placing a three or 12 lead ECG	4.400 ± 0.641	0.110	4.188 – 4.612
Prepare and administer IV infusion or fluids or medication	3.371 ± 0.959	0.164	3.054 – 3.689
Moving and handling patients	3.229 ± 0.988	0.170	2.901 – 3.556
Prepare and administer injectable medication IM, SC or IV	3.771 ± 0.959	0.164	3.454 – 4.089
Prescribing a blood transfusion	3.000 ± 1.219	0.209	2.596 – 3.404
Male and female catheterisation	3.600 ± 0.868	0.149	3.312 – 3.888
Performing wound care and basic closure and dressing	2.771 ± 0.897	0.154	2.474 – 3.068
Nasogastric tube (NG) insertion and knowing correct placement	2.629 ± 0.928	0.159	2.322 – 2.936
Prescribing medication (including insulin and oxygen)	3.686 ± 0.949	0.163	3.371 – 4.000
Systems in Hospital			
Referring to different teams on the hospital system	3.514 ± 1.025	0.176	3.175 – 3.854
Request investigations (bloods, imaging) on the hospital system	4.143 ± 0.833	0.143	3.867 – 4.419
Writing in notes and accessing specific forms e.g. Safeguarding, mental capacity act	3.543 ± 0.936	0.161	3.233 – 3.853
Accessing GP records through an online portal	3.771 ± 1.173	0.201	3.383 – 4.160
Writing discharge letters on the hospital system	4.143 ± 0.899	0.154	3.845 – 4.441

Where to track and access basic observations (obs) on the hospital system	4.429 ± 0.767	0.132	4.175 – 4.683
Using bleeps	3.571 ± 0.965	0.165	3.252 – 3.891
Looking up blood work and images (x-rays, MRI, CT) on the hospital system	4.371 ± 0.759	0.130	4.120 – 4.623
Personal Wellbeing			
How to request annual leave	3.886 ± 0.979	0.168	3.561 – 4.210
How to submit sick days and informing relevant persons	3.486 ± 1.052	0.180	3.137 – 3.834
How to request study leave	3.371 ± 1.149	0.197	2.991 – 3.752
Who is wellbeing guardian	3.286 ± 1.030	0.177	2.944 – 3.627
Knowing how to seek support/ adjustments in the workplace for disabilities or other requirements (select three if does not apply)	3.200 ± 0.786	0.327	2.940 – 3.460
Knowing your working hours and rest breaks	3.571 ± 1.103	0.189	3.206 – 3.936
Finding information about requirements to complete FY1	3.000 ± 0.956	0.164	2.683 – 3.317

The data has been represented as mean (M): 'Total' ± the standard deviation (SD), SEM (standard error of mean) of 'Total' M and 95% CI (confidence interval). EoE: East of England, temp: temperature, RR: respiratory rate, O2 sats: oxygen saturations, HR: heart rate, ABG: arterial blood gas, ECG: electrocardiogram, IV: intravenous, IM: intramuscular, SC: subcutaneous, GP: general practitioner, MRI: magnetic resonance imaging, CT: computed tomography.

3.4. Neighbouring universities

To enrich the paper the author also compared FY1s graduating from universities in the East of England (EoE) and those that did not (figure 2). Out of 30 questions presented over three categories, FY1s studying in EoE scored a higher mean score in 25 of the 30 questions (83.3%) compared to the 'Other' column of FY1s studying outside EoE (table 2). Breaking down the three categories: 13/15 in 'practical skills', 8/8 in 'hospital systems', and 5/7 in 'personal wellbeing'.

Even though FY1s from EoE scored as more highly prepared 83.3% of the time, the only data that was deemed statistically significant with $p<0.05$, using the Welch t-test, was in the 'practical skills' category and the questions include: 'ophthalmoscopy and otoscopy' (t-value: 2.1303), 'blood cultures' (t-value: 2.7562), 'performing an ABG' (t-value: 3.5468), 'prepare and administer IV infusion' (t-value: 2.5880), and 'male and female catheterisation' (t-value: 2.5611) [12]. These t-values support the above difference in data being significant. In the remaining two categories no mean scores were statistically significant (table 2).

Table 2 Table of mean comparison between FY1s graduating from universities in EoE and not

	EoE M	**Other M**	**EoE vs Other P-value**	**T value**
Practical Skills				
Take observations (temp, RR, O2 sats, urine output, HR)	4.833 ± 0.389	4.783 ± 0.518	0.7473	0.3253
Performing ophthalmoscopy and otoscopy	3.667 ± 0.778	3.000 ± 1.044	0.0419*	2.1303
Taking blood cultures	4.750 ± 0.622	4.043 ± 0.878	0.0099*	2.7562
Performing venepuncture and cannula	4.750 ± 0.452	4.348 ± 0.714	0.0508	2.0309
Performing an ABG	4.750 ± 0.452	4.000 ± 0.798	0.0012*	3.5468
Performing urine dipstick	4.833 ± 0.389	4.696 ± 0.635	0.4337	0.7929

Placing a three or 12 lead ECG	4.417 ± 0.515	4.391 ± 0.722	0.9054	0.1199
Prepare and administer IV infusion or fluids or medication	3.917 ± 0.900	3.087 ± 0.900	0.0166*	2.5880
Moving and handling patients	3.083 ± 0.900	3.304 ± 1.063	0.5233	-0.6470
Prepare and administer injectable medication IM, SC or IV	3.833 ± 0.835	3.739 ± 1.054	0.7749	0.2888
Prescribing a blood transfusion	3.167 ± 1.193	2.913 ± 1.276	0.5656	0.5826
Male and female catheterisation	4.083 ± 0.793	3.348 ± 0.832	0.0173*	2.5611
Performing wound care and basic closure and dressing	2.667 ± 0.778	2.826 ± 0.984	0.6046	-0.5239
Nasogastric tube (NG) insertion and knowing correct placement	2.833 ± 0.718	2.522 ± 1.039	0.3068	1.0395
Prescribing medication (including insulin and oxygen)	3.917 ± 0.669	3.565 ± 1.080	0.2447	1.1851
Systems in Hospital				
Referring to different teams on the hospital system	3.750 ± 0.965	3.391 ± 1.076	0.3258	1.0026
Request investigations (bloods, imaging) on the hospital system	4.417 ± 0.669	4.000 ± 0.905	0.1335	1.5441
Writing in notes and accessing specific forms e.g. Safeguarding, mental capacity act	3.583 ± 0.793	3.522 ± 1.039	0.8464	0.1954
Accessing GP records through an online portal	3.917 ± 0.996	3.696 ± 1.295	0.5797	0.5604
Writing discharge letters on the hospital system	4.417 ± 0.793	4.000 ± 0.953	0.1809	1.3743
Where to track and access basic observations (obs) on the hospital system	4.667 ± 0.651	4.304 ± 0.822	0.1657	1.4240
Using bleeps	3.750 ± 0.866	3.478 ± 1.039	0.4187	0.8215
Looking up blood work and images (x-rays, MRI, CT) on the hospital system	4.583 ± 0.515	4.260 ± 0.864	0.1770	1.3803
Personal Wellbeing				
How to request annual leave	4.000 ± 0.953	3.826 ± 1.029	0.6228	0.4983
How to submit sick days and informing relevant persons	3.583 ± 0.996	3.435 ± 1.121	0.6920	0.4008
How to request study leave	3.416 ± 1.311	3.348 ±1.112	0.8784	0.1551
Who is wellbeing guardian	3.167 ± 1.193	3.348 ± 0.982	0.6564	-0.4520
Knowing how to seek support/ adjustments in the workplace for disabilities or other requirements (select three if does not apply)	4.500 ± 0.707	3.333 ± 1.231	0.1851	1.9020
Knowing your working hours and rest breaks	3.500 ± 1.243	3.609 ± 1.076	0.8000	-0.2568
Finding information about requirements to complete FY1	3.083 ± 0.793	2.957 ± 1.065	0.6939	0.3976

The data has been represented as mean (M): "EoE' and 'Other' ± the standard deviation (SD). The last column is the statistical significance of the difference between 'EoE' and 'Other' as concluded by Welch's T-test. *Statistical significance was defined as $p<0.05$. EoE: East of England, temp: temperature, RR: respiratory rate, O2 sats: oxygen saturations, HR: heart rate, ABG: arterial blood gas, ECG: electrocardiogram, IV: intravenous, IM: intramuscular, SC: subcutaneous, GP: general practitioner, MRI: magnetic resonance imaging, CT: computed tomography.

4. Discussion

This study looked at preparedness of FY1s in their first rotation in the NHS. 28 out of 30 (93.3%) skills showed a mean score of above three, and 11 out of 30 (36.7%) skills showed a mean score of above four. The 'practical skills' data had a small SEM of <0.2 in all questions (excluding 'blood transfusion' at 0.209) showing the data is a reliable estimate that reflects the population mean of other FY1s and has a low SD showing many FY1s give consistent scores close to the average (again excluding blood transfusion). Given the medical school curriculum is regulated it is expected that skills learned during this time will have similar preparedness for all FY1s, while skills introduced later during apprenticeship modules or induction weeks can be less consistent such as the next two categories [9]. The 'systems in hospital' category also had data showing a small SEM <0.2 (excluding 'access GP records' at 0.201) again showing a reliable estimate to the bigger population however less consistent data, as SD here was more varied, between 0.767 and 1.173. It is unsurprising that FY1s have a larger variation in scores in this category given these skills are hospital specific and our data pool is from a number of universities in different locations (figure 2). Lastly, the SEM for the category of 'personal wellbeing' is also mostly <0.2 (excluding 'knowing how to seek support' at 0.327) but with a much higher SD ranging from 0.786 to 1.149, this shows this category has high variability (table 1).

Only one individual did not receive an induction week so further comment cannot be made on its effects.

In terms of apprenticeship module only five individuals did not receive this, from a mixture of 'Other (within England)', 'North', 'London' and 'Outside of England' (figure 2).

As previously stated, in earlier years a ranked system meant that higher performing students went to, in theory, more popular or better located hospitals. Now with a new random allocation system an additional question in the study was to see whether the element of distance (being in the same deanery as the hospital you worked at) would benefit FY1s in their preparedness of starting their first job in the NHS. Looking at the statistically significant data, p-value <0.05 and a supporting t-value, in five out of 30 questions EoE graduates scored as better prepared, with multiple of the remaining questions having EoE graduates still scoring more highly but there not being enough difference in the two groups to see statistical significance. With these five data sets being in the 'practical skills' category, one could argue this is less deanery specific compared to the other two categories, however familiarity with type and location of equipment required as well as any local guidelines of performing certain skills will have an impact on confidence and preparedness. Given this year less FY1s were able to get their preferred placement as discussed in the introduction, this study builds on the argument that proximity is a positive factor to preparedness.

Limitations

There are a number of limitations within the study. Unfortunately, the author was unable to get all FY1s in the two hospitals to participate in the study. Additionally, given the proximity to both Huntington and Peterborough hospitals, many FY1s in the study that were from 'neighbouring universities' were from University of Cambridge. Therefore, this may not be a representative mix of medical school curricula. There was not enough data with and without induction week and apprenticeship module to comment on a trend. Additionally, location of said apprenticeship module would have been useful to include if it was at the two hospitals involved in the study. An interview study was decided against given the variable schedules of those involved and in turn a smaller amount of data would have been collected, also to minimise data collection and measurement bias. SEM was on average low for most skills showing a reliable estimate to a larger population however more data should be collected from various hospitals and different deaneries to get more accurate results.

5. Conclusion

In summation, this paper evaluated the preparedness of FY1s in their first job in the NHS by using a questionnaire that reviewed their 'practical skills', knowledge of 'hospital systems' and 'personal wellbeing' from two hospitals in the East of England region. The results of this show that preparedness scored highest in the category of 'practical skills' showing FY1s are entering the workplace with a good knowledge of practical skills required of an FY1. A recommendation would be to delve into further detail of 'knowing how to seek support', 'finding information about requirements of completing

fy1', 'referring to different teams', and 'writing in notes and accessing specific forms' during the local induction programme as these skills were scored as least prepared. Additionally, the paper highlighted that FY1s that had graduated from neighbouring universities overall feel better prepared compared to FY1s that had studied further away.

Given the small sample there was not enough data to determine the effects of an apprenticeship module and induction week on preparedness, further research is suggested in this area along with knowing the location of said apprenticeship module as the authors recommendation.

Compliance with ethical standards

Disclosure of conflict of interest

No financial and non-financial conflicts of interest. Ethics approval was not applicable.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study with completion of the aforementioned questionnaire.

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Appendix

Questionnaire used in the study

General information about you. PLEASE READ: By submitting the following questionnaire you are approving the use of this data for research purposes that may be published and shared. Data will be stored for 2 years but if published will be discoverable on an online platform within its own rights. The email you received this questionnaire from and any other personally identifiable information will be kept anonymous.

Your current hospital	**Peterborough Hinchingbrooke**
Your current FY1 rotation	Blank answer line
The university you completed your medical degree	Blank answer line
Did your university offer an assistantship/ apprenticeship module in the final year of study?	Yes No
Did your hospital offer (an) induction week(s) before your started work?	Yes No
Item in the questionnaire	**Scale**
Practical Skills	5 =Very confident = no hesitation in performing task. 4 = quite confident, can perform task 3 = somewhat confident, unsure of some elements of task. 2 = not confident, mostly unsure of task. 1 = Extremely not confident = cannot perform the task.
Take observations (temp, RR, O2 sats, urine output, HR)	
Performing ophthalmoscopy and otoscopy	
Taking blood cultures	
Performing venepuncture and cannula	
Performing an ABG	
Performing urine dipstick	
Placing a three or 12 lead ECG	