PHARMACY

NHS
Health Education England

Outcome Report 2021 - 2022

National Foundation Pharmacist Recruitment

January 2022

Contents

Executive Summary

Health Education England coordinated a national scheme for recruitment to foundation pharmacist training programmes for the fifth time in October 2021.

There were 3476 training places available across all programmes, continuing the trend of a far greater number of available places within the Scheme than trainees to fill them.

A total of 2763 applicants applied for training programmes, 2383 of whom attended the assessments. At the end of the process, 99% (n=2128) of successful applicants had received a programme offer and 1911 of these final programme offers were accepted by applicants.

The scheme yielded a fill rate of 99.8% for NHS and 38.7% for community pharmacy programmes, and an overall fill rate of 55.0% to all programmes. The maximum overall fill rate achievable had all successful candidates been allocated places would have been 62.0% due to the large number of places available in the scheme in 2021.

Overview

This was the fifth year that Health Education England conducted an entirely centralised process for recruitment to foundation pharmacist training programmes for the NHS and community pharmacy (optional for this sector).

This report provides information on applicants, applications and outcomes of the 2021 Foundation National Recruitment Scheme (NRS). Applications are reported by various demographics, highlighting any identified trends.

Independent analysis undertaken by the Work Psychology Group examines fairness issues surrounding use of the SJT and Numeracy test and reports on any group differences in performance.

If you would like further information on the process of foundation pharmacy recruitment, please refer to the pharmacy recruitment web pages: https://www.lasepharmacy.hee.nhs.uk/national-recruitment/

Programme availability

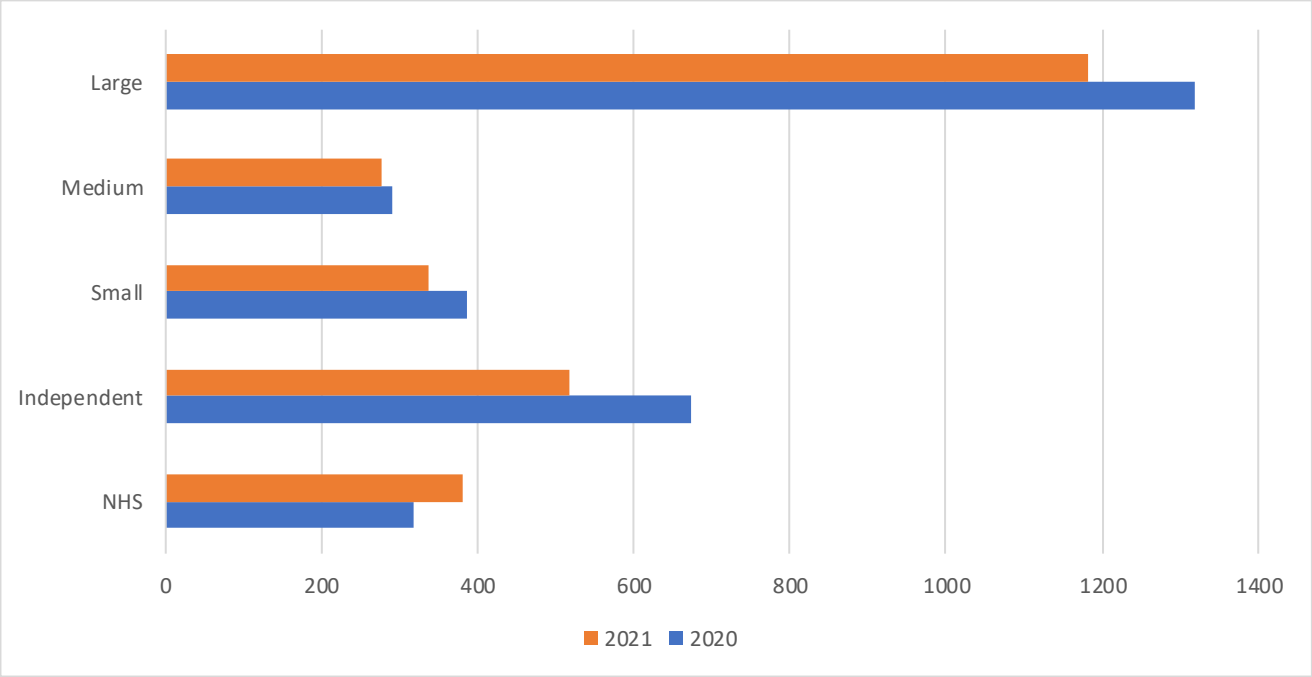
1. Employing organisations, programmes, and training places

1.1 The 2021 foundation pharmacist recruitment scheme listed 2695 programmes for applicants to choose from, an 9.6% decrease from the fourth year. In total, 3476 training places were available across all programmes, significantly greater than the anticipated number of scheme applicants.

1.2 14.1% (n=380) of programmes were within the NHS hospital sector, representing 26.7% (n=929) of all available training places. 43.9% (n=1183) of programmes were offered by large community pharmacy employers, 10.4% (n=276) by medium pharmacy employers, 12.5% (n=338) by small pharmacy employers and 19.2% (n=518) by independent pharmacy contractors.

1.3 There was a slight overall decrease in the number of programmes offered through Oriel by community pharmacy employers, and a small increase in the number of programmes offered by hospital employers, compared with the previous year (Figure 1).

Figure 1: Year on year comparison of foundation training programme availability across sectors



1.4 Tables 1 and 2 below provide an overview of the numbers of employing organisations, programmes and training places available in the 2021 scheme, broken down by sector and geography

Table 1: Programme Availability in the 2021 Foundation Pharmacist Recruitment Scheme

Sector	Number of Employing Organisations	Number of Programmes	Number of Training Places	Number of Tier 2 Sponsor Licences
NHS Hospital	155	380	929	919
Large Community Pharmacy (*Branches 200+)*	7	1183	1186	3
Medium Community Pharmacy (Branches *25-200*)	19	276	320	80
Small Community Pharmacy (Branches *6-25*)	96	338	400	65
Independent Community Pharmacy (Branches *1-6*)	428	518	641	78
TOTALS	**705**	**2695**	**3476**	**1145**

Table 2: Geographical Spread of Programmes (and Training Places), by Sector

HEE Pharmacy Region	HEE Local Area	NHS Hospital	Large Community Pharmacy	Medium Community Pharmacy	Small Community Pharmacy	Independent Community Pharmacy
Midlands and East	East Midlands	14 (51)	89 (90)	29 (34)	20 (23)	26 (32)
Midlands and East	East of England	41 (85)	104 (104)	31 (31)	17 (25)	62 (78)
Midlands and East	West Midlands	26 (65)	100 (100)	25 (29)	86 (94)	59 (73)
London and South East	Kent, Surrey and Sussex	25 (56)	122 (122)	19 (22)	18 (18)	42 (47)
London and South East	London	51 (215)	93 (95)	24 (31)	129 (164)	214 (258)
North	North East	16 (53)	98 (98)	17 (18)	5 (6)	9 (11)
North	North West	31 (86)	142 (142)	32 (45)	16 (21)	52 (67)
North	Yorkshire and the Humber	30 (59)	107 (107)	46 (50)	22 (23)	23 (34)
South	South West	48 (89)	214 (214)	5 (6)	22 (23)	9 (11)
South	Thames Valley	12 (30)	42 (42)	47 (53)	1 (1)	11 (11)
South	Wessex	15 (29)	72 (72)	1 (1)	2 (2)	11 (19)
Wales	Wales	71 (111)	0	0	0	0
	TOTALS	380 (929)	1183 (1186)	276 (320)	338 (400)	518 (641)

2. Tier 2 sponsorship

2.1 Tier 2 sponsored training place availability in the community pharmacy sector decreased to 226 places in 2021; 39.7% (n=149) less sponsored places in total than were available to applicants requiring visas in 2020 (n=375).

3. Multi-sector placements

3.1 Two hundred and eighteen collaborative organisations registered split-placement training programmes on Oriel in 2021. These included HEE funded multi-sector programmes such as the GP foundation pilot. These programmes were split between at least two sectors, including Hospital, Community Pharmacy, GP Practice and Clinical Commissioning Groups.

3.2 Four hundred and sixty-five multi-sector programmes were available in total, representing a total of 706 training places. Split training programme availability was generally evenly spread across the regions, with the fewest programmes found in Thames Valley (n=8) and the most available in Wales (n=71) and London (n=77)

Applicant outcomes

4. Applications

4.1 The number of applications received via the Oriel system was 2763 (not including incomplete applications), compared with 2585 received in the first year, 2592 in the second year, 2485 in the third year, and 2524 in the fourth year.

4.2 5.5% (n=153) of applicants were either currently enrolled on an accredited Overseas Pharmacists' Assessment Programme (OSPAP) or were OSPAP graduates.

5. Longlisting

5.1 0.04% of total applicants (n=1) did not progress through the formal longlisting process due to not meeting basic eligibility criteria.

5.2 Sixty-four applicants subsequently withdrew their application, leaving 2698 applicants invited to assessment: an 8.3% increase from the previous year.

6. Assessments

6.1 2383 applicants attended their assessments. Of these, 2154 (90.4%) were successful and subsequently received an overall ranking based on their test scores.

7. Applications and programme

7.1 For the purposes of this section, we refer to the following:

- *Application* – the number of applications progressed *after* longlisting (n=2698)
- *Offer* - applicants who received a foundation programme offer (n=2128), irrespective of whether this offer was accepted by the applicant.

7.2 Table 3 below provides a breakdown of applicant gender, along with data pertaining to successful applicants and programme offers received by these two groups.

Table 3: Applications and programme offers by gender

Group	Percentage of applications	Percentage of successful applicants	Percentage of offers made	Percentage of offers accepted
Male	28.4%	28.3%	28.3%	28.0%
Female	69.2%	69.7%	69.6%	69.8%
Not disclosed	2.4%	2.0%	2.1%	2.2%
Totals	100.0%	100.0%	100.0%	100.0%

7.3 Table 4 below provides a breakdown of applications received, along with data pertaining to the percentage of successful applicants and programme offers received, for each of the age categories.

*Table 4: Applications and programme offers by age group**

Group	Percentage of applications	Percentage of successful applicants	Percentage of offers made	Percentage of offers accepted
19-24 years	82.9%	82.9%	85.8%	86.3%
25-29 years	8.2%	8.2%	7.1%	6.9%
30–34 years	3.2%	3.2%	2.6%	2.6%
35-39 years	2.0%	2.0%	1.5%	1.3%
40-44 years	1.0%	1.0%	0.8%	0.7%
45-49 years	0.4%	0.4%	0.2%	0.3%
50-54 years	0.1%	0.1%	0.1%	0.1%
55-59 years	0.1%	0.1%	0.2%	0
Not disclosed	2.1%	2.1%	1.7%	1.8%
Totals	100%	100%	100%	100%

**Age at 01 September 2021*

Table 5 provides a breakdown of applications and offers by individual ethnic groups.

7.4 69.3% (n=1914) of applications were received from applicants of Black, Asian and minority ethnic (BAME) origin and 25.4% (n=701) were received from applicants of 'White' origin. 5.3% of applicants (n=148) chose not to declare their ethnic origin.

Table 5: Applications and programme offers by ethnic group

Group	Percentage of applications		Percentage of successful applicants		Percentage of offers made		Percentage of offers accepted	
White – British	15.2% (429)	22.4% (619)	17.6% (380)	24.4% (526)	17.6% (375)	24.5% (520)	17.7% (342)	24.6% (476)
White - Irish	1.1% (31)		1.2% (26)		1.2% (26)		1.2% (24)	
Any other white background	5.8% (159)		5.6% (120)		5.6% (119)		5.7% (110)	
Mixed White and Black Caribbean	0.2% (5)	3.8% (107)	0.1% (3)	3.4% (74)	0.1% (3)	3.5% (74)	0.2% (3)	3.5% (68)
Mixed White and Black African	1.3% (35)		1.0% (22)		1.0% (22)		1.0% (20)	
Mixed White and Asian	1.5% (42)		1.4% (30)		1.4% (30)		1.5% (29)	
Any other mixed background	0.9% (25)		0.9% (19)		0.9% (19)		0.8% (16)	
Asian or Asian British – Indian	11.3% (313)	40.5% (1120)	11.8% (254)	40% (861)	11.8% (250)	40.0% (852)	12.1% (234)	40.1% (774)
Asian or Asian British – Pakistani	16.5% (456)		15.6% (336)		15.6% (332)		15.2% (294)	
Asian or Asian British – Bangladeshi	4.2% (116)		4.0% (86)		4.1% (86)		4.3% (83)	
Any other Asian background	8.6% (235)		8.6% (140)		8.7% (184)		8.5% (163)	
Black or Black British - Caribbean	0.6% (16)	16.0% (444)	0.4% (9)	14.9% (322)	0.4% (9)	14.9% (318)	0.5% (9)	15.2% (293)
Black or Black British - African	15.1% (417)		14.2% (306)		14.2% (303)		14.4% (278)	
Any other black background	0.4% (11)		0.3% (7)		0.3% (6)		0.3% (6)	
Chinese	5.1% (139)		5.9% (126)		5.8% (124)		5.7% (108)	
Any other ethnic group	6.7% (186)		6.6% (142)		6.5% (139)		6.2% (120)	
Not disclosed	5.5% (148)		4.8% (103)		4.8% (101)		4.7% (91)	
Totals	100.0% (2763)		100.0% (2154)		100.0% (2128)		100.0% (1930)	

8. Group Differences at a Test Level for SJT & Numeracy

8.1. Independent analysis undertaken by the Work Psychology Group examined fairness issues surrounding use of the SJT and Numeracy test. Group differences in performance between applicants were analysed on the basis of age, gender and ethnicity. Analyses were conducted after outliers (applicants with very low/high scores and/or missing data) had been removed.

8.2. Age

8.2.1 Pearson's correlations were conducted to examine the relationships between age and scores on the SJT and Numeracy test.

8.2.2 SJT: A small significant negative correlation (Pearson's r) between age and SJT score was found ($r=-.24$, $p<.001$). This suggests that younger applicants typically performed slightly better than older applicants on the SJT.

8.2.3 Numeracy: A small significant negative correlation (Pearson's r) between age and Numeracy score was found ($r=-.25$, $p<.001$). This suggests that younger applicants typically performed slightly better than older applicants on the Numeracy test.

8.3 Gender

8.3.1 Independent t-tests were conducted to examine whether there were significant differences in SJT and Numeracy test scores based on gender (Table 6).

8.3.2 SJT: A significant difference in performance on the SJT based on sex was found, with a small effect size, indicating that females scored significantly higher than males ($t(1157.72) = -8.22$, $p < .001$, $d = -.39$).

8.3.3 Numeracy: A significant difference in performance on the Numeracy test based on sex was found, indicating that males scored significantly higher than females, however the effect size was small, ($t(2324) = 2.84$, $p < .01$, $d = .13$).

Table 6: Group Differences by Gender

		Female	Male
SJT	N	1661	665
	Mean	563.24	551.76
	Std. Deviation	29.07	30.97
Numeracy	N	1661	665
	Mean	5.27	5.54
	Std. Deviation	2.08	2.11

8.4. Ethnicity

8.4.1 Ethnic backgrounds included: 'White', 'Asian', 'Black', 'Chinese', 'Mixed' and 'Other'. Applicants were also given the response option 'Prefer not to say', though these individuals were not included in the analysis. Analyses of variance (ANOVAs) were conducted to investigate whether there were significant differences on the SJT and Numeracy test scores dependent on ethnicity (Table 7).

8.4.2 SJT: Significant differences in performance between applicants of different race were found on the SJT ($F(5,2252)=30.38$, $p<.001$, $\eta^2 = 0.06$), indicating a medium effect size. Applicants who indicated that they were 'White' performed better than applicants in other groups.

8.4.3 Numeracy: Significant differences in performance between applicants of different race were found on the Numeracy test ($F(5,2252)=29.64$, $p<.001$, $\eta^2 = 0.06$), indicating a medium effect size. Applicants indicating they were 'Chinese' scored significantly higher than those in the 'Asian', 'Black', 'Mixed' and 'Other' groups. Applicants who identified as 'White', scored significantly higher than those indicating they were 'Asian', 'Black', 'Mixed' or 'Other'. Applicants who identified as 'Asian' scored significantly higher than those indicating they were 'Black'. Applicants who identified as 'Other' scored significantly higher than those indicating they were 'Black'.

Table 7: Group Differences by Ethnicity

		White	Asian	Black	Chinese	Mixed	Other
SJT	N	555	945	380	128	88	162
	Mean	572.45	558.78	550.48	560.81	553.31	555.94
	Std. Deviation	27.11	29.71	29.53	24.43	34.49	30.54
Numeracy	N	555	945	380	128	88	162
	Mean	5.93	5.28	4.56	6.46	5.00	5.14
	Std. Deviation	1.95	2.05	1.98	1.86	2.28	2.13

8.5 Summary

- For both the SJT and Numeracy Test, younger applicants scored slightly better than older applicants
- For the SJT, females scored higher than males, and for the Numeracy Test, males scored higher than females (although the difference in scores for both assessments was small).
- For both the SJT and Numeracy Test, differences in performance were seen based on applicant race. For the SJT, White applicants performed better than all other groups. For the Numeracy Test, Chinese and White applicants performed better than Asian, Black, Mixed and Other applicants. Applicants who identified as Asian or Other scored significantly higher than those indicating they were Black. For both the SJT and Numeracy Test, the differences in scores between groups was classified as a medium effect size. For both the SJT and Numeracy Test, younger applicants scored slightly better than older applicants

9. Differential Item Functioning (DIF)

9.1 One explanation for test level group differences within the SJT, is that item content discriminates against particular groups. Items are designed to avoid content that might discriminate, for example, avoiding the use of colloquial words/phrases, which might disadvantage particular groups. Another explanation for group differences in performance is that real differences exist between groups of applicants, which can be due to differences in experience, attitudes or differential self-selection.

DIF analysis was performed to identify whether individual items are differentially difficult for members of different groups (i.e., based on sex and ethnicity). DIF analysis considers whether the prediction of an item's score is improved by

including the background grouping variable in a regression equation after total score has been entered. Following statistical analysis, one item was flagged for sex differences (females performed better than males), and one item was flagged for sex differences (males performed better than females) across the test papers. Four items were flagged for race differences (White performed better than BAME) and five items were flagged for race differences (BAME performed better than White) across the test papers.

Given the majority of items were not flagged for race or sex differences, this suggests that group differences at a test level are not likely to be the result of the questions being more difficult for some groups. Flagged items will be reviewed further to identify elements of any bias in the item content, and any use in future tests considered on that basis.

Differences in Performance Based on Date

9.2 Analysis of variance (ANOVA) were conducted to investigate whether performance differs on the SJT and Numeracy test based on when applicants go through the assessment process. This was operationalised as whether assessments were completed at the beginning (27th September – 30th September), middle (1st – 5th October) or end (6th – 12th October) of the testing period. Analyses were conducted after outliers (applicants (n=5) with very low/high scores and/or missing data had been removed. Descriptive statistics are outlined in Table 8.

9.3 SJT: No significant difference in performance on the SJT based on the time point within the selection window it was completed was found ($F(2,2374)=2.06$, p=ns).

9.4 Numeracy: A significant difference in performance on the Numeracy test was found based on the time point within the selection window it was completed ($F(2,2374)=3.07$, $p<.05$, $\eta^2 = 0.003$). Applicants who completed the Numeracy test in Time 1 scored significantly higher than those who completed the Numeracy test in Time 3 (p=.05), although the effect size was very small.

Table 8: SJT and Numerical assessment performance by date of assessment

Test	Descriptive	Time One 27/09 - 30/09	Time Two 01/10 – 05/10	Time Three 06/10 – 12/10[1]
SJT	N	579	684	1114
	Mean	562.35	559.48	559.41
	Standard Deviation	30.00	30.19	30.05
	Minimum	450.00	434.00	432.00
	Maximum	630.00	652.00	636.00
Numeracy	N	579	684	1114
	Mean	5.49	5.40	5.24
	Standard Deviation	2.04	2.14	2.08
	Minimum	0	0	0
	Maximum	10	10	10

10. Applicants with Tier 4 Student Visas

10.1. International students must in the main switch from a Tier 4 study visa to a general Tier 2 work visa before beginning the foundation year. 11.7% (n=315) of longlisted applications were received from those requiring training places which offer Tier 2 sponsorship.

10.2. Following the selection process, 77.0% (n=242) were deemed successful, amounting to 11.2% of all successful applicants.

10.3. Training place offers were made to 97.1% (n=235) of the applicants requiring tier 2 sponsorship, a 0.4% increase in offers for this group from the previous year. This is largely due to there being a significantly greater number of available Tier 2 places in the NRS than applicants to fill them, affording a variety of training environments for applicants to select from. The centralised approach to trainee recruitment in Wales has seen all trainees become NHS-employed and undertaking rotations across multiple practice areas. NHS-employed pharmacy

[1] Sample also includes 2 applicants that re-sat their assessment on the 13th of October.

trainees receive salaries according to Agenda for Change pay scales which are higher than Tier 2 minimum thresholds, in effect allowing all training posts in Wales to become eligible for selection by Tier 2 candidates.

Region	Community Pharmacy	Hospital
England	104	65
Wales	0	17
Totals	104	82

11. Final programme offers

11.1. At the end of the process, 98.8% of successful applicants (n=2128) had received a programme offer. Of these, 156 offers were declined, 42 offers expired and 19 were accepted and then withdrawn. Overall, 90.0% (n=1911) of final programme offers were accepted by applicants.

11.2. 0.8% (n=17) of successful applicants were left without a foundation programme offer at the end of the process, which was fourteen less than the previous year. These applicants fall into one or both of the following categories:

- 35% (n=6) required a general Tier 2 work visa before beginning the foundation training year and either:
  - did not achieve a ranking high enough to gain an offer for programme/s offering Tier 2 sponsorship
  - preferenced programme/s not able to offer Tier 2 sponsorship

- Applicants did not achieve a ranking high enough to gain an offer for any of their preferenced programme/s. This was common in instances where applicants preferenced very few programmes.

Employer outcomes

12. Fill-rates

12.1 At the end of the recruitment process, 99.8% of available NHS Hospital training places were filled and 38.7% of community pharmacy training places.

12.2. The fill-rate overall was 55.0%. Due to there being a greater number of places in the scheme than applicants to fill them, the maximum fill rate had all trainees been allocated a place was 62.0%.

12.3. Table 9 below provides a breakdown of the fill-rate, by number of training places available within each sector

12.4. The HEE-funded GP foundation pilot achieved an 85.7% fill-rate via the NRS, indicating the attractiveness of these posts regardless of the primary employer being a community or hospital pharmacy

Table 9: Summary of fill-rate by sector.

	NHS Hospital	Large Pharmacy	Medium Pharmacy	Small Pharmacy	Independent Pharmacy	All Programmes
Total Training Places Available	929	1186	320	400	641	3476
Training Places Not Filled	2	888	143	193	339	1565
Overall Fill-Rate (Training Places Filled)	99.8%	25.1%	55.3%	51.8%	47.1%	55.0%

12.5. Table 10 below provides a breakdown of programme fill rate by Health Education England region.

12.6. The ratio of hospital to community pharmacy training places available, particularly in areas that are traditionally hard to recruit to, will have affected regional fill-rates. The South region experienced the lowest fill-rate.

12.7. Wales continued to achieve a fill rate far higher than the NRS average, even in those areas that were traditionally difficult to recruit to. This was likely due in large part to the attractiveness of their multi-sector training programme as described in 10.3 above.

Table 10: Summary of regional fill-rates

HEE Pharmacy Region	HEE Local Area	Places	Accepted	Fill Rate (Local)	Fill Rate (Regional)
Midlands and East	East Midlands	230	125	54.3%	50.2%
Midlands and East	East of England	323	158	49.0%	
Midlands and East	West Midlands	361	176	48.8%	
London and South East	Kent, Surrey and Sussex	265	103	39.0%	62.2%
London and South East	London	763	536	70.2%	
North	North East	186	93	50.0%	57.0%
North	North West	361	234	64.8&	
North	Yorkshire and the Humber	273	139	51.0%	
South	South West	343	122	35.6%	49.0%
South	Thames Valley	137	71	52.0%	
South	Wessex	123	43	35.0%	
Wales	Wales	111	111	100%	100.0%
	TOTALS	3476	1911		

END OF REPORT