

# Home births in the UK, 1955 to 2006

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This article presents data on trends in the percentage of maternities taking place at home in the UK. As well as the national trend, the article examines how home maternity levels vary according to mother's age, number of previous live births within marriage, country of birth, region, local authority and NHS Trust. Examination of trends and variations in home maternity levels provides a context for debates regarding factors that may influence where women give birth.

## Introduction

Giving birth at home used to be the norm. In 1927, just 15 per cent of live births in England and Wales took place in institutions<sup>1</sup>. Nowadays, giving birth in hospital is the norm. Maternal and perinatal mortality rates decreased markedly in the UK at the same time as the proportion of births taking place in hospital was increasing, and it was generally assumed that increased rates of hospitalisation caused the improvements in mortality rates<sup>2</sup>. In the late 1980s, however, evidence began to be presented to suggest that for women with low-risk pregnancies, home birth was as least as safe as hospital birth<sup>3</sup>. Evidence also began to be presented indicating that women giving birth at home tended to have fewer obstetric interventions and feel more positive about the experience than those giving birth in hospital<sup>4,5</sup>.

Since the early 1990s<sup>6</sup>, and most recently in 2007<sup>7</sup>, government policy in England has been that women should be provided with a choice about where to give birth, and the information they need in order to make the best choice for them. In 2002, the Welsh Assembly set a target for 10 per cent of births to take place at home by 2007<sup>8</sup>. In light of this, this paper examines trends in home birth in the UK.

## National trends

In 1955, there were 683,640 maternities in England and Wales, of which 33.4 per cent took place at home. In 2006 there were 662,915 maternities, of which 18,100 (2.7 per cent) took place at home. **Figure 1** illustrates that the shift away from home maternity took place largely in the years 1963 to 1974, during which time the percentage of maternities taking place at home fell from 30.0 per cent to 4.2 per cent, at a rate of two to three percentage points each year.

## Box one

### Data sources

The home maternity figures for England and Wales are derived from birth registration data, and are mostly taken from ONS Series FM1 (the overall, age-specific and marital status/previous live births figures are from Table 8.1, and the regional figures from Table 8.2). Data for the years 1955–63 and 1974–79 are from a summary volume, data for the years 1980–97 are from printed volumes and data for the years 1998–2006 are from the ONS website<sup>9</sup>. Home maternity figures for the years 1964–73 are taken from Macfarlane et al (2000)<sup>10</sup>. Data on home maternity by mother's country of birth and local authority of residence were taken from special tabulations produced by ONS.

The figures for Scotland and Northern Ireland are taken from special tabulations provided by General Register Office Scotland (GROS) and Northern Ireland Statistics and Research Agency (NISRA), which were derived from birth registration data.

Figure 1 also shows that the percentage of maternities taking place at home reached an all-time low in 1985 to 1988, when it stood at 0.9 per cent. Since 1988, there has been a slight upward trend, with year-on-year growth typically of 0.1 to 0.2 percentage points, except for a plateau between 1997 and 2001.

In England and Wales, the general fertility rate (GFR)<sup>16</sup> has recently been fairly stable following the increased fertility in the 1950s and 60s and subsequent decrease in the late 1960s and early 1970s<sup>17</sup>. The major shift away from home birth between 1963 and 1974 coincided with a sharp fall in the GFR (down from 92.9 in 1964 to 67.2 in 1974), which reduced the pressure on hospital beds in maternity units<sup>18</sup>.

## Box two

### Definitions

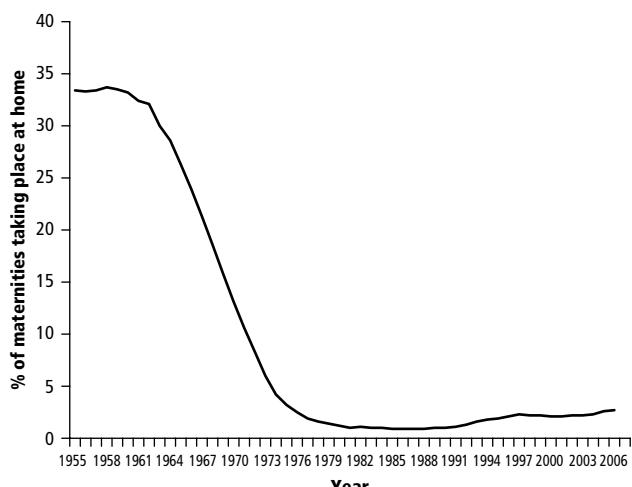
In the figures for England and Wales, a maternity is a pregnancy resulting in the birth of one or more children, including stillbirths. Pregnancies resulting in multiple births are counted only once. A maternity is counted as taking place at home if it takes place at the mother's usual residence.

The figures for Scotland and Northern Ireland represent live births, so babies from multiple births are each counted separately, and stillbirths are excluded. Unlike England and Wales, the figures include all live births outside a maternity unit. According to NISRA, births in transit made up 8 per cent of out-of-hospital births in 2005–06. GROS does not publish the equivalent figure but estimates that in 2006 it was about 8 per cent. Most out-of-hospital births in Scotland and Northern Ireland can therefore be assumed to have taken place at home<sup>11</sup>.

Birth registration data do not distinguish between births that were planned to take place at home and those taking place at home unintentionally. It is possible that the time trends for these two types of home birth are different, but this cannot be established from birth registration data. Estimates of the proportion of home births that were not intended to take place at home vary between studies, from 23 per cent to 51 per cent<sup>5,12,13</sup>. The time frames of these studies were very different, so we might expect estimates to vary if (as is likely) unintended home births make up a fairly constant proportion of all births. Furthermore, these studies used varying methods and had various flaws<sup>14</sup>.

Figure 1

Percentage of maternities<sup>15</sup> taking place at home, England and Wales, 1955–2006



Source: Years 1955–1963 and 1974–2006: FM1 Table 8.1. Years 1964–1973: Macfarlane et al (2000)<sup>10</sup>.

Figure 2 shows the national trends for out-of-hospital births in Scotland and Northern Ireland since 1988. Despite the figures not being directly comparable (see Box 2), it is clear that in both countries the home birth rate is much lower than in England and Wales. In Northern Ireland, the percentage of live births taking place out of hospital increased from 0.1 per cent in 1988 to 0.4 per cent in 2006. Note, however, that actual numbers in Northern Ireland are very small (just 30 out-of-hospital births in 2006).

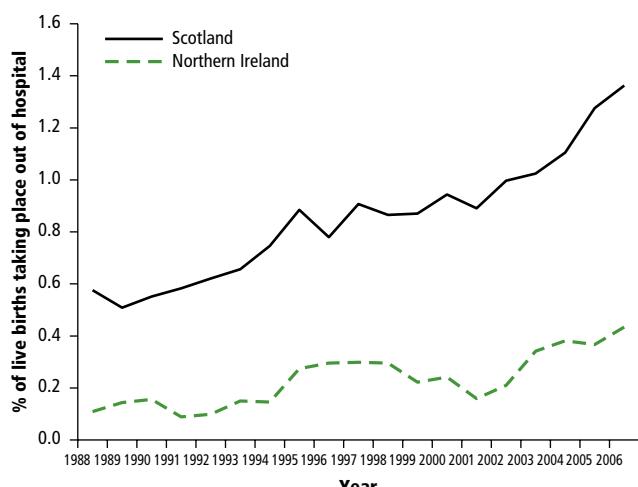
In Scotland, there has been a small increase in the percentage of live births taking place out of hospital (up from 0.6 per cent in 1988 to 1.4 per cent in 2006), but the increase began slightly later than in England and Wales. In 2006 there were 759 out-of-hospital births in Scotland.

### Trends by age of mother at birth

Figure 3 shows how the home maternity rate in England and Wales varied by mother's age between 1955 and 1987 (later years are shown separately in Figure 4).

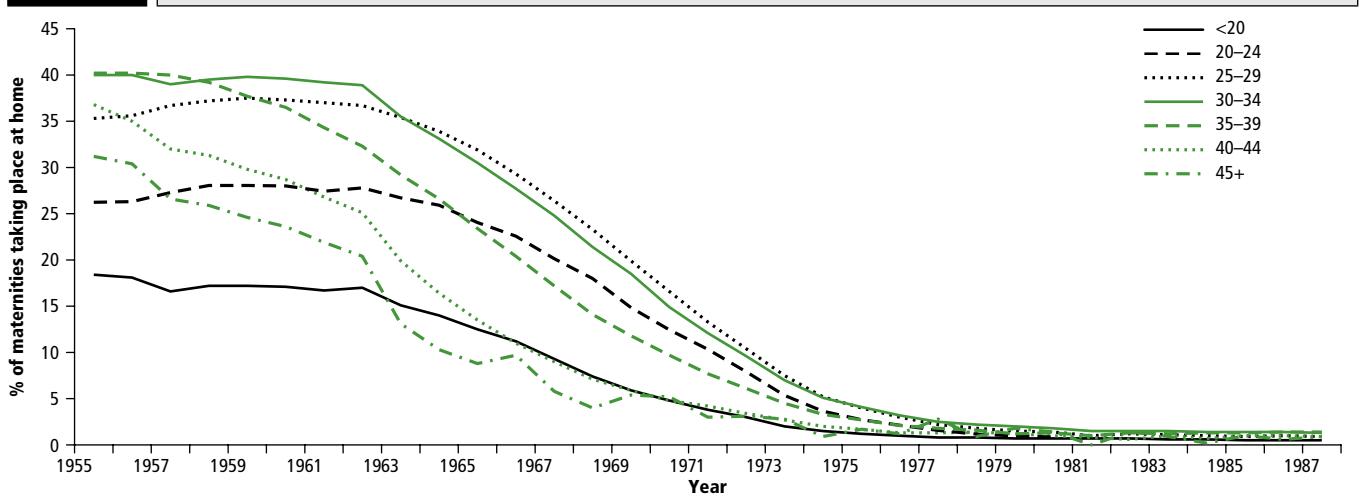
Figure 2

Percentage of live births taking place out of hospital, Scotland and Northern Ireland, 1988–2006



Source: GRO-Scotland / NISRA special tabulations.

Figure 3

Percentage of maternities<sup>19</sup> taking place at home, by age of mother, England and Wales, 1955–1987

Source: FM1 Table 8.1

In 1955, incidence of home maternity varied considerably according to mother's age. Home maternity was least common among women aged under 20 (18 per cent of maternities in this age group), and most common among women aged 30–39 (40 per cent).

The decline in incidence of home maternity started earlier among women aged 40 and over, for whom the major decline had already begun by 1955. Women aged 35–39 were the next age group to experience the major fall in incidence, beginning in 1959. Incidence of home maternity among women aged under 35 did not begin to fall sharply until 1962. By the early 1980s, levels of home maternity were low in all age groups.

For women in the 20–34 age groups, between 1955 and 1964, age-specific fertility rates<sup>20</sup> (ASFRs) were rising while the home maternity rate was fairly stable. Over the same period, for women aged 35 and over, ASFRs were fairly stable while the home maternity rate was falling. Between 1965 and 1977, both ASFRs and the home maternity rate fell in all age groups except the under-20s. In this age group, the ASFR continued to rise until 1971<sup>17</sup>.

As noted earlier, the home maternity rate began to rise slowly in England and Wales in 1988. Figure 4 shows how the rise since then has varied by mother's age. Again, women in the older age groups (35 and over) led the trend, with relatively sharp increases between 1988 and 1997. Women aged 30–34 show a similar trend to those aged 35 and over, but with the growth starting a little later, in 1991.

The rise in incidence among women aged 20–29 has been slower, but began to rise more sharply in 2003. Among women aged under 20, the percentage of maternities taking place at home barely changed until 2003, at which point it started to rise slowly.

All age groups experienced a levelling-off in the home maternity rate between 1997 and 2001 (in the 25 and over age groups the rate actually dropped slightly in this period).

These changes mean that the disparity between younger and older women has become more marked since 1988. In 2006, the older the mother, the more likely she was to have a home maternity, except that women aged 40–44 were slightly less likely than those aged 35–39 to give birth at home (0.9 per cent of maternities to women aged under 20 were at home, compared with 3.8 per cent among 35–39 year-olds).

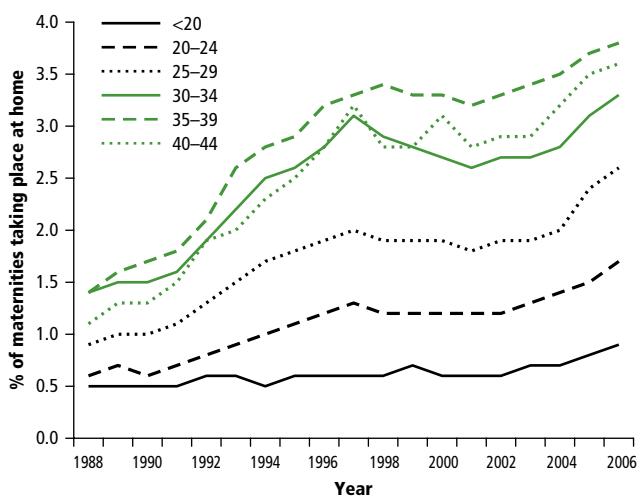
For women aged under 30, age-specific fertility rates (ASFRs) have decreased steadily since 1988, while the home maternity rate has increased slightly. For women in the 30 and over age groups, the ASFR has increased slightly, while the home maternity rate has increased relatively sharply<sup>17</sup>.

The average age of women giving birth is increasing (28 per cent of women giving birth in England and Wales in 1988 were aged 30 and over; in 2006 the figure was 48 per cent). Because older mothers have a greater tendency to give birth at home, some of the observed increase in the national home maternity rate may be due to the increasing average age of women giving birth. However, the fact that home maternity rates have increased in all age groups since 1988 indicates that the overall increase is not entirely due to changes in the age profile. If the 2006 home maternity rate in England and Wales is age-standardised to the 1988 age profile<sup>21</sup>, it decreases from 2.7 per cent to 2.3 per cent. In other words, less than one-fifth of the increase since 1988 can be explained by changes in the age profile of women giving birth.

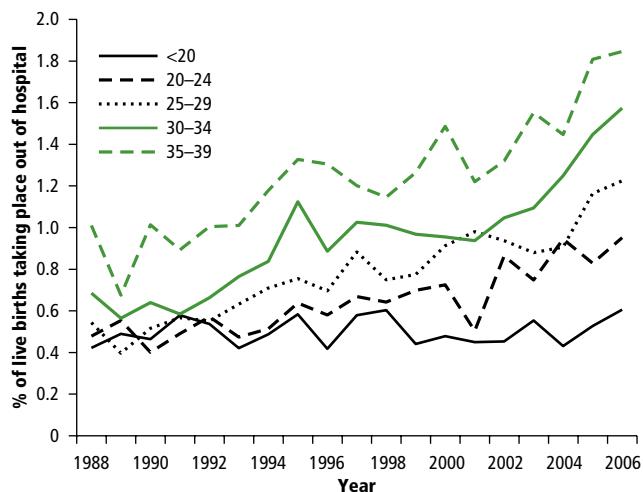
Figure 5 shows how the percentage of births in Scotland taking place out of hospital since 1988 has varied by mother's age, and shows a similar

Figure 4

## Percentage of maternities taking place at home, by age of mother, England and Wales, 1988–2006



Source: FM1 Table 8.1. Data for the 45+ age group are excluded because numbers were too small for a reliable trend to be discernible

**Figure 5****Percentage of live births taking place out of hospital, by age of mother, Scotland, 1988–2006**

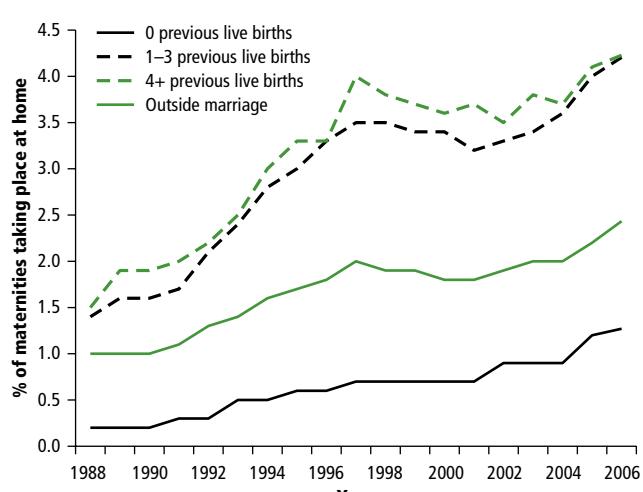
Source: GRO-Scotland. Data for the 40+ age group are excluded because numbers were too small for a reliable trend to be discernible

pattern to England and Wales. Women in the older age groups led the trend, and the 'age gap' has widened over time. In 2006, just 0.6 per cent of births to women aged under 20 took place out of hospital, compared with 1.8 per cent among 35–39 year-olds.

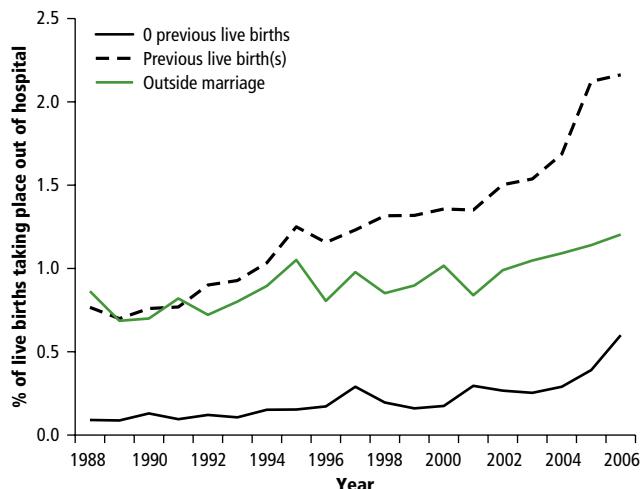
The number of home births in Northern Ireland was too small to be broken down by mother's age.

### Trends by marital status and number of previous live births

Figure 6 shows how the rise in incidence of home maternity since 1988 in England and Wales has varied by marital status and number of previous live births. Data on previous live births are only collected for maternities within marriage<sup>22</sup> (56.4 per cent of maternities in 2006), so only a partial analysis is possible. The increase since 1988 in the percentage of home maternities has been mainly driven by married

**Figure 6****Percentage of maternities taking place at home, by number of previous live births (births inside marriage only), England and Wales, 1988–2006**

Source: FM1 Table 8.1

**Figure 7****Percentage of live births taking place out of hospital, by number of previous live births (births inside marriage only), Scotland, 1988–2006**

Source: GRO-Scotland

women who have had one or more previous live births with their current or a previous husband; an increase from 1.5 per cent in 1988 to 4.2 per cent in 2006.

The home maternity rate has also increased among married women having their first child with their current or a previous husband and women giving birth outside marriage, but in these groups the rate of increase has been slower. Among women with no previous registered live births within marriage, the percentage increased from 0.2 per cent in 1988 to 1.3 per cent in 2006, and among those giving birth outside of marriage, it increased from 1.0 per cent to 2.4 per cent.

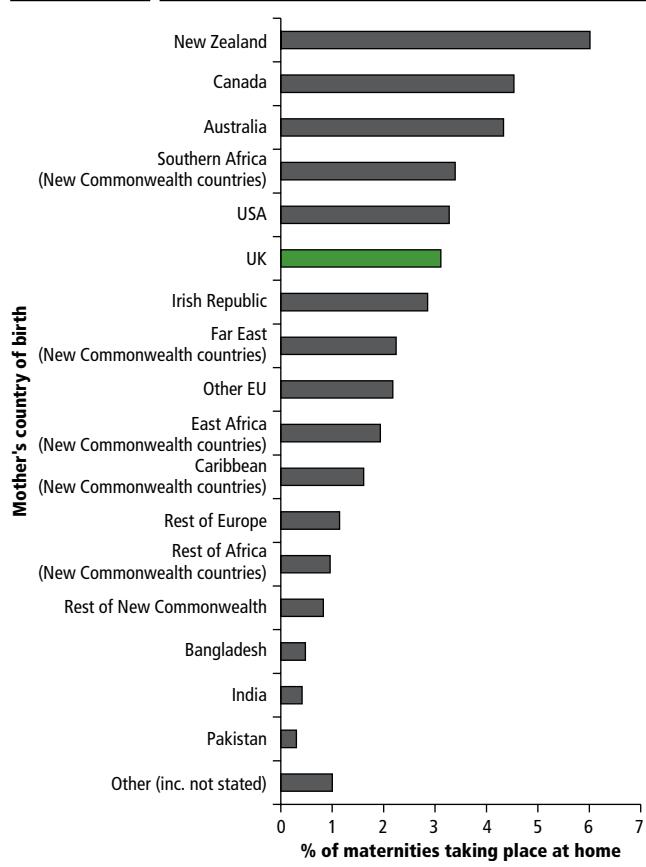
The tendency towards women having fewer children means that the proportion of maternities that are to first-time mothers is higher than it used to be. Because women having their first child have a greater tendency to give birth in hospital, this may have contributed to the slow growth in home maternity rates. However, the fact that the rate has grown even among those having their first maternity and those giving birth outside marriage indicates that any contribution is likely to be small. It is interesting to note that this demographic change appears to be holding the home birth rate down, whereas the trend towards women giving birth at older ages appears to be having the opposite effect (see earlier).

Figure 7 shows how the Scottish data vary by number of previous live births. As in England and Wales, married women giving birth to their second or subsequent child within marriage were mainly responsible for the rise in the percentage of births taking place out of hospital since 1993; the percentage of this group having an out-of-hospital birth rose from 0.9 per cent to 2.2 per cent between 1993 and 2006.

The number of home births in Northern Ireland was too small to be broken down by number of previous live births.

### Variation by mother's country of birth

Figure 8 shows how the incidence of home maternity in England and Wales in 2006 varied by mother's country of birth. Maternities to women born in New Zealand were most likely to take place at home (6 per cent). This is perhaps a reflection of the situation in New Zealand, where the home birth rate is estimated to be about 7 per cent<sup>23</sup>. However, home maternity is also relatively common among women born in Canada, Australia and the USA, countries with very low home birth rates<sup>24,25,26</sup>,

**Figure 8****Percentage of maternities taking place at home, by mother's country of birth, England and Wales, 2006**

Source: ONS special tabulation

indicating that place of birth among women born overseas does not necessarily reflect the practice in their country of birth.

Women born in New Commonwealth countries in Southern Africa<sup>27</sup> also recorded a relatively high home maternity rate (3.4 per cent). Women

born in Pakistan, India or Bangladesh were least likely to give birth at home (0.3, 0.4 and 0.5 per cent respectively).

In 2006, women born outside the UK accounted for 22 per cent of live births in England and Wales<sup>28</sup>, but women born in the five countries at the top of Figure 8 (that is, those with the highest home maternity rate) were responsible for just 1.8 per cent of births, compared to 5.3 per cent for women born in the bottom three countries. It is therefore unlikely that women born overseas are contributing much to the recent rise in the home maternity rate.

## Regional trends

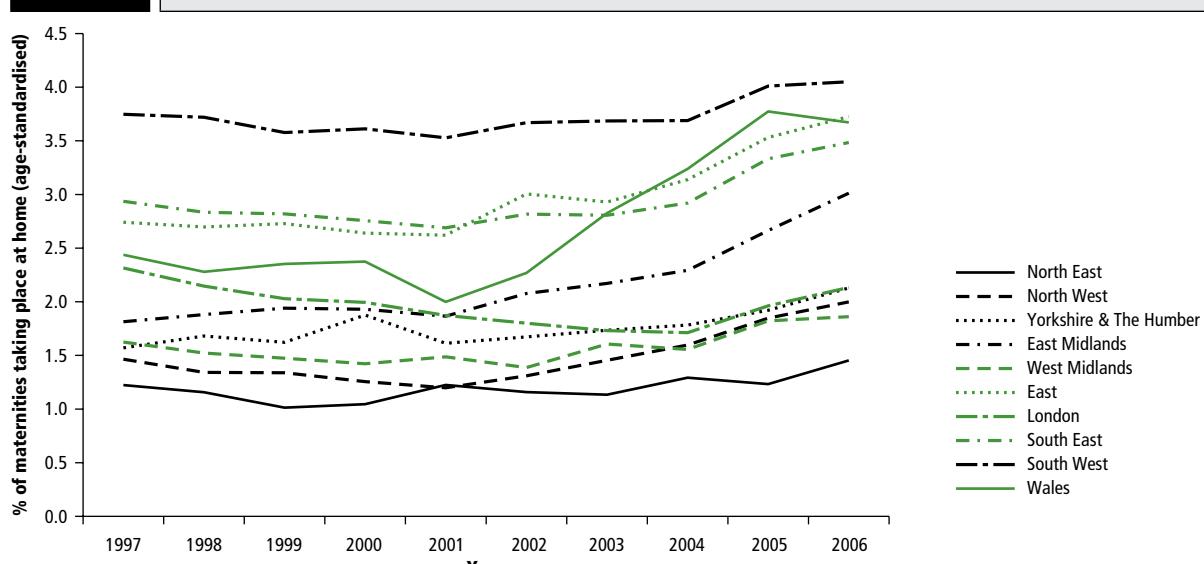
Figure 9 illustrates trends in home maternity rates in England and Wales by government office region (GOR). GORs came into being in 1996, so data from years before 1997 are not shown. Much of the recent increase in the home maternity rate took place between 1988 and 1997 (see Figure 1), so relatively little change is evident in Figure 9. Because the age profile of women giving birth varied slightly by GOR, the data have been age-standardised<sup>29</sup>.

In 2006, the South West had the highest percentage of home maternities (4.1 per cent), followed by East (3.8 per cent), South East (3.6 per cent) and Wales (3.5 per cent). The North East had the lowest percentage (1.4 per cent)<sup>30</sup>.

Wales has seen the most change since 1997, with the home maternity rate falling from 2.3 per cent in 1997 to 1.9 per cent in 2001, then rising to 3.6 per cent in 2005. Slight growth has been evident in most regions of England since 1997, the main exception being London where the rate fell from 2.5 per cent in 1997 to 1.8 per cent in 2004 before starting to rise again.

## Local variations

In 2006, even within GORs with relatively high overall home maternity rates, there were local authority (LA) areas with low rates (see Table 1). For example, in the South West there were six LAs with fewer than 2 per cent of maternities taking place at home and three LAs with 10 per cent or more: West Somerset, Teignbridge and Penwith. Only two other LAs in England and Wales had a home maternity rate above

**Figure 9****Percentage of maternities taking place at home (age-standardised), by GOR, England and Wales, 1997–2006**

Source: ONS special tabulation

Table 1

## Variation in LA-level home maternity rates between and within English regions and Wales, 2006

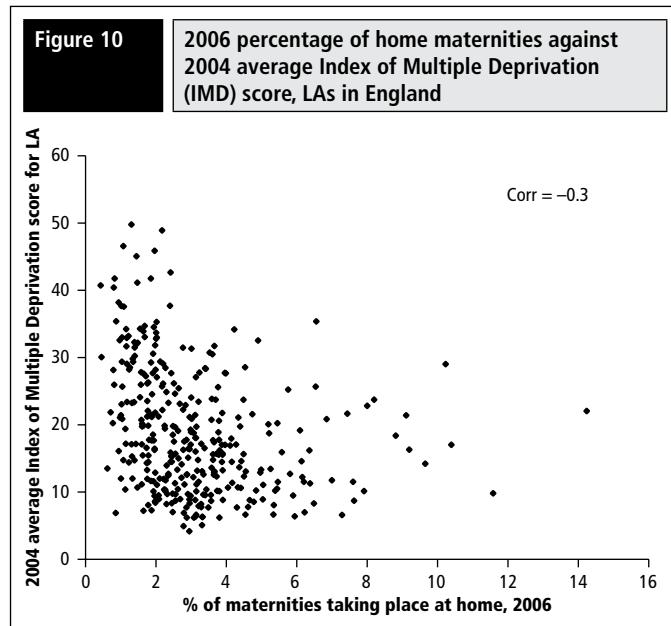
GOR / Country	Overall regional rate	Highest LA within region	Lowest LA within region
South West	4.1%	14.2%	1.1%
East	3.8%	11.6%	1.0%
South East	3.6%	6.8%	0.9%
East Midlands	3.0%	7.3%	0.7%
London	2.2%	6.6%	0.6%
Yorkshire and The Humber	2.0%	3.7%	1.0%
North West	1.9%	3.9%	0.5%
West Midlands	1.8%	4.7%	0.8%
North East	1.4%	2.5%	0.4%
<b>Wales</b>	<b>3.5%</b>	<b>10.7%</b>	<b>0.9%</b>

Source: ONS special tabulation. Three LAs were excluded: two because they had fewer than three home maternities and one because there was a very small number of births which, if included, would have distorted the figures

10 per cent (Mid Suffolk and Powys). These variations indicate that local, rather than national/regional, factors have the stronger link with women's propensity to give birth at home.

In considering what these local factors might be, it is important to take into account variations in socio-demographic profile. Figure 4 shows that older women were more likely than younger women to have a home maternity; can some or all of the local variation be explained by some areas containing a higher proportion of younger mothers? If this were the main reason for geographical variation, regional differences would diminish once different age profiles are taken into account. However, the age-standardised data in Figure 9 were very similar to the observed figures, indicating that regional variations were not due to age<sup>31</sup>.

A 1994 UK study<sup>4</sup> found that women giving birth at home tended to be from higher socio-economic groups than women giving birth in hospital. If this were the main explanation for geographical variation, there would be a strong correlation between an area's home maternity rate and its level of deprivation. **Figure 10** plots the percentage of maternities taking place at home in 2006 against the 2004 Index of Multiple Deprivation (IMD)<sup>32</sup> average score for 343 of the 346 LAs in England<sup>33</sup>, with each point representing one LA.



Source: Department of Communities and Local Government (DCLG), ONS special tabulation

If home maternity rate and deprivation were strongly negatively correlated, the points on the plot would appear in a diagonal line going from top left to bottom right (a high IMD score indicates a high level of deprivation). There is some evidence of a correlation (correlation coefficient = -0.3), indicating that socio-economic profile may explain some of the geographical variations in the observed data<sup>34</sup>. It is not, however, a clear-cut relationship; numerous LAs had both a low IMD score (that is, little deprivation) and a low home maternity rate. One would not expect a totally clear-cut relationship at LA level, because many LAs contain areas of both high and low deprivation. The preponderance of points in the bottom left corner of the plot (low home maternity rate, little deprivation) does, however, suggest that, in some areas at least, factors other than socio-economic profile may also be related to local home maternity rates.

Given the lack of a totally clear pattern in Figure 10, it is instructive to look at the situation in some individual LAs. **Table 2** lists the 20 most deprived LAs in England (according to the 2004 average IMD score) and the 20 least deprived LAs, and shows the percentage of maternities taking place at home in each in 2006. The median percentage of home maternities in the twenty most deprived LAs in England was 1.4 per cent, compared with 3.1 per cent for the 20 least deprived LAs, and 19 of the 20 most deprived LAs had home maternity rates lower than the national average of 2.7 per cent. This indicates an aggregate link between deprivation and incidence of home maternity at LA level.

However, there were some notable exceptions to this general rule. At 6.6 per cent, the home maternity rate in Southwark was 2.4 times the national average, despite Southwark being the 17th most deprived LA in England. Only 19 English LAs recorded a higher home maternity rate than Southwark in 2006. Similarly, three LAs among the 20 least deprived recorded home maternity rates well below the national average, most notably Epsom and Ewell (0.9 per cent – only nine LAs recorded a

Table 2

## Percentage of home maternities in 2006 in the most and least deprived LAs in England

20 most deprived LAs in England (according to 2004 Index of Multiple Deprivation average score)		20 least deprived LAs in England (according to 2004 Index of Multiple Deprivation average score)	
Local authority	per cent home maternities	Local authority	per cent home maternities
1. Liverpool	1.3	1. Hart	2.9
2. Manchester	2.2	2. Surrey Heath	2.8
3. Knowsley	1.1	3. Wokingham	3.3
4. Tower Hamlets	2.0	4. Mole Valley	2.9
5. Hackney	1.4	5. Waverley	3.8
6. Islington	2.4	6. Chiltern	3.1
7. Nottingham	1.9	7. East Hertfordshire	3.3
8. Easington	0.8	8. West Oxfordshire	3.3
9. Kingston upon Hull	1.5	9. Mid Sussex	3.1
10. Middlesbrough	0.4	10. South Cambridgeshire	5.9
11. Newham	0.8	11. South Northamptonshire	7.3
12. Salford	0.9	12. Rutland	3.1
13. Haringey	2.4	13. Horsham	4.5
14. Hartlepool	1.0	14. Uttlesford	5.3
15. Birmingham	1.1	15. Epsom and Ewell	0.9
16. Sandwell	0.9	16. Vale of White Horse	2.8
17. Southwark	6.6	17. Winchester	6.2
18. Stoke on Trent	2.0	18. Elmbridge	2.5
19. Camden	1.7	19. Harborough	1.6
20. Newcastle upon Tyne	1.9	20. Woking	1.9
Median value	1.4	Median value	3.1

Source: DCLG, ONS

Table 3

## Age- and parity-standardised home maternity rates at NHS trust level, 'top 20', England, 2007

NHS Trust	Number of responses	per cent of maternities taking place at home (standardised)
South Devon Healthcare	133	17.9
King's College Hospital (London)	128	17.0
Ipswich Hospital	179	8.4
East and North Hertfordshire	199	7.9
Stockport	148	7.4
Southend University Hospital	165	7.3
Medway (Kent)	198	6.7
Taunton and Somerset	168	6.7
Royal Cornwall Hospitals	190	6.4
Royal Devon and Exeter	136	6.3
West Suffolk Hospitals	135	6.3
Northern Devon Healthcare	128	5.7
Buckinghamshire Hospitals	214	5.5
Winchester and Eastleigh Healthcare	143	5.5
Dorset County Hospital	125	5.5
Northumbria Healthcare	160	5.3
East Sussex Hospitals	164	5.3
The Princess Alexandra Hospital (Harlow, Essex)	117	5.3
Basingstoke and North Hampshire	124	5.0
West Middlesex University Hospital	111	5.0

Source: Healthcare Commission

lower home maternity rate than this). Furthermore, none of the four LAs in England with a home maternity rate above 10 per cent (West Somerset, Mid Suffolk, Teignbridge and Penwith) appeared very high on the 'least deprived' list.

These exceptions to the general rule suggest that factors other than the socio-economic profile of the local population can also have a part to play in determining LA-level variations in home maternity rates. The results of a 2007 Healthcare Commission survey<sup>35</sup> of women who had had a live birth indicated that local NHS trust policy may be one of these factors. The sample was administered by NHS trusts, so it was possible to analyse the results separately according to which NHS trust provided the maternity services. Nearly all NHS trusts in England that provided maternity services were included in the survey<sup>36</sup>.

Among other things, the survey asked women to state the place of birth. The results were standardised by mother's age and parity<sup>37</sup>, so are not comparable with statistics from birth registration, but they did reveal a high level of variability between trusts. **Table 3** shows the 'top 20' NHS trusts in terms of the percentage of maternities taking place at home.

Two NHS trusts recorded exceptionally high home birth rates: South Devon Healthcare (which covers part of the Teignbridge LA area) and King's College Hospital (which covers part of the Southwark LA area). In both of these trusts, active steps have been taken to promote home birth as a safe and viable option for women at low risk of complications<sup>38,39</sup>. The figures from these two trusts indicate that, where home birth is offered as a realistic option, take-up is far higher than the national average. Neither trust represents women from especially affluent areas, suggesting that local variation in home maternity rates is more strongly influenced by factors relating to the local NHS than by the socio-economic profile of the women giving birth in the area, and perhaps that the bias towards middle-class women having home births is less pronounced when home birth is actively supported by the local health services.

## Key findings

- Over the past 50 years, there has been a major shift away from giving birth at home towards giving birth in hospital. In England and Wales in 2006, just 2.7 per cent of maternities took place at home
- The percentage of maternities taking place at home has, however, been slowly increasing since 1988 in England and Wales. In Scotland and in Northern Ireland, the increase in the percentage of home births began later, and in Northern Ireland it has been much slower than in most other parts of the UK
- Home birth is more common among women aged 30 and over, and those having their second or subsequent live birth within marriage
- Three government office regions had home maternity rates of above 3.5 per cent in 2006: South West, South East and East. Wales also had a high rate at 3.5 per cent, while Northern Ireland, Scotland and the North East had the lowest rates in the UK
- At the aggregate level, the home maternity rate tends to be higher in more affluent local authority areas in England and Wales, but a number of local authority areas bucked this trend
- A 2007 Healthcare Commission survey found a high level of variability in home maternity rates at NHS trust level in England. The two NHS trusts with the highest home maternity rates were ones in which active steps had been taken to promote home birth as a safe and viable option. Neither was in a particularly affluent area.

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11 Some out-of-hospital births will have taken place in homes other than the mother's usual residence.

12 Mori R, Dougherty M & Whittle M (2008) An estimation of intrapartum-related perinatal mortality rates for booked home births in England and Wales between 1994 and 2003, *BJOG, An International Journal of Obstetrics and Gynaecology* 115(5): 554–9.

13 Campbell R (1986) *Home births survey. Perinatal mortality by intended place of delivery for births occurring at home. England and Wales, 1979*, PhD thesis, London, London University.

14 For example, there will have been response bias in the Redshaw et al study, and in the Mori et al study, the data from a single English region was assumed to apply to the whole of England and Wales.

15 Percentages for the years 1955 to 1963 inclusive refer to live births plus stillbirths, rather than maternities, because the only available published data are based on births.

16 The GFR is the number of live births per 1,000 women aged 15–44.

17 Office for National Statistics, Birth Statistics, Series FM1.

18 Declercq E, DeVries R, Viisainen K, Salvesen H B & Wrede S (2001) *Where to Give Birth? Politics and the Place of Birth*. In DeVries et al (eds) *Birth by Design: Pregnancy, Maternity Care, and Midwifery in North America and Europe*, New York, Routledge.

19 Percentages for the years 1955 to 1973 inclusive refer to live births plus stillbirths, rather than maternities, because the only available published data are based on births.

20 ASFRs are calculated by dividing the number of live births to mothers of each age group by the number of women in the population of that age and then expressed per 1,000 women in the age group.

21 2006 age-specific home maternity rates were calculated for each of six age groups (<20, 20–24, 25–29, 30–34, 35–39, 40+) From these, the number of home maternities that would have been expected was calculated, had women giving birth in 2006 had the same age profile as women giving birth in 1988. The expected number of home maternities was divided by the total number of women giving birth in 1988, then multiplied by 100.

22 Even for women giving birth within marriage, only previous live births fathered by the current or a previous husband are counted.

23 Home Birth Aotearoa (2007) *Home Birth Statistics*. Available from: [www.homebirth.org.nz/statistics.html](http://www.homebirth.org.nz/statistics.html) (accessed 2 April 2008). Note: this is an estimate, and probably includes some births that were planned to take place at home but transferred to hospital during labour, and also births in transit.

24 Janssen P A, Lee S K, Ryan E M, Etches D J, Farquharson D F, Peacock D & Klein M C (2002) Outcomes of planned home births versus planned hospital births after regulation of midwifery in British Columbia, *Canadian Medical Association Journal* 166(3): 315–23.

25 Laws P, Abeywardana S, Walker J & Sullivan E A (2007) *Australia's Mothers and Babies 2005*, Sydney, AIHW National Perinatal Statistics Unit.

26 Martin J A, Hamilton B E, Sutton P D, Ventura S J, Menacker F, Kirmeyer S & Munson M L (2007) *Births: Final Data for 2005*. National Vital Statistics Reports; Vol 56 (6). Hyattsville, National Center for Health Statistics.

27 Botswana, Lesotho, Namibia, South Africa, Bantu Homelands, Bophuthatswana, Transkei, Venda, Walvis Bay and Swaziland.

28 Office for National Statistics. Birth Statistics. Series FM1, Table 9.4.

29 For each GOR in each year, age-specific home maternity rates were calculated for each of six age groups (<20, 20–24, 25–29, 30–34, 35–39, 40+). From these, the number of home maternities that would have been expected in that GOR in that year was calculated, had women giving birth in that GOR had the same age profile as women giving birth in England and Wales as a whole. The expected number of home maternities was divided by the total number of women giving birth in England and Wales, then multiplied by 100 to indicate the percentage of home maternities that would have occurred in that GOR in that year if women giving birth in the GOR had had the same age structure as England and Wales as a whole in that year.

30 The figures in the text are the observed figures, not the age-standardised ones that are shown in Figure 9.

31 Ideally, the LA-level data would also have been age-standardised. However, because numbers of home births in some LAs were very small, there were confidentiality concerns over disclosing the data required.

32 Department of Communities and Local Government (2007) *Indices of Deprivation 2004: LA Summaries*. Available from: [www.communities.gov.uk/documents/communities/xls/lasummaries2004](http://www.communities.gov.uk/documents/communities/xls/lasummaries2004) (accessed 5 March 2008).

33 Three LAs were excluded: two because they had fewer than three home maternities in 2006, and one because it recorded a very small number of births overall so, if it had been included, it would have distorted the figures.

34 Even though the association between deprivation and the home birth rate is not strong at the aggregate level, it is still possible that, within a given LA area, it is mainly middle-class women who have (planned) home births.

35 Healthcare Commission (2007) *Women's Experiences of Maternity Care in the NHS in England: Key Findings from a Survey of NHS Trusts carried out in 2007*, London, Healthcare Commission.

36 Although trust-level participation rates were high, the survey response rate at the individual level was 59 per cent, so it is likely that the results contain some response bias.

37 The results were standardised so that each trust's age-parity profile reflected the national age-parity distribution with respect to three age groups (16–26, 27–32 and 33+) and two parity groups (first birth and second/subsequent birth). The national distribution was taken from the survey sample, not the entire UK population. The percentages are therefore those that would be expected if each trust had the same profile of respondents according to age and parity.

38 Leyshon L (2004) Integrating caseloads across a whole service: The Torbay model, *MIDIRS Midwifery Digest* 14 (Supplement 1): S9–S11.

39 Sandall J, Davies J & Warwick C (2001) *Evaluation of the Albany Midwifery Practice: Final Report*, London, King's College.