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The COVID-19 pandemic interim foundation year 1 post and confidence in core skills and competencies: a longitudinal survey

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Abstract

Objectives

To assess the impact of the interim foundation year 1 (FiY1) post on medical graduates' self-reported confidence in common tasks, core skills, competencies and procedures prior to starting FY1, as a measure of increasing preparedness for practice.

Setting

A longitudinal survey was performed at a tertiary teaching hospital in the South East of England. FiY1 posts ran June-August 2020.

Participants

Questionnaires were sent to 122 medical graduates from a single medical school and to 69 FiY1s at a single Teaching Hospital NHS Trust, irrespective of medical school attended.

Primary outcome measures

Confidence levels in common FY1 tasks, core procedures and competencies were gathered before and after the FiY1 post through online questionnaires. Change in confidence comparing FiY1's and non-FiY1's was measured and analysed using linear regression.

Results

Initial and follow-up questionnaires had 86 and 62 respondents respectively. Of these, 39 graduates were matched; 26 were FiY1s and 13 non-FiY1s. On a 5-point scale, the FiY1 post increased overall confidence in starting FY1 by 0.62 (95% CI 0.072-1.167, p=0.028). The FiY1 post increased confidence in performing venepuncture by 0.32 (95% CI 0.011-0.920, p=0.045), performing IV cannulation by 0.48 (95% CI 0.030-1.294, p=0.041), and recognising, assessing and initiating the management of the acutely ill patient by 0.32 (95% CI 0.030-1.301, p=0.041).

Conclusions

The COVID-19 pandemic FiY1 post improves confidence in core skills and competencies. These findings may help guide future educational interventions in conjunction with further larger scale studies, ultimately aiding to bridge the transition gap between being a medical student and a doctor.

Article summary

Strengths and limitations of this study

- This study assessed the interim FY1 post's impact on graduates' self-reported confidence in common FY1 tasks, core skills, competencies and procedures, prior to starting FY1;
- The study benefited from prospective data collection longitudinally, involving questionnaires before and after the interim post;
- Due to the small sample size and this being a single-centre study, our findings are less transferable;
- The study relies on self-assessment of confidence which may present inaccuracies;
- Further research to determine the effectiveness of a similar post may inform future planning of undergraduate medical curricula.

Introduction

Medical graduates find the transition to working as junior doctors extremely challenging. The uncertainty, increased responsibility and pressure often lead to feelings of inadequacy and anxiety amongst new doctors (1, 2). This issue is reflected in hospital inpatient mortality rates which rise by 6% on the first day new junior doctors start in August; so-called 'Black Wednesday'(3). Given these alarming figures, scrutiny has turned to improving medical students' transition to junior doctors, focusing on improving their preparedness for clinical practice (PfP) (4, 5). PfP has been defined as when students gain the knowledge, skills and behaviours expected of doctors to allow them to practise safely and gain patient trust (6). PfP improves patient safety and reduces the long-term risk of doctor burnout (7). Preparedness is helped when graduates' confidence in themselves improves but is often difficult to conceptualise (6). Although graduates tend to be well-prepared in history-taking, clinical examination and some practical procedures, they are less prepared in clinical reasoning, managing acutely unwell patients, prescribing, and complex communication scenarios such as breaking bad news. Moreover, they are less comfortable working within a multidisciplinary team (MDT) and lack familiarity with ward environments (8).

In a bid to ensure PfP amongst medical graduates, the General Medical Council (GMC) has outlined various educational interventions within medical school curricula including clinical placements, assistantships, shadowing and an induction (4, 7, 9, 10). Assistantships are clinical placements where students are expected to 'assist' junior doctors in their roles, partake in out-of-hours on-call work, perform practical skills, manage unwell patients, and prescribe under supervision (10). Assistantships have been positively received as an intervention in preparing students for practice. Most students feel more prepared and confident in managing

acute situations, gaining responsibility, on-call work, integrating into a team, administrative skills, and in therapeutics (11-15). This is consistent with the growing body of evidence which suggests that greater time spent in clinical practice encourages experiential learning and therefore better PfP (1). Illing *et al*., expressed that 'opportunities for learning on the job,' and having 'a role that enables engagement in supervised clinical practice' are essential to improving PfP (16). Although assistantships are an established approach to PfP, there is no consensus on the assistantship's optimal length, setting or structure, and this lack of guidance may limit its impact (17). Assistantships vary widely between medical schools, and do not fulfil all of their aims (9). For example, Burford *et al*., found over half of students had limited hands-on experience in acute care (18). In addition, the GMC 2019 National Training Survey found that 34% of medical graduates continue to feel unprepared for practice, an increase of 5% in the last 5 years (7). Thus, the optimal approach to preparing medical students for clinical practice requires ongoing review.

The COVID-19 pandemic caused significant disruption to UK medical school curricula but also provided a unique opportunity to introduce interim FY1 (FiY1) posts. These posts were intended for final year medical students to support the potential increased workforce demands during the pandemic (19). Graduates could opt-in to these supernumerary posts to work alongside ward teams. They were paid as per FY1 base salary, for up to two months between June-August 2020 (19). These posts increased exposure to the clinical environment and ward jobs generally. However, the impact of these posts on graduates' preparedness is unknown. This study aimed to assess the impact of the FiY1 post on medical graduates' self-reported confidence in common tasks, core skills, competencies and procedures prior to starting FY1, as a measure of increasing PfP.

Methods

This was a prospective longitudinal study of all medical graduates (class 2020) from Brighton and Sussex Medical School (BSMS) and those offered FiY1 posts at Brighton and Sussex University Hospitals - BSUH (now part of University Hospitals Sussex NHS Foundation Trust) from June-July 2020.

Research and Ethics Approval

The study was exempted from a formal ethical review following completion of the self-appraisal questionnaire of the NHS Health Research Authority and discussion with the Research and Development (R&D) Department at BSUH.

Patient and Public Involvement

Study participants were not involved in the design, conduct, reporting, or dissemination plans of our research.

Data collection

An initial and a follow-up questionnaire (before and after the interim post respectively), were created on Google Forms and sent to medical graduates via e-mail and social media (Appendix 1 and Appendix 2). The medical graduates were from BSMS and/or those offered FiY1 posts at BSUH. This was incentivised with a £40 voucher prize draw. The questionnaires were formulated by CG, KPC, and MO, and piloted amongst nine doctors who were undertaking the PGCert in Medical Education. This identified a systematic error and minor usability issues, which were corrected. All participants gave informed consent before proceeding with the study questionnaires.

The online questionnaire was created to measure medical graduates' overall self-reported confidence in starting FY1, in common FY1 tasks, core procedures and competencies. Confidence was selected as the outcome measure to reduce ambiguity associated with the term 'prepared'. Each outcome had a five-point confidence scale. The core procedures and competencies are as outlined by the Horus ePortfolio (Tables 1-2). These are set by the UK Foundation Programme in conjunction with the GMC, and need to be achieved by all FY1 trainees to progress to FY2. Common FY1 tasks are jobs FY1s are frequently expected to complete, formulated by foundation doctors CG and KPC, and agreed by consultant MO who is experienced in medical education research (Table 3). Data were collected on: demographics, medical school attended, and the NHS Trust and specialty of both the interim and upcoming FY1 posts. A brief evaluation of the FiY1 post was included in the follow-up questionnaire (Appendix 2), which included open and closed questions to assess the advantages and disadvantages of the post, as well as its structure.

Table 1. The UK Foundation Programme Curriculum's outline of the FY1 core skills and competencies and procedures

Clinical care: Core skills and competencies
1. Recognises, assesses and initiates management of the acutely ill patient
2. Recognises, assesses and manages patients with long term conditions
3. Obtains history, performs clinical examination, formulates differential diagnosis and management plan
4. Requests relevant investigations and acts upon results
5. Prescribes safely
6. Performs procedures safely
7. Is trained and manages cardiac and respiratory arrest
8. Demonstrates understanding of the principles of health promotion and illness prevention
9. Manages palliative and end of life care

Table 2. The UK Foundation Programme Curriculum's outline of the FY1 core procedures

Core Procedures
1. Venepuncture
2. IV cannulation
3. Prepare and administer IV medications and injections
4. Arterial puncture in an adult
5. Blood culture from peripheral sites
6. Intravenous infusion including the prescription of fluids
7. Intravenous infusion of blood and blood products
8. Injection of local anaesthetic to skin
9. Injection – subcutaneous (e.g. insulin or LMW heparin)
10. Injection – intramuscular
11. Perform and interpret an ECG
12. Perform and interpret peak flow
13. Urethral catheterisation (male)
14. Urethral catheterisation (female)
15. Airway care including simple adjuncts (e.g. Guedel airway or laryngeal masks)

Table 3. Common FY1 tasks included in initial and follow-up questionnaires

Common FY1 tasks
Please rate your confidence on a scale of 1-5. 1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident
1. In using IT systems at Brighton and Sussex University Hospitals, e.g. Medway, Bamboo/Panda, ICE, PACS **2.** In writing discharge summaries (TTOs) **3.** In making referrals (such as to other specialties, or for investigations) **4.** In requesting imaging (including CT scans which require discussion with radiologists) **5.** In speaking to relatives of patients

Data analysis

Data were analysed using IBM SPSS Statistics 25.0. The curriculum outcomes most relevant to the FY1 role were selected for analysis, along with all the common FY1 tasks. For each outcome, the changes in confidence between the two questionnaires were calculated per individual. Linear regression was performed to analyse the impact of the FiY1 post on change in confidence, adjusting for age, gender and university attended (BSMS or other).

Descriptive statistics were completed for closed questions evaluating the FiY1 post. The open questions describing advantages, disadvantages and improvements were analysed by CG and KPC using an inductive approach to identify the most common themes.

Results

Descriptive data

The online questionnaires were sent to 122 BSMS medical graduates (89 completed the FiY1 post, 33 did not), in addition to 69 FiY1s at the BSUH Trust, which included graduates from both BSMS and other UK universities. It was not possible to identify overlap in the two groups due to incomplete demographic information. The initial questionnaire was open 5th-12th June 2020 (8 days) and had 86 respondents. The follow-up questionnaire was open 20th-30th July 2020 (11 days) with 62 respondents. Of these, 39 graduates could be matched using recorded e-mail addresses (Figure 1).

The matched cohort consisted of 26 FiY1s, and 13 non-FiY1s. One participant was excluded as they did not work in a clinical post (Table 4). Over two thirds (71.1%) of graduates were from white backgrounds, other graduates identified as black (7.9%), mixed (10.5%) or Asian (10.5%).

Table 4. Descriptive data of participants in the matched cohort

	Matched Cohort (n = 38)	
	No.	**%**
Gender		
Female	22	57.9
Male	16	42.1
Age (years)		
18-24	25	65.8
25 and over	13	34.2
Ethnicity		
Asian / Black / Mixed / Other	11	28.9
White	27	71.1
Medical School		
BSMS	21	55.3
Other	17	44.7
FiY1 Hospital Trust		
BSUH	19	76.0
Other	6	24.0
FiY1 Specialty		
Medicine	23	92.0
Other	2	8.0

Overall evaluation of the FiY1 post

The FiY1 post ranged from 5-9 weeks (average 7.7 weeks). Over a quarter of graduates (28%) said they would not do the FiY1 post unpaid, half (48%) would 'maybe' consider it. Nearly all graduates (23/25 = 92%) recommended the FiY1 post for the next year. Advantages of the FiY1 were described as gaining practical hands-on clinical experience within the role of an FY1 and managing acutely unwell patients, familiarisation with the ward environment, and being supernumerary, which was frequently linked with being well supported. Disadvantages raised were lack of clarity of FiY1 responsibilities (5/25 =20%), less rest before starting FY1 (6/25 =24%), and a minority (3/25 = 12%) felt unsupported. Suggested improvements included having a better induction, more on call experience and having a clearer role.

Impact of FiY1 post on confidence

Linear regression modelling indicated that the FiY1 post increased overall confidence in starting FY1 by 0.62 (95% CI 0.072-1.167, p=0.028). In addition, the FiY1 post increased confidence in performing venepuncture by 0.32 (95% CI 0.011-0.920, p=0.045), performing IV cannulation by 0.48 (95% CI 0.030-1.294, p=0.041), and recognising, assessing and initiating the management of the acutely ill patient by 0.32 (95% CI 0.030-1.301, p=0.041). There was weak evidence to suggest that the FiY1 post improved confidence in using IT systems at BSUH by 0.92 (95% CI -0.052-1.621, p=0.065) and in requesting relevant investigations and acting upon results by 0.48 (95% CI -0.057 to +1.288, p=0.072) (Table 5).

This study found no evidence to suggest the FiY1 post increased confidence in writing discharge summaries, making referrals, speaking to patients' relatives, performing an arterial blood gas, prescribing blood products, history-taking, performing clinical examination, formulating differential diagnoses and management plans, or in managing palliative and end of life care patients (Table 5). However, an overall positive trend was noted in all these outcomes. Furthermore, there was no evidence to suggest the FiY1 post increased confidence in requesting imaging investigations, in safe prescribing, and in being trained in managing cardiac and respiratory arrest. When adjusting for age, gender, and university, a positive trend was not observed, with beta coefficients of approximately 0. There was generally no effect seen for the variables adjusted for, except in the outcome of being 'trained and managing cardiac and respiratory arrest,' in which females were less confident than males by 0.80 (95% CI -1.374- -0.218, p=0.008).

Table 5. Change in confidence per outcome for matched cohort (n=38)

Outcome	Mean change in confidence FiY1s (n = 25)	Mean change in confidence non-FiY1s (n = 13)	Difference in mean change in confidence (unadjusted)	Beta coefficient	95% CI	P value
Confidence in starting FY1	+0.48	-0.23	+0.71	+0.620	0.072 to +1.167	0.028
In using IT systems at BSUH	+0.92	-0.08	+1.00	+0.785	-0.052 to +1.621	0.065
In writing discharge summaries (TTOs)	+0.96	+0.38	+0.58	+0.524	-0.237 to +1.286	0.171
In making referrals	+1.16	+0.46	+0.70	+0.596	-0.154 to +1.347	0.116
In requesting imaging	+0.80	+0.69	+0.11	-0.011	-0.849 to +0.827	0.979
In speaking to relatives of patients	+0.64	+0.15	+0.49	+0.439	-0.325 to +1.204	0.251
Performing venepuncture	+0.36	-0.08	+0.44	+0.466	+0.011 to +0.920	0.045
Performing IV cannulation	+0.48	-0.15	+0.63	+0.662	+0.030 to +1.294	0.041
Performing an arterial puncture (an ABG)	+0.48	-0.08	+0.56	+0.598	-0.273 to +1.469	0.172
Administering intravenous infusions and fluid prescriptions	+0.20	+0.08	+0.12	+0.106	-0.619 to +0.832	0.768
Prescribing blood and blood products	+0.52	+0.23	+0.29	+0.243	-0.343 to 0.828	0.405
Urethral catheterisation	0.00	-0.31	+0.31	+0.224	-0.443 to	0.500

(male)					+0.891	
Recognises, assesses and initiates management of the acutely ill patient	+0.32	-0.38	+0.70	+0.666	+0.030 to +1.301	0.041
Obtains history, performs clinical examination, formulates differential diagnosis and management plan	*+0.32*	*+0.08*	*+0.24*	*+0.155*	*-0.412 to +0.723*	*0.582*
Requests relevant investigations and acts upon results	*+0.48*	*-0.08*	*+0.56*	*+0.615*	*-0.057 to +1.288*	*0.072*
Prescribes safely	+0.20	+0.15	+0.05	-0.029	-0.460 to +0.402	0.891
Is trained and manages cardiac and respiratory arrest	+0.24	+0.31	-0.07	-0.105	-0.726 to 0.515	0.732
Manages palliative and end of life care	+0.60	-0.08	+0.68	+0.562	-0.132 to +1.255	0.109

Discussion

This prospective longitudinal cohort study assessed whether the FiY1 post was able to impact graduates' PfP in terms of self-reported confidence in common FY1 tasks, core skills, competencies and procedures, prior to starting FY1. To our knowledge, this is the first study of its kind.

Improved Confidence in Core skills, Competencies and FY1 tasks

Graduates who completed the FiY1 post showed a statistically significant increase in overall confidence in starting FY1 compared to non-FiY1s. They also had an increased confidence in performing FY1 core skills (venepuncture, IV cannulation), in competencies including

management of acutely ill patients and requesting investigations, and in common FY1 tasks, including use of IT systems. Interestingly, this improved confidence occurred within a brief and relatively unplanned intervention (average post length was 7.7 weeks).

This increased confidence is likely to be related to the FiY1 post allowing for increased clinical exposure, as clinical experience improves competence and reduces the stress of transition from student to doctor (2, 20). This relationship has previously been documented following assistantships and shadowing periods, where hands-on experience increased student's understanding of FY1 duties, including how to request investigations, write in notes, prescribe, and use IT systems (11-13, 18, 21, 22). This study showed the FiY1's additional benefit of improving confidence in managing acutely unwell patients, a competency which showed little or no improvement following assistantships/shadowing periods (18). The FiY1 post also provided an opportunity for familiarisation with the clinical environment, which likely contributed to improved confidence in using IT systems, particularly for the 50% of FiY1's who continued to work in the same NHS Trust as their FiY1 post. At the time of writing, there is a dearth of articles published on the FiY1 post. However, a GMC commissioned study report reviewing the FiY1 post concluded that amongst its benefits it eased transition to starting FY1 and it increased preparedness to practice, with this finding being sustained 2 months later (23). Three reflective articles have also noted the positive benefit of FiY1 roles in providing opportunities to put theory into practice, increase clinical experience, and improve confidence, though there was no formal measurement of change in confidence outlined (24-26).

Though the remaining common FY1 tasks, core skills and competencies did not show a statistically significant increase in self-reported confidence, most showed an overall positive trend. Given the relatively small sample size, a significant increase may be observed in these outcomes in a larger powered study, as noted in the GMC report (23). However, it may also indicate that graduates were already confident in some aptitudes prior to commencing FiY1, particularly in history-taking and performing clinical examinations (8). Another explanation may be that graduates did not gain significant experience in these areas during FiY1. For example, in formulating differential diagnoses and management plans, as ward rounds are often led by senior doctors. The opportunity for managing cardiac arrest is limited for all foundation doctors, which likely reflects the lack of exposure within the FiY1 post. It is disappointing that there was no observed increase in confidence in prescribing. However, an initial lack of clarity as to whether FiY1s were allowed to prescribe might have confounded results.

A further advantage of the FiY1 post over previous interventions is the ability to experience the role of an FY1 as a doctor rather than a student, and developing an increased sense of responsibility. The increased responsibility noted when starting as a doctor is particularly daunting (2). As such emulating this increased obligation whilst still being supervised is helpful to reduce the shock of transition to FY1 (1). Assistantships have previously been documented

as creating an increased sense of responsibility, but how students experience assistantships is varied and dependent on student engagement, meaning not all students benefit from these outcomes equally (14, 17, 18). The standardised nature of the FiY1 may minimise the disparity in student experiences. Moreover, during the FiY1 posts, graduates were expected to work as doctors to support the workforce during the pandemic, and were being paid as such for this role. Consequently, they may have felt duty-bound to take on more responsibility compared to during assistantships, and likewise staff may have had greater expectations of them to step up as doctors (27). FiY1s wanted to be remunerated for this increased responsibility, with 28% of graduates advising they would not do the FiY1 post unpaid, and 48% who would only 'maybe' consider it. As per the GMC report on the FiY1 post, the 'paid role of the FiY1 post adds something beyond undergraduate placements and assistantships' (23).

Though the FiY1 post may have been demanding on graduates, the majority felt well supported, and some associated this with having been supernumerary. A supportive environment is essential in negotiating this challenging transition and its associated stress, particularly as new doctors can be reluctant to seek help (2, 28). The supportive environment may be why Durand-Hill *et al*., found that the FiY1 post led to graduates feeling less stressed and depressed (29). Another approach to creating a supportive environment was used in Northern Ireland – termed the 'compassionate leadership model,' where students were provided with a 'buddy system' and encouraged to highlight their educational needs for the FiY1 post. This approach helped students feel valued and supported (30).

Disadvantages of FiY1

Only two graduates (8%) who completed the FiY1 post did not recommend it next year, correlating with the minority who felt unsupervised. Themes raised included lack of clarity of FiY1 responsibilities and their role. This is an issue that transcends previous educational interventions, as students want more guidance as to what is expected of them (22, 31). Cotton *et al*., noted that benefits can be lost if roles are ill-defined (22).

Graduates were able to select an FiY1 post at either their university hospital, a hospital in their home region, or the hospital where they were due to start FY1. Therefore, only 52% of FiY1s worked in the same trust as their future FY1 role, and only 36% worked in the same specialty. Analysis to compare the outcomes of graduates that did or did not have an 'aligned' placement was not possible due to sample size. However, there is evidence that suggests that benefits are reduced if the placement is not relevant to them or relates less closely to where they'll start work (14, 22). Instead, alignment with a student's first FY1 post enhances their experience, though this benefit is not sustained to the second FY1 post (14, 15, 32).

Study limitations

Due to the small sample size and this being a single-centre study, our findings are less transferable and reproducible. A majority of the FiY1s worked at BSUH, and all the non-FiY1s

were BSMS graduates, so the experiences of the interim FY1 may be different elsewhere in the UK. BSMS benefits from an integrated curriculum design with early clinical exposure, so graduates from more traditional courses may find additional benefit to an FiY1 post. Conversely, medical schools with well-established assistantship programmes may find their graduates have less to gain. The majority of participants had interim posts in medical specialties, so benefits of posts particularly in psychiatry or surgery are unknown.

The outcomes of this study relied on self-reported confidence. Though there was a significant increase in self-reported confidence, it is unclear how this confidence impacts on junior doctor outcomes and on patient care. This is something that has been highlighted previously with regards to assistantships; there is no peer-reviewed data available evaluating the impact of assistantships on outcomes including efficiency, patient safety, prescribing errors, stress and sickness (17). In addition, there was no external assessment of participants' change in confidence which subjects the findings to bias. Self-assessments are not always aligned with reality. Tallentire *et al*., found that participants had misplaced confidence when it came to practical procedures with supervisors rating graduates' ability lower than graduates did themselves (33). Conversely, it is possible that graduates may have improved their skills in an outcome but still remained unconfident.

The loss of participants to follow-up presented another limitation. We tried to minimise this limitation by extending the response period of the questionnaire and providing a recall incentive. Despite the small numbers of matched participants, we were able to gain statistically significant results. However, with larger participant numbers, we could have continued to follow-up participants to measure change in confidence after starting FY1.

Future of FiY1 roles

Despite the limitations of this study, the initial findings are promising. Further studies assessing the role of the FiY1 as a trial intervention in multiple centres across the UK may provide more robust evidence of the FiY1's future role in undergraduate medical curricula. A study protocol for the 'COVIDReady2' survey has outlined its aim to fulfil the above by exploring nationwide experiences of medical students who underwent the FiY1 compared to those who did not, with a view to offering practical advice as to how these roles may be incorporated into future medical education (34). Assessing the impact of the FiY1 post on long-term outcomes including patient safety, prescribing errors, efficiency at work, and levels of stress and sickness would also determine the objective impact of this study. In addition, rates of mortality following junior doctors starting should be calculated since the initiation of educational interventions such as the assistantship and potentially future FiY1 posts, given the last study was in 2009 (3).

Recommendations for future trials of FiY1 posts are as follows:

- A financial incentive should be maintained to help encourage engagement and an environment where increased responsibility is expected and supervised.
- A supernumerary position should be preserved to ensure good supervision is maintained.
- A unified and clear outline of roles and responsibilities should be created, including provision of supervised prescribing, so as to assist improved confidence in this domain.

Conclusion

In summary, the FiY1 post has inadvertently created an opportunity to improve clinical exposure for medical graduates. This study showed that the FiY1 post improves overall confidence prior to starting FiY1 and in specific core skills and competencies required by the GMC. The post is similar to an assistantship in its aims to improve student's preparedness and ease the transition to work life. However, there are key differences in that the FiY1 post is paid, graduates are expected to work as doctors and not students, and its standardised nature means all graduates should gain a more unified experience. Moreover, the FiY1 has resulted in greater hands-on experience, and improved confidence in managing acutely unwell patients.

The FiY1 post has the potential to provide new-found structure and streamline final year placements across medical schools. It could standardise educational opportunities nationwide, and ease the unsettling transition from student to doctor in a way that medical curricula have not facilitated before. This could revolutionise curriculum design.

Footnotes

Contributors and guarantor information: CG and KPC contributed equally to this paper; they have joint first authorship. All authors substantially contributed to the planning, drafting and reviewing of the work described in the article, each approving the final version. CG and KPC oversaw the production of the manuscript in equal contribution and are guarantors for the overall content. The corresponding author attests that all listed authors meet authorship criteria and that no others meeting the criteria have been omitted.

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Competing interests declaration: All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf and declare: no support from any organisation for the submitted work; no financial relationships with any organisations that might have an interest in the submitted work in the previous three years; no other relationships or activities that could appear to have influenced the submitted work.

Transparency declaration: The lead author affirms that the manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as originally planned have been explained. No funding was required for this study. Relevant anonymised participant level data is available on reasonable request.

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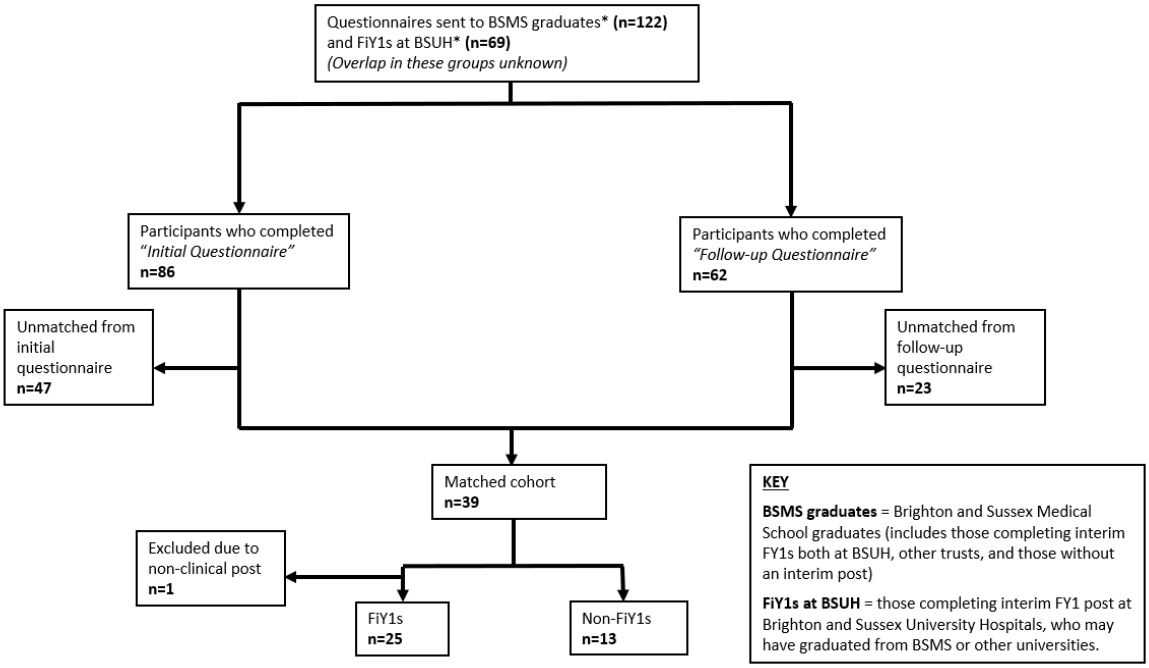
Figure 1. Participant flow diagram



Appendix 1: Initial Questionnaire Pre-Interim FY1 post

You are being invited to participate in a service improvement project, which aims to review the impact of the interim FY1 placement on confidence when starting FY1 in August. This is being carried out by Dr Cristina Gatti and Dr Katie Parker-Conway, Academic Foundation doctors at Brighton and Sussex University Hospitals.

This will involve completing a questionnaire assessing your confidence in core procedures, skills and knowledge of managing unwell patients, at the beginning and end of your interim placement, to assess if these answers have changed. The questionnaire is short and should take less than 5 minutes. You will be emailed the post-placement questionnaire at the end of your interim FY1 placement.

Your responses will remain anonymous; results may be presented to Brighton and Sussex Medical School (BSMS) to inform future service planning, published in journals and/or presented to medical education forums such as conferences.

If you have any questions, please contact us via email: cristina.gatti1@nhs.net or kathryn.parker-conway@nhs.net.

Your participation is entirely voluntary. Thank you in advance for your time.

* Required

1. What gender do you identify with? *

Mark only one oval.

- ◯ Female
- ◯ Male
- ◯ Transgender Female
- ◯ Transgender Male
- ◯ Gender variant/Non-conforming
- ◯ Prefer not to say
- ◯ Other: _____

2. What is your age? *

Mark only one oval.

- 18-24 years old
- 25-34 years old
- 35-44 years old
- 45 years and over
- Prefer not to say

3. Please specify your ethnicity *

Mark only one oval.

- White (British, Irish, Any other white background)
- Black / African / Caribbean / Black British
- Mixed / Multiple ethnic groups
- Other ethnic group
- Prefer not to say

4. Which medical school did you attend? *

_____

5. Which NHS Trust and specialty are you working in currently? *

_____

6. Which NHS Trust and specialty will you be working in from August 2020? *

_____

7. I feel confident about starting FY1 in August 2020. *

Mark only one oval.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Common FY1 Tasks

The following section will review your confidence in completing common tasks usually required of an FY1. Please rate your confidence on a scale of 1-5.

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

8. 1. In using IT systems at Brighton and Sussex University Hospitals, e.g. Medway, Bamboo/Panda, ICE, PACS *

Mark only one oval.

1	2	3	4	5

9. 2. In writing discharge summaries (TTOs) *

Mark only one oval.

1	2	3	4	5

10. 3. In making referrals (such as to other specialties, or for investigations) *

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

11. 4. In requesting imaging (including CT scans which require discussion with radiologists) *

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

12. 5. In speaking to relatives of patients *

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

FY1 Core Procedures

The following section will review your confidence in performing the practical skills required to complete FY1 competencies currently. Please rate your confidence on a scale of 1-5.

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

13. 1. Performing venepuncture *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

14. 2. Performing IV cannulation *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

15. 3. Preparing and administering IV medications and injections *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

16. 4. Performing an arterial puncture in an adult (an ABG) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

17. 5. Taking blood cultures from peripheral sites *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

18. 6. Administering an intravenous infusion including the prescription of fluids *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

19. 7. Prescribing an intravenous infusion of blood and blood products *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

20. 8. Administering an injection of local anaesthetic to skin *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

21. 9. Administering a subcutaneous injection e.g. Insulin or LMW Heparin *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

22. 10. Administering an intramuscular injection *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

23. 11. Performing and interpreting an ECG *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

24. 12. Performing and interpreting peak flow *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

25. 13. Urethral catheterisation (male)

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

26. 14. Urethral catheterisation (female) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

27. 15. Performing airway care including using simple adjuncts (e.g. Guedal airway or laryngeal masks) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

FY1 Core Competencies

The final section will review your confidence in managing unwell patients as per your requirements to meet the clinical care competencies in the F1 curriculum. Please rate your confidence currently on a scale of 1-5.

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

28. 1. Recognises, assesses and initiates management of the acutely ill patient *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

29. 2. Recognises, assesses and manages patients with long term conditions *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

30. 3. Obtains history, performs clinical examination, formulates differential diagnosis and management plan *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

31. 4. Requests relevant investigations and acts upon results *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

32. 5. Prescribes safely *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

33. 6. Performs procedures safely *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

34. 7. Is trained and manages cardiac and respiratory arrest *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

35. 8. Demonstrates understanding of the principles of health promotion and illness prevention *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

36. 9. Manages palliative and end of life care *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

To Finish

37. Any other comments/concerns or areas of improvement you would like to suggest...

38. Please enter your email address if you are happy to be sent the follow up questionnaire (please ensure this is an email you will have access to in 2 months time).

Thank you very much for your time.

By clicking 'submit' you are consenting to participating in this improvement project, as described previously. For any more information, please email cristina.gatti1@nhs.net or kathryn.parker-conway@nhs.net.

Appendix 2: Follow-up Questionnaire Post-Interim FY1 post

THIS QUESTIONNAIRE IS FOR THOSE STARTING FY1 IN AUGUST 2020, WHO HAVE OR HAVE NOT COMPLETED AN INTERIM FY1 POST.

You are being invited to participate in a service improvement project, which aims to review the impact of the interim FY1 placement on confidence when starting FY1 in August. This is being carried out by Dr Cristina Gatti and Dr Katie Parker-Conway, Academic Foundation doctors at Brighton and Sussex University Hospitals.

This will involve completing a questionnaire assessing your confidence in core procedures, skills and knowledge of managing unwell patients, before starting FY1 in August. If you completed an interim post, it will also include an evaluation of this post. The questionnaire is short and should take less than 5 minutes.

Your responses will remain anonymous; results may be presented to Brighton and Sussex Medical School (BSMS) to inform future service planning, published in journals and/or presented to medical education forums.

If you have any questions, please contact us via email: cristina.gatti1@nhs.net or kathryn.parker-conway@nhs.net.

Your participation is entirely voluntary.
All those completing the questionnaire will be entered into a prize draw to win a £40 amazon voucher.

Thank you in advance for your time.

* Required

1. What gender do you identify with? *

Mark only one oval.

- ◯ Female
- ◯ Male
- ◯ Transgender Female
- ◯ Transgender Male
- ◯ Gender variant/Non-conforming
- ◯ Prefer not to say
- ◯ Other: _____

2. What is your age? *

Mark only one oval.

- ◯ 18-24 years old
- ◯ 25-34 years old
- ◯ 35-44 years old
- ◯ 45 years and over
- ◯ Prefer not to say

3. Please specify your ethnicity *

Mark only one oval.

- ◯ White (British, Irish, Any other white background)
- ◯ Asian / Asian British
- ◯ Black / African / Caribbean / Black British
- ◯ Mixed / Multiple ethnic groups
- ◯ Other ethnic group
- ◯ Prefer not to say

4. Which medical school did you attend? *

Mark only one oval.

- University of Aberdeen
- Anglia Ruskin University
- Aston University
- Barts and The London School of Medicine and Dentistry
- University of Birmingham
- Brighton and Sussex Medical School
- University of Bristol
- University of Buckingham
- University of Cambridge
- Cardiff University
- University of Dundee
- Edge Hill University
- University of Exeter
- University of Glasgow
- Hull York Medical School
- Imperial College London
- Keele University
- Kent and Medway Medical School
- King's College London
- Lancaster University
- University of Leeds
- University of Leicester
- University of Liverpool
- London School of Hygiene and Tropical Medicine
- University of Manchester
- Newcastle University
- Norwich Medical School (University of East Anglia)
- University of Nottingham
- University of Nottingham - Lincoln Medical School

- University of Oxford
- Plymouth University
- Queen's University Belfast
- University of Sheffield
- University of Southampton
- University of St Andrews
- St George's, University of London
- University of Sunderland
- Swansea University
- University of Central Lancashire
- University College London
- University of Warwick
- Other

5. Which NHS Trust will you be working in from August 2020? *

_____

6. Which specialty will you be working in from August 2020? *

_____

7. I feel confident about starting FY1 in August 2020. *

Mark only one oval.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Common FY1 Tasks

The following section will review your confidence in completing common tasks usually required of an FY1. Please rate your confidence on a scale of 1-5.

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

8. 1. In using IT systems at Brighton and Sussex University Hospitals, e.g. Medway, Bamboo/Panda, ICE, PACS *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

9. 2. In writing discharge summaries (TTOs) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

10. 3. In making referrals (such as to other specialties, or for investigations) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

11. Please explain your answer to question 3. *

12. 4. In requesting imaging (including CT scans which require discussion with radiologists) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

13. 5. In speaking to relatives of patients *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

FY1 Core Procedures

The following section will review your confidence in performing the practical skills required to complete FY1 competencies. Please rate your confidence on a scale of 1-5.

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

14. 1. Performing venepuncture *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

15. 2. Performing IV cannulation *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

16. 3. Preparing and administering IV medications and injections *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

17. 4. Performing an arterial puncture in an adult (an ABG) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

18. 5. Taking blood cultures from peripheral sites *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

19. 6. Administering an intravenous infusion including the prescription of fluids *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

20. 7. Prescribing an intravenous infusion of blood and blood products *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

21. 8. Administering an injection of local anaesthetic to skin *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

22. 9. Administering a subcutaneous injection e.g. Insulin or LMW Heparin *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

23. 10. Administering an intramuscular injection *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

24. 11. Performing and interpreting an ECG *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

25. 12. Performing and interpreting peak flow *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

26. 13. Urethral catheterisation (male) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

27. 14. Urethral catheterisation (female) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

28. 15. Performing airway care including using simple adjuncts (e.g. Guedal airway or laryngeal masks) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

FY1 Core Competencies

The final section will review your confidence in managing unwell patients as per your requirements to meet the clinical care competencies in the F1 curriculum. Please rate your confidence on a scale of 1-5.

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

29. 1. Recognises, assesses and initiates management of the acutely ill patient *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

30. 2. Recognises, assesses and manages patients with long term conditions *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

31. 3. Obtains history, performs clinical examination, formulates differential diagnosis and management plan *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

32. 4. Requests relevant investigations and acts upon results *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

33. 5. Prescribes safely *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

34. 6. Performs procedures safely *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

35. 7. Is trained and manages cardiac and respiratory arrest *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

36. 8. Demonstrates understanding of the principles of health promotion and illness prevention *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

37. 9. Manages palliative and end of life care *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

38. Did you have an Interim FY1 post? *

Mark only one oval.

◯ Yes *Skip to question 39*

◯ No *Skip to question 59*

Interim FY1 post

39. In which NHS Trust did you complete your Interim FY1 post? *

_____

40. In which specialty did you complete your Interim FY1 post? *

_____

41. How many weeks long was your interim FY1 post (to nearest week)? *

Mark only one oval.

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5
- ◯ 6
- ◯ 7
- ◯ 8
- ◯ 9

42. Did you have an assistantship placement during medical school? *

A student assistantship is a placement usually in the final year of medical school in which a student is on the same ward and/or team acting as assistant to a junior doctor, with defined duties under appropriate supervision. They should be integrated into the team and participate in activities similar to those of a newly qualified doctor.

Mark only one oval.

- ◯ Yes *Skip to question 43*
- ◯ Unsure *Skip to question 45*
- ◯ No *Skip to question 45*

43. How did the assistantship compare to the Interim FY1 post, in terms of improving your skills, knowledge and confidence for starting FY1? *

Mark only one oval.

- ◯ Interim post MORE beneficial than assistantship
- ◯ Interim post EQUALLY beneficial to assistantship
- ◯ Interim post LESS beneficial than assistantship

44. Please explain your answer.

_____

Skip to question 45

45. Did you do any on calls as part of your Interim FY1 post? Tick all that apply. *

Check all that apply.

- ☐ Weekend day shifts
- ☐ Late shifts (all or part of the scheduled shift is after 5pm)
- ☐ Night shifts
- ☐ I didn't do any on call shifts

46. Did you feel you were part of the multi-disciplinary team (MDT) during your Interim FY1 post? *

The multi-disciplinary team is a group of professionals from one or more clinical disciplines (e.g. nurses, physiotherapists, occupational therapists, dietitians, speech and language therapists etc.) who work together to make decisions regarding patient management.

Mark only one oval.

- ◯ Always
- ◯ Mostly
- ◯ Sometimes
- ◯ Rarely
- ◯ Never

47. Do you feel you were treated as a doctor during your Interim FY1 post (as opposed to a student)? *

Mark only one oval.

- Always
- Mostly
- Sometimes
- Rarely
- Never

48. Did you feel that you knew what your role was within the team? *

Mark only one oval.

- Always
- Mostly
- Sometimes
- Rarely
- Never

49. Did you feel as though you were appropriately supervised? *

Mark only one oval.

- Always
- Mostly
- Sometimes
- Rarely
- Never

50. Did you feel you had clear learning outcomes for the Interim FY1 post? *

Mark only one oval.

- Yes
- Somewhat
- No

51. Do you think your Interim F1 post has been broadly similar to that of your colleagues? *

Mark only one oval.

- Yes
- Somewhat
- No

Skip to question 52

52. Do you feel that the Interim FY1 post has improved your competence? *

Mark only one oval.

- Yes
- Somewhat
- No

53. Has the Interim FY1 post reduced your anxiety about starting FY1? *

Mark only one oval.

- Yes
- Somewhat
- No

54. What was most useful about the Interim FY1 post? *

55. Were there any disadvantages to having an Interim FY1 post? *

56. Can you suggest anything to improve the Interim FY1 post? *

57. Would you recommend the Interim FY1 post for next year? *

Mark only one oval.

- Yes
- No

58. Would you have done this Interim FY1 post unpaid as part of the medical school curriculum? *

Mark only one oval.

- Yes
- Maybe
- No

Skip to question 61

59. Do you wish you had completed an Interim FY1 post? *

Mark only one oval.

- Yes
- Somewhat
- No

60. Please explain your answer. *

_____

Skip to question 61

To Finish

61. Please include any further comments you would like to make.

_____

_____

_____

_____

_____

62. Please enter your email address if you would like to be included in the prize draw.

63. Are you happy to be sent a further follow up questionnaire?

Please ensure you will have access to the email address you entered above in 2 months time.

Mark only one oval.

- ◯ Yes
- ◯ No

Thank you very much for your time.

By clicking 'submit' you are consenting to participating in this improvement project, as described previously. For any more information, please email cristina.gatti1@nhs.net or kathryn.parker-conway@nhs.net.

Research checklist:

Checklist of standards for reporting quality improvement standards - Revised Standards for Quality Improvement Reporting Excellence (SQUIRE 2.0)

Reporting item(s)	Page number(s) on which item(s) reported
Title and Abstract	
1. Title	**1**
2. Abstract	**2**
Introduction	
3. Problem Description	**3-4**
4. Available knowledge	**3-4**
5. Rationale	**3-4**
6. Specific Aims	**4**
Methods	
7. Context	**4**
8. Intervention(s)	**5-6**
9. Study of the Intervention(s)	**5-6**
10. Measures	**5-6**
11. Analysis	**6-7**
12. Ethical Considerations	**4**
Results	
13. Results	**7-10**
Discussion	
14. Summary	**10-11**
15. Interpretation	**11-12**
16. Limitations	**13**
17. Conclusions	**14**
Other information	
18. Funding	**15**

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The COVID-19 pandemic interim foundation year 1 post and confidence in core skills and competencies: a longitudinal survey

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The COVID-19 pandemic interim foundation year 1 post and confidence in core skills and competencies: a longitudinal survey

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Abstract

Objectives

The interim foundation year 1 (FiY1) post was created in response to the COVID-19 pandemic to help bolster the workforce and manage increased clinical pressures. This study aimed to assess the impact of the FiY1post on medical graduates' self-reported confidence in common tasks, core skills, competencies and procedures prior to starting FY1, as a measure of increasing preparedness for practice.

Setting

A longitudinal survey was performed at a tertiary teaching hospital in the South East of England. FiY1 posts ran June-August 2020.

Participants

Questionnaires were sent to 122 medical graduates from a single medical school (recipients included FiY1s and non-FiY1s) and to 69 FiY1s at a single Teaching Hospital NHS Trust, irrespective of medical school attended. Initial and follow-up questionnaires had 86 and 62 respondents respectively. Of these, 39 graduates were matched; 26 were FiY1s and 13 non-FiY1s. The 39 matched results were analysed.

Primary outcome measures

Confidence levels in common FY1 tasks, core procedures and competencies were gathered before and after the FiY1 post through online questionnaires. Change in confidence comparing FiY1's and non-FiY1's was measured and analysed using linear regression.

Results

On a 5-point scale, the FiY1 post increased overall confidence in starting FY1 by 0.62 (95% CI 0.072-1.167, p=0.028). The FiY1 post increased confidence in performing venepuncture by 0.32 (95% CI 0.011-0.920, p=0.045), performing IV cannulation by 0.48 (95% CI 0.030-1.294, p=0.041), and recognising, assessing and initiating the management of the acutely ill patient by 0.32 (95% CI 0.030-1.301, p=0.041).

Conclusions

The COVID-19 pandemic FiY1 post improved confidence in core skills and competencies. These findings may help guide future educational interventions in conjunction with further larger scale studies, ultimately aiding to bridge the transition gap between being a medical student and a doctor.

Article summary

Strengths and limitations of this study

- This study assessed the interim FY1 post's impact on graduates' self-reported confidence in common FY1 tasks, core skills, competencies and procedures, prior to starting FY1;
- The study benefited from prospective data collection longitudinally, involving questionnaires before and after the interim post;
- Due to the small sample size as many participants could not be matched, and this being a single-centre study, our findings are less transferable;
- The study relies on self-assessment of confidence which may present inaccuracies;
- Further research to determine the effectiveness of a similar post may inform future planning of undergraduate medical curricula.

Introduction

The COVID-19 pandemic caused widespread disruption to hospital services, clinical guidance and medical education. Medical graduates embarking on life as junior doctors were faced with this new challenge in addition to the notoriously difficult transition to working life. The interim foundation year 1 (FiY1) post intended for medical graduates was designed as a direct consequence of the pandemic to help bolster the workforce, and it changed the transition process from medical student to junior doctor nationwide.

Prior to the pandemic, UK Medical graduates directly entered the two-year Foundation Programme (FP), comprising Foundation Year 1 (FY1) and 2 (FY2), upon completion of their studies (1). The FP aims to support educational and professional development, and to assist junior doctors in achieving the skills and competencies required to manage patients in acute and community environments (1). Evidence of competencies are logged within an e-Portfolio and reviewed by supervisors (2). Progression from FY1 to FY2 requires all expected competencies, skills and procedures to have been achieved (2). A number of large-scale reviews have evaluated the FP following its initiation in 2005; the strengths include trainees' exposure to various clinical settings and specialties, and the standardisation of clinical requirements amongst trainees, allowing for quality assurance (3, 4). Notably, recommendations for development include improving the transition for doctors entering foundation training, suggesting the implementation of supported and supervised environments (4).

The pandemic presented a new opportunity with the creation of the FiY1 post. This post offered medical graduates the option of initiating work early in a salaried, supernumerary position, for up to two months between June-July 2020 (5), prior to starting FY1.

Starting work as a junior doctor following graduation is difficult. Medical graduates find the uncertainty, increased responsibility and pressure associated with their new role often leads to feelings of inadequacy and anxiety (6, 7). This issue is reflected in hospital inpatient mortality rates which rise by 6% on the first day new junior doctors start in August; so-called 'Black Wednesday'(8). Thus, scrutiny turned to improving medical students' transition to junior doctors, focusing on improving their preparedness for clinical practice (PfP) (9, 10). PfP has been defined as when students gain the knowledge, skills and behaviours expected of doctors to allow them to practise safely and gain patient trust (11). PfP improves patient safety and reduces long-term risk of burnout (12). Preparedness is helped when graduates' confidence in themselves improves but is often difficult to conceptualise (11). Although graduates tend to be well-prepared in history-taking, clinical examination and some practical procedures, they are less prepared in clinical reasoning, managing acutely unwell patients, prescribing, and complex communication scenarios such as breaking bad news. Moreover, they are less comfortable working within a multidisciplinary team (MDT) and lack familiarity with ward environments (13).

In a bid to ensure PfP amongst medical graduates, the General Medical Council (GMC) previously outlined various educational interventions within medical school curricula including clinical placements, assistantships, shadowing and an induction (9, 12, 14, 15). Assistantships are clinical placements where the student's role, as described by the GMC, is to 'assist' junior doctors, partake in out-of-hours on-call work, perform practical skills, manage unwell patients, and prescribe under supervision (15). Assistantships have been positively received as an intervention in preparing students for practice, with students feeling increased confidence in managing acute situations, gaining responsibility, on-call work, integrating into a team, administrative skills and duties of an FY1, and in therapeutics (16-20). This is consistent with the growing body of evidence which suggests that greater time spent in clinical practice encourages experiential learning and therefore better PfP (6). Illing *et al*., expressed that 'opportunities for learning on the job,' and having 'a role that enables engagement in supervised clinical practice' are essential to improving PfP (21). Although assistantships are an established approach to PfP, there is no consensus on the assistantship's optimal length, setting or structure, and this lack of guidance may limit its impact (22). Assistantships vary widely between medical schools, and do not fulfil all of their aims (14). For example, Burford *et al*., found over half of students had limited hands-on experience in acute care (23). In addition, the GMC 2019 National Training Survey found that 34% of medical graduates continue to feel unprepared for practice, an increase of 5% in the last 5 years (12). Thus, the optimal approach to preparing medical students for clinical practice requires ongoing review.

The COVID-19 pandemic caused significant disruption to UK medical school curricula but also provided a unique opportunity to introduce the FiY1 posts. These posts increased exposure to the clinical environment. However, the impact of these posts on graduates' preparedness is unknown. This study aimed to assess the impact of the FiY1 post on medical graduates' self-reported confidence in common tasks, core skills, competencies and procedures prior to starting FY1, as a measure of increasing PfP.

Methods

Cohort

This was a prospective longitudinal study of medical graduates from the class of 2020. Medical graduates were invited to participate from Brighton and Sussex Medical School (BSMS) and those offered FiY1 posts at Brighton and Sussex University Hospitals (BSUH - now part of University Hospitals Sussex NHS Foundation Trust). The 2-month FiY1 post ran from June-July 2020. The cohort of respondents were divided into two groups, those who completed the interim FY1 post (FiY1) and those who did not (non-FiY1). The non-FiY1's (control group) finished the medical school programme at BSMS and did not complete FiY1 posts.

Research and Ethics Approval

The study was exempted from a formal NHS ethical review following completion of the self-appraisal questionnaire of the NHS Health Research Authority. However, full approval was provided by the Research and Development (R&D) Department at BSUH prior to commencement of the study.

Patient and Public Involvement

As this study elicited self-assessed confidence in core skills and competencies of FiY1s, patients and the public were not involved in the design, conduct, reporting, or dissemination.

Data collection

An initial and a follow-up questionnaire were sent to medical graduates before and after the interim post period. The questionnaires were created on Google Forms and sent via e-mail and social media (see Appendix 1 and Appendix 2). This was incentivised with a £40 voucher prize draw. All participants gave informed consent before proceeding with the study questionnaires.

The questionnaires were formulated by authors Cristina Gatti (CG), Kathryn Parker-Conway (KPC), and Michael Okorie (MO), and piloted amongst nine UK-trained doctors who were undertaking the Postgraduate Certificate in Medical Education. The pilot group was familiar with the topic and was representative of the larger survey group in terms of age, gender and background. They responded to the questionnaire as if they were FiY1s or non-FiY1s, and fed

back their suggestions for change in written format. A systematic error and minor usability issues were identified and subsequently corrected.

The online questionnaire was created to measure medical graduates' overall self-reported confidence in starting FY1, in common FY1 tasks, core procedures and competencies. Confidence was selected as the outcome measure to reduce ambiguity associated with the term 'prepared'. Each outcome had a five-point confidence scale (see Appendix 1 and Appendix 2). The core procedures and competencies are as outlined by the Horus ePortfolio (Tables 1-2). These are set by the UK Foundation Programme in conjunction with the GMC, and need to be achieved by all FY1 trainees to progress to FY2. Common FY1 tasks are jobs FY1s are frequently expected to complete, formulated by foundation doctors CG and KPC, and agreed by consultant MO who is experienced in medical education research (Table 3). Data were collected on: demographics, medical school attended, and the NHS Trust and specialty of both the interim and upcoming FY1 posts. A brief evaluation of the FiY1 post was included in the follow-up questionnaire (Appendix 2), which included open and closed questions to assess the advantages and disadvantages of the post, as well as its structure.

Table 1. The UK Foundation Programme Curriculum's outline of the FY1 core skills and competencies and procedures

Clinical care: Core skills and competencies
1. Recognises, assesses and initiates management of the acutely ill patient
2. Recognises, assesses and manages patients with long term conditions
3. Obtains history, performs clinical examination, formulates differential diagnosis and management plan
4. Requests relevant investigations and acts upon results
5. Prescribes safely
6. Performs procedures safely
7. Is trained and manages cardiac and respiratory arrest
8. Demonstrates understanding of the principles of health promotion and illness prevention
9. Manages palliative and end of life care

Table 2. The UK Foundation Programme Curriculum's outline of the FY1 core procedures

Core Procedures

1. Venepuncture
2. IV cannulation
3. Prepare and administer IV medications and injections
4. Arterial puncture in an adult
5. Blood culture from peripheral sites
6. Intravenous infusion including the prescription of fluids
7. Intravenous infusion of blood and blood products
8. Injection of local anaesthetic to skin
9. Injection – subcutaneous (e.g. insulin or LMW heparin)
10. Injection – intramuscular
11. Perform and interpret an ECG
12. Perform and interpret peak flow
13. Urethral catheterisation (male)
14. Urethral catheterisation (female)
15. Airway care including simple adjuncts (e.g. Guedel airway or laryngeal masks)

Table 3. Common FY1 tasks included in initial and follow-up questionnaires

Common FY1 tasks
Please rate your confidence on a scale of 1-5. 1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident
1. In using IT systems at Brighton and Sussex University Hospitals, e.g. Medway, Bamboo/Panda, ICE, PACS **2.** In writing discharge summaries (TTOs) **3.** In making referrals (such as to other specialties, or for investigations) **4.** In requesting imaging (including CT scans which require discussion with radiologists) **5.** In speaking to relatives of patients

Data analysis

Data were analysed using IBM SPSS Statistics 25.0. The curriculum outcomes most relevant to the FY1 role were selected for analysis, along with all the common FY1 tasks. The five-point confidence scale for each outcome was converted to a numerical scale 1-5 (i.e. a score of 1 equated to 'not confident,' 2 to 'slightly confident,' 3 to 'somewhat confident,' 4 to 'moderately confident,' and 5 to 'very confident'). The change in confidence was calculated as a numeric difference between response for each question in the initial and follow-up questionnaires for each individual. Linear regression was performed to analyse the impact of the FiY1 post on change in confidence, adjusting for age, gender and university attended (BSMS or other).

Descriptive statistics were completed for closed questions evaluating the FiY1 post. The open questions describing advantages, disadvantages and improvements were analysed by CG and KPC using an inductive approach to identify the most common themes.

Results

Descriptive data

The online questionnaires were sent to 122 BSMS medical graduates (89 completed the FiY1 post, 33 did not), in addition to 69 FiY1s at the BSUH Trust, which included graduates from both BSMS and other UK universities. It was not possible to identify overlap in the two groups due to incomplete demographic information. The initial questionnaire was open 5th-12th June 2020 (8 days) and had 86 respondents. The follow-up questionnaire was open 20th-30th July 2020 (11 days) with 62 respondents. Of these, 39 graduates could be matched using recorded e-mail addresses (Figure 1).

The matched cohort consisted of 26 FiY1s, and 13 non-FiY1s. One participant was excluded as they did not work in a clinical post (Table 4). Over two thirds (71.1%) of graduates were from white backgrounds, other graduates identified as black (7.9%), mixed (10.5%) or Asian (10.5%).

Table 4. Descriptive data of participants in the matched cohort

	Matched FiY1s (n= 26)		Matched non-FiY1s (n=13)	
	No.	**%**	**No.**	**%**
Gender				
Female	15	57.7	8	61.5
Male	11	42.3	5	38.5
Age (years)				
18-24	15	57.7	11	84.6
25 and over	11	42.3	2	15.4
Ethnicity				
Asian / Black / Mixed / Other	5	19.2	6	46.2
White	21	80.8	7	53.8
Medical School				

BSMS	12	46.2	9	69.2
Other	14	53.8	4	30.8
FiY1 Hospital Trust				
BSUH	19	73.1	6	46.2
Other	7	26.9	7	53.8
FiY1 Specialty				
Medicine	19	73.1	8	61.5
Other	7	26.9	5	38.5

Overall evaluation of the FiY1 post

The FiY1 post ranged from 5-9 weeks (average 7.7 weeks). Over a quarter of graduates (28%) said they would not do the FiY1 post unpaid, half (48%) would 'maybe' consider it. Nearly all graduates (23/25 = 92%) recommended the FiY1 post for the next year. Advantages of the FiY1 were described as gaining practical hands-on clinical experience within the role of an FY1 and managing acutely unwell patients, familiarisation with the ward environment, and being supernumerary, which was frequently linked with being well supported. Disadvantages raised were lack of clarity of FiY1 responsibilities (5/25 =20%), less rest before starting FY1 (6/25 =24%), and a minority (3/25 = 12%) felt unsupported. Suggested improvements included having a better induction, more on call experience and having a clearer role.

Impact of FiY1 post on confidence

Linear regression modelling indicated that the FiY1 post increased overall confidence in starting FY1 by 0.62 (95% CI 0.072-1.167, p=0.028). In addition, the FiY1 post increased confidence in performing venepuncture by 0.32 (95% CI 0.011-0.920, p=0.045), performing IV cannulation by 0.48 (95% CI 0.030-1.294, p=0.041), and recognising, assessing and initiating the management of the acutely ill patient by 0.32 (95% CI 0.030-1.301, p=0.041). There was weak evidence to suggest that the FiY1 post improved confidence in using IT systems at BSUH by 0.92 (95% CI -0.052-1.621, p=0.065) and in requesting relevant investigations and acting upon results by 0.48 (95% CI -0.057 to +1.288, p=0.072) (Table 5).

This study found no evidence to suggest the FiY1 post increased confidence in writing discharge summaries, making referrals, speaking to patients' relatives, performing an arterial blood gas, prescribing blood products, history-taking, performing clinical examination, formulating differential diagnoses and management plans, or in managing palliative and end of life care patients (Table 5). However, an overall positive trend was noted in all these outcomes. Furthermore, there was no evidence to suggest the FiY1 post increased confidence in requesting imaging investigations, in safe prescribing, and in being trained in managing

cardiac and respiratory arrest. When adjusting for age, gender, and university, a positive trend was not observed, with beta coefficients of approximately 0. There was generally no effect seen for the variables adjusted for, except in the outcome of being 'trained and managing cardiac and respiratory arrest,' in which females were less confident than males by 0.80 (95% CI -1.374- -0.218, p=0.008).

Table 5. Change in confidence per outcome for matched cohort (n=38)

Outcome	Mean change in confidence FiY1s (n = 25)	Mean change in confidence non-FiY1s (n = 13)	Difference in mean change in confidence (unadjusted)	Beta coefficient	95% CI	P value
Confidence in starting FY1	+0.48	-0.23	+0.71	+0.620	0.072 to +1.167	0.028
In using IT systems at BSUH	+0.92	-0.08	+1.00	+0.785	-0.052 to +1.621	0.065
In writing discharge summaries (TTOs)	+0.96	+0.38	+0.58	+0.524	-0.237 to +1.286	0.171
In making referrals	+1.16	+0.46	+0.70	+0.596	-0.154 to +1.347	0.116
In requesting imaging	+0.80	+0.69	+0.11	-0.011	-0.849 to +0.827	0.979
In speaking to relatives of patients	+0.64	+0.15	+0.49	+0.439	-0.325 to +1.204	0.251
Performing venepuncture	+0.36	-0.08	+0.44	+0.466	+0.011 to +0.920	0.045
Performing IV cannulation	+0.48	-0.15	+0.63	+0.662	+0.030 to +1.294	0.041
Performing an arterial puncture (an ABG)	+0.48	-0.08	+0.56	+0.598	-0.273 to +1.469	0.172
Administering intravenous infusions and fluid prescriptions	+0.20	+0.08	+0.12	+0.106	-0.619 to +0.832	0.768
Prescribing blood and blood products	+0.52	+0.23	+0.29	+0.243	-0.343 to 0.828	0.405
Urethral catheterisation	0.00	-0.31	+0.31	+0.224	-0.443 to	0.500

(male)					+0.891	
Recognises, assesses and initiates management of the acutely ill patient	+0.32	-0.38	+0.70	+0.666	+0.030 to +1.301	0.041
Obtains history, performs clinical examination, formulates differential diagnosis and management plan	*+0.32*	*+0.08*	*+0.24*	*+0.155*	*-0.412 to +0.723*	*0.582*
Requests relevant investigations and acts upon results	*+0.48*	*-0.08*	*+0.56*	*+0.615*	*-0.057 to +1.288*	*0.072*
Prescribes safely	+0.20	+0.15	+0.05	-0.029	-0.460 to +0.402	0.891
Is trained and manages cardiac and respiratory arrest	+0.24	+0.31	-0.07	-0.105	-0.726 to 0.515	0.732
Manages palliative and end of life care	+0.60	-0.08	+0.68	+0.562	-0.132 to +1.255	0.109

Discussion

The FiY1 post was an intervention initiated in response to the COVID-19 pandemic to support potential increased workforce demands. It changed the way medical graduates transition to the role of junior doctors. This prospective longitudinal cohort study assessed whether the FiY1 post was able to impact graduates' PfP in terms of self-reported confidence in common FY1 tasks, core skills, competencies and procedures, prior to starting FY1. To our knowledge, this is the first study of its kind.

Improved Confidence in Core skills, Competencies and FY1 tasks

Graduates who completed the FiY1 post showed an increase in overall confidence in starting FY1 compared to non-FiY1s. They also had an increased confidence in performing FY1 core skills (venepuncture, IV cannulation), in competencies including management of acutely ill patients and requesting investigations, and in common FY1 tasks, including use of IT systems. Interestingly, this improved confidence occurred within a brief and relatively unplanned intervention (average post length was 7.7 weeks).

This increased confidence is likely to be related to the FiY1 post allowing for increased clinical exposure, as clinical experience improves competence and reduces the stress of transition from student to doctor (7, 24). This relationship has previously been documented following assistantships and shadowing periods, where hands-on experience increased student's understanding of FY1 duties, including how to request investigations, write in notes, prescribe, and use IT systems (16-18, 23, 25, 26). This study showed the FiY1's additional benefit of improving confidence in managing acutely unwell patients, a competency which showed little or no improvement following assistantships/shadowing periods (23). The FiY1 post also provided an opportunity for familiarisation with the clinical environment, which likely contributed to improved confidence in using IT systems, particularly for the 50% of FiY1's who continued to work in the same NHS Trust as their FiY1 post. At the time of writing, there is a dearth of articles published on the FiY1 post. However, a GMC commissioned study report reviewing the FiY1 post concluded that amongst its benefits it eased transition to starting FY1 and it increased preparedness to practice, with this finding being sustained 2 months later (27). Three reflective articles have also noted the positive benefit of FiY1 roles in providing opportunities to put theory into practice, increase clinical experience, and improve confidence, though there was no formal measurement of change in confidence outlined (28-30).

Though the remaining common FY1 tasks, core skills and competencies did not show a significant increase in self-reported confidence, most showed an overall positive trend. Given the relatively small sample size, a significant increase may be observed in these outcomes in a larger powered study, as noted in the GMC report (27). However, it may also indicate that graduates were already confident in some aptitudes prior to commencing FiY1, particularly in history-taking and performing clinical examinations (13). Another explanation may be that graduates did not gain significant experience in these areas during FiY1. For example, in formulating management plans, as ward rounds are often led by senior doctors. The opportunity for managing cardiac arrest is limited for all foundation doctors, which likely reflects the lack of exposure within the FiY1 post. It is disappointing that there was no observed increase in confidence in prescribing. However, an initial lack of clarity as to whether FiY1s were allowed to prescribe might have confounded results.

A further advantage of the FiY1 post over previous interventions is the ability to experience the role of an FY1 as a doctor rather than a student, and developing an increased sense of responsibility. The increased responsibility noted when starting as a doctor is particularly daunting (7). As such emulating this increased obligation whilst still being supervised is helpful to reduce the shock of transition to FY1 (6). Assistantships have previously been documented as creating an increased sense of responsibility, but how students experience assistantships is varied and dependent on student engagement, meaning not all students benefit from these outcomes equally (19, 22, 23). The standardised nature of the FiY1 may minimise the disparity in student experiences. Moreover, during the FiY1 posts, graduates were expected to work as doctors to support the workforce during the pandemic, and were being paid as such for this role. Consequently, they may have felt duty-bound to take on more responsibility compared to during assistantships, and likewise staff may have had greater expectations of them to step up as doctors (31). FiY1s wanted to be remunerated for this increased responsibility, with 28% of graduates advising they would not do the FiY1 post unpaid, and 48% who would only 'maybe' consider it. As per the GMC report on the FiY1 post, the 'paid role of the FiY1 post adds something beyond undergraduate placements and assistantships' (27).

Though the FiY1 post may have been demanding on graduates, the majority felt well supported, and some associated this with having been supernumerary. A supportive environment is essential in negotiating this challenging transition and its associated stress, particularly as new doctors can be reluctant to seek help (7, 32). The supportive environment may be why Durand-Hill *et al*., found that the FiY1 post led to graduates feeling less stressed and depressed (33). Another approach to creating a supportive environment was used in Northern Ireland – termed the 'compassionate leadership model,' where students were provided with a 'buddy system' and encouraged to highlight their educational needs for the FiY1 post. This approach helped students feel valued and supported (34). Over the two-month period, the observed trends suggested non-FiY1s had decreased confidence in some outcomes. This may be due to time spent with reduced exposure to the clinical setting, and increasing anxiety as they missed the benefits of this period of supported learning (33).

Disadvantages of FiY1

Only two graduates (8%) who completed the FiY1 post did not recommend it next year, correlating with the minority who felt unsupervised. Themes raised included lack of clarity of FiY1 responsibilities and their role. This is an issue that transcends previous educational interventions, as students want more guidance as to what is expected of them (26, 35). Cotton *et al*., noted that benefits can be lost if roles are ill-defined (26).

Graduates were able to select an FiY1 post at either their university hospital, a hospital in their home region, or the hospital where they were due to start FY1. Therefore, only 52% of FiY1s worked in the same trust as their future FY1 role, and only 36% worked in the same specialty. Analysis to compare the outcomes of graduates that did or did not have an 'aligned' placement was not possible due to sample size. However, there is evidence that suggests that

benefits are reduced if the placement is not relevant to them or relates less closely to where they will start work (19, 26). Instead, alignment with a student's first FY1 post enhances their experience, though this benefit is not sustained to the second FY1 post (19, 20, 36).

Study limitations

As the statistical analysis was exploratory, and sample size was small due to fewer matched participants, interpretation of results is limited. This increases the risk that real differences in confidence could have been missed. Due to this being a single-centre study, our findings are potentially less transferable and reproducible. A majority of the FiY1s worked at BSUH, and all the non-FiY1s were BSMS graduates, so the experiences of the interim FY1 may be different elsewhere in the UK. BSMS benefits from an integrated curriculum design with early clinical exposure, so graduates from more traditional courses may find additional benefit to an FiY1 post. Conversely, medical schools with well-established assistantship programmes may find their graduates have less to gain. The majority of participants had interim posts in medical specialties, so benefits of posts particularly in psychiatry or surgery are unknown.

The outcomes of this study relied on self-reported confidence. Though there was an increase in self-reported confidence, it is unclear how this confidence impacts on junior doctor outcomes and on patient care. This is something that has been highlighted previously with regards to assistantships; there is no peer-reviewed data available evaluating the impact of assistantships on outcomes including efficiency, patient safety, prescribing errors, stress and sickness (22). In addition, there was no external assessment of participants' change in confidence which subjects the findings to bias. Self-assessments are not always aligned with reality. Tallentire *et al*., found that participants had misplaced confidence when it came to practical procedures with supervisors rating graduates' ability lower than graduates did themselves (37). Conversely, it is possible that graduates may have improved their skills in an outcome but still remained unconfident.

The loss of participants to follow-up presented another limitation. We tried to minimise this limitation by extending the response period of the questionnaire and providing a recall incentive. Despite the small numbers of matched participants, we did observe differences between FiY1s and non-FiY1s. However, with larger participant numbers, we could have continued to follow-up participants to measure change in confidence after starting FY1.

Future of FiY1 roles

Despite the limitations of this study, the initial findings are promising. Further studies assessing the role of the FiY1 as a trial intervention in multiple centres across the UK may provide more robust evidence of the FiY1's future role in undergraduate medical curricula. A study protocol for the 'COVIDReady2' survey has outlined its aim to fulfil the above by exploring nationwide experiences of medical students who underwent the FiY1 compared to

those who did not, with a view to offering practical advice as to how these roles may be incorporated into future medical education (38). Assessing the impact of the FiY1 post on long-term outcomes including patient safety, prescribing errors, efficiency at work, and levels of stress and sickness would also determine the objective impact of this study. In addition, rates of mortality following junior doctors starting should be calculated since the initiation of educational interventions such as the assistantship and potentially future FiY1 posts, given the last study was in 2009 (8).

Recommendations for future trials of FiY1 posts are as follows:

- A financial incentive should be maintained to help encourage engagement and an environment where increased responsibility is expected and supervised.
- A supernumerary position should be preserved to ensure good supervision is maintained.
- A unified and clear outline of roles and responsibilities should be created, including provision of supervised prescribing, so as to assist improved confidence in this domain.

Conclusion

In summary, the FiY1 post, implemented in response to the COVID-19 pandemic, has inadvertently created an opportunity to improve clinical exposure for medical graduates. This study showed that the FiY1 post improves overall confidence prior to starting FiY1 and in specific core skills and competencies required by the GMC. The post is similar to an assistantship in its aims to improve student's preparedness and ease the transition to work life. However, there are key differences in that the FiY1 post is paid, graduates are expected to work as doctors and not students, and its standardised nature means all graduates should gain a more unified experience. Moreover, the FiY1 has resulted in greater hands-on experience, and improved confidence in managing acutely unwell patients.

The FiY1 post has the potential to provide new-found structure and streamline final year placements across medical schools. It could standardise educational opportunities nationwide, and ease the unsettling transition from student to doctor in a way that medical curricula have not facilitated before. This could revolutionise curriculum design.

Footnotes

Contributors and guarantor information: CG and KPC contributed equally to this paper; they have joint first authorship. All authors (CG, KPC, MO) substantially contributed to the planning, drafting and reviewing of the work described in the article, each approving the final version. CG and KPC oversaw the production of the manuscript in equal contribution and are guarantors for the overall content. MO assisted in study design and reviewing the work. The

corresponding author attests that all listed authors meet authorship criteria and that no others meeting the criteria have been omitted.

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Competing interests declaration: All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf and declare: no support from any organisation for the submitted work; no financial relationships with any organisations that might have an interest in the submitted work in the previous three years; no other relationships or activities that could appear to have influenced the submitted work.

Transparency declaration: The lead author affirms that the manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as originally planned have been explained. No funding was required for this study. Relevant anonymised participant level data is available on reasonable request.

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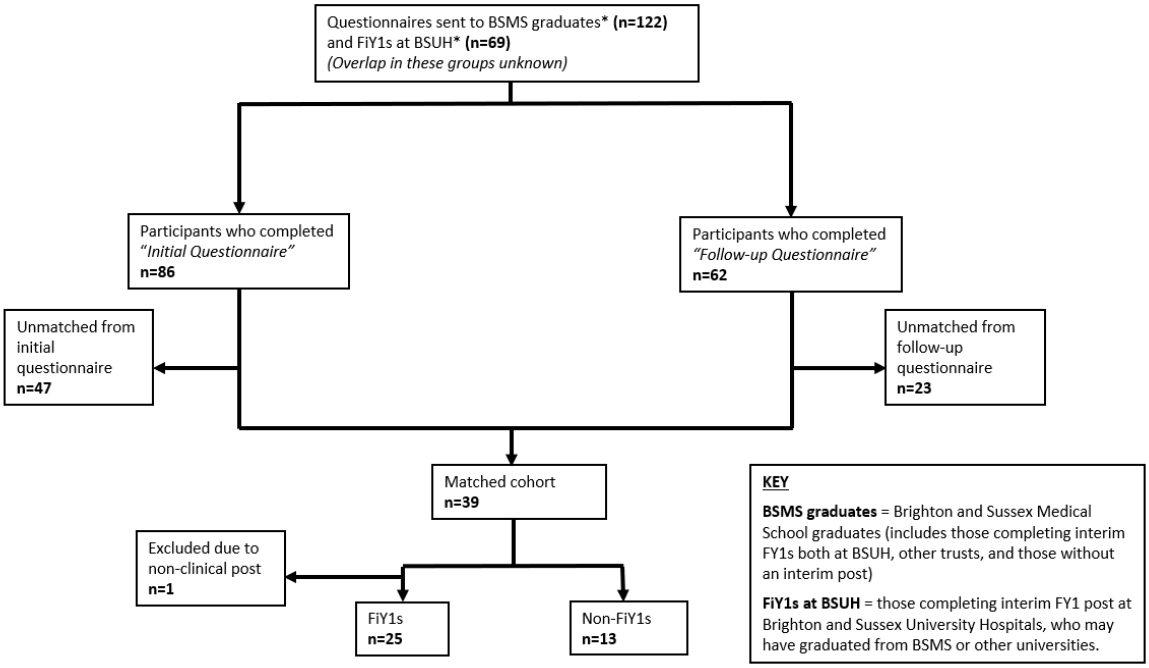
Figure 1. Participant flow diagram



Appendix 1: Initial Questionnaire Pre-Interim FY1 post

You are being invited to participate in a service improvement project, which aims to review the impact of the interim FY1 placement on confidence when starting FY1 in August. This is being carried out by Dr Cristina Gatti and Dr Katie Parker-Conway, Academic Foundation doctors at Brighton and Sussex University Hospitals.

This will involve completing a questionnaire assessing your confidence in core procedures, skills and knowledge of managing unwell patients, at the beginning and end of your interim placement, to assess if these answers have changed. The questionnaire is short and should take less than 5 minutes. You will be emailed the post-placement questionnaire at the end of your interim FY1 placement.

Your responses will remain anonymous; results may be presented to Brighton and Sussex Medical School (BSMS) to inform future service planning, published in journals and/or presented to medical education forums such as conferences.

If you have any questions, please contact us via email: cristina.gatti1@nhs.net or kathryn.parker-conway@nhs.net.

Your participation is entirely voluntary. Thank you in advance for your time.

* Required

1. What gender do you identify with? *

Mark only one oval.

- ◯ Female
- ◯ Male
- ◯ Transgender Female
- ◯ Transgender Male
- ◯ Gender variant/Non-conforming
- ◯ Prefer not to say
- ◯ Other: _____

2. What is your age? *

Mark only one oval.

- 18-24 years old
- 25-34 years old
- 35-44 years old
- 45 years and over
- Prefer not to say

3. Please specify your ethnicity *

Mark only one oval.

- White (British, Irish, Any other white background)
- Black / African / Caribbean / Black British
- Mixed / Multiple ethnic groups
- Other ethnic group
- Prefer not to say

4. Which medical school did you attend? *

_____

5. Which NHS Trust and specialty are you working in currently? *

_____

6. Which NHS Trust and specialty will you be working in from August 2020? *

_____

7. I feel confident about starting FY1 in August 2020. *

Mark only one oval.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Common FY1 Tasks

The following section will review your confidence in completing common tasks usually required of an FY1. Please rate your confidence on a scale of 1-5.

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

8. 1. In using IT systems at Brighton and Sussex University Hospitals, e.g. Medway, Bamboo/Panda, ICE, PACS *

Mark only one oval.

1	2	3	4	5

9. 2. In writing discharge summaries (TTOs) *

Mark only one oval.

1	2	3	4	5

10. 3. In making referrals (such as to other specialties, or for investigations) *

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

11. 4. In requesting imaging (including CT scans which require discussion with radiologists) *

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

12. 5. In speaking to relatives of patients *

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

FY1 Core Procedures

The following section will review your confidence in performing the practical skills required to complete FY1 competencies currently. Please rate your confidence on a scale of 1-5.

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

13. 1. Performing venepuncture *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

14. 2. Performing IV cannulation *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

15. 3. Preparing and administering IV medications and injections *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

16. 4. Performing an arterial puncture in an adult (an ABG) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

17. 5. Taking blood cultures from peripheral sites *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

18. 6. Administering an intravenous infusion including the prescription of fluids *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

19. 7. Prescribing an intravenous infusion of blood and blood products *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

20. 8. Administering an injection of local anaesthetic to skin *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

21. 9. Administering a subcutaneous injection e.g. Insulin or LMW Heparin *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

22. 10. Administering an intramuscular injection *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

23. 11. Performing and interpreting an ECG *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

24. 12. Performing and interpreting peak flow *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

25. 13. Urethral catheterisation (male)

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

26. 14. Urethral catheterisation (female) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

27. 15. Performing airway care including using simple adjuncts (e.g. Guedal airway or laryngeal masks) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

FY1 Core Competencies

The final section will review your confidence in managing unwell patients as per your requirements to meet the clinical care competencies in the F1 curriculum. Please rate your confidence currently on a scale of 1-5.

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

28. 1. Recognises, assesses and initiates management of the acutely ill patient *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

29. 2. Recognises, assesses and manages patients with long term conditions *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

30. 3. Obtains history, performs clinical examination, formulates differential diagnosis and management plan *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

31. 4. Requests relevant investigations and acts upon results *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

32. 5. Prescribes safely *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

33. 6. Performs procedures safely *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

34. 7. Is trained and manages cardiac and respiratory arrest *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

35. 8. Demonstrates understanding of the principles of health promotion and illness prevention *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

36. 9. Manages palliative and end of life care *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

To Finish

37. Any other comments/concerns or areas of improvement you would like to suggest...

38. Please enter your email address if you are happy to be sent the follow up questionnaire (please ensure this is an email you will have access to in 2 months time).

Thank you very much for your time.

By clicking 'submit' you are consenting to participating in this improvement project, as described previously. For any more information, please email cristina.gatti1@nhs.net or kathryn.parker-conway@nhs.net.

Appendix 2: Follow-up Questionnaire Post-Interim FY1 post

THIS QUESTIONNAIRE IS FOR THOSE STARTING FY1 IN AUGUST 2020, WHO HAVE OR HAVE NOT COMPLETED AN INTERIM FY1 POST.

You are being invited to participate in a service improvement project, which aims to review the impact of the interim FY1 placement on confidence when starting FY1 in August. This is being carried out by Dr Cristina Gatti and Dr Katie Parker-Conway, Academic Foundation doctors at Brighton and Sussex University Hospitals.

This will involve completing a questionnaire assessing your confidence in core procedures, skills and knowledge of managing unwell patients, before starting FY1 in August. If you completed an interim post, it will also include an evaluation of this post. The questionnaire is short and should take less than 5 minutes.

Your responses will remain anonymous; results may be presented to Brighton and Sussex Medical School (BSMS) to inform future service planning, published in journals and/or presented to medical education forums.

If you have any questions, please contact us via email: cristina.gatti1@nhs.net or kathryn.parker-conway@nhs.net.

Your participation is entirely voluntary.
All those completing the questionnaire will be entered into a prize draw to win a £40 amazon voucher.

Thank you in advance for your time.

* Required

1. What gender do you identify with? *

Mark only one oval.

- ◯ Female
- ◯ Male
- ◯ Transgender Female
- ◯ Transgender Male
- ◯ Gender variant/Non-conforming
- ◯ Prefer not to say
- ◯ Other: _____

2. What is your age? *

Mark only one oval.

- ◯ 18-24 years old
- ◯ 25-34 years old
- ◯ 35-44 years old
- ◯ 45 years and over
- ◯ Prefer not to say

3. Please specify your ethnicity *

Mark only one oval.

- ◯ White (British, Irish, Any other white background)
- ◯ Asian / Asian British
- ◯ Black / African / Caribbean / Black British
- ◯ Mixed / Multiple ethnic groups
- ◯ Other ethnic group
- ◯ Prefer not to say

4. Which medical school did you attend? *

Mark only one oval.

- University of Aberdeen
- Anglia Ruskin University
- Aston University
- Barts and The London School of Medicine and Dentistry
- University of Birmingham
- Brighton and Sussex Medical School
- University of Bristol
- University of Buckingham
- University of Cambridge
- Cardiff University
- University of Dundee
- Edge Hill University
- University of Exeter
- University of Glasgow
- Hull York Medical School
- Imperial College London
- Keele University
- Kent and Medway Medical School
- King's College London
- Lancaster University
- University of Leeds
- University of Leicester
- University of Liverpool
- London School of Hygiene and Tropical Medicine
- University of Manchester
- Newcastle University
- Norwich Medical School (University of East Anglia)
- University of Nottingham
- University of Nottingham - Lincoln Medical School

- University of Oxford
- Plymouth University
- Queen's University Belfast
- University of Sheffield
- University of Southampton
- University of St Andrews
- St George's, University of London
- University of Sunderland
- Swansea University
- University of Central Lancashire
- University College London
- University of Warwick
- Other

5. Which NHS Trust will you be working in from August 2020? *

_____

6. Which specialty will you be working in from August 2020? *

_____

7. I feel confident about starting FY1 in August 2020. *

Mark only one oval.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Common FY1 Tasks

The following section will review your confidence in completing common tasks usually required of an FY1. Please rate your confidence on a scale of 1-5.

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

8. 1. In using IT systems at Brighton and Sussex University Hospitals, e.g. Medway, Bamboo/Panda, ICE, PACS *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

9. 2. In writing discharge summaries (TTOs) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

10. 3. In making referrals (such as to other specialties, or for investigations) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

11. Please explain your answer to question 3. *

12. 4. In requesting imaging (including CT scans which require discussion with radiologists) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

13. 5. In speaking to relatives of patients *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

FY1 Core Procedures

The following section will review your confidence in performing the practical skills required to complete FY1 competencies. Please rate your confidence on a scale of 1-5.

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

14. 1. Performing venepuncture *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

15. 2. Performing IV cannulation *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

16. 3. Preparing and administering IV medications and injections *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

17. 4. Performing an arterial puncture in an adult (an ABG) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

18. 5. Taking blood cultures from peripheral sites *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

19. 6. Administering an intravenous infusion including the prescription of fluids *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

20. 7. Prescribing an intravenous infusion of blood and blood products *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

21. 8. Administering an injection of local anaesthetic to skin *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

22. 9. Administering a subcutaneous injection e.g. Insulin or LMW Heparin *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

23. 10. Administering an intramuscular injection *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

24. 11. Performing and interpreting an ECG *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

25. 12. Performing and interpreting peak flow *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

26. 13. Urethral catheterisation (male) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

27. 14. Urethral catheterisation (female) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

28. 15. Performing airway care including using simple adjuncts (e.g. Guedal airway or laryngeal masks) *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

FY1 Core Competencies

The final section will review your confidence in managing unwell patients as per your requirements to meet the clinical care competencies in the F1 curriculum. Please rate your confidence on a scale of 1-5.

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

29. 1. Recognises, assesses and initiates management of the acutely ill patient *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

30. 2. Recognises, assesses and manages patients with long term conditions *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

31. 3. Obtains history, performs clinical examination, formulates differential diagnosis and management plan *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

32. 4. Requests relevant investigations and acts upon results *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

33. 5. Prescribes safely *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

34. 6. Performs procedures safely *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

35. 7. Is trained and manages cardiac and respiratory arrest *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

36. 8. Demonstrates understanding of the principles of health promotion and illness prevention *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

37. 9. Manages palliative and end of life care *

1 = Not confident, 2 = Slightly confident, 3= Somewhat confident, 4 = Moderately confident, 5 = Very confident

Mark only one oval.

1	2	3	4	5
◯	◯	◯	◯	◯

38. Did you have an Interim FY1 post? *

Mark only one oval.

◯ Yes *Skip to question 39*

◯ No *Skip to question 59*

Interim FY1 post

39. In which NHS Trust did you complete your Interim FY1 post? *

_____

40. In which specialty did you complete your Interim FY1 post? *

_____

41. How many weeks long was your interim FY1 post (to nearest week)? *

Mark only one oval.

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5
- ◯ 6
- ◯ 7
- ◯ 8
- ◯ 9

42. Did you have an assistantship placement during medical school? *

A student assistantship is a placement usually in the final year of medical school in which a student is on the same ward and/or team acting as assistant to a junior doctor, with defined duties under appropriate supervision. They should be integrated into the team and participate in activities similar to those of a newly qualified doctor.

Mark only one oval.

- ◯ Yes *Skip to question 43*
- ◯ Unsure *Skip to question 45*
- ◯ No *Skip to question 45*

43. How did the assistantship compare to the Interim FY1 post, in terms of improving your skills, knowledge and confidence for starting FY1? *

Mark only one oval.

- ◯ Interim post MORE beneficial than assistantship
- ◯ Interim post EQUALLY beneficial to assistantship
- ◯ Interim post LESS beneficial than assistantship

44. Please explain your answer.

_____

Skip to question 45

45. Did you do any on calls as part of your Interim FY1 post? Tick all that apply. *

Check all that apply.

- ☐ Weekend day shifts
- ☐ Late shifts (all or part of the scheduled shift is after 5pm)
- ☐ Night shifts
- ☐ I didn't do any on call shifts

46. Did you feel you were part of the multi-disciplinary team (MDT) during your Interim FY1 post? *

The multi-disciplinary team is a group of professionals from one or more clinical disciplines (e.g. nurses, physiotherapists, occupational therapists, dietitians, speech and language therapists etc.) who work together to make decisions regarding patient management.

Mark only one oval.

- ◯ Always
- ◯ Mostly
- ◯ Sometimes
- ◯ Rarely
- ◯ Never

47. Do you feel you were treated as a doctor during your Interim FY1 post (as opposed to a student)? *

Mark only one oval.

- Always
- Mostly
- Sometimes
- Rarely
- Never

48. Did you feel that you knew what your role was within the team? *

Mark only one oval.

- Always
- Mostly
- Sometimes
- Rarely
- Never

49. Did you feel as though you were appropriately supervised? *

Mark only one oval.

- Always
- Mostly
- Sometimes
- Rarely
- Never

50. Did you feel you had clear learning outcomes for the Interim FY1 post? *

Mark only one oval.

- Yes
- Somewhat
- No

51. Do you think your Interim F1 post has been broadly similar to that of your colleagues? *

Mark only one oval.

- Yes
- Somewhat
- No

Skip to question 52

52. Do you feel that the Interim FY1 post has improved your competence? *

Mark only one oval.

- Yes
- Somewhat
- No

53. Has the Interim FY1 post reduced your anxiety about starting FY1? *

Mark only one oval.

- Yes
- Somewhat
- No

54. What was most useful about the Interim FY1 post? *

55. Were there any disadvantages to having an Interim FY1 post? *

56. Can you suggest anything to improve the Interim FY1 post? *

57. Would you recommend the Interim FY1 post for next year? *

Mark only one oval.

- ◯ Yes
- ◯ No

58. Would you have done this Interim FY1 post unpaid as part of the medical school curriculum? *

Mark only one oval.

- Yes
- Maybe
- No

Skip to question 61

59. Do you wish you had completed an Interim FY1 post? *

Mark only one oval.

- Yes
- Somewhat
- No

60. Please explain your answer. *

_____

Skip to question 61

To Finish

61. Please include any further comments you would like to make.

_____

_____

_____

_____

_____

62. Please enter your email address if you would like to be included in the prize draw.

63. Are you happy to be sent a further follow up questionnaire?

Please ensure you will have access to the email address you entered above in 2 months time.

Mark only one oval.

- Yes
- No

Thank you very much for your time.

By clicking 'submit' you are consenting to participating in this improvement project, as described previously. For any more information, please email cristina.gatti1@nhs.net or kathryn.parker-conway@nhs.net.

Research checklist:

Checklist of standards for reporting quality improvement standards - Revised Standards for Quality Improvement Reporting Excellence (SQUIRE 2.0)

Reporting item(s)	Page number(s) on which item(s) reported
Title and Abstract	
1. Title	**1**
2. Abstract	**2**
Introduction	
3. Problem Description	**3-5**
4. Available knowledge	**3-5**
5. Rationale	**3-5**
6. Specific Aims	**5**
Methods	
7. Context	**5**
8. Intervention(s)	**5-7**
9. Study of the Intervention(s)	**5-7**
10. Measures	**5-7**
11. Analysis	**7-8**
12. Ethical Considerations	**5**
Results	
13. Results	**8-12**
Discussion	
14. Summary	**12-13**
15. Interpretation	**13-16**
16. Limitations	**15**
17. Conclusions	**16**
Other information	
18. Funding	**17**