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Quarterly vaccination coverage statistics for children aged up to five years in the UK (COVER programme): January to March 2019

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Quarterly vaccination coverage statistics for children aged up to five years in the UK (COVER programme): January to March 2019

This report summarises UK quarterly vaccine coverage data for each routine childhood vaccination for children who reached their first, second, or fifth birthday during the evaluation quarter. Analyses are presented at NHS England local team (April 2018 configuration) and devolved administration levels only.

Key points for the fourth quarterly report for 2018/19

- UK and England vaccine coverage evaluated at the first birthday decreased by 0.2 - 0.3% for all antigens compared with the previous quarter except rotavirus vaccine which remained at 90.5% for the UK and increased by 0.1% to 90.1% for England
- Scotland, Wales and Northern Ireland also experienced small decreases in coverage for most antigens when measured at 12 months, however, Scotland and Wales continue to achieve above 95% coverage for DTaP/IPV/Hib/HepB3, PCV2 and MenB2, and Northern Ireland achieved above 94% for each of these vaccines at this age. In England no local teams achieved 95% coverage for all three vaccines
- UK vaccine coverage estimates for most vaccines evaluated at 24 months remained the same as the previous quarter, the exceptions were DTaP/IPV/Hib3 decreasing 0.1% and PCV booster increasing 0.1%. In England vaccine coverage for all vaccines offered at or after the first birthday were unchanged this quarter; only DTaP/IPV/Hib3 decreased by 0.2%
- UK and England coverage at 5 years also remained very similar to the previous quarter with no change in primary DTaP/IPV/Hib3 (95.6% and 95.3% respectively) and slight increases in MMR1 (95.0% and 94.7%). Coverage for the three devolved administrations continued to exceed 95% for MMR1 and 97% for DTaP/IPV/Hib3. Coverage at five years for these vaccines primarily reflects children vaccinated four years ago
- UK booster coverage for Hib/MenC increased by 0.1% to 93.1% and decreased by 0.1% for the pre-school booster (86.1%). MMR2 remained unchanged at 87.4%. Both MMR2 and pre-school booster coverage exceeded 90% in the devolved administrations, but only two English local teams reached this level for both vaccines
- Following continued improved data quality for London the report has discontinued reporting England (excluding London) data, and has resumed describing coverage at UK, national and local team levels

1. Cohort definitions for January to March 2019

Children who reached their first birthday in the quarter (born January to March 2018) were all scheduled for three doses of combined diphtheria, tetanus, acellular pertussis, polio, *Haemophilus influenzae* type b, hepatitis B vaccine (known as DTaP/IPV/Hib/HepB or hexavalent vaccine) which replaced DTaP/IPV/Hib (pentavalent) vaccine from autumn 2017 [1]. The third dose of priming vaccine would have been scheduled between May and July 2018. Children born to hepatitis B surface antigen (HBsAg) positive mothers who reached their first birthday in this quarter should also have received monovalent hepatitis B vaccine at birth and four weeks of age.

Children born January to March 2018 will also have been scheduled for two doses of pneumococcal conjugate vaccine (PCV), Meningococcal B vaccine (MenB), and rotavirus vaccine [2].

Children who reached their second birthday in the quarter (born January to March 2017) were scheduled to receive their third DTaP/IPV/Hib, second PCV, MenB and rotavirus vaccinations between May and July 2017, and their first measles, mumps, and rubella (MMR) vaccination, a booster dose of Hib and MenC (given as a combined Hib/MenC vaccine), MenB and PCV vaccines at the same visit at 12 months of age, between February and April 2018.

Children born to hepatitis B surface antigen (HBsAg) positive mothers, who reached their second birthday in this quarter (born January to March 2017), were scheduled to receive a second of monovalent hepatitis B vaccine at one year of age.

Children who reached their fifth birthday in the quarter (born January to March 2014) were scheduled to receive their third dose DTaP/IPV/Hib and second PCV and one MenC vaccination between May and July 2014. They were also scheduled to receive their first MMR, Hib/MenC booster and PCV booster after their first birthday (born January to March 2015) between February and April 2015, and their pre-school diphtheria, tetanus, acellular pertussis, inactivated polio booster (DTaP/IPV) and second dose MMR from April 2017.

Children born in areas where there is a universal neonatal BCG programme (i.e. TB incidence $\geq 40/100,000$) who reach their first birthday in this quarter (born January to March 2018) were scheduled to receive BCG at birth.

Coverage evaluated at the first, second and fifth birthdays by country and new NHS England local teams (configuration as at 1 April 2018) are described in the appendix.

2. Participation and data quality

Data were received from all Health Boards (HBs) in Scotland, Northern Ireland and Wales. In England, Local Teams (LTs) and Child Health Record Departments (CHRDs) provided data for all upper tier local authorities (LAs). Individual LA data including numerators, denominators, coverage and relevant caveats where applicable are available [here](#).

Since April 2017, four CHIS Hubs provide COVER data for the whole of London and the data submitted from these newly established Hubs reflects a system in transition (see 3.1). Issues

relating to complexities in data flows between providers and child health information systems (CHISs), and inconsistencies in data coding resulted in decreases in London-level coverage estimates for the 12 and 24 month and 5 year evaluations being first reported six months ago [3]. Due to the impact London data has on national figures, no national or UK level data were published in the April to June 2018 quarter. To assess trends in coverage accounting for the data quality issues, England (all) and UK level data were published alongside England (excluding London) figures. However, London data quality has improved from the July to September 2018 [4,5], in particular for legacy data (figure 3) and as no further concerns have arisen this report does not include a presentation of England data excluding London.

Detailed caveats regarding any data quality issues for individual English LA data, including changes in denominators due to the NHS England CHIS data validation exercise conducted from the third quarter of 2018-19, are available [here](#).

3. Developments in immunisation data

3.1 NHS Digital Child Health Strategy

The new NHS England Healthy Children: Transforming Child Health Information strategy [6] aims to transform child health information services by making these systems interoperable, reducing the administrative burden of information recording and sharing. Part of this programme includes merging CHIS systems into local hubs that can provide COVER data for several LAs in one submission. Since April 2017 four CHIS Hubs are providing COVER data for all London boroughs. In England, the number of CHIS systems has decreased from over 100 in 2015 to around 70 by mid-2017. As different phases of the digital strategy are implemented across the country it is anticipated that there may be further temporary local data quality issues associated with transition.

3.2 Changes to COVER programme scope and reporting methodology

As reported in the last COVER report [4] it is anticipated that, contingent on a successful pilot, the collection of COVER data will be transferred during 2019/20 from PHE to NHS Digital's Strategic Data Collection Service (SDCS) and merged with the current SDCS practice level vaccine coverage collection (formally collected via the Child Immunisation Unify2 data collection). The analysis and reporting of the quarterly COVER report remains with PHE, and the annual vaccine coverage report is anticipated to be published as a joint PHE/NHS Digital report. From 2019/20 it is therefore anticipated that the COVER collection will include both LA and GP level coverage.

4. Results

4.1 Coverage at 12 months

UK coverage for DTaP/IPV/Hib/HepB3 and PCV2 evaluated at the first birthday decreased by 0.3% to 92.3% and 92.9% respectively, and MenB2 decreased by 0.3% to 92.5% compared to the previous quarter [5]. Rotavirus vaccine coverage remained at 90.5%. England vaccine

coverage also decreased by 0.2- 0.3% for these vaccines compared with the previous quarter and rotavirus vaccine increasing by 0.1% (table 1).

London coverage estimates for all but one vaccine evaluated at 12 months have remained stable compared to the previous quarter suggesting the data quality issues have been resolved: DTaP/IPV/Hib/HepB3 increased 0.1% to 87.7%, and PCV2 and MenB2 decreased 0.1% to 88.2% and 87.3% respectively. Rota2 increased 0.6% to 86.3% (table 1) [4].

Scotland and Wales have seen small decreases for most antigens this quarter but continue to achieve above 95% coverage for DTaP/IPV/Hib(HepB)3, PCV2 and MenB2 at 12 months, and Northern Ireland achieved above 94% for each of these vaccines. In England no local teams achieved 95% coverage for these three vaccines (table 1).

4.2 Coverage at 24 months

UK vaccine coverage estimates for most vaccines evaluated at 24 months remained the same as the previous quarter, the exceptions were DTaP/IPV/Hib3 decreasing 0.1% and PCV booster increasing 0.1%. In England vaccine coverage for all vaccines offered at on or after the first birthday were unchanged this quarter; only DTaP/IPV/Hib3 decreased by 0.2%. (table 2) [4]. In Wales coverage for all vaccines evaluated at 24 months of age increased 0.3 to 0.4% compared to the previous quarter [4]. Quarterly coverage for DTaP/IPV/Hib3 in Scotland and Wales was at least 97%, and at least 96% in Northern Ireland. In England coverage was 94% and eight of 13 local teams achieved 95% for DTaP/IPV/Hib3. PCV, Hib/MenC and MenB boosters, and MMR1 all exceeding 93% in Scotland and Wales. In Northern Ireland only PCV booster achieved at least 92% with the other three vaccines achieving at least 91% (table 2). In England, three local teams achieved 93% coverage for PCV and Hib/MenC boosters and for MMR1. MenB booster coverage remained at 88.4% in England with eight local teams achieving at least 90%.

4.3 Coverage at five years

UK and England coverage at 5 years also remained very similar to the previous quarter with no change in primary DTaP/IPV/Hib3 (95.6% and 95.3% respectively). MMR1 increased by 0.1% (95.0% and 94.7%). UK booster coverage for Hib/MenC increased by 0.1%, remained unchanged for MMR2 and decreased by 0.1% for DPaP/IPV.

Coverage for the three devolved administrations continued to exceed the 95% WHO target for MMR1 and was over 97% for DTaP/IPV/Hib3. Coverage at five years for these vaccines primarily reflects children vaccinated four years ago.

Both MMR2 and pre-school booster (DTaP/IPV) coverage exceeded 90% in the devolved administrations, but only two English local teams reached this level for both vaccines (table 3).

4.4 Neonatal hepatitis B vaccine coverage in England

This is the second quarter where neonatal HepB vaccine coverage data in England evaluates five doses of hepatitis B vaccine (two monovalent and three hexavalent doses) in infants born to hepatitis B surface antigen (HBsAg) positive mothers, who reached the age of one year in this quarter (i.e. those born between January to March 2018). National coverage was 78% compared to 79% in the previous quarter [4].

Coverage of four doses of monovalent vaccine in infants continues to be reported for children who reached two years of age in the quarter (i.e. those born between January to March 2017) and was 79% compared to 76% last quarter.

These data are presented by local team in table 4. The quality of these data is variable and coverage by former local team can be based on small numbers. As such, data should be interpreted with caution. Where an area reported no vaccinated children, a check was made to ensure that this was zero reporting rather than absence of available data.

5. Relevant links for country-specific coverage data

Quarterly England data: <https://www.gov.uk/government/collections/vaccine-uptake#cover-of-vaccination-evaluated-rapidly-programme>

Annual England data: <https://digital.nhs.uk/data-and-information/publications/statistical/nhs-immunisation-statistics>

Quarterly Northern Ireland: <http://www.publichealthagency.org/directorate-public-health/health-protection/vaccination-coverage>

Scotland: <http://www.isdscotland.org/Health-Topics/Child-Health/Immunisation/>

Wales: <http://www.wales.nhs.uk/sites3/page.cfm?orgid=457&pid=54144/>

COVER submission and publication dates:

<https://www.gov.uk/government/publications/vaccine-coverage-statistics-publication-dates>

Other relevant links

<https://www.gov.uk/government/collections/immunisation>

6. References

1. Public Health England. Hexavalent combination vaccine: routine programme guidance. <https://www.gov.uk/government/publications/hexavalent-combination-vaccine-programme-guidance>
2. Public Health England. The complete routine immunisation schedule. <https://www.gov.uk/government/publications/the-complete-routine-immunisation-schedule>
3. Public Health England (2018). Vaccination coverage statistics for children up to the age of five years in the United Kingdom, April to June 2018. *HPR* 12(35): <https://www.gov.uk/government/statistics/cover-of-vaccination-evaluated-rapidly-cover-programme-2018-to-2019-quarterly-data>
4. Public Health England (2018). Vaccination coverage statistics for children up to the age of five years in the United Kingdom, July to September 2018. *HPR* 12(45): <https://www.gov.uk/government/statistics/cover-of-vaccination-evaluated-rapidly-cover-programme-2018-to-2019-quarterly-data>
5. Public Health England (2018). Quarterly vaccination coverage statistics for children aged up to five years in the UK (COVER programme) : October to December 2018. *HPR* 13(11): <https://www.gov.uk/government/statistics/cover-of-vaccination-evaluated-rapidly-cover-programme-2018-to-2019-quarterly-data>
6. NHS England. Digital Child Health Transformation Programme. <https://www.england.nhs.uk/digital-technology/child-health/>

Appendix: Tables

Table 1. Completed UK primary immunisations at 12 months by country and England local team : January to March 2019 (*October to December 2018*)

Table 2. Completed UK primary immunisations at 24 months by country and NHS England local team January to March 2019 (*October to December 2018*)

Table 3. Completed UK primary immunisations and boosters at five years by country and NHS England local team: January to March 2019 (*October to December 2018*)

Table 4. Neonatal hepatitis B coverage at 12 and 24 months in England by NHS England Area Team : January to March 2019 (*October to December 2018*)

Table 5. BCG vaccine coverage at 12 months in English local authorities with TB incidence ≥ 40 per 100,000 and offering a universal programme: January to March 2019 (*October to December 2018*)

Table 1. Completed UK primary immunisations at 12 months by country and English Local Teams¹: January to March 2019 (October to December 2018)

	Country	No. of LAs/HBs [†]	DTaP/IPV/Hib(HepB)3%	PCV2%	Rota2%	MenB2%
	United Kingdom²	177	92.3 (92.6)	92.9 (93.2)	90.5 (90.5)	92.5 (92.8)
	Wales	7	95.3 (95.7)	95.4 (95.9)	93.6 (93.9)	95.2 (95.6)
	Northern Ireland	4	94.2 (94.0)	94.5 (94.4)	91.9 (92.2)	94.1 (94.1)
	Scotland	14	95.7 (95.9)	96.1 (96.4)	93.1 (92.7)	95.7 (95.8)
	England	152	91.9 (92.1)	92.5 (92.8)	90.1 (90.0)	92.0 (92.3)
LT code	NHS England Local Teams¹					
Q71	London	33	87.7 (87.6)	88.2 (88.3)	86.3 (85.7)	87.3 (87.4)
Q72	North (Yorkshire & Humber)	15	94.0 (93.9)	94.2 (94.3)	92.2 (91.8)	93.9 (94.1)
Q73	North (Lancashire & Grt. Manchester)	13	92.0 (90.9)	93.2 (92.1)	89.2 (88.7)	92.7 (91.6)
Q74	North (Cumbria & North East)	13	94.7 (95.8)	95.1 (96.0)	93.5 (94.6)	94.9 (95.8)
Q75	North (Cheshire & Merseyside)	9	92.0 (92.8)	92.3 (93.2)	89.6 (90.9)	92.5 (93.5)
Q76	Midlands & East (North Midlands)	8	93.6 (93.8)	94.2 (94.2)	92.1 (92.0)	93.9 (94.0)
Q77	Midlands & East (West Midlands)	10	90.7 (91.3)	91.4 (92.0)	88.6 (87.5)	90.9 (91.6)
Q78	Midlands & East (Central Midlands)	10	92.4 (92.8)	93.6 (94.0)	90.8 (90.9)	93.0 (93.6)
Q79	Midlands & East (East)	7	93.7 (93.6)	94.3 (94.1)	91.9 (91.96)	93.9 (93.7)
Q85	South West (South West South)	9	94.4 (95.0)	94.8 (95.3)	92.2 (92.6)	94.4 (94.9)
Q86	South West (South West North)	7	93.6 (93.8)	94.0 (94.3)	91.1 (91.5)	93.6 (94.0)
Q87	South East (Hampshire, Isle of Wight and Thames Valley)	12	94.1 (94.7)	94.7 (94.8)	91.9 (91.9)	94.0 (94.1)
Q88	South East (Kent, Surrey and Sussex)	6	90.2 (92.5)	91.3 (93.3)	89.5 (91.0)	90.8 (93.0)

[†] Local Authorities /Health Boards.

¹ April 2018 configuration of NHS England Local Teams

Quarterly vaccination coverage statistics for children aged up to five years in the UK (COVER programme): January to March 2019

Health Protection Report Volume 13 Number 22

Table 2. Completed UK primary immunisations at 24 months by country and NHS England local team¹: January to March 2019 (October to December 2018)

Country	No. of LAs/ HBs [†]	DTaP/IPV/Hib3%	PCV booster%	Hib/MenC booster%	MMR1%	MenB booster%
United Kingdom ²	177	94.5 (94.6)	90.7 (90.6)	90.8 (90.8)	90.5 (90.5)	89.1 (89.1)
Wales	7	97.1 (96.8)	94.9 (94.5)	94.5 (94.1)	94.6 (94.3)	94.2 (93.8)
Northern Ireland	4	96.5 (96.9)	92.5 (92.5)	91.7 (92.5)	91.2 (92.3)	91.4 (92.2)
Scotland	14	97.0 (97.0)	94.2 (94.0)	94.2 (94.1)	93.6 (93.6)	93.5 (93.5)
England ²	152	94.0 (94.2)	90.1 (90.1)	90.3 (90.3)	90.0 (90.0)	88.4 (88.4)
NHS England local teams*						
Q71	33	90.8 (90.9)	82.3 (82.6)	82.7 (82.9)	82.3 (82.3)	80.2 (80.1)
Q72	15	95.2 (95.7)	92.6 (93.1)	92.5 (93.2)	92.4 (92.9)	91.1 (91.8)
Q73	13	94.0 (92.7)	91.2 (91.1)	91.7 (91.8)	91.6 (91.5)	87.4 (87.7)
Q74	12	95.8 (96.4)	93.5 (94.4)	93.8 (94.5)	93.6 (94.2)	92.4 (93.3)
Q75	9	95.0 (95.8)	91.5 (92.4)	91.8 (92.3)	91.0 (92.0)	92.8 (93.1)
Q76	8	95.4 (96.0)	91.8 (92.0)	91.8 (92.0)	91.5 (91.9)	90.2 (90.4)
Q77	10	94.0 (94.0)	89.9 (89.7)	90.1 (90.0)	89.9 (89.9)	88.3 (88.3)
Q78	10	94.4 (94.7)	90.9 (90.7)	91.4 (91.2)	90.9 (90.6)	89.1 (89.0)
Q79	7	95.5 (95.3)	92.5 (91.7)	92.6 (91.8)	92.4 (91.4)	91.3 (90.0)
Q85	9	95.5 (95.8)	93.3 (93.5)	93.3 (93.5)	93.1 (93.2)	92.5 (92.8)
Q86	7	95.8 (96.3)	93.0 (93.1)	93.1 (93.2)	93.1 (93.1)	91.9 (92.1)
Q87	12	95.7 (95.7)	92.7 (92.4)	93.0 (92.7)	92.7 (92.6)	91.6 (91.4)
Q88	6	92.8 (93.6)	91.5 (90.2)	91.0 (90.3)	91.2 (90.1)	89.3 (88.2)

[†] Local Authorities/Health Boards

* See table 1 for key to local team organisational code

¹ April 2018 configuration

² Data quality issues associated with complexities in data flows between providers and child health information systems, and inconsistencies in data coding affected some LAs in London significantly under-estimating coverage in the previous two quarters.

Table 3. Completed UK primary immunisations and boosters at five years by country and NHS England local team¹: January to March 2019 (October to December 2018)

Country	Number of LAs/HBs [†]	Primary		Booster		
		DTaP/IPV/Hib3%	MMR1%	MMR2%	DTaP/IPV%	Hib/MenC%
United Kingdom ²	177	95.6 (95.6)	95.0 (94.9)	87.4 (87.4)	86.2 (86.3)	93.1 (93.0)
Wales	7	97.5 (97.3)	97.2 (96.7)	92.4 (92.3)	92.9 (92.7)	95.6 (94.8)
N. Ireland	4	97.1 (97.4)	96.6 (96.7)	91.6 (91.7)	92.9 (92.3)	95.9 (96.2)
Scotland	14	97.9 (97.9)	96.6 (97.0)	91.1 (91.8)	91.5 (92.2)	95.9 (96.2)
England ²	152	95.3 (95.3)	94.7 (94.6)	86.7 (86.6)	85.1 (85.3)	92.7 (92.6)
<i>English Local Teams</i>						
Q71	33	92.8 (92.0)	90.7 (90.1)	76.7 (75.7)	74.0 (73.1)	88.6 (87.9)
Q72	15	96.2 (96.1)	95.8 (95.2)	89.9 (89.9)	89.2 (89.1)	93.7 (93.4)
Q73	13	94.5 (94.7)	95.1 (95.3)	88.4 (88.5)	87.3 (87.3)	93.4 (93.9)
Q74	13	97.3 (97.6)	97.2 (97.4)	92.1 (92.6)	91.1 (91.3)	95.3 (95.8)
Q75	9	96.7 (96.4)	95.8 (95.8)	89.1 (88.7)	88.7 (89.2)	93.9 (93.8)
Q76	8	97.3 (97.1)	96.7 (96.4)	89.2 (89.2)	88.2 (88.1)	95.0 (94.7)
Q77	10	95.9 (95.5)	95.4 (94.9)	86.3 (85.9)	84.9 (85.0)	94.1 (93.5)
Q78	10	96.1 (96.3)	95.7 (95.6)	88.6 (89.1)	87.0 (87.4)	93.3 (93.3)
Q79	7	96.6 (96.4)	95.8 (95.8)	89.6 (88.6)	88.9 (87.5)	93.9 (93.5)
Q85	9	96.7 (97.4)	96.1 (96.6)	91.8 (92.4)	90.4 (90.5)	95.1 (95.7)
Q86	7	96.6 (97.4)	96.0 (96.7)	90.4 (90.8)	89.7 (89.7)	95.5 (95.8)
Q87	12	96.2 (96.0)	95.2 (94.7)	89.1 (88.9)	86.9 (86.6)	93.6 (93.0)
Q88	6	92.1 (93.3)	92.9 (93.8)	84.8 (86.5)	82.6 (87.1)	89.0 (89.4)

* See table 1 for key to NHS England local team organisational code.

¹ April 2018 configuration

² Data quality issues associated with complexities in data flows between providers and child health information systems, and inconsistencies in data coding affected some LAs in London significantly under-estimating coverage in the previous two quarters.

Quarterly vaccination coverage statistics for children aged up to five years in the UK (COVER programme): January to March 2019

Health Protection Report Volume 13 Number 22

Table 4. Neonatal hepatitis B coverage at 12 and 24 months in England by NHS England Local Team: January to March 2019 (October to December 2018)

NHS England Local Team Code*	LA returns with 12 month data	12 month denominator	% Coverage at 12 months (5 doses) ¹	LA returns with 24 month data	24 month denominator	% Coverage at 24 months (4 doses) ²
Q71	33 of 33	156	78 (84)	33 of 33	169	88 (87)
Q72	15 of 15	28	89 (85)	15 of 15	30	87 (87)
Q73	10 of 13	57	33 (30)	10 of 13	79	28 (23)
Q74	12 of 13	9	89 (100)	12 of 13	11	73 (100)
Q75	6 of 9	7	71 (75)	5 of 9	12	33 (33)
Q76	8 of 8	16	94 (90)	8 of 8	21	95 (81)
Q77	10 of 10	56	86 (92)	10 of 10	55	100 (94)
Q78	10 of 10	41	90 (98)	10 of 10	72	86 (75)
Q79	7 of 7	20	70 (71)	7 of 7	33	67 (72)
Q85	9 of 9	9	100 (80)	9 of 9	3	67 (94)
Q86	7 of 7	19	84 (70)	7 of 7	12	92 (94)
Q87	12 of 12	31	87 (85)	12 of 12	39	97 (97)
Q88	6 of 6	33	91 (86)	6 of 6	24	96 (76)
England¹	145 of 152	482	78 (79)	144 of 152	560	79 (76)

* See table 1 for key to NHS England Local Team organisational code

¹babies offered two monovalent HepB vaccines (at birth and one month) and three hexavalent vaccines (at two, three and four months)

²babies offered four doses of monovalent HepB vaccine (at birth, one, two and 12 months)

Table 5. BCG vaccine coverage at 12 months in English local authorities with TB incidence ≥ 40 per 100,000 and offering a universal programme: January to March 2019 (October to December 2018)

Upper tier Local Authority	Three-year average (2014-16) annual TB rate per 100,000	Number of eligible children (1st birthday in Jan to March 2019)	Universal BCG coverage% (previous quarterly estimate)
Newham	69.0	1464	70.2 (66.0)
Brent	57.8	1082	34.9 (36.6)
Hounslow	47.5	928	16.6 (22.6)
Ealing	47.3	1193	37.0 (33.7)
Slough	41.8		No universal programme
Redbridge	41.5	1083	74.1 (66.9)

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