



Public Health
England

Unlinked Anonymous Dried Blood Spot Survey of Newborn Infants - Prevalence of HIV in Women Giving Birth. Data tables: 2004 - 2013

Data type: service data

Data supplied by

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Notes: data type

Service data: Data represent women giving birth residing in the areas of the country covered

Survey methodology

Pregnant women are an important group to target for HIV prevention as early diagnosis and appropriate management reduces the risk of mother to child transmission and improves mother's prognosis. Data from this group can also be used to contribute to the understanding of the role of HIV in the general population in the UK. The survey used left over dried blood spots taken from infants around seven days after birth and tested them for maternal HIV infection. The spots were taken for routine metabolic screening and sent to one of 13 neonatal screening laboratories. In the participating laboratories, once the routine screening work was complete extra spots were punched and sent to virology laboratories where they were tested for maternal HIV antibody. Data recorded on the screening cards were collected and sent to the Office for National Statistics where maternal demographic data were collected through temporary linkage to birth registration records. This provided access to disaggregate demographic data on the mother such as country of birth and age group. This process was undertaken whilst at all times maintaining the unlinked anonymous nature of the survey. Importantly all samples were irreversibly unlinked and anonymised prior to HIV testing.

Acknowledgements

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Institute of Child Health, UCL	Sheffield Children's Hospital
John Radcliffe Hospital	Sheffield General Hospital
Great Ormond Street Hospital	University Hospital Aintree

Glossary

HIV	Human Immunodeficiency Virus
DBS	Dried Blood Spot



Tables 1a & 1b. Summary of data collected: 2004 - 2013

Table 1a. Summary of total Dried Blood Spots tested and confirmed positive by year

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total samples eligible	399,374	401,710	397,036	463,468	476,918	410,619	275,615	268,987	270,181	127,604
Total samples tested	398,351	399,834	394,212	460,650	474,168	409,898	275,345	238,635	270,406	127,518
Total positive samples detected	817	882	901	1003	983	912	687	533	571	170
Total prevalence	0.205%	0.221%	0.229%	0.218%	0.207%	0.222%	0.250%	0.223%	0.211%	0.133%

Table 1b. Summary of total Dried Blood Spots included in the Enhanced survey and therefore with demographic data available (see table 3. onwards)

Total number in enhanced survey	251,378	321,302	330,373	344,279	356,024	270,503	275,345	238,635	270,406	127,518
Proportion of whole survey enhanced	63%	80%	84%	75%	75%	66%	100%	100%	100%	100%

Data source: Unlinked anonymous seroprevalence of newborn infant dried blood spots

Data collection for the UA DBS survey stopped at the end of 2013. Data were not collected for all areas in 2013 and to a lesser extent in 2012 particularly in London. Data for Inner London represent women residing in South West London only. As a result data for these years should not be considered as a true representation of HIV prevalence.



Table 2. Prevalence of HIV in women giving birth: London, England and Scotland 2004 - 2013

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Inner London										
HIV-1 seropositive	284	252	252	262	246	246	209	241	141	9
Total tested	51,131	52,284	53,566	55,746	57,045	57,915	58,092	58,248	46,414	7,143
Objections	5	11	2	3	22	13	25	19	36	0
Samples insufficient for testing	138	96	6	1	170	69	18	70	23	3
Prevalence (%)	0.5554	0.4820	0.4704	0.4700	0.4312	0.4248	0.3598	0.4137	0.3038	0.1260
District range of prevalence	0.17-1.12	0.13-0.83	0.21-0.70	0.16-0.95	0.16-0.63	0.09-0.75	0.13-0.61	0.13-0.47	0.17-0.51	0.13-0.13
Outer London										
HIV-1 seropositive	218	261	250	268	238	269	293	226	220	25
Total tested	63,416	64,907	66,053	70,603	72,657	74,419	75,722	75,194	69,180	11,379
Objections	1	6	0	8	13	16	20	20	41	0
Samples insufficient for testing	96	55	8	5	340	109	32	144	25	4
Prevalence (%)	0.3438	0.4021	0.3785	0.3796	0.3276	0.3615	0.3869	0.3006	0.3180	0.2197
District range of prevalence	0-0.78	0-0.66	0.08-0.79	0-0.71	0.10-0.68	0.12-0.73	0.10-0.72	0.05-0.69	0-0.85	0.06-0.34
England, outside London										
HIV-1 seropositive	315	369	399	474	499	397	388	410	210	136
Total tested	283,804	283,525	275,574	335,171	344,466	277,566	262,514	262,573	154,812	108,996
Objections	85	38	26	73	71	39	20	15	70	1
Samples insufficient for testing	698	1681	2785	2730	2134	475	185	195	78	78
Prevalence (%)	0.1110	0.1301	0.1448	0.1414	0.1449	0.1430	0.1478	0.1561	0.1356	0.1248
PCT range of prevalence	0-0.46	0-0.23	0.05-0.22	0-0.63	0-0.54	0-0.57	0-0.56	0-0.53	0-0.40	0-0.71
England Total Tested	398,351	400,716	395,193	461,520	474,168	409,900	396,328	396,015	270,406	127,518
Scotland¹										
HIV-1 seropositive	28	19	14	22	27	-	-	-	-	-
Total tested	53,828	26,664	28,033	28,679	31,150	-	-	-	-	-
Objections	0	0	0	0	0	-	-	-	-	-
Samples insufficient for testing	0	0	0	0	0	-	-	-	-	-
Prevalence (%)	0.0520	0.0713	0.0499	0.0767	0.0867	-	-	-	-	-
District range of prevalence	0-0.11	0-1.99	0-0.18	0-0.24	0-0.19	-	-	-	-	-
All Total Tested	452,179	427,380	423,226	490,199	505,318	-	-	-	-	-

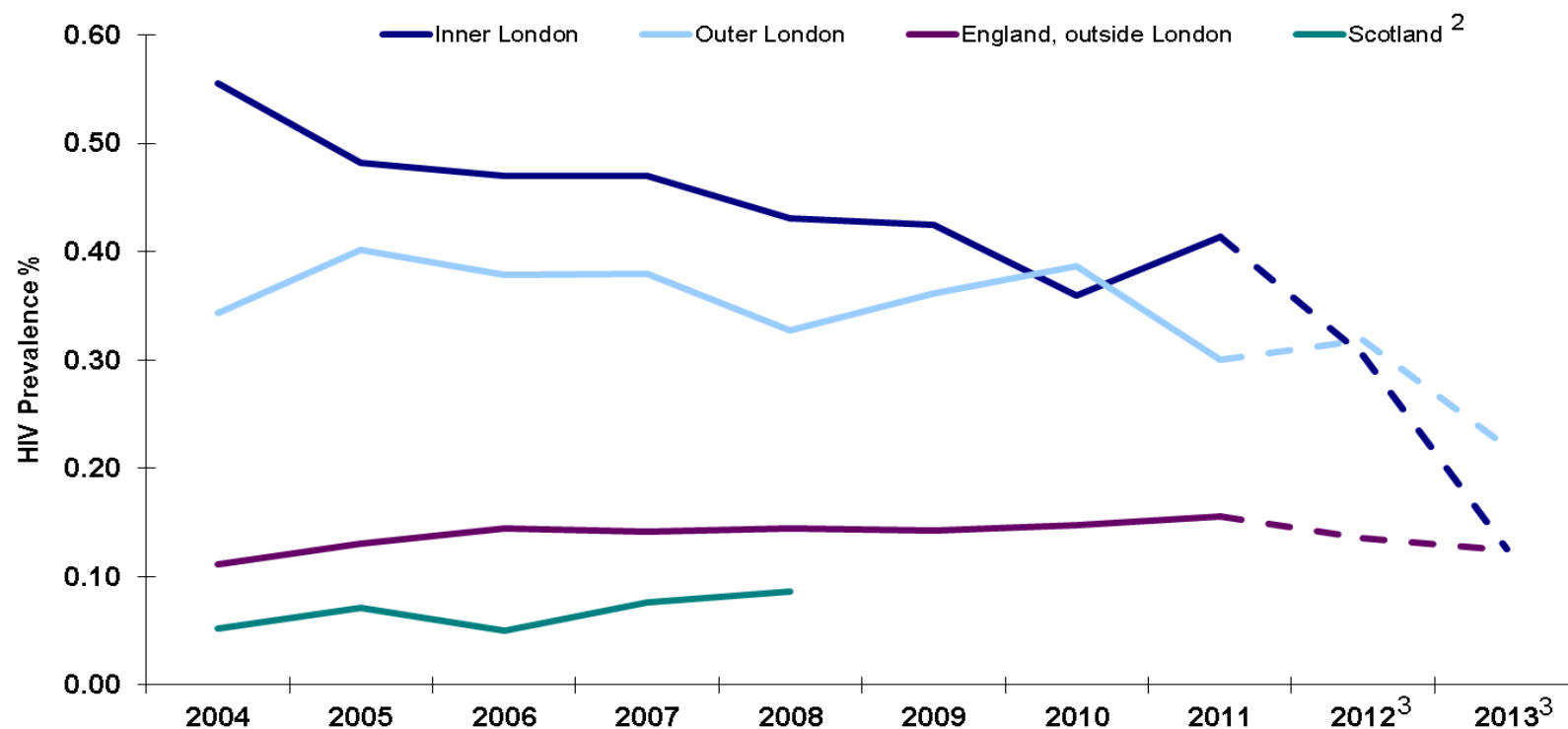
Data source: Unlinked anonymous seroprevalence of newborn infant dried blood spots

1. Data from Scotland are not available after 2008.

2. Data collection for the UA DBS survey stopped at the end of 2013. Data were not collected for all areas in 2013 and to a lesser extent in 2012 particularly in London. Data for Inner London represent women residing in South West London only. As a result data for these years should not be considered as a true representation of HIV prevalence.



Figure 1. HIV prevalence¹ in pregnant women by area of residence in England and Scotland: 2004-2013



Data Source: Unlinked anonymous seroprevalence of newborn infant dried blood spots.

1 Includes previously diagnosed, those diagnosed through antenatal screening and those remaining undiagnosed.

2 Data from Scotland are no longer available from 2009 onwards.

3 Data collection for the UA DBS survey stopped at the end of 2013. Data were not collected for all areas in 2013 and to a lesser extent in 2012 particularly in London. Data for Inner London represent women residing in South West London only. As a result data for these years should not be considered as a true representation of HIV prevalence.



Table 3. Prevalence of HIV¹ in women giving birth in England by world region of birth: 2004 - 2013

		2004	2005	2006	2007	2008	2009	2010	2011	2012 & 2013	Total
Unknown	%	0.54	0.43	0.28	0.26	0.37	0.39	0.21	0.40	0.35	0.33
	n/N	63 11,603	66 15,505	146 52,654	58 22,461	62 16,808	21 5,336	10 4,768	29 7,348	18 5,101	473 141,584
Sub-Saharan Africa	%	2.51	2.40	2.58	2.57	2.45	2.44	2.33	2.28	2.34	2.43
	n/N	474 18,883	548 22,799	535 20,708	645 25,061	630 25,706	582 23,852	714 30,705	615 26,965	402 17,170	5,145 211,849
Central America & Caribbean	%	0.64	0.79	0.66	0.61	0.70	0.78	1.02	0.57	0.50	0.71
	n/N	17 2,636	24 3,050	18 2,729	19 3,094	20 2,856	20 2,565	33 3,239	16 2,850	9 1,796	176 24,815
Central & East Asia	%	0	0.03	0	0.04	0.03	0.02	0.03	0.00	0.04	0.02
	n/N	0 3,370	1 3,892	0 3,780	2 5,106	2 5,860	1 5,360	2 7,322	0 6,947	2 5,389	10 47,026
South East Asia	%	0.17	0.19	0.21	0.41	0.13	0.20	0.28	0.58	0.10	0.26
	n/N	5 2,986	7 3,608	7 3,386	16 3,871	5 3,912	7 3,425	13 4,597	25 4,338	3 3,148	88 33,271
Southern Asia	%	0.03	0.02	0.03	0.01	0.02	0.04	0.02	0.03	0.03	0.03
	n/N	6 18,110	5 24,605	8 23,309	3 26,477	7 28,217	8 21,268	6 31,459	9 31,756	6 21,866	58 227,067
Eastern Europe	%	0.09	0.06	0.08	0.06	0.06	0.08	0.05	0.10	0.07	0.07
	n/N	3 3,272	3 4,799	5 5,905	7 11,116	8 14,418	11 14,013	11 21,318	21 20,932	12 16,982	81 112,755
South & West Europe	%	0.14	0.22	0.18	0.16	0.15	0.12	0.18	0.10	0.14	0.15
	n/N	11 7,753	19 8,663	14 7,723	14 8,563	13 8,762	10 8,086	21 11,727	10 10,817	12 8,708	124 80,802
Rest	%	0.02	0.08	0.09	0.08	0.05	0.05	0.08	0.10	0.06	0.07
	n/N	3 14,908	13 16,897	15 15,987	15 18,922	10 19,580	10 18,750	19 25,142	24 23,564	11 18,081	120 171,831
UK	%	0.05	0.04	0.04	0.04	0.04	0.05	0.04	0.05	0.04	0.04
	n/N	87 167,857	83 217,484	77 194,193	91 219,608	100 229,905	77 167,848	126 287,486	124 265,076	80 212,663	845 1,962,120
Total	%	0.27	0.24	0.25	0.25	0.24	0.28	0.29	0.22	0.18	0.24
	n/N	669 251,378	769 321,302	825 330,374	870 344,279	857 356,024	747 270,503	955 427,763	874 400,593	555 310,904	7,121 3,013,120

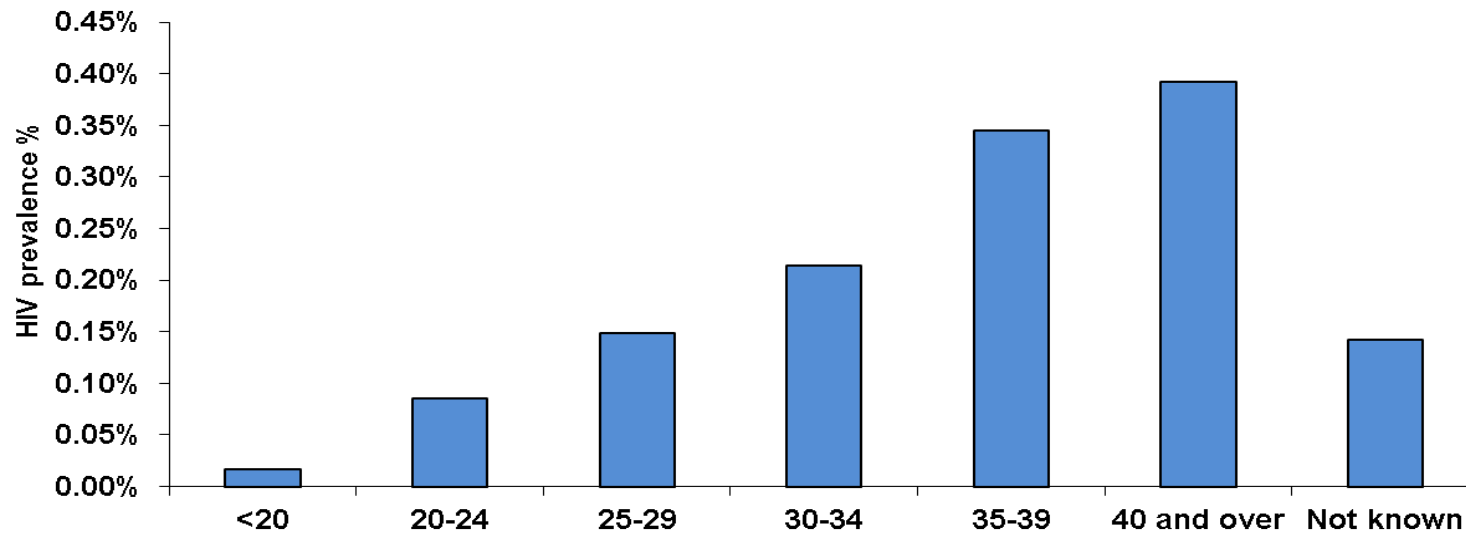
Data Source: Unlinked anonymous seroprevalence of newborn infant dried blood spots.

1 Includes previously diagnosed, those diagnosed through antenatal screening and those remaining undiagnosed.

2 Data collection for the UA DBS survey stopped at the end of 2013. Data were not collected for all areas in 2013 and to a lesser extent in 2012 particularly in London. Data for both years has been combined in this table to provide a more accurate measure of HIV prevalence according to region of birth.



**Figure 2. HIV prevalence¹ among women giving birth in England
by age group: 2012 & 2013²**



Age Group	<20	20-24	25-29	30-34	35-39	40 and over	Not known	Total
Positive DBS	2	43	124	198	174	52	219	812
Tested DBS	12,322	50,597	83,382	92,551	50,493	13,265	154,298	456908
Prevalence	0.02%	0.08%	0.15%	0.21%	0.34%	0.39%	0.14%	0.18%

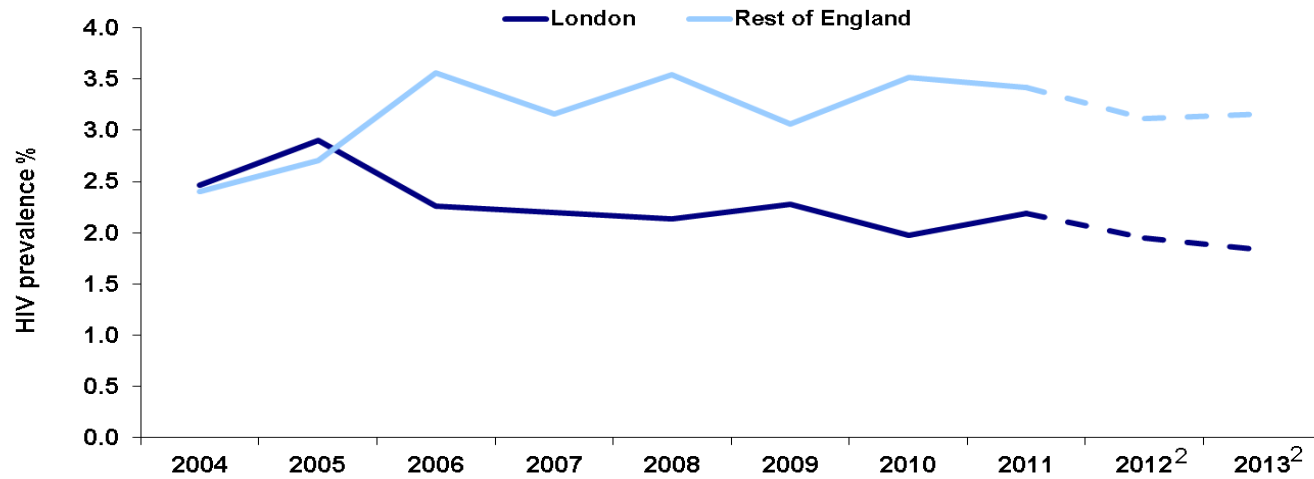
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Figure 3. Prevalence of HIV¹ in sub Saharan African born women giving birth by area of residence: England



		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
London	Positive DBS	343	363	276	408	354	408	367	325	267	26
	Tested DBS	15,205	16,551	12,914	17,887	17,899	18,616	18,854	17,742	12,698	1,967
	Prevalence	2.26%	2.19%	2.14%	2.28%	1.98%	2.19%	1.95%	1.83%	2.10%	1.32%
Rest of England	Positive DBS	126	176	121	142	266	172	286	283	200	81
	Tested DBS	3,543	5,567	3,419	4,632	7,574	5,037	9,172	8,957	6,372	3,006
	Prevalence	3.56%	3.16%	3.54%	3.07%	3.51%	3.41%	3.12%	3.16%	3.14%	2.69%

Data Source: Unlinked anonymous seroprevalence of newborn infant dried blood spots.

1 Includes previously diagnosed, those diagnosed through antenatal screening and those remaining undiagnosed.

2 Data collection for the UA DBS survey stopped at the end of 2013. Data were not collected for all areas in 2013 and to a lesser extent in 2012 particularly in London. Data for both years has been combined in this table to provide a more accurate measure of HIV prevalence according to region of birth.