

**UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND (THE)**

Last Updated: 2008-01-30

Level	Date	Region and sample descriptor	Sex	Age (years)	Sample size	Haemoglobin (g/L)						Mean	SD	Method	Reference	Notes	
						Proportion (%) of population with haemoglobin below:										General	Line
						70	100	110	115	120	130						
N	2000 -2001	NPNLW: Total	F	19.00- 64.99	683					8.0	134	10	NS	4154	*	1	
		Men: Total	M	19.00- 64.99	638					3.0	151	10			2		
		NPNLW by age	F	19.00- 24.99	81					7.0	135	11			3		
		NPNLW by age	F	25.00- 34.99	162					8.0	133	9			4		
		NPNLW by age	F	35.00- 49.99	243					10.0	133	10			5		
		NPNLW by age	F	50.00- 64.99	196					7.0	135	11			6		
		NPNLW by region: Scotland	F	19.00- 64.99	53						136	10			7		
		NPNLW by region: Northern	F	19.00- 64.99	178						134	10			8		
		NPNLW by region: Central, South West and Wales	F	19.00- 64.99	258						134	11			9		
		NPNLW by region: London and the South East	F	19.00- 64.99	194						132	11			10		
		Men by age	M	19.00- 24.99	83					0.0	152	10			11		
		Men by age	M	25.00- 34.99	170					2.0	151	10			12		
		Men by age	M	35.00- 49.99	191					4.0	151	11			13		
		Men by age	M	50.00- 64.99	194					3.0	149	10			14		
		Men by region: Scotland	M	19.00- 64.99	53						151	9			15		
		Men by region: Northern	M	19.00- 64.99	178						151	10			16		
		Men by region: Central, South West and Wales	M	19.00- 64.99	226						151	9			17		
		Men by region: London and the South East	M	19.00- 64.99	181						150	12			18		
LU	2000 -2001	Gateshead: Children	B	1.08- 1.16	461			6.1			122		D	4938	*	19	
N	1997	Young persons: Total	B	4.00- 18.99	1181								NS	3466	*	20	
		Young persons by sex	F	4.00- 18.99	565						129	10			21		
		Young persons by sex	M	4.00- 18.99	616						135	13			22		
		Young persons by sex and age	F	4.00- 6.99	82			8.0			124	10			23		
		Young persons by sex and age	M	4.00- 6.99	86			3.0			125	8			24		
		Young persons by sex and age	F	7.00- 10.99	143				16.0		128	10			25		
		Young persons by sex and age	M	7.00- 10.99	185				4.0		130	8			26		
		Young persons by sex and age	F	11.00- 14.99	171				4.0		133	9			27		
		Young persons by sex and age	M	11.00- 14.99	181				8.0		134	10			28		
		Young persons by sex and age	F	15.00- 18.99	169				9.0		131	9			29		
		Young persons by sex and age	M	15.00- 18.99	164					1.0	149	9			30		
		Young persons by sex and region: Scotland	F	4.00- 18.99	35						129	9			31		
		Young persons by sex and region: Scotland	M	4.00- 18.99	45						133	12			32		
		Young persons by sex and region: Northern	F	4.00- 18.99	141						129	9			33		
		Young persons by sex and region: Northern	M	4.00- 18.99	166						136	12			34		

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						Proportion (%) of population with haemoglobin below:										General	Line
						70	100	110	115	120	130						
N	1997	Young persons by sex and region: Central, South W	F	4.00- 18.99	201							130	10	NS	3466		35
		Young persons by sex and region: Central, South W	M	4.00- 18.99	225							135	12				36
		Young persons by sex and region: London and Sout	F	4.00- 18.99	188							130	10				37
		Young persons by sex and region: London and Sout	M	4.00- 18.99	180							135	13				38
L	1996 -1997	London: PW	F	NS	1650							123	9	D	4815	*	39
N	1996	Children: Total	B	2.00- 2.07	980			24.1						D	944	*	40
		Children by ethnicity: Bangladeshi	B	2.00- 2.07	239			25.0				116	15				41
		Children by ethnicity: Pakistani	B	2.00- 2.07	311			29.0				114	14				42
		Children by ethnicity: Indian	B	2.00- 2.07	430			20.0				116	11				43
N	1994 -1995	Free-living women: Total	F	65.00-NS	554					9.0		135	12	A	3260	*	44
		Free-living men: Total	M	65.00-NS	429					11.0		145	13				45
		Institutional women: Total	F	65.00-NS	204					39.0		123	14				46
		Institutional men: Total	M	65.00-NS	65					52.0		128	18				47
		Free-living women by age	F	65.00- 74.99	311					6.0		136	11				48
		Free-living women by age	F	75.00- 84.99	190					13.0		133	12				49
		Free-living women by age	F	85.00-NS	53					16.0		131	13				50
		Free-living women by region: Scotland and the Nort	F	65.00-NS	154							135	13				51
		Free-living women by region: Central, South West a	F	65.00-NS	179							135	10				52
		Free-living women by region: London and South Eas	F	65.00-NS	141							134	12				53
		Free-living men by age	M	65.00- 74.99	284					7.0		147	12				54
		Free-living men by age	M	75.00- 84.99	125					16.0		144	14				55
		Free-living men by age	M	85.00-NS	20					37.0		133	17				56
		Free-living men by region: Scotland and the North	M	65.00-NS	165							147	14				57
		Free-living men by region: Central, South West and	M	65.00-NS	206							146	12				58
		Free-living men by region: London and South East	M	65.00-NS	124							143	14				59
		Institutional women by age	F	65.00- 84.99	104					37.0		123	14				60
Institutional women by age	F	85.00-NS	101					40.0		123	14	61					
L	1994 P	Wembley: School-age girls	F	11.00- 14.99	114					20.2		130	11	A	3882	*	62
L	1993 -1997	Newcastle upon Tyne: Adults: Total	B	25.00- 74.99	1861					14.7				D	2528	*	63
		Newcastle upon Tyne: Adults by sex	F	25.00- 74.99	936												64
		Newcastle upon Tyne: Adults by sex	M	25.00- 74.99	925					5.6							65

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Level	Date	Region and sample descriptor	Sex	Age (years)	Sample size	Haemoglobin (g/L)						Mean	SD	Method	Reference	Notes	
						Proportion (%) of population with haemoglobin below:										General	Line
						70	100	110	115	120	130						
L	1993 -1997	Newcastle upon Tyne: Adults by sex and ethnicity: E	F	25.00- 74.99	396					7.6	133	11	D	2528		66	
		Newcastle upon Tyne: Adults by sex and ethnicity: E	M	25.00- 74.99	423					5.7	148	11				67	
		Newcastle upon Tyne: Adults by sex and ethnicity: In	F	25.00- 74.99	153					22.2	126	13				68	
		Newcastle upon Tyne: Adults by sex and ethnicity: In	M	25.00- 74.99	104					6.7	149	12				69	
		Newcastle upon Tyne: Adults by sex and ethnicity: P	F	25.00- 74.99	147					19.0	130	13				70	
		Newcastle upon Tyne: Adults by sex and ethnicity: P	M	25.00- 74.99	155					5.8	150	12				71	
		Newcastle upon Tyne: Adults by sex and ethnicity: B	F	25.00- 74.99	49					32.7	124	11				72	
		Newcastle upon Tyne: Adults by sex and ethnicity: B	M	25.00- 74.99	63					6.3	149	12				73	
		Newcastle upon Tyne: Adults by sex and ethnicity: C	F	25.00- 64.99	191					15.7	131	13				74	
		Newcastle upon Tyne: Adults by sex and ethnicity: C	M	25.00- 64.99	180					4.4	151	12				75	
D	1993 -1994	Avon: Children by age	B	1.00- 1.07	900			18.0		118	10	B	943	*	76		
		Avon: Children by age	B	1.50- 1.57	796			17.3		117	10				77		
		Avon: Children by sex and age	F	1.00- 1.07	402					118	11				78		
		Avon: Children by sex and age	M	1.00- 1.07	498					117	10				79		
		Avon: Children by sex and age	F	1.50- 1.57	361					118	10				80		
		Avon: Children by sex and age	M	1.50- 1.57	435					116	10				81		
D	1993	Avon: Children	B	0.67- 0.71	1075			23.0		117	11	B	4758	*	82		
		Avon: Children by sex	F	0.67- 0.71	480					117					83		
		Avon: Children by sex	M	0.67- 0.71	595					117					84		
N	1992 -1993	Children: Total	B	1.50- 4.57	951			8.0		122	9	A	3279	*	85		
		Children by sex	F	1.50- 4.57	476			9.0		121	9				86		
		Children by sex	M	1.50- 4.57	475			7.0		122	9				87		
		Children by age	B	1.50- 2.49	310			12.0		120	9				88		
		Children by age	B	2.50- 3.49	351			6.0		122	9				89		
		Children by sex and age	F	3.50- 4.57	153			8.0		123	8				90		
		Children by sex and age	M	3.50- 4.57	137			4.0		124	10				91		
		Children by region: Scotland	B	1.50- 4.57	94					120	8				92		
		Children by region: Northern	B	1.50- 4.57	245					122	9				93		
		Children by region: Central, South West and Wales	B	1.50- 4.57	325					121	9				94		
Children by region: London and South East	B	1.50- 4.57	287					122	9		95						
L	1991 -1994	Oxford City: Elderly: Total	B	65.00-NS	1502							NS	3636	*	96		
		Oxford City: Elderly by sex	F	65.00-NS	884				17.3							97	

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Level	Date	Region and sample descriptor	Sex	Age (years)	Sample size	Haemoglobin (g/L)						Mean	SD	Method	Reference	Notes		
						Proportion (%) of population with haemoglobin below:										General	Line	
						70	100	110	115	120	130							
L	1991 -1994	Oxford City: Elderly by sex	M	65.00-NS	618						20.6			NS	3636		98	
		Oxford City: Elderly by age	B	65.00- 74.99	639													99
		Oxford City: Elderly by age	B	75.00-NS	863													100
		Oxford City: Elderly by sex and age	F	65.00- 74.99	354					9.9		132	11					101
		Oxford City: Elderly by sex and age	M	65.00- 74.99	285						14.4	141	13					102
		Oxford City: Elderly by sex and age	F	75.00-NS	530						22.3	127	13					103
		Oxford City: Elderly by sex and age	M	75.00-NS	333							137	13					104
		L	1991 -1992	Southampton: PW: Total	F	16.00-NS	576			6.0				124	9	C	4367	*
Southampton: PW by age	F			16.00- 20.99	58							122					106	
Southampton: PW by age	F			21.00- 25.99	161							124					107	
Southampton: PW by age	F			26.00- 30.99	225							125					108	
Southampton: PW by age	F			31.00-NS	132							124					109	
Southampton: PW by pregnancy number: primiparo	F			16.00-NS	306							124					110	
Southampton: PW by pregnancy number: multiparo	F			16.00-NS	270							124					111	
L	1991 P			Sheffield: Children	B	0.33- 3.41	135			17.0						NS	4288	*
		L	1990	Epsom: SAC: Total	B	12.00- 14.99	399									A	2503	*
Epsom: SAC by sex	F			12.00- 14.99	197					10.7		133	10				114	
Epsom: SAC by sex	M			12.00- 14.99	202							143	11				115	
R	1990 P	Northern Ireland: Women: Total	F	18.00- 64.99	283					12.4				C	2505	*	116	
		Northern Ireland: Men	M	18.00- 64.99	218						2.3	149					117	
		Northern Ireland: Women by age	F	18.00- 44.99	192					13.5		131					118	
		Northern Ireland: Women by age	F	45.00- 64.99	91					9.8		134					119	
N	1986 -1987	NPW: Total	F	18.00- 64.99	856							132		NS	3258	*	120	
		Men: Total	M	18.00- 64.99	846							148					121	
		NPW by age	F	18.00- 24.99	110							132					122	
		NPW by age	F	25.00- 34.99	199							131					123	
		NPW by age	F	35.00- 49.99	315							131					124	
		NPW by age	F	50.00- 64.99	232							134					125	
		NPW by region: Scotland	F	18.00- 64.99	77							133					126	
		NPW by region: Northern	F	18.00- 64.99	208							133					127	
		NPW by region: Central, South West and Wales	F	18.00- 64.99	300							131					128	

**UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND (THE)**

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Level	Date	Region and sample descriptor	Sex	Age (years)	Sample size	Haemoglobin (g/L)						Mean	SD	Method	Reference	Notes	
						Proportion (%) of population with haemoglobin below:										General	Line
						70	100	110	115	120	130						
N	1986 -1987	NPW by region: London and South East	F	18.00- 64.99	271							132		NS	3258		129
		Men by age	M	18.00- 24.99	129							149					130
		Men by age	M	25.00- 34.99	197							148					131
		Men by age	M	35.00- 49.99	289							149					132
		Men by age	M	50.00- 64.99	231							147					133
		Men by region: Scotland	M	18.00- 64.99	69							146					134
		Men by region: Northern	M	18.00- 64.99	214							149					135
		Men by region: Central, South West and Wales	M	18.00- 64.99	288							148					136
		Men by region: London and South East	M	18.00- 64.99	275							148					137
		R	1976 P	South Wales: Adults: Total	B	18.00-NS	1255										
South Wales: Adults by sex	F			18.00-NS	858					5.7					139		
South Wales: Adults by sex	M			18.00-NS	397						4.5				140		
South Wales: Adults by area: Area 1	B			18.00-NS	688										141		
South Wales: Adults by area: Area 2	B			18.00-NS	567										142		
South Wales: Adults by sex, age and area: Area 1	F			18.00- 64.99	354							139	13		143		
South Wales: Adults by sex, age and area: Area 1	M			18.00- 64.99	190							155	12		144		
South Wales: Adults by sex, age and area: Area 1	F			65.00-NS	111							135	15		145		
South Wales: Adults by sex, age and area: Area 1	M			65.00-NS	33							148	13		146		
South Wales: Adults by sex, age and area: Area 2	F			18.00- 64.99	316							136	13		147		
South Wales: Adults by sex, age and area: Area 2	M			18.00- 64.99	136							154	10		148		
South Wales: Adults by sex, age and area: Area 2	F			65.00-NS	77							136	16		149		
South Wales: Adults by sex, age and area: Area 2	M			65.00-NS	38							141	21		150		
L	1975 -1977			Glasgow: PW: Total	F	NS- 24.99	1179									NS	4996
		Glasgow: PW by age	F	NS- 19.99	715		8.7										
		Glasgow: PW by age	F	20.00- 24.99	464			11.0									
L	1974 -1976	Glasgow: Children: Total	B	0.17- 16.99	416									C	2507	*	151
		Glasgow: Children by sex	F	0.17- 16.99	194												152
		Glasgow: Children by sex	M	0.17- 16.99	222												153
		Glasgow: Children by age	B	0.17- 5.99	177				11.3								
		Glasgow: Children by age	B	6.00- 16.99	239						24.7						
L	1973 P	Kilsyth and Glasgow: Elderly: Total	B	65.00-NS	475									A	2510	*	154
		Kilsyth and Glasgow: Elderly by sex	F	65.00-NS	302												155

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						Proportion (%) of population with haemoglobin below:										General	Line
						70	100	110	115	120	130						
L	1973 P	Kilsyth and Glasgow: Elderly by sex	M	65.00-NS	173					7.5			A	2510		156	
L	1972 P	Northumbrian: Pre-menopausal women	F	17.00- 44.99	368					15.2	131	13	A	4325	*		
		Northumbrian: Post-menopausal women	F	45.00- 64.99	270					3.0	138	11					
L	1965 -1968	Bristol: Infants: Total	B	0.25- 0.32	404						115	11	D	970	*	157	
		Bristol: Infants by sex	F	0.25- 0.32	198						115	11					
		Bristol: Infants by sex	M	0.25- 0.32	206						116	11					
L	1958	Wensleydale: Women	F	15.00-NS	230								NS	4286	*	158	
		Wensleydale: Men	M	15.00-NS	182											159	
L	1958	Rhondda Fach: NPNLW	F	55.00- 64.99	180						133	17	D	4292	*	160	
		Rhondda Fach: Men: Total	M	35.00- 64.99	543						149					161	
		Rhondda Fach: Men by age	M	35.00- 44.99	175											162	
		Rhondda Fach: Men by age	M	45.00- 54.99	184											163	
		Rhondda Fach: Men by age	M	55.00- 64.99	184											164	
L	1944	Oxford: PW	F	NS	232						80		NS	3960a	*	165	
L	1942	Oxford: PW	F	NS	98						84		NS	3960b	*	166	

## NOTES

### UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND (THE)

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**Reference No:** 4154

**General Notes:** *Sampling: multistage random probability design (1. 152 postal sectors were selected with probability proportional to the number of postal delivery points; 2. from each sector 40 addresses were randomly selected; 3. one eligible subject was selected at random from each household), of the 3704 eligible households (out of 5673 selected), 1419 consented to a blood sample; blood sample was obtained of 1347 subjects; inclusion only of subjects aged 19-64 yrs living in private households who were not pregnant or breast feeding; values for other Hb cut-off levels; disaggregated data by whether someone in the subject's household was receiving certain benefits.*

- Line note 1** Median Hb: 134 g/L.
- Line note 2** Median Hb: 152 g/L.
- Line note 3** Median Hb: 137 g/L.
- Line note 4** Median Hb: 132 g/L.
- Line note 5** Median Hb: 133 g/L.
- Line note 6** Median Hb: 134 g/L.
- Line note 7** Median Hb: 138 g/L; only mean Hb values.
- Line note 8** Median Hb: 135 g/L; only mean Hb values.
- Line note 9** Median Hb: 133 g/L; only mean Hb values.
- Line note 10** Median Hb: 132 g/L; only mean Hb values.
- Line note 11** Median Hb: 153 g/L.
- Line note 12** Median Hb: 152 g/L.
- Line note 13** Median Hb: 152 g/L.
- Line note 14** Median Hb: 150 g/L.
- Line note 15** Median Hb: 151 g/L; only mean Hb values.
- Line note 16** Median Hb: 151 g/L; only mean Hb values.
- Line note 17** Median Hb: 151 g/L; only mean Hb values.
- Line note 18** Median Hb: 152 g/L; only mean Hb values.

**Reference No:** 4938

**General Notes:** *Study in an urban borough in North East England; inclusion criteria, location and dates of survey provided by investigator; method: Coulter STKS blood cell analyser; sampling: subjects were identified from the Gateshead Millennium Baby Study Cohort (a population based prospective study), of the 1029 subjects in the main cohort study, 846 (82%) attended the health check at 13 months and the parents of 495 of those babies agreed for blood to be taken; inclusion only of children born between June 1999 and May 2000 to Gateshead resident mothers in 34 pre-specified wks.*

- Line note 19** Median Hb: 121 g/L.

**Reference No:** 3466

**General Notes:** *Sampling: multistage random probability design (1. 132 postal sectors were selected with probability proportional to the number of postal delivery points; 2. from each sector 210 addresses were randomly selected; 3. one eligible person was selected from each household), of the 2672 eligible subjects, 1284 (48%) consented to blood sample and of 1193 (45%) a sample was obtained; inclusion only of young people aged 4-18 yrs living in private households; values for other Hb cut-off levels; disaggregated data by illness, whether parents were receiving benefits, gross weekly household income, social class of head of household; Hb cut-off level 6 yrs not according to WHO recommendations (please see 'Key to the data tables'); see also reference No. 4124.*

- Line note 20** Prevalence value calculated: prevalence of anaemia 6.6% (Hb <110 g/L both sexes 4-6 yrs, Hb <120 g/L both sexes 7-14 yrs, females 15-18 yrs, Hb <130 g/L males 15-18 yrs).
- Line note 21** Prevalence value calculated; prevalence of anaemia 9.2% (Hb <110 g/L 4-6 yrs, Hb <120 g/L 7-18 yrs); median Hb: 130 g/L.
- Line note 22** Prevalence value calculated; prevalence of anaemia 4.2% (Hb <110 g/L 4-6 yrs, Hb <120 g/L 7-14 yrs, Hb <130 g/L 15-18 yrs); median Hb: 134 g/L.
- Line note 23** Median Hb: 124 g/L.

**Line note 24** Median Hb: 125 g/L.  
**Line note 25** Median Hb: 129 g/L.  
**Line note 26** Median Hb: 130 g/L.  
**Line note 27** Median Hb: 133 g/L.  
**Line note 28** Median Hb: 134 g/L.  
**Line note 29** Median Hb: 132 g/L.  
**Line note 30** Median Hb: 149 g/L.  
**Line note 31** Only mean Hb values; median Hb: 127 g/L.  
**Line note 32** Only mean Hb values; median Hb: 134 g/L.  
**Line note 33** Only mean Hb values; median Hb: 130 g/L.  
**Line note 34** Only mean Hb values; median Hb: 135 g/L.  
**Line note 35** Only mean Hb values; median Hb: 130 g/L.  
**Line note 36** Only mean Hb values; median Hb: 134 g/L.  
**Line note 37** Only mean Hb values; median Hb: 131 g/L.  
**Line note 38** Only mean Hb values; median Hb: 133 g/L.

**Reference No:** 4815

**General Notes:** *Facility based study (Department of Obstetrics and Gynaecology at University College London Hospitals); method: Coulter S Analyzer; sampling: all 1790 eligible women who consecutively booked at the hospitals during the study period were asked to participate, 1650 (92%) agreed; inclusion only of clinic booking before 20 wks of gestation, who were Caucasian, ultrasonographically confirmed dates at booking and absence of medical complications known to affect fetal growth adversely; exclusion of women who delivered preterm and who had complications of pregnancy; Hb determination at first visit; Hb cut-off level not according to WHO recommendations (please see 'Key to the data tables').*

**Line note 39** Prevalence of anaemia 16.6% (Hb 110-120 g/L); mean (SD) age 30.8 (5.6) yrs.

**Reference No:** 944

**General Notes:** *Method: Bayer H3 analyser; sampling: the sample was drawn from the register of births in 41 local authority areas (coverage 95% of the Asian population at the time of the 1991 census); inclusion only of babies born between 15 August and 11 November 1994 to mothers who defined themselves as being of Bangladeshi, Indian or Pakistani origin; longitudinal study with 5 measurements (6-10 wks old, at 5 months, 9 months, 15 months and 24 months); 1280 out of 1750 mothers of eligible children were successfully contacted when their child was about 2 yrs old; Hb determination only for 1057 children; exclusion of children with  $\beta$ -thalassaemia trait (0.3-2.7%) or haemoglobin E trait (0.7%).*

**Line note 40** Prevalence value calculated.

**Line note 41** Median Hb: 118 g/L.

**Line note 42** Median Hb: 117 g/L.

**Line note 43** Median Hb: 118 g/L.

**Reference No:** 3260

**General Notes:** *Sampling: multistage random probability design of free-living individuals (1. 80 postal sectors were selected with probability proportional to the number of postal delivery points; 2. 375 addresses were randomly selected from each sector), a sample of people in institutions was drawn by selecting randomly 240 residential and nursing homes for elderly people in the postal sectors of the free-living sample and then selecting 3 residents from each institution, 2172 (75% responded) and 454 (95% responded) subjects aged  $\geq 65$  yrs were eligible for the free-living and institutional sample respectively; blood sample taken from 986 free-living and 290 institutionalized individuals; free-living and institution samples were weighted to correct for the effects of disproportionate sampling.*

**Line note 44** Median Hb: 135 g/L; disaggregated data by household composition, illness, social class of head of household, receipt of benefits, smoking, alcohol intake.

**Line note 45** Median Hb: 145 g/L; disaggregated data by household composition, illness, social class of head of household, receipt of benefits, smoking, alcohol intake.

**Line note 46** Median Hb: 122 g/L.

**Line note 47** Median Hb: 128 g/L.

**Line note 48** Median Hb: 137 g/L.

**Line note 49** Median Hb: 134 g/L.

**Line note 50** Median Hb: 131 g/L.

**Line note 51** Median Hb: 136 g/L; only mean Hb values; unweighted sample.  
**Line note 52** Median Hb: 135 g/L; only mean Hb values; unweighted sample.  
**Line note 53** Median Hb: 134 g/L; only mean Hb values; unweighted sample.  
**Line note 54** Median Hb: 147 g/L.  
**Line note 55** Median Hb: 144 g/L.  
**Line note 56** Median Hb: 134 g/L.  
**Line note 57** Median Hb: 148 g/L; only mean Hb values; unweighted sample.  
**Line note 58** Median Hb: 147 g/L; only mean Hb values; unweighted sample.  
**Line note 59** Median Hb: 144 g/L; only mean Hb values; unweighted sample.  
**Line note 60** Median Hb: 123 g/L.  
**Line note 61** Median Hb: 122 g/L.

**Reference No:** 3882

**General Notes:** *Study follows on from previous work (reference No. 2503); facility based study (comprehensive school) in North London (Wembley, Middlesex); sampling: all girls (n=305) in yrs 7-10 were asked to participate, 140 gave written consent and 114 (37%) completed the study.*

**Line note 62** Mean age 13.5 yrs; disaggregated data by ethnicity, vegetarianism, heart rate before, immediately after and 1 minute after a-2-minute step test.

**Reference No:** 2528

**General Notes:** *Study was component of the Newcastle Heart Project; method: Coulter STKS analyser; sampling: stratified random sample of 1889 Newcastle residents from the 6448 people identified through the family health services authority register.*

**Line note 63** Prevalence value calculated; prevalence of anaemia 10.2% (Hb <120 g/L females, Hb <130 g/L males).

**Line note 64** Prevalence value calculated.

**Line note 65** Prevalence value calculated.

**Line note 66** 95% CI: 5.2%, 10.6%; disaggregated data by menopause.

**Line note 67** 95% CI: 3.7%, 8.3%.

**Line note 68** 95% CI: 15.9%, 29.6%; disaggregated data by menopause.

**Line note 69** 95% CI: 2.7%, 13.4%.

**Line note 70** 95% CI: 13.0%, 26.3%; disaggregated data by menopause.

**Line note 71** 95% CI: 2.7%, 10.7%.

**Line note 72** 95% CI: 19.9%, 47.5%; disaggregated data by menopause.

**Line note 73** 95% CI: 1.8%, 15.5%.

**Line note 74** 95% CI: 10.9%, 21.7%; disaggregated data by menopause.

**Line note 75** 95% CI: 1.9%, 8.6%.

**Reference No:** 943

**General Notes:** *Same study (ALSPAC: Avon longitudinal Study of Pregnancy and Childhood) as reference No. 4758, 4818 and 4877; sampling: a 10% sample was randomly selected from the population cohort (14,138 live births between 1 April 1991 and 31 December 1992), of those invited, 1213 (88%) parents attended with their 12 month old children and 1151 (87%) attended when their children were 18 months old; inclusion only of children who were born within the last six months of the study; Hb determination only for subsample.*

**Line note 76** Prevalence of iron deficiency anaemia 0.4% (Hb <110 g/L+serum ferritin <12 µg/L); median Hb: 118 g/L; disaggregated data by ethnicity, infection, maternal education.

**Line note 77** Prevalence of iron deficiency anaemia 1.7% (Hb <110 g/L+serum ferritin <12 µg/L); median Hb: 117 g/L; disaggregated data by ethnicity, infection, maternal education.

**Line note 78** Median Hb: 118 g/L; only mean Hb values.

**Line note 79** Median Hb: 118 g/L; only mean Hb values.

**Line note 80** Median Hb: 118 g/L; only mean Hb values.

**Line note 81** Median Hb: 117 g/L; only mean Hb values.

**Reference No:** 4758

**General Notes:** *Same study (ALSPAC: Avon Longitudinal Study of Pregnancy and Childhood) as reference No. 943, 4818 and 4877; sampling: a randomly selected sample of 1560 mothers from the population cohort (14 185 surviving live births between 1st April 1991 and 31 December 1992 covering 80% of the known births from the catchment area) were invited to bring their 8 month old children to the clinic, 1318 (85%) attended; inclusion only of babies who were born within the last six months of the study; Hb determination only for 1075 children; value for other Hb cut-off level.*

**Line note 82** 95% CI: 116 g/L, 118 g/L.

**Line note 83** 95% CI: 116 g/L, 118 g/L; only mean values.

**Line note 84** 95% CI: 116 g/L, 118 g/L; only mean values.

**Reference No:** 3279

**General Notes:** *Sampling: multi-stage random probability design (1. 100 postal sectors selected with probability proportional to the number of postal delivery points; 2. from each sector 280 addresses were randomly selected; 3. one eligible child was selected from each household), of the 2101 eligible households, 1157 consented to blood sample and of 1003 (48%) a sample was obtained; Hb determination only for 951 children; including only of children aged 1½ to 4½ yrs living in private households; values for other Hb cut-off levels; disaggregated data by social class and employment status of head of household, whether child's parents were receiving income support or family credit, maternal education, family type; method adapted from reference No. 2663; see also reference No. 4125.*

**Line note 85** 7% capillary blood; median Hb: 121 g/L; standard error mean: 0.3 g/L.

**Line note 86** Median Hb: 121 g/L; standard error mean: 0.4 g/L.

**Line note 87** Median Hb: 122 g/L; standard error mean: 0.4 g/L.

**Line note 88** Median Hb: 119 g/L; standard error mean: 0.5 g/L.

**Line note 89** Median Hb: 121 g/L; standard error mean: 0.5 g/L.

**Line note 90** Median Hb: 122 g/L; standard error mean: 0.7 g/L.

**Line note 91** Median Hb: 124 g/L; standard error mean: 0.9 g/L.

**Line note 92** Only mean Hb values; median Hb: 120 g/L; standard error mean: 1.0 g/L.

**Line note 93** Only mean Hb values; median Hb: 122 g/L; standard error mean: 1.0 g/L.

**Line note 94** Only mean Hb values; median Hb: 120 g/L.

**Line note 95** Only mean Hb values; median Hb: 122 g/L; standard error mean: 1.0 g/L.

**Reference No:** 3636

**General Notes:** *The Oxford Healthy Aging Project was a component of the Medical Research Council Cognitive Function and Aging Study carried out in 6 areas throughout Great Britain; sampling: random sampling of 2740 persons from general practice registers, blood samples from 1670 persons were obtained of which for 1562 valid data was available; exclusion of subjects who had self-reported pernicious anaemia, had vitamin B-12 injections and extreme elevations of serum vitamin B-12 ranging from 10000 to 40000 pmol/L; inclusion only of residents of Oxford City aged >=65 yrs when first examined between 1991 and 1994; disaggregated data by vitamin B-12, folate status.*

**Line note 96** Prevalence value calculated; prevalence of anaemia 18.6% (Hb <120 g/L females, Hb <130 g/L males).

**Line note 97** Prevalence value calculated.

**Line note 98** Prevalence value calculated.

**Line note 99** Prevalence value calculated; prevalence of anaemia 11.9% (Hb <120 g/L females, Hb <130 g/L males).

**Line note 100** Prevalence value calculated; prevalence of anaemia 23.6% (Hb <120 g/L females, Hb <130 g/L males).

**Line note 101** Prevalence value calculated; mean (SD) age 71.9 (2.0) yrs.

**Line note 102** Prevalence value calculated; mean (SD) age 71.8 (2.0) yrs.

**Line note 103** Prevalence value calculated; mean (SD) age 82.0 (4.9) yrs.

**Line note 104** Prevalence value calculated; mean (SD) age 81.8 (4.6) yrs.

**Reference No:** 4367

**General Notes:** *Facility based study (Princess Anne Hospital); dates of survey provided by investigator; sampling: all eligible women (n= 643) were asked to participate, 603 (94%) agreed; Hb determination only for 576 women; inclusion only of white Caucasian women aged >=16 yrs with singleton pregnancies who registered under 2 consultants over 1 yr at the hospital; Hb determination at first visit.*

- Line note 105** Prevalence of iron deficiency 24.0% (serum ferritin  $\leq 12$   $\mu\text{g/L}$ ); median Hb: 124 g/L; mean age gestation 14 weeks; disaggregated data by height, body mass index, social class, number of blood donations, smoking status, dietary intake.
- Line note 106** Only mean Hb values.
- Line note 107** Only mean Hb values.
- Line note 108** Only mean Hb values.
- Line note 109** Only mean Hb values.
- Line note 110** Only mean Hb values.
- Line note 111** Only mean Hb values.

**Reference No:** 4288

**General Notes:** *Facility-based study (nine children health and general practitioner clinics which serve the majority of the Asian community); sampling: children were recruited over a 12 month period from the registers of the clinics, 310 of the 600 eligible children (4-24 months) were located, 138 agreed to participate; inclusion only of apparent healthy Asian children born in Sheffield, aged between 4 and 24 months (upper age limit was later extended to 40 months, hence the 29 children >24 months may be less representative of their age group).*

**Line note 112** Prevalence of iron deficiency anaemia 17.0% (Hb  $< 110$  g/L+serum ferritin  $< 10$   $\mu\text{g/L}$  or erythrocyte zinc protoporphyrin  $> 80$   $\mu\text{mol/mol}$  haem); disaggregated data by age.

**Reference No:** 2503

**General Notes:** *Facility based study (two comprehensive schools) in Epsom, Surrey; sampling: all 8th and 9th yr pupils aged 12-14 yrs (n=622) were asked to participate, 399 agreed; Hb cut-off levels males not according to WHO recommendations (please see 'Key to the data tables').*

**Line note 113** Prevalence of anaemia 7.0% (Hb  $< 120$  g/L females, Hb  $< 122$  g/L males 12 yrs, Hb  $< 124$  g/L males 13 yrs, Hb  $< 126$  g/L males 14 yrs); prevalence of iron deficiency anaemia 0.5% (Hb  $< 120$  g/L females, Hb  $< 122$  g/L males 12 yrs, Hb  $< 124$  g/L males 13 yrs, Hb  $< 126$  g/L males 14 yrs+serum ferritin  $< 12$   $\mu\text{g/L}$ +mean corpuscular haemoglobin concentration  $< 300$  g/L; n=204).

**Line note 114** Prevalence of iron deficiency anaemia 1.3% (Hb  $< 120$  g/L+serum ferritin  $< 12$   $\mu\text{g/L}$ +mean corpuscular haemoglobin concentration  $< 300$  g/L; n=76); mean (SD) age 13.2 (0.7) yrs.

**Line note 115** Prevalence of anaemia 3.5% (Hb  $< 122$  g/L males 12 yrs, Hb  $< 124$  g/L males 13 yrs, Hb  $< 126$  g/L males 14 yrs); prevalence of iron deficiency anaemia 0.0% (Hb  $< 122$  g/L males 12 yrs, Hb  $< 124$  g/L males 13 yrs, Hb  $< 126$  g/L males 14 yrs+serum ferritin  $< 12$   $\mu\text{g/L}$ +mean corpuscular haemoglobin concentration  $< 300$  g/L; n=128); mean (SD) age 13.3 (0.6) yrs.

**Reference No:** 2505

**General Notes:** *Sampling: two-stage design (1. a random sample of addresses, stratified by population density of three sub-regions was selected from a computerized sampling frame; 2. random selection of an individual from each household), a total of 522 (67%) subjects agreed to give blood.*

**Line note 116** Prevalence value calculated.

**Line note 117** Prevalence of iron deficiency anaemia 0.5% (Hb  $< 130$  g/L+ $\geq 2$  of the indicators: serum ferritin  $< 12$   $\mu\text{g/L}$ , transferrin saturation  $< 16\%$  or low mean corpuscular haemoglobin concentration; n= 198).

**Line note 118** Prevalence of iron deficiency anaemia 6.6% (Hb  $< 120$  g/L+2 of the indicators: serum ferritin  $< 12$   $\mu\text{g/L}$ , transferrin saturation  $< 16\%$  or low mean corpuscular haemoglobin concentration; n= 176).

**Line note 119** Prevalence of iron deficiency anaemia 4.6% (Hb  $< 120$  g/L+2 of the indicators: serum ferritin  $< 12$   $\mu\text{g/L}$ , transferrin saturation  $< 16\%$  or low mean corpuscular haemoglobin concentration; n=83).

**Reference No:** 3258

**General Notes:** *Sampling: multistage random probability design (1. 120 wards with probability proportionate to the total electorate in the ward; 2. 33 addresses from each ward), 2197 (70% of eligible people) persons completed a full seven-day diary record; inclusion only of subjects aged 18-64 yrs (76% of eligible respondents); exclusion of pregnant women; values for other Hb cut-off levels; Hb cut-off levels not according to WHO recommendations (please see 'Key to the data tables'); disaggregated data by being on a slimming diet, illness, employment status, receiving benefits, social class of head of household, household composition, smoking, alcohol consumption.*

**Line note 120** Prevalence of anaemia 20.0% (Hb  $< 125$  g/L); median Hb: 133 g/L; standard error mean: 0.4 g/L.

**Line note 121** Prevalence of anaemia 18.0% (Hb  $< 140$  g/L); median Hb: 148 g/L; standard error mean: 0.4 g/L.

**Line note 122** Prevalence of anaemia 21.0% (Hb  $< 125$  g/L); median Hb: 133 g/L; standard error mean: 1.1 g/L.

**Line note 123** Prevalence of anaemia 24.0% (Hb  $< 125$  g/L); median Hb: 131 g/L; standard error mean: 0.9 g/L.

- Line note 124** Prevalence of anaemia 23.0% (Hb <125 g/L); median Hb: 132 g/L; standard error mean: 0.7 g/L.
- Line note 125** Prevalence of anaemia 13.0% (Hb <125 g/L); median Hb: 134 g/L; standard error mean: 0.8 g/L.
- Line note 126** Only mean Hb values; median Hb: 133 g/L; standard error mean: 1.3 g/L.
- Line note 127** Only mean Hb values; median Hb: 134 g/L; standard error mean: 0.8 g/L.
- Line note 128** Only mean Hb values; median Hb: 132 g/L; standard error mean: 0.8 g/L.
- Line note 129** Only mean Hb values; median Hb: 133 g/L; standard error mean: 0.7 g/L.
- Line note 130** Prevalence of anaemia 16.0% (Hb <140 g/L); median Hb: 149 g/L; standard error mean: 1.0 g/L.
- Line note 131** Prevalence of anaemia 18.0% (Hb <140 g/L); median Hb: 148 g/L; standard error mean: 0.7 g/L.
- Line note 132** Prevalence of anaemia 17.0% (Hb <140 g/L); median Hb: 148 g/L; standard error mean: 0.7 g/L.
- Line note 133** Prevalence of anaemia 20.0% (Hb <140 g/L); median Hb: 147 g/L; standard error mean: 0.7 g/L.
- Line note 134** Only mean Hb values; median Hb: 146 g/L; standard error mean: 1.3 g/L.
- Line note 135** Only mean Hb values; median Hb: 148 g/L; standard error mean: 0.9 g/L.
- Line note 136** Only mean Hb values; median Hb: 148 g/L; standard error mean: 0.6 g/L.
- Line note 137** Only mean Hb values; median Hb: 148 g/L; standard error mean: 0.6 g/L.

**Reference No:** 2606

**General Notes:** *Haematological surveys of representative adult population samples were conducted simultaneously in 12 countries all but one of which are in Europe; two typical industrial areas in South Wales were chosen; sampling: random samples were taken from electoral registers of persons aged 18 yrs and over (83%, 89% participated in the two areas); values for other Hb cut-off levels.*

- Line note 138** Prevalence value calculated; prevalence of anaemia 5.3% (Hb <120 g/L females, Hb <130 g/L males).
- Line note 139** Prevalence value calculated.
- Line note 140** Prevalence value calculated.
- Line note 141** Prevalence value calculated; prevalence of anaemia 5.4% (Hb <120 g/L females, Hb <130 g/L males).
- Line note 142** Prevalence value calculated; prevalence of anaemia 5.3% (Hb <120 g/L females, Hb <130 g/L males).
- Line note 143** Only mean Hb values; mean (SD) age 41.2 (13.1) yrs.
- Line note 144** Only mean Hb values; mean (SD) age 40.7 (13.7) yrs.
- Line note 145** Only mean Hb values; mean (SD) age 72.7 (6.3) yrs.
- Line note 146** Only mean Hb values; mean (SD) age 72.3 (6.0) yrs.
- Line note 147** Only mean Hb values; mean (SD) age 43.5 (12.3) yrs.
- Line note 148** Only mean Hb values; mean (SD) age 41.3 (13.4) yrs.
- Line note 149** Only mean Hb values; mean (SD) age 70.7 (5.5) yrs.
- Line note 150** Only mean Hb values; mean (SD) age 71.1 (4.6) yrs.

**Reference No:** 4996

**General Notes:** *Facility based study (Duke Street Hospital); retrospective analysis of hospital records; sampling: all eligible subjects were included; inclusion only of primiparae aged <25 yrs at the time of conception and who had single births; Hb cut-off level not according to WHO recommendations (please see 'Key to the data tables'); disaggregated data by marital status; anaemia determined at any stage of pregnancy.*

**Reference No:** 2507

**General Notes:** *Facility based study (2 schools) north of the Clyde; sampling: all children in the schools and pre-school siblings in the same families were asked to participate, 500 children from 172 families were studied (70%); Hb cut-off levels males 15-16 yrs not according to WHO recommendations (please see 'Key to the data tables').*

- Line note 151** Prevalence of anaemia 19.0% (Hb <110 g/L <6 yrs, Hb <120 g/L >=6 yrs); prevalence of iron deficiency anaemia 4.8% (Hb <110 g/L <6 yrs, Hb <120 g/L >=6 yrs+serum iron <50 µg/L); disaggregated data by ethnicity.
- Line note 152** Prevalence of anaemia 21.6% (Hb <110 g/L <6 yrs, Hb <120 g/L >=6 yrs).

**Line note 153** Prevalence of anaemia 16.7% (Hb <110 g/L <6 yrs, Hb <120 g/L >=6 yrs).

**Reference No:** 2510

**General Notes:** *Partly facility based study (6 general practices); sampling: stratified random samples of people aged 65 and over living at home were drawn, the first from the whole elderly population of the town of Kilsyth, the second from six general practices in northern Glasgow, approximately 30% of those approached refused to participate; exclusion of subjects resident in institutions and who were ill; Hb determination for 475 subjects (95%); values for other Hb cut-off levels; Hb cut-off level males not according to WHO recommendations (please see 'Key to the data tables'); disaggregated data by age.*

**Line note 154** Prevalence of iron deficiency anaemia 8.1% (Hb <120 g/L+serum iron-binding saturation <16%; n=346).

**Line note 155** Prevalence of iron deficiency anaemia 9.1% (Hb <120 g/L+serum iron-binding saturation <16%; n=219).

**Line note 156** Prevalence of iron deficiency anaemia 6.3% (Hb <120 g/L+serum iron-binding saturation <16%; n=127).

**Reference No:** 4325

**General Notes:** *Study in a Northumbrian mining village; sampling: 2 groups of women were selected (group 1: 368 pre-menopausal women aged 17-44 yrs (about 94% of those "at risk of menstrual blood loss"); group 2: 314 post-menopausal women aged 45-64 yrs identified from the records of the general medical practice which covered nearly all the local population, the cooperation rate was 97%); exclusion of subjects using oral contraceptive, pregnant women and mothers within 4 months after a delivery; values for other Hb cut off levels; disaggregated data by age, medicine containing iron used during the previous yr.*

**Reference No:** 970

**General Notes:** *Method: EEL colorimeter; sampling: eligible parents (n= 873) were invited to participate, 450 agreed; baseline values of intervention study; inclusion only of parents with home addresses in 8 wards in the North West part of the city of Bristol, provided that baby was born between 15 June 1965 and 28 February 1966; exclusion of illegitimate babies, low birth weight infants (<2.5 kg), twins and babies from known problem families; only mean Hb values.*

**Line note 157** Disaggregated data by birth weight.

**Reference No:** 4286

**General Notes:** *Study in the southern half of the village Hawes, in three of the near-by hamlets and in about 40 square miles of the surrounding farming area in the upper end of Wensleydale; sampling: 412 (75%) of the total available population (n=547) aged >=15 yrs were examined; Hb cut-off levels not according to WHO recommendations (please see 'Key to the data tables'); disaggregated data by age.*

**Line note 158** Prevalence of anaemia 20.9% (Hb <121 g/L).

**Line note 159** Prevalence of anaemia 7.7% (Hb <126 g/L).

**Reference No:** 4292

**General Notes:** *Study in a South Wales mining valley, the Rhondda Fach; method: oxyhaemoglobin; sampling: 6038 people (1535 women and 4503 men) were living in the valley at census, a random sample of 600 men (300 miners and ex-miners, 300 non-miners) aged 35-64 yrs and 200 post-menopausal women aged 55-64 yrs was taken, 779 subjects were located and 723 were examined; Hb cut-off levels not according to WHO recommendations (please see 'Key to the data tables').*

**Line note 160** Prevalence of anaemia 13.9% (Hb <121 g/L).

**Line note 161** Prevalence of anaemia 3.3% (Hb <126 g/L); disaggregated data by occupation.

**Line note 162** Prevalence of anaemia 2.3% (Hb <126 g/L); disaggregated data by occupation.

**Line note 163** Prevalence of anaemia 2.7% (Hb <126 g/L); disaggregated data by occupation.

**Line note 164** Prevalence of anaemia 4.9% (Hb <126 g/L); disaggregated data by occupation.

**Reference No:** 3960a

**General Notes:** *Facility-based study (Radcliffe Infirmary Maternity Hospital); sampling: design not explained; inclusion only of mainly working class women in the 1st (14%), 2nd (44%) or 3rd trimester (42%) of pregnancy; Hb determination only for 232 out of 253 recruited subjects; only mean Hb values.*

**Line note 165** Standard error mean: 0.5 g/L.

**Reference No:** 3960b

**General Notes:** *Facility based study (Ruskin Maternity Hospital); sampling: design not explained; inclusion only of working class women in their 3rd trimester of pregnancy; Hb determination only for 98 out of 120 recruited subjects; only mean Hb values.*

**Line note 166** Standard error mean: 1.1 g/L.

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