

Outcome Report 2022 - 2023

National Foundation Pharmacist Recruitment



March 2023

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Executive Summary

Health Education England coordinated a national scheme for recruitment to foundation pharmacist training programmes for the sixth time in October 2022.

There were 3643 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 3055 applicants applied for training programmes, 2446 of whom attended the assessments. At the end of the process, 98% (n=2395) of successful applicants had received a programme offer and 2163 of these final programme offers were accepted by applicants.

The scheme yielded a fill rate of 99.6% for NHS and 45.0% for community pharmacy programmes, and an overall fill rate of 59.4% to all programmes. The maximum overall fill rate achievable had all successful candidates been allocated places would have been 66.4% due to the large number of places available in the scheme in 2022.

Overview

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

This report provides information on applicants, applications and outcomes of the 2022 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.

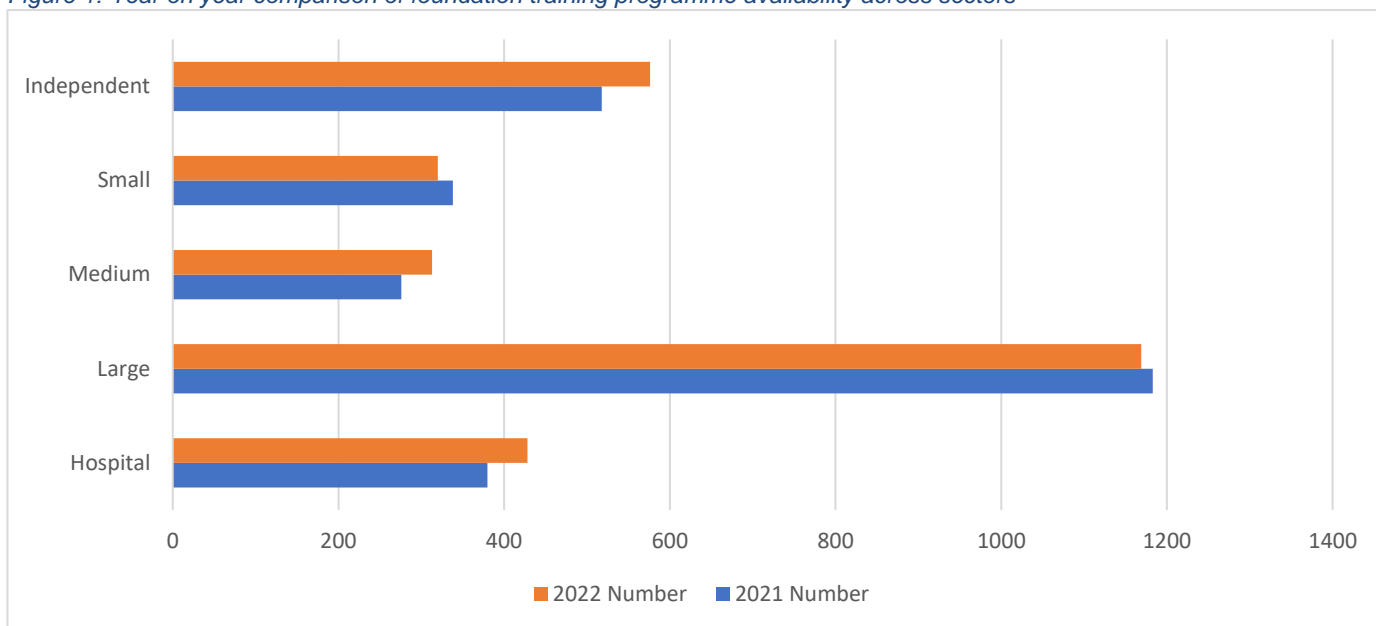
If you would like further information on the process of foundation pharmacy recruitment, please refer to the pharmacy recruitment web pages: <https://www.lasepharmacy.hee.nhs.uk/national-recruitment>

Programme availability

1. Employing organisations, programmes, and training places

- 1.1 The 2022 foundation pharmacist recruitment scheme listed 2806 programmes for applicants to choose from, a 4.1% increase from the fifth year. In total, 3643 training places were available across all programmes, significantly greater than the anticipated number of scheme applicants.
- 1.2 15.3% (n=428) of programmes were within the NHS hospital sector, representing 27% (n=980) of all available training places. This included n=117 places in Wales, in which all trainees are employed by the NHS in a multi-sector training programme. 41.7% (n=1169) of programmes were offered by large community pharmacy employers, 11.2% (n=313) by medium pharmacy employers, 11.4% (n=320) by small pharmacy employers and 20.5% (n=576) by independent pharmacy contractors.
- 1.3 There was a slight overall increase 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 2022 scheme, broken down by sector and geography.

Table 1: Programme Availability in the 2022 Foundation Pharmacist Recruitment Scheme

Sector	Number of Employing Organisations	Number of Programmes	Number of Training Places	Number of Tier 2 Sponsor Licences
NHS Hospital	160	428	980	968
Large Community Pharmacy (Branches 200+)	5	1169	1177	0
Medium Community Pharmacy (Branches 25-200)	39	321	359	62
Small Community Pharmacy (Branches 6-25)	94	311	373	93
Independent Community Pharmacy (Branches 1-6)	471	577	754	147
TOTALS	769	2806	3643	1270

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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	15 (50)	87 (88)	36 (41)	18 (22)	36 (50)
Midlands and East	East of England	41 (82)	110 (110)	27 (29)	30 (35)	87 (118)
Midlands and East	West Midlands	30 (78)	104 (104)	53 (57)	65 (75)	70 (90)
London and South East	Kent, Surrey and Sussex	39 (68)	103 (107)	16 (16)	8 (8)	42 (53)
London and South East	London	59 (221)	83 (85)	33 (39)	122 (153)	225 (290)
North	North East	17 (52)	94 (94)	24 (24)	1 (2)	9 (11)
North	North West	35 (92)	148 (148)	41 (55)	32 (42)	37 (45)
North	Yorkshire and the Humber	30 (60)	137 (137)	40 (42)	14 (14)	29 (42)
South	South West	58 (97)	202 (203)	10 (10)	25 (27)	21 (22)
South	Thames Valley	17 (33)	51 (51)	31 (36)	4 (4)	12 (17)
South	Wessex	15 (30)	50 (50)	2 (2)	1 (1)	8 (14)
Wales	Wales	72 (117)	0 (0)	0 (0)	0 (0)	0 (0)
	TOTALS	428 (980)	1169 (1177)	313 (351)	320 (383)	576 (752)

2. Skilled Worker Visa Sponsorship

- 2.1 Skilled Worker Visa-sponsored training place availability in the community pharmacy sector increased to 302 places in 2022; 33.6% (n=76) more sponsored places in total than were available to applicants' requiring visas in 2021 (n=226).

3. Multi-sector placements

- 3.1 Three hundred and eight collaborative organisations registered split-placement training programmes on Oriel in 2022. These included HEE funded multi-sector programmes such as the GP foundation pilot. Programmes were split between at least two sectors, including Hospital, Community Pharmacy, GP Practice and Clinical Commissioning Groups, and for the first time, Health and Justice posts.
- 3.2 Six hundred and eighty multi-sector programmes were available in total, representing a total of 932 training places. Split training programme availability was generally evenly spread across the regions, with the fewest programmes found in Wessex (n=12) and the most available in Wales (n=85) and London (n=176)

Applicant outcomes

4. Applications

- 4.1 The number of applications received via the Oriel system was 3055 (not including incomplete applications), compared with 2585 received in the first year, 2592 in the second year, 2485 in the third year, 2524 in the fourth year and 2763 in the fifth year.
- 4.2 8% (n=243) of applicants were either currently enrolled on an accredited Overseas Pharmacists' Assessment Programme (OSPAP) or were OSPAP graduates.

5. Longlisting

- 5.1 0.2% of total applicants (n=6) did not progress through the formal longlisting process due to not meeting basic eligibility criteria.
- 5.2 Twenty-seven applicants subsequently withdrew their application, leaving 3022 applicants invited to assessment: a 12% increase from the previous year.

6. Assessments

- 6.1 2446 applicants attended their assessments. Of these, 2419 (99.9%) 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=3049)
 - Offer - applicants who received a foundation programme offer (n=2395), irrespective of whether this offer was accepted by the applicant.
- 7.2 Table 3 overleaf provides a breakdown of applicant gender, along with data pertaining to successful applicants and programme offers received by these two groups.

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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	23.5%	28.3%	28.4%	27.2%
Female	58.0%	69.7%	69.7	71.0%
Not disclosed	18.5%	1.9%	1.9%	1.8%
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	68.9%	83.3%	83.4%	84.0%
25-29 years	6.2%	7.3%	7.3%	6.9%
30-34 years	2.5%	2.9%	2.9%	2.7%
35-39 years	2.3%	2.8%	2.8%	2.6%
40-44 years	1.0%	1.3%	1.3%	1.2%
45-49 years	0.4%	0.3%	0.3%	0.4%
50-54 years	0.1%	0.1%	0.1%	0.1%
55-64 years	0.1%	0.1%	0.1%	0.1%
Not disclosed	18.5%	1.9%	1.8%	1.8%
Totals	100%	100%	100%	100%

*Age at 01 September 2022

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

7.4 58.3% (n=1782) of applications were received from applicants of 'Black, Asian and minority ethnic' (BAME) origin and 20.4% (n=623) were received from applicants of 'White' origin. 21.1% of applicants (n=644) chose not to declare their ethnic origin.

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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	12.8%	17.7% (540)	15.8%	21.7% (525)	15.9%	21.8% (523)	16.4%	21.7% (470)				
White - Irish	(390)		1.2%		(382)		1.3%		(354)			
Any other white background	1.0%		(30)		4.7%		(113)		4.7%	(112)	4.4%	(95)
Mixed White and Black Caribbean	3.9%	3.1% (96)	0.2%	3.9% (94)	0.3%	3.9% (93)	0.3%	4.0% (86)				
Mixed White and Black African	(7)		0.2%		(6)		0.3%		(6)			
Mixed White and Black African	1.0%		(32)		1.3%		(31)		1.3%	(30)	1.2%	(26)
Mixed White and Asian	1.4%		(44)		1.8%		(44)		1.8%	(44)	1.9%	(42)
Any other mixed background	0.4%		(13)		0.5%		(13)		0.5%	(13)	0.6%	(12)
Asian or Asian British Indian	10.7%	34.5% (1052)	12.8%	41% (992)	12.8%	41.1% (985)	13.2%	41.2% (892)				
Asian or Asian British Pakistani	(327)		14.6%		(310)		14.7%		(307)			
Asian or Asian British Bangladeshi	12.5%		(380)		4.7%		(113)		4.7%	(113)	4.9%	(107)
Any other Asian background	3.8%		(117)		8.9%		(215)		8.9%	(214)	8.9%	(192)
Black or Black British Caribbean	7.5%	12.7% (387)	0.2%	15.1% (365)	0.3%	14.9% (357)	0.3%	14.6% (316)				
Black or Black British African	(228)		0.2%		(6)		0.3%		(6)			
Any other black background	11.9%		(364)		14.2%		(343)		14.0%	(335)	13.6%	(295)
Chinese	0.6%	(17)	0.7%	(16)	0.7%	(16)	0.7%	(15)				
Chinese	4.2% (129)		5.3% (128)		5.3% (127)		5.5% (120)					
Any other ethnic group	6.6% (201)		8% (193)		8% (191)		8.0% (172)					
Not disclosed	21.1% (644)		5% (122)		5.9% (119)		4.9% (107)					
Totals	100% (3049)		100% (2419)		100% (2395)		100% (2163)					

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 (n=8).

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 weak significant negative correlation (Pearson’s r) between age and SJT score was found ($r=-.070$, $p<.001$). This suggests that younger applicants typically performed slightly better than older applicants on the SJT.
- 8.2.3 Numeracy: A weak significant negative correlation (Pearson’s r) between age and Numeracy score was found ($r=-.063$, $p<.01$). 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 sex (Table 6).
- 8.3.2 SJT: A significant difference in performance on the SJT based on sex was found, although the effect size was small, indicating that females scored slightly higher than males ($t(2389) = -7.79$, $p<.001$, $d = -.35$).
- 8.3.3 Numeracy: A significant difference in performance on the Numeracy test based on sex was found, although the effect size was small, indicating that males scored slightly higher than females, ($t(1395.76) = 3.23$, $p<.01$, $d = .14$).

Table 6: Sex – Descriptive Statistics by Selection Method

		Female	Male
SJT	N	1703	688
	Mean	569.12	558.58
	Std. Deviation	29.81	30.33
Numeracy	N	1703	688
	Mean	7.34	7.56
	Std. Deviation	1.57	1.42

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 ($F(5,2309)=22.83$, $p<.001$, $\eta^2=0.05$), indicating a small effect size. Applicants who indicated that they were 'White' scored significantly higher than those in the 'Asian', 'Black', 'Mixed', and 'Other' groups. Applicants who identified as 'Chinese' scored significantly higher than those who indicated they were 'Asian', 'Black', or 'Other'.
- 8.4.3 Numeracy: Significant differences in performance between applicants of different race were found on the Numeracy test ($F(5,2309)=21.49$, $p<.001$, $\eta^2=0.04$), indicating a small effect size. Applicants indicating they were 'Chinese' scored significantly higher than all other groups. Applicants who indicated they were 'White', scored significantly higher than those in the 'Asian', 'Black', 'Mixed' and 'Other' groups. Applicants who identified as 'Asian' scored significantly higher than those indicating they were 'Black'.

Table 7: Race - Descriptive Statistics by Selection Method

		White	Asian	Black	Chinese	Mixed	Other
SJT	N	524	1001	371	128	95	196
	Mean	577.63	562.45	562.86	572.75	563.38	560.24
	Std. Deviation	27.15	30.99	27.22	28.13	31.46	32.45
Numeracy	N	524	1001	371	128	95	196
	Mean	7.74	7.35	6.97	8.30	7.23	7.27
	Std. Deviation	1.29	1.57	1.64	0.88	1.66	1.60

8.5. Summary

- For both the SJT and Numeracy Test, younger applicants scored slightly better than older applicants.
- For the SJT, females typically scored higher than males, and for the Numeracy Test, males typically scored higher than females (although the difference in scores was small).
- For both the SJT and Numeracy Test, differences in performance were seen based on applicant race. For the SJT, White and Chinese applicants performed better than Asian, Black, Mixed and Other applicants. For the Numeracy Test, Chinese and White applicants performed better than Asian, Black, Mixed and Other applicants. Applicants who identified as Asian 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.

9. Differential Item Functioning (DIF)

- 9.1 One explanation for the test level group differences is that SJT item content discriminates against particular groups. Items are therefore 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 scores have been entered. A positive result suggests that people with similar overall scores from different groups have different success rates on the item. However, because of the number of statistical tests involved, there is a danger that random differences may reach statistical significance (type 1 error). For this reason, positive results are treated as 'flags' for further investigation of items, rather than, confirmation of differences or bias. Items exhibiting R-squared values with negligible effect size, even where these differences are significant, are unlikely to indicate a meaningful difference in the performance between the groups. As such, only items exhibiting at least a small effect size are reported, as determined by an R-square change value of 0.01 or above (Cohen, 1988).

Two items were flagged for sex differences (females performed better than males for one item and males performed better than females for the other item) at a test level for Paper A.

A. No items were flagged for sex differences at a test level for Paper B. Two items were flagged for ethnicity differences (White performed better than BME for one item and BME performed better than White for one item) at a test level for Paper A. Three items were flagged for ethnicity differences (White performed better than BME for one item and BME performed better than White for two items) at a test level for Paper B.

Given the majority of items were not flagged for sex or ethnicity differences, this suggests that group differences at a test level are not likely the result of the questions being more difficult for some groups. Therefore, it is recommended that other explanations of group differences are considered. The items that were flagged will be reviewed in light of the results to identify whether there appears to be any bias in the item content. A note will also be made in the item bank so that this analysis can be taken into consideration in the placement of the item for any future use.

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 (26th September – 29th September), middle (30th September – 4th October) or end (5th – 10th October) of the testing period. The same size per testing window differed considerably, n=371 (15.2%) completed the test in Time One, n=624 (25.6%) completed the test in Time Two, and the majority of applicants (n=1443; 59.2%) completed the test in Time Three. Analyses were conducted after outliers (applicants (n=8) 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 ($F(2,2435)=1.97$, $p=ns$).
- 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 ($F(2,2435)=4.53$, $P<.05$, $\eta^2= 0.004$). Applicants who completed the Numeracy test in Time 1 scored significantly higher than those who completed the Numeracy test in Time 3 ($p=.024$), although the effect size was small. No other comparisons between time points were significant

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

Test	Descriptive	Time One	Time Two	Time Three
		26/09 - 29/09	30/09 – 04/10	05/10 – 10/10
SJT	N	371	624	1443
	Mean	568.01	567.18	565.07
	Standard Deviation	29.49	30.79	30.22
	Minimum	445.00	430.00	421.00
	Maximum	640.00	641.00	647.00
Numeracy	N	371	624	1443
	Mean	7.57	7.49	7.34
	Standard Deviation	1.50	1.49	1.55
	Minimum	1	2	2
	Maximum	10	10	10

10. Applicants with Tier 4 Student Visas

- 10.1. International students in the main, require a Tier 4 visa to undertake their academic study in the UK. 9.3% (n=284) of longlisted applications were received from those who indicated that their immigration status as requiring a Tier 4/student visa. These applicants would generally enter their training year either by applying for a Skilled Worker (formerly Tier 2) Visa (requiring employers to be registered as sponsors) or obtaining a training place via the Graduate Visa route of entry.
- 10.2. Following the selection process, 85.3% (n=244) of applicants with Tier 4 visas were deemed successful, amounting to 10.1% of all successful applicants.
- 10.3. Training place offers were made to 100% (n=244) of Tier 4 student visa applicants, a 2.9% increase in offers for this group from the previous year. This is largely due to there being a significantly greater number of available Skilled Worker Visa (SWV) places in the NRS than applicants to fill them and the option of the Graduate Visa route, affording a variety of training environments for applicants to select from. Any applicant wishing to utilise the Graduate Visa route of entry could select any training place within the NRS, as this route does not require employers to be registered as sponsors for overseas trainees

- 10.4 Table 9 below provides a breakdown of places accepted by those applicants on Tier 4 student visas, displayed by employer type and nation.

Table 9: Tier 2 training places accepted by employer type and region

Region	Community Pharmacy	Hospital
England	139	96
Wales	0	9
Totals	139	105

11. Final programme offers

- 11.1. At the end of the process, 99% of successful applicants (n=2395) had received a programme offer. Of these, 134 offers were declined, 65 offers expired and 33 were accepted and then withdrawn. Overall, 90.3% (n=2163) of final programme offers were accepted by applicants.
- 11.2. 0.9% (n=22) of successful applicants were left without a foundation programme offer at the end of the process, which was five more than the previous year. These applicants did not achieve a ranking high enough to gain an offer for any of their preferred programmes. This was common in instances where applicants preferred very few programmes.

Employer outcomes

12. Fill-rates

- 12.1 At the end of the recruitment process, 99.6% of available NHS Hospital training places were filled and 44.6% of community pharmacy training places.
- 12.2. The fill-rate overall was 59.4%. 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 66.4%.
- 12.3. Table 10 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 a 78.7% fill-rate via the NRS, indicating the attractiveness of these posts regardless of the primary employer being a community or hospital pharmacy

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Table 10 : Summary of fill-rate by sector.

	NHS Hospital	Large Pharmacy	Medium Pharmacy	Small Pharmacy	Independent Pharmacy	All Programmes
Total Training Places Available	980	1177	351	383	752	3643
Training Places Not Filled	4	805	163	161	347	1480
Overall Fill-Rate (Training Places Filled)	99.6% (976)	31.6% (372)	53.6% (188)	58.0% (222)	53.9% (405)	59.4% (2163)

- 12.5. Table 11 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 11: Summary of regional fill-rates

HEE Pharmacy Region	HEE Local Area	Places	Accepted	Fill Rate (Local)	Fill Rate (Regional)
Midlands and East	East Midlands	251	146	58.2%	54.0%
Midlands and East	East of England	374	164	43.9%	
Midlands and East	West Midlands	404	246	60.9%	
London and South East	Kent, Surrey and Sussex	252	114	45.2%	67.3%
London and South East	London	788	586	74.4%	
North	North East	183	102	32.5%	53.6%
North	North West	382	257	67.3%	
North	Yorkshire and the Humber	295	172	58.3%	
South	South West	359	139	38.7%	43.7%
South	Thames Valley	141	76	53.9%	
South	Wessex	97	46	47.4%	
Wales	Wales	117	115	98.3%	98.3%
TOTALS		3643	2163		

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