

Smoking in pregnancy and following childbirth

East Sussex, 2011/12

East Sussex

Joint Strategic Needs Assessment

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Aim

This report aims to bring together information on smoking behaviours of mothers in East Sussex from time of conception through to six weeks following child birth, up to 2011/12

Data source

Maternal smoking data is available from sources:

- 1) maternity units: smoking at conception, booking and delivery
- 2) child health system: smoking at 6 weeks postpartum

Table 1: Maternity Unit smoking data available

| | Place of birth % East Sussex resident births (2011/12) | Smoking status at conception/before pregnancy | Smoking status at booking | Smoking status at delivery |
|---|---|---|---|---|
| East Sussex Hospitals Trust (ESHT) | 71% | Available for all ESHT deliveries (incl homebirths), 2006 to March 2012 (June- Dec only for 2010) | Available for all ESHT deliveries (incl homebirths), 2006 to March 2012 | Available for all ESHT deliveries (incl homebirths), 2006 to March 2012 |
| Brighton and Sussex University Hospitals (BSUH) | 19% | 2011/12 available for BSUH only as 'smoking 12 months before pregnancy' (incl homebirths) | Available for East Sussex PCTs for 2009/10 - 2011/12 (incl homebirths) | Available for East Sussex PCTs for 2009/10 - 2011/12 (incl homebirths) |
| Maidstone and Tunbridge Wells (MTW) | 6% | Available for East Sussex PCTs for 2009/10 - 2011/12 (incl homebirths) | Available for East Sussex PCTs for 2009/10 - 2011/12 (incl homebirths) | Available for East Sussex PCTs for 2009/10 - 2011/12 (incl homebirths) |
| Other | 4% (includes all homebirths) | Not available | Not available | Not available |

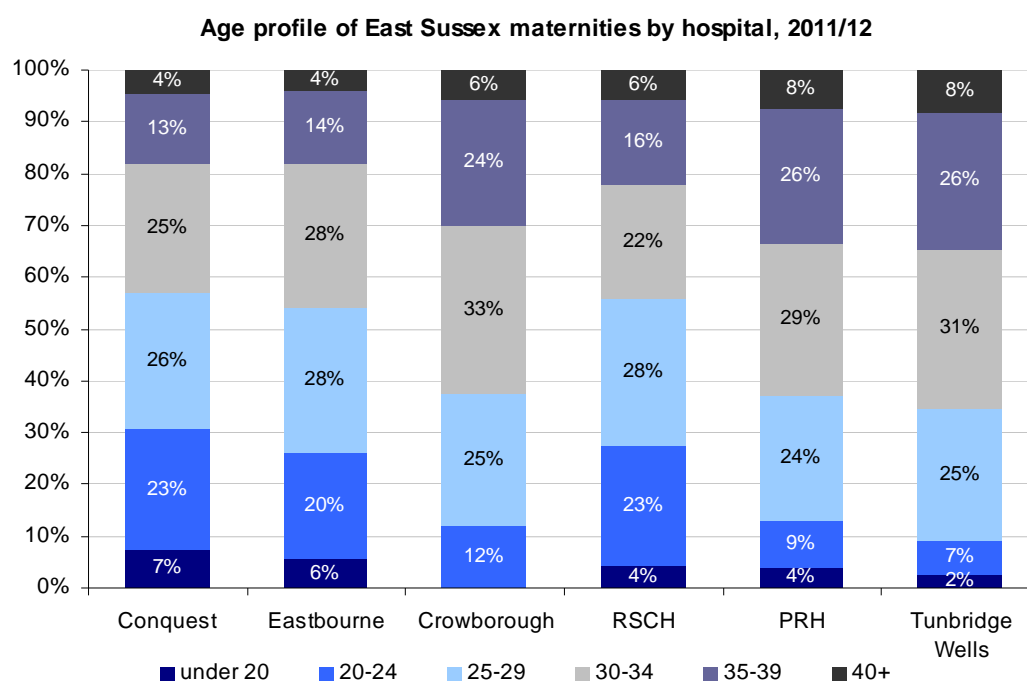
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Smoking status at six weeks postpartum is available for mothers of babies under the responsibility of East Sussex PCTs at the six week health review. Whether the father and other household members smoke is also captured.

Differences in smoking rates between maternity units may be due to differences in the populations they serve. As smoking rates differ by age and deprivation, the age profile and deprivation profile for East Sussex births by hospital of delivery for 2011/12 is presented in Figures 1 and 2.

Crowborough, Princess Royal Hospital and Tunbridge Wells Hospital have older age profiles of maternities with the Conquest having the youngest (Figure 1).

Figure 1: Age profile of East Sussex maternities, 2011/12



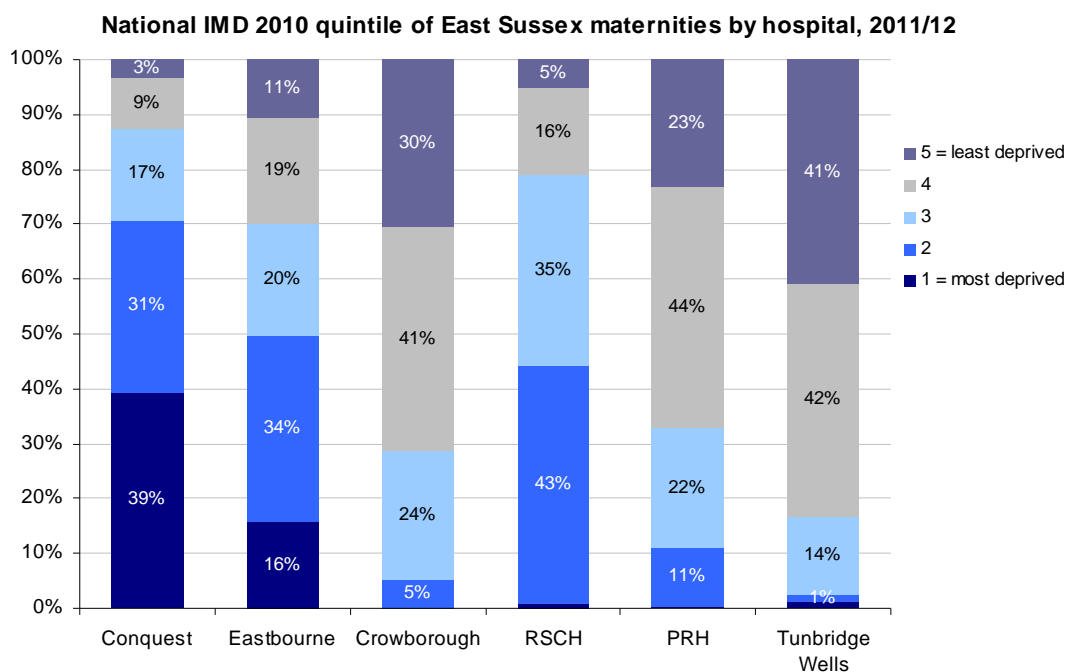
RSCH = Royal Sussex County Hospital (Brighton), PRH = Princess Royal (Haywards Heath)

There are large differences in the deprivation profile by hospital of delivery for East Sussex mothers. Around 2 in 5 (39%) maternities at the Conquest are mothers from the 20% most deprived areas in England, with 16% of mothers at Eastbourne from the most deprived 20% of areas in England. Tunbridge

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Wells Hospital, Crowborough and then Princess Royal have the highest proportion of East Sussex maternities from the least deprived quintile nationally. (Figure 2)

Figure 2: Deprivation profile of East Sussex maternities, 2011/12



Smoking prevalence in fertile female population

National smoking prevalence is estimated using data from the General Lifestyle Survey (Source: ONS). It is acknowledged that in the survey smoking prevalence may be under-reported, and would most likely be under-reported among young people.

Comparing national smoking prevalence estimates to the prevalence of smoking for women at time of conception (whose pregnancy-related care was at ESHT), shows that younger women falling pregnant have a much higher smoking rate than in the general female population for their age group, with the difference decreasing with age. In 2010 the smoking prevalence for females aged 16-19 years was 17%, compared to 61% of

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women of that age who had a baby at ESHT smoking at time of conception (Figure 3). In the same year, for those aged 20-24 years the national prevalence was 30% and 47% were smoking at conception at ESHT (Figure 4), for ages 25-34 years the national prevalence was 25% and 30% were smoking at time of conception at ESHT. (Figure 5)

Figure 3: Smoking in females aged 16-19 years and at time of conception

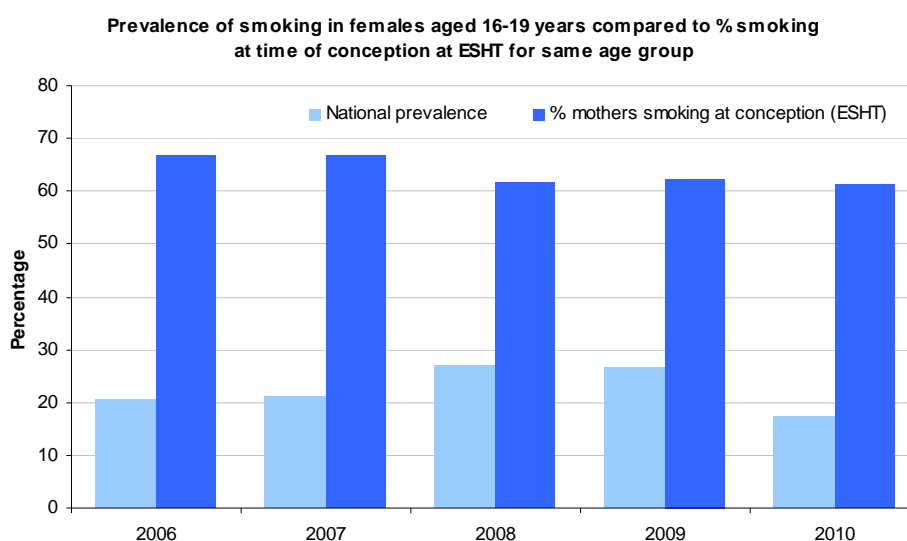
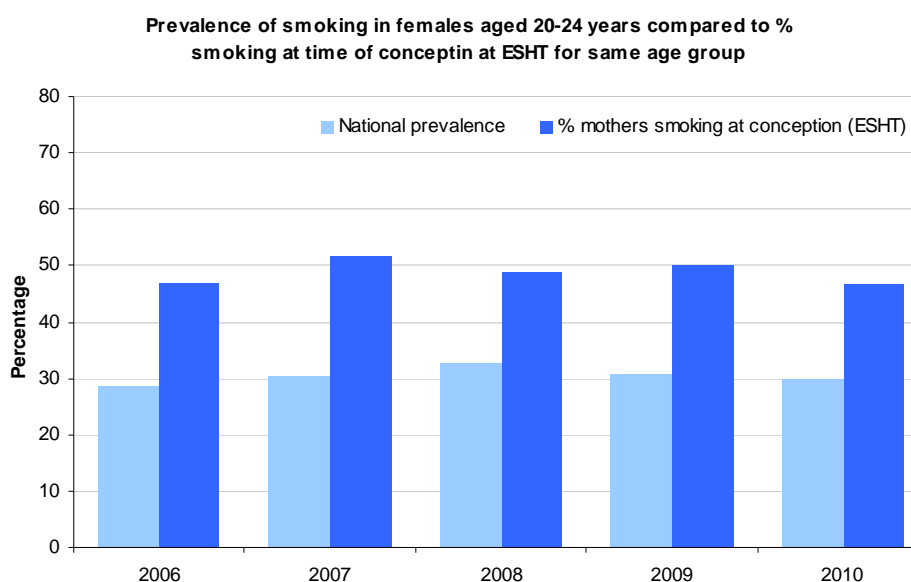
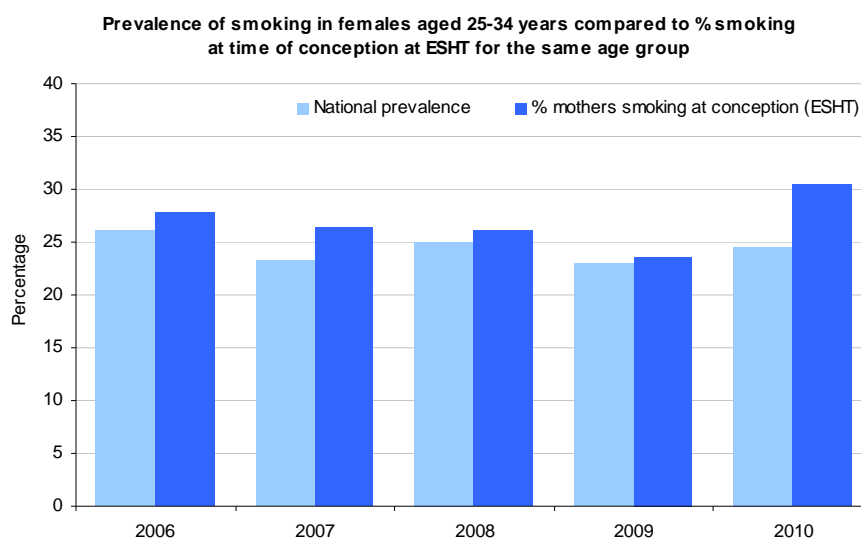


Figure 4: Smoking in females aged 20-24 years and at time of conception



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Figure 5: Smoking in females aged 25-34 years and at time of conception

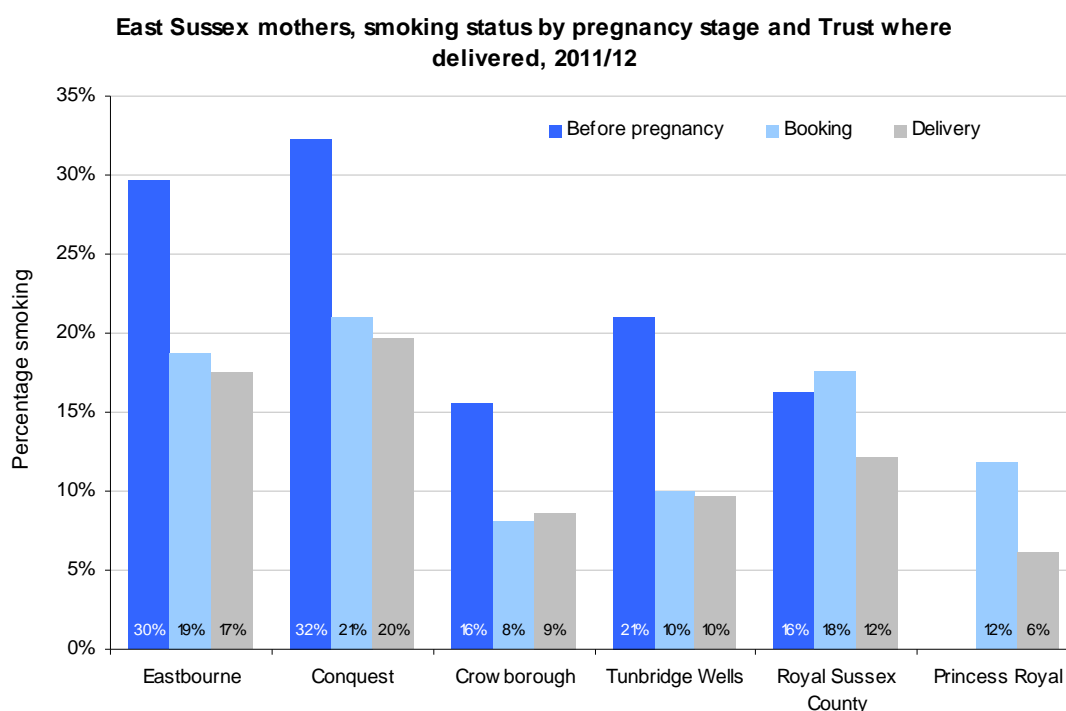


Smoking status and pregnancy stage

The majority of East Sussex mothers who were smoking when they became pregnant and subsequently stopped, quit between conception and booking. Only a small number who were smoking at booking go on to have quit by the time of delivery. (Figure 6) Note that for the Royal Sussex County, pre-pregnancy data refers to 12 months before pregnancy, and shows a higher percentage of mothers smoking at booking than 12 months prior to the pregnancy.

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Figure 6: Smoking status by pregnancy stage and hospital



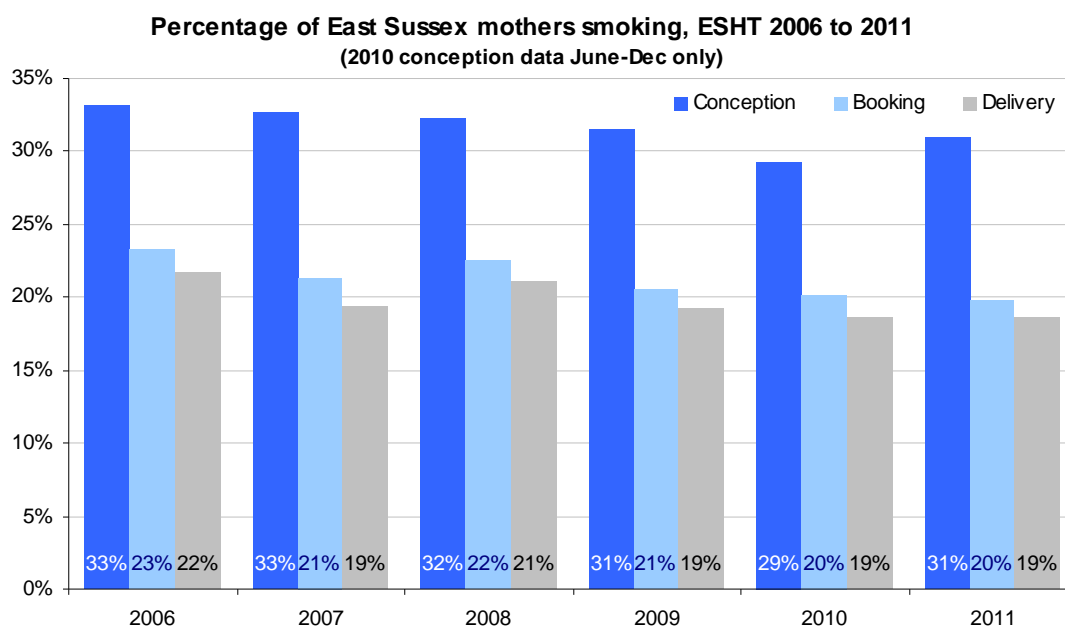
Note - before pregnancy data not available for PRH

Smoking rates at all stages of pregnancy are highest at the Conquest followed by Eastbourne. BSUH data suggests a higher drop in the percentage of mothers smoking between time of booking and at time of delivery, compared to East Sussex mothers delivering at ESHT and MTW.

Figure 7 shows the percentage of women smoking at different pregnancy stages for 2006-2011 at ESHT. Although the prevalence of smoking at the different pregnancy stages varies year on year, there is a slight downward trend of the prevalence of smoking at conception, booking and delivery.

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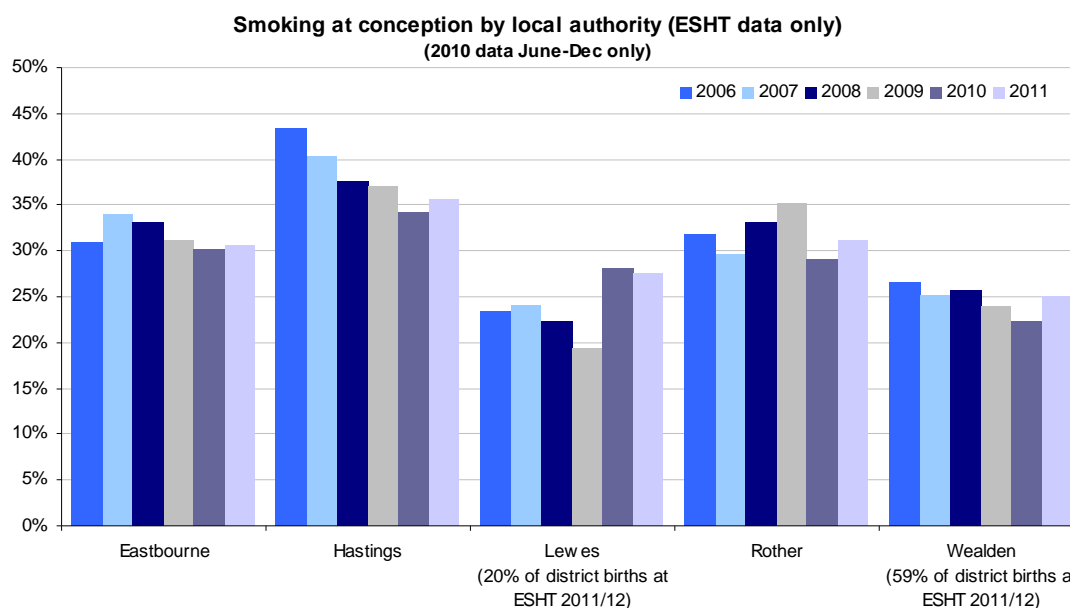
Figure 7: Smoking status by pregnancy stage, ESHT 2006-2011



Smoking at conception

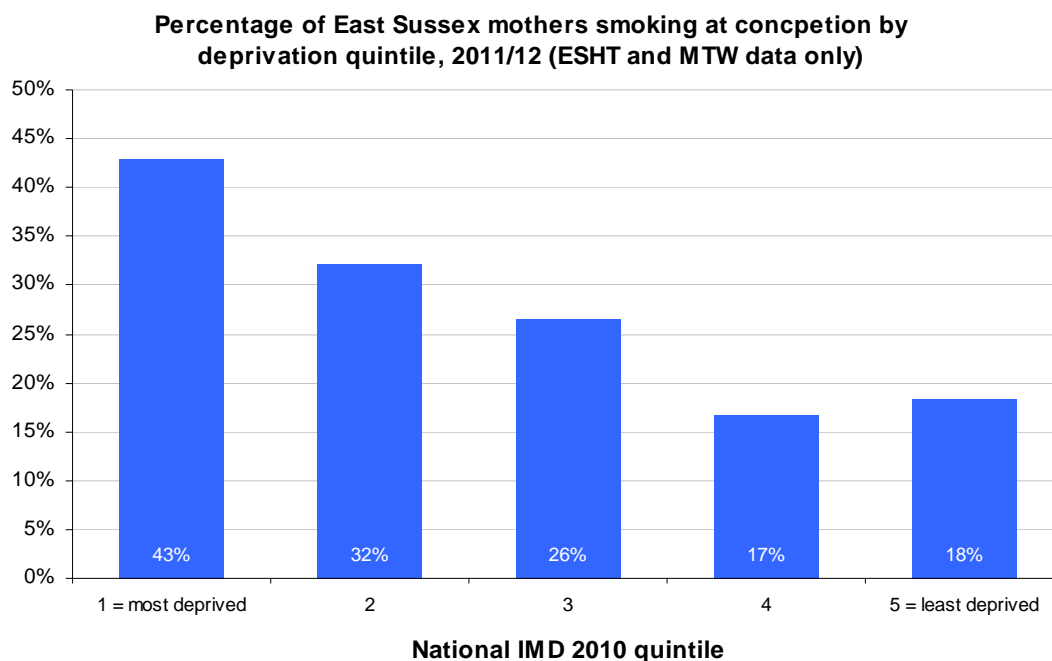
Hastings borough has the highest percentage of women smoking at conception but the rate is showing a downward trend. Lewes and Wealden have the lowest rates (for births at ESHT only). (Figure 8)

Figure 8: Smoking at conception, districts/borough 2006-2011



The percentage of mothers who were smoking when they became pregnant increases with increasing levels of deprivation (Figure 9).

Figure 9: Smoking at conception, IMD national quintile (IMD 2010), 2011/12



Smoking at booking and delivery

There is variation across the county of the percentage of mothers who were smoking at booking and at time of delivery, with the highest rates in Hastings (majority of these births were at the Conquest). Lewes has the largest drop off of smoking between booking and delivery. (Figure 10)

Almost a third of mothers from the most deprived areas are smoking during pregnancy, with around one in ten from the least deprived area. (Figure 11)

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Figure 10: Smoking at booking and delivery, district/borough, 2011/12

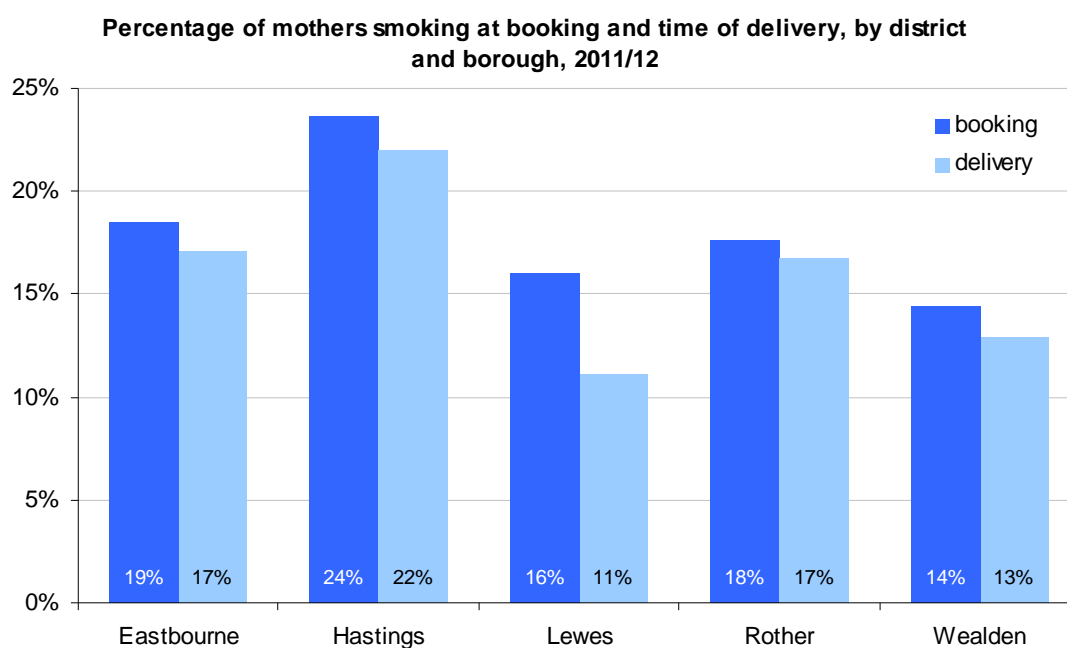
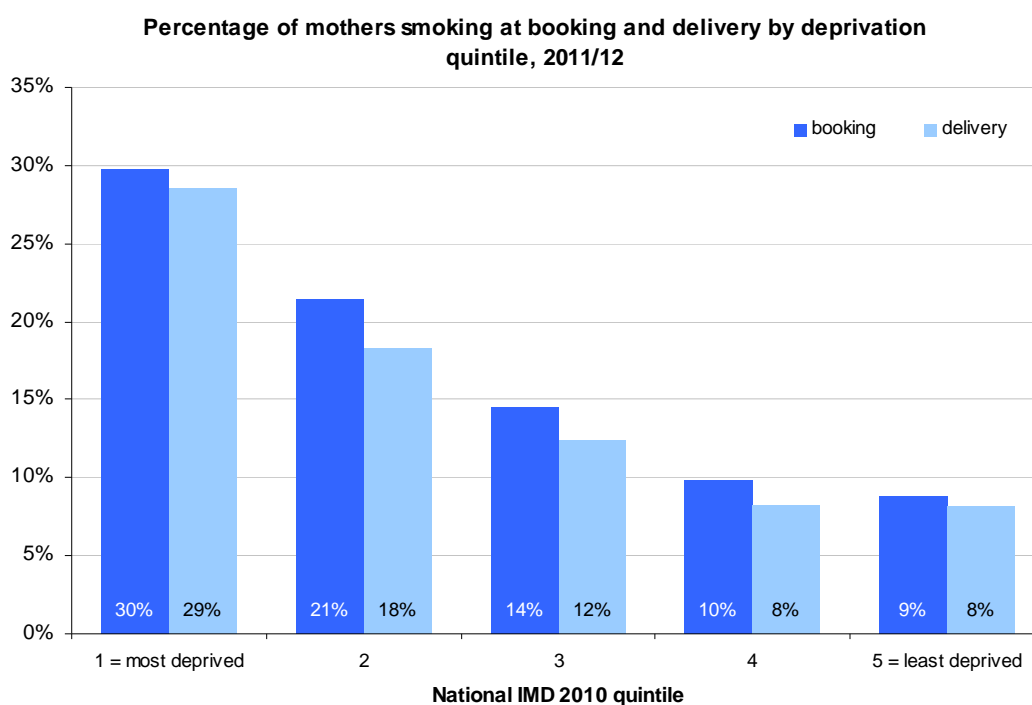


Figure 11: Smoking at booking and delivery, IMD national quintile, 2011/12



Smoking data collected at six week health visitor review

Data on smoking status during pregnancy and at six weeks for the mother, father and other household members is collected by the health visitor at the six week review. The following data is captured:

Did mother stop smoking during pregnancy? Yes/No/n/a (mother was not a smoker at start of pregnancy)

Current smoking data:

Mother Yes/No

Father Yes/No

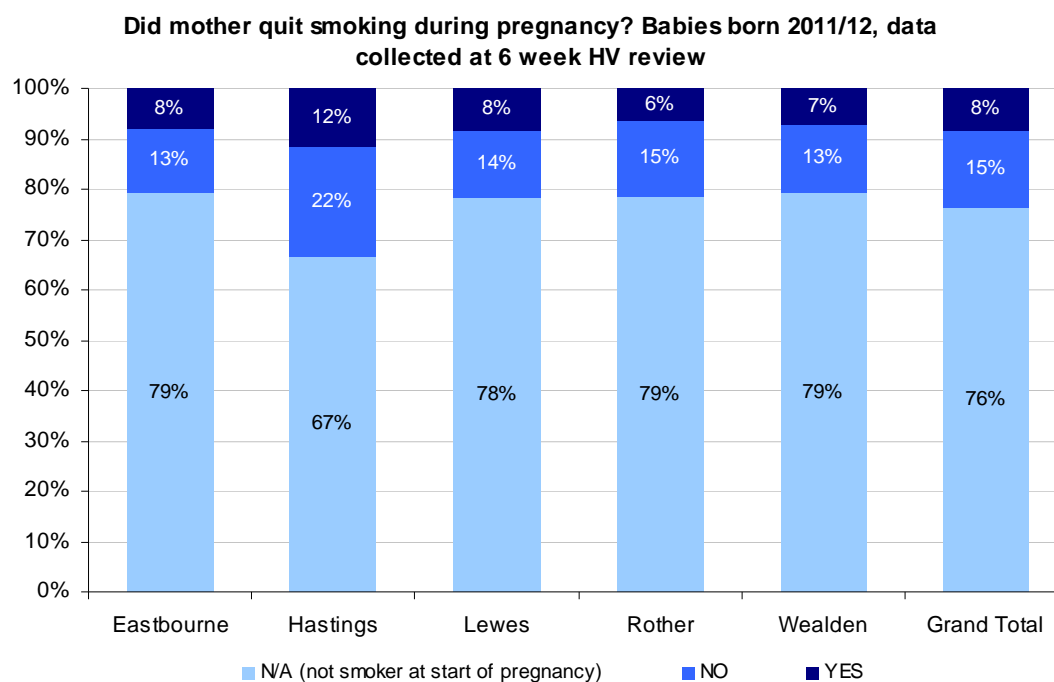
Any other Yes/No

Using the data on smoking status during pregnancy from the health visitor six week review shows different smoking rates by district/borough compared to the data from maternity units for 2011/12. Data recorded at the maternity units relate specifically to at time of booking and delivery. The data collected at the six week review refers to 'during pregnancy', so could be at any stage, and also it is unclear if women quit during the pregnancy but relapsed before delivery how they would classify themselves. Note - the six week review data is only available for mothers/children registered with an East Sussex GP.

Figure 12 shows that in Hastings 34% of mothers were smoking at the start of pregnancy (22% + 12%) with more than 1 in 5 mothers continuing smoke during the pregnancy. The data collected by the HV suggests lower smoking rates in Eastbourne compared to maternity unit data (13% continuing to smoke during pregnancy whereas maternity data suggests 17% smoking at time of delivery).

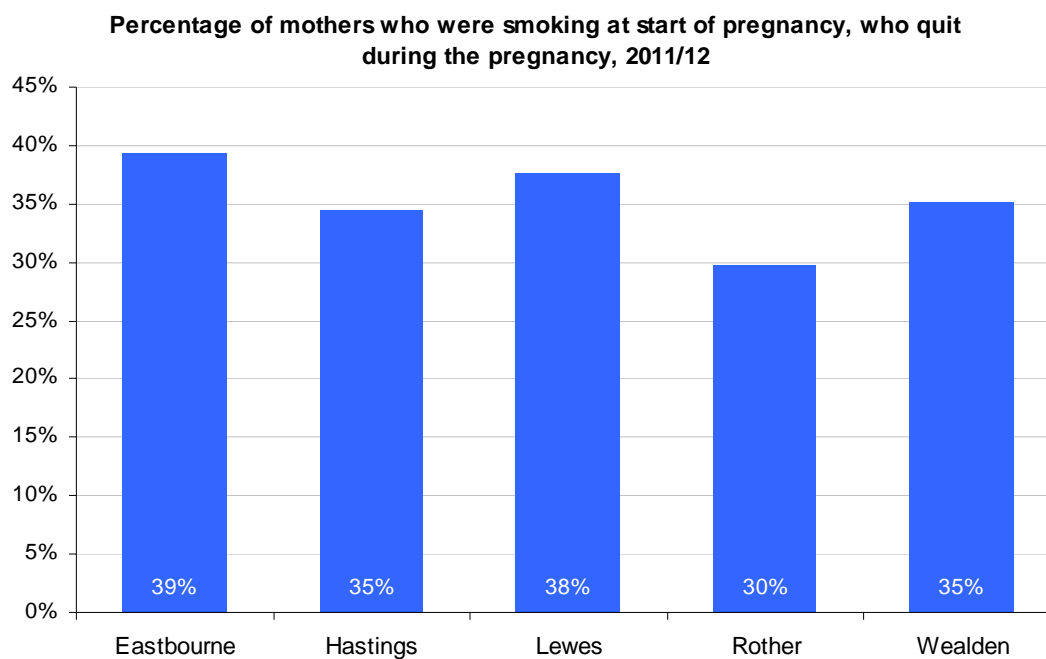
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Figure 12: Did mother quit smoking during pregnancy? district/borough, 2011/12



Of those women who were smokers at the start of pregnancy, the highest quit rates are in Eastbourne, Lewes and Wealden. (Figure 13)

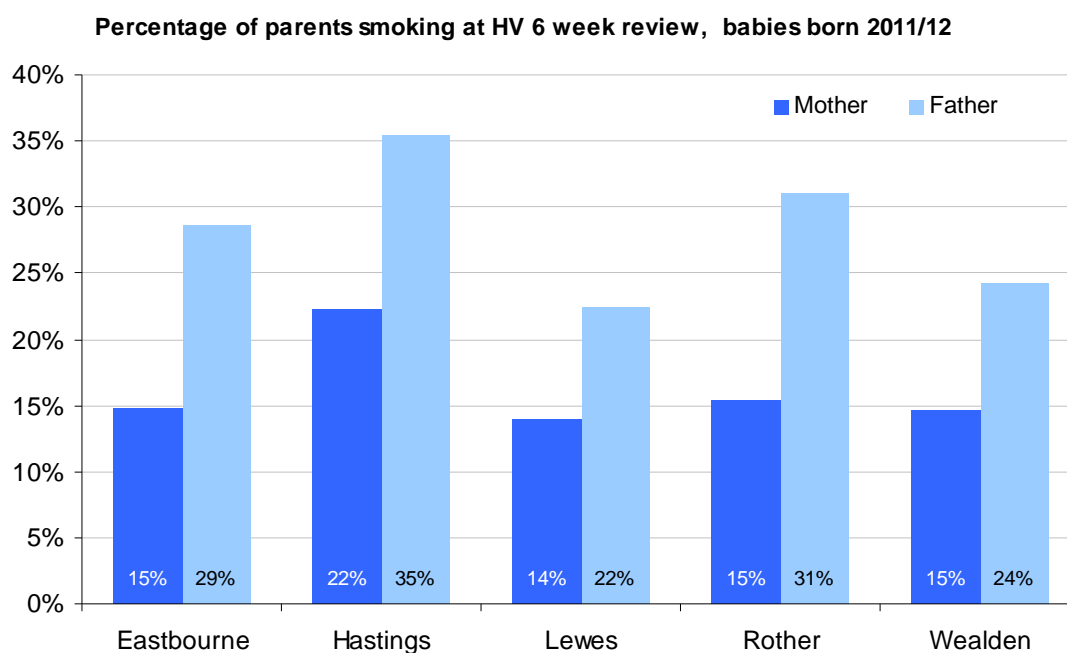
Figure 13: Smokers who quit during pregnancy, district/borough, 2011/12



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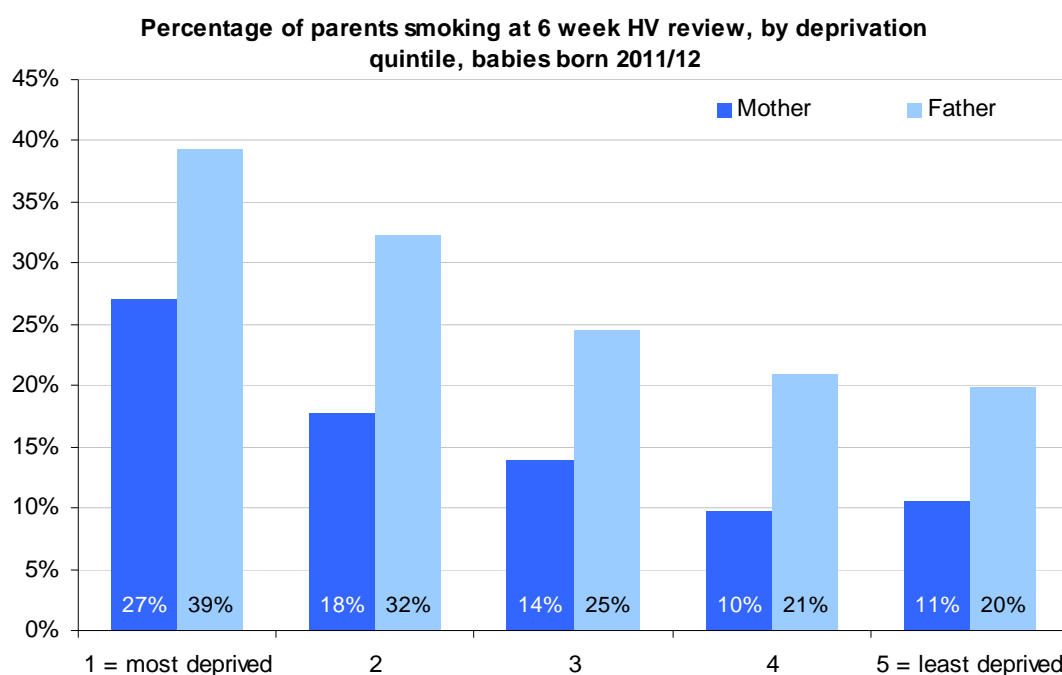
At the six week health visitor review the percentage of mothers smoking is highest in Hastings (22%) and lowest in Lewes (14%). The proportion of fathers smoking ranges from around one in five in Lewes (22%) to over a third in Hastings (35%). (Figure 14)

Figure 14: Parental smoking at six week review, district/borough, 2011/12



There is a clear association with deprivation and parental smoking at the six week health visitor review. Around two-fifths (39%) of fathers living in the most deprived quintile were smoking compared with one in five in the two least deprived quintiles (20-21%). For mothers, 27% from the most deprived quintile were smoking compared to 10-11% in the least deprived quintiles. (Figure 15)

Figure 15: Parental smoking by deprivation quintile, 2011/12



Smoking relapse following childbirth

Source: Harmer, C., & Memon, A. (2012). Factors associated with smoking relapse in the postpartum period: an analysis of the Child Health Surveillance System data in Southeast England. *Nicotine & Tobacco Research*, doi: 10.1093/ntr/nts221

Research conducted locally using the data collected by the health visitor at the 6 week review has shown that of those women who quit smoking during the pregnancy, almost half (47%) had relapsed by the 6 week review. The strongest predictor of a mother relapsing was being around other smokers (partner/other household members), already having children (with increasing likelihood of relapse with increasing number of previous children), and breastfeeding was found to be a protective factor.

Maternal smoking at ward level

Table 2 shows the five wards with the highest smoking prevalence at time of delivery, and at 6 weeks for both mothers and fathers for 2011/12. Although at a ward level numbers in one year may be relatively small, maternal smoking is clearly an issue in Hailsham East with more than half of mothers smoking at time of delivery and over half of fathers smoking at time of the 6 week HV review.

Table 2: Top five wards with highest smoking prevalence at time of delivery and at 6 weeks following child birth

| Smoking at time of delivery | Mother smoking at 6 weeks following child birth | Father smoking at 6 weeks following child birth |
|-----------------------------|---|---|
| Hailsham East (52%) | Hailsham East (44%) | Hailsham East (56%) |
| Baird (39%) | Braybrooke (36%) | Braybrooke (49%) |
| Sidley (34%) | Baird (36%) | Tressell (48%) |
| Braybrooke (31%) | Castle (33%) | Sidley (44%) |
| Eastern Rother (28%) | Hollington (28%) | Baird (44%) |

Figures 16-18 show the prevalence of smoking at time of delivery and at 6 weeks for both mothers and fathers for 2011/12 for electoral wards in East Sussex. The wards with the lowest prevalences tend to be in Wealden and Lewes districts.

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Figure 16: Map of mothers smoking at time of delivery, East Sussex wards, 2011/12

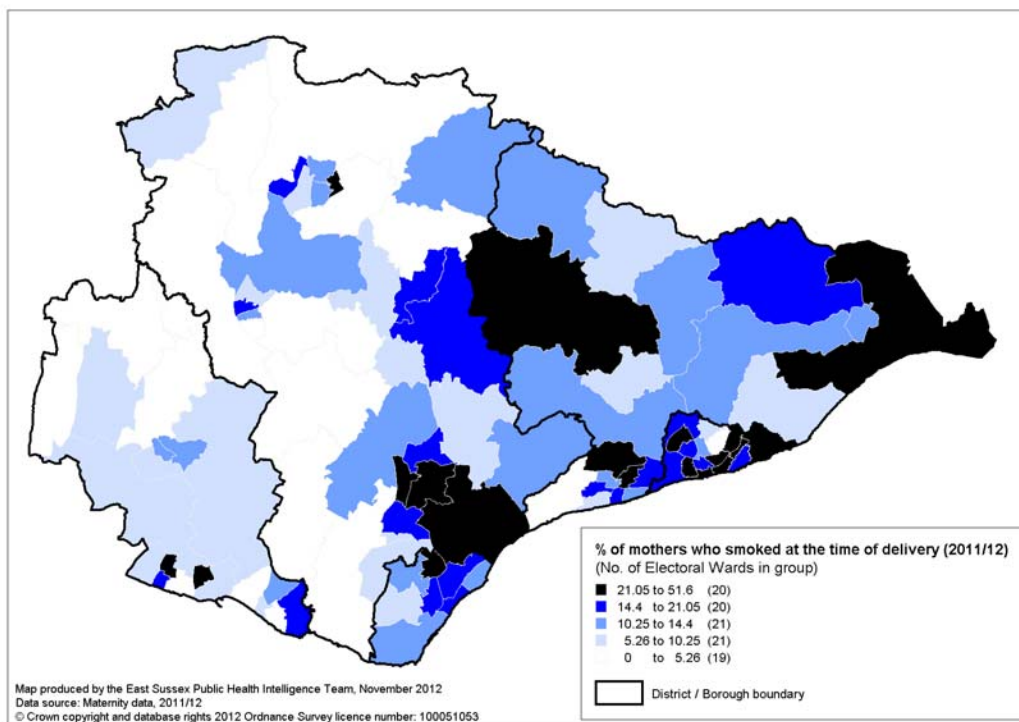
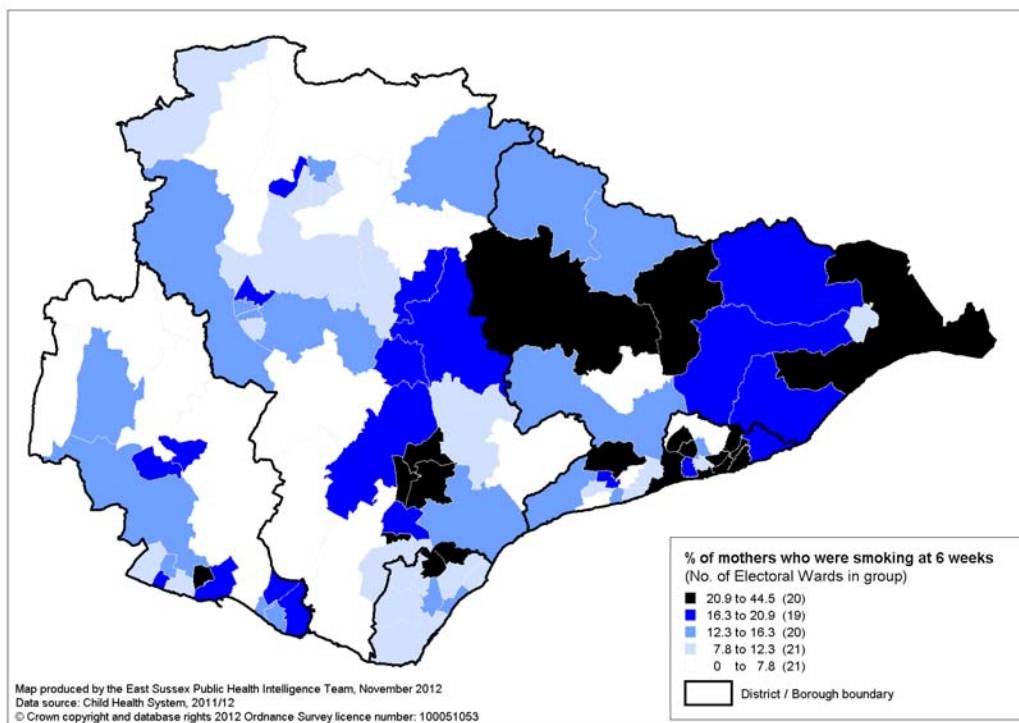


Figure 17: Map of mothers smoking at 6 weeks following childbirth, East Sussex wards, 2011/12



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Figure 18: Map of fathers smoking at 6 weeks, East Sussex wards, 2011/12

